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**CANBERRA AIRPORT  
MASTER PLAN**

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2014 - 2034

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APPROVED JANUARY 2015

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This Canberra Airport 2014 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 2014 Master Plan and Environment Strategy should not be used or relied upon by any person or entity for any other purpose.

This 2014 Master Plan and Environment Strategy, approved by the Minister for Transport and Regional Development on 16 January 2015, replaces the previous 2009 Master Plan and Environment Strategy 2010.

The maps and plans within this 2014 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 2014 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 five years, "medium term" refers to 5-10 years, and "long term" refers to 10-20 years.

# Canberra Airport 2014 Master Plan

## Index

<b>Foreword</b>	<b>5</b>
<b>Executive summary</b>	<b>7</b>
<b>1 Introduction</b>	<b>10</b>
1.1 Vision	11
1.2 Purpose and development objectives	12
1.3 Location	16
1.4 History	17
1.5 Existing and future facilities	21
1.6 2014 master plan statutory requirements	23
<b>2 The economic impact of Canberra Airport</b>	<b>27</b>
2.1 International age	27
2.2 The multi-billion dollar investment for economic growth	29
2.3 ACIL Tasman economic assessment	30
2.4 Commercial investment	31
2.5 Diversifying revenue sources	34
2.6 Conclusion	36
<b>3 Consultation process</b>	<b>37</b>
3.1 Ongoing consultation	37
3.2 Draft master plan consultation	42
3.3 Circulation of the approved master plan	44
<b>4 Integration with local planning strategies</b>	<b>45</b>
4.1 National Airports Safeguarding Framework	48
4.2 National Capital Authority	56
4.3 ACT Government	57
4.4 NSW Government and local government area surrounds	63
<b>5 Airline and aircraft movement growth</b>	<b>66</b>
5.1 Overview	66
5.2 Regional market	68
5.3 Domestic market	70
5.4 International market	74
5.5 Airfreight and overnight aircraft movement	75
5.6 Forecasting methodology	77
5.7 Market summary	77
5.8 Market development	79

<b>6</b>	<b>Freight operations</b>	<b>81</b>
6.1	Existing national overnight express freight network	82
6.2	Opportunities for freight growth at Canberra Airport	83
6.3	International airfreight opportunities	92
6.4	Regional infrastructure and planning implications of freight growth	93
6.5	Community impact of freight growth	95
<b>7</b>	<b>General aviation and Department of Defence operations</b>	<b>100</b>
7.1	General aviation operations	100
7.2	Department of Defence operations	102
7.3	VIP operations	102
<b>8</b>	<b>Passenger terminal facilities</b>	<b>104</b>
8.1	Overview	104
8.2	The legacy terminal (1998)	105
8.3	The interim terminal (1999-2009)	106
8.4	The new terminal (2014 and beyond)	107
8.5	Terminal capacity	108
8.6	Meeting demand	109
<b>9</b>	<b>Runway and airfield developments</b>	<b>111</b>
9.1	Runway and taxiway system demand	112
9.2	Practical ultimate capacity and runway requirements	113
9.3	International air services	114
9.4	Apron capacity	114
9.5	Augmentation of runway and taxiway system	117
9.6	Navigation aids and flight procedures	121
9.7	Air traffic control tower	122
9.8	Infrastructure development	123
<b>10</b>	<b>Development concept and options</b>	<b>125</b>
10.1	Overview	125
10.2	Indicative precinct planning vision	126
10.3	Airport terminal and Pialligo precinct	130
10.4	Brindabella Business Park	133
10.5	Majura Park precinct	135
10.6	Fairbairn precinct	138
10.7	Glenora precinct	144
10.8	Signage policy	145
10.9	External planning context and potential conflicts	146



<b>11</b>	<b>Ground transport plan</b>	<b>151</b>
11.1	Majura Valley strategic planning and development	153
11.2	Public transport	158
11.3	Cycling	161
11.4	Roads - 2014	162
11.5	Roads – the future	171
11.6	On Airport ground transport	176
<b>12</b>	<b>Future Canberra Airport Travelport</b>	<b>183</b>
12.1	High speed rail	184
12.2	The base case for high speed rail	191
12.3	Unconstrained aviation demand in the Sydney region	192
12.4	Kingsford Smith Airport reaching capacity	193
12.5	Capital Metro – Canberra’s light rail vision	197
12.6	Conclusion	204
<b>13</b>	<b>Airspace protection</b>	<b>206</b>
<b>14</b>	<b>Aircraft noise</b>	<b>210</b>
14.1	Commitment to noise disclosure	210
14.2	From the ground up	212
14.3	Operating restrictions	215
14.4	Describing aircraft noise	220
14.5	Noise policy	232
14.6	Reduction of noise at source	232
14.7	Noise abatement	241
14.8	Future opportunities for noise abatement	246
<b>15</b>	<b>Environmental management</b>	<b>248</b>
15.1	Vision for environmental management	249
15.2	Social and community engagement	249
15.3	Identification of environmental issues	250
15.4	Canberra Airport referrals	263
<b>16</b>	<b>Engineering services</b>	<b>264</b>
16.1	Gas	264
16.2	Sewerage	264
16.3	Stormwater	265
16.4	Potable water supply	266
16.5	Electrical	267
16.6	Telecommunications	267
16.7	Airport access	267
<b>Appendix 1</b>	<b>Airport Environment Strategy</b>	<b>270</b>

## Foreword

Almost 17 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 and 2009 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 new terminal finished, internationally capable and ready to connect the Canberra Region directly with the rest of the world, 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 Capital Region cannot be underestimated and is not yet widely comprehended. Nor can it be realised until direct international flights are secured, and that is the main thrust of our efforts to drive aviation growth and optimise this important national asset. It is in Australia's national interest that its National Capital city is directly connected with Asia.

We believe that our future growth and development is linked closely to the economic growth and prosperity of our community, and this 2014 Master Plan outlines our vision to help achieve that. Cutbacks in the public service (and significantly for us its travel budget) have shown that our Region can no longer 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, defence and security, transport, light manufacturing and niche agricultural opportunities. Canberra Airport stands poised to play a key role in that future.

Our latest 2014 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.

A handwritten signature in black ink, appearing to read 'Terry Snow', written in a cursive style.

Terry Snow  
Executive Chairman

A handwritten signature in black ink, appearing to read 'S Byron', written in a cursive style.

Stephen Byron  
Managing Director

## Executive Summary

Over the next five years the focus of Canberra Airport is to host more passengers on more aircraft across a wider range of airlines. The 2014 Master Plan outlines expectations of both international and low cost carriers commencing services over the next five years resulting in more than nine million passengers by 2034. We are passionate about connecting the National Capital region to international ports and opening doors for business, with this objective receiving support from community and government across the region.

The Canberra Airport ethos is 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 National Capital region.

The award winning terminal is the foundation of aviation growth at Canberra Airport. Opened in April 2014 by the Hon Tony Abbott MP, Prime Minister, the 'splendid' \$480 million terminal and accompanying apron and car parks have been designed and built to be capable of hosting up to 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 2013/14 Majura Park attracted four million regional shoppers and the Brindabella Business Park housed 6,000 employees. Each element of the Airport site is poised with capacity to service the growing transport, office, and retail requirements of the 1.1million people expected to be living in the region in 2034.

Airport management are committed to being in-touch with our community, governments, and with business about the development of the site and integration in the economic growth of the region. The Airport partakes in a number of established stakeholder forums focussed on a vision where the growth of the region is aligned with the growth of its airport. Most recently the Airport was pleased to hear of the ACT Government proposal to develop an IKEA store adjacent to the Majura Park retail precinct.

Jobs across the Airport site are forecast to grow from 11,000 now to 34,000 by 2034 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 be upgraded over the next few years 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 2014 Master Plan discusses aviation capacity for the National Capital region in 50 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 aims to improve amenity for communities within the vicinity of Australian airports as well as safety outcomes for 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 new Majura Parkway the opening of which will, over the next five years, place pressure on the east-west network connecting the City, Parliamentary Triangle and Russell to the Parkway and beyond to the Airport and Queanbeyan because the Majura Interchange is planned to become the primary north-south entrance to Canberra. The Airport is keen to see capacity is provided to the burgeoning traffic demands of a growing region.

The Canberra Airport Board and management celebrate 16 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 acknowledges 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 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 on the Master Plan particularly from State, Territory and Local Governments affirm the destined growth of the Airport as an economic driver in the region. The opportunity for business growth and community prosperity over the next five years is to establish new international and domestic connections, and we look forward to working alongside everyone to deliver this outcome.



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# CHAPTER 1 INTRODUCTION

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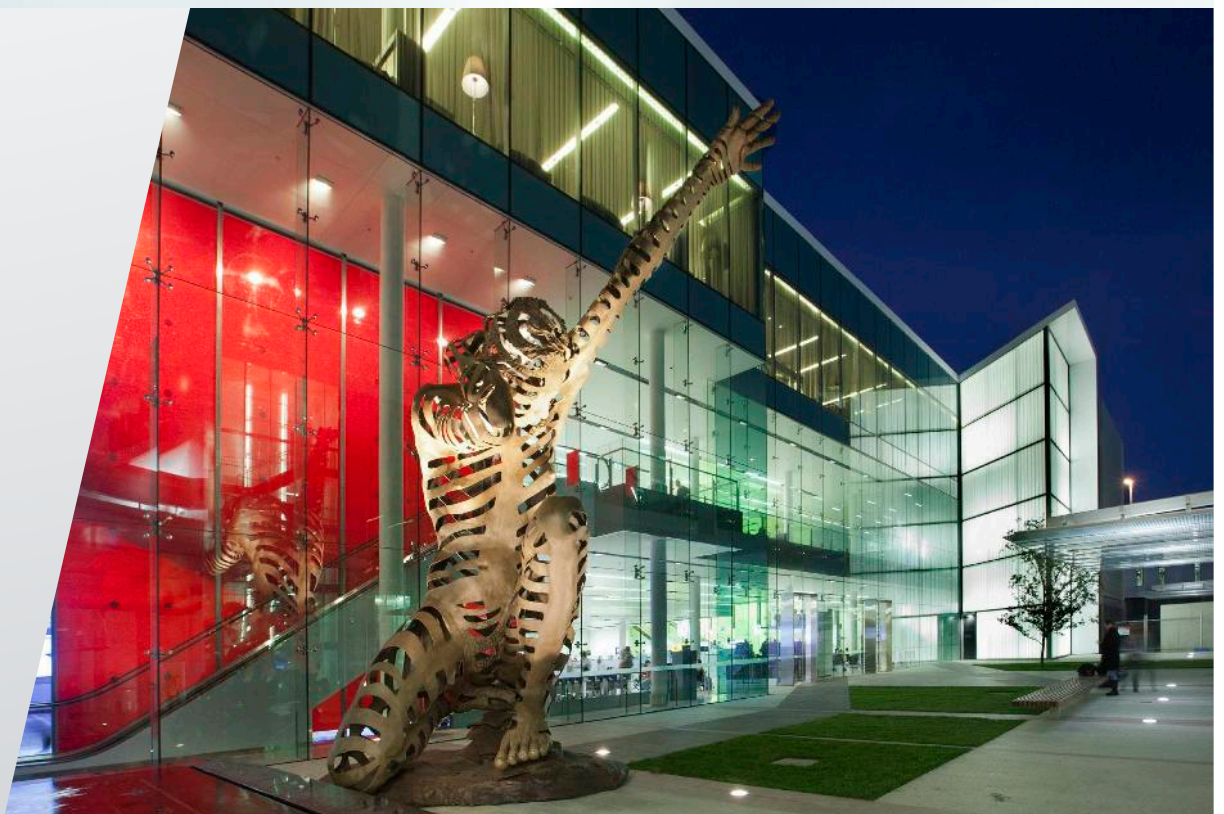




OUR 1998 VISION WAS TO DEVELOP OUR AIRPORT INTO A LANDMARK  
TRANSPORT HUB.

“THE AIRPORT IS NOW A FITTING GATEWAY FOR THE NATION’S CAPITAL.”

ANDREW BARR, DEPUTY CHIEF MINISTER



# 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.

The additional aviation capabilities and built-in capacity, developed through the extension and strengthening of the main runway in 2006 and the redevelopment of the new terminal in 2014, reinforces Canberra Airport's critically important role as the only curfew free airport between Brisbane and Melbourne capable of handling B747 and A380 aircraft<sup>1</sup>, 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 2014 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 280 and the number of jobs has similarly increased significantly. This is in addition to both the ongoing employment of over 980 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.

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<sup>1</sup> It is noted regular operations by A380 aircraft are not expected at Canberra Airport during the life of this 2014 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-bodies 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 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 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 and regional coach services through the new high quality award winning 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;
- 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 2014 MASTER PLAN

In addition to meeting the requirements of the *Airports Act*, the purpose of this 2014 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, and business opportunities 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 follows:



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

This objective involves:

- Ensuring 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 2014 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 new, substantially larger, 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 new 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 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 the region's community.

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

The form and image of all 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 and befitting of the Nation's Capital.

#### **Objective 5 - Maximise the economic growth of the Airport for 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 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 aeronautical and other activities.

**Objective 7 - Being in a position to meet the needs of Sydney Airport users, including overflow domestic passengers, international passengers, 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, especially South-West Sydney. By providing easy access, excellent infrastructure and competitive pricing, Canberra Airport expects to attract passenger and freight operations from Sydney. This is likely to include a 24 hour domestic and international freight operations and overflow passenger services, refer to Chapter 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 21<sup>st</sup> 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 so aircraft can operate efficiently 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 will meet local demand for additional flights, as well as a reasonable expectation 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 in Chapter 14.

## 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 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 as defined in the *National Capital Plan* and on the major East-West Employment Corridor as defined in *The Canberra Spatial Plan*, which contains over 75 percent of Canberra's employment. It is also denoted as a Defined Office Employment Centre in the *National Capital Plan* and as an Activity Node in *The Canberra Spatial 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) is denoted as a new Employment Corridor in *The Canberra Spatial Plan*. 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 recently 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 nine years. The outcome of this development will be increased revenue 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 10.

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.

## 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 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 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 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, 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 Canberra Airport Master Plan and the subsequent approval of the 2005 and 2009 Master Plans. These Master Plans also included the rights to 24 hour non-curfew capability for at least the 99 year term of the lease. Canberra Airport will use these rights to expand aviation opportunities and to meet its obligation and desire to use the 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 to coincide with the Sydney 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 old 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 runway 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 Apron maintenance and reception facility;
- A new fuel farm;
- Comprehensive security upgrades;
- A new hangar and headquarters facility for the former Brindabella Airlines;
- A new freight facility for Australian Air Express;
- A new non-directional beacon;
- A new catering facility building; and

- The \$480 million development of the new terminal 2007-2014 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 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 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. 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. Any wide-body aircraft operations at Canberra Airport can 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.

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, and general aviation aircraft, 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 new Airport Fuel Farm, a modern high security underground facility replacing several above-ground facilities previously used. The area is currently approaching capacity and with terminal and other associated facilities encroaching into this area future general aviation expansion will be accommodated in other precincts.

The new terminal building is common-user, owned by Canberra Airport. The terminal is a multi-level structure with an elevated roadway arrangement and adjacent multi-level car parks, refer to Chapter 8 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 of the road system, including the construction of the \$288 million Majura Parkway, is due for completion in 2016. For further information and plans depicting current and future road systems around the Airport, refer to Chapter 11.

Whilst the 1998 Very High Speed Train proposal was eventually unsuccessful, it is expected a HSR system linking Canberra Airport with Sydney and later Melbourne will eventually be constructed. A HSR link, required for any alternative airport outside the Sydney basin, would contribute greatly to Canberra Airport's role in accommodating some of Sydney's air transport needs as well as opening up further opportunities for Canberra Airport and the region more broadly.

Using current technologies, HSR will take 57 minutes from Sydney 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 this has been confirmed as such in this 2014 Master Plan. It poses few construction problems for both the approach through the Majura Valley and for a station adjacent to the terminal building, refer Figures 12.2 and 12.3.

**Figure 1.4 – Canberra Airport 2013**



**1.6 2014 MASTER PLAN STATUTORY REQUIREMENTS**

In accordance with the *Airports Act*, Canberra Airport Pty Limited is required to submit a draft master plan for the approval of the Minister for a 20 year planning period.

Subsection 71(2) of the *Airports Act* requires a master plan to specify:

<b>Airports Act 1996</b>	<b>Reference</b>
71(2)(a) The airport-lessee company’s development objectives for the airport; and	Chapter 1
71(2)(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
71(2)(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	Chapter 8, 9, 10 and 11
71(2)(d) an Australian Noise Exposure Forecast (ANEF) (in accordance with regulations, if any, made for the purpose of this paragraph) for the areas surrounding the airport; and	Chapter 14
71(2)(da) flight paths (in accordance with regulations, if any, made for the purpose of this paragraph) at the airport; and	Chapter 14



<b>Airports Act 1996</b>	<b>Reference</b>
71(2)(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 14
71(2)(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	Chapter 15
71(2)(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	Chapter 15
71(2)(ga) in relation to the first 5 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; and (ii) the facilities for moving people (employees, passengers and other airport users) and freight at the airport; and (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 (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 (v) the capacity of the ground transport system at the airport to support operations and other activities at the airport; and (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 11
71(2)(gb) in relation to the first 5 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 (ii) for any other purpose that is not related to airport services; and	Chapter 10
71(2)(gc) in relation to the first 5 years of the master plan-the likely effect of the proposed developments in the master plan on: (i) employment levels at the airport; and (ii) the local and regional economy and community, including an analysis of fit within the planning schemes for commercial and retail development in the area that is adjacent to the airport; and	Chapter 2 and 4



<b><i>Airports Act 1996</i></b>	<b>Reference</b>
71(2)(h) an environment strategy that details: (i) the airport-lessee company's objectives for the environmental management of the airport; and (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 (iii) the sources of environmental impact associated with airport operations; and (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 (v) the time frames for completion of those studies and reviews and for reporting on that monitoring; and (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 (vii) the time frames for completion of those specific measures; and (viii) details of the consultations undertaken in preparing the strategy (including the outcome of the consultations); and (ix) any other matters that are prescribed in the regulations; and	Appendix 1
71(2)(j) such other matters that are prescribed in the regulations.	Refer below

Section 71A of the *Airports 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 work place child care facilities at Canberra Airport, additional childcare facilities, together with education and vocational training facilities are proposed in this 2014 Master Plan.

Part 5 of the *Airports Regulations 1997* provides additional inclusions for master plans:

<b><i>Airports Regulations 1997</i></b>	<b>Reference</b>
<b>General</b>	
5.02(1)(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 13
5.02(1)(b) for an area of an airport where a change of use of a kind described in subregulation 6.07(2) of the <i>Airports (Environment Protection) Regulations 1997</i> is proposed: (i) the contents of the report of any examination of the area carried out under regulation 6.09 of those Regulations; and (ii) the airport-lessee company's plans for dealing with any soil pollution referred to in the report.	Chapter 15

<b><i>Airports Regulations 1997</i></b>	<b>Reference</b>
5.02(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 10
5.02(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 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
<b>Environment Strategy</b>	<b>Reference</b>
5.02A - matters to be specified in environment strategy	Appendix 1
5.02B - things to be addressed in environment strategy	Appendix 1

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## CHAPTER 2 THE ECONOMIC IMPACT OF CANBERRA AIRPORT

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“AIRPORTS HAVE BEEN AMONGST THE MOST IMPORTANT JOB GROWTH HUBS IN AUSTRALIAN CITIES.”

BITRE



## 2 The economic impact of Canberra Airport

In just 17 years of private ownership, Canberra Airport has been transformed 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 ACT Chief Minister Ms Katy Gallagher, MLA, on opening the Majura Park Shopping Centre (29 March 2012) said:

***“Majura Park Shopping Centre marks another significant milestone in Canberra Airport’s business development strategy. In just over a decade the Canberra Airport has grown into a multifaceted transport, business, and retail gateway which contributes significantly to Canberra’s economy”.***

The Hon 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”.***

### 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, refer 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, is now poised to enter a new and challenging 'international age' in partnership with airline and freight operators to connect Canberra and the broader region of nearly 900,000 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.

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 \$480 million spent on the development of the new terminal (2008-2014) this total investment provides a lasting legacy to the community of aviation capability ready to enter the international age.

No other capital city airport has so far matched this level of infrastructure investment.

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 nearly 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. A direct international connection to Asia 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 recently been amplified through the public debate around a second Sydney airport. The Daily Telegraph of 25 October 2013 in this context noted:

***“airports build the productive capacity of the economy over time, but along the way they also create jobs.”***

Further the economic modelling on behalf of the NSW Business Chamber, states:

***“an airport operating from 2027 will generate close to an additional 30,000 jobs and \$9 billion in economic output by 2050 for Western Sydney.”***

All of this impact is projected to happen within only 23 years of opening.

Without a Western Sydney airport as envisaged, or if such an airport was to be delayed and delivered sometime after 2027, a proportion of these jobs and economic output will likely be generated at Canberra Airport by the flow-on of aviation demand. Road travel drive time to Canberra Airport from Western Sydney is only two hours whilst the traffic delays in Sydney’s road network often mean the journey from Western Sydney to Sydney Airport exceeds 1.5 hours (and car parking at Canberra Airport is easier and significantly cheaper). As low cost carriers and international services develop at Canberra Airport, the Airport’s catchment will extend to Western Sydney (and it will be at best 15-20 years before Badgerys Creek is operational). 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 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 \$480 million investment in the Canberra Airport terminal provides a foundation and unique opportunity to achieve the supply goal. In particular, the opportunity to establish direct international flight services and to open Canberra to the international marketplace will secure the city’s long term future as a key business and tourism hub.***

***2020 Tourism Strategy (2013)***





ACIL's modelling found in 2010 Canberra Airport:

- Drove more than seven percent of the ACT's economic activities;
- Generated and enabled 12,496 jobs; and
- Had a \$1.34 billion per annum contribution to gross regional product.

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 states:

- In 2030, assuming a medium growth scenario, total activities associated with the Airport are expected to generate employment of over 21,000 jobs with the total value added to the local economy estimated at \$2.42 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 Government's long term support for "24 hour operations as an economic competitive advantage for the ACT and the broader region" as noted in the *ACT Planning Strategy (2012)*.

## 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 nearly 900,000 regional residents to the benefit of local jobs, together with social and economic growth.

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

A joint venture publication by the Canberra Convention Bureau and the Canberra Business Council, *Canberra - The Meeting Place of Australia*, July 2013 sets out at page 7 expenditure per delegate ranging from international (\$3,685) to national (\$494) to local (\$170).

Airport charges are included within the air fares. The expenditure for taxis and car hire costs range from \$63 (1.7 percent of total expenditure) for international delegates.

The economic benefit to the region, of an international delegate spend in attending Canberra conferences, is as follows:

- 40 percent is captured within airfares; and
- 60 percent is captured as an economic generator within Canberra's accommodation, food and beverage, and entertainment industry.

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 10 major airports, including Canberra, there are on average around 580 jobs per one million passengers (2011). At Canberra Airport the 2014 ratio is 3,700 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 11,000 people currently work on the Airport in more than 280 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, private security, terminal maintenance, terminal cleaning, telecommunications, runway sweepers, and a mowing contractor;
  - Air transport;
  - Qantas (including subsidiaries QantasLink and Qantas Freight), Virgin Australia, RAAF Special Purpose Air (SPA) Fleet, general aviation and charter operators as well as airfreight (such as Toll and Qantas) 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, 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 11,000 jobs currently located on Airport over 90 percent are employed in the 'innovative industries' of defence, aerospace, and information technology (IT). See Figure 2.2.

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.

Increases in passenger services, including low cost carriers and direct international flights, will have significant benefits to Canberra's economy, bringing increased jobs and revenue streams to the local economy. In particular there will be a substantial stimulus to the tourism industry employing a range of staff, including accommodation and transport providers, restaurants, cafes, bars, and local tourism businesses.

Within the next five years, Canberra Airport expects to have up to 18,000 jobs on Airport. This is based on aviation growth and the full occupancy of all existing buildings on Airport. Additional development may increase the working population. This is likely to increase the total economic impact of Canberra Airport to \$2.2 billion (2010 values) and increase the Airport's contribution to the economy from seven percent to in excess of 10 percent.

By 2033/34 it is expected up to 34,000 people will be directly employed on Canberra Airport.

## **2.5 DIVERSIFYING REVENUE SOURCES**

Over the next five 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 10. 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. This diversity was highlighted by Deloitte Access Economics in its informative paper *Connecting Australia* May 2012. The development of Canberra Airport was used as a case study (Case study: 5 page 21).

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 and ACT Government will continue to work together to foster that growth.

Figure 2.2 – Canberra Airport home to department of defence, aerospace and technology industries





## 2.6 CONCLUSION

While the future appears strong for Canberra Airport and the Capital region as a whole over the next 20 years, success depends on the support of the community, business, and government, the competitiveness of Canberra as a destination and importantly, support from the entire Capital 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 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 so as 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 Canberra and the region to be more competitive in tourism, trade and commerce.

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

This 2014 Master Plan serves as a framework for this aviation growth and other development of the Airport.



CHAPTER 3  
CONSULTATION PROCESS







CANBERRA AIRPORT HAS ALREADY ENGAGED WITH NINETY-THREE  
STAKEHOLDER GROUPS REPRESENTING THE BROAD REGION.



## 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 approaching 900,000 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 is progressing discussions with the ACT Government to refresh the 2010 *Memorandum of Understanding (MoU)*.

This 2014 Master Plan sets a 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 2014 Master Plan reflects a comprehensive pre-consultation process which commenced in January 2013 with 95 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 2014 Master Plan, was undertaken and commenced on Monday 17 March 2014, closing on Friday 13 June 2014, which was a total of the required 60 business days.

The consultation process, although required under *the Airports Act*, is ultimately to ensure options for this 2014 Master Plan were fully explored, concerns and impacts identified, and alternatives considered before the 2014 Draft Master Plan being lodged with the Minister.

In all thirty one submissions were received on the Preliminary 2014 Draft Master Plan. The submissions and other consultation feedback were reviewed, analysed, considered and given due regard in finalising the 2014 Master Plan.

### 3.1 ONGOING CONSULTATION

Specific consultation with respect to this 2014 Master Plan is only a small component of Canberra Airport's consultation program. Canberra Airport has an extensive ongoing consultation programme 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, aspirations and perspectives.

Targeted consultation is also undertaken for major development projects, including those required by *the Airports Act*, as well as one-off key initiatives, such as the development of Canberra Airport's *Ultimate Practical Capacity Australian Noise Exposure Forecast (ANEF)*, endorsed in June 2008; the Airport's 2012-2014 contributions on HSR, light rail, and the second Sydney airport public debates.

### 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:

- Development Planning Liaison Meetings with representatives from the Department of Infrastructure and Regional Development, National Capital Authority, and Airservices Australia;
- Department of Environment meetings;
- Low Visibility Procedures Review Group dealing with proposed upgrades to instrument landing capabilities and associated aviation capability of the Airport, with representatives from the airlines, Airservices Australia, and the Civil Aviation Safety Authority (CASA);
- Canberra Airport Safety Committee dealing with on Airport safety issues, with representatives from Airservices Australia, Australian Federal Police, and Department of Defence;
- 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, 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, the Australian Federal Police, the Australian Transport Safety Bureau, Department of Defence, ACT emergency agencies, the 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, the Australian Federal Police, the Australian Transport Safety Bureau, and Department of Defence;
- 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 and Regional Development, Airservices Australia, Department of Defence, National Capital Authority, NSW Planning and Environment, Queanbeyan Council, the airlines, business, and peak community groups;
- Planning Coordination Forum comprising senior members of the ACT Government, National Capital Authority, Airservices Australia, Queanbeyan City Council, NSW Department of Planning and Environment, Department of Defence and Department of Infrastructure and Regional Development;
- Canberra Airport Integration Committee comprising 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 are refreshing the 2010 *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 4, Canberra Airport is recognised by, and operates within, the context of the Australian Government administered *National Capital Plan* and the ACT's 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 (58 percent of the Airport's catchment population) and is NSW's only curfew free major airport. Gold Coast, Newcastle, and Sydney Airports have overnight curfews.

Consultation with the NSW Government includes regular meetings with the Department of Planning and Environment, and the Premier's Office. Officials from the NSW Department of Planning and Environment also attend the Canberra Airport Community Aviation Consultation Group meetings and Planning Coordination Forum. NSW Police and Queanbeyan SES also attend the Airport Emergency Committee meetings.

### **3.1.4 CONSULTATION WITH THE QUEANBEYAN CITY COUNCIL AND OTHER REGIONAL COUNCILS**

Queanbeyan, Palerang, and Yass Valley Councils (in NSW) are important Airport stakeholders, as is the South East Regional Organisation of Councils (SEROC) - the regional wide group of councils. Canberra Airport will continue to consult with the Councils and SEROC 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 City Council regularly attend Canberra Airport Community Aviation Consultation Group meetings and the Planning Coordination Forum. Representatives from the Palerang Council and Yass Valley Council are also invited to attend the Community Aviation Consultation Group meetings and are included in all correspondence and meeting notes.

### 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 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 Council, Regional Organisations of Councils, Australian Hotels Association (ACT), South Eastern Australian Transport Strategy Inc, and the ACT and Region Chamber of Commerce and Industry.

### 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 at Canberra Airport are also subject to a formal public consultation process under the *Airports Act* provisions, as well as any minor variations to this 2014 Master Plan or any existing approved Major Development Plan.

Canberra Airport voluntarily conducted a separate and broad public consultation process as part of the Canberra Light Rail debate. This had never been undertaken before by an airport and proved valuable information in understanding community and stakeholder perspectives on Light Rail for Canberra, including connecting Canberra Airport to Canberra's City Centre and Parliament House.

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 are as follows:

- 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 2014 DRAFT MASTER PLAN PRE-CONSULTATION**

Specific pre-consultation meetings were undertaken with the Australian, ACT, and NSW Governments as well as key community and industry groups in the preparation of the Preliminary Draft 2014 Master Plan. The consultations covered the broad regional focus of Canberra Airport (approaching a population of 900,000).

Canberra Airport engaged with 95 stakeholder groups and individuals between 2013 and 2014 within Canberra and the broader region including consultations at Wagga Wagga, Goulburn, Moss Vale, Picton and Batemans Bay. 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;
- 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 were undertaken on the Preliminary Draft 2014 Master Plan commencing 17 March to 13 June 2014, comprising 60 business days. Consultations included but were not be limited to:

- Community Aviation Consultation Group – May 2014;
- Canberra Airport Integration Committee – May and July 2014;
- Planning Coordination Forum – March and July 2014;
- Australian Government, NSW and ACT politicians – April to June 2014;
- Peak business and community organisations – April to June 2014;
- NSW Local Government- April to June 2014; and
- The public – May 2014.

### **3.3 CIRCULATION OF THE APPROVED MASTER PLAN**

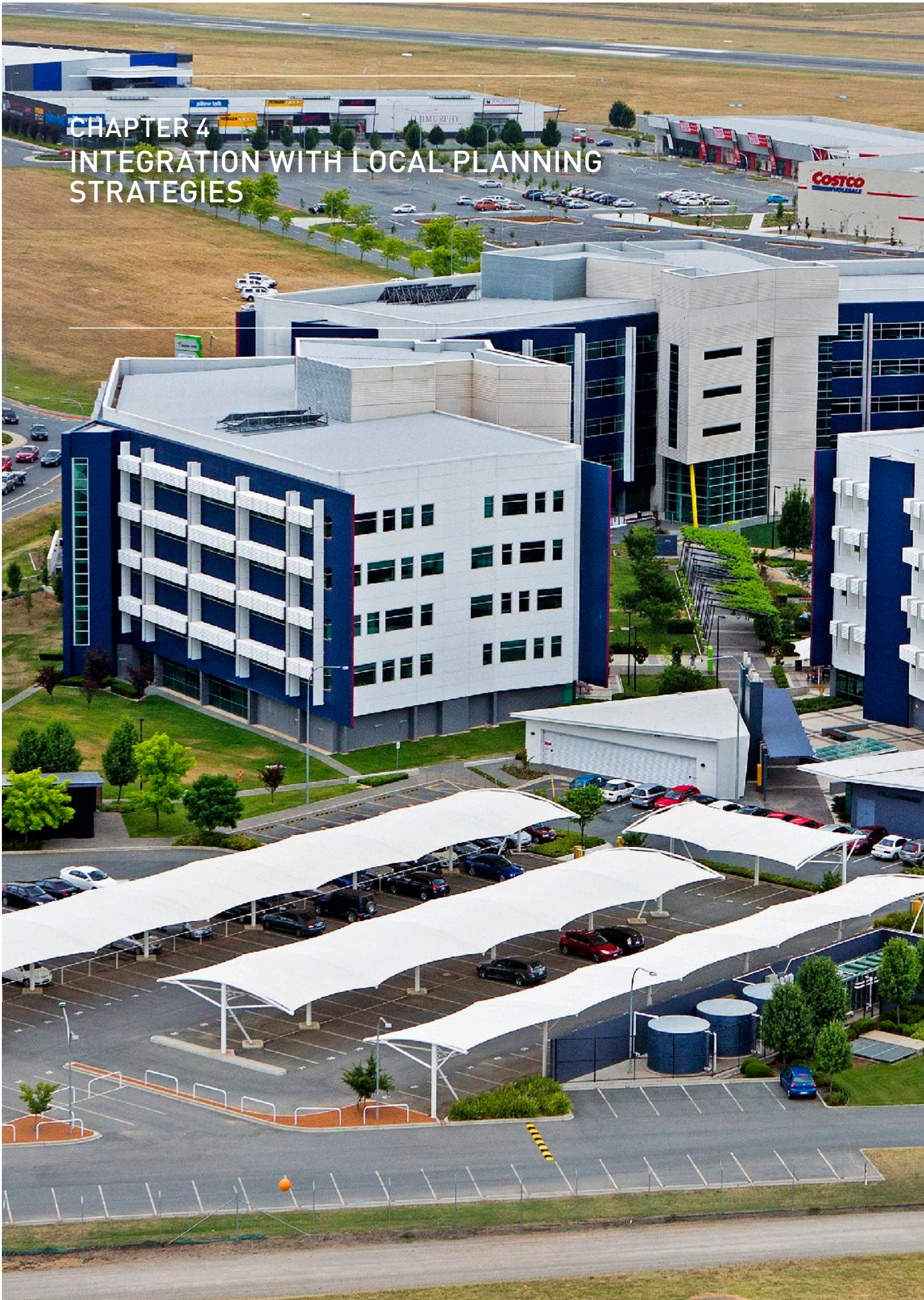
The preferred method of circulation for the approved Canberra Airport 2014 Master Plan will be via electronic copies provided to Airport staff, tenants, relevant external stakeholders, including Planning Coordination Forum members, the Community Aviation Consultation Group, and Government agencies.

Printed copies of the approved 2014 Master Plan will be available for purchase from Canberra Airport.

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



CHAPTER 4  
INTEGRATION WITH LOCAL PLANNING  
STRATEGIES







“IT WOULD FORM A LOGICAL EXTENSION TO THE EXISTING RETAIL/  
COMMERCIAL HUB AND STRENGTHEN THE MAJOR ECONOMIC ROLE OF THE  
WHOLE AIRPORT PRECINCT.”

ACT GOVERNMENT PLANNING REPORT



## 4 Integration with local planning strategies

This Chapter of the 2014 Master Plan provides an overview of Canberra Airport strategies to integrate with the land use planning and economic development of the region.

Canberra Airport commenced operations in 1927 as a RAAF airfield and began civil aviation operations in 1940. The International Civil Aviation Organisation (ICAO) celebrated the 100<sup>th</sup> anniversary of commercial aviation in January 2014.

Canberra Airport now services a population approaching 900,000 residents of Canberra and the Southern Region of NSW. The majority 520,000 (58 percent) of these residents are located in NSW. During the 20 year span of this 2014 Master Plan the population is expected to increase to over 1.1 million people, which equates to a 22 percent increase.

Canberra Airport works in close consultation with the ACT Government to ensure the Airport plays a positive role in the overall growth and development of the ACT. Chief Minister, Ms Katy Gallagher, MLA, stated on opening of the second stage of the new terminal, 13 March 2013:

***“The new airport – which has been emerging progressively from the old one – is a major step forward for Canberra as a destination for both domestic and international visitors; the new airport has top-quality departure areas, lounges, and passenger facilities. Canberra loves it ... and it is all arriving in our Centenary Year”.***

The Canberra Airport Aerotropolis (a multifaceted transport, business and retail gateway) will merge with the ACT Government’s Majura development proposal adjoining, and over time will transition the Airport and the Majura precinct, from an activity node to town centre status, refer Figure 4.2.

Planning in our region has recently taken on a stronger co-operative phase between the ACT and NSW Governments. Current metropolitan and south-east NSW region planning and Infrastructure studies that are progressing include:

- A review of the *National Capital Plan* by the National Capital Authority, the first major review since the initial Plan of 1991; and
- The NSW and ACT Governments are progressing a Cross-Border draft framework ‘C+1’ (Canberra within one hour), a joint initiative to better understand the integration of planning and infrastructure requirements for a population already approaching 600,000 residents.

Canberra Airport continues to be engaged in these studies and has pre-consulted the relevant agencies and organisations on the proposals of this 2014 Master Plan so as to ensure integration of the Airport in the regional context.

The following strategies are excellent examples of the long history of the Airport's successful integration with local ACT planning, economic strategies, and shared vision for the future Canberra:

- *ACT Economic White Paper* (2003);
- *Growth, Diversification and Jobs: A Business Development Strategy for the ACT*;
- *The Canberra Spatial Plan*, released March 2004;
- *Capital Development: Towards our Second Century* (2008);
- *MoU* between ACT Government and Canberra Airport (2010) with update pending;
- *The ACT Planning Strategy* (2012);
- The ACT Government Aviation Taskforce (an ongoing initiative) including and an additional \$600,000 in the 2014 ACT Budget;
- *The ACT in the Asian Century* (2013);
- Invest Canberra (2013); and
- *2020 Tourism Strategy* (2013).

Similarly, the co-operation between the Airport, ACT and Australian Governments to upgrade roads through the Majura Valley has been very successful and productive, including the Majura Parkway.

The ACT Government has, for over 15 years, continued to acknowledge the Airport's role as a major employment generator capable of achieving sustainable growth and development.

The *ACT Planning Strategy* (2012) sets out the ACT Government's strategic plan to 2030 and potentially beyond to 2060. This Strategy reinforces the 2004 *Canberra Spatial Plan* (which it has now replaced) and recognises the critically important role the Airport plays in bringing new industries and new jobs to Canberra as a competitive advantage and states "supporting Canberra Airport to operate over 24 hours will give the region a logistical advantage in the distribution of goods and produce."

Canberra Airport is the only curfew free airport servicing NSW. Sydney, Gold Coast and Newcastle Airports all have curfew operation constraints overnight between 11pm and 6am. Canberra Airport welcomes the ACT Government's long term, and more recently the NSW Government's support for 24 hour operations as an economic competitive advantage for the ACT and the broader region.

The *ACT Planning Strategy* (2012) also sets out the mechanism by which Canberra Airport's growth and development has been integrated "with regional, metropolitan and transport planning issues and addressed with ongoing consultation under the ACT Government and Canberra Airport Pty Ltd *MOU*, 2010." This *MoU* is currently being updated in response to the process of this 2014 Master Plan.

Similarly, the Airport has engaged with the National Capital Authority to actively integrate with the Australian Government's vision for the Capital, including that the Airport has been denoted in the *National Capital Plan* as a Designated Office Employment Centre.

Canberra Airport also maintains regular dialogue with Queanbeyan City, Yass Valley, and Palerang Councils, the NSW Government through direct consultation, the Planning Coordination Forum, and the Community Aviation Consultation Group.

Canberra Airport plays a pivotal role in the current and future success of Canberra and the region as a major social, tourism, business, government, and trade gateway. Canberra Airport therefore recognises the importance of managing on Airport development in unison with metropolitan and sub-regional planning strategies, and seeking where possible to have Canberra Airport recognised in these strategies as a critical economic and business gateway for the region that should be protected from inappropriate land-uses in the vicinity of the Airport.

Canberra Airport will continue to take an active role in all local planning and economic development strategies.

## 4.1 NATIONAL AIRPORTS SAFEGUARDING FRAMEWORK

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

The Safeguarding Framework is a national land use planning framework which aims to:

- Improve community amenity by minimising aircraft noise-sensitive developments near airports including through the use of additional 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.

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 20 kilometres to the north, east, west, and south of the Airport. The NSW Local Government Areas of Queanbeyan, Palerang and Yass Valley are in part traversed by these low flying aircraft flight paths.

A National Airports Safeguarding Advisory Group (NASAG) was formed to manage, consult and develop the *Safeguarding Framework*. The NASAG comprises the Australian Local Government Association, state and territory government planning and transport officials, the Australian Governments Departments of Defence, CASA, and Airservices Australia.

The *Safeguarding Framework* was formally considered by the Standing Council on Transport and Infrastructure (SCOTI), and State and Territory Ministers agreed to implement the Framework, on 18 May 2012.

The following seven Principles were identified by SCOTI 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 these Principles are consistent with Criteria 3, 4 and 9 of the nine criteria adopted by Council of Australian Governments in December 2009 for the “Future Strategic Planning of Capital Cities” in Australia, as set out more fully later in this Chapter.

The Principles recognise responsibility for land use planning rests primarily with state, territory and local governments; however a national approach can assist in improving planning outcomes near airports and under flight paths. Responsibility for the regulation of flight safety, rests with the Australian Government (refer Chapter 13 of this 2014 Master Plan) therefore, the principles must involve a co-operative approach to land use planning.

In all, six Guidelines were developed as follows:



- A:** Measures for Managing Impacts of Aircraft Noise;
- B:** Managing the Risk of Building Generated Windshear and Turbulence at Airports;
- 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.

Canberra Airport is aware the NASAG is currently preparing a draft guideline for public safety zones around airports, and this guideline will be released for comment in due course.

### **Guideline A: Measures for Managing Impacts of Aircraft Noise**

In the context of Canberra Airport, the land use issue has been shaped by earlier decisions which limit where aircraft can fly. 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 14 of this 2014 Master Plan. The outcome is over 99.5 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.

The one area which has been unable to achieve similar protection 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. Jet aircraft arrive or depart Canberra Airport in this area. Further information on aircraft noise is contained in Chapter 14.

NSW Planning and Environment has advised (June 2014) NSW supports the Safeguarding Framework with the exception of Guideline A and its application in land use planning. The NSW Government is currently considering aircraft noise information in Section 149 Planning Certificates.

The ACT Government has advised (January and March 2014) of its in-principle support of the *Safeguarding Framework*, however is still investigating how the individual guideline(s) are applicable to the ACT. Within the ACT the *National Capital Plan* and the *Territory Plan* are both silent in regards to protecting the community from aircraft noise.

*The Canberra Spatial Plan* did have a protection zone yet this protection zone was not carried forward into the *ACT Planning Strategy* (2012). However, the ACT has a planning leasehold system that provides significant land use controls to protect the community from aircraft noise and inappropriate uses in close proximity to the Airport.

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. However, limited residential uses may be explored for the western part of area G (Symonston) as it is outside the high aircraft noise corridor (see section 4.7)”.***

The ACT Government has advised (January 2014) “rezoning to permit new residential uses is not being proposed in either the Jerrabomberra Valley or in Symonston (Eastern Broadacre Precinct G)”.

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

This Guideline deals with matters generally within the authority of the Airport. Canberra Airport has implemented this guideline by including minor amendments to previous procedures and practices when considering building design and siting.

Canberra Airport has a long term policy of undertaking both internal and independent wind shear studies of proposed buildings and precincts on the western side of runway 17/35. This includes Brindabella Park, the terminal and Majura Park precincts. Most of these development proposals included wind tunnel testing. More recently the Airport has undertaken a wind study of the future 9 Molonglo Drive office development proposal in compliance with Guideline B which will be positioned directly adjacent 3 Molonglo Drive as set out in Figure 10.3.

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

The Airport acknowledges Guideline F has largely been implemented with respect to Canberra Airport:

- This function has been managed by the Australian Government Department of Infrastructure and Regional Development and the Airport for many years within the Regulations, refer Chapter 13, Protection of Airspace.
- The NSW Government has an ongoing planning policy with its Section 117 Directions to councils. Direction 3.5(4) requires councils to have regard to Obstacle Limitation Surface (OLS) for Licensed Aerodromes.

Amendment 30 (September 2000) to the *National Capital Plan* states:

*“Protected airspace provisions in relation to Canberra International Airport apply to development independently of the National Capital Plan. To satisfy a requirement of the Airports (Protection of Airspace) Regulations 1996, Canberra International Airport Pty Ltd has prepared a diagram prescribing protected airspace. The diagram is incorporated in the Airport Master Plan prepared under the Airports Act. Detailed information may be obtained from the commonwealth agency with responsibility for protected airspace (currently Department of Infrastructure and Regional Development)”.*

ACT Planning is required to be consistent with the *National Capital Plan*.

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

**Guideline D: Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation; and**

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

Canberra Airport recognises Guidelines C, D and E are yet to be implemented by the ACT and NSW Governments.

Currently Canberra Airport has aviation safety concerns arising from:

- A potential aircraft safety risk from a proposed Majura Winery Solar Farm, under the arrival flight path to runway 17, near the Airport in the Majura Valley. Canberra Airport continues to object to this proposal in the context of glare risk and will accept no liability for any adverse outcome. Further, Canberra Airport will seek immediate remedy for any constraint imposed on aviation operations if this proposal proceeds. Canberra Airport also has concerns arising from glare output reports from the Royalla Solar Farm; and
- A proposal to enhance (by further development) the bird attraction of the Jerrabomberra Wetlands in close proximity to the south of the Airport. This proposal is inconsistent with Guideline C. The ACT Government has since

advised (January 2014) “The ACT Government recognises the need for changes to the 2014 Draft Master Plan for Jerrabomberra Wetlands due to bird strike risk”.

These proposals and others raise an urgent need to achieve rigour in the region’s 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 will continue to work co-operatively with the ACT and NSW Governments along with the National Capital Authority (the approval authority) to mitigate bird strike risk.

### **Consultation for implementation**

Canberra Airport has consulted consistently with relevant decision makers, including:

- 30 October 2012; the Canberra Airport Planning Coordination Forum was briefed by the then Department of Infrastructure and Transport on the Guidelines, including advice SCOTI had endorsed the Guidelines in May 2012;
- 30 October 2012; the Canberra Airport Planning Coordination Forum was briefed by the then Department of Infrastructure and Transport on the Guidelines, including advice SCOTI had agreed to implement the Guidelines in May 2012;
- 15 May 2013; Canberra Airport held a targeted meeting for the purpose of the Implementation of the Safeguarding Framework at the National Capital Authority with senior National Capital Authority and ACT Planning officers. The meeting was also designed to identify and narrow the issues impeding implementation of the Safeguarding Framework into ACT and *National Capital Plan*;

- Canberra Airport has consulted with the Community Aviation Consultation Group during 2012/13 to inform the community, government, and industry members of the benefits of the Safeguarding Framework; and
- Canberra Airport has briefed the Planning Coordination Forum during 2012 - 2014 of concerns about incompatible projects arising ad-hoc, and the need to have all outstanding guidelines implemented, as a strategic planning step to overcome development proposals that may not comply with the Safeguarding Framework.

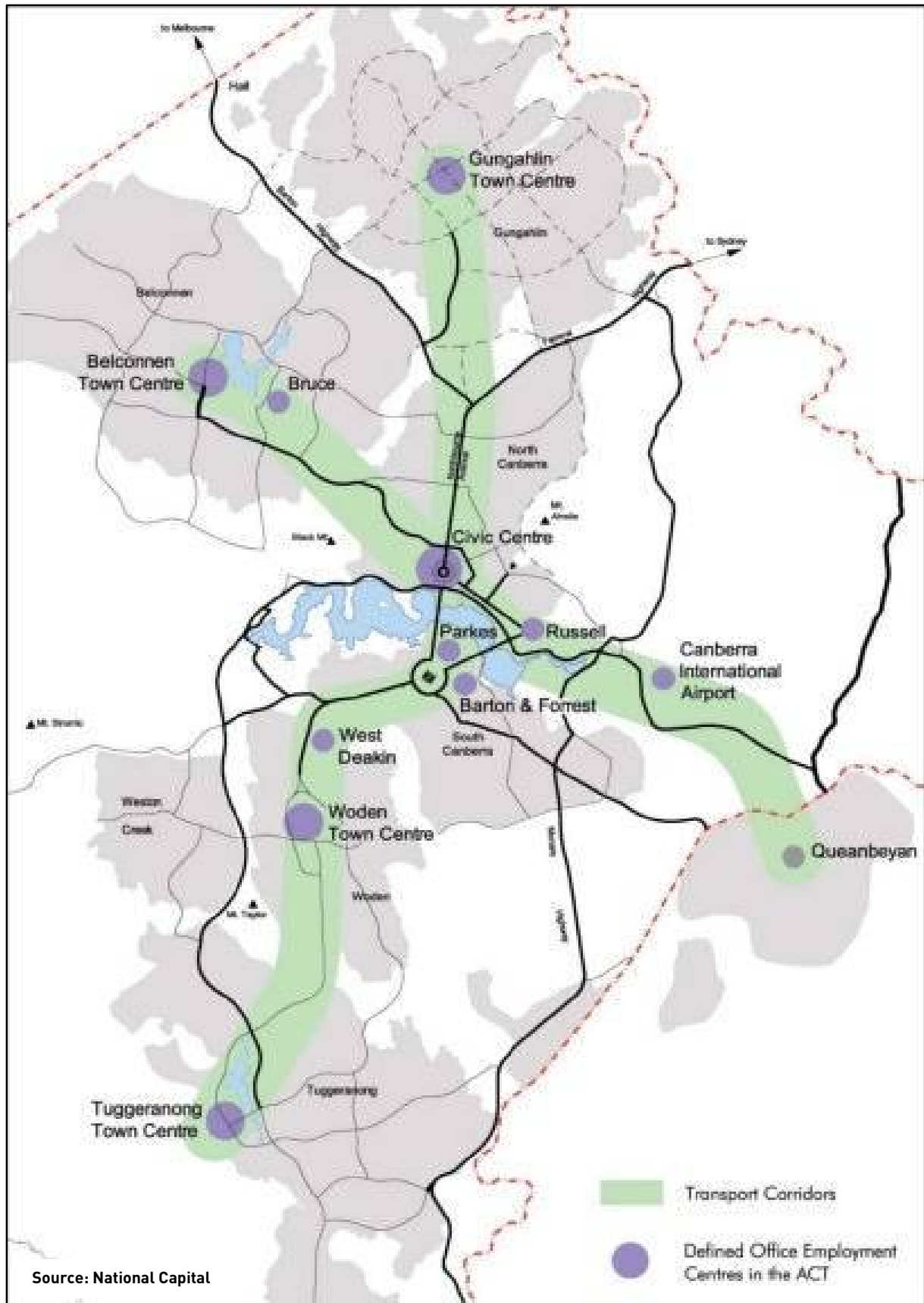
The Canberra Airport Integration Committee and Planning Coordination Forum will work towards implementing the balance of the Safeguarding Framework, noting it is a “key fundamental planning area for reform in Australia... and this will become more intense and difficult as our major cities grow”.<sup>2</sup>

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<sup>2</sup> Mrdak, M [2014] *Infrastructure chief Mike Mrdak warns of airport security overhaul to cope with tourist growth*. The Australian (online). Accessed 2 December 2014.



Figure 4.1 – National Capital Plan – defined office employment centres



## 4.2 NATIONAL CAPITAL AUTHORITY

Following an amendment to the *Airport Act* in 2007, to bring Canberra Airport into line with all other privatised airports, the *National Capital Plan* no longer applies at Canberra Airport.

The National Capital Authority had agreed an amendment to the *National Capital Plan*, 'to ensure consistency with the *Airports Act*', would reference the Master Plan for Canberra Airport and acknowledge the relevant planning authority as the Department of Infrastructure and Regional Development". Canberra Airport will continue to consult with the National Capital Authority and would expect this amendment will be included in the review of the *National Capital Plan*.

Whilst no longer applicable, the *National Capital Plan* currently identifies Canberra Airport as part of the Central National Area, as a Defined Office Employment Centre and on the East-West Transport Corridor, as shown in Figure 4.1. The *National Capital Plan* states under the heading *Policies for the Location of Office Employment*:

- "Major office employment should be located within Defined Office Employment Centres located within the two transport corridors." and
- "Defined Office Employment Centres within the East-West Corridor comprise Belconnen Town Centre, Bruce, Civic Centre, Russell, and Canberra International Airport."

Furthermore, the Broadacre areas surrounding Canberra Airport are recognised under the *National Capital Plan* as becoming of "considerable economic importance to Canberra over time, and which offer a basis for the future economic development of the City."

In this context, the ACT Government in parallel to Draft Amendment 84 (*National Capital Plan*), has approved Variation 324 of the *Territory Plan* which will permit bulky goods retail on ACT land directly opposite the Airport's retail and office precinct, Majura Park.

This rezoning from 'Broadacre' is stage one of an area identified as Area C in the ACT Governments *Eastern Broadacre Study*. This precinct once rezoned will provide opportunities for the ACT Government to leverage off the capital investment of the Airport.

This is a contemporary example of Canberra Airport land use planning integration with metropolitan Canberra, the *National Capital Plan*, and the *Territory Plan*.

While not strictly required, the developments proposed in this 2014 Master Plan are consistent with the *National Capital Plan* – the primary planning document for the ACT. It is for this reason the *National Capital Plan* has been used as the basis for land use definitions within this 2014 Master Plan. Current Airport development proposals under this 2014 Master Plan are thus consistent with the *National Capital Plan* and in turn the *Territory Plan* and the Airport *MoU* with the ACT Government.

The land uses identified in this 2014 Master Plan are contained in Chapter 10, Development Concept and Options. Consistent with Regulation 5.02 of the *Airports Regulations 1997*, where a land use is defined, these uses adopt the definitions which are derived from the *National Capital Plan*.

### 4.3 ACT GOVERNMENT

***“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 ACT Government will continue to work with Canberra Airport and the Commonwealth to foster that growth”.***

***ACT Government Chief Minister Ms Katy Gallagher, MLA, 11 June 2014***

Canberra Airport works closely with all relevant areas of the ACT Government to ensure the Airport is strongly integrated into the ACT strategic and planning framework. Canberra Airport regularly and comprehensively consults with the ACT Government, and in particular, has now re-established the Canberra Airport Integration Committee to deal with issues of planning, development, economic growth and diversity and the implementation of Australian Government policy. Canberra Airport has also worked collaboratively with the ACT Government to deliver key infrastructure projects in the vicinity of Canberra Airport, such as the future development proposal on ACT land west of Majura Road opposite Majura Park.

Canberra Airport has been recognised by the ACT Government as a critical piece of infrastructure to the ACT and the surrounding region, and the ACT Government has further acknowledged the Airport and its ongoing growth must be encouraged as well as integrated into the urban form of the city.

#### 4.3.1 ACT ECONOMIC WHITE PAPER (2003)

*“We should not fear strategies that pursue economic growth and development ... approvals and policies designed simply to maintain the status quo are more likely to be a recipe for stagnation.*

*[The ACT Government will] be unashamedly pro-business ... and make the ACT the premier business friendly location in Australia; and*

*... provide supportive planning and highly competitive infrastructure ... to give Canberra the look and feel of a vibrant and dynamic 21st century city.”*

The ACT *Economic White Paper* (2003) outlined the ACT Government’s economic and policy framework to achieve sustainable growth and development. Canberra Airport’s role as a major employment generator, and as a regional hub, was well recognised in this document.

By providing a wide variety of services in a sustainable manner, Canberra Airport is helping the ACT Government reach its goal of creating the right environment to attract knowledge-based creative employment. Workers in these industries demand high quality office accommodation and amenities located close to major interstate transport links. The Airport is providing the right environment for these workers.

The Airport’s role as a regional and metropolitan hub, and as a major activity centre, was explicitly recognised by the *ACT Economic White Paper* (2003) in the following terms:

*“Great cities have excellent transport connections. Since the ownership of Canberra Airport was transferred to private ownership, investment in the Airport and general economic activity around the Airport has increased markedly. The Master Plan, which is the major planning tool for the Airport, outlines a vision for the development of Canberra International Airport as a major passenger, freight and business hub serving the ACT region.”*

#### 4.3.2 THE CANBERRA SPATIAL PLAN

*“In order to protect the Airport as a significant transport asset for the region, its operations need to be unconstrained by the potential limiting effects of residential development where airport noise would impact on residents. Conversely, growth at the Airport must have regard to the need to protect significant biodiversity assets on and around the Airport.”*

***“The scale and nature of development at the Airport provides employment opportunities not available elsewhere in the ACT. Planning to ensure that the Airport continues to play a major role in this region as a regional transport hub, bringing new jobs to the region, is of fundamental importance. NSW areas are also affected by aircraft noise while the economic benefits of the Airport are also important to NSW.”***

*The Canberra Spatial Plan* confirms Canberra Airport’s central role in terms of employment growth by identifying the Airport at the intersection of two of Canberra’s three employment corridors. *The Canberra Spatial Plan* reveals the three corridors will form the primary focus for employment in the ACT.

Figure 4.2 is a diagram linking the 2004 and future employment corridors referenced in *The Canberra Spatial Plan* in a similar way to the defined office employment centres diagram of the *National Capital Plan* (refer Figure 4.1).

### **4.3.3 GROWTH, DIVERSIFICATION AND JOBS: A BUSINESS DEVELOPMENT STRATEGY FOR THE ACT (2012)**

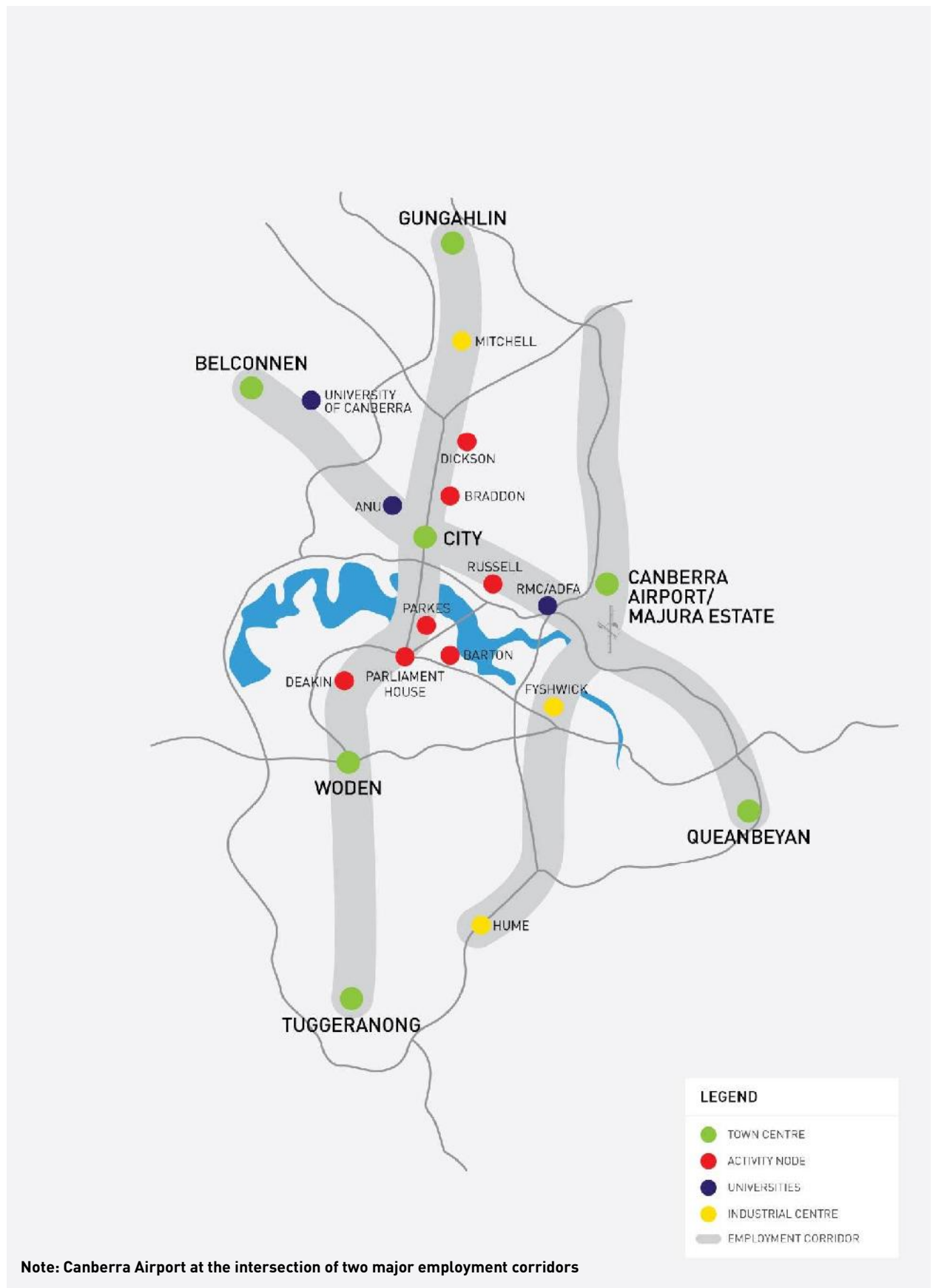
*The Growth, Diversification and Jobs: A Business Development Strategy for the ACT* (2012) acknowledges the role Canberra Airport does play in tourism and business development.

***“Canberra has the potential to become a preferred international tourist business investment destination. The capacity for direct international flight services and the development of aviation partnerships in key international markets including New Zealand, China and South East Asia is a key priority.”***

The launch of Invest Canberra in 2013 and the *2020 Tourism Strategy* (2013) released December 2013 reinforce the ACT Government’s policy to leverage off the Airport’s infrastructure capability as a priority role for Canberra’s future economic growth.



**Figure 4.2 - Canberra H Plan employment location strategy**



The Airport is located on the main employment corridor between Belconnen through the City, Barton and the Airport to Queanbeyan. This corridor currently accommodates over 75 percent of Canberra's employment and contains a number of uses, most notably key office employment locations in the City and in the Central National Area (of which the Airport is a part).

The Airport is also located on the north-south employment corridor running through the Majura Valley through the Airport and Fyshwick onto Hume (refer Eastern Broadacre below).

Canberra Airport was identified in *The Canberra Spatial Plan* as a 'Priority 1' employment area on the north-south employment corridor, to be developed in the short term.

It is also noted *The Canberra Spatial Plan* previously identified the future Canberra Airport as having five to 10 percent of the Territory's employment and previous Master Plans projected Airport employment growth up to 2029 to be consistent with this forecast. This 2014 Master Plan's estimate of 34,000 jobs at the Airport in 2033/34 is consistent with up to 10 percent of the Territory's employment.

#### **4.3.4 EASTERN BROADACRE**

The Eastern Broadacre straddles the Monaro Highway and the Majura Parkway alignments from the Federal Highway intersection in the north to the industrial suburb of Hume in the south. This north-south employment corridor identified in *The Canberra Spatial Plan* runs through the Majura Valley, the Airport and Fyshwick onto Hume. This north-south corridor is identified by the ACT Government in the *Eastern Broadacre Study*, released in 2010, and *ACT Planning Strategy* (2012) for the growth of, or is suitable for, a long and diverse list of employment land uses including:

- Industrial;
- Broadacre commercial;
- Tourism;
- Recreation;
- Transport related activities;
- Bulky goods retailing;
- Creative industries; and
- High technology manufacturing.

This north-south corridor, and particularly the Majura Valley, has developed into a key Department of Defence and security hub of national significance. With the Majura Training Area (MTA), Royal Military College, Duntroon, the Australian Defence Force Academy, the Campbell Park Offices together with the Australian Federal Police's increasing presence (with the latest development of a forensic facility) in the Majura Valley and on the Airport, the Majura Valley is already a key 'security valley' for the Australian Government. In addition, most of the operations in the Majura Valley are in very close proximity to the Russell Defence Offices. The trend of increasing Department of Defence, Australian Federal Police and ancillary security operations within the Majura Valley is expected to continue and Canberra Airport anticipates playing an increasing role as a major activity centre in Majura Valley.

In October 2013 the ACT and Australian Governments released for public comment a planning report for Part Block 4, Section 9 and Part Block 2, Section 12 Pialligo by MacroPlan Dimasi 2013. This report supports the rezoning of 7.8 hectares of the Eastern Broadacre in response to Amendment 84 to the *National Capital Plan* and Variation 324 to the *Territory Plan* (now known as the IKEA site). The land use permits bulky goods retail to this 7.8 hectares situated on the western side of Majura Road, directly opposite the Airport's retail and office precinct, Majura Park. The land rezoned is located between the two roundabout intersections of Majura Road with Spitfire and Mustang Avenues Majura Park, opposite Canberra Airport land. This rezoned area of 7.8 hectares is stage one of a much larger area currently under investigation by the ACT Government to meet future demand. The study area includes Area C and other land (some of which the ACT Government has advised is being negotiated for its purchase from Defence) outlined in the *Eastern Broadacre Study*.

The development of business parks and other commercial property development are primary use activities at airports worldwide now known as Aerotropolis because they are associated with, are ancillary to, and enhance the operation and the viability of airports. This has been recognised by the ACT Government in attachment A of the ACT *Eastern Broadacre* economic and strategic planning direction study, which references a number of successful business and technology parks near airports around the world, including the Brindabella Business Park, Canberra Airport.

***“Canberra Airport development has been undertaken within the policy and planning intent as set out in the National Capital Plan, the ACT Economic and Planning Strategies (2003-2013), that is, consistent “with regional, metropolitan and transport planning issues and addressed with ongoing consultation under the ACT Government and Canberra Airport Pty Ltd MOU, 2010.”***

***ACT Planning Strategy (2012)***

#### 4.3.5 THE TERRITORY PLAN

The *Territory Plan* has been prepared and administered by the ACT Government in respect of all land in the ACT other than land classified as 'Designated Area'. The *Territory Plan* is required by Commonwealth legislation to be consistent with the *National Capital Plan*.

The land uses and development activities permitted for each precinct at Canberra Airport are listed in Land Use Tables in Chapter 10, Development Concept and Options of this 2014 Master Plan under the headings 'Permitted and Intended Uses Include' and 'Category'. Consistent with Regulation 5.02 of the *Airports Regulations 1997*, these are defined by adopting the terminology of the *National Capital Plan*, the ACT's principal plan.

Thus by virtue of the fact it is consistent with the *National Capital Plan*, Canberra Airport is consistent with the *Territory Plan*.

#### 4.4 NSW GOVERNMENT AND LOCAL GOVERNMENT AREA SURROUNDS

Whilst Canberra Airport does not lie within NSW, aircraft flying to and from Canberra Airport operate at low altitude over areas of south-eastern NSW, particularly parts of Queanbeyan, Palerang and Yass Valley Local Government Areas. Furthermore, Canberra Airport is an economic and social gateway for Canberra and the broader region.

##### 4.4.1 SYDNEY-CANBERRA CORRIDOR REGIONAL STRATEGY

Although the *Sydney-Canberra Corridor Regional Strategy* (2006-2031) has been identified for review in 2014/15, the NSW Government released the Strategy in 2008 as a "25 year blueprint to guide growth, improve housing affordability and protect valuable natural resources along the regional corridor between Sydney and Canberra".

***"Canberra International Airport is a significant asset for the ACT and the Corridor. The Airport provides commercial flights to Sydney, Melbourne, Brisbane, Perth, and Adelaide. Regional services are also provided to Newcastle and Albury. The airport contributes to the local economy through movement of people, tourism, employment and freight cartage."***

***Sydney-Canberra Corridor Regional Strategy, 2008***

#### 4.4.2 QUEANBEYAN CITY COUNCIL RESIDENTIAL AND ECONOMIC STRATEGY 2031

The review of the Queanbeyan City Council *Residential and Economic Strategy 2031*, approved in 2007, is required following:

- The November 2012 decision by NSW Planning Minister Hazzard not to rezone land to permit residential proposals within Canberra Airport's ANEF 20 contour; and
- Advice received from Mr Richard Pearson, Deputy Secretary, NSW Planning and Environment, July 2014, "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. I have asked staff to ensure this position is reflected in any new strategic planning work for Queanbeyan City Council, including the proposed review of the *Queanbeyan City Council Residential and Economic Strategy 2031*."

#### 4.4.3 NSW GOVERNMENT LAND USE POLICY

The NSW Land Use policy constitutes the NSW Government's long term intentions for land-use planning for the Queanbeyan City Council area and adjoining Palerang and Yass Valley Council areas within Canberra Airport's ANEF 20.

The intent of the policy is to:

- Protect Canberra Airport's 24 hour curfew free passenger, defence and freight operations;
- Prevent new rezonings that seek sensitive residential development within the ANEF 20 contour for Canberra Airport;
- Require residential development outside and adjacent the ANEF 20 contour to be noise attenuated in compliance with Table 3.3 of the *Australian Standard, Acoustics - Aircraft Noise Intrusion - Building Siting and Construction (AS2021-2000 Australian Standard)*.

Canberra Airport acknowledges the *South Jerrabomberra Structure Plan* approved by Queanbeyan City Council in March 2014 is consistent with the NSW Government's policy of no residential land use within ANEF 20 for Canberra Airport.

The outcome of the NSW Government's policy will inform the review of the *Queanbeyan City Council Residential and Economic Strategy 2031* and the *Sydney-Canberra Corridor Regional Strategy*.



#### **4.4.4 CROSS-BORDER LAND-USE PLANNING ISSUES**

The NSW and ACT Governments are progressing to a draft Cross Border C+1 Strategy.

Canberra Airport will continue to work with the NSW Government and local councils on regional land use planning issues including aircraft noise and protection of airspace.

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CHAPTER 5  
AIRLINE AND AIRCRAFT MOVEMENT  
GROWTH

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“AIRPORTS...ARE A VITAL PART OF ENSURING THAT OUR NATION IS ABLE TO BE CONNECTED TO THE REST OF THE WORLD...”

THE HON WARREN TRUSS, DEPUTY PRIME MINISTER



## 5 Airline and aircraft movement growth

The volume of passenger and aircraft movements at Canberra Airport has declined since 2009/2010. In 2013/2014 Canberra Airport will handle approximately 2.833 million passengers across approximately 60,000 aircraft movements, its lowest recorded passenger volume since 2007/2008.

The prospects for a future return to growth however are strong. Canberra Airport expects a restoration of volume growth in 2015/2016 and 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 9 million passengers per annum with some 153,000 aircraft movements in 2033/2034.

Canberra Airport, with its extensive infrastructure upgrades in recent years, is well positioned to meet forecast demand with only minor additional infrastructure and capitalise on growth opportunities in the regional, domestic and international aviation markets.

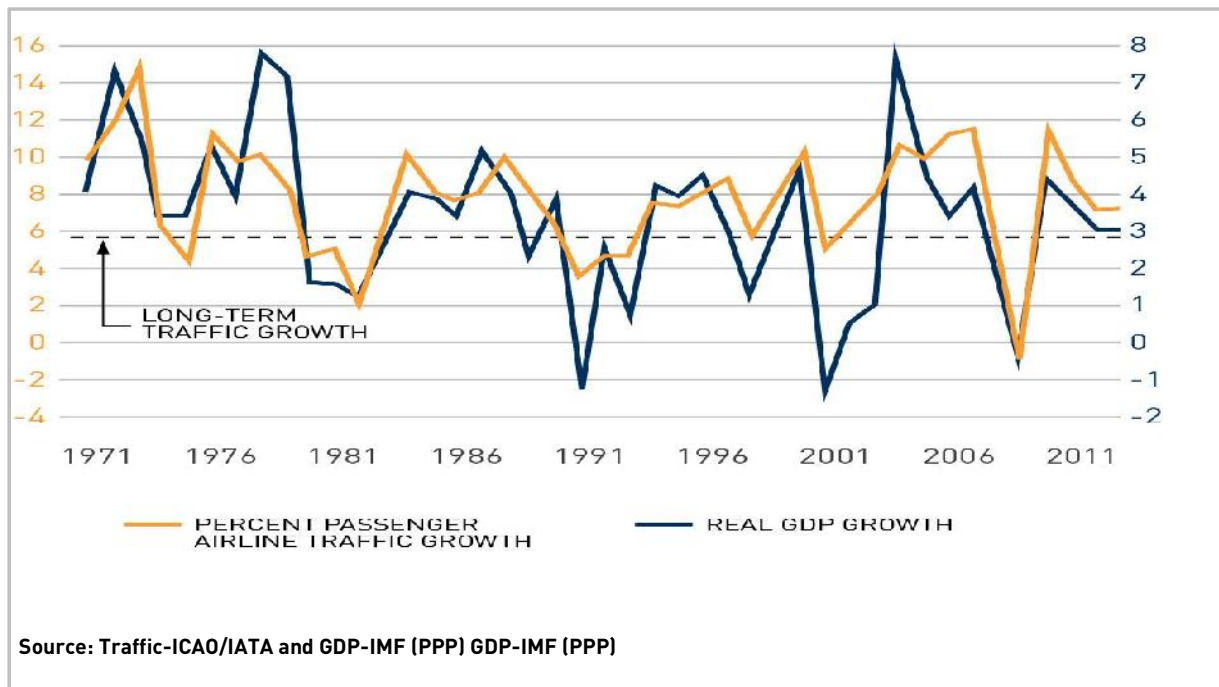
### 5.1 OVERVIEW

Globally, the aviation industry has experienced enormous change over the past 15 years 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 at the expense of international carriers from 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 two out of three of these new entrant airlines and, particularly in the Canberra context, the collapse of regional airlines.

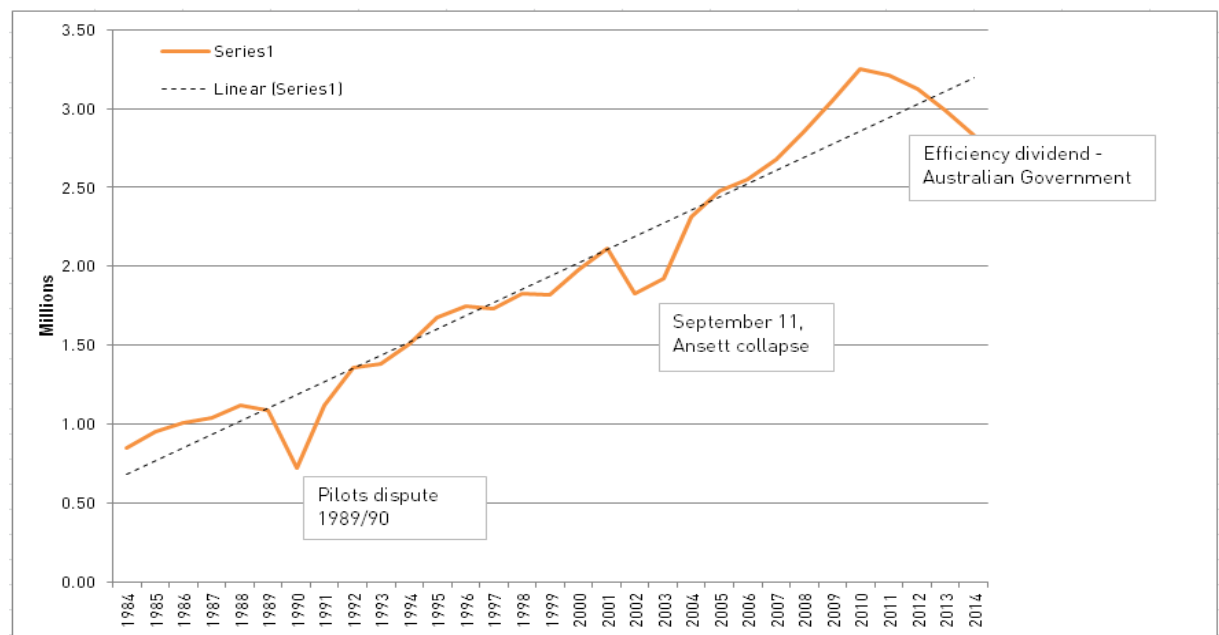


**Figure 5.1- world passenger traffic growth versus GDP 1971-2011**



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 5.2 below. This demonstrates that for each downturn there is a bounce back to above trend line growth.

**Figure 5.2 – historic growth at Canberra Airport**



While Canberra Airport is now experiencing another period of declining volumes, history suggests a restorative period of growth is ahead. This is consistent with forecasts across the industry, from Canberra Airport's own projections to those of the major airlines (insofar as they relate to the Canberra market). In addition, the prevailing view of the International Air Transport Association, Airports Council International and the global aircraft manufacturers (Boeing and Airbus) is the world's strongest growth will come from the Asia Pacific region.

Notwithstanding the uncertain environment in which the aviation sector operates, and the declining volume experienced in recent years, 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.

## **5.2 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 has seen a suspension of services on the Canberra-Newcastle route, which follows an earlier cessation of services on the Canberra-Albury route. The prospects for a resumption of these services, and for the regional aviation sector in Australia generally, remain uncertain.

Regional services have historically comprised up to 2-3 percent of Canberra Airport's traffic volumes. A number of these services have been introduced over the past 15 tumultuous years, sustained for extended periods of time, and proved their profitability in difficult circumstances. The current situation, with the demise of Brindabella Airlines, leaves Canberra Airport with no regional services, which is more a result of the business decisions of one airline, rather than an indication of the longer term viability of regional services to and from the Nation's Capital.

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 5.1 identifies possible new regional destinations and provides an indicative timeframe for commencement of flights (noting this remains subject to the decisions of airlines).

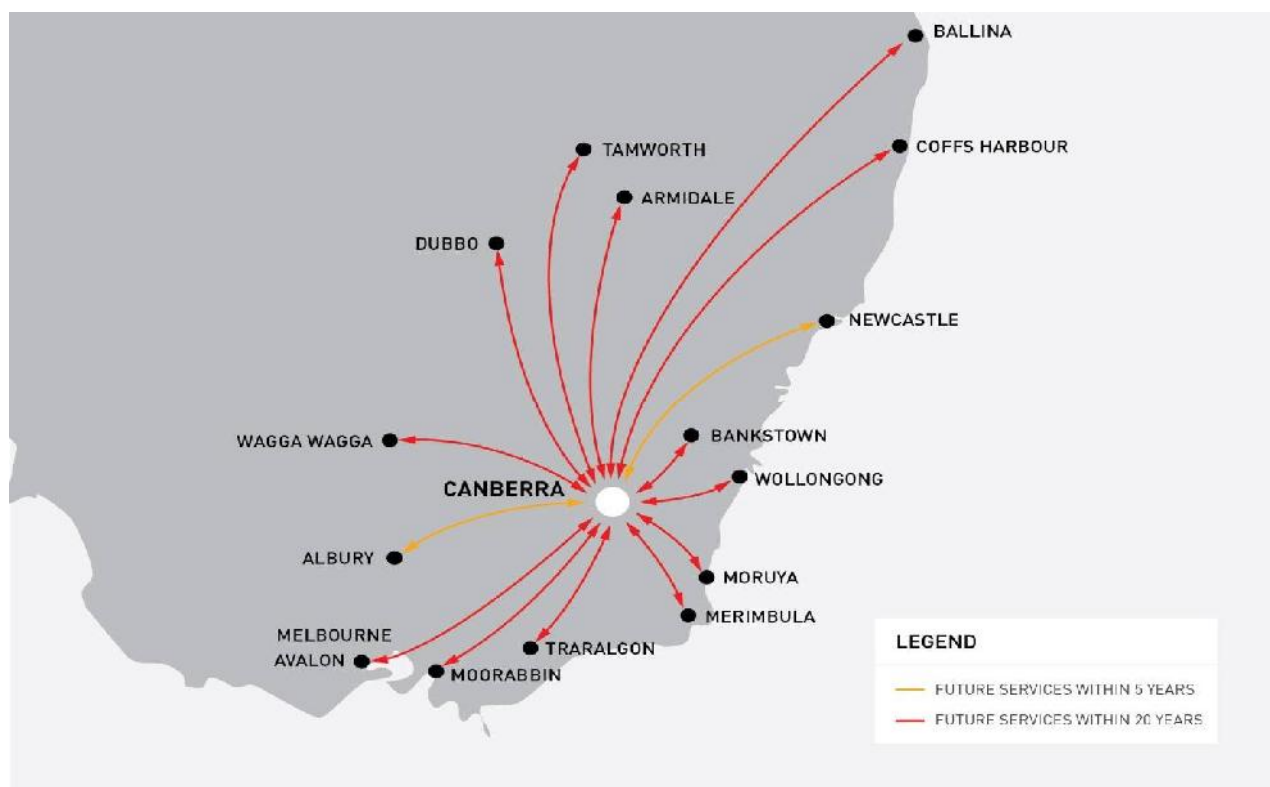
**Table 5.1 – target regional destinations**

Indicative Timeframe	Regional Destinations
Future services within five years	Albury Newcastle
Future services within 20 years	Armidale Ballina / Byron Bankstown* Coffs Harbour Dubbo Merimbula Moorabbin Moruya Tamworth Traralgon Wagga Wagga 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 the Australian Government on whether to proceed with a new airport serving 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 increasing congestion at Sydney (Kingsford Smith Airport) and any delay in progressing a new Western Sydney airport beyond 2027 will only serve to strengthen the viability of services between Canberra and the identified regional destinations and potentially bring forward the indicative timeframes nominated for commencement of these flights.

**Figure 5.3 – regional air services**



### 5.3 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 the contraction in Australian Government travel spending aimed at meeting unsustainable efficiency dividends.

Overall passenger volumes at Canberra Airport have declined by 3.4 percent per annum (compound) since July 2010, culminating in passenger numbers in 2013/2014 being 12.9 percent below those recorded in 2009/2010.

Declining volumes have been recorded across all domestic sectors and airlines have adjusted capacity (smaller aircraft off peak) and schedules accordingly. These adjustments have not been as obvious on the denser routes whereas, in contrast, the impact of the Australian Government efficiency dividend on the thinner routes has seen the withdrawal of services on the Canberra-Hobart, Canberra-Townsville and Canberra-Darwin routes.

With the decline in passenger volumes starting to moderate, and the economic outlook (both locally and nationally) being decidedly less bearish, a return to growth appears to be on the horizon.

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 5.2.

**Table 5.2 – target domestic destinations**

Indicative Timeframe	Destinations
Future services within five years	Cairns Darwin Hobart Sunshine Coast Townsville
Future services within 20 years	Alice Springs Avalon Launceston

The domestic market is expected to drive the vast majority of both passenger numbers and aircraft movements over the life of this Master Plan. Further, although maturing in market terms, the existing route network will drive a substantial proportion of the domestic growth. Additional services on existing routes will therefore remain a priority for Canberra Airport as part of its overall growth strategy and the infrastructure and services are already in place to accommodate a substantial increase in traffic on the domestic route network. It is highly likely this will include one, or both, of the two domestic low cost carrier airlines. This will correct a market anomaly which sees no low cost carrier operating into Canberra despite the Canberra regional population approaching 900,000 (refer to Figure 5.4) 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 – 17.8 percent above the national average;
- Canberra recorded Australia’s highest growth in average weekly earnings at 6.2 percent per annum;
- 64 percent of the local population have flexible work commitments making it easy to travel; and
- Canberra is Australia’s highest yielding domestic and international 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 commence, especially given the high incomes of the population.

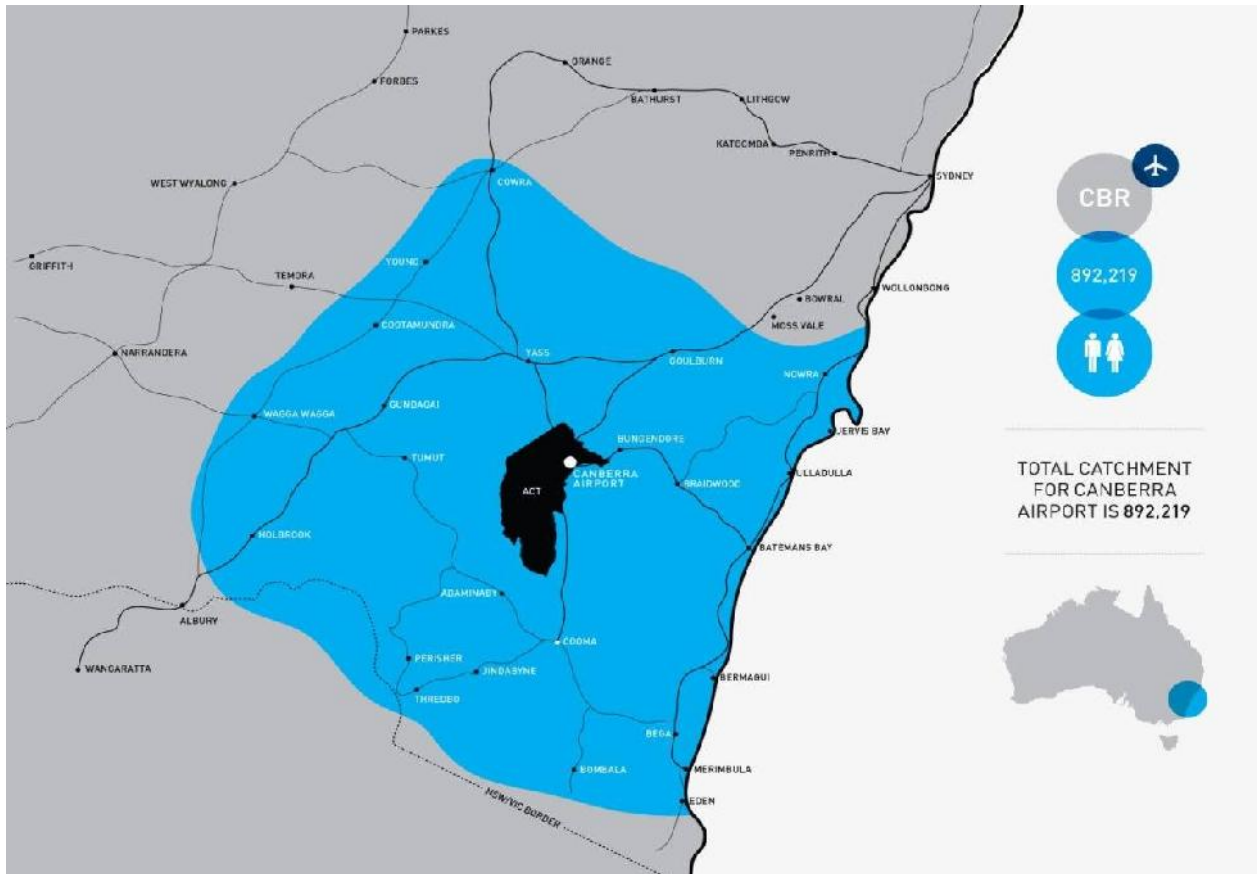
Similarly, this region and its tourism operators are the only tourism region in Australia (and regional population over 100,000 people) not served by a low cost carrier. This is a significant market anomaly given Canberra's tourism market size (in terms of domestic and international visitors and the spend by those visitors) is as large as Tasmania's which is extensively serviced by low cost carrier aircraft. Given Canberra Airport is the gateway to the Snowy Mountains and the NSW South Coast, we are also the access point to a significant regional tourism economy which makes us larger than Tasmania's tourism economy.

As a tourism destination, significant investment in product over the last 5-8 years has seen the destination surge in terms of reputation:

- Canberra was awarded Top 10 World Destinations on the Rise in the Trip Advisor Travellers Choice Awards 2013 – the only Australian capital to make the list;
- In 2014 the Australian War Memorial was named the number one Travellers Choice Australia Landmark Destination (Trip Advisor);
- Canberra has Australia's highest concentration of restaurants per capita with Aubergine and Monster listed in Gourmet Traveller's Top 100 Australian Restaurants (2014);
- East Hotel is the Australian Hotel Association's Best Apartment Hotel in Australia (2014) and Hotel Hotel is Gourmet Travellers Australian Boutique Hotel of the year (2014); and
- The Australian Alps as well as the NSW and Victorian Coastal region were both listed in the top 16 Ultimate Escapes by Australian Traveller (2014).

The tourism product here is well suited to extensive low cost carrier operations. Experience shows such operations extensively boost airport passenger numbers by up to 15-40 percent over the first two years and then deliver above trend growth rates for a further 7 -10 years. Tasmania is a great example of this, as is the Gold Coast. In the late 1990s Canberra and Gold Coast had similar passenger numbers and until 2002, Canberra had moved ahead. Over the last decade, Gold Coast's growth through low cost carrier operations has seen it move significantly ahead but there is no reason this gap could not be closed over the next decade.

**Figure 5.4 - Canberra and surrounding regions**



**Figure 5.5 – projected domestic air services from Canberra**



## 5.4 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 by domestic airline services connecting to international services at Sydney and, to a lesser extent, Melbourne and Brisbane Airports. There is, however, a clear opportunity for direct international flights to service Canberra Airport.

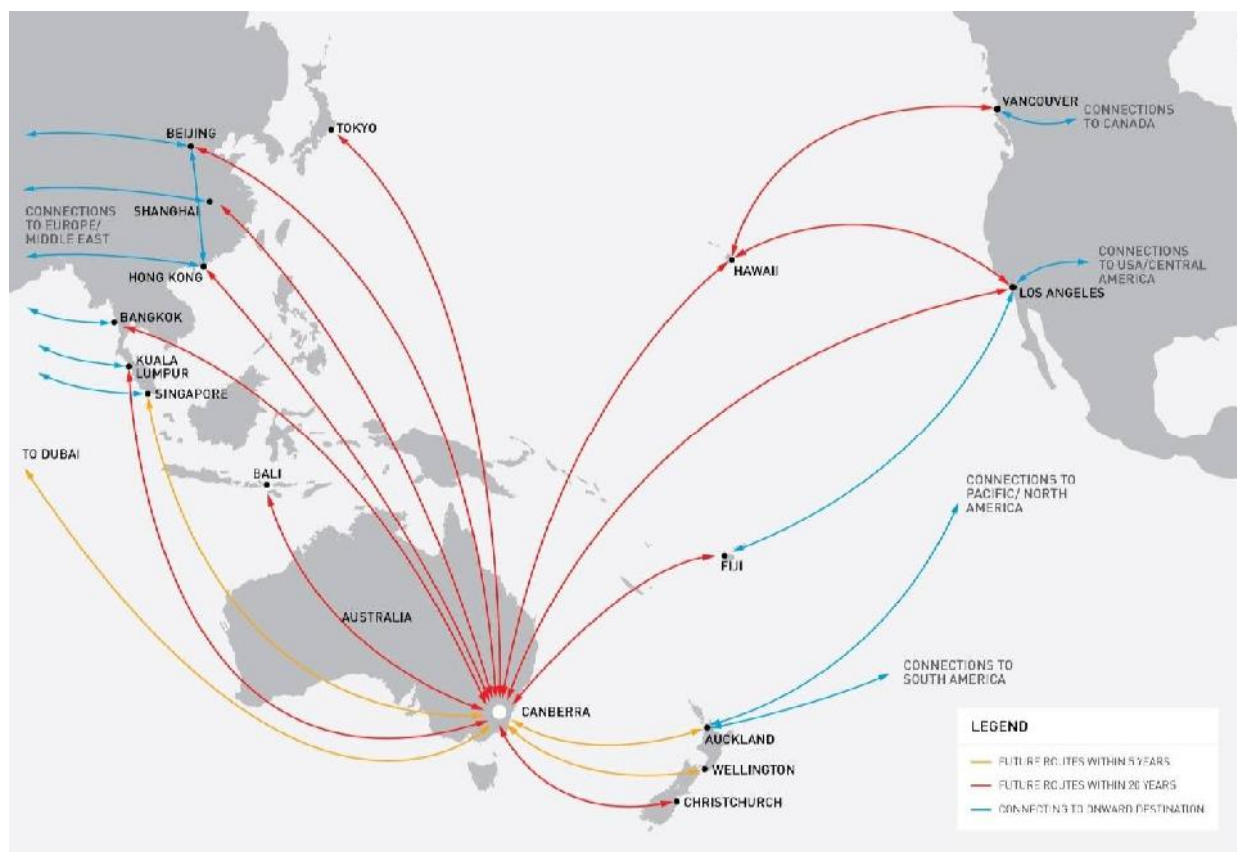
Evidence demonstrates there is sufficient demand today for direct international services between Canberra and New Zealand, and a daily A330/B777 service between Canberra and one or more hub airports in the Middle East and/or Asia that would deliver onward connections to Europe and the rest of Asia. Given 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 5.3 – target international markets**

Indicative Timeframe	International Markets
Future services within five years	Dubai New Zealand Singapore
Future services within 20 years	Abu Dhabi Americas China Hong Kong Indonesia Japan Malaysia Pacific Islands Thailand

From a zero base, on conservative estimates, Canberra Airport is forecast to handle approximately 4,431 international aircraft movements per annum by 2033/2034, and average six return flights per day, carrying almost one million international passengers to and from Canberra Airport each year.

**Figure 5.6 – projected international air routes**



The introduction of international services will place new demands on airfield and terminal infrastructure at Canberra Airport, and similarly place 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).

Despite this demand being new, with planning and development work already completed, Canberra Airport’s airfield and terminal infrastructure is capable of accommodating both the increase in number of aircraft movements from international operations as well as the resulting increase in size of such aircraft. Similarly, airspace planning around the Airport provides for these international operations. These matters are dealt with in further detail in Chapter 8, 9 and 13.

## 5.5 AIRFREIGHT AND OVERNIGHT AIRCRAFT MOVEMENTS

The demand for airfreight is rebounding, driven by online sales growth and, in the international context, a favourable exchange rate. While airfreight is suited to the more time sensitive (and/or long-haul) parcel segment of the overall freight market, the rapid growth in online sales is impacting all sectors of the road and air freight market.

To date, Sydney Airport continues to be the primary destination for airfreight in Australia. The impact of increasing congestion at Sydney Airport and congestion on the arterial roads around Sydney generally is expected to drive a review of Australia's air freight network. Any move to decentralise the airfreight network or modify the location of airfreight hubbing activity is likely to drive an increase in freight volumes through Canberra Airport.

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.

Presently, Canberra Airport is utilised for limited airfreight activity. Airfreight is typically carried in the hold of aircraft operating passenger services or in dedicated freight aircraft operating mainly in the overnight hours (11pm-6am). Infrequently, dedicated wide-body aircraft carry specialised cargo to and from Canberra at different times of the day and night. In addition to airfreight, aircraft movements occurring during the night hours include:

- Scheduled regular passenger transport (RPT) aircraft movements;
- 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 will provide a new dimension to airfreight 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 2014 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.

## 5.6 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 in passenger numbers in recent times was analysed and compared to other declines in the Airport's history in particular the falls during the early Howard and Fraser Governments both of which saw a return to trend growth over the medium term. 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 five 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.

## 5.7 MARKET SUMMARY

Regional, domestic, and international volumes are set to increase over the term of this 2014 Master Plan. Passenger volume will increase from 2.833 million in 2013/2014 to more than nine million by 2033/2034, a compound annual average rate of growth of 5.5 percent (or 5.3 percent excluding international passengers).

Domestic passenger growth to 2023/24 will reflect a rebound from recent falls in passenger numbers, and a return to at least historical trends in passenger growth shown in Table 5.2. Beyond 2024 passenger growth will accelerate due to the maturing and increase in frequency of international and low cost services at Canberra Airport including additional domestic routes to ports such as Cairns, Darwin, Hobart, Sunshine Coast, and Townsville resulting in approximately eight million domestic passenger movements in 2033/34. If significant low cost carrier services develop before 2024, this acceleration in growth will be brought forward.



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 5.4 for 2018/19 and 2023/24 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 10.7 million by 2033/2034.

**Table 5.4 - forecast passenger movements**

<b>Passengers</b>	<b>Actual 2013/ 2014</b>	<b>Forecast 2018/ 2019</b>	<b>Forecast 2023/ 2024</b>	<b>Forecast 2028/ 2029</b>	<b>Forecast 2033/ 2034</b>
Base Case					
- Domestic/Regional	2,833,000	3,958,700	4,838,500	6,252,300	8,001,300
- International	0	400,000	500,000	800,000	996,946
TOTAL	2,833,000	4,358,700	5,339,500	7,052,300	8,998,246
High Range					
- Domestic/Regional	2,833,000	4,300,000	5,411,469	7,461,566	9,450,000
- International	0	500,000	800,000	996,946	1,242,376
TOTAL	2,833,000	4,800,000	6,211,469	8,458,512	10,692,376

Meanwhile aircraft movements are expected to increase from 59,620 in 2013/2014 to more than 153,000 by 2033/2034, a compound annual average rate of growth of 4.8 percent (or 4.7 percent excluding international RPT movements). The lower rate of growth in international movements, relative to passengers, reflects the progressive increase in load factor as international services establish over the term of this 2014 Master Plan.

**Table 5.5 - forecast aircraft movements**

<b>Aircraft</b>	<b>Actual 2013/2014</b>	<b>Forecast 2018/2019</b>	<b>Forecast 2023/2024</b>	<b>Forecast 2028/2029</b>	<b>Forecast 2033/2034</b>
Base Case					
- Domestic/Regional	42,112	52,783	60,494	73,556	88,903
- International	0	1,951	2,439	3,902	4,431
- Other	17,588	26,382	40,500	48,000	60,000
TOTAL	59,620	81,116	103,433	125,458	153,334
High Range					
- Domestic/Regional	42,122	57,333	67,643	87,783	105,000
- International	0	2,439	3,902	4,431	5,522
- Other	17,588	29,000	43,000	53,000	65,000
TOTAL	59,710	88,772	114,546	145,214	175,522

The growth rates of airline passenger movements are consistent with those forecast by Boeing in its *Market Outlook 2013-2032*. Over its 20 year forecasting period Boeing predicts passenger traffic (as measured by revenue passenger kilometres) in the Asia Pacific region to increase at a compound annual average rate of growth of 6.3 percent against a global rate of 5.0 percent. Likewise, Boeing predicts fleet size (a proxy for aircraft movements assuming airlines maintain aircraft utilisation) to increase at 5.5 percent per annum over the 20 years, against a global average of 3.6 percent per annum over the same period. In both passenger and aircraft movement terms, the rates of growth adopted by Canberra Airport sit comfortably in the range of forecast by Boeing for the Asia Pacific region and the global average.

While industry forecasts are a useful benchmark for comparison, the forecast passenger volumes adopted by Canberra Airport in this 2014 Master Plan have been developed with input from both Qantas Airways and Virgin Australia as well as likely activity from international carriers and low cost carriers.

## 5.8 MARKET DEVELOPMENT

While the propensity for Canberra Airport to outperform its base volume forecast is largely in the hands of its airline partners, 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 renewed their partnership to drive aviation development opportunities. The ACT Government has outlined its plans for aviation development in its *2020 Tourism Strategy* (2013) where it nominates international airline services and additional domestic airline capacity as key areas of focus, supporting each of these with multi-million dollar funding commitments, the latest \$600,000 in the June 2014 Budget.

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 2014 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 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, 10 and 20 years will require major investment by hundreds of small and large businesses who will take the commercial risks. Government and councils, in the public interest and job generation, need to foster these initiatives, facilitate this investment, and fast track relevant approvals.

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CHAPTER 6  
FREIGHT OPERATIONS

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“SUPPORTING CANBERRA AIRPORT TO OPERATE OVER 24 HOURS WILL GIVE THE REGION A LOGISTICAL ADVANTAGE IN THE DISTRIBUTION OF GOODS AND PRODUCE.”

ACT PLANNING STRATEGY





## 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 of international passenger services commencing at Canberra Airport will 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 16 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.

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. The 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)* and the ACT Government's *ACT Planning Strategy* (2012), the latter Strategy stated "supporting Canberra Airport to operate over 24 hours will give the region a logistical advantage in the distribution of goods and produce".

This 2014 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 2014 Master Plan. It also foreshadows the commencement of dedicated international airfreight services to Canberra Airport in both passenger and freight 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.

This Chapter both informs and addresses feedback from the community 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 2014 Master Plan 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 14.

## **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 the two major overnight airfreight operators, Qantas Freight and Toll Priority.

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 BAe146 is designated in legislation as the only jet freighter able to operate into Sydney during curfew hours. This aircraft is currently ageing and is thus more susceptible to maintenance problems and is of lower freight-carrying capacity than more modern freighter aircraft;
- 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.

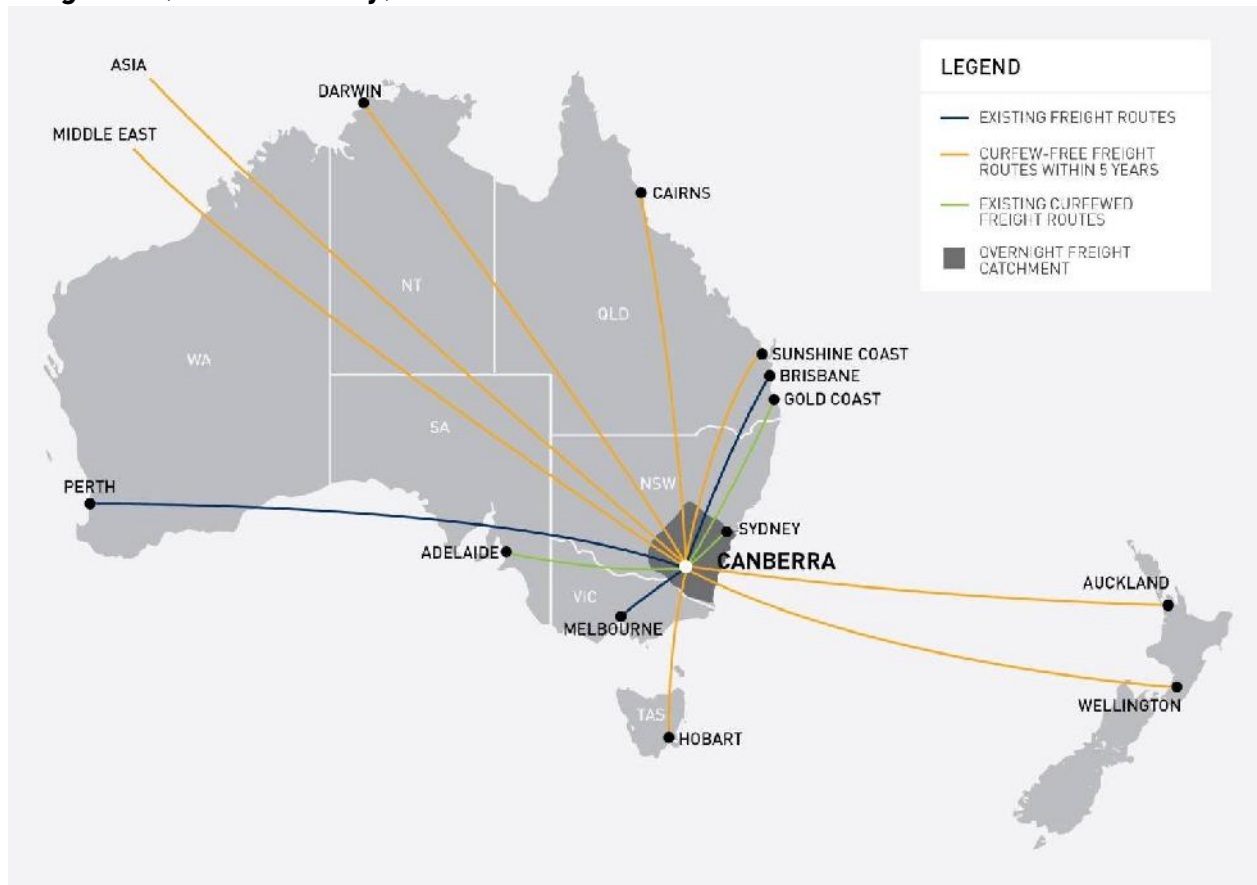
It is noted express overnight freight is only carried by air where it is not able to be carried by passenger aircraft or road. Despite the current extensive overnight airfreight network, large numbers of trucks operate to and from capital cities, including Canberra and major regional centres across the 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, Canberra Airport is well placed to operate as an alternate freight airport in addition to the region's soon to be realised options to harness just-in-time domestic and international capability over a 24 hour cycle.

**Figure 6.1 – current and future air freight 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 by the likes of DHL, UPS and FedEx, this 2014 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 activity accounts for approximately 30 percent of gross domestic output and value-adding by the aviation services industry. 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, 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 Government has 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. 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 is poised to enter the international age with services initially to Asia and New Zealand. A number of these services will be overnight to facilitate an arrival into international ports. It is a central component of this 2014 Master Plan (as with the three 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 Government and is supported by the ACT and NSW governments. Investment in infrastructure at Canberra Airport especially for freight has already been and will continue to be made during the life of this 2014 Master Plan in reliance on these commitments. The *ACT Planning Strategy* policies include “supporting Canberra Airport to operate over 24 hours will give the region a logistical advantage in the distribution of goods and produce”.

Recognising these advantages, Canberra Airport continues to consult with two major domestic overnight airfreight and 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.

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 operate. In transparently setting out the concept proposal in this 2014 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 B737-300F operating a freight service from Canberra to a domestic 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 488 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
<b>Aircraft 1</b>						
PER	19:00	<b>CBR</b>	<b>00:30</b>	✓	✓	✓
<b>CBR</b>	<b>02:00</b>	BNE	03:35			
<b>Aircraft 2</b>						
BNE	22:00	<b>CBR</b>	<b>00:35</b>	✓	✓	✓
<b>CBR</b>	<b>02:00</b>	PER	04:10			
<b>Aircraft 3</b>						
HBA	21:45	MEL	22:45			
MEL	23:30	<b>CBR</b>	<b>00:30</b>		✓	✓
<b>CBR</b>	<b>02:00</b>	MEL	03:00			
MEL	03:45	HBA	04:45			
<b>Aircraft 4</b>						
ADL	21:30	<b>CBR</b>	<b>00:30</b>		✓	✓
<b>CBR</b>	<b>02:00</b>	ADL	04:00			
<b>Aircraft 5</b>						
AKL	22:00	<b>CBR</b>	<b>23:30</b>			✓
<b>CBR</b>	<b>01:15</b>	AKL	06:15			
<b>Truck connection (2x B-doubles)</b>						
Sydney	21:00	<b>CBR</b>	<b>00:30</b>	✓	✓	✓
<b>CBR</b>	<b>01:45</b>	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.

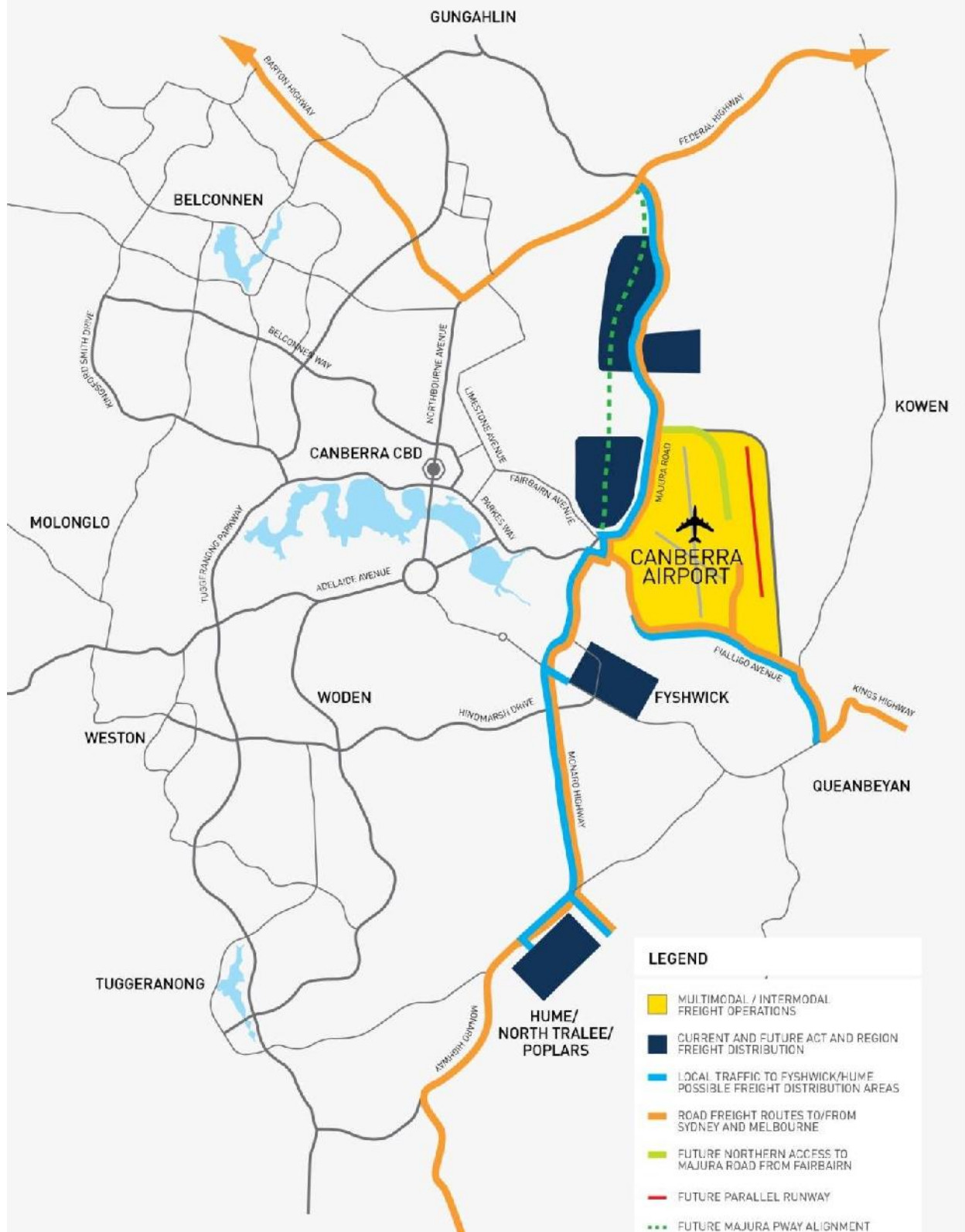
Much of the freight in the first stage of a freight hub will simply be exchanged between aircraft or trucks, therefore minimal warehouse or other storage requirements associated with the freight operation will be required. Relevant roads authorities will provide input as required about the increase of 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 Avenue.

Trucks will then access the Federal Highway (with connection to the Barton Highway where applicable) via Majura Road (or the future 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**



Note: the area indicated in yellow "multimodal / intermodal freight operations" in Figure 6.3 is a long term plan, and includes land to the east of the current Airport boundary owned by the Australian Government and managed by the Department of Defence.

### 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 2014 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
- Commencement of 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 and associated truck movements**

<b>Timeframe</b>	<b>Jet aircraft</b>	<b>Turboprop/piston aircraft</b>	<b>Additional trucks (incl. aviation fuel)</b>
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 2014 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 B737F 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 2014 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 2014 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 commence 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 2014 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 seven years. This number would be expected to gradually increase through the remainder of the life of this 2014 Master Plan as other airlines commence services and the frequency of flights increase. Although it is not expected Canberra would attract the entirety of the current Sydney freighter capacity within the life of this 2014 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 B747-800F 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 B747-800F 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 6.4 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**

The increases in road freight associated with increased freight activity at Canberra Airport are expected to be limited. In a five year timeframe, it is estimated one to three additional B-double trucks or equivalent will operate from Canberra to Sydney overnight as part of an overnight freight hub in addition to six weekly B-double trucks or equivalent based on a three times weekly B747-800F international freighter service. By the end of this 20 year 2014 Master Plan period, it is expected 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 Majura Road (future 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 Majura Road, 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 development of significant airfreight operations at Canberra Airport will provide substantial benefit to the ACT and region's economy, providing not only employment opportunities in freight, other associated businesses, and the broader economy but also improving freight options for local business. 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.

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

The Canberra Business Council has advised the establishment of a freight hub at Canberra "has been supported by the wider business community for a number of years and remains so". The Canberra Business Council identified benefits of a freight hub such as reduced environmental impact, reduced time and costs associated with the freight hub, the limited operational times at Sydney Airport and more convenient scheduling due to 24 hour operation. Strong support has also been provided The NSW and ACT Governments.

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 will increase as airfreight operations increase. Existing facilities at Fyshwick and Hume are suitably located and well suited 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 significant 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 2014 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.

This compares with an average of 3,500 heavy vehicles per day (and approximately 50,000 vehicles in total) currently using Majura Road and Pialligo Avenue, with similar numbers on other designated heavy vehicle routes around the Airport.

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 regional road network have been designed to meet demands of Airport users for the planning period of this 2014 Master Plan and beyond. Recent discussions with the ACT Government have confirmed the current road upgrades have been designed for, and will accommodate, the growth and developments outlined in this 2014 Master Plan. Notwithstanding this, Canberra Airport will continue to consult with the ACT Government (Roads ACT), as well as the Queanbeyan City Council and NSW Roads and Traffic Authority to review any additional infrastructure requirements generated in the future.



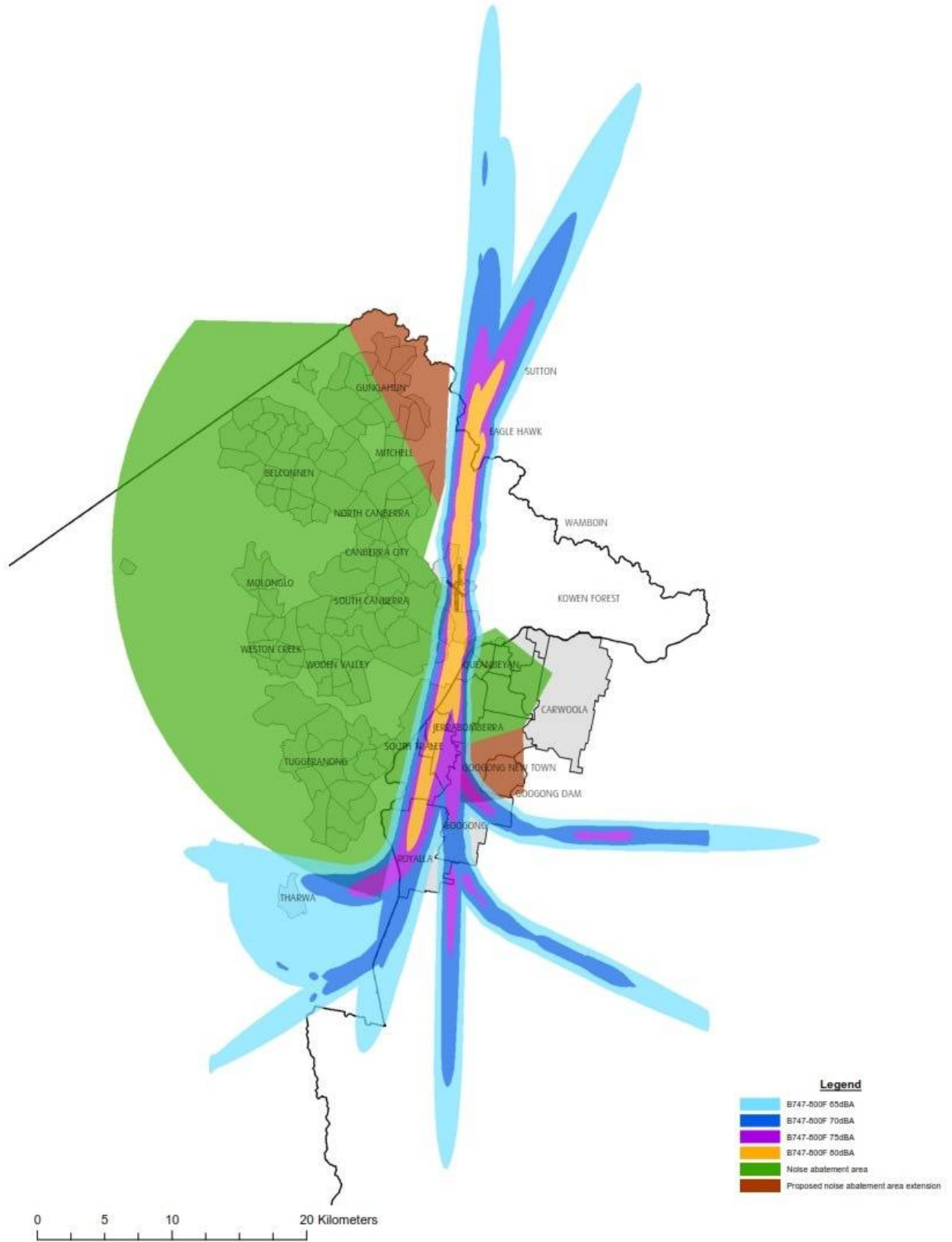
## 6.5.2 AIRCRAFT NOISE IMPACT

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

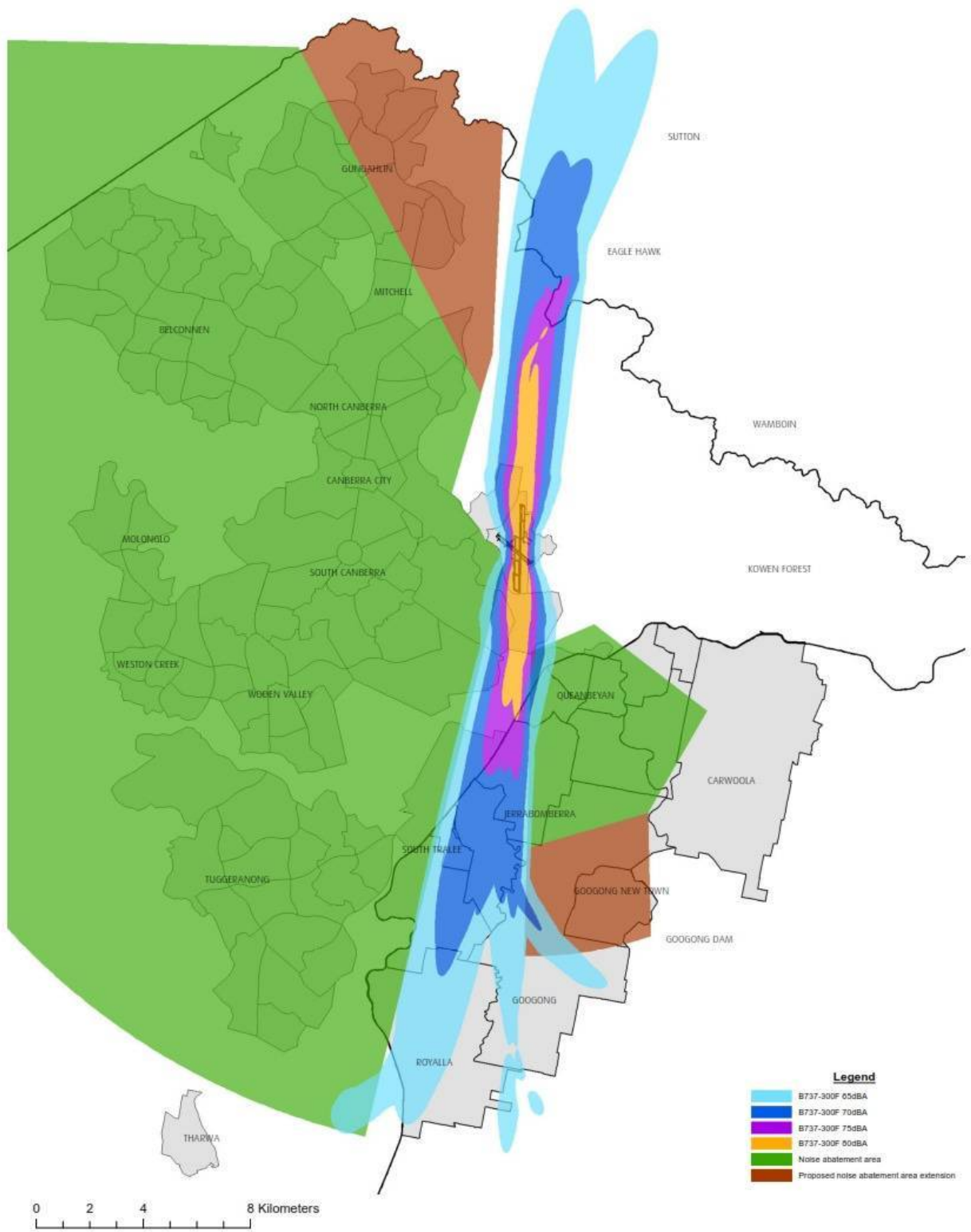
The impact on the community from night freight flights is mitigated by the fact aircraft can arrive and depart into Canberra Airport without overflying residential areas and of the 165,000 houses located in Canberra and Queanbeyan only 750 are located within the 20 ANEF and outside the Canberra and Queanbeyan Noise Abatement Zones.

Refer to Figures 6.4 and 6.5 showing the single event  $L_{A_{MAX}}$  noise impact of a typical B737-300F operating a domestic night freight service and B747-800F aircraft operating an international freight service to North Asia. These Single Event Noise Contours are composites 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  $L_{A_{MAX}}$  (Single Event Contour) as part of a freight hub.

Figure 6.4 - single event noise composite foot print Boeing 747-800F



**Figure 6.5 - single event noise composite foot print Boeing 737-300F**



### 6.5.3 PROTECTING THE COMMUNITY FROM ADVERSE NOISE IMPACT

As outlined in detail in Chapter 14, and depicted in Figures 6.5 and 6.6, over 99.5 percent 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 14 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 2014 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 14 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.

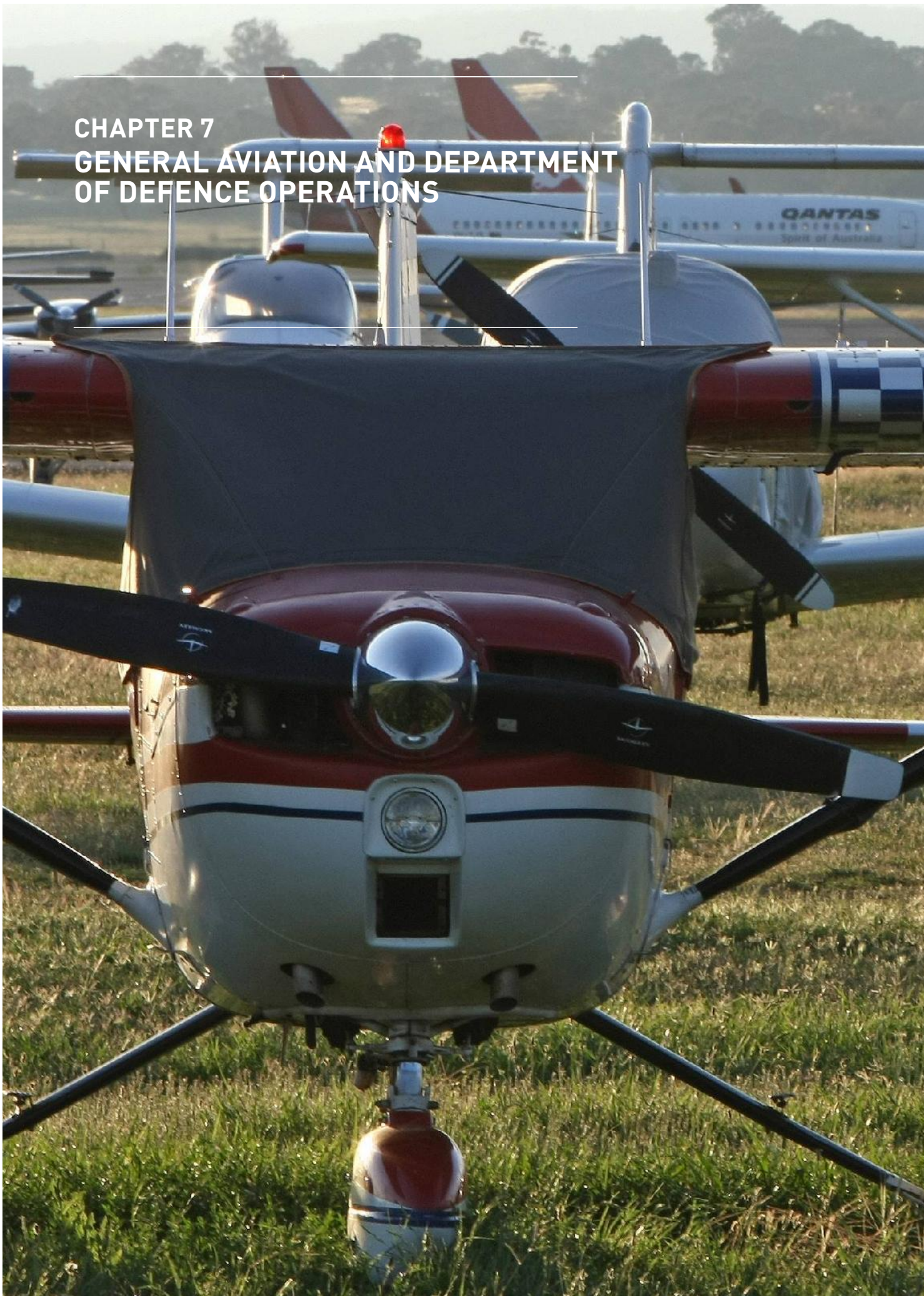
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**CHAPTER 7**  
**GENERAL AVIATION AND DEPARTMENT**  
**OF DEFENCE OPERATIONS**

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“THE DIVERSITY OF OUR AVIATION BUSINESSES...IS WHAT MAKES THE INDUSTRY TICK.”

THE COALITION’S POLICY FOR AVIATION



## 7 General aviation and Department of Defence 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, 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 2014 Master Plan.

The expansion of infrastructure catering to general aviation and Defence operations will be in response to demand. Throughout this 2014 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 5.5 in Chapter 5 outlines the forecast growth in general aviation, Department of Defence and VIP movements at Canberra Airport to 2034. These are incorporated in the 'other' movements category (along with freight movements). 'Other' aircraft movements have been forecast to grow at six 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).

### 7.1 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 aviation wing (including bushfire-fighting capability in summer);
- Australian Federal Police air wing;
- Aircraft maintenance facilities;
- Significant business jet operations;
- Significant air ambulance operation, with regular services from the Royal Flying Doctor Service, NSW Air Ambulance and Wingaway;

- 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 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 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 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 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 2014 Master Plan.

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

Canberra Airport also notes private proposals for a separate general aviation aerodrome or airfield within the ACT. Canberra Airport does not oppose the development of such a facility, provided its location and 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.

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.

## 7.2 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 and Challenger 604 corporate jets. Whilst Department of Defence advise there are no current plans to increase the SPA fleet, this 2014 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, and office space 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.

Qantas Defence Services has previously operated a heavy maintenance facility for the RAAF C-130 Hercules fleet in the Brindabella Business Park. Any of the larger facilities on the Airport could expect to be operated as a heavy maintenance facility for Department of Defence aircraft during the life of this 2014 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'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.

## 7.3 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 2014 Master Plan allows for the expansion of the 34 Squadron facility to accommodate further Australian and foreign VIP aircraft operations.



# CHAPTER 8 PASSENGER TERMINAL FACILITIES







“THE NEW AIRPORT... IS A MAJOR STEP FORWARD FOR CANBERRA AS A DESTINATION FOR BOTH DOMESTIC AND INTERNATIONAL VISITORS... CANBERRA LOVES IT.”

KATY GALLAGHER, MLA



## 8 Passenger terminal facilities

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.

It was soon apparent however, the regulatory environment in the early days of airport privatisation in Australia was not conducive to even modest investment in airport infrastructure, let alone one of the scale required to replace the functionally obsolete terminal in Canberra. As a result, only critical additions were made to the terminal in the two five year periods of economic regulation that followed privatisation. These additions often lagged demand and, arguably, were suboptimal in terms of financial and operational efficiency.

The move to light-handed regulation in 2006 had immediate effect, with commercial agreements entered into between the Airport and airlines shortly thereafter. This paved the way for design and engineering work to proceed in 2007 on not only a new terminal, but an entirely new terminal precinct that included new roads, car parks, taxi facilities, utility upgrades, and new aircraft parking aprons. Preliminary construction works commenced the following year and the ensuing major construction works, undertaken over three stages to provide continuity of passenger operations, saw the wholesale redevelopment of the terminal precinct in early 2014.

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.

### 8.1 OVERVIEW

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. When building new terminals it is not unusual for airports to abandon the sites of existing terminals in favour of greenfield sites minimising construction costs and operational disruptions. To abandon the site in Canberra would have been short sighted in the context of long term planning and economic advantages that the existing site held over all alternative sites at Canberra Airport.



**Figure 8.1 – terminal precinct 2013**



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.

## **8.2 THE LEGACY TERMINAL (1998)**

At the time of privatisation of Canberra Airport in 1998, the then existing terminal was already beyond its useful life. An overdue refurbishment would do little to disguise the fact the building was functionally obsolete; its 40 plus year infrastructure not able to properly serve the new age of aircraft due to poor planning and constraints on development.

These shortcomings were a result of the fragmented ownership of the buildings that comprised the Canberra passenger terminal – one part of the building was owned and operated by Australian Airlines / Qantas, another by Ansett and the middle link

section by the Federal Airports Corporation. Differing strategic objectives and priorities for capital expenditure, and competitive manoeuvring between the three building owners, conspired to undermine any cohesive plan for the terminal.

As a result, development of the terminal occurred over time with piecemeal additions in response to overdue demand, ad-hoc allocations from capital budgets and/or immediate competitive pressures – none of which provided a foundation for development of a properly planned and operationally efficient terminal.

Unfortunately, despite an obvious need for a new terminal, the plans that were developed and the negotiations held immediately post privatisation, it became apparent any further attempts by Canberra Airport to develop a new terminal in the immediate term would be frustrated, an unintended consequence of the then new framework of economic regulation applying to the privatised airports.

### **8.3 THE INTERIM TERMINAL (1999-2009)**

Recognising the shortcomings of the legacy terminal, and the impediment to moving ahead with construction of the planned new terminal, plans were developed for major upgrades of the existing terminal facilities. While this, in part, continued the history of modifications to a functionally obsolete terminal, it delivered much needed infrastructure capacity and in so doing provided for the immediate growth of incumbent airlines and new entrant airlines alike.

Three stages of major upgrades between 1999 and 2002 delivered capacity and service enhancements to airlines and passengers and provided an interim solution to the demands placed on terminal infrastructure. The upgrades to the terminal included:

- The introduction of common-use terminal infrastructure (including check-in and baggage handling facilities) for the first time;
- New ground boarding infrastructure for turboprop aircraft operations;
- A 'doubling' (100 percent increase) in passenger screening capacity;
- A doubling of departure lounge areas;
- Additional aerobridges;
- A 20 percent increase in aircraft parking apron;
- A trebling of car park capacity;
- Expanded club lounge areas;



- Acquisition and integration of the former Ansett terminal into the common-user facilities; and
- Upgraded amenities and ancillary services (toilets, parents rooms, food and beverage outlets, taxi rank, and car rental facilities).

While these upgrades delivered much needed capacity additions, provided for the commencement of operations by new entrant airlines and enhanced the quality of service afforded to passengers at Canberra Airport, it could be argued these upgrades were inefficient in a longer term sense. The higher capital cost of incremental capacity (due to limitations of the existing building) and the relatively short life of some capital works (given they were tied to a building that was functionally obsolete) meant the upgrades were constantly scrutinised against the alternative, a wholly new terminal. Nonetheless, these upgrades were supported by major users (the airlines) and ultimately approved by the regulator, the Australian Competition and Consumer Commission. It was not until 2007, off the back of regulatory changes made by the Australian Government, the Airport could pursue the development of a new terminal in its own right.

#### **8.4 THE NEW TERMINAL (2014 AND BEYOND)**

Following the regulatory changes in 2007, Canberra Airport accelerated detailed design and finalisation of contract agreements with partner airlines and appointed a builder that allowed for commencement of an early works construction package in 2008 before commencement of construction on stage one of the new terminal in 2009.

Construction on stage two of the new terminal commenced following completion of stage one in November 2010. Similarly stage three of the new terminal commenced construction in March 2013 following completion of stage two works. Stage three works were completed in March 2014.

As evidenced by this timeline, major infrastructure projects have long lead times, not only for construction but for the significant planning and design required prior to commencement of construction. The new terminal at Canberra Airport was designed and procured in a heady environment of increasing economic activity, sustained growth in passenger volumes and readily accessible, covenant-light, low cost debt.

Long term commercial revenue contracts were entered into at the same time, crystallising some favourable assumptions that, unfortunately, have not been realised. By way of example, while passenger growth in Chapter 5 had been forecast consistent with previous Master Plan forecasts, due to external economic factors, Canberra Airport has recorded negative growth in each and every month since before stage one of the new terminal was completed in November 2010.

Notwithstanding the current downward trend in passenger volumes (and revenue), Canberra Airport maintains a long term positive view of the prospects for aviation activity at the Airport. The Airport, and the terminal particularly, is poised for a restoration of growth and the requisite infrastructure is built and fully commissioned, ready for use and with the flexibility to accommodate narrow-bodied aircraft or wide-bodied aircraft, low cost carriers or full service carriers, and domestic or international airline operations. Similar flexibility exists with other terminal users, be they ground handling agents, retailers, or other airline related service providers.

In overall terms the new terminal is five times the size of the facility it replaced. While the relationship of terminal size to capacity is not exactly linear, the new terminal undoubtedly delivers significant increases in capacity and capability. This, together with the flexibility afforded by the integrity of the building's planning and design, ensures Canberra Airport is well positioned to meet the demands placed upon its terminal infrastructure for the life of this 2014 Master Plan, and beyond.

## **8.5 TERMINAL CAPACITY**

As indicated earlier, the terminal now has significant capability in terms of meeting current and future growth.

As well as addressing the capacity issues associated with the previous terminal facilities, Canberra Airport elected to build into the new terminal additional capacity to meet expected demand in the short to medium term. 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 2014 Master Plan.

The following Table 8.1 depicts the capacity of key functional areas of the old terminal (before) relative to 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 8.1 – terminal capacity**

Functional area	Measure	Before	Now <sup>3</sup>	Future
Check-in	Number of check-in facilities	14	20	44
Baggage Handling System inbound outbound	Static bag capacity	80	210	480
	Bags per hour	280	1200	1800
Boarding Gates aerobridge total	Number of gates	5	10	18
		8	12	20
Aircraft parking bays	Number of concurrent Code C bays*	11	14	20
Security screening	Number of lanes	5	5	10
Departure lounge area	Square metres	1285	2934	5500
Club lounge area	Square metres	1560	6825	10400
Car spaces	Number of spaces	1107	3600	5100

\*The new terminal has been built with capability for two international gates. Each of these gates can accommodate Code E aircraft.

The new terminal could accommodate eight million passengers per annum in its current footprint and with relatively modest additions could cater for 12 million passengers per annum.

## 8.6 MEETING DEMAND

The key measures used to assess the demand placed on terminal infrastructure over the life of this 2014 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 mean that passengers arrive and depart the Airport consistently through the day from Monday to Friday. The current pattern of domestic passenger movements during busy hours is expected to continue, subject to future operations of low cost carriers which may utilise different hours of operations. In terms of international movements, the terminal and aprons have been designed to service all operations including those arriving and departing during busy hours.

<sup>3</sup> This figure includes latent capacity that has been built beyond current contractual commitments with airlines.

**Table 8.2 – domestic busy hour passenger forecast**

Year	Arrivals	Departures
2014/2015	1103	1076
2018/2019	1300	1268
2023/2024	1597	1558
2028/2029	1962	1914
2033/2034	2410	2351

The key functional areas of the terminal building are expected to have sufficient capacity, with additions to the current and any future capacity as required, to meet the domestic busy hour forecast in each year of this 2014 Master Plan.

### RPT apron stand demand analysis

Peak demand for aircraft parking on the RPT apron at Canberra Airport typically occurs overnight, with the highest demand on Wednesday night, when a total of 13 aircraft are accommodated on the apron. The current demand for overnight parking of aircraft at Canberra Airport is shown in Table 8.3.

**Table 8.3 – RPT apron stand demand 2014**

Aircraft	Code	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B737	C	3	4	5	4	4	2	5
E190	C	2	2	2	2	2	3	2
B717	C	1	0	1	1	1	1	0
Q400	C	2	2	2	2	1	2	2
ATR	C	3	3	3	3	3	1	2
<b>Total</b>		<b>11</b>	<b>11</b>	<b>13</b>	<b>12</b>	<b>11</b>	<b>9</b>	<b>11</b>

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 new terminal has been built with capability for two international gates. Each of these gates can accommodate Code E 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 schedule international operations over the life of this 2014 Master Plan.

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CHAPTER 9  
RUNWAY AND AIRFIELD DEVELOPMENTS

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CANBERRA AIRPORT IS THE ONLY 24 HOUR BOEING 747, B777-300 AND A340 CAPABLE AIRPORT...BETWEEN BRISBANE AND MELBOURNE.



## 9 Runway and airfield developments

Airports provide access for trade, tourism, and community and social engagement. Following the commencement of the Jet Age in the 1960s, which brought air travel to a new level globally, 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 16 years the following infrastructure has been developed airside at Canberra Airport:

- Terminal;
- RPT apron;
- Runway 17/35 extension, strengthening, and blast shoulders;
- Runway 35 turning node;
- ILS upgrade including Glideslope;
- 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 A340 capable airport in 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 2014 Master Plan. Overall aviation demand is also expected to grow steadily during the life of this 2014 Master Plan meaning the airfield will be operating with a high demand during peak periods.

While runway capacity is adequate for the planning period of this 2014 Master Plan, further extension and taxiway upgrades are expected in the short to medium term. Canberra Airport is also actively pursuing the early introduction of new 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.

## 9.1 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 2014 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 2012/13. 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. BITRE statistics show 41,816 airline movements at Canberra in 2012/13. Airservices Australia statistics show 59,620 total movements at Canberra Airport in 2013/14.

The aircraft demand profile is predicted to grow by over 120 during the 20 years of this 2014 Master Plan in a similar pattern to what is seen today, with a series of peak movement periods in the morning and late afternoon. At current peak movement periods Air Traffic Control (ATC) has needed to limit the availability of the runway system for general aviation. It is expected in the longer planning periods of this 2014 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 40-60 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, the planning and detail of the infrastructure is still to be settled.

A parallel runway concept is included in this 2014 Master Plan (Figure 9.2), as it was in the 2008 and 2009 Preliminary Draft Master Plans, because it is appropriate to:

- Reach agreement within the Australian Government about the future of the Airport;
- 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 9.3 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 2014 Master Plan however taxiway upgrades are required as shown in Figure 9.2. This will initially involve the construction of a northerly extension of Taxiway Bravo and, in the short term, an upgrade and 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 9.1 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.

## **9.2 PRACTICAL ULTIMATE CAPACITY AND RUNWAY REQUIREMENTS**

The long term practical capacity of Canberra Airport's existing runways (including an extension to runway 12/30) has been assessed as 282,119 fixed wing aircraft movements per annum. This assessment was compiled by Rehbein-AOS Airport Consulting in 2005 using international models for airport capacity assessments derived using the United States Federal Aviation Administration Capacity and Delay Model as detailed in the United States FAA Advisory Circular AC150/5060-5 *Airfield Capacity and Delay*. This assessment was also used in the development of the Ultimate Practical Capacity ANEF provided in this 2014 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 2060 plus or minus 10 years subject to demand.



### 9.3 INTERNATIONAL AIR SERVICES

Permanent customs and immigration base building facilities are provided within the new terminal. Canberra Airport is in discussions with passenger facilitation agencies about fitting out and manning the area as international flights are introduced. Wide-body apron parking capability is available at the terminal.

The main runway was strengthened and extended by a further 600 metres in 2006 to accommodate regular wide-body aircraft movements as well as 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 A340 aircraft land at Canberra as part of these arrangements.

### 9.4 APRON CAPACITY

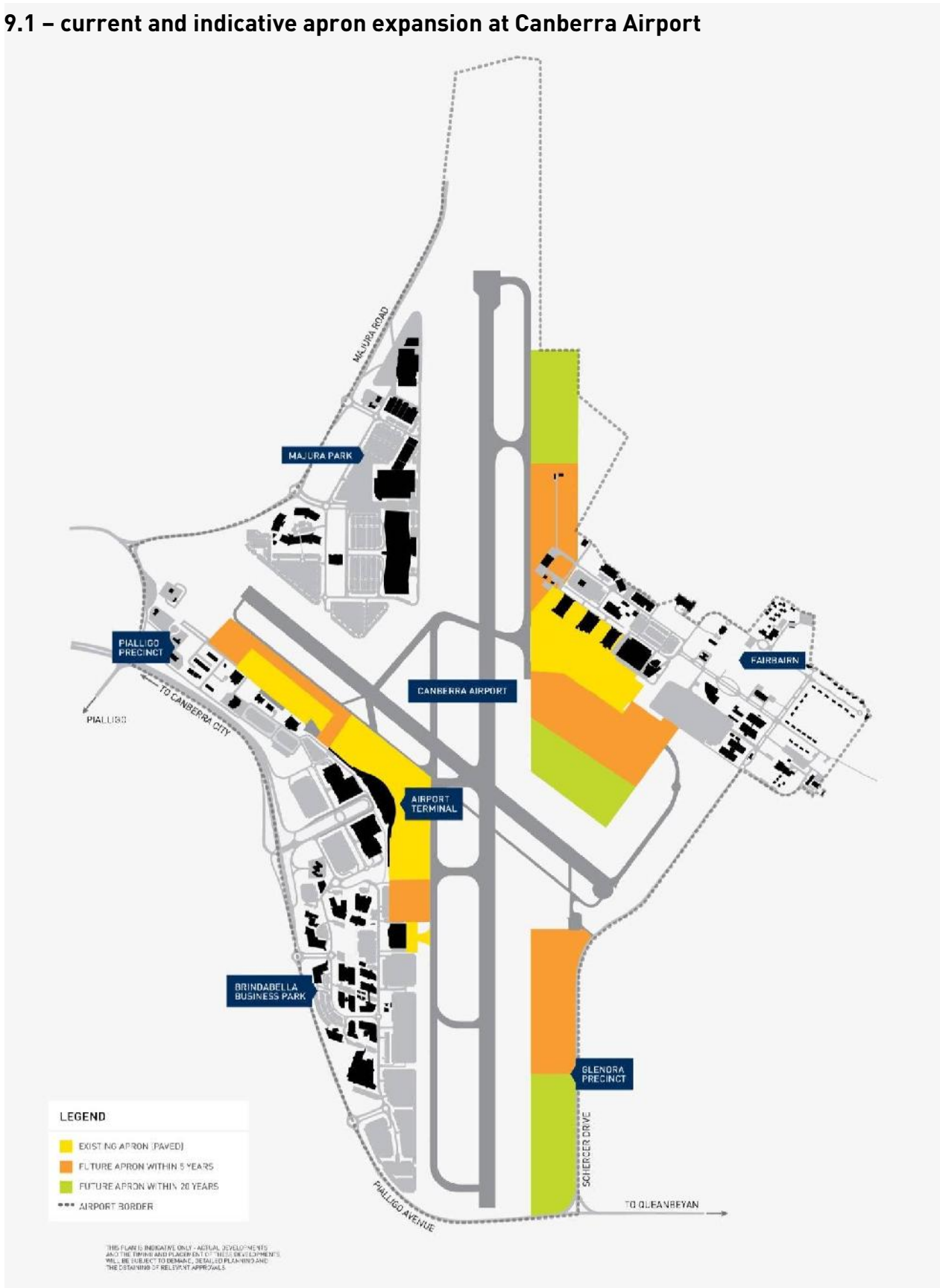
VIP flights, large business jets, ad-hoc international flights, and wide-body diversion aircraft are currently accommodated on the Fairbairn aprons. The Special Purpose Apron also accommodates all military flights, including the RAAF 34 Squadron VIP fleet of aircraft based at Canberra Airport.

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 9.1), 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. 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 2014 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 9.1 for current and indicative apron expansion.

## 9.1 – current and indicative apron expansion at Canberra Airport



## 9.5 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 shoulders) contained within a 300 metre runway strip.

Subject to completion of studies and final approval it is expected the Runway 35 threshold may be moved south in 2015 within the current runway length to take advantage of this extra length for landing aircraft. Refer to Figure 9.2. The movement of the threshold, expected to be 300 metres, may be required with an upgrade by Airservices Australia of the runway 35 Instrument Landing System (ILS). This action will increase frequency of arrivals in low visual conditions and will not impact 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 2014 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 will 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. Refer to Figure 9.2.

In previous Master Plans, and again in this 2014 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.

Concern has been expressed from some in the Jerrabomberra area about the noise impact of relocating the threshold 300 metres and extending the runway in the future, as this will cause 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 16 metres lower when passing by the Jerrabomberra Noise Monitoring Terminal if the threshold is moved 300 metres. Analysis has shown that shifting the runway landing point will increase the noise readings at the Jerrabomberra Noise Monitoring Terminal by around 1dB(A). This noise increase is widely acknowledged as being indiscernible to the human ear.

**Important Note: The practical ultimate capacity ANEF is modelled assuming the main runway strip is at capacity – including that the landing point is approximately 450 metres south of its current location. Therefore, shifting the landing point will not change the practical ultimate capacity noise forecast of the Airport.**

Further taxiway expansion will be necessary within the planning period, refer to Figure 9.2. This may include, but is not limited to:

- Several high speed exit taxiways off runway 17/35 to link with Taxiways Alpha and Bravo;
- A possible turning node towards the southern end of runway 17/35 and/or taxiway fillet to link Taxiway Bravo to runway 17/35;
- The upgrade and realignment of Taxiway Alpha;
- The upgrade of Taxiways Juliet and Kilo;
- The progressive extension of Taxiway Alpha to the southern end of runway 17/35; and
- The upgrade and realignment of Taxiway Charlie.

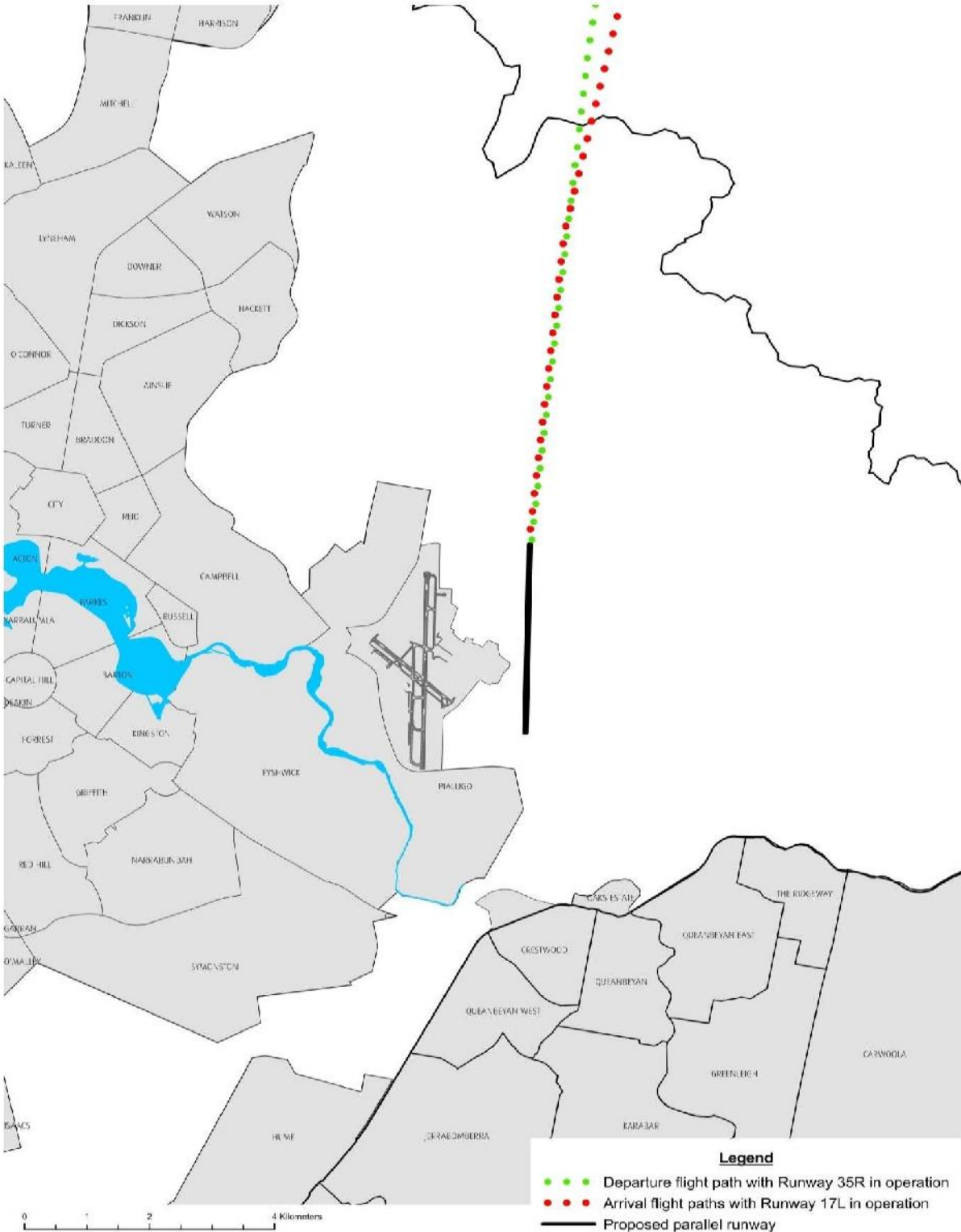
The use of general aviation mixed with RPT may necessitate additional run-up bays for general aviation use and the expansion of the current run-up bay. Expanded operations may also require the installation of dedicated de-icing facilities.



Figure 9.2 – possible indicative runway and taxiway development and navigational aids



**Figure 9.3 - parallel runway mode of operation**



## 9.6 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 an aircraft landing on runway 35 to be safely reduced to 241 feet above ground and an upgrade of the runway 17/35 lighting in 2006 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) is expected to enable aircraft to operate under Special Category I, II or Category III precision approach procedures. The Airport is working closely with Airservices Australia, CASA and the airlines 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 as well as the establishment of an ILS or similar aid and HIAL on runway 17 to allow landings from the north in low visibility weather conditions. The movement of the ILS will also likely involve the simultaneous moving of the runway 35 landing threshold in 2014/2015. This would mean aircraft on arrival nearby or over Jerrabomberra will be up to 16 metres lower compared to existing operations, refer Figure 9.4. Further navigation aids may also be established to allow for more flexible flight paths into and out of the Airport.

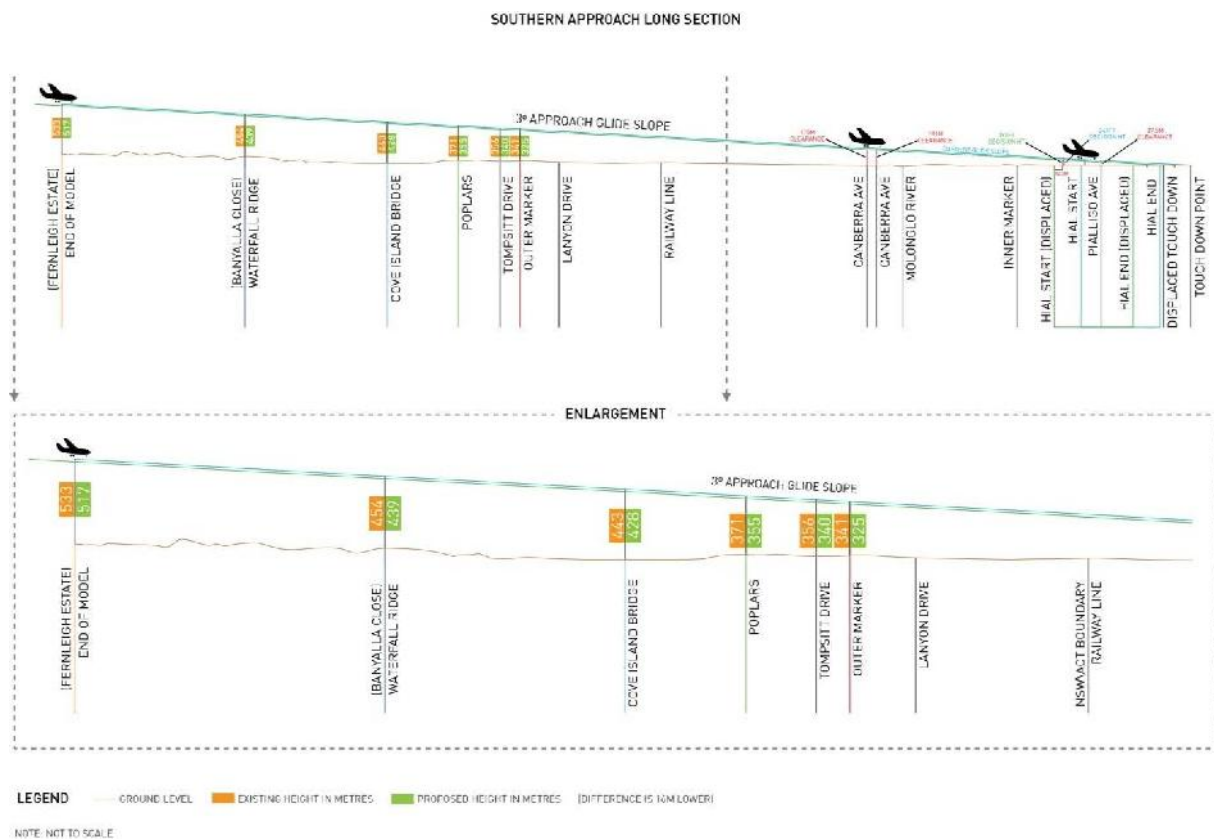
These additional navigation aids may include, but are not limited to:

- Additional runway and approach lighting on both runways and associated taxiway lighting (including Category II/III lighting);
- Runway Visual Range (RVR) measuring devices, such as transmissometers;
- GPS/Ground-based Augmentation System (GBAS) ground stations;
- Precision approaches on runway 12/30; and
- Any other equipment as required.

Runway 17/35 may, should a business case warrant, be expanded to up to 600 metres, either permanently or in low visibility conditions only. Similarly, as part of the implementation of precision approaches on runway 12/30, 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 runways 17/35.

RNP procedures have facilitated a curved approach for aircraft arriving runway 35, thus displacing aircraft traffic overflying Jerrabomberra by flying further to the west over rural lands including the rural properties such as Environa.

**Figure 9.4 – instrument landing system glide slope altitude difference between existing and proposed 300 metre relocation of threshold**



## 9.7 AIR TRAFFIC CONTROL TOWER

A new ATC tower is planned to be constructed in the medium term. The new tower will allow for greater flexibility in airspace management and include state-of-the-art technology. The new tower will be located in accordance with Airservices Australia and CASA standards.

## 9.8 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 2034.

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 (current – 2019)

- Movement of runway 35 threshold by up to 300 metres to the south including the movement of runway approach lighting and components of the ILS Glideslope and other navigational aids;
- Extension of Taxiway Bravo to the northern runway 17/35 threshold;
- Construction of one or more additional taxiway fillets linking the existing and extended Taxiway Bravo to runway 17/35;
- Widening and strengthening of Taxiways Charlie, Kilo, and Juliet;
- Construction of a turning node on runway 17/35 to facilitate additional runway length for arrivals and departures on runway 17;
- 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 all runways;
- Provision of a GPS ground station;



- Potential upgrade from Category 1 up to Category II ILS/GLS on runway 35; and
- Upgrading airside roads.

### **Medium term aviation development (2019 – 2024)**

- 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;
- Construction of additional aprons at Fairbairn, including to the south of the existing apron and to the north along Taxiway Alpha, with additional access taxiways;
- 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; and
- Relocation and construction of a new ATC Tower at the Airport.

### **Long term aviation development (up to 2034)**

- 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 rail/airline terminal;
- Additional aviation support facilities; and
- Upgrade of internal road system in terminal precinct to accommodate HSR and other multi-modal facilities.



CHAPTER 10  
DEVELOPMENT CONCEPT AND OPTIONS







"THE JUDGES DESCRIBED THIS PROJECT AS INCREDIBLE, CLASSY AND ARCHITECTURALLY SOUND."

AAA, CAPITAL CITY AIRPORT OF THE YEAR 2013



## 10 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 2014 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 gateway providing jobs to the region. This approach is in line with commercial developments at airports across Australia and the world, now known as Aerotropolis.

Brindabella Business Park is one such example of commercial development. Conceived as an aerospace, Department of Defence and IT hub, the Park has become Australia's most sustainable business centre, incorporating a number of landmark sustainable buildings.

Canberra's major industry is government administration and private sector office users, mostly serving government. Canberra and the region comprises less than two percent of Australia's population, however, Canberra's office stock at 2.28 million square metres Net Lettable Area (NLA) comprises 9.3 percent of Australia's 24.6 million square metres (Property Council of Australia, July 2013). Canberra Airport has developed 7.7 percent of Canberra's office stock as at July 2013.

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

### 10.1 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. 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 16 years, and particularly the \$480 million terminal project, 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*. 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*.

All aeronautical and other developments on Airport are checked for compliance with all relevant safety and security requirements.

## 10.2 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. 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 within each precinct (including changing the use of that building), 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.<sup>4</sup> 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 2014 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 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 2014 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) before 2029.

As discussed with the ACT Government, it is not expected more than 60,000 square metres Gross Floor Area (GFA) of retail will be developed in Majura Park (excluding bulky goods retail).

The ongoing development of Canberra Airport, which also comprises the commercial precincts has been agreed with the ACT Government in various ways, including a MoU signed in 2010.

### 10.2.1 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.

Notwithstanding the timing for development as indicated in Figures 10.2-10.6 inclusive, as either within five years or 20 years, this 2014 Master Plan permits development within all areas within the next five years.

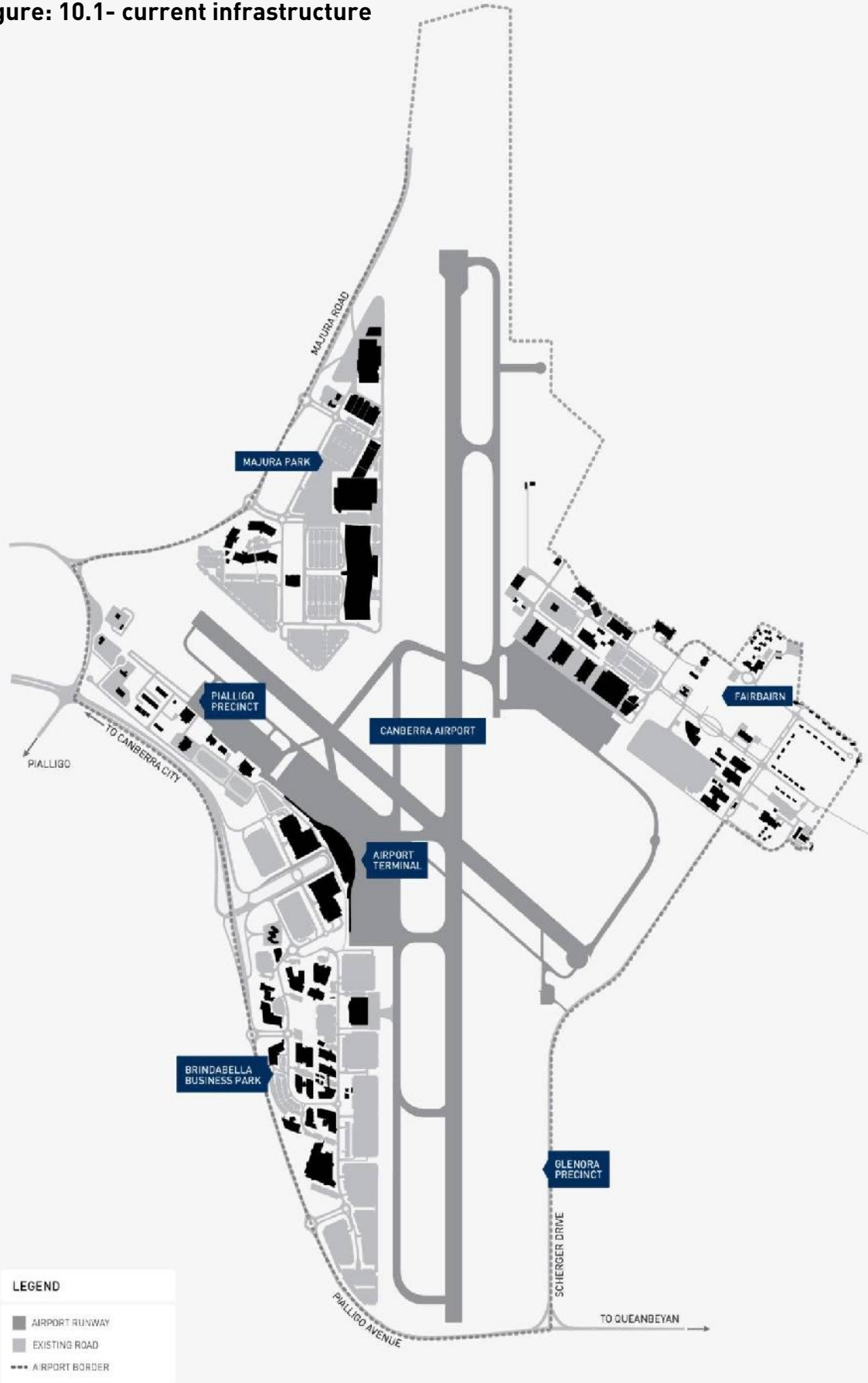
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<sup>4</sup> An example of such a tenant is a retail tenant who desires exclusivity over a certain type of product, or a commercial or government tenant with specific security needs.

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 2014 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 and Regional Development.

Figure: 10.1- current infrastructure



## **10.3 AIRPORT TERMINAL AND PIALLIGO PRECINCT**

### **10.3.1 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.

Like many modern terminals, the terminal will 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 10.2 and 10.3.

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, a hotel (to be built during 2014 and 2015), 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.

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.

### **10.3.2 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 for the former Brindabella Airlines Hangar and Qantas Freight facility. 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 as a proportion of land area). Refer to Figures 10.1 and 10.2.

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 will be 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.

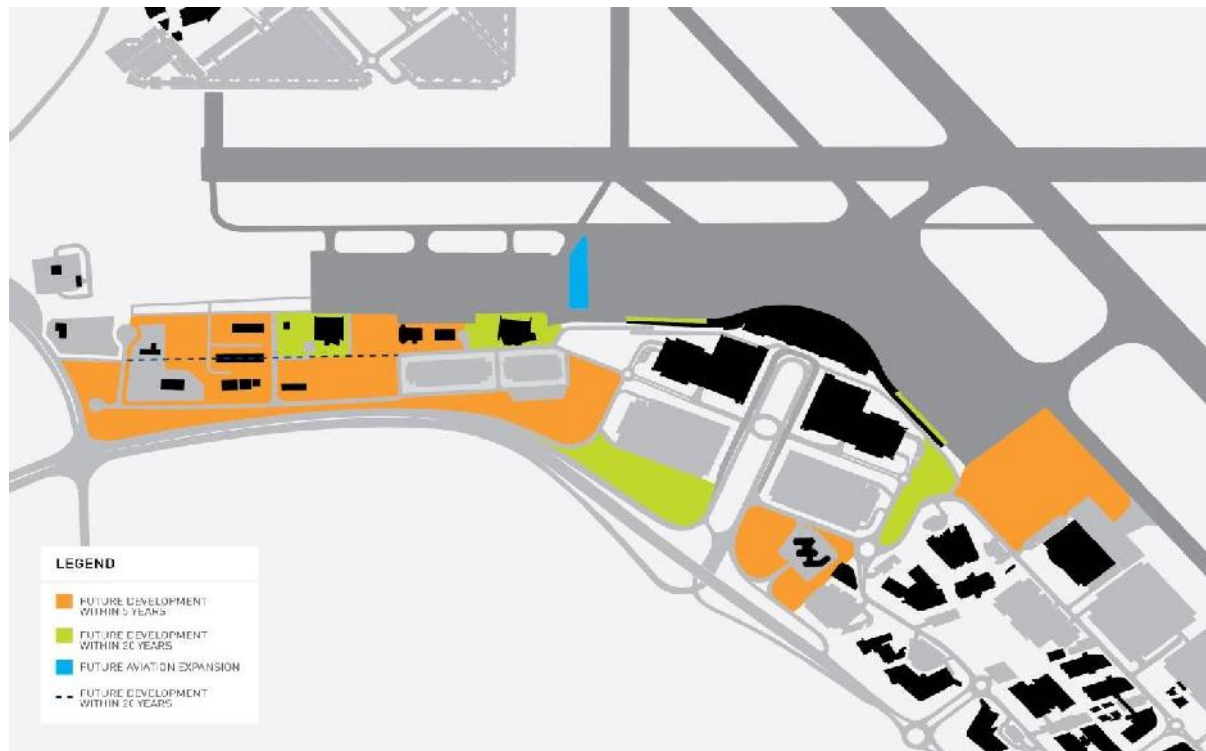
### **Possible development next five years**

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



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 10.1.

**Figure 10.2 – terminal and Pialligo precinct**



**Table 10.1- 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	Environmental, in bond, food and beverage.
Facilities to public, tenants and staff	Food and beverage sales, personal service establishment, retail, office, financial establishment, communication facility, cultural facility, club, consulting rooms, community facility (including childcare), wholesale.
Commercial accommodation and tourist facility	Hotel/motel, food and beverage, functions, seminars, service station, conference facilities.
Department of Defence	Department of Defence installation, offices and facilities, sales and service of defence products.
Broadacre	As set out in the <i>National Capital Plan</i> .
Advertising	Interior and external signs, marketing products and services.

## 10.4 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 allowed a significant diversification of the uses across Canberra Airport. Brindabella Business Park was conceived as an aerospace, Department of 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 is approaching its current planned capacity, with opportunities now available for the development of up to four additional buildings of a similar scale to the existing buildings. Currently there is 148,000 square metres NLA of buildings completed, and 11,500 square metres NLA approved and yet to be constructed. On completion, Brindabella Business Park will realise a plot ratio in the order of 0.75:1 as agreed with the ACT Government, refer Figure 10.3.

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 2014 Master Plan.

It is acknowledged in this 2014 Master Plan that Office Use in Brindabella Business Park (excluding Primary Use and Other Use Offices permitted under Broadacre) would not exceed 120,000 square metres NLA<sup>5</sup>. This control may be reviewed in or after 2015 as a minor amendment to this 2014 Master Plan, or at any time as part of a new Master Plan.

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<sup>5</sup> In 2014, 25,600 square metre NLA of the existing leased space was office use (other than Primary Use) due to the significant Department of Defence presence, which the ACT Government (amongst others) acknowledge was well within this control.

## Possible development next five years

- One or more office buildings on sites bounded by Molonglo Drive and Pialligo Avenue and as set out on Figure 10.3;
- Structure car parking over existing on-grade car parking areas with access from Brindabella Circuit and/or Molonglo Drive; and
- 3 Molonglo Drive completed.

The range of land use opportunities forecast for Brindabella Business Park within the next 20 years is set out in Table 10.2 below.

**Table 10.2 - Brindabella Business Park 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	Environmental, in bond, food and beverage.
Facilities to public, tenants and staff	Food and beverage sales, personal service establishment, retail, office, financial establishment, communication facility, cultural facility, club, consulting rooms, community facility (including childcare).
Commercial accommodation and tourist facility	Hotel/motel, food and beverage, functions, seminars, service station, conference facilities.
Department of Defence	Department of Defence installation, offices and facilities, sales and service of defence products.
Broadacre	As set out in the <i>National Capital Plan</i> .
Advertising	Interior and external signs, marketing products and services.

**Figure 10.3 - Brindabella Business Park**



### 10.5 MAJURA PARK PRECINCT

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

- Australia's largest Woolworths supermarket;
- Costco's third Australian store;
- Masters;
- Big W;
- ToysRus;
- 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;
- McDonalds;
- Jim Murphy Airport Cellars;
- Pet Barn;
- Pillow Talk;
- Trade Secret; and
- Ray's Outdoors.

As such it has acted as a major attractor to the broader Capital and south east region. The ACT Government has foreshadowed leveraging off the Majura Park infrastructure through the development of a bulky goods retail park (initially of 7.8 hectares) with IKEA. Access to the precinct for the major regional roads is very important and the ACT Government is undertaking feasibility studies and design options for a link road between the new Majura Parkway and Majura Road.

This 2014 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. As discussed with the ACT Government, it is not expected that more than 60,000 square metres GFA of retail will be available in Majura Park (excluding bulky goods retail).

This precinct will form 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.

There is also 30,900 square metres NLA of offices which have been approved and are yet to be constructed at Majura Park due to the GFC and market demands reducing – it is likely to be a few years before these approvals are acted upon and developed.



Buildings can be built on the existing vacant land as shown in the indicative Figure 10.4 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.

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 years

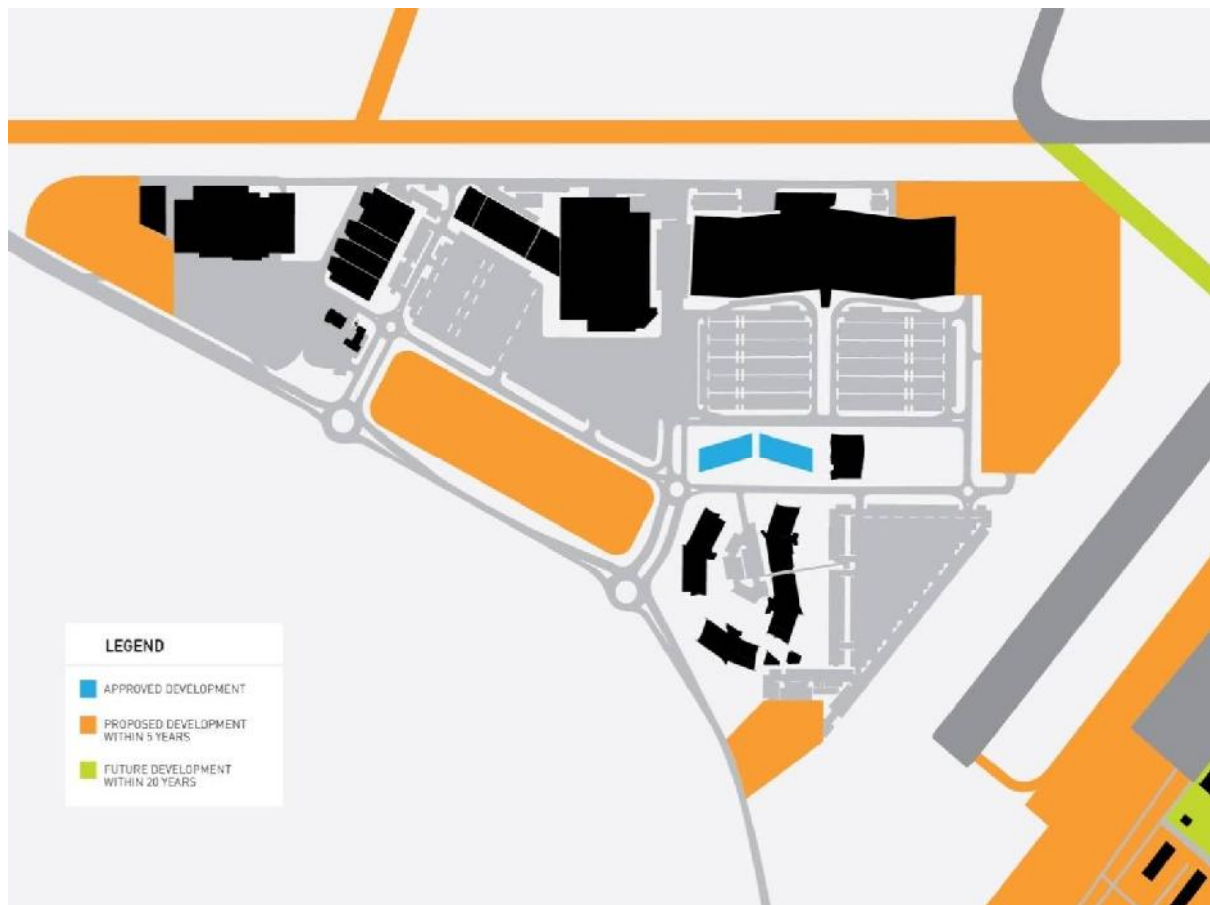
- Additional retail premises provided by either extension to existing retail and/or new building/s on future development sites proposed in Figure 10.4; and
- Office building/s shown as approved or on nearby site shown as proposed in Figure 10.4.

The indicative range of land use opportunities forecast for Majura Park within the next 20 years is as set out in Table 10.3.

**Table 10.3 - 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	Environmental, in bond, food and beverage.
Facilities to public, tenants and staff	Food and beverage sales, personal service establishment, retail (including shopping centre), bulky goods retail, office, financial establishment, communication facility, cultural facility, club, consulting rooms, community facility (including childcare), wholesale.
Commercial accommodation and tourist facility	Hotel/motel, food and beverage, functions, seminars, service station.
Department of Defence	Department of Defence installation, offices and facilities, sales and service of defence products.
Broadacre	As set out in the <i>National Capital Plan</i> .
Advertising	Interior and external signs, marketing products and services.

**Figure 10.4 – Majura Park precinct**



## 10.6 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 and data centres and 15,000 square metres GFA of approved development yet to be constructed including data centre opportunities. 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.

Future land purchases or rights to the north, east, or north-east will be incorporated in this precinct (note that any development on these lands is conditional upon purchasing the land, obtaining a lease over the land, or obtaining consent from the landholders or leaseholders). As shown at Figure 10.5, the eastern boundary of the Fairbairn precinct comprises existing Department of Defence land in terms of the Fairbairn Golf Course and the MTA.

Fairbairn is currently accessed from Pialligo Avenue to the south via Scherger Drive. This 2014 Master Plan also proposes a second access road from Majura Road to the north as indicated in Figure 11.10. For this new access road to be built, land will need to be acquired from the Australian Government. The acquisition process is ongoing and Canberra Airport is hopeful of a final resolution of this issue in the short term.

### 10.6.1 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. As a consequence of this listing and respective changes to the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, Canberra Airport commissioned a heritage expert to produce the Fairbairn Heritage Management Plan (FHMP). The FHMP was approved by the then Department of Environment, Water, Heritage and the Arts in 2009.

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 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);
- 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 the last Master Plan, the Airport identified some buildings of potential heritage interest for demolition in the near to medium term within the next five years. These buildings include:

- The former Sergeant's Mess, disused, run-down and demolished in 2010;
- The former Bellman Hanger, now warehouse;
- The former Transport Building demolished in 2009 due to asbestos;
- The former Gun Testing structure, now disused squash court and run-down;
- The former Staff College, disused, run-down and demolished in 2011;
- The former Photographic Store, now disused and run-down;
- The development of significant data and IT support centre facilities; and
- The demolition of over 300 bedrooms of former residential accommodation for Airmen, Non-commissioned Officers and Officers.

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

### **10.6.2 FAIRBAIRN AVIATION FACILITIES**

Fairbairn has ample opportunities for the expansion of aviation operations. Already the SPA fleet, the ACT Emergency Services Air Wing, the AFP Air Wing 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. There is particular opportunity for non-regular public transport 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 10.5.

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.

### 10.6.3 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 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 term. Some 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 years**

- Hangars within the area south east and/or north west of the existing Fairbairn apron as set out on Figure 10.5;



- Freight and logistics facilities generally with frontage to the existing or future Fairbairn apron;
- Data centres as shown as approved in Figure 10.5 and/or 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
- One or more office buildings, most likely on Richmond 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 10.4. 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 10.4 - 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	Environmental, in bond, food and beverage.
Community facility	Educational establishment, scientific research establishment, cultural facility, hospital, health care, institutional use, church use, community facility (including childcare).
Facilities to public, tenants and staff	Food and beverage sales, personal service establishment, retail, office, financial establishment, communication facility, club, consulting rooms, wholesale.
Commercial accommodation and tourist facility	Hotel/motel/military accommodation, food and beverage, functions, seminars, training accommodation, education accommodation, service station.
Department of Defence	Department of Defence installation, offices and facilities, sales and service of defence products.
Accommodation	Single and/or multiunit dwellings (pre-existing accommodation only – the <i>Airports Act</i> prohibits new residential development on Airport).

Category	Permitted and Intended Uses Include
Broadacre	As set out in the <i>National Capital Plan</i> .
Advertising	Interior and external signs, marketing products and services.
Aero services	Fire services, air safety, ATC services, meteorological services.

**Figure 10.5 – Fairbairn precinct**



## 10.7 GLENORA PRECINCT

This undeveloped area is adjacent Scherger Drive. Refer to Figure 10.6. 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 five 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 years

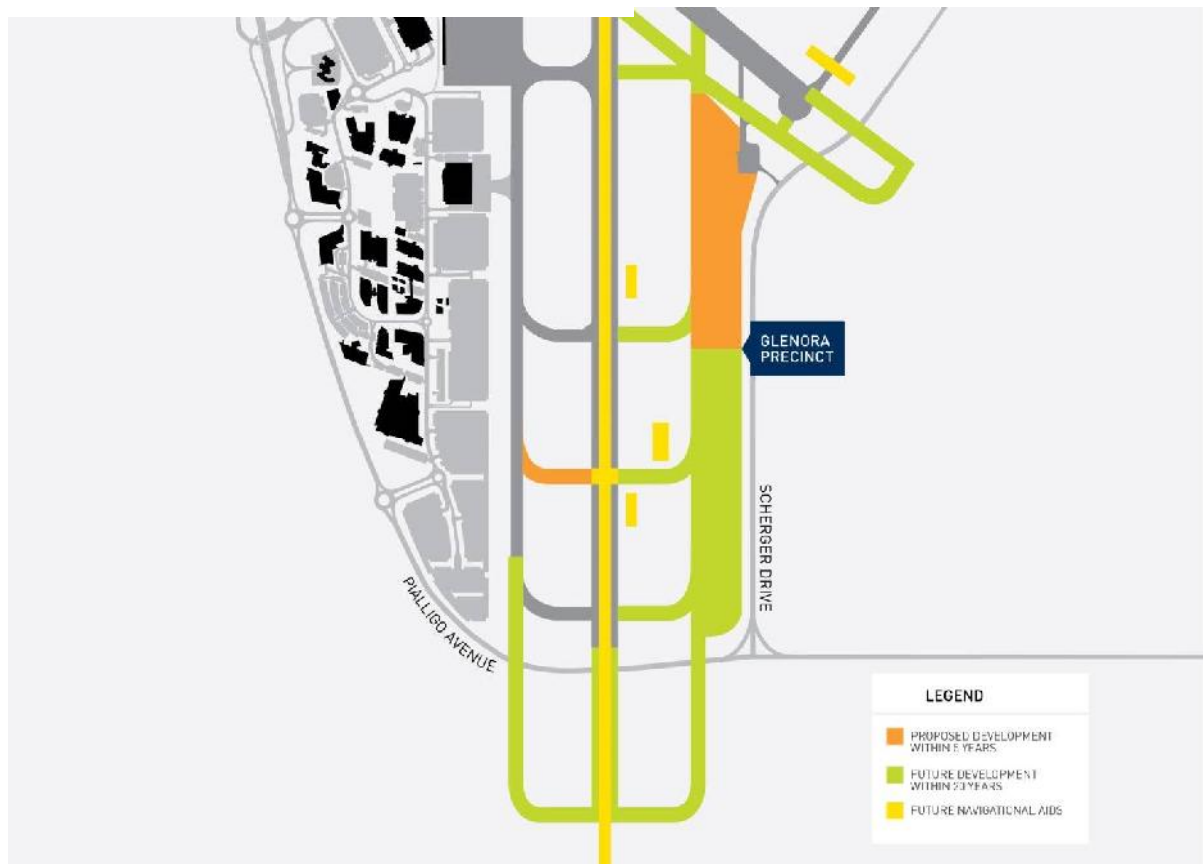
- A general aviation apron;
- Taxiways; and
- Hangars.

The range of land use opportunities forecast for Glenora precinct within the next 20 years is as set out in Table 10.5.

**Table 10.5 - 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.
Broadacre	As set out in the <i>National Capital Plan</i> .
Advertising	Interior and external signs, marketing products and services.
Aero services	Fire Services, Air Safety, ATC Services, Meteorological Services.
Facilities to public, tenants and staff	Food and beverage sales, personal service establishment, retail (small scale), office, financial establishment, communication facility, cultural facility, club, consulting rooms, commercial accommodation (including childcare), community facility.

**Figure 10.6 – Glenora precinct**



## 10.8 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 2014 Master Plan proposes a commercial signage regime that would be controlled to optimise signage values, income and quality.

### 10.8.1 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.

### **10.8.2 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.

## **10.9 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 area, 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 5(2)(g) 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;
- Industries restricted to the Harman Industrial Area as delineated at Figure 4, Page 228 of the *Territory Plan Written Statement* (as gazetted on 14 September 1994), subject to environmental assessment (as shown below);
- Intensive farming;
- Landscape buffer;
- Open space;
- Outdoor recreation facility;
- Park;
- Retail plant nursery;
- Scientific research establishment;
- The Royal Australian Mint on its present site only;
- Tourist facility;
- Transport facility, including road and rail; and may include
- Dwelling if necessary for the operation of any of these uses.

The nature of uses permitted in Broadacre Areas is defined in Appendix A of the *National Capital Plan*.

The Majura Ridge provides an important natural separation between North Canberra, the City and the Airport. Coordination will be required to ensure the changing needs and requirements of the Airport facility are taken into account in future planning of Canberra's growth and development.

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 10.2 to 10.6 corresponding to that precinct will apply unless a minor variation

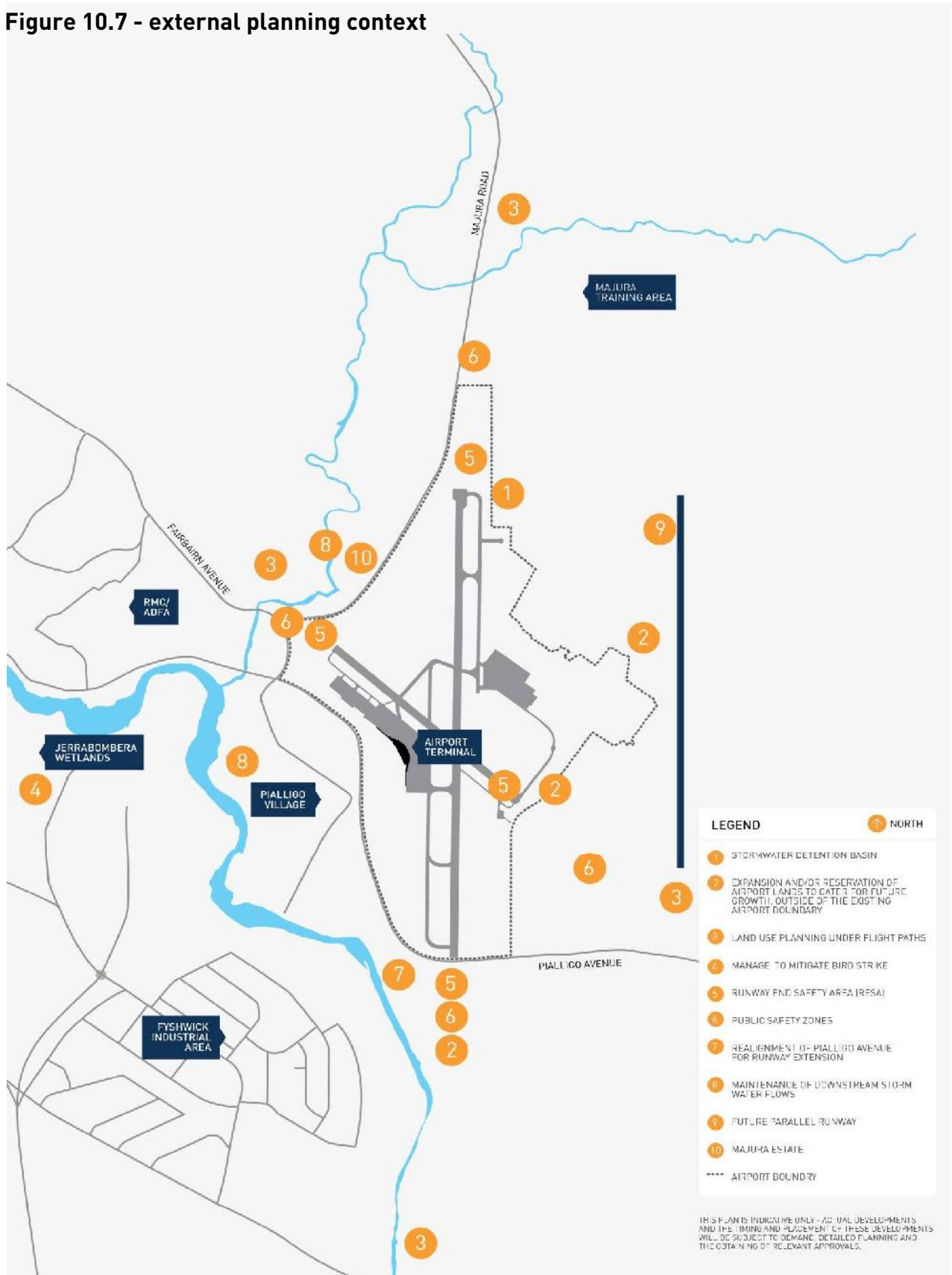
to this 2014 Master Plan is undertaken. Development within these lands for aviation growth may require approvals under the *EPBC Act* and/or the *Airports Act* major development plans.

Issues external to the Airport site, but of importance to the Airport surrounds and to the Majura Valley area, as set out in Figure 10.7, are planning and infrastructure issues and include:

- Land use planning under and adjoining aircraft flight paths;
- Construction following re-design access from the future Majura Parkway to the two major east-west roads, (Fairbairn Avenue and Pialligo Avenue) currently designed as a network of eight traffic light intersections; and new street access between the Parkway and Majura Park;
- 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;
- Road connections, including duplication of Fairbairn Avenue to the War Memorial and the City;
- 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 coordinated by ATC as exploding ordinances are not compatible with aircraft landing or departing overhead;
- Other land use planning of the Majura Valley area 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. The Public Safety Zones extend into land currently not owned by Canberra Airport (refer Figure 10.7, Item 6 in the Plan).

Figure 10.7 - external planning context





**CHAPTER 11**  
**GROUND TRANSPORT PLAN**







MORE THAN 30,000 PEOPLE CURRENTLY TRAVEL TO AND FROM CANBERRA AIRPORT TO FLY, GREET, WORK, DO BUSINESS OR SHOP, EVERY DAY. THESE NUMBERS WILL MORE THAN DOUBLE WITHIN THE NEXT DECADE.



# 11 Ground transport plan

Canberra Airport adjoins Majura Interchange at the junction of Canberra's north-south and east-west corridors. As such, the Airport is strategically located for the development of a major activity node. Similar airports around the world, where major activity nodes are developing, are now known as an Aerotropolis.

Being so close to Canberra City and Parliament House, as well as having such a large number of residents (particularly from Queanbeyan, Tuggeranong and Gungahlin) drive through the Majura Interchange past or nearby the Airport every day. The Airport is a key employment location to minimise drive times and travel distance for sustainable transport initiatives.

Canberra Airport and the ACT Government (especially Roads ACT) 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. During 2007 – 2012 Canberra Airport made representation to the Australian Government supporting the ACT Government's request for Majura Parkway funding. In addition to regular consultation and partnering in updating traffic studies and work programs, the development of previous Airport Master Plans (1999, 2005 and 2009), and the ACT Government's 2006 and 2014 Majura Valley Roads Roundtables have provided an ongoing robust process for identifying the traffic demand source and solutions.

In 2013 Canberra Airport contributed to the public debate on Light Rail for Canberra. The Airport published a proposal for a network around Lake Burley Griffin to link Canberra City to the Airport, Parliament House, the National Capital attractions, and the existing and future planned high density residential areas, including 'City to the Lake', Kingston Foreshore and 'Eastlake'. Public and major stakeholder consultation, including media awareness of the proposal, was undertaken by the Airport. The feedback received was positive including support for the Airport's initiative from the ACT Chief Minister. The baseline outcome was that when the ACT Government develops a light rail network, connecting the Airport is paramount to a sustainable network, refer Figure 12.4.

On time arrival to the terminal is of great importance to arriving and departing passengers and freight companies. On time arrival to destinations within Canberra and the region is also important to inbound business and tourism.

The maintenance of a safe and efficient road system connecting with the Airport is in the public interest now and in the future.

All four Highways (the Kings, Monaro, Barton, and Federal) entering Canberra deliver metropolitan and regional passengers and freight to and from Canberra Airport, most moving through the Majura Interchange.

The following communities and airline passengers connect to Canberra Airport by the following roads:

- **Belconnen and the Capital Region West**  
Glenloch Interchange/Parkes Way/Morshead Drive/Pialligo Avenue; or  
Limestone/Fairbairn/Pialligo Avenues;
- **North Canberra**  
Parkes Way/Morshead Drive/Pialligo Avenue; or  
Limestone/Fairbairn/Pialligo Avenues;
- **South Canberra**  
Kings Avenue/Parkes Way/Morshead Drive/Pialligo Avenue; or  
Canberra Avenue/Monaro Highway/Pialligo Avenue;
- **Tuggeranong, Jerrabomberra and the Capital Region South**  
Glenloch Interchange/Parkes Way/Morshead Drive/Pialligo Avenue; or  
Monaro Highway/Pialligo Avenue;
- **Woden/Weston Creek/Molonglo**  
Glenloch Interchange/Parkes Way/Morshead Drive/Pialligo Avenue; or  
Cotter Road/Adelaide Avenue/Kings Avenue/ Morshead Drive/Pialligo Avenue;  
or  
Hindmarsh Drive/Monaro Highway/Pialligo Avenue;
- **Gungahlin**  
Glenloch Interchange/Parkes Way/Morshead Drive/Pialligo Avenue; or  
Horse Park Drive/Majura Road (Majura Parkway)/ Fairbairn/Pialligo Avenues;  
or  
Limestone/Fairbairn/Pialligo Avenues;
- **Queanbeyan**  
Pialligo Avenue; or  
Monaro Highway/Pialligo Avenue.

North and South Canberra is the destination of the majority of inbound business and tourist airline and VIP passengers arriving at Canberra Airport.

The above demonstrates the importance of Canberra Airport and the ACT Government (especially Roads ACT) working co-operatively on the demand for, and delivery of, ground transport solutions in the community interest.

The unknown future traffic demand is the extent, and thus the impact of, the ACT Government's proposal for future commercial and bulky goods retail to be located between the new Majura Parkway and Majura Road opposite and north-west of the Majura Park precinct of Canberra Airport. Further planning investigations are underway by the ACT Government to progress the potential for development in this Eastern Broadacre Study Area. Stage one of 7.8 hectares has recently been rezoned for an IKEA development which is to include onsite parking for 800 cars. IKEA is expected to be open for trading late 2014. New traffic and infrastructure studies are underway to consider the demand impact and feasibility of the works program solutions required.

Due for completion in 2016 is the Majura Parkway, a \$288 million four lane median divided freeway joint venture between the Australian and ACT Governments. On completion, the Majura Parkway will provide a long term north-south traffic solution for the Majura Valley.

Canberra Airport will be sited on, and connected to, this major north-south arterial road network. The Majura Parkway will extend the duplicated Monaro Highway from Molonglo River to the Federal Highway and on completion will alleviate increased north-south through traffic demand that is currently congesting the Majura Interchange.

This 2014 Master Plan outlines the significant ongoing road network upgrade works since 2007, those currently underway, and additional proposals required to upgrade the roads nearby the Airport. Collectively these works cater for increased metropolitan and regional through traffic growth as well as future local traffic to and from Canberra Airport, the Australian Federal Police Majura training facility, and the Majura Department of Defence, education and training facilities.

## 11.1 MAJURA VALLEY STRATEGIC PLANNING AND DEVELOPMENT

The long term planning for the Majura Valley since the 1960's has resulted in the following development:

### **Major employment, research, education and training**

- A significant Department of Defence presence both in research, education and training (Royal Military College, Australian Defence Force Academy, the Majura Military Training Area, Department of Defence Science and Technology Organisation in Fairbairn) and offices at Campbell Park and Canberra Airport;
- An expanding Australian Federal Police research and training facility;
- Canberra Airport Aerotropolis;

### **Rapid ground transport corridor**

- Roads to service the major demand of metropolitan, regional, and interstate through traffic;
- Canberra's heavy vehicle bypass;
- Local traffic – the Majura Interchange comprising Morshead Drive, Pialligo and Fairbairn Avenues, Majura Road, and the Majura Parkway (freeway under construction);
- The future Kowen Parkway;

### **High Speed Rail**

- Proposed future alignments;

### **Aircraft flight paths**

- Arriving, departing, and training circuits around Canberra Airport.

These land uses within the Majura Valley have co-existed for over forty years. However, over the past eight years (since the completion of Horse Park Drive) the rapid road transport corridor land use of the Majura Valley (north-south and east-west) has presented many challenges to overcome the conflict of significant intersecting through traffic with local traffic at what has organically developed into the Majura Interchange (comprising Pialligo and Fairbairn Avenues, Morshead Drive, Monaro Highway, and Majura Road).

These roads have been, and will continue to be, upgraded over time. The Majura Parkway is designed to be the long term solution for north-south through traffic. However the current design of multiple traffic lights at intersections and the interchange with the expanding east-west through traffic which remains on-grade below the Majura Parkway will require additional solutions within the next five to 10 years, including some grade separation of east-west intersections.

The unknown in local traffic future impact terms is the ACT Government's new development proposals for Majura including the stage one IKEA development. These proposals are likely to bring forward additional works in the short term (five years).



Canberra Airport is in consultation with the ACT Government on this proposed development and awaits advice on the future development land use mix and size, traffic projections, impacts on the current planned network, and work program solutions.

In terms of the 1970 *Tomorrow's Canberra*, the *Y-Plan*, and the 1984 *Metropolitan Plan*, the Majura Valley was identified as a major north/south by-pass road of Canberra, to serve as the Eastern Parkway (ring road of Central Canberra). Refer to Figure 11.1.

In the metropolitan and regional context, the road network through the Majura Valley is designed and planned to carry cars and freight via the following practical solutions:

- Metropolitan and regional commuter through traffic as a rapid bypass of the urban areas of North and South Canberra, Woden, and Tuggeranong;
- Local heavy vehicle bypass of the urban areas and rapid heavy vehicle connectors between the industrial suburbs of Hume, Fyshwick, and Mitchell;
- Interstate heavy and light vehicle bypass of the urban areas of Canberra between Sydney, Southern Highlands (Federal/Hume Highways) the Snowy Mountains, the NSW far South Coast and East Gippsland Victoria (Monaro and Snowy Mountains Highway);
- Interstate heavy and light vehicle bypass between Canberra and Yass (via the Barton Highway) and the Riverina (Hume Highway and Burley Griffin Way/Stuart Highway); and
- Rapid vehicle connections between the urban areas of Canberra to Queanbeyan and the Kings Highway to the South Coast at Batemans Bay and to the Shoalhaven region via Braidwood and Nerriga.

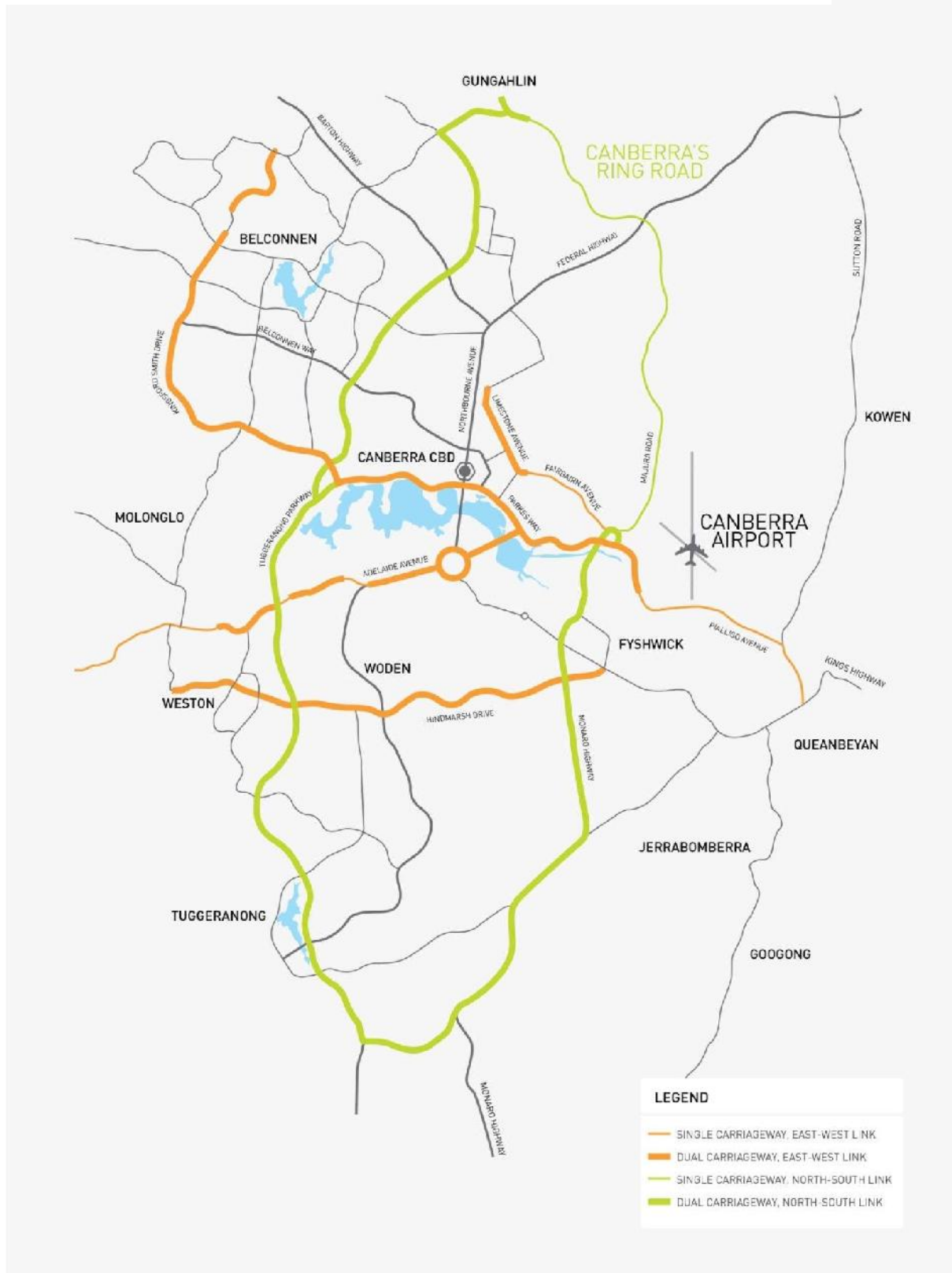
Therefore, the Majura Interchange carries the dual burden of heavy local traffic (including acting as the City bypass) and significant regional traffic. These major traffic flows travel both north-south and east-west and both use the Majura Interchange to transfer direction from one road system to another.

Accordingly once the Majura Parkway is fully operational, the challenge over the next five years will be the access between the north-south and east-west traffic flows as it is not free flowing like Glenloch Interchange and all of the other major freeway intersections built on the major Canberra roads by the National Capital Development Commission since the 1960's, the Parliament House Construction Authority in the 1980's, and the ACT Government since the 1990's. Instead these connections are governed by six traffic light intersections.

In response to the Airport's consultation on the Preliminary Draft 2014 Master Plan with the ACT Government, Roads ACT, and the Economic Development Directorate a number of studies of the Majura Interchange have been commissioned. These studies identified four network improvement priorities to be built post the opening of the Majura Parkway 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. A new connection from Morsehead Drive directly to the Majura Parkway northbound;
3. Partial grade separation of the Pialligo Avenue/ Fairbairn Avenue intersection;
4. Staged duplication of Fairbairn Avenue to the War Memorial.

**Figure 11.1 – Canberra Airport regional context – existing roads**



## 11.2 PUBLIC TRANSPORT

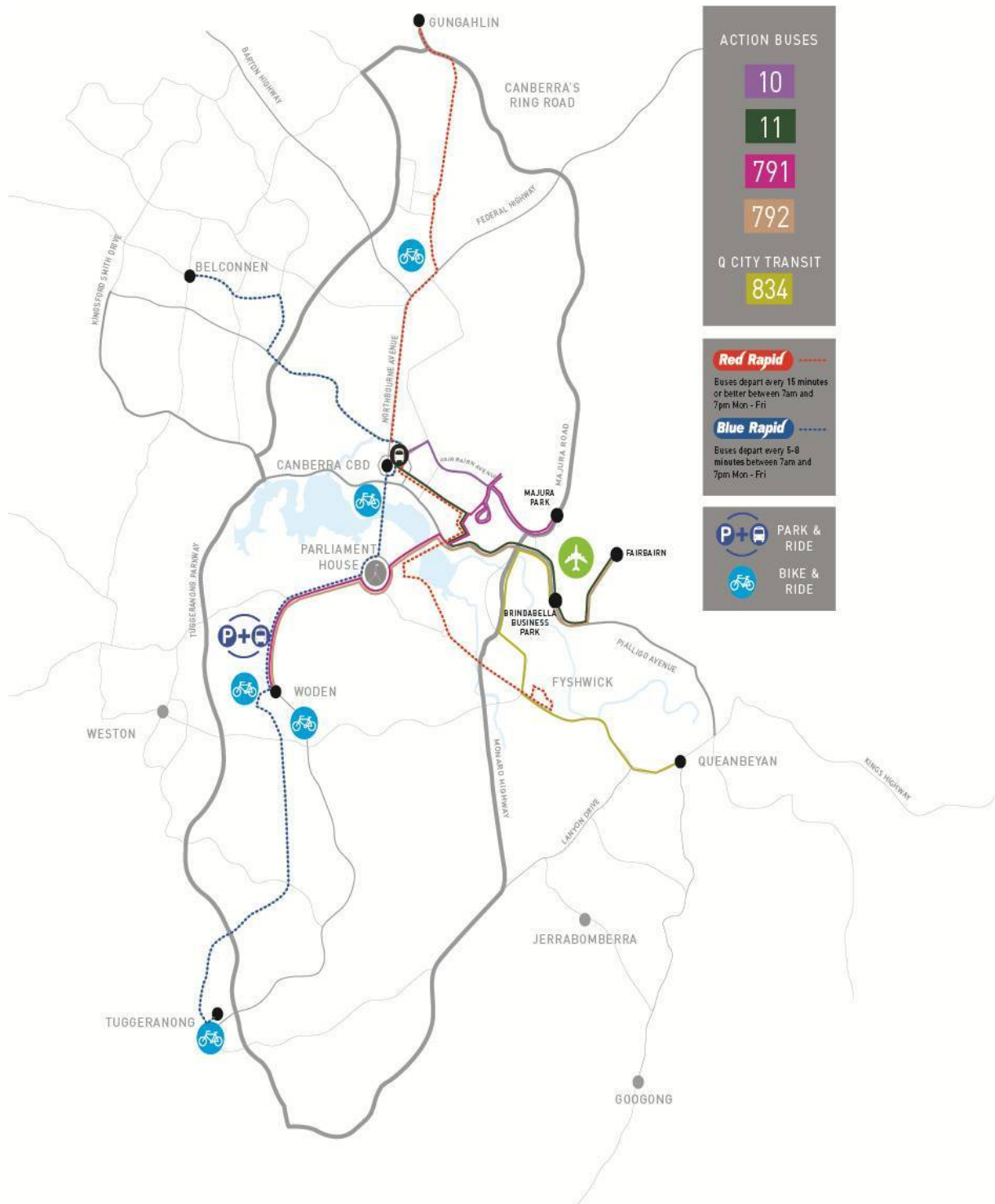
Public transport accessing Canberra Airport includes:

- Metropolitan, regional, and interstate buses;
- Terminal shuttle bus;
- Canberra and regional taxis; and
- Limousines.

The ACT Government's ACTION 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 as shown in Figure 11.2. The new ACTION timetable has further increased services to the Airport.

The Airport will continue to liaise closely with ACTION buses over the next five years to further develop the bus network operating to and from the Airport precincts. This may include additional routes as well as additional services on existing routes to further integrate the site within the wider public bus network.

**Figure 11.2 – Current local bus network**



Taxis rank at the terminal and are available to arriving passengers. At peak there is a shortfall of taxis available to meet demand. Canberra Airport is in constant communication with the ACT Government seeking the release of additional taxi plates.

As Canberra Airport achieves low cost carrier services any failure to rapidly and significantly increase the size of the taxi fleet will damage the growth of tourism and Canberra's reputation as a tourism destination and business city. This is an urgent and significant issue of priority.

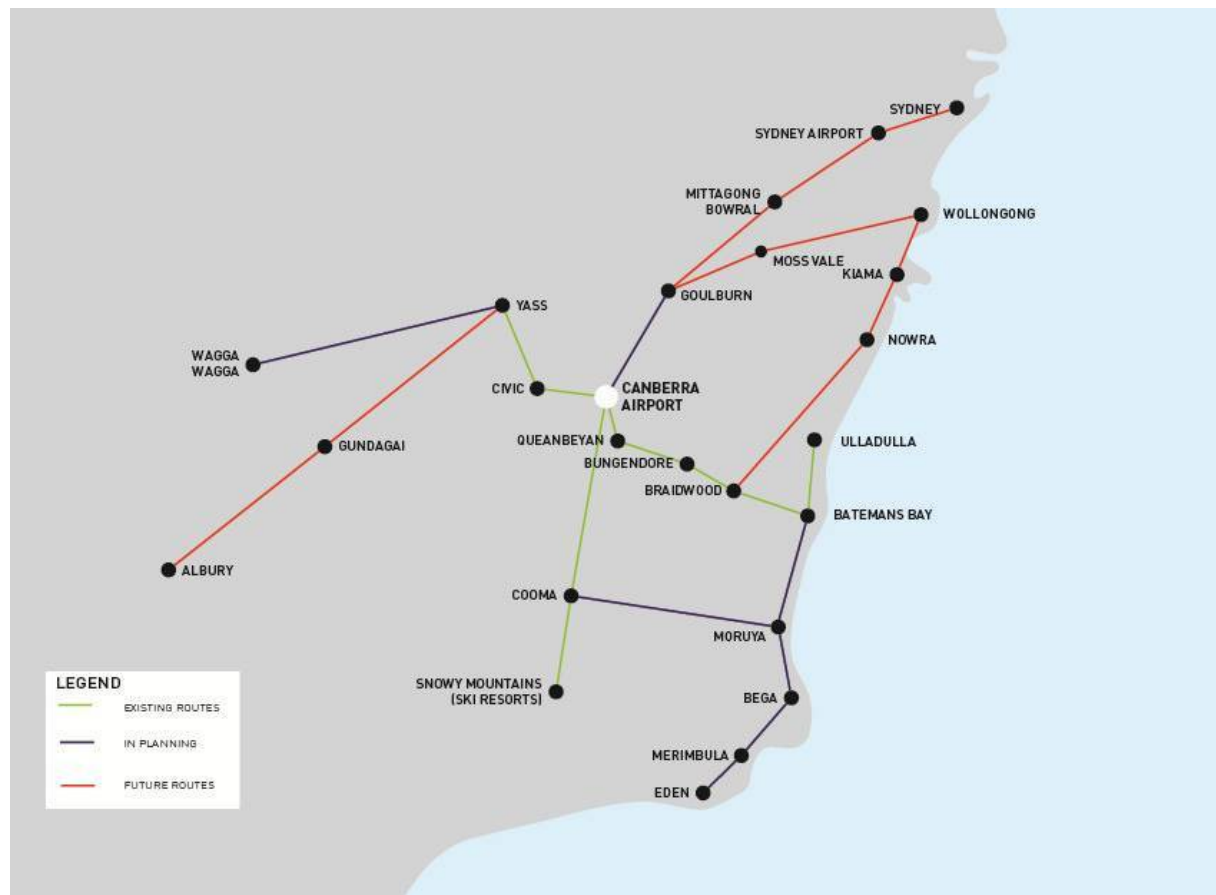


Royale Coaches offer regular Airport Express services between Canberra Airport terminal and Canberra City.

Over the next five years Airport management will continue to work closely with the ACT Government, the National Capital Authority, and the Airport Express operator to further integrate this service within the City. This will include the installation of signage at Airport Express stops in the City and at Russell, and also support the roll-out of an Airport Express shuttle service to various hotels around the City.

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 greater access to affordable air routes, refer to Figure 11.3.

**Figure 11.3 - Projected regional bus network from Canberra**



### 11.2.1 HIGH SPEED RAIL

Canberra Airport has been, and continues to be, a vociferous advocate of HSR for Australia's Eastern Seaboard. The Airport's first Master Plan, approved in 1999, and the Airport's response to the Phase 2 Australian Government study in 2013 both outlined where a HSR station would be located and connected to the Airport's terminal, refer Figure 11.4.

A significant benefit of HSR, widely acknowledged and adopted overseas, is for HSR to interchange directly with airlines via station connections at airports.

A HSR between Sydney and Canberra, with stations at Sydney and Canberra Airports would be a great win for Canberra and the region in terms of regional development on the back of decentralisation and jobs in tourism, trade, and commerce.

Canberra Airport remains committed and will continue to advocate for HSR and work positively with the Australian, ACT and NSW Governments, major stakeholders and the community to implement HSR between Sydney and Canberra, the logical first stage.

Notwithstanding the Australian Government’s announcement in April 2014 of the development of Badgerys Creek as Sydney’s second airport, Canberra Airport supports the reservation of a corridor and then an approach to the market, by way of a call for expressions of interest from consortia interested in designing, building, and operating the first stage of HSR between Sydney and Canberra. This is likely to result in a strong commercial assessment and a major reduction in cost compared to the 2012/13 studies.

**Figure 11.4 – Canberra’s multi-modal hub – high speed rail station**



**11.3 CYCLING**

On completion of the current road upgrade works, expected 2016, additional on and off-road cycle paths will connect the Airport to the Canberra and Queanbeyan cycling networks. The on and off-road links provide cycle access to the Airport terminal, Brindabella Business Park, Majura Park, and Fairbairn on road cycle network.

The Airport's northern access road proposal from Fairbairn to Majura Road will also include on-road cycle lanes and on completion will provide a ring road access connecting all Airport precincts.

The Airport anticipates working closely with the ACT Government over the next five years to develop an off-road multi user path between Pialligo precinct and Majura Park which will be able to be used by pedestrians and cyclists, and also further integration of the Airport within the off-road cycling network particularly as it approaches the Pialligo and Majura Park precincts.

#### 11.4 ROADS - 2014

Major upgrades to the roads around the Airport, the latest due for completion in 2016, mean the road system will be able to manage increased growth in north-south road traffic, arising from the increasing population of Gungahlin, currently over 58,000 people and growing at over five percent per annum and expected to peak within the next 20 years to 90,000 people. The ACT Government has also confirmed these upgrades will cater for all future growth of the Airport as outlined in this 2014 Master Plan, refer Figure 11.4, 11.5 and 11.10.

The *Canberra Y-Plan*, the *Metropolitan Plan* and *The Canberra Spatial Plan*, all identified the Monaro Highway between the Federal Highway and Tuggeranong Hill as significant infrastructure required for the future of Canberra.

The *Canberra Spatial Plan* added the Kowen Parkway proposal linking and intersecting with the Majura Parkway (Monaro Highway) as a major future road for metropolitan Canberra.

The *Y-Plan* and the *Metropolitan Plan* also assumed Monash Drive would be constructed along the western slopes of Mount Ainslie and Mount Majura linking the Monaro Highway (at the Molonglo River) to the North Canberra suburbs and Gungahlin. Monash Drive was removed from the *ACT Territory Plan* in 2006, however remains on the *National Capital Plan*.

The deletion of Monash Drive from the *National Capital Plan* would elevate the strategic importance of the Majura Parkway as the main north-south freeway bypass of North and South Canberra servicing metropolitan, regional, and interstate traffic, including as Canberra's heavy vehicle by-pass. However, without Monash Drive, the existing east-west roads will also need to be supplemented by significant lane and interchange capacity and that part of the Kowen Interchange within Majura Valley will need to be brought forward to provide a westward link between the Majura Parkway and Northcott Drive.

Figure 11.5 - Majura Interchange 2014

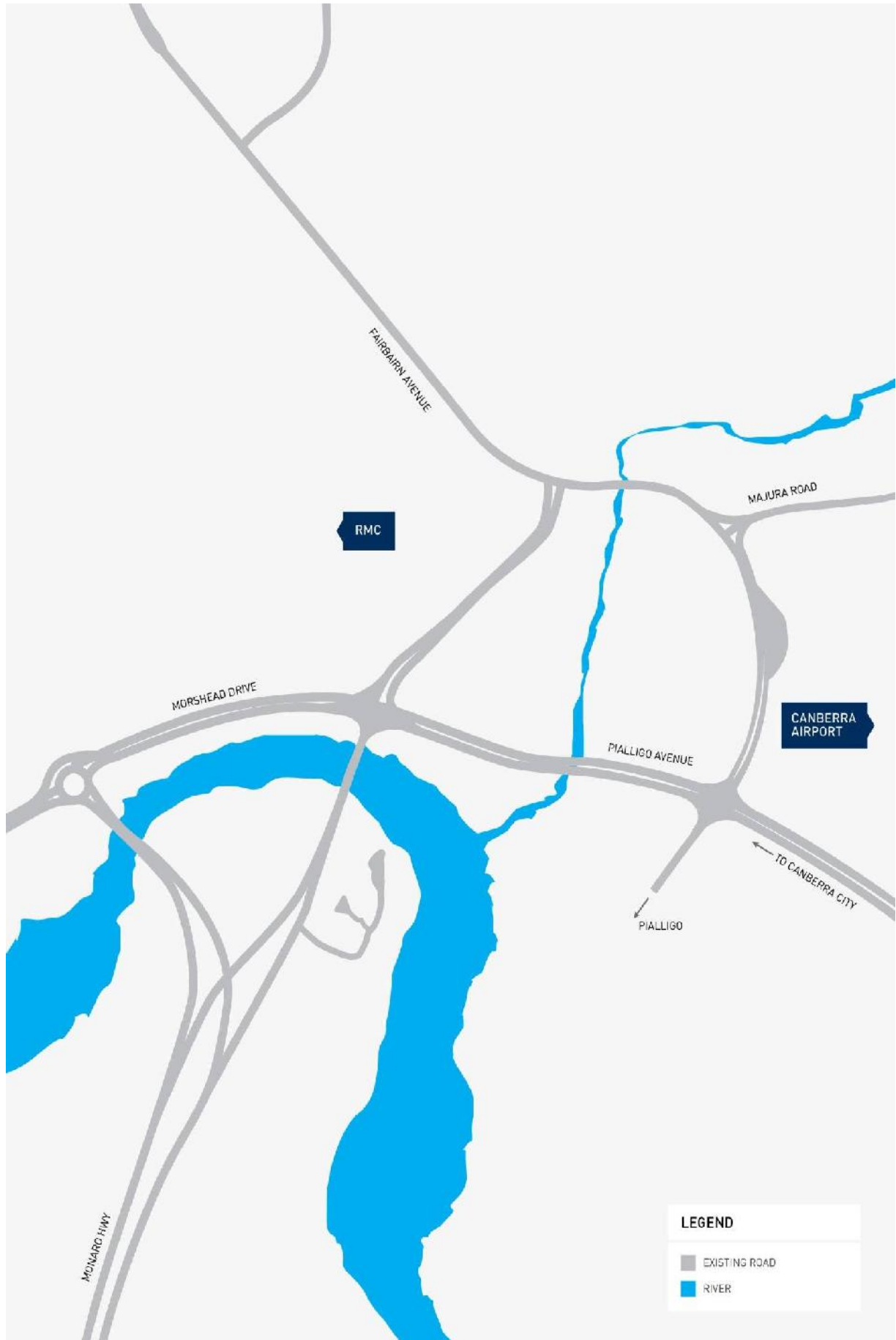
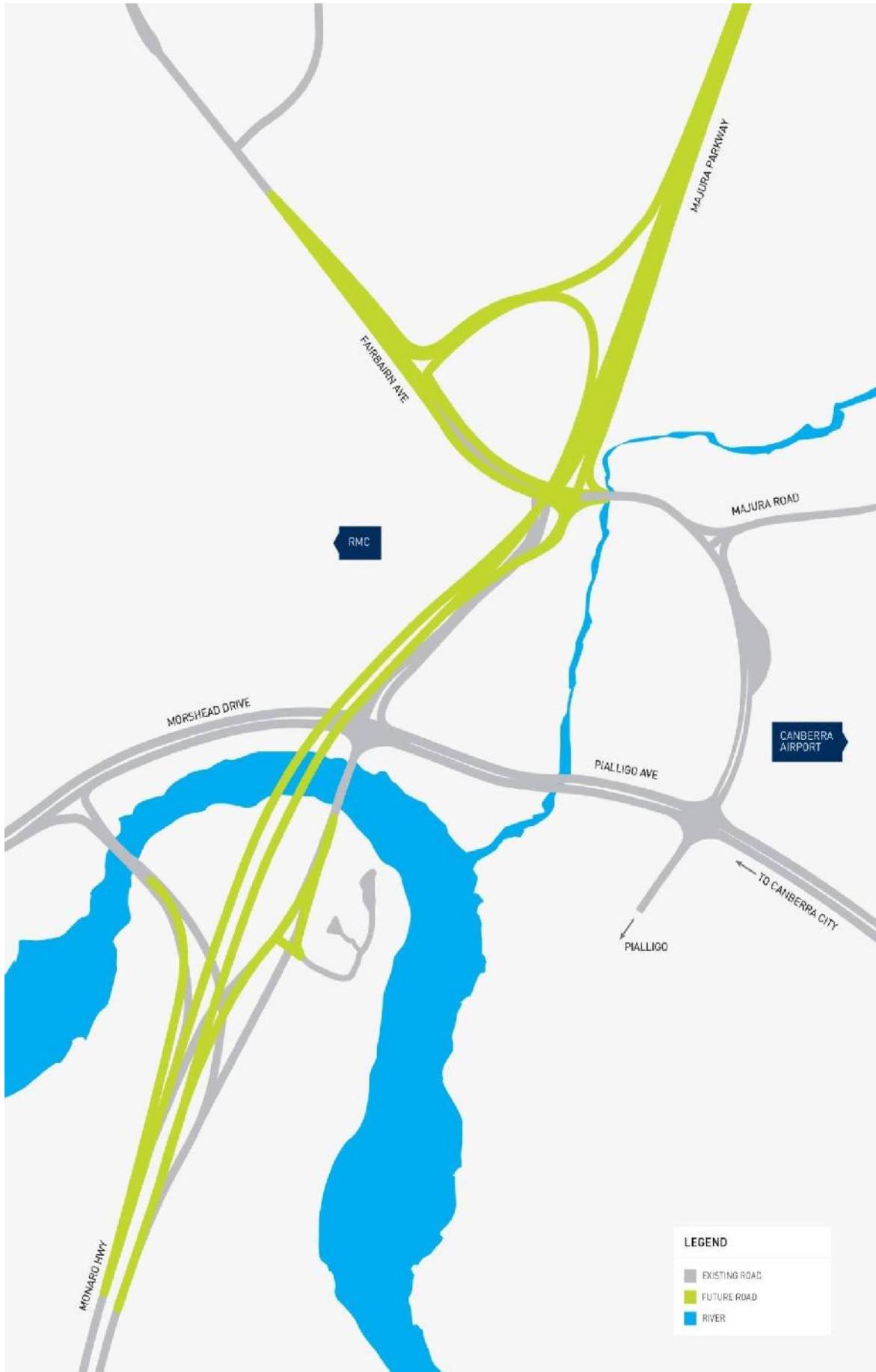


Figure 11.6 - Majura Interchange on completion of Majura Parkway





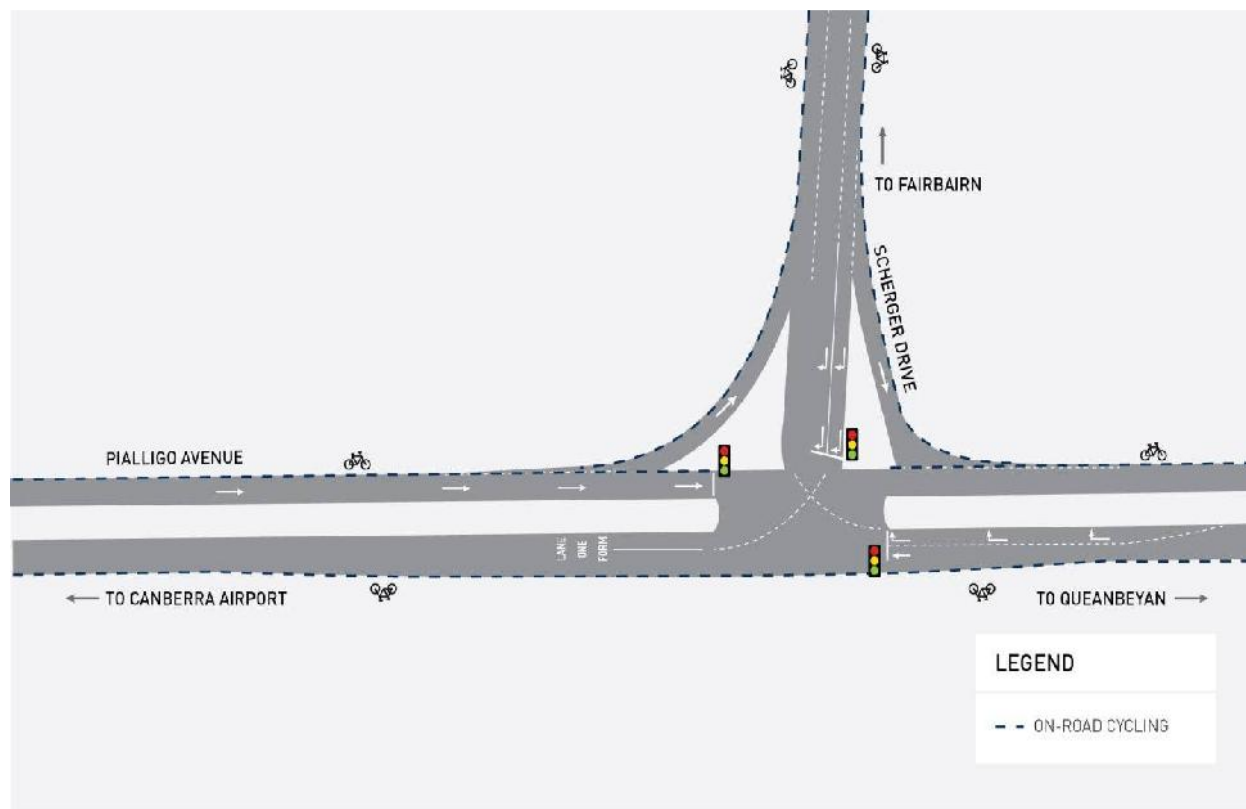
## 11.4.1 AIRPORT CONTRIBUTION TO ROAD CONNECTIONS

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

### East-west with Pialligo Avenue

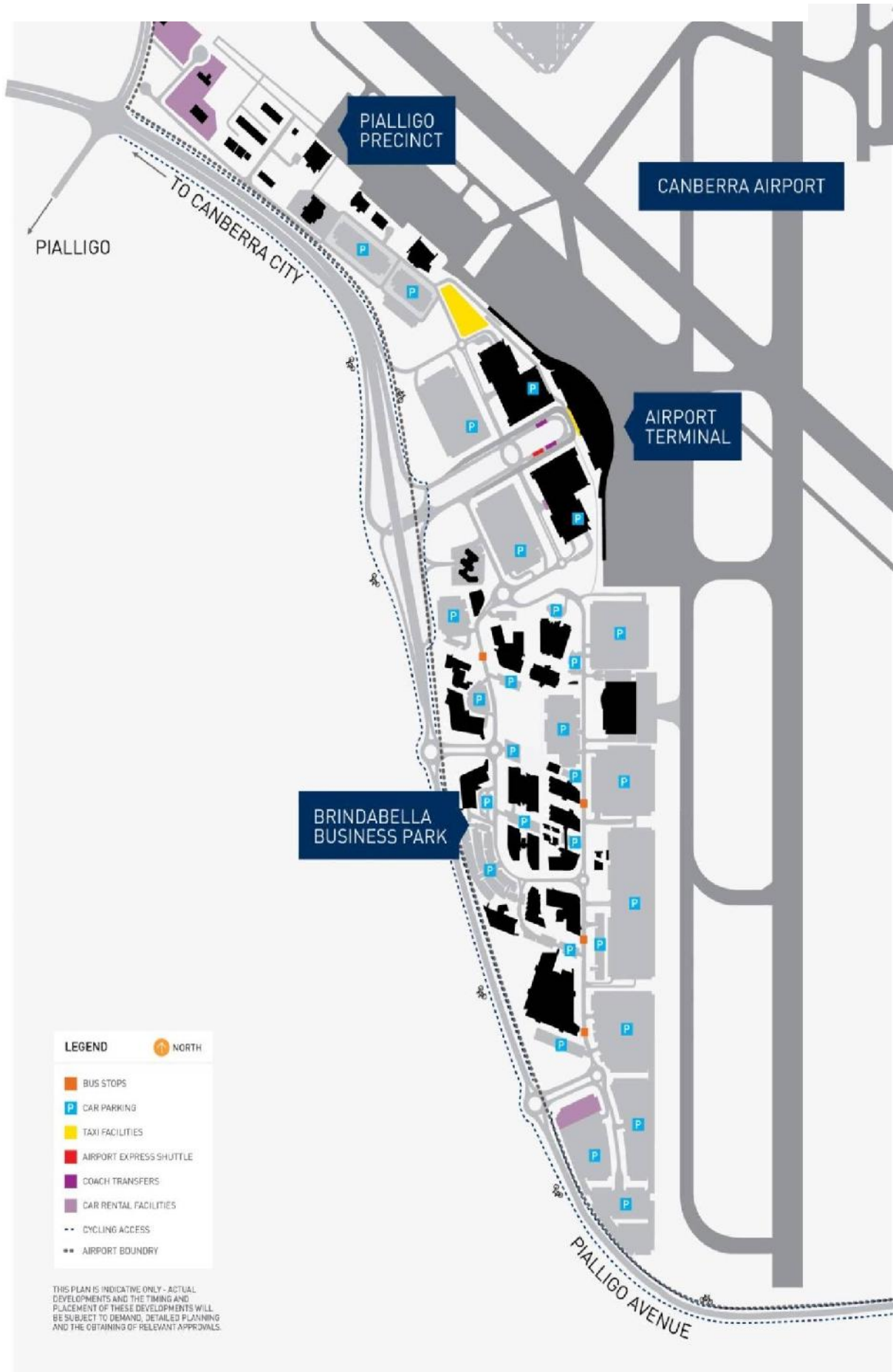
- The intersection of Pialligo Avenue and Scherger (formerly Glenora) Drive to Fairbairn is now a traffic signalled intersection with additional lane capacity (refer Figure 11.6). In 2012 on road cycle lanes were added to Scherger Drive. The Airport joint ventured in these works with the ACT Government;

**Figure 11.7 - upgraded access to Fairbairn**



- Molonglo Drive to the southern offices of Brindabella Business Park - the Airport paid in full for the roundabout connection (refer Figure 11.8);
- Brindabella Circuit to Brindabella Business Park - the Airport paid in full for the roundabout connections (refer Figure 11.8);
- Caltex Service Station - the Airport paid in full for the left-in, left-out intersection (refer Figure 11.8).

**Figure 11.8 - internal connections to Pialligo Avenue 2014**



- Upgrade of Pialligo Avenue, east of Beltana Road to and including Brindabella Circuit intersection (refer Figure 11.8);
- Canberra Airport joint-ventured with the ACT Government the cost of design and construction of the multi-lane realignment and upgrade of Pialligo Avenue adjoining the Airport including bike paths. The Airport also project managed the construction of the realignment and upgrade, which was completed in early 2009, refer Figure 11.8;
- The ACT Government initially allocated budget funds in May 2000 for the duplication of Pialligo Avenue with completion planned by mid 2002; however these funds were never spent. In January 2006, the ACT Government redirected these funds towards the cost of the Gungahlin Drive extension to Glenloch Interchange west of Canberra City;
- New ACT funds, capped at \$7.5 million, were allocated for this section of Pialligo Avenue in the 2007 ACT Government Budget. The Airport agreed to pay the balance of the design, construction, and project management costs over the capped \$7.5 million.

The works which were originally expected to cost \$11.3 million, in fact cost \$14.9 million, meaning the Airport's contribution was \$7.4 million plus project management costs for the works, which included:

- Multi-lane divided roadway including part on a new alignment;
- Separate public transport and goods vehicle entry to new terminal;
- Grade separated newly-located intersection with the new terminal development road system;
- Altered left-in/left-out access to and from the Caltex Service Station;
- Afternoon commuter peak traffic signal system managing the Brindabella Circuit roundabout exit with Pialligo Avenue traffic driving east to the region including Queanbeyan; and
- Closure of Ulinga Place, demolition of the existing roundabout, and some existing Pialligo Avenue pavement made obsolete by the new alignment and upgrade works (refer Figure 11.8). The ACT Government informed Canberra Airport the Ulinga Place intersection land, once rendered obsolete by the new alignment and road upgrade works, will be denied road access from Pialligo Avenue now and in the future. The Airport has now purchased this land from the ACT Government.

## **Fairbairn Avenue**

- Two left-in/left-out intersections; one at Nomad Drive to service the Pialligo precinct and the other to facilitate aviation fuel delivery to the Airport's new aviation fuel farm (refer Figure 11.8);

Note the former Nomad Drive intersection has been closed and moved further to the north to improve traffic flows associated with the new signalised intersection between Fairbairn Avenue, Pialligo Avenue, and Beltana Road. This new road aligned between Fairbairn Avenue and the terminal is now known as George Tyson Drive.

- In 2013 the ACT Government further upgraded the Fairbairn Avenue/Pialligo Avenue intersection by duplicating and providing traffic signals to the former left turn slip lane from Fairbairn Avenue into Pialligo Avenue.

## **North-South Majura Road**

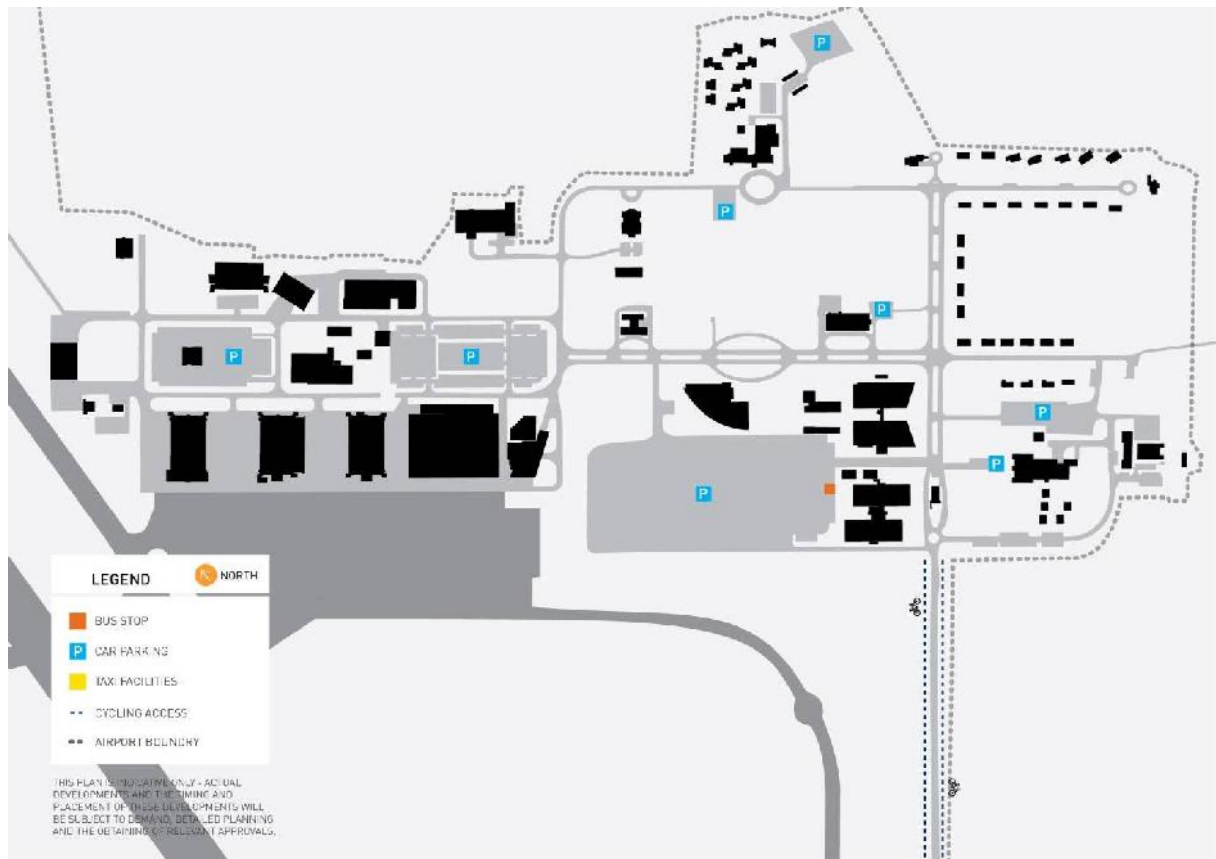
- Two roundabout intersections providing access to Majura Park; one with Spitfire Avenue the other with Mustang Avenue;
- An additional left-in/left-out intersection with Majura Road has been provided with the Masters development at full cost to the Airport;
- An as yet to be built left out slip lane from the Majura Office Park has been approved by Roads ACT and, when built in 2015/16, these works will be at full cost to the Airport;
- In 2012, the Airport joint ventured with the ACT Government to duplicate the north bound section of Majura Road between Fairbairn Avenue and Spitfire Avenue, Majura Park;
- The duplication of Majura Road between Fairbairn Avenue and to the north of the Airport is likely to be a minimum north-south road requirement to service the expected traffic generated by the ACT Government's Majura proposal for a retail and commercial precinct to be located between Majura Road and the Majura Parkway opposite the Airport's Majura Park precinct. (Refer Figure 11.9).

Figure 11.9 internal connections to Majura Road 2014





**Figure 11.10 - internal road network Fairbairn 2014**



### 11.4.2 CURRENT ON AND OFF AIRPORT LINKAGES

Table 11.1 presents the current linkages between the on and off Airport road network.

**Table 11.1 - current on and off Airport linkages**

Intersection(s)	Description	Years
George Tyson Drive and Fairbairn Avenue	Left in/left out	-
Molonglo Drive / Brindabella Circuit and Pialligo Avenue	Dual lane roundabouts	-
Scherger Drive and Pialligo Avenue	Traffic light T-intersection	Westbound bypass lane on Pialligo Avenue
Spitfire Avenue / Mustang Avenue and Majura Road	Dual lane roundabouts	Links to IKEA
Terminal Avenue and Pialligo Avenue	Pialligo Avenue flyover, grade separated	-

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 overall road network layout provide for flexibility and choice of routes for commuters and visitors to BBP; distribution of traffic throughout the network to assist in managing traffic volumes”<sup>6</sup>. Should it occur, or for whatever reason one intersection is 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 Masters. There are also plans over the next five years to construct a left out lane from the car park at the rear of Lancaster Place to provide easy egress for staff to Majura Road (this project is again mentioned in Section 11.6).

Fairbairn is currently only able to be accessed and exited via one intersection where Scherger Drive meets Pialligo Avenue. A second road to Fairbairn is referenced in Section 11.6 and also in Figure 11.10 and is an important project for the Airport over the next five years. This northern connection between Fairbairn and Majura Road has been a feature of the Canberra Airport Master Plan since 1998.

## 11.5 ROADS – THE FUTURE

The ACT Government forecast (January 2014) the population of Canberra over the 20 year life of this 2014 Master Plan to reach 511,420 people in 2034 compared to the Australian Bureau of Statistics (November 2013) forecast of 533,000 people; a minimum increase during the 20 years of over 129,000 people.

The Queanbeyan City Council forecast Queanbeyan to have a population of over 60,000 people in 2034, however the Mayor recently referred to an aspirational target of 75,000 people; a minimum increase of 20,000 people.

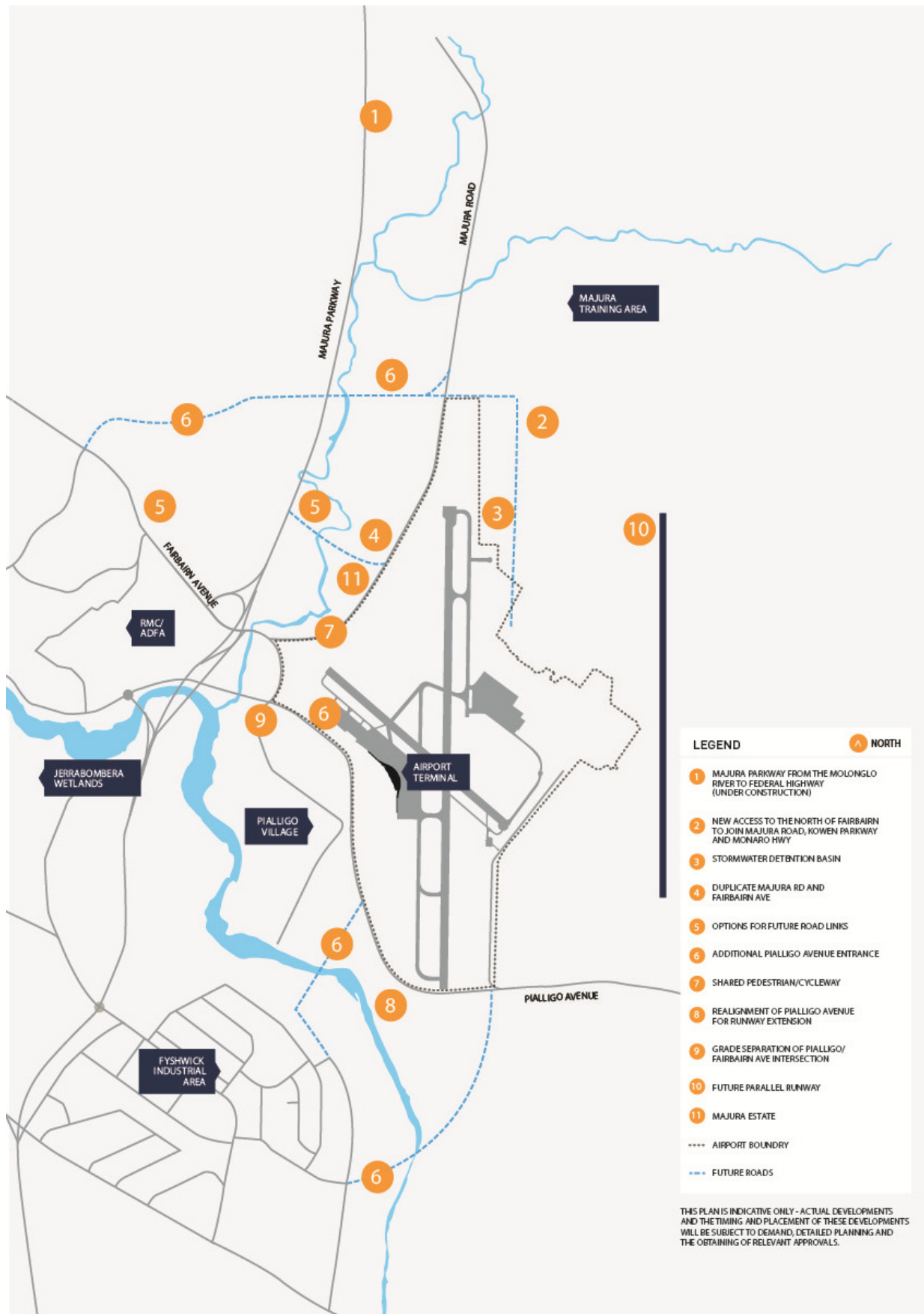
The expected minimum population increase of 149,000 people (35 percent) in the region adjoining Canberra Airport will mainly be located in urban renewal areas in North and South Canberra, the town centres, and greenfield sites in Molonglo and Gungahlin. The Queanbeyan growth will be mainly greenfields to the south of Queanbeyan, such as Googong and South Jerrabomberra, however will also include some measure of urban renewal and infill as currently being experienced.

The future combined population in Canberra and Queanbeyan will rely heavily on the Majura Interchange (Monaro Highway, Majura Parkway, Pialligo Avenue, Fairbairn Avenue), Hindmarsh Drive, Cotter Road, Adelaide Avenue, Kings Avenue, and Parkes Way for journey to work and recreation.

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<sup>6</sup> Mott McDonald [2014] *Brindabella Business Park – Traffic Assessment*. November 2014

**Figure 11.11 – proposed roads and upgrades**



### 11.5.1 EAST-WEST ROAD LINKS

Now that Canberra's north-south duplicated bypass freeways are either completed or under construction (Tuggeranong Parkway connected to Gungahlin Drive, and the Monaro Highway connection to the Federal Highway by the Majura Parkway in 2016) (refer Figure 11.1) attention is now focused on the east-west road links across the region's major employment precinct around Lake Burley Griffin including the Airport and Fyshwick. The development of Molonglo will primarily feed east-west road links in contrast to Gungahlin which has primarily fed north-south links to date.

Parkes Way between the Glenloch Interchange and Russell Hill is the only east-west freeway across north and south Canberra. The ACT Government has added a third lane each way on this road between the City and Glenloch Interchange.

Constitution Avenue, Parkes Way and increasingly Fairbairn Avenue post opening of the Majura Parkway, are major feeder roads between the City and Russell Hill with connections to the Airport and South Canberra including Parliament House.

The expected local traffic generated by urban renewal and infill currently underway and planned for offices and high density residential straddling Constitution Avenue and on the north side of Parkes Way will congest through traffic and will likely result in current through traffic on Constitution Avenue diverting onto Parkes Way and Fairbairn Avenue. As a result third lanes on Parkes Way between Russell and City West, the Australian National University and duplication of Fairbairn Avenue are likely to be required within the next five years. Duplication of Fairbairn Avenue prior to the completion and opening of Majura Parkway will be significantly cheaper and cause less traffic disruption rather than doing this work when the traffic load has increased substantially.

This duplication of Fairbairn Avenue may also be an essential prerequisite to the construction of the Capital Metro project along Northbourne Avenue.

The ACT Government is reviewing studies of east-west road links across North and South Canberra and the Majura Interchange. This review has had regard to the potential new populations of urban renewal and infill in North and South Canberra, greenfield development in Molonglo and Queanbeyan, the ongoing growth of Gungahlin residential areas, the growth in employment levels at the Airport forecast in the Master Plan, and the traffic demand impacts of the ACT Government's new proposal of a proposed Majura Valley retail and commercial precinct adjoining Canberra Airport.

Queanbeyan City Council is keen for Pialligo Avenue (all within the ACT) to be duplicated east of Brindabella Business Park to Yass Road, Queanbeyan as soon as possible. This would provide a third duplicated connection for Queanbeyan commuters to Canberra's employment areas. This duplication would load more east-west regional traffic into the Majura Interchange and is likely to require grade separation of Pialligo Avenue from Fairbairn Avenue at the Pialligo Intersection. The Council is undertaking final planning for a future Queanbeyan eastern by-pass that will rapidly connect Karabah, Jerrabomberra, and Googong with Pialligo Avenue. Stage one of this Ellerton Drive extension to Cooma Road is expected to be completed 2017/18.

Roads ACT have now proposed an improvement on Pialligo Avenue at the intersection with Scherger Drive. The proposal is to add a slip through lane on Pialligo Avenue so west bound traffic can flow freely through the intersection.

Additional reviews by Roads ACT will likely result in further improvements to east-west links over time in response to traffic demands.

Options to add to, and strengthen east-west road links, are as follows:

### **North Canberra**

- In 2012 the Australian Government completed a grade separated intersection of the east-west Parkes Way/Morshead Drive former roundabout with the north-south Kings Avenue. Additional works are required for the north bound left hand turn down ramp merge with Parkes Way due to current congestion at peak times;
- Morshead Drive intersection with Russell Drive - this roundabout intermittently fails in the morning peak due to traffic turning right into Russell Drive from Morshead Drive on journey to Russell Hill Department of Defence Offices or through traffic en-route to Canberra City via Constitution Avenue. This intersection will require upgrade (including an additional third lane for traffic from the east-west down ramp to reduce the conflict with vehicles moving east in the morning peak on Morshead Drive. In addition, with the Russell grade separation as the designated entry to Russell, this right-hand turn capability could be removed;
- Morshead Drive intersections with Dairy Flat Road and Monaro Highway - these intersections are planned for upgrade within the scope of works for the Majura Parkway and will be traffic signal controlled on completion;



- Molonglo urban area - the ACT Government is advanced in the development of infrastructure for the initial stages of Molonglo in the suburbs of Wright and Coombs and a future population of up to 55,000. Land released in this new urban area commenced in 2010. Within the next five to 10 years this population will increase traffic density on the Cotter Road, Hindmarsh Drive and Adelaide Avenue, Kings Avenue, and Parkes Way east-west corridors. Additional third lanes to Parkes Way west of Canberra City are near completion to assist in the service of this emerging demand. The complete duplication of the Cotter Road to Adelaide Avenue is also proposed;
- Fairbairn Avenue between Majura Parkway and the War Memorial is currently mostly single lane and of a rural road formation, refer Figure 10.7. On completion of the Majura Parkway, Fairbairn Avenue will become the main south-bound ramp off the Parkway to enter Canberra City and connect to Russell, the Airport and Parliament House. The next south-bound down ramp after Fairbairn Avenue is Newcastle Street, Fyshwick. The duplication of Fairbairn Avenue to the War Memorial is thus a logical upgrade in the near term as use of this road will increase upon the opening of the Majura Parkway. The ACT Government is currently reviewing traffic studies and opportunities to duplicate Fairbairn Avenue prior to completion of the Majura Parkway although this is now less likely;
- The ACT Government is investigating a south-bound ramp off the Majura Parkway and a link road to Majura Road, refer Figure 10.7. This link road will principally service the ACT's IKEA site and create a corner location on Majura road for IKEA. This is the first stage of works for the ACT Government's proposed retail and commercial precinct;
- Future Kowen link initially between Majura Road and Fairbairn Avenue. The ACT Government indicates although there is no schedule for development of Kowen the early traffic forecasts indicate a future requirement for a Kowen Parkway link with the Kings Highway. *The Canberra Spatial Plan* indicates its location adjoining the Airport's northern boundary;
- The initial stage as proposed above provides opportunities to manage east-west traffic future links with the Majura Parkway.

## **South Canberra**

- Canberra and Wentworth Avenues are major feeder roads to major employment locations in North and South Canberra, including Fyshwick and Canberra Airport. Urban development along these roads has intensified over the past 10 years with medium and higher density residential unit development in Kingston and Kingston Foreshores.

Within the next five to 10 years, significant further medium and higher density

residential development will occur within Kingston Foreshore and the proposed new area of Eastlake (which comprises the current 'Causeway' and that area of Fyshwick west of the Monaro Highway, north of Canberra Avenue and east of Wentworth Avenue). The ACT Government expects the current 4,000 residential units in Kingston and Kingston Foreshore to grow to be over 6,000 units in less than 10 years time. The future residential population of Kingston, Kingston Foreshore and Eastlake is currently planned to be up to 18,000 people;

- Within the next five years, the ongoing development of Kingston and Kingston Foreshore will significantly limit the capacity of Canberra and Wentworth Avenues to service Queanbeyan and regional commuter traffic without major upgrades. This congestion will most likely divert current and future regional growth commuter traffic into the Majura Interchange, Monaro Highway, Pialligo Avenue/Yass Road, Morshead Drive, Parkes Way, Fairbairn Avenue and Limestone Avenue. This will create additional demand for new east-west road capacity lanes and grade separation, particularly at the Pialligo Avenue / Fairbairn intersection.

### **Hindmarsh Drive link**

- Road consultants have proposed a concept road extending Hindmarsh Drive north of Canberra Avenue to link with Pialligo Avenue at Scherger Drive intersection, requiring bridging of the Molonglo River. This concept could serve the requirements for a northern by-pass of Queanbeyan (including for heavy vehicles) with potential opportunity for links to the future Kowen Parkway via Pialligo Avenue and Sutton Road. The ACT Government also has an alternate Fyshwick-Airport link with the intersection of Pialligo Avenue or Molonglo Drive, Canberra Airport.

The future demand trends from existing and future Canberra and Queanbeyan population growth are unrelated to the development of Canberra Airport in response to this 2014 Master Plan. The Airport will continue to consult and work with the ACT, Australian, and NSW Governments on road upgrade and public transport options to mitigate further congestion.

## **11.6 ON AIRPORT GROUND TRANSPORT**

Table 11.2 below outlines the main roads currently on the site and includes information about the access each road provides.

**Table 11.2 - 2014 road network on Canberra Airport**

<b>Road Name</b>	<b>Orientation</b>	<b>Access</b>	<b>Current Lanes</b>
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 each way
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, Jim 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 performing ahead of demand, Airport management has identified, designed and sited future car parking expansion opportunities including at the terminal, beyond the next five years.

The number of current car parking spaces across the site is indicated in Table 11.3 below.

**Table 11.3 - 2014 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.

Within the next five 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, refer Figure 11.8. The Airport has also developed a secondary access with a left in left out intersection of George Tyson Drive with Fairbairn Avenue.

Airport passengers generally use taxis (approximately 35 percent, down from 55 percent in 1998), private cars (approximately 56 percent, up from 45 percent in 1998) or hire cars, rental cars, and bus/coach (approximately 14 percent). These modal split changes are likely to have been due to a deterioration of the taxi services throughout Canberra. Future growth and changes to modal split are expected as inbound domestic and international passenger numbers increase.

It is anticipated the number of Airport passengers and associated demand for on-ground transport infrastructure will increase by up to 300 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 a 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 arrival 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.

Notwithstanding recent decreases in taxi patronage, taxi usage is expected to increase by 35-40 percent within the next five years, and liaison with representatives of the taxi industry and the ACT Government will continue to ensure this increased demand can be effectively served. The projections indicate an increased patronage of buses/coaches for trips to and from Canberra Airport and the opportunities for increased patronage through enhanced coach and shuttle bus services to the Airport has been identified.

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 2014 Master Plan.



Ground transport initiatives – next five years:

- Hotel parking configurations and covered walkway – planned and under construction;
- Expanding connectivity with regional bus network;
- Reduce taxi passenger waiting time in peak periods;
- Possibility of light rail station;
- Controls on kerb side drop off zones car park pick-up facilities;
- Expanding on and off-road cycling connectivity;
- Maintain offer to develop a 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 and are as set out in Figures 11.7 and 11.8. These roads and the roundabout intersections on Pialligo Avenue have the capacity for the growth of the precinct over the next five and 20 years as outlined in this Master Plan and indeed up to the capacity agreed with the ACT Government – see Section 10.4.

Ground transport initiative – next five years:

- Develop a car parking deck when 9 Molonglo Drive is built.

### **Pialligo Precinct**

The road layout in this precinct has been reviewed including future connections with Pialligo Avenue, the terminal and Fairbairn Avenue. The previous Nomad Drive connection to Fairbairn Avenue has closed following the duplication of Fairbairn Avenue by the ACT Government and the installation of a signalised intersection between Fairbairn Avenue, Pialligo Avenue, and Beltana Road. A new road alignment has been constructed (George Tyson Drive) in part and has left in/out lanes with connections to Fairbairn Avenue (Figure 10.2).

Ground transport initiatives – next five years:

- Consolidate rental car compounds;
- Extend George Tyson Drive to connect directly with Fairbairn Avenue;
- Possibly close Nomad Drive when George Tyson Drive is extended.

### **Majura Park Precinct**

The long term road layout within Majura Park and connections with Majura Road, have generally been constructed and are as set out in Figure 11.9. These internal roads have the capacity to accommodate the growth forecast in this Master Plan and the capacity limit agreed with the ACT Government – see Section 10.4. Some minor internal road links are likely to be designed and constructed in response to future development. Externally, the ACT Government plans to duplicate Majura Road between Fairbairn Avenue and Mustang Avenue as part of the IKEA development.

The Majura Road roundabouts have the capacity to accommodate the growth forecast in this Master Plan although the ACT Government may seek to signalise the Spitfire Avenue roundabout when it builds the link road from the Majura Parkway. 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 five years in response to demand.

Ground transport initiative – next five years:

- Left turn lane to Majura Road from car park at rear of Lancaster Place;
- Once Majura Parkway is completed, where there is currently a left turn access from Majura Road to Masters, there will be a possibility to add a right turn at this intersection into Masters.

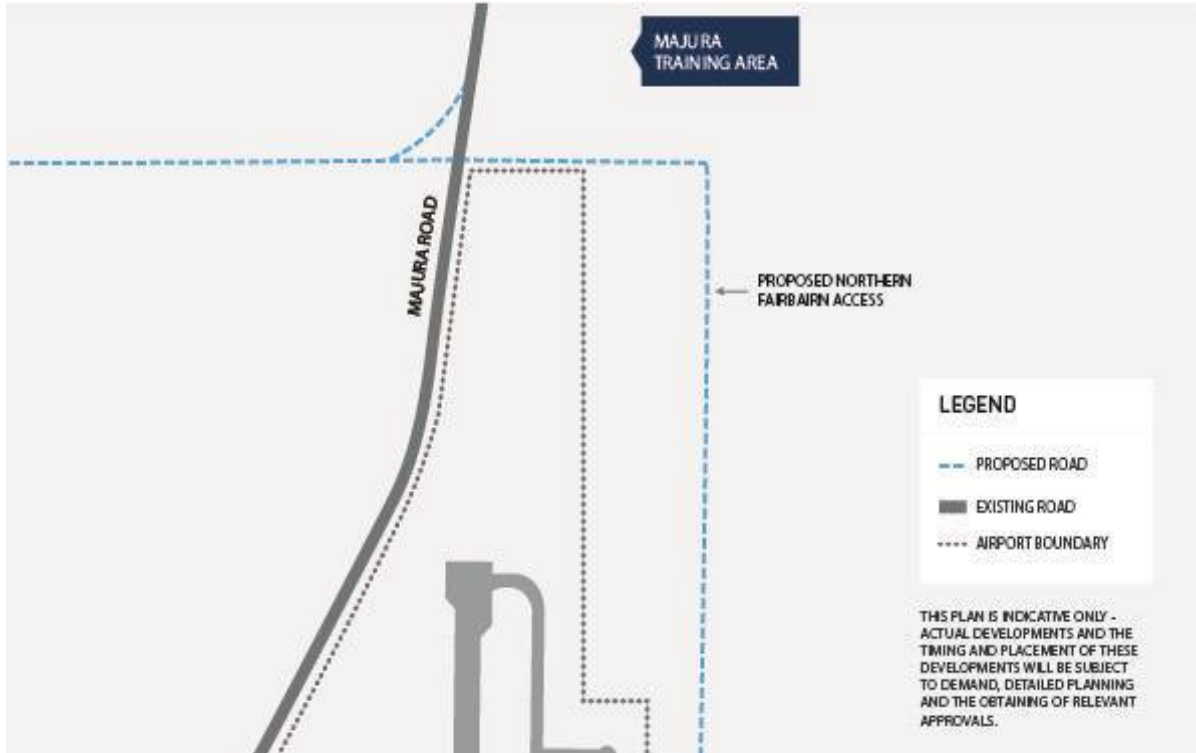
### **Fairbairn Precinct**

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 once land is transferred to the Airport, refer to Figure 11.12.

Ground transport initiative – next five years:

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

**Figure 11.12 – proposed northern Fairbairn access**



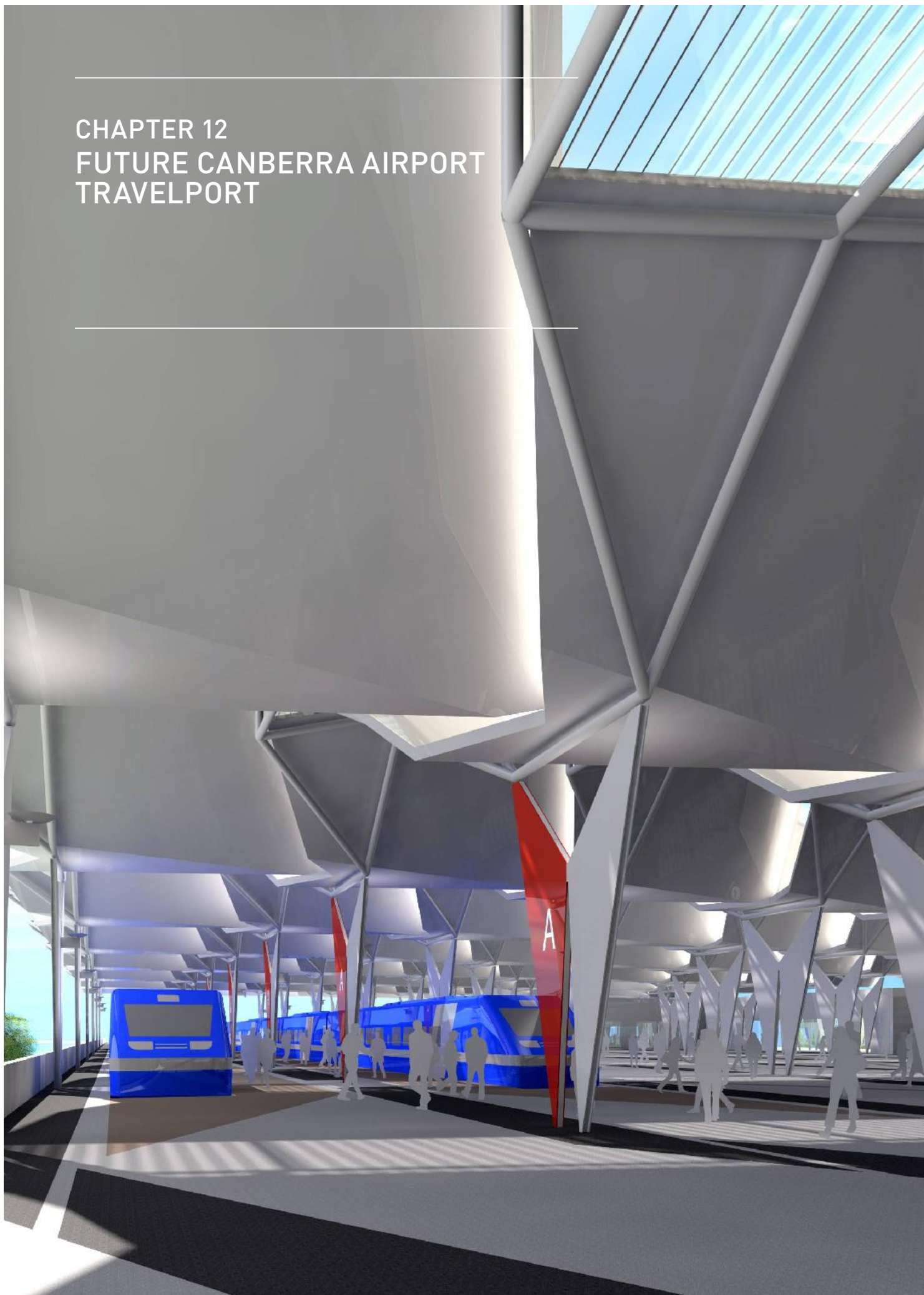
### **Glenora Precinct**

This precinct has no existing internal roads other than airside roads. The Airservices Australia ARFF Station has one connection with Scherger Drive. Future planning will include a road design to service sites without adversely impacting airside operations, including the efficient functioning of the ARFF Station.

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CHAPTER 12  
FUTURE CANBERRA AIRPORT  
TRAVELPORT

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“GREAT CITIES HAVE EXCELLENT TRANSPORT CONNECTIONS.”

ACT ECONOMIC WHITE PAPER 2003





## 12 Future Canberra Airport Travelport

Canberra Airport is located at the southern end of Majura between the Molonglo River and the Federal Highway. Metropolitan and regional traffic flows convey passengers and freight via the Majura Interchange between the Monaro, Federal, Barton, and Kings Highways and Canberra Airport.

A sound foundation already exists for the transfer between ground and air at Canberra Airport comprising domestic airlines, local and regional bus lines, taxis, hire cars and rental cars. The new international age airline terminal and matching runway and taxiway infrastructure, combined with forward planning will facilitate significant passenger and freight transport growth opportunities over the 20 year life of this 2014 Master Plan to 2034.

These opportunities and forward planning include, but are not limited to:

### **Airline passengers**

Airline passenger growth from less than three million passengers per annum now to reach circa six million passengers in 10 years and circa nine million passengers per annum in 2034, plus freight.

These forecasts, as set out in Chapter 5 and 6, include the commencement of international services at Canberra Airport within the next few years and assume a second Sydney airport is operational before 2027 and there is no Sydney to Canberra HSR.

### **High speed rail**

HSR between Canberra and Sydney, assuming no second Sydney airport is built, is likely to add 10.8 million passengers per annum (an average of 30,000 additional passengers per day) at Canberra Airport in 2035 as set out in Table 12.10, Low Case.

### **Light rail**

The future Capital Metro Light Rail to Canberra Airport will provide a seamless modern, efficient transit ground and air interchange of passengers to benefit tourism, trade, and commerce within the region. This interchange will also provide an opportunity to greatly increase Canberra's public ground transport commuter modal split from the current seven percent to over 16 percent.

The introduction of low cost carriers and international airlines at Canberra Airport, as actively jointly sponsored by the ACT Government and the Airport (refer Chapter 2), will accelerate passenger growth over the next five years. This growth will benefit from a matching efficient integrated ground transport.

The ACT Government's *Economic White Paper (2003)* acknowledged the importance of excellent transport connections:

*“Great cities have excellent transport connections. Since the ownership of Canberra Airport was transferred to private ownership investment in the Airport and general economic activity around the Airport has increased markedly. The Master Plan, which is the major planning tool for the Airport, outlines a vision for the development of Canberra International Airport as a major passenger, freight and business hub serving the ACT region.*

*Therefore it is essential that the Spatial Plan recognises the Airport's role as a generator of employment and a regional hub. In particular, transport and employment links between Civic and the Airport need to be given high priority”.*

*Action 47*

*“The Government will recognise Canberra International Airport as a major activity centre and work with the Australian Government and airport management to continue to upgrade connections to the Airport, especially from Civic.”*

*ACT Economic White Paper (2003)*

## 12.1 HIGH SPEED RAIL

A significant benefit to HSR, widely acknowledged and adopted overseas, is for HSR to interchange directly with airlines via station connections at airports.

As supported and advocated by the Australasian Railway Association (ARA), the ACT Government, Transport for NSW and Canberra Airport a HSR between Sydney and Canberra, with stations at Sydney and Canberra Airports would be a good win for Canberra and the region in terms of regional development on the back of decentralisation and jobs in tourism, trade and commerce.

Canberra Airport has been a strong public supporter for more than 15 years of a 'fast, efficient, and comfortable transport system with easy access to air, rail, and coach services':

- Initially within the first Master plan, approved August 1999, then;

- The release in September 1999 of a plan outlining the ambition (which remains current today) to be a 'World Class Travelport' – a major transport terminal where fast air, rail, light rail, and coach services will converge, (refer Figure 12.1) to provide seamless travel for business and leisure passengers; and

**Figure 12.1 – Travelport concept from 1999 Master Plan**



- Again in 2012/4, including “57 minutes Canberra to Sydney ... and less than a decade away” and the release of a discussion paper as a contribution to the public debate “The HSR will be a significant, nation-building project with substantial benefits to the Australian economy”. The integration of the Airport station proposal is as set out in Figure 12.2 and the HSR alignment to the station is as set out in Figure 12.3.

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 (refer to Figure 12.2).

**Figure 12.2 - future HSR station facility**



The Airport's announcement of 12 June 2012 included the following:

- “We have long been advocates of a HSR link between Canberra and Sydney”;
- “Today Canberra Airport is proud to present plans for a superb, multi-modal, transport facility to underline the HSR's integration into Canberra Airport”;
- “This terminal will provide a seamless interface for passengers arriving in Canberra by air, ready for their 57 minute train trip to Sydney”;
- “The facility will cost \$140 million (in 2012 dollars) and take two years to build. Canberra Airport is today committing to funding the HSR terminal project and will be in a position to consider a start date once the timetable for the HSR is confirmed”;
- “We know that Sydney Airport, and its surrounding transport infrastructure are already facing capacity issues, and that the *Joint Study into Aviation Capacity for the Sydney Region (The Joint Study)* advised that passenger demand in the region (including Canberra and Newcastle) will increase from the 2010 level of 40 million to 58 million in 2020 and 88 million by 2035”;
- “The HSR will be a significant, nation-building project with substantial benefits to the Australian economy, from jobs during construction and for the local steel industry, to international tourism, as well as relieving the congestion endured by Sydney-siders as the population grows to six million in 2036”;

- “The HSR from Canberra to Sydney should be delivered by 2020, with the terminal at Canberra Airport constructed over the last two years of that period”;
- “With the completion of this project, Canberra Airport would become a multi-modal hub for HSR, domestic and international airlines, regional and local buses and onsite car parking”.

On 11 April 2013 Canberra Airport welcomed the Australian Government’s long awaited Phase 2 Report into HSR and noted:

- “Canberra Airport has been, and continues to be, a vociferous advocate of HSR for Australia’s Eastern Seaboard”;
- “Overall the HSR Report is a good win for Canberra because it makes it very clear that Sydney to Canberra is stage one – that is fantastic considering the study started with the preconceived strategy that Newcastle to Sydney would come first. Well done to the ACT Government, the Canberra Business Council, and others for achieving this”.
- Clearly, the key objective now is making HSR happen and I have today written to the Chief Minister to reaffirm our commitment to working with the ACT Government to achieve that”;
- “The station location is secondary for all 430,000 of us in the Canberra/Queanbeyan region – so we support Civic as the location if it gets us HSR”;
- “We remain committed to working positively together to achieve the economic and social benefits that will accrue to the Capital region from HSR, the sooner the better”;
- “We note the report recommends Canberra Airport as the first alternative if Civic is unable to support the parking infrastructure needed for the station”. Canberra Airport is a reasonable fall-back option if Civic either cannot work or the commercial proponents prefer the patronage uplift out of an Airport Station”.

The Phase 2 HSR Report’s preference for a City station over an Airport location was explained to be for the following reasons:

- A HSR station in the City would “provide better access to the primary tourist destinations in the Parliamentary Triangle than a station ... at Canberra Airport”;



- The City is “the centre of a city of 350,000 people” in a “polycentric pattern of urban development of urban precincts each with its own town centre”.

For the report to ignore Queanbeyan and fail to recognise a Canberra/Queanbeyan City of 425,000 people or a regional catchment for the station approaching 900,000 is peculiar – to understate Canberra’s population so much is inappropriate. In any case, Canberra’s dispersed town centre structure means the rationale for a City station largely falls away;

- The HSR rail station in the City would be superior to the Airport in terms of public transport access (partly due to the proximity to the Gungahlin light rail station – 800 metres walk away) – yet the Phase 2 HSR Report finds that only five percent of HSR passengers would come to the City station by public transport and 95 percent would come by road;

- “Canberra Airport is located on a ‘frequent public transport corridor’ (a category of public transport corridor defined by the ACT Government), which provides less public transport capacity than the core ‘rapid service network’ which serves Civic.”

This analysis is based upon a 2031 long term transport plan which the ACT Government has recently indicated could be updated to reflect the recent growth of the Airport precinct. Certainly the construction of a HSR station at the Airport ought not prohibit the ACT Government from updating this plan and increasing public transport services in response to that development - it is unusual for the Phase 2 HSR Report to have ignored this reality;

- The Airport “site would affect existing Airport infrastructure and operations ...”

The plans in this Chapter of the 2014 Master Plan make it clear it would not affect either aviation infrastructure or operations;

- “... and would be moderately difficult to construct”

This is factually incorrect and completely erroneous. It is also at odds with the HSR Report’s findings on the build-ability of the City option:

- The Mt Ainslie Tunnel would cost \$430 million extra;
- Ainslie Avenue would need to be reconfigured and closed for up to three years during construction; and

- The necessary parking would require the demolition of existing buildings (currently social housing) at the Canberra Centre end of Ainslie Avenue as well as a shuttle bus service from parking at the far end of Ainslie Avenue.

The ARA's preference (June 2014) is for the Canberra terminal to be located at Canberra Airport. This is consistent with the view of the international HSR operators.

This 2014 Master Plan proceeds on the basis that an operator of a HSR service will select the best location for a station in Canberra based on demand, route economics and capital cost. Accordingly a station at the Airport and a station in the City should be included in the future planning for Canberra, Queanbeyan, and the region.

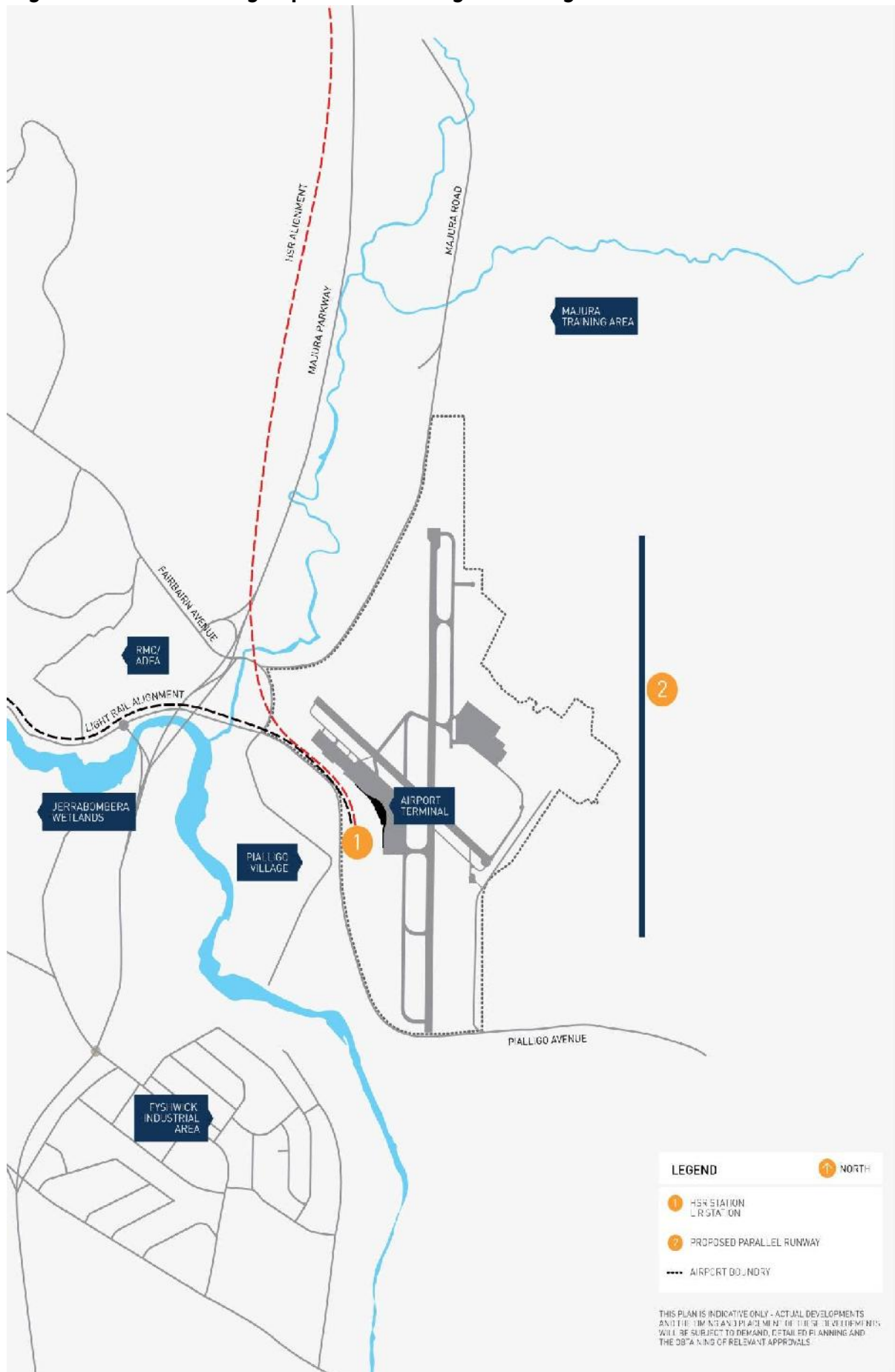
Canberra Airport, together with Transport for NSW and the ARA, supports the reservation of a corridor. Consistent with the ARA, Canberra Airport then supports an approach to the market, by way of a call for expressions of interest from consortia interested in designing, building, and operating the first stage of HSR. This is likely to result in a strong commercial assessment and a major reduction in cost compared to the 2012/13 studies.

Overseas, HSR is a mature technology, and the relationship between airports and HSR linking passengers to the central business districts of the world's major cities is well established such as Frankfurt, Paris, and Amsterdam.

*The Joint Study* acknowledged the potential role for HSR:

***“One factor frequently cited as being able to change the level of demand for aviation services is the operation of a HSR system between the Sydney region and other cities. However, the extent to which HSR could reduce the demand for air travel will depend on the relative attractiveness (in terms of price, frequency and travel times) of the services offered, routes served (including the station locations) and the timing of its construction. Internationally, many nations build or extend HSR networks while also expanding their aviation capacity – the two should not be considered in a mutually exclusive manner”.***

Figure 12.3 – future high speed rail and light rail alignments



## 12.2 THE BASE CASE FOR HIGH SPEED RAIL

The Australian Government's *High Speed Rail Study* forecasts passenger numbers for the HSR of more than seven million in the nominal first year of operation in 2036. These passenger forecasts (shown in Table 12.1 below) are for a Canberra station including passengers travelling to and from Sydney and those travelling to and from a Southern Highlands station (notionally Moss Vale).

The *High Speed Rail Study* Phase 1 did not take into account any impact on passenger demand as a result of:

- KSA reaching capacity; or
- A second Sydney airport being built; or
- A second Sydney airport not being built.

The ARA contends the second Sydney airport and HSR debate are not “either, or” propositions and does not believe the Badgerys Creek announcement discounts the viability of HSR connecting Sydney and Canberra. As reported in The Australian newspaper “public support for the venture [Sydney – Melbourne] is running at 82 percent” (19 August 2014, page 4).

**Table 12.1 - HSR passenger forecasts**

Route	2036
Sydney to Canberra	3,291
Canberra to Sydney	3,291
Canberra to Moss Vale	390
Moss Vale to Canberra	390
Total Canberra Station	7,362

The *High Speed Rail Study* forecasts overall travel demand (all modes – road, rail, air) in the Sydney-Canberra corridor would increase from 5.83 million in 2009 to 10.27 million in 2036 and 14.55 million in 2056, an annual increase from 2009-2036 of 1.2 percent and from 2036-2056 of 1.8 percent. The annual increase on the Moss Vale-Canberra corridor would be 1.9 percent and 1.5 percent between 2009-2036 and 2036-2056 respectively.

**Table 12.2 - HSR travel demand growth forecast**

Route	2009 – 2036	2036 - 2050
CBR – SYD – CBR	1.2% per annum	1.8% per annum
CBR – MV – CBR	1.9% per annum	1.5% per annum

If these growth rates are applied on a five-yearly basis to the HSR passenger forecast at 2036, the passenger demand for the HSR on the Sydney-Canberra corridor, including Moss Vale, will be more than 6.8 million in 2030 and 9.4 million in 2050 as shown in Table 12.3 below.

**Table 12.3 - HSR passenger forecasts**

Route	2025	2030	2035	2036	2040	2045	2050
CBR-SYD-CBR	5,774	6,128	6,504	6,582	7,075	7,744	8,477
CBR-MV-CBR	632	696	765	780	830	897	970
Total CBR Station	6,406	6,824	7,269	7,362	7,905	8,641	9,447

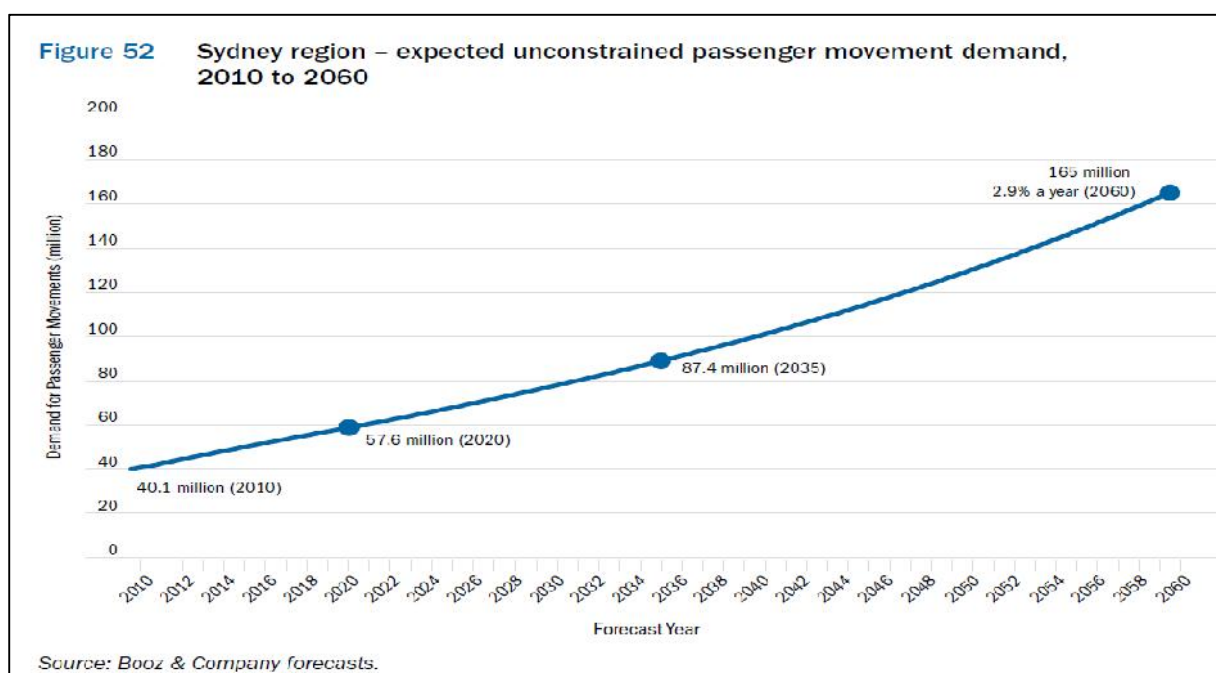
*The Joint Study* provided an indication of the likely passenger demand for HSR between Canberra Airport and Sydney in the event of a second Sydney airport not being built. This is examined below.

### 12.3 UNCONSTRAINED AVIATION DEMAND IN THE SYDNEY REGION

As illustrated in Figure 12.4 below, *The Joint Study* considered the unconstrained aviation demand forecasts for passenger numbers for the Sydney region airports as a whole (KSA, Newcastle, and Canberra Airports) and indicated they would be:

- 57.6 million in 2020;
- 87.4 million in 2035; and
- 165.0 million in 2060.

**Figure 12.4 – forecast passenger demand in the Sydney region**





## 12.4 KINGSFORD SMITH AIRPORT REACHING CAPACITY

In April 2014, following the Prime Minister's announcement to build a second Sydney airport at Badgerys Creek, Canberra Airport publicly expressed its support "The decision is long overdue, Badgerys Creek is the best site option for a second Sydney airport and it needs to be built sooner rather than later."

Whilst the Australian Government have announced Badgerys Creek, and has issued a notice to consult, it is still possible that this project may not proceed or be delayed.

*The Joint Study* forecasts KSA will reach capacity in terms of having no available slots for extra aircraft movements in 2027 and an additional airport will be required by 2030 at the latest.

The lack of available capacity will mean a growing amount of peak demand cannot be met at KSA. Modelling shows, for the busiest hour (8.00am to 9.00am), an estimated:

- Four movements of peak hour demand per day (or five percent) will not be met by 2015;
- 12 movements of peak hour demand per day (or 13 percent) will not be met by 2020;
- 30 movements of peak hour demand per day (or 27 percent) will not be met by 2035;
- 85 movements of peak hour demand per day (or 51 percent) will not be met by 2060.

Further, the demand at other hours of the day will be similarly increasing, approaching or exceeding the movement cap.

As a result of slots not being available to land aircraft, airlines will not be able to schedule services to meet demand.

International airlines proposing new services to Sydney in peak periods will need to consider whether to:

- Redistribute a proposed service to non-peak hours, if slots remain available and commercially viable;
- Redistribute to other Australian airports;

- Go to other airports internationally, representing a loss to the Australian economy (suppressed demand); or
- Not offer services at all, again representing a loss to the economy (suppressed demand).

In addition to severe road congestion gridlocking KSA at peak periods, and capacity issues on the rail network to the Central Business District from 2018, the impact of slot capacity being reached will be significant in terms of aircraft delays and reliability.

Modelling suggests by 2035 almost half of all non-cancelled movements will be late and almost 10 percent of desired movements will be cancelled.

The most severe disruptions to airline operations, and thus delays, will be in weather conditions resulting in westerly winds which will force operations onto the single cross runway with a capacity at 55 movements per hour as against the capped demand of 80 movements per hour.

KSA is sometimes affected by the passage of weather fronts and strong winds. These can produce conditions where safety requires greater spacing between aircraft conducting instrument approaches, slowing the rate of arrivals. When winds exceed 20 knots, and particularly when they are strong westerly winds (affecting the operation on parallel runways), Airservices Australia adjusts the runway operating patterns resulting in the operation of approximately 55 movements per hour (or less).

It is estimated this occurs for some period on approximately 125 days per year. Thunderstorms also curtail the Airport's operations for a few hours per month, particularly in the summer months.

As Figure 12.5, from *The Joint Study* shows, by 2035 recovery from being forced onto the cross runway by westerly winds at 7.00am for just two hours will take until 10.00pm that night (ie passengers will incur delays for the next 13 hours) and this will occur on average once every three days.

When this delay occurs every three days, the reliability of air travel into KSA will be severely undermined and the cost penalties on airlines operating into KSA will become highly problematic. It is no surprise the major domestic and international airlines support additional airport capacity.

**Figure 12.5 – displaced aircraft movements at Sydney Airport when limited to 55 movements an hour**

**Table 12**

**Impact of limiting Sydney (Kingsford-Smith) Airport aircraft movements to 55 per hour between 7.00am and 9.00am, 2010, 2015, 2020 and 2035**

Year	Number of displaced movements	Number of movements delayed by one hour <sup>1</sup>	Number of hours affected	Time of day in which schedule is recovered
2010	45	48	2	11.00am
2015	69	135	4	1.00pm
2020	75	211	5	2.00pm
2035	75	556	13	10.00pm

<sup>1</sup> After 8.59am (when the available runway slots resume to 80 movements per hour). This excludes the construct of delay created by limitation of 55 movements per hour for a two hour period.

Source: Booz & Company analysis

#### 12.4.1 CANBERRA AIRPORT AS AN OVERFLOW AIRPORT FOR SYDNEY WITH A HSR

Two key thresholds must be met for a HSR from Canberra Airport to Sydney before Canberra Airport is considered a viable overflow airport for Sydney and one that is genuinely able to meet KSA’s unmet demand. These are the travel time from Canberra Airport to Sydney and the integration and timeliness of the passenger transition from air to rail and vice versa.

The proposed HSR station at Canberra Airport is fully integrated into the aviation terminal making for a seamless transition. The train platform is elevated and is to be built at the same level as the airline check-in desks and the aerobridges for direct boarding of aircraft. The distance from the train platform to the Airport terminal entry is 215 metres. The distance from the train platform to the nearest aerobridge is 315 metres. This is an extraordinary level of integration and will facilitate transfers from air to rail in as little as five to 10 minutes without baggage and 15-20 minutes with baggage.

This quality of passenger transfer (with walking distances a fraction of most Australian domestic terminals let alone international) maximises the opportunity for the Canberra Airport to Sydney HSR solution to be highly efficient and attractive to consumers. It must be noted this opportunity would be hugely diminished if the HSR station is 500-1,000 metres from the Airport terminal and it will be lost altogether if the HSR station is elsewhere in Canberra.

The critical issue is the travel time between Canberra Airport and Sydney’s Central Business District, making this journey a viable alternative for handling KSA’s excess demand, and the logical and preferred overflow solution. As a fundamental criterion *The Joint Study* established that any second airport site must be within 90 minutes of Sydney. A HSR between Canberra Airport and Sydney with a travel time of 57 minutes clearly satisfies that criterion.

#### 12.4.2 PASSENGER FORECASTS

So what do passenger numbers look like if there is no Badgerys Creek airport? Table 12.5 shows base case passenger forecasts for the number of air passengers that would use Canberra Airport as an overflow airport for access to Sydney if it was connected by HSR. High and low case scenarios are shown in Table 12.5. The base case assumes a commencement of operation of the HSR in 2030 and forecasts additional passengers as follows:

**Table 12.5 - base case forecast for KSA overflow passengers using HSR (millions)**

Route	2030	2035	2040	2045	2050
Departing CBR	1.25	2.25	5.25	9.5	14.5
Arriving CBR	1.25	2.25	5.25	9.5	14.5
Total	2.5	4.5	10.5	19.0	29.0

These passengers are all additional train passengers over and above the *High Speed Rail Study* forecast which ignores the second Sydney Airport issue. This forecast demonstrates the KSA unmet demand is satisfied largely by the Canberra Airport HSR solution.

The high case assumes an earlier HSR operational commencement of 2025 and a higher penetration into KSA’s share of the overall air passenger demand for the Canberra Airport HSR solution, especially in the earlier years, given the high level of constraints and operational delays at and around KSA. However this shift is, in overall terms, very modest when compared with KSA’s overall traffic.

The low case assumes a later HSR operational commencement of 2033 and a lesser penetration into KSA’s share of the air passenger demand with passenger forecasts generally less than the unmet demand for KSA. This is a very conservative approach, appropriate for a low case, refer Table 12.6.

**Table 12.6 - high and low case forecasts for KSA overflow passengers using HSR arriving and departing (millions)**

	2025	2030	2035	2040	2045	2050
High case	1.0	3.5	7.5	14.5	22.0	30.0
Base case		2.5	4.5	10.5	19.0	29.0
Low case			3.6	8.4	14.3	20.3

In summary, the range of forecasts for Sydney overflow passengers using Canberra Airport and the HSR is as follows:

- In 2035, between 3.6 million and 7.5 million passengers with a base case of 4.5 million; and
- In 2040, between 8.4 million and 14.5 million with a base case of 10.5 million.

## 12.5 CAPITAL METRO - CANBERRA'S LIGHT RAIL VISION

*“Light rail can be extended through the heart of the City connecting to ... major destinations such as the airport.”*

*City to the Lake Project, [www.citytolake.com.au](http://www.citytolake.com.au)*

On the 24 September 2013, Canberra Airport released a discussion paper *Linking the Heart of Canberra by Light Rail*.

Following on from recent public interest around initiatives such as the City Plan, City to the Lake and Australia Forum, Canberra Airport believed it was timely to engage in further discussion about connecting the heart of Canberra by light rail. This proposal was developed as a contribution to the public conversation on Canberra's transport network, and to inform the development of the ground transportation plan included in this 2014 Master Plan.

Professor Alastair Swain, ACT Government Architect, stated in the City Plan:

*“A liveable city is one where the streets are pleasant pedestrian spaces that encourage people to walk and cycle while being functional for traffic and public transport. A liveable city should have a range of formal and informal public spaces that encourage gatherings and activity and attract people to the city centre. The test of the quality of our city centre – as seen through the prism of its public spaces, cultural facilities and retail spaces – will be how much it will naturally attract people from across the Territory and our broader region, and become the preferred place to visit, work and live. In terms of the quality of its attractions, whether cultural or commercial, the city should ‘balance’ the quality and attractiveness of the national area to the south of the lake. This was Griffin’s expectation, and now we have the opportunity to plan for its fulfilment.”*



## 12.5.1 LINKING THE HEART OF CANBERRA WITH LIGHT RAIL

Canberra's 100th year is a time to reflect on the history and growth of the City, as well as to plan for the future. As a planned city from the outset, based on Walter Burley Griffin's inspired design for a compact and productive city, the form and function of Canberra as a place to live, work, and play has never had greater focus. The *Territory Plan*, the *National Capital Plan*, *The Canberra Spatial Plan* and newer documents addressing particular areas such as *The City Plan*, the *City to the Lake* project, the *ACT Railway Master Plan* and the *East Lake Urban Renewal* plan all aim to address the amenity and smart future design of our City.

Similarly, Canberra Airport produces a Master Plan every five years that guides the development of the Airport over the following 20 years. A Ground Transport Plan covering the internal road network as well as connections to the rest of Canberra, including public transport, is included at Chapter 11 of this 2014 Master Plan.

Getting residents, workers, and visitors around in a timely and efficient way will be increasingly important as Canberra continues to grow. Development of precincts around the City including the North Quarter, New Acton, and Braddon has seen the revitalisation of Canberra's heart. The visions of the *City to the Lake* project and the Canberra Business Council initiated Australia Forum, further residential development along Constitution Avenue, and south of the lake at the Kingston Foreshore together with East Lake are developments that will further transform central Canberra and strengthen the need for supporting transport infrastructure that makes the City accessible without the need for motor traffic.

As Canberra's population increases, one in three new residents will opt to live in the centre of the City. Within the next 10 years, nearly 100,000 people are predicted to commute to and from work in the heart of Canberra. In addition to this doubling of workers, there will be visitors arriving on direct international flights and global events with the proposed Australia Forum new convention facility. The Australia Forum will be a major boost to the Canberra economy and is vital to assist in the diversification of the economy away from the reliance on the public sector. The Canberra Convention Bureau estimates business tourism brings almost \$1 billion each year to the local economy that will increase dramatically with a new facility.

With the *City to the Lake* project, *The Griffin Legacy*, *East Lake Urban Renewal* development (a high density urban community designed to provide an Australian showcase of sustainable development), *Kingston Foreshore Redevelopment* and numerous smaller developments being planned or underway around the lake, the number of people living in the 'heart' of Canberra will quadruple.

The Airport proposed a staged plan for light rail, encouraged community feedback, and noted the following:

*“The ACT Government has committed to Light Rail, with the City to Gungahlin route designed to relieve congestion along the arterial roads that deliver residents from Gungahlin to the City. The backbone of a Light Rail network is people travelling from home to their workplace and back.*

*However, a great opportunity exists to deliver a compact, sustainable, productive city, as envisaged by Walter Burley Griffin, by linking all the major employment nodes and emerging high density residential developments within a few kilometres of the CBD. You cannot have urban infill without supporting it with appropriate public transport.*

*Getting residents, workers and visitors around in a timely and efficient way would be increasingly important as Canberra continued to grow. The visions of the City to the Lake Project and Canberra Business Council-initiated Australia Forum, further residential development along Constitution Avenue and south of the lake at the Kingston Foreshore and East Lake were developments that would transform Central Canberra and strengthen the need for supporting transport infrastructure that made the City accessible without the need for motor traffic.*

*The key features of the proposal include the design and siting of a Light Rail network that will service major, existing and future employment, residential, hotel accommodation, national tourist attraction and transport hub locations of the Central National Area (National Capital Plan), including Canberra’s CBD, the Airport and the Parliamentary Triangle.*

*This includes consideration of how the currently disbursed precincts flanking and nearby the West, Central and East Basins of Lake Burley Griffin can be interconnected and energised by scheduled, frequent Light Rail services.*

*The opportunity for mixed use development along the new routes of the Light Rail will provide incentive for prospective private investors.*

*Like the City to Gungahlin Light Rail, this network would be taken forward ultimately by the ACT Government; but with Public-Private Partnerships proposed for the northern route, it makes sense for other routes to use the same model.*

*The expanded Light Rail network will strengthen land values for residences in the catchment area and increase the value of adjoining land sales by the ACT Government, thus boosting revenue to the government.*

*The expanded Light Rail network proposed will:*

*Accommodate the increasing transport needs of Canberrans and visitors;*

- *Build capacity in Canberra's transport choices;*
- *Add life to the heart of Canberra;*
- *Help realise the vision for Canberra as a compact, sustainable and productive City;*
- *Enhance existing public transport systems through complementary scheduling and routes;*
- *Help deliver the ACT Government's major planning and development projects for the National Capital; City to the Lake, Kingston Foreshore, the Griffin Legacy and the East Lake development, as well as other development proposals like the Australia Forum;*
- *Drive economic activity along the proposed routes;*
- *Boost ACT Government revenue from land sales;*
- *Appeal to private investors due to its staged approach and usage potential".*

*Linking the Heart of Canberra by Light Rail,  
Canberra Airport Media Release, 24 September 2013*

Meanwhile, more than 30,000 people currently travel to and from Canberra Airport to fly, greet, work, do business or shop, every day. These numbers will more than double within the next decade.

While staying true to Burley Griffin's vision for a compact and productive City, our future transport system needs to support this growth efficiently and sustainably and give us more choice on how to get to and from where we live, work, and play.

The backbone of a light rail network is people travelling from home to their workplace and back. Linking all the employment nodes and high density residential developments within kilometres of the City will deliver a compact, sustainable City, which is important for the future. You cannot have urban infill without supporting it with appropriate public transport.

Further, with light rail already on the ACT transport horizon through the Capital Metro initiative, expanding the network from the proposed City-Gungahlin route, in a staged approach, has the potential to more effectively link central Canberra's major transport, residential, commercial, tourism, defence, and government precincts. Plus the ability to move more passengers will deliver more utility in a planning sense.

## 12.5.2 THE LIGHT RAIL NETWORK SHOULD LINK MAJOR DESTINATIONS IN CENTRAL CANBERRA

The key features of the Airports proposal include the design and siting of a light rail network that will service the major existing and future employment, residential, national tourist attraction, and transport hub locations of the Central National Area (*National Capital Plan*), including Canberra's Central Business District in the City, the Airport and the Parliamentary Triangle. This includes consideration of how the currently disbursed precincts flanking and nearby the West, Central and East Basins of Lake Burley Griffin can be interconnected and energised by scheduled, frequent light rail services. It proposes to link Canberra's main commercial centre in the City with the City's Airport and to link both with the HSR, whether the terminal is at the Airport or the City.

A three-stage development is proposed to meet current needs, plans for future growth, and allow the investment needed to be accounted for in future budgets. The proposed network design captures existing sites, development underway and proposed future development. Timetables could be scheduled for use as multi-stop or express services including programmed interchanges with the bus network to satisfy pick up and destination demand on and off commuter peak times.

### **Stage 1: East to West - from the City to the Airport**

Services destinations between Canberra City and Canberra Airport including City to the Lake (National Museum, Aquatic Centre), New Acton, Canberra City, Australia Forum convention facility, Canberra Institute of Technology and new stadium, Anzac Parade (Australian War Memorial), Australian Security Intelligence Organisation, Russell Hill, Royal Military College Duntroon/University of NSW Australian Defence Force Academy, HSR Station and Canberra Airport terminal.

### **Stage 2: Bridge to Bridge - the Parliamentary Triangle**

Extends the network from Russell Hill, over Kings Avenue Bridge, and services the Parliamentary Triangle including Parliament House, the national attractions, and government departments, then continues over Commonwealth Avenue Bridge, servicing Regatta Point and rejoins the east to west route.

### **Stage 3: Eastern Loop – inner South and Fyshwick**

Extends the network from south of Kings Avenue Bridge, and services Parliament House, Manuka (including Manuka Oval), Kingston Foreshore, East Lake, and Fyshwick, then rejoins the east to west line at Canberra Airport, thus completing the circuit.

The opportunity for mixed use development along the new routes of the light rail will provide incentive for prospective private investors. Like the City to Gungahlin Light Rail, these routes would ultimately be taken forward by the ACT Government, but with public-private partnerships proposed for this northern route, it makes sense for other routes to use the same model. The expanded light rail network will strengthen land values for residences in the catchment area and increase the value of adjoining land sales by the ACT Government thus boosting revenue to the government.

The ACT Government has committed to spending around \$20 million a year in scoping the City-Gungahlin Light Rail and the City Plan will also provide context for further staging of the Capital Metro Light Rail project.

### 12.5.3 CAPITAL METRO

As the authority responsible for public transport in Canberra, the ACT Government has taken the lead on light rail with the formation of Capital Metro. Below is an extract from the Capital Metro Website <<http://www.capitalmetro.act.gov.au>>.

***Capital Metro is Canberra's Light Rail project and an important part of the ACT Government's vision to deliver a truly sustainable and creative city as set out in The Canberra Plan (2008).***

***The world's best and most liveable cities all have excellent transport systems, designed and planned in tandem with land use to create walkable, people friendly communities with a range of transport options.***

***Transport is critical to our vision of a sustainable city and the Transport for Canberra strategy has set the foundation for transport planning over the next 20 years. It aims to create a transport system that puts people first and links new development to investment in public transport.***

***However, Capital Metro is not just a transport project. Experience in over 400 locations worldwide has shown effective and reliable light rail solutions can attract investment and employment opportunities, bring environmental benefits and encourage more active lifestyles.***

***Light rail has proven to transform cities into more productive, sustainable and liveable places. These broader benefits make light rail the right choice for one of Canberra's busiest and fastest growing corridors between the City and Gungahlin.***



**Figure 12.6 – future light rail**



#### 12.5.4 THE PORTLAND (USA) EXPERIENCE

Mr Shane Rattenbury, MLA, ACT Minister for Territory and Municipal Services, in an opinion piece in the Canberra Times, on 27 November 2013, acknowledged the effective impact of light rail on Portland (USA) especially the station at Portland Airport connecting passengers to the City, amongst other issues:

*“Portland is widely regarded as being the “greenest” City in the US and a leader in innovative projects. One of its main attractions is its light rail and streetcar system, often cited as one of America’s most successful.*

*On its surface Portland appears quite different to Canberra. It’s obvious as soon as you disembark at the airport and a light rail service offers a \$2 ride to the City. In fact, Portland has more than 100 kilometres of light rail and street cars. While Portland City has about 580,000 people, its surrounding region provides a base population of nearly two million - much greater than Canberra’s.*

*Different as it seems, elements of Portland provide a glimpse of Canberra's possible future. Several people who have experienced both Canberra and Portland told me that "Canberra reminds me of Portland 15 or 20 years ago."*

## 12.6 CONCLUSION

Canberra Airport supports the ACT Government's ambition of an efficient and sustainable public transport system within a creative and compact City. The government's objectives are unchanged for over 10 years since the 2003 ACT *Economic White Paper* acknowledgement of "the importance of excellent transport connections" - between the Airport and the City.

*Leading world cities leverage off their airports to achieve excellent transport connections and reap the economic and social benefits of jobs growth arising from expanding tourism, trade, and commerce.*

Sydney needs a second airport because KSA will be at capacity by 2027 and is forecast to reach 74.7 million passengers out of a total Sydney region airport demand of 87.4 million in 2035. Unmet passenger demand into Sydney will be three million by 2035 rising to 10.5 million by 2040 and 19 million by 2045, due to KSA's growth constraints.

If Badgerys Creek is not built the consequences will be significant. *The Joint Study* finds:

***"By 2060, the economy wide (direct and flow-on) impacts across all sectors of the Australian economy could total \$59.5 billion in foregone expenditure and \$34.0 billion in foregone gross domestic product (GDP) (discounted to 2010 dollars).***

***The number of total jobs that will not be created is estimated to grow over time as unmet demand increases. In 2060 alone, the annual estimate of foregone jobs is approximately 57,000 in NSW and 77,900 nationally."***

With HSR from Canberra Airport, passengers will reach the Sydney Central Business District in 57 minutes – faster than from Wilton, Badgerys Creek and even KSA given the ground transport forecasts.

HSR from Canberra Airport to the Sydney Central Business District would cost about the same as building a new airport at Wilton - \$11 billion.

Canberra Airport has the capacity to absorb the unmet KSA demand. With HSR, in 2035 between 3.6 million and 7.5 million passengers would access Sydney Central Business District via this mode and by 2040, between 8.4 million and 14.5 million passengers will do so. Airlines will choose Canberra as their port because with HSR they can deliver their passengers into the Sydney Central Business District in under an hour and with superior frequency and certainty to the experience they will get via an over-subscribed KSA.

Passenger demand for HSR between Canberra and Sydney is boosted significantly from the KSA overflow; 37 percent in 2030, 62 percent by 2035 and 133 percent by 2040, by which time some 18.4 million passengers would be utilising the service.

This demonstrates more than enough demand to make HSR from Canberra Airport to Sydney Central Business District a viable and logical solution for Sydney's aviation capacity challenge.

The realisation of the opportunities to integrate HSR and light rail at Canberra Airport Travelport will:

- Deliver a logistic competitive advantage to Canberra and the Region trade and commerce; and
- Drive the benefits of decentralisation opportunities to the Canberra region plus one hour.

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CHAPTER 13  
AIRSPACE PROTECTION

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**"...IN THE INTEREST OF THE SAFETY, EFFICIENCY AND REGULARITY OF  
FUTURE AIR TRANSPORT OPERATIONS."**

**AIRPORTS (PROTECTION OF AIRSPACE) REGULATIONS 1996**



## 13 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.

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 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;
- 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.

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 13.1 and Figure 13.2.

The future declared OLS and PANS-OPS surfaces allow for some future growth of the Airport, including development considered under this 2014 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 or future air transport operations.

Canberra Airport is working with the Department of Infrastructure and Regional Development, CASA and Airservices Australia regarding the opportunity to upgrade runway 35 ILS to Category II and in the future to Category III. As part of these discussions Canberra Airport is undertaking a review of the prescribed airspace. This review is expected to be completed later in 2014. Local planning authorities have been formally advised of the review and that Canberra Airport will undertake consultation with the planning agencies once a draft has been finalised with the Department of Infrastructure and Regional Development, CASA and Airservices Australia.

Any amendments to prescribed airspace declared under the *Airports (Protection of Airspace) Regulations 1996* can be obtained by contacting Canberra Airport.









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**CHAPTER 14**  
**AIRCRAFT NOISE**

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“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 AND REGIONAL DEVELOPMENT



## 14 Aircraft noise

This Chapter discusses the impact of aircraft noise on the community. The noise abatement areas covering all Canberra suburbs (Figure 14.15) 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.

Canberra Airport's Aircraft Noise Policy is outlined in Section 14.5, 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 to households remaining under flight paths.

### 14.1 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 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 fuelled 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.

There is no simple definition of what is an 'acceptable level' of aircraft noise due to the subjective nature of aircraft noise impact. As Mr Ron Brent, Aircraft Noise Ombudsman has noted: "Unbearable noise for one person might not be of any concern at all to another." When considering purchasing a house in the region it is important people understand they have a responsibility to be informed about aircraft noise, current and future, while making a decision about purchasing property. There are a number of ways in which aircraft noise can be described as outlined in Section 14.4, Describing Aircraft Noise.

In addition to disclosing various metrics of aircraft noise in this 2014 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 working with the NSW Department of Planning and Environment to encourage local governments around Canberra Airport to issue aircraft noise notifications via a 149(2) Planning Certificates during a property transaction.

#### 14.1.1 NSW GOVERNMENT 149 PLANNING CERTIFICATES

The NSW Government is considering issuing planning certificates under subsection 149(2) of the *Environmental Planning and Assessment Act 1979*, notifying prospective purchasers of property within South Tralee of aircraft noise.

Similar to the notification issued to purchasers at Tralee, Canberra Airport has suggested the notification read:

***This land is subjected to aircraft noise at any time 24 hours a day, 7 days a week by the passenger, freight and defence aircraft flight operations arriving and departing Canberra Airport.***

***The frequency of aircraft movements and the size of 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.***

This notification will work towards implementing the former Planning Minister's position of:

***"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".***

#### 14.1.2 TRALEE

In addition to notification of aircraft noise by way of a 149(2) Planning Certificate, prospective home buyers at Tralee will be also be made aware via Section 88B Instruments on title that all homes must be built to comply with Table 3.3 in 2021-2000 Australian Standard - *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 2014 Master Plan, the Canberra Airport Website [www.canberraairport.com.au](http://www.canberraairport.com.au), the Airservices Australia Website [www.airservicesaustralia.com](http://www.airservicesaustralia.com), and the Aircraft Noise Website [www.aircraftnoise.com.au](http://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 of this information in detail.

## 14.2 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 87 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, these planning outcomes ensure Canberra, Queanbeyan, and the surrounding regional communities are largely protected from aircraft noise. Figure 14.2 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 around 900,000 people.

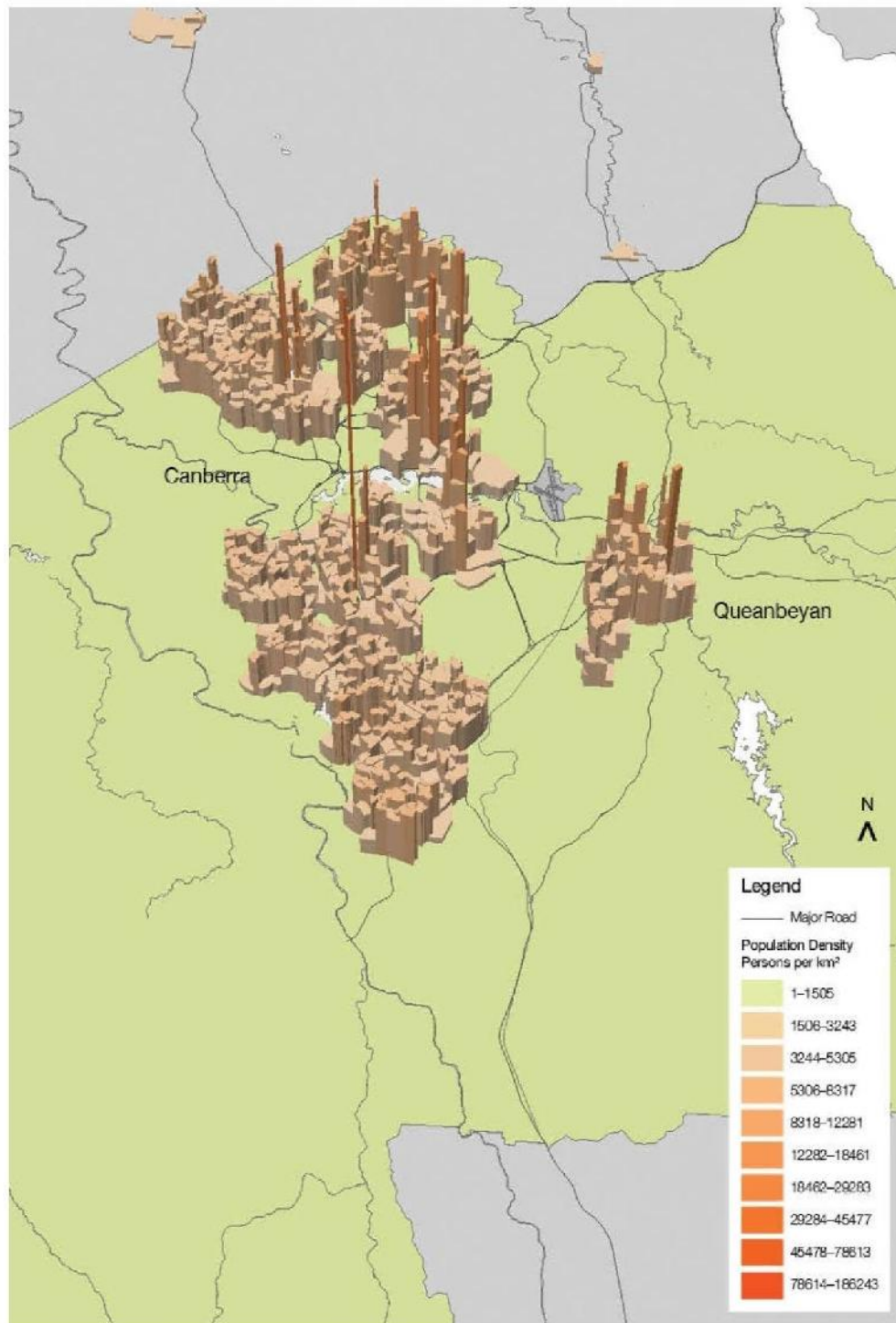
Canberra Airport continues its commitment to the noise abatement areas in this 2014 Master Plan and anticipates they will remain the cornerstone of the noise management framework for aviation operations in the region.

**Figure 14.1- mass fly-past of aircraft at the opening of Parliament, 9 May 1927**



**Figure 14.2 - population density in Canberra and Queanbeyan**

Population density in Canberra – Queanbeyan



### 14.3 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 ultimate practical capacity of the airfield including 24 hour unrestricted operations.

Ultimate practical capacity is a term used to describe the annual capacity of airfield infrastructure and associated airspace to facilitate anticipated aircraft. The ultimate practical capacity of the current Canberra Airport airfield has been assessed as 282,000 fixed wing movements a year, and includes 24 hour a day operations, this equates to one movement every two minutes.

Some Airport stakeholders including the Queanbeyan City Council and the Jerrabomberra Residents Association continue to hold the view current night time operations at Canberra Airport should be restricted.

It is important to note the noise metrics show the majority of homes currently built in the ACT and Queanbeyan now, or at ultimate practical capacity, are not expected to be severely impacted by aircraft noise:

- Figure 14.3 illustrates the increase in the noise footprint from the 2012 N60 contours compared to the ultimate practical capacity N60 contours;
- Figure 14.4 illustrates the increase in the noise footprint from the 2012 N65 contours compared to the ultimate capacity contours N65 contours; and
- Figure 14.5 illustrates the increase in the noise footprint from the 2012 N70 contours compared to the ultimate capacity contours N70 contours.

These Figures indicate however there are already members of our community (who are in between the Canberra and Queanbeyan Noise Abatement Areas) in NSW who are subjected to aircraft noise and further, as aircraft movements and the size of aircraft increase over the years, more houses and more residents in NSW will be impacted by noise. Some residents will not be troubled by this whilst others will be severely affected.

It is important that as members of the community make their housing choices, they are aware of the extent of night time noise.

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.

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 Hon 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”.***<sup>7</sup>

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”***<sup>8</sup>.

The Australian and NSW Government *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”***<sup>9</sup>.

The *ACT Planning Strategy (2012)* also confirms support for the continued 24 hour operation of Canberra Airport.

***“Supporting Canberra Airport to operate over 24 hours will give the region a logistical advantage in the distribution of goods and produce”***<sup>10</sup>.

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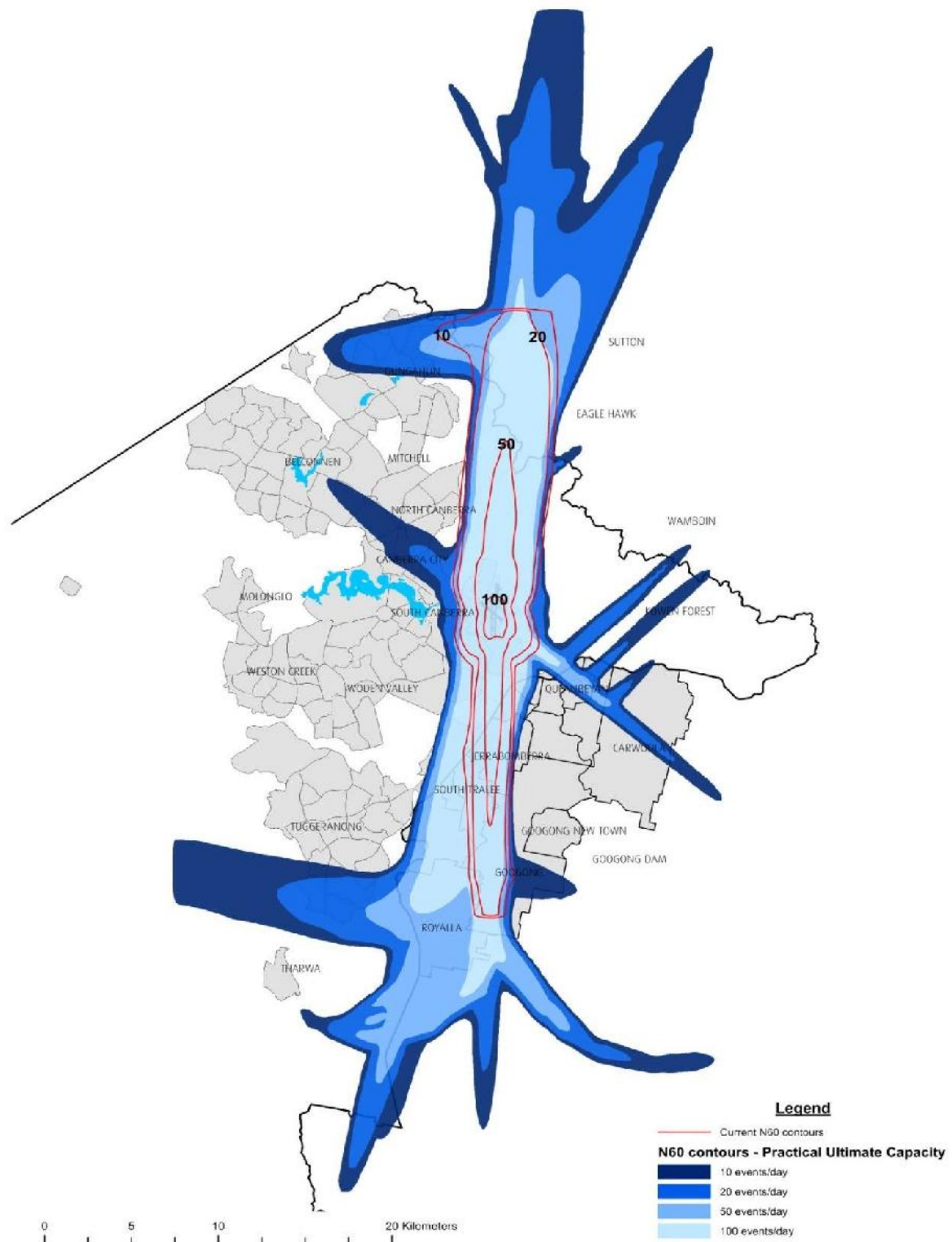
<sup>7</sup> Hazzard, B. 2012. *Tralee Rezoning will Deliver More Housing and Allow Canberra Airport to Grow*[media release].

<sup>8</sup> Australian Government. 2009. *National Aviation Policy White Paper*. Page 214.

<sup>9</sup> Mrdak, M et al. 2012. *Joint Study on Aviation Capacity in the Sydney Region*. Page 23.

<sup>10</sup>ACT Government, *ACT Planning Strategy (2012)*. Page 21.

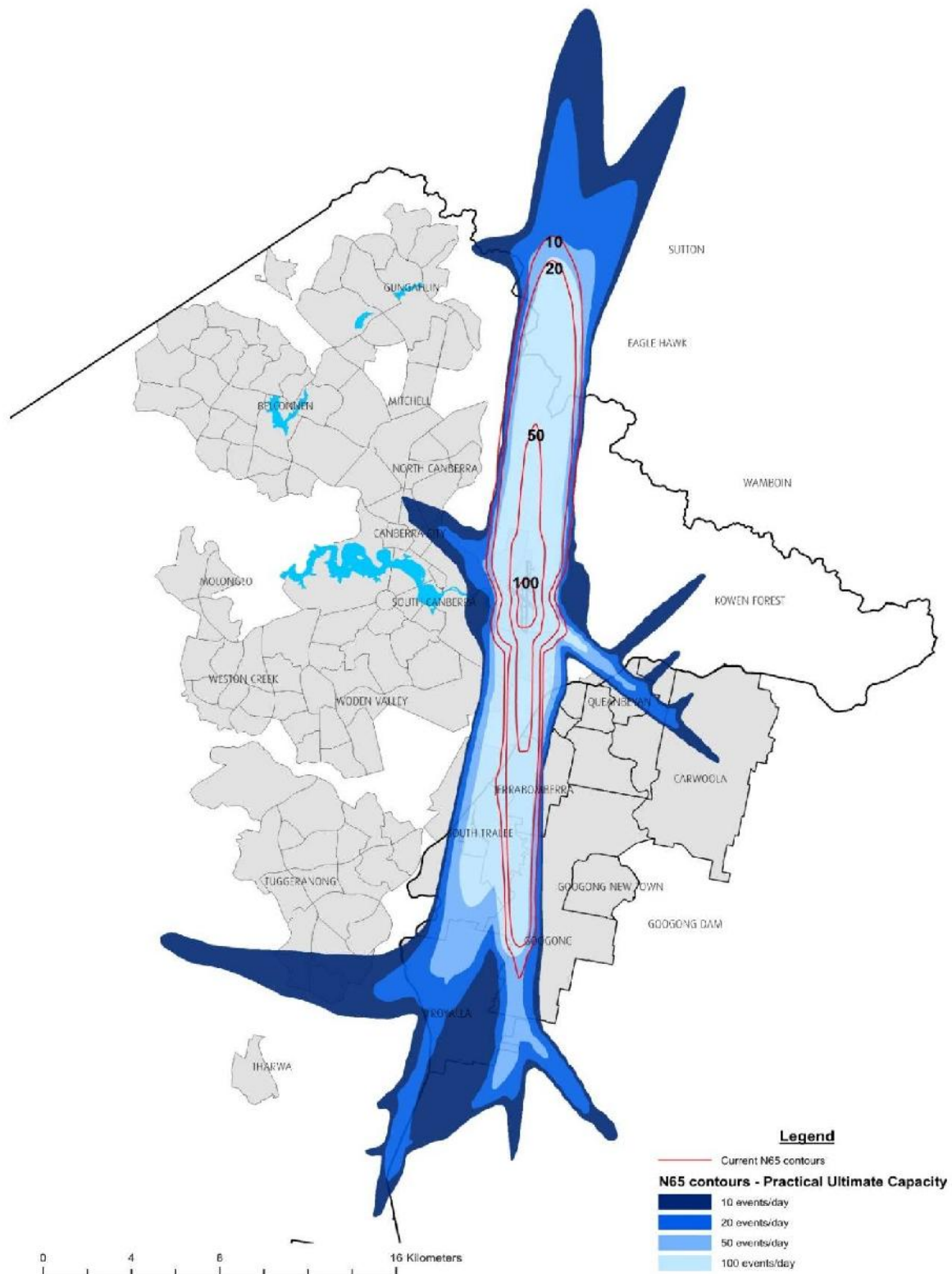
**Figure 14.3 - comparison of N60 contours now to ultimate capacity**



This is a plan of the areas receiving a sound level of 60dB(A) and above in 2012 compared to ultimate capacity. Each contour shows the average number of times 60dB(A) is/will be reached in 24 hours.

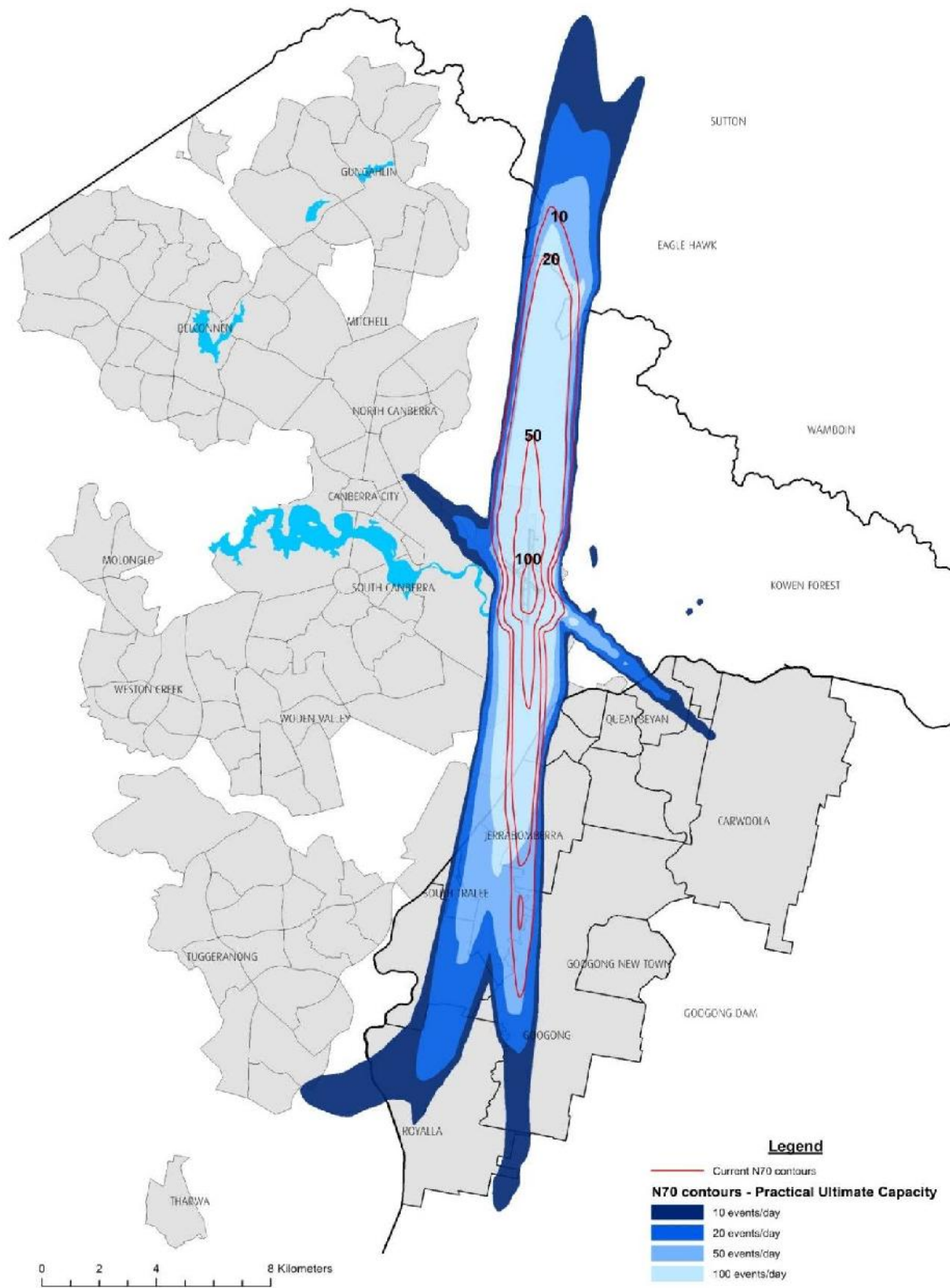


**Figure 14.4 - comparison of N65 contours now to ultimate capacity**



This is a plan of the areas receiving a sound level of 65dB(A) and above in 2012 compared to ultimate capacity. Each contour shows the average number of times 65dB(A) is/will be reached in 24 hours.

**Figure 14.5 - comparison of N70 contours now to ultimate capacity**



This is a plan of the areas receiving a sound level of 70dB(A) and above in 2012 compared to ultimate capacity. Each contour shows the average number of times 70dB(A) is/will be reached in 24 hours.

## 14.4 DESCRIBING AIRCRAFT NOISE

***“It is important to look at aircraft noise in as many different presentations as possible”.***

***Ron Brent, Aircraft Noise Ombudsman***

The ANEF, outlined later in this Chapter at Section 14.6.3, is not useful in describing the level or frequency of aircraft noise. As the Aircraft Noise Ombudsman (ANO) points out:

***“it is impossible to convert an ANEF rating into a description of what the noise will be like.”<sup>11</sup>***

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 below in Section 14.5.4. The ANO states:

***“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 14.4.2);
- Flight Paths (Section 14.4.3); and
- Single Event Noise Footprints (Section 14.4.4).

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<sup>11</sup> Brent, R. 2013 *The Truth About Aircraft Noise* p2.

The area of land 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 ANO adds:

***“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 is 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.

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.

#### **14.4.1 THE TRUTH ABOUT AIRCRAFT NOISE**

In January 2013, Mr Ron Brent, 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. After more than two years in the job the ANO sheds light on the future of aircraft noise management in Australia:

***“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.

#### 14.4.2 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)]”<sup>12</sup>.

Figures 14.3, 14.4 and 14.5 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 ultimate practical capacity as that used to prepare the 2008 ANEF as publicly consulted upon in the same year. 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 closed overnight between 11pm and 6am.

#### 14.4.3 FLIGHT PATHS

This 2014 Master Plan depicts the flight paths at and around the Airport in two ways; the 2012 actual aircraft flight tracks and expected future flight tracks. The depiction of future flight tracks shows the main flight paths to operate in the future.

Figure 14.6 shows the actual departure (green) and arrival (red) tracks for jet aircraft operating to and from Canberra Airport in January to June 2012. These tracks are recorded by Airservices Australia. The image does not show the noise impact of each individual aircraft, which can be better understood by examining Single Event Noise Contours for various aircraft as displayed in Figures 14.10, 14.11 and 14.12.

The expected future flight paths are substantially similar to the existing flight paths into and out of Canberra Airport, with additional GPS and RNP approaches, such as the offset RNP approach modelled in the endorsed Ultimate Practical Capacity ANEF.

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<sup>12</sup> Department of Transport and Regional Services. 2000.



The arrival, departure, and circuit flight paths modelled in the endorsed 2008 Ultimate Practical Capacity ANEF are shown in Figures 14.7, 14.8 and 14.9.

In December 2008, Airservices Australia also introduced a public web-based aircraft noise and flight path monitoring service known as WebTrak<sup>13</sup>, where actual aircraft events can be tracked and noise readings viewed on the Airservices Australia Website by members of the public.

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<sup>13</sup> ([www.airservicesaustralia.com/aircraftnoise/webtrak](http://www.airservicesaustralia.com/aircraftnoise/webtrak))

Figure 14.6 - actual jet flight paths January to June 2012





Figure 14.7 - arrival flight paths

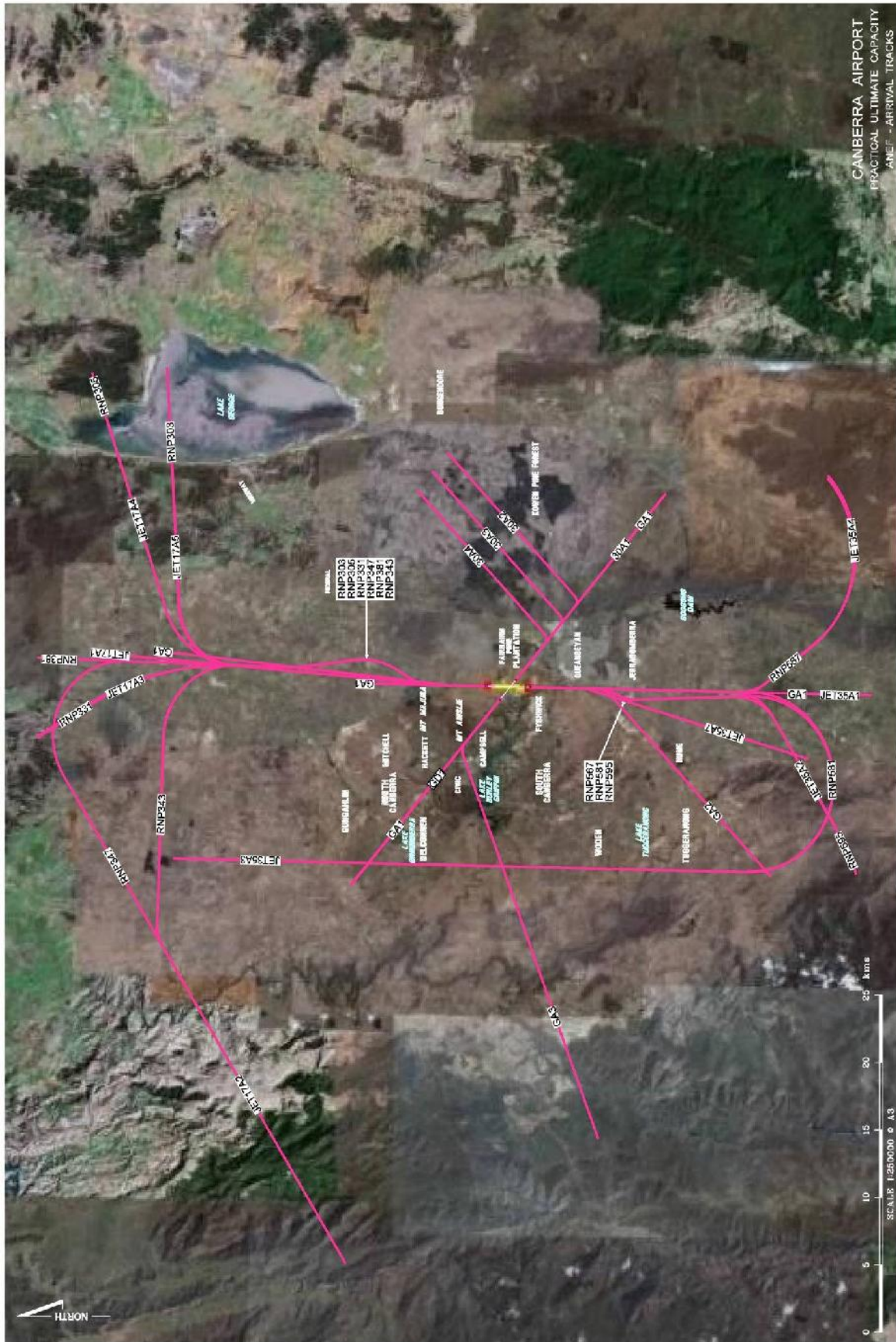


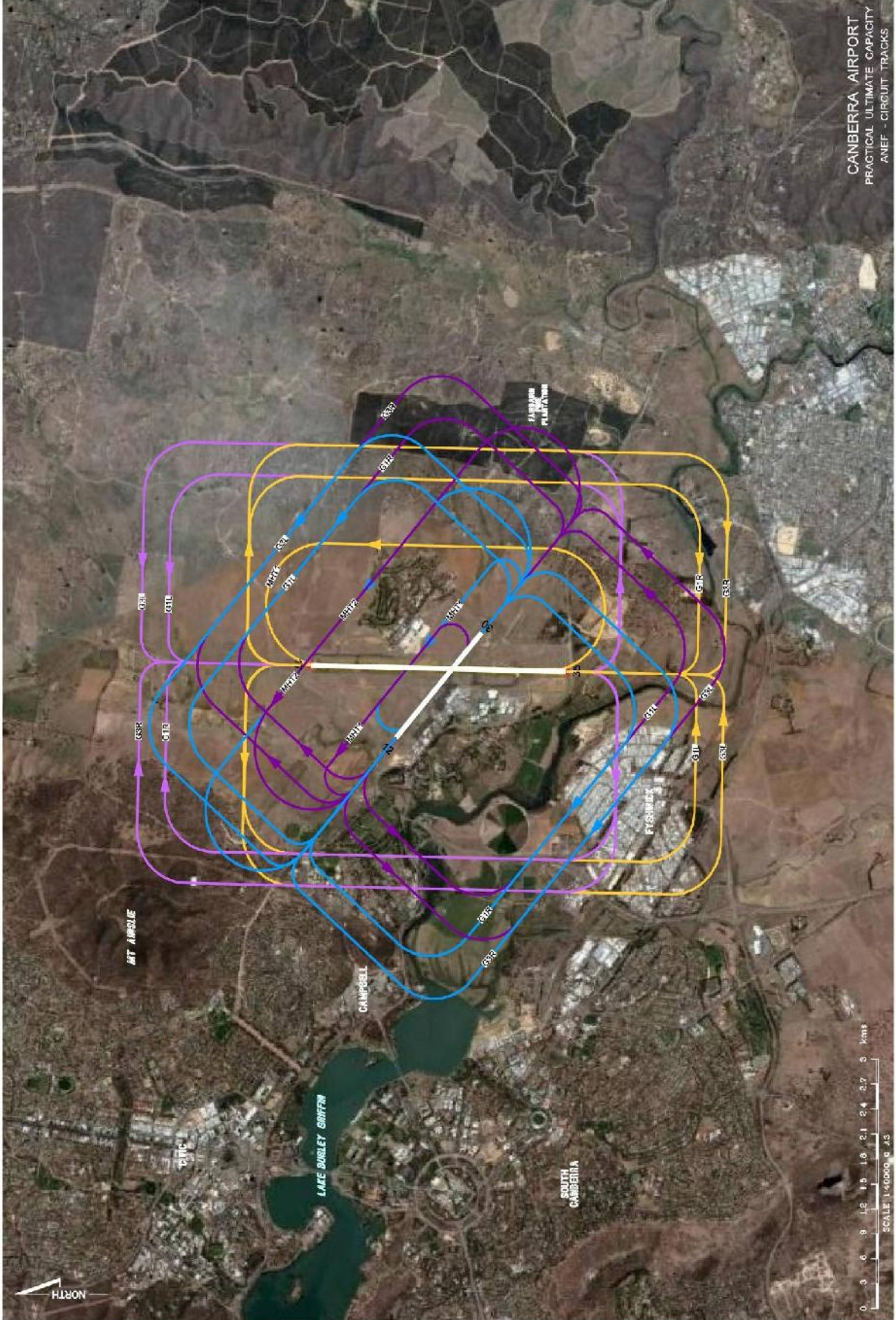


Figure 14.8 - departure flight paths





Figure 14.9 - circuit flight paths





#### 14.4.4 SINGLE EVENT NOISE CONTOURS

The Single Event Noise Contours of representative aircraft operating on existing Canberra Airport flight paths are depicted in Figures 14.10, 14.11 and 14.12, showing the noise footprint at maximum load of a:

- Boeing 737-800;
- Boeing 787-800; and
- Dash 8-300 (cross runway).

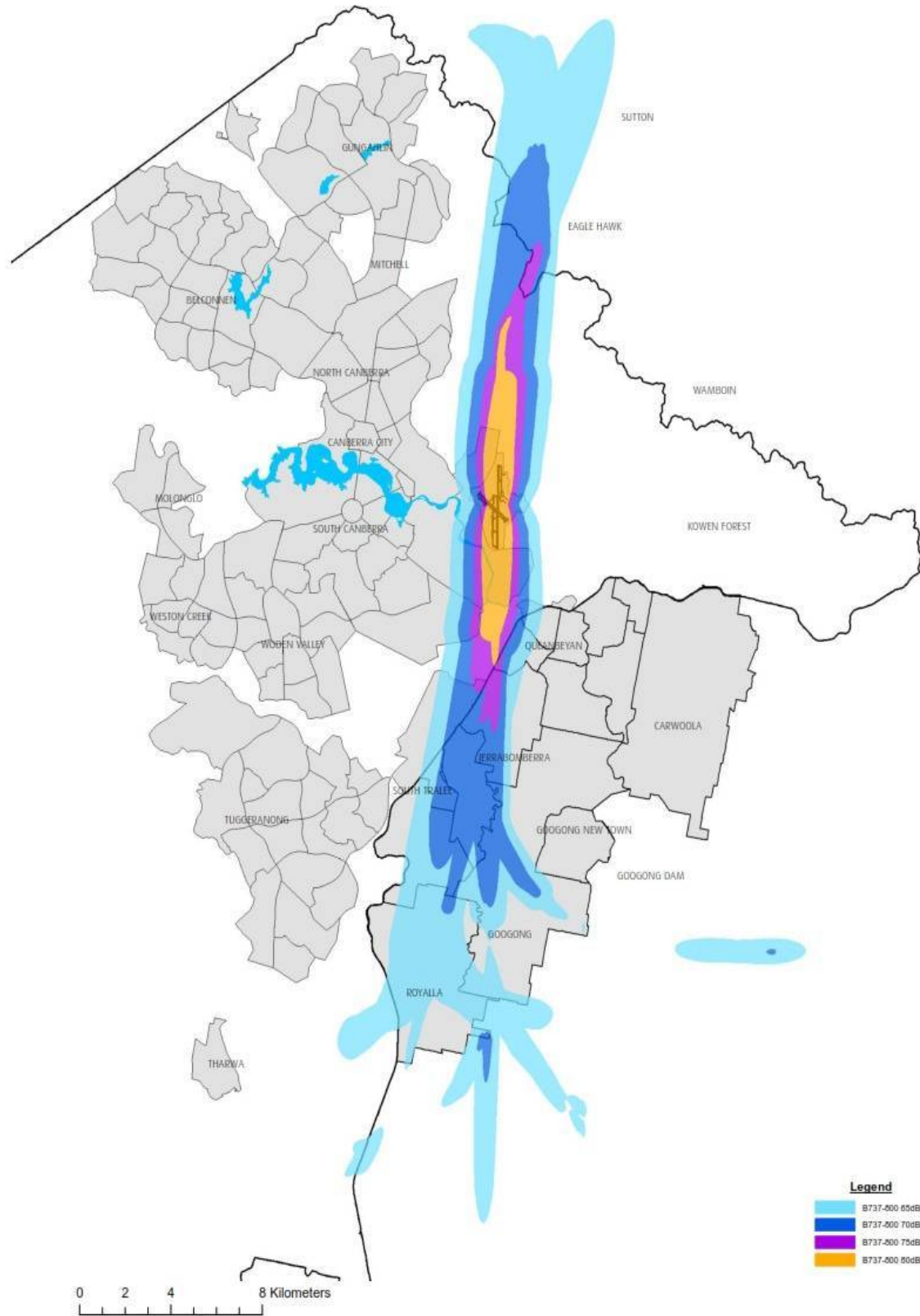
These Figures illustrate the extent of aircraft noise 65 dB(A) and above.

The Boeing 737-800 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 737-300 and Boeing 747-800 freight aircraft are illustrated in Chapter 6 of this 2014 Master Plan.

These five aircraft types have been chosen for inclusion in this 2014 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 14.10 - single event noise contour – Boeing 737-800**



**Figure 14.11 - single event noise contour – Boeing 787-800**

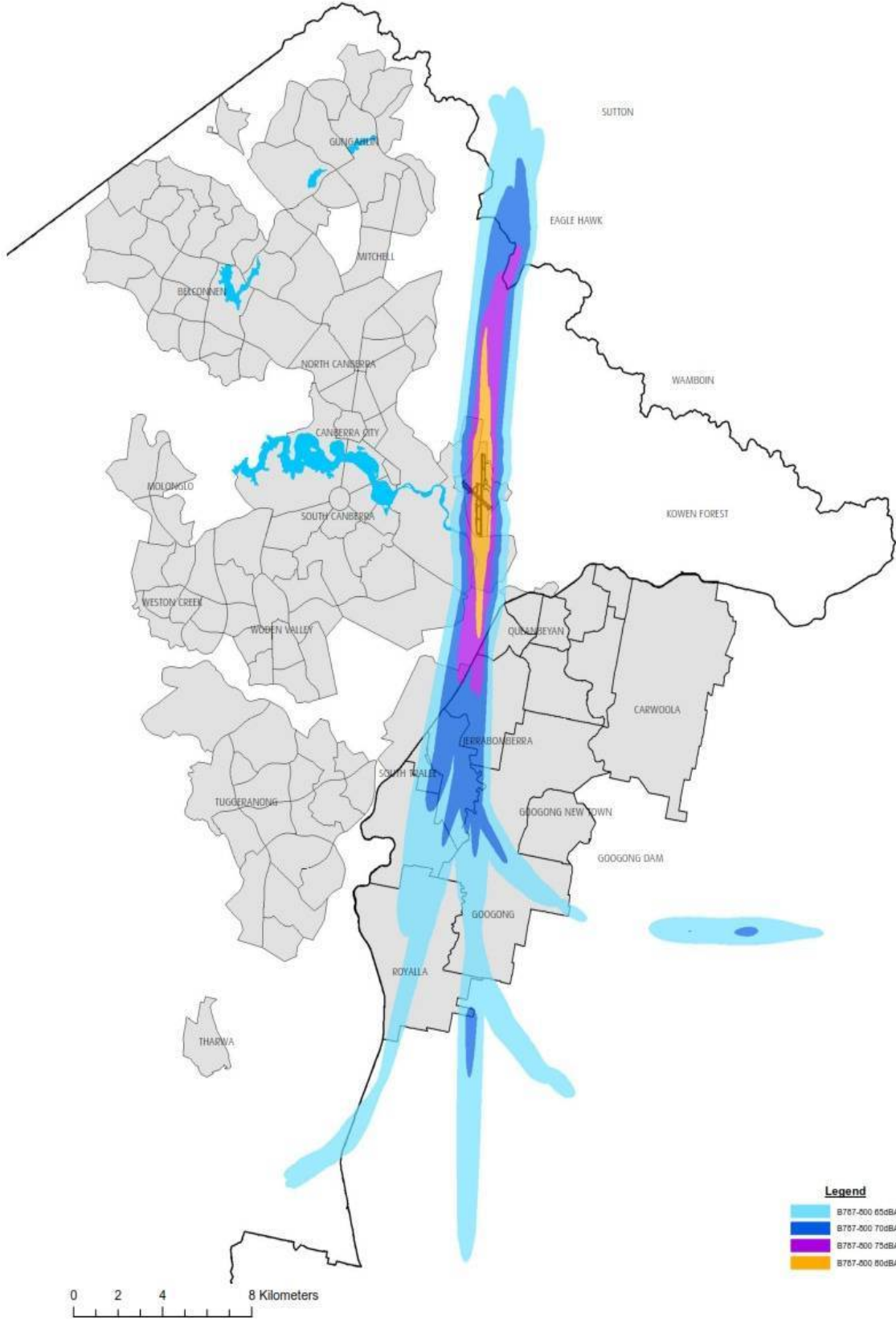


Figure 14.12 - single event noise contour - Dash 8-300 (cross runway)



## 14.5 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:

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.

## 14.6 REDUCTION OF NOISE AT SOURCE

The *Air Navigation (Aircraft Noise) Regulations 1984 (Commonwealth)* require all aircraft operating in Australian airspace to comply with noise standards and recommended practices introduced under the Convention on Civil Aviation. These standards comply with ICAO's *Annex 16 - Environmental Protection* last revised in 2012.

The former Australian Government outlined its intention in the *National Aviation Policy White Paper* to update the *Aircraft Noise Regulations 1984* to restrict the operation of marginally compliant Chapter 3 Aircraft, particularly at noise sensitive times.

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.

### 14.6.1 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.***



In 2009 the then Australian Government released the *National Aviation Policy White Paper* which foreshadowed consultation with state/territory and local governments to develop a framework to protect airports as well as the communities around them.

With respect to aircraft noise, the general outcome sought was to minimise the construction of sensitive developments in areas affected by aircraft operations.

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.

#### 14.6.2 NSW GOVERNMENT 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 Hon Pru Goward MP, Minister for Planning and the Environment, advised in June 2014 “I have determined not to proceed with its 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, 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.”

The policy resulted in:

- No future rezoning of rural land for residential suburb purposes within Canberra Airport’s 2008 ANEF 20. This is consistent with the NSW Planning Minister’s decision to rezone only the western part of South Tralee (Queanbeyan Local Government area) in November 2012 but exclude any residential development within 2008 ANEF 20 contour;

- Housing will be required to be noise attenuated in compliance with Table 3.3, AS2021-2000 Australian Standard.

### 14.6.3 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 ACT and NSW Governments and councils to make informed planning and development decisions. The system is underpinned by Australian Standard AS2021-2000. 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 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.

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 2008 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 model, and the other a detailed meteorological analysis to model actual and theoretical runway capacity. The ANEF takes into account terrain, altitude, and temperature and is modelled on nil wind.

The 2008 ANEF also underwent significant community consultation to garner community and industry input. Following over six months of review and refinement, and after a decision by the full bench of the Federal Court of Appeal in April 2008, Airservices Australia endorsed the ANEF for technical accuracy in June 2008 in the manner approved by the Minister. This is the current ANEF endorsed by Airservices Australia for Canberra Airport and is provided at Figure 14.13. For ease of reference it is also reproduced at Figure 14.14.

The 2008 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 capacity with the threshold shifted as proposed in Chapter 9.

Canberra Airport's current 2008 ANEF underwent a highly comprehensive assessment and unprecedented scrutiny on its journey to endorsement in 2008, and since then has been referred to extensively throughout NSW Government planning debate and decisions to rezone land. Importantly, today it remains as the NSW reference for land use planning around the Airport.

The NSW Government policy for land use around airports generally applies the Australian Standard AS2021-2000 for an ANEF25 contour however for Canberra Airport it is the 2008 ANEF20 contour. Rezoning for residential development around Canberra Airport will not occur within the 2008 ANEF20 contour, and development adjacent and outside the ANEF20 contour will be subject to noise amelioration in accordance with Table 3.3 of Australian Standard AS2021-2000

The NSW policy has essentially been in place since November 2012 when the decision was made to only rezone land for residential development at South Tralee outside the 2008 ANEF20 contour, with conditions applied for noise amelioration beyond this contour. In July 2014 NSW Planning and Environment confirmed the "policy position remains that rezonings for large scale urban release within ANEF20 for Canberra Airport are not supported"<sup>14</sup>. It is not appropriate to move the goal posts by developing a new ANEF less than 24 months after the NSW Planning policy position and associated rezonings have been resolved and indeed it would precipitate a new policy debate over which ANEF should apply.

Further, in 2013 written comments were made by Mr John Barilaro MP, the NSW Government Member for Monaro, and the Queanbeyan City Council, both expressing concern at the possibility of the ANEF20 contour expanding if/when the 2008 ANEF was updated<sup>15</sup>. In particular, Queanbeyan Council suggested the policy be revised to specifically clarify the current 2008 ANEF would continue to be applied for land use decisions.

***"To prevent any increase in residential densities of land located within the Australian Noise Exposure Forecast (ANEF) as identified in Canberra Airport's Ultimate Practical Capacity ANEF endorsed for technical accuracy by Airservices Australia on 12 June 2008."***<sup>16</sup>

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<sup>14</sup> Pearson, R. Deputy Secretary, Housing, Growth and Economics, NSW Department of Planning and Environment, 29 July 2014.

<sup>15</sup> Barilaro, J. Member for Monaro *Proposed s117 Direction – Draft Ministerial Section 117 Direction Development near Canberra Airport*. 26 April 2013.

<sup>16</sup> Chapman, G. General Manager, Queanbeyan City Council. *Draft Planning Proposal – Canberra Airport*. 10 May 2013.

Further Queanbeyan City Council stated “Council has accepted the current endorsed Ultimate Practical Capacity ANEF as the basis for land use planning in South Jerrabomberra and by doing so taken a conservative approach to land use planning”<sup>17</sup>. It would be illogical and inappropriate to deliberately act contrary to this settled position and the express wishes of the Council by developing a new ANEF.

Since late 2012 when rezoning for South Tralee was approved to the south of the Airport there has been much talk among all levels of government about striking a balance between land use and Canberra Airport’s long term aviation operations. The use of the 2008 ANEF in this 2014 Master Plan is Canberra Airport’s commitment to the balance that has been struck. Canberra Airport places its trust in the debate and ultimate decision reached on South Tralee, and supports the continued use of the existing 2008 ANEF because to do otherwise would place in jeopardy the NSW Government policy and with it the standard of protection provided to residents of land yet to be rezoned.

Canberra Airport remains committed to working alongside governments and the community to achieve the right protections for the community from aircraft noise. The 2008 ANEF was used to develop the NSW Government’s existing land use planning policy, and its continued use in this Master Plan is required to support NSW Government land use policy around Canberra Airport.

**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.**

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 NSW Government “policy position remains that rezonings for large scale urban release within ANEF 20 for Canberra Airport are not supported”.<sup>18</sup>

The ANO describes the ANEF:

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<sup>17</sup> Ibid.

<sup>18</sup> Pearson, R. Deputy Secretary, Housing, Growth and Economics, NSW Department of Planning and Environment, 29 July 2014

*“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”.*<sup>19</sup>

Figure 14.15 illustrates the growth in contour 20 from 2012 to the Ultimate Practical Capacity ANEF.

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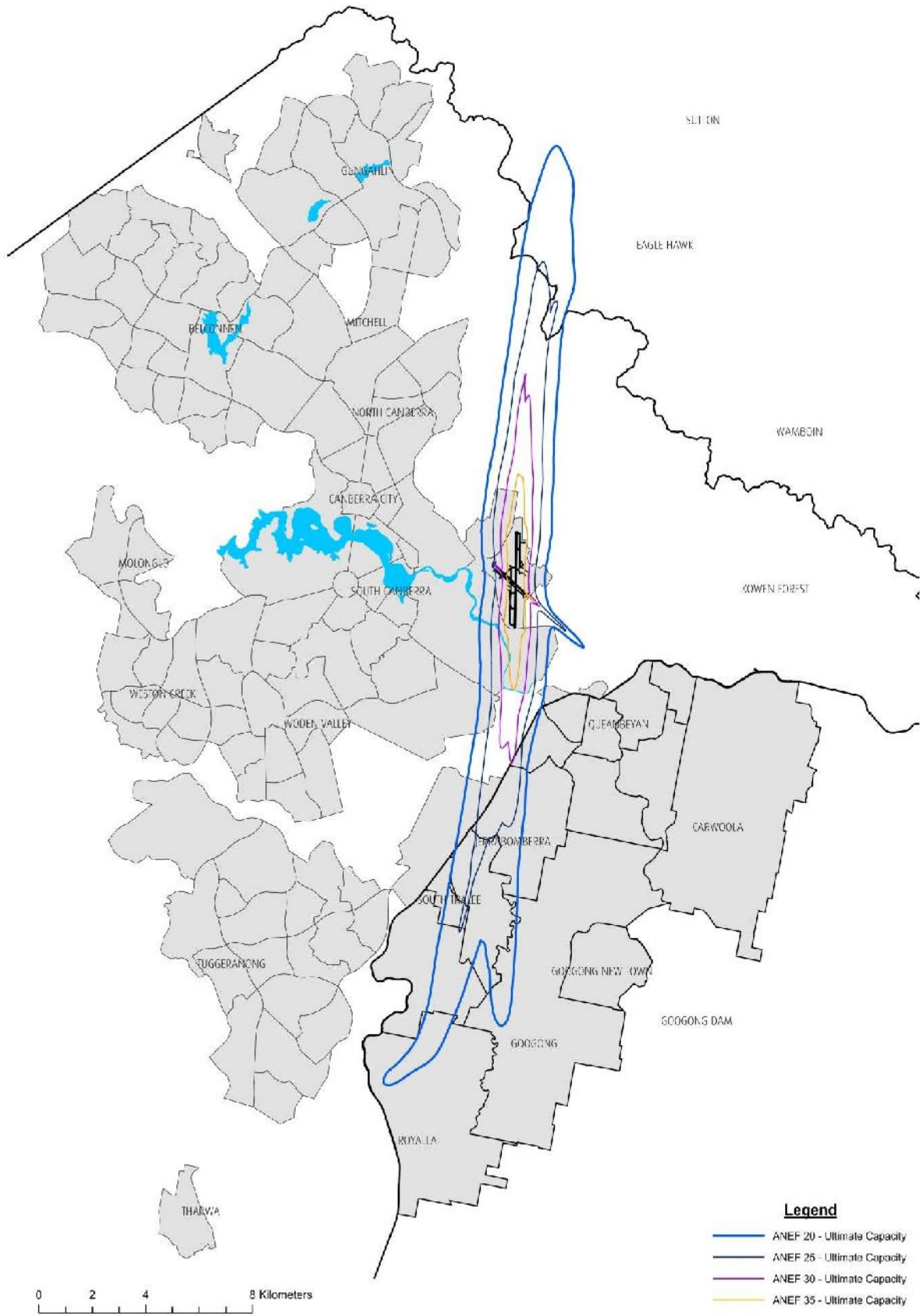
<sup>19</sup> Brent, R. *The Truth About Aircraft Noise*. 2013



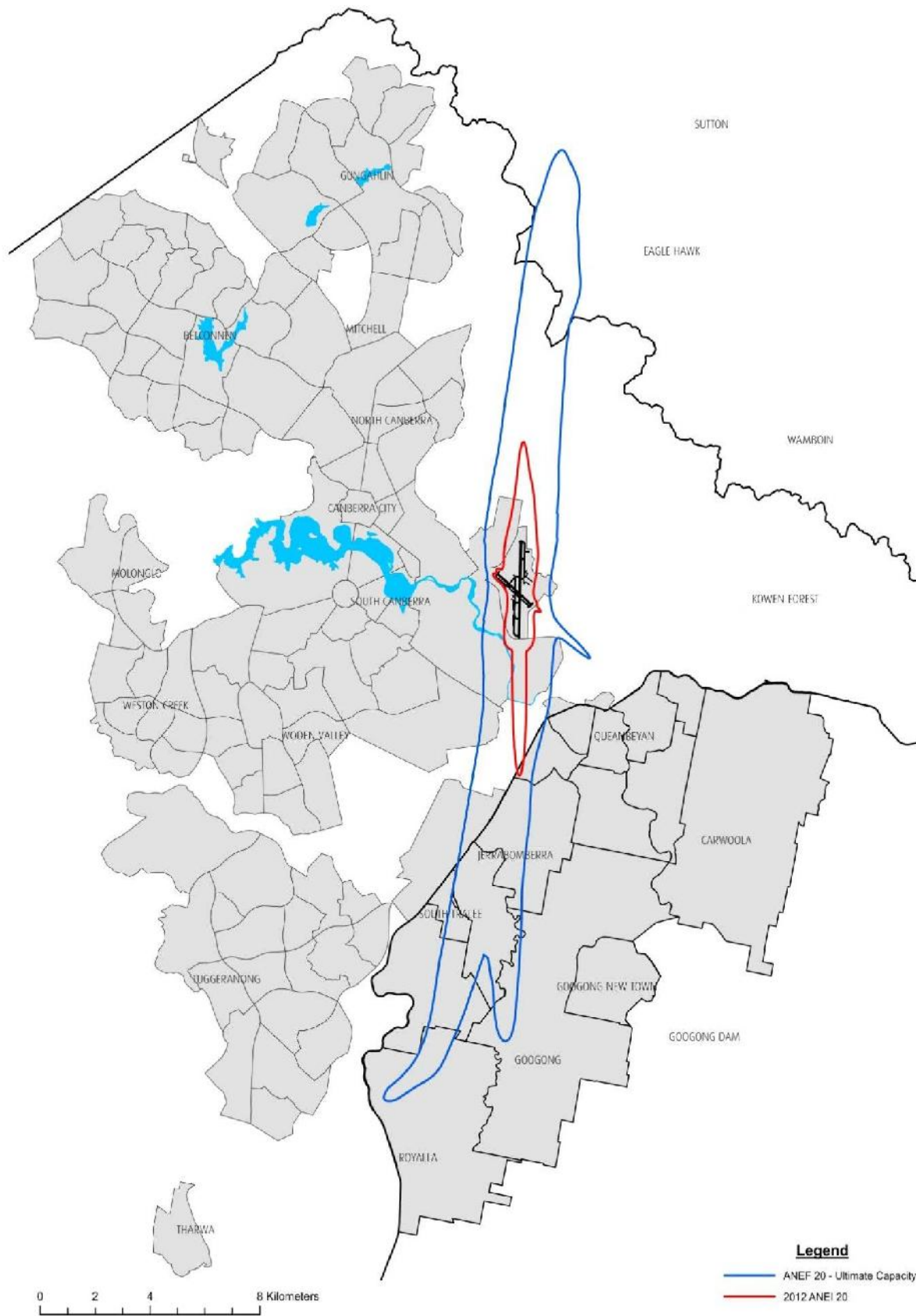




**Figure 14.14 - ultimate capacity Australian noise exposure forecast**



**Figure 14.15 - comparison of ANEF20 now to ultimate capacity**



This is a plan comparing the 2012 contour 20 (ANEI) with the ultimate capacity contour 20 (ANEF).

#### 14.6.4 NSW COUNCILS

There are three councils within the noise footprint of the Airport including the Queanbeyan City Council, Yass Valley Shire Council, and Palerang Council. The Section 149 Certificates issued in accordance with the *Environmental Planning and Assessment Act 1979* may apply to planning and property transactions within these Councils.

#### 14.6.5 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.

### 14.7 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 NAPs 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.

#### 14.7.1 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 19 years ago are shown in Figure 14.16. 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.

#### 14.7.2 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.

#### 14.7.3 RUNWAY 17 PREFERRED ARRIVAL AND RUNWAY 35 PREFERRED DEPARTURE AT NIGHT

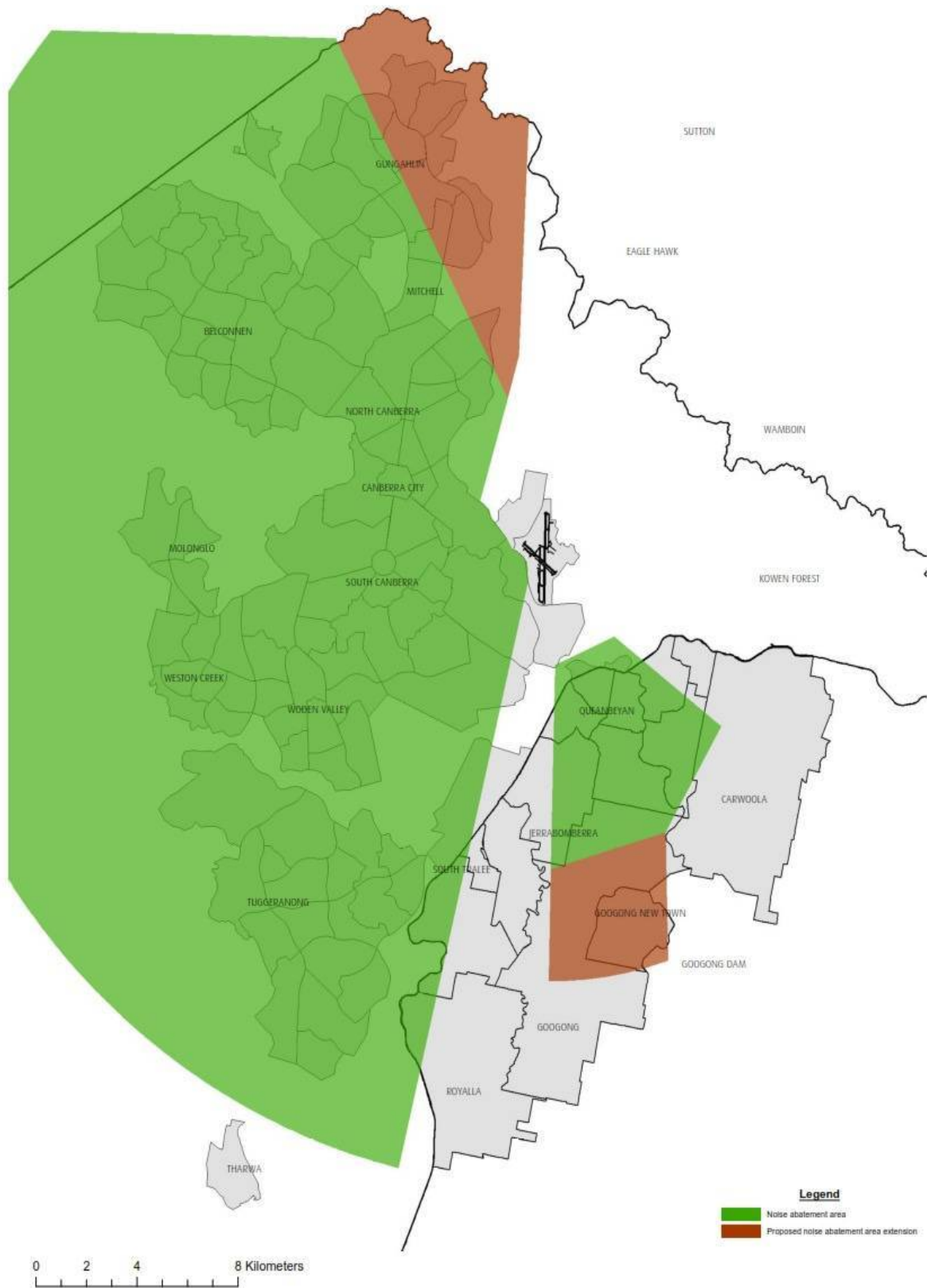
The predominant landing runway at Canberra Airport is runway 35 from the south, which is serviced by an instrument landing system. However in May 1998, following requests from the Jerrabomberra community, runway 17 became the preferred runway for arrivals overnight between 8pm and 7am when weather permits. 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.***



Figure 14.16 - noise abatement areas



#### **14.7.4 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 arrival runway, subject to weather and technology.

#### **14.7.5 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.

#### **14.7.6 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.

#### **14.7.7 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.

#### **14.7.8 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).

### 14.7.9 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.

### 14.7.10 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 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 future residents of Googong New Town.

### 14.7.11 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 arrival<sup>20</sup>. 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.

RNP departures and a precision-like RNP approach to runway 17 are also now utilised by appropriately equipped aircraft, providing very substantial noise, safety, and fuel savings.

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<sup>20</sup> July 2007 report on RNP procedures at Canberra Airport, available on the Canberra Airport Website

Currently the technology is utilised wherever possible by Qantas Boeing 737-800 and B767-300 aircraft. Virgin Australia has advised it is yet to commit to utilise these approaches for its fleet.

The existing RNP procedures, as well as a new RNP procedure acceptable to wide-body aircraft, have been incorporated into the Canberra Airport Ultimate Practical Capacity ANEF.

When compared with standard (instrument or non-instrument) arrivals, the RNP arrivals are extremely accurate and tracks can be accurately predicted.

#### **14.7.12 RUNWAY 35 WEST ARRIVAL**

In February 2013 an offset 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.

### **14.8 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.

#### **14.8.1 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 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.

#### **14.8.2 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.

#### **14.8.3 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 15  
ENVIRONMENTAL MANAGEMENT





THE AIRPORT'S... "COMMITMENT TO GREEN STAR SET THE BENCHMARK FOR FUTURE DEVELOPMENTS AND DEMONSTRATED TO THE PRIVATE SECTOR THAT GREEN STAR WAS AFFORDABLE AND ACHIEVABLE."

ROMILLY MADEW, CEO, GREEN BUILDING COUNCIL



## 15 Environmental management

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.

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.

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 regularly monitors groundwater and stormwater flows and other environmentally sensitive issues such as the safe management of the Grassland Earless Dragon (GED) and detailed mapping of the Natural Temperate Grassland (NTG).

Other world class innovations include the construction of buildings producing 75 percent less carbon dioxide than conventional buildings and 55 percent less carbon dioxide than even the highest National Australian Built Environment Rating System (NABERS).

This Chapter of the 2014 Master Plan looks to the future and provides a comprehensive list of the environmental initiatives to be undertaken to ameliorate impact from further development of the Airport.

The environmental management at an airport is subject to the *Airports (Environment Protection) Regulations 1997* which require the operator of an airport to prepare an environment strategy, addressing an airport's environmental objectives and methods.

The airport must ensure all reasonable and practicable measures are in place to prevent or minimise the generation of pollution from the undertaking of the airport. In addition, the airport is required to monitor and report the state of the environment at the airport to the Airport Environment Officer (AEO) and to the Department of Infrastructure and Regional Development each year.

## 15.1 VISION FOR ENVIRONMENTAL MANAGEMENT

Canberra Airport is committed to continuing the development of a safe, efficient and contemporary airport in harmony with the environment and minimising the environmental impact of the ongoing development and operation of the Airport by adopting innovative technologies, designs, and processes.

More detail on the Airport's environmental management is provided in the Environment Strategy at Appendix 1 of the Canberra Airport 2014 Master Plan.

## 15.2 SOCIAL AND COMMUNITY ENGAGEMENT

Canberra Airport aims to ensure the community is informed about the initiatives that occur at the Airport in terms of both the built and natural environment.

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 24,000 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 23 years since being established, The Snow Foundation has reached out to help more than 190 different Canberra organisations and individuals, providing more than \$4.3 million in funding.

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.

Canberra Airport's objectives for social and community engagement are outlined in Table 15.1.

**Table 15.1 - 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

### 15.3 IDENTIFICATION OF ENVIRONMENTAL ISSUES

The plans for passenger growth outlined in this 2014 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.

The environmental issues that may be encountered at Canberra Airport, and the measures employed to mitigate against adverse effects are outlined in detail in the Environment Strategy.



Canberra Airport's AER prepared for and reviewed by the Department of Infrastructure 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 2014 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;
- Use of natural resources;
- Air, soil, and water quality;
- Waste generation;
- 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.

### **15.3.1 NOISE**

As the frequency of flights (including at night) and the size of aircraft grow, the amount of aircraft noise on departure and arrival, and on Airport, will increase. Furthermore, with the growth of aviation and other activities at Canberra Airport, there is also expected to be noise from ground operations on Airport, including from ground traffic and construction.

This section distinguishes between 'inflight' noise and 'on airport' noise. Inflight noise refers to noise when an aircraft is on approach or departure, landing or taking off or when taxiing. On airport noise is noise from all activities including aircraft, cars, people and construction, but does not include noise generated by aircraft taxiing, taking off or landing, or inflight.

## **Inflight aircraft noise**

Inflight aircraft noise will grow significantly during the life of this 2014 Master Plan. The assessment of the environmental issues that might reasonably be expected to be associated with such growth and Canberra Airport's plans for dealing with such issues are outlined in Chapter 14.

## **On Airport aircraft noise**

Two rounds of noise monitoring on Airport, together with a history of no complaints in the past five years, confirm 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.

### **15.3.2 FLORA AND FAUNA**

#### **Natural Temperate Grasslands**

NTG is listed as threatened under the *EPBC Act*. Areas of NTG may be impacted by the implementation of this 2014 Master Plan. Section 15.4 provides further information regarding approvals and offsets.

NTG is managed by the Airport consistent with the Environment Strategy.

#### **Grassland Earless Dragon**

The Grassland Earless Dragon (GED) (*Tympanocryptis pinguicolla*) is listed as endangered under the *EPBC Act*. GED specimens have previously been found at the northern end of the Airport, north of Taxiway Foxtrot and east of the runway 17/35.

GED may be found during the construction of the extended Taxiway Bravo, as approved in the 26 August 2004 Runway and Taxiway Major Development Plan and Referral EPBC2008/4170 approved 10 December 2008. Any specimens found will be relocated in accordance with the approved GED protocol.

## Golden Sun Moth

Golden Sun Moth (GSM) (*Synemon plana*) is listed as critically endangered under the *EPBC Act*. GSM numbers have been monitored in the airside precinct of the Airport since 2000. Areas that have recorded GSM numbers may be affected by the implementation of this 2014 Master Plan. Section 15.4 provides further information on approvals and offsets.

GSM numbers will be monitored in accordance with the Environment Strategy.

## Perunga Grasshopper

Perunga Grasshopper (*Perunga ochracea*) is listed as vulnerable under the *Nature Conservation Act 1980 (ACT)* and has been sighted at the north of the Airport. The Perguna Grasshopper is monitored concurrently with the grassland survey.

## Bird and animal hazard management

The *Canberra Airport Operations Manual* outlines the policies and procedures required for the ongoing safe operation of Canberra Airport. The *Airport Operations Manual* contains Canberra Airport's *Bird and Animal Hazard Management Plan*, outlining the procedures to manage the risk to aircraft operations caused by the presence of birds or animals on or near the aerodrome.

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.

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;
- 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 adoption of a *Re-seeding and Soil Stabilisation Protocol* to ensure bird attractant plant and weed species are not sown or distributed; and
- The minimisation of water ponding to reduce attraction to waterbirds.

### 15.3.3 STORMWATER FLOW MANAGEMENT

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.

### 15.3.4 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 15.1 below. 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 15.1 – 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.

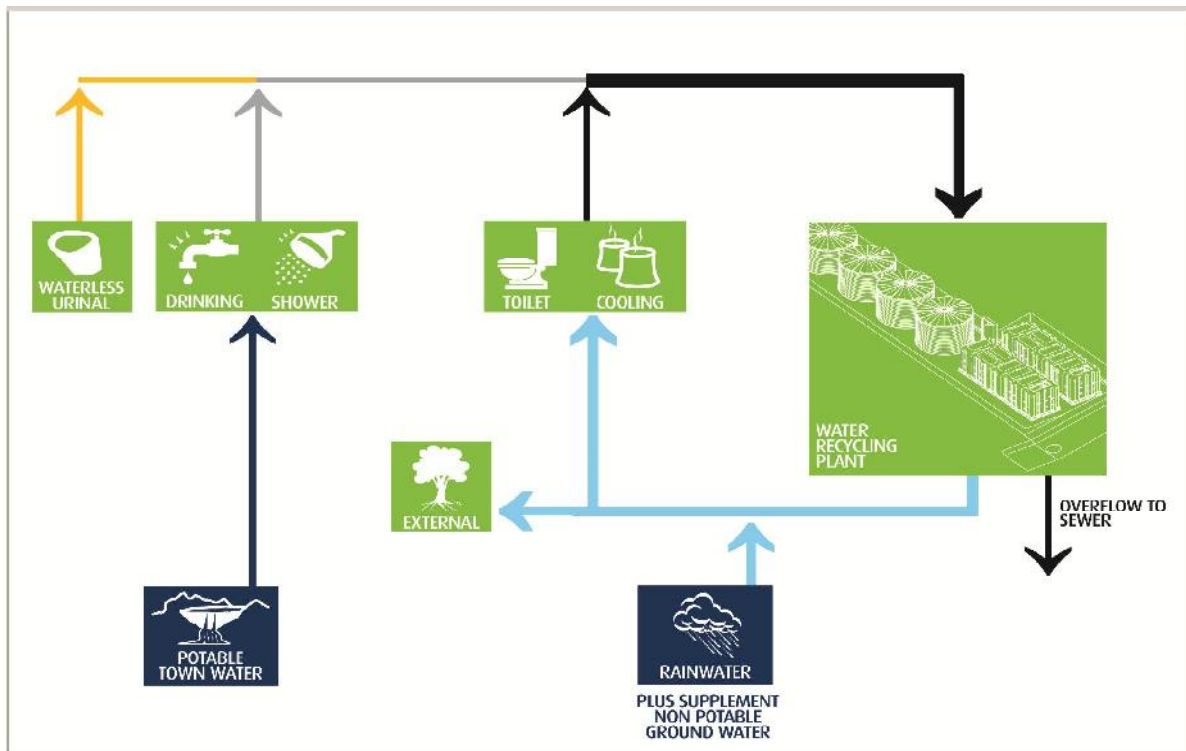
### **Water recycling**

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 15.2. 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 15.2 – water recycling**



### 15.3.5 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.



### 15.3.6 AIR, SOIL, AND WATER QUALITY

#### **Air quality**

Air monitoring was conducted in 2013 and included monitoring for Benzene, Toluene, Ethylbenzene and Xylene (BTEX), Carbon Monoxide (CO), Ozone (O<sub>3</sub>), Nitrogen Dioxide (NO<sub>2</sub>) and Respirable Particulates (PM<sub>10</sub> and PM<sub>2.5</sub>). 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 2014 Master Plan. Further monitoring will be undertaken in accordance with the Environment Strategy.

#### **Soil and water quality**

There is the potential Airport operations may impact soil and water quality, especially at sensitive sites where substances are located. All major sensitive sites (such as at 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 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.

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 the Environment Strategy and the *Water Management Plan*.

### 15.3.7 HANDLING AND STORAGE OF HAZARDOUS PRODUCTS

As the Airport grows in accordance with this 2014 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.

### **15.3.8 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.

### **15.3.9 INDIGENOUS AND EUROPEAN HERITAGE**

#### **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.

#### **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. 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.

### 15.3.10 CONSTRUCTION IMPACTS

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.

### 15.4 CANBERRA AIRPORT REFERRALS

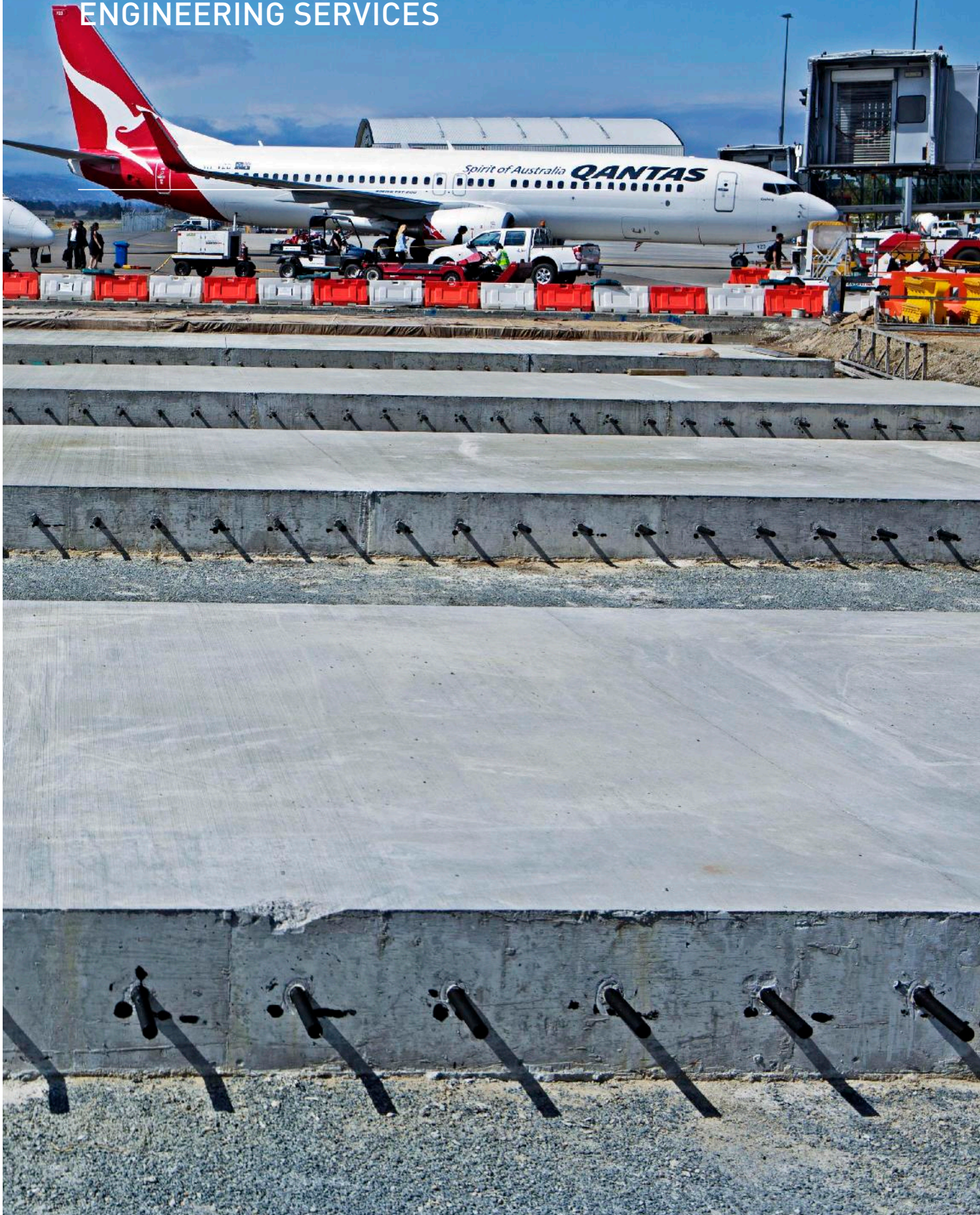
This 2014 Master Plan has identified a wide range of new developments, upgrades and improvements to aeronautical infrastructure to ensure Canberra Airport is ready to cater for the future requirements of civil aviation and other users of the Airport. There are two environment referrals for Canberra Airport; Referral 2008/4170 and 2009/4748, both of which relate to the aeronautical development of the site. The referrals are depicted in the Environment Strategy, specifically Figure 1.1 and Section 1.6.

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.



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CHAPTER 16  
ENGINEERING SERVICES







THE ENGINEERING SERVICES AROUND THE AIRPORT HAVE BEEN PROGRESSIVELY UPGRADED WITH NEW DEVELOPMENTS TO MEET FUTURE DEMAND.





## 16 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 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.

### 16.1 GAS

#### **Existing system**

The ActewAGL natural gas main services the Airport providing multiple connections.

Gas powered trigeneration plants are now in place in Brindabella Business Park and 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.

#### **2014 Master Plan implications**

Additional gas supply may be required during the 20 year life of this 2014 Master Plan as on Airport development continues. Canberra Airport will work with ActewAGL and all other relevant parties to ensure the ongoing supply of adequate gas supplies to the Airport site.

### 16.2 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 three main ties from the Airport into the sewer mains provided by ACTEW Water.

## **2014 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 ACTEW Water sewer mains are operating with significant capacity available therefore it will be possible to connect additional facilities without downstream augmentation works.

Current ACTEW Water requirements do not allow for blocks to be served through adjoining sites. The RAAF golf course sewer currently joins into the sewer mains on the Airport site. This is against ACTEW Water requirements and may need to be corrected in the future.

## **16.3 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.

### **2014 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 into the Airport north of Fairbairn. 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.

## **16.4 POTABLE WATER SUPPLY**

### **Existing system**

Potable water supply to the Airport is supplied by ACTEW 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 supply point to maintain pressure across the network.

### **2014 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 ACTEW Water to provide additional points of supply to the Airport's ring main in the future to maintain the quality and reliability of supply.

## 16.5 ELECTRICAL

### Existing system

Three high voltage ActewAGL 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 ActewAGL electricity network is supplemented by trigenerated power at a number of on Airport points.

### 2014 Master Plan implications

Further development will require the provision of new and upgraded external networks by ActewAGL. Additional trigenerated power or alternative power sources will be considered on a case-by-case basis.

## 16.6 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.

### 2014 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.

## 16.7 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* – Contractors and Operators Standard Conditions (as amended from time to time).



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APPENDIX 1

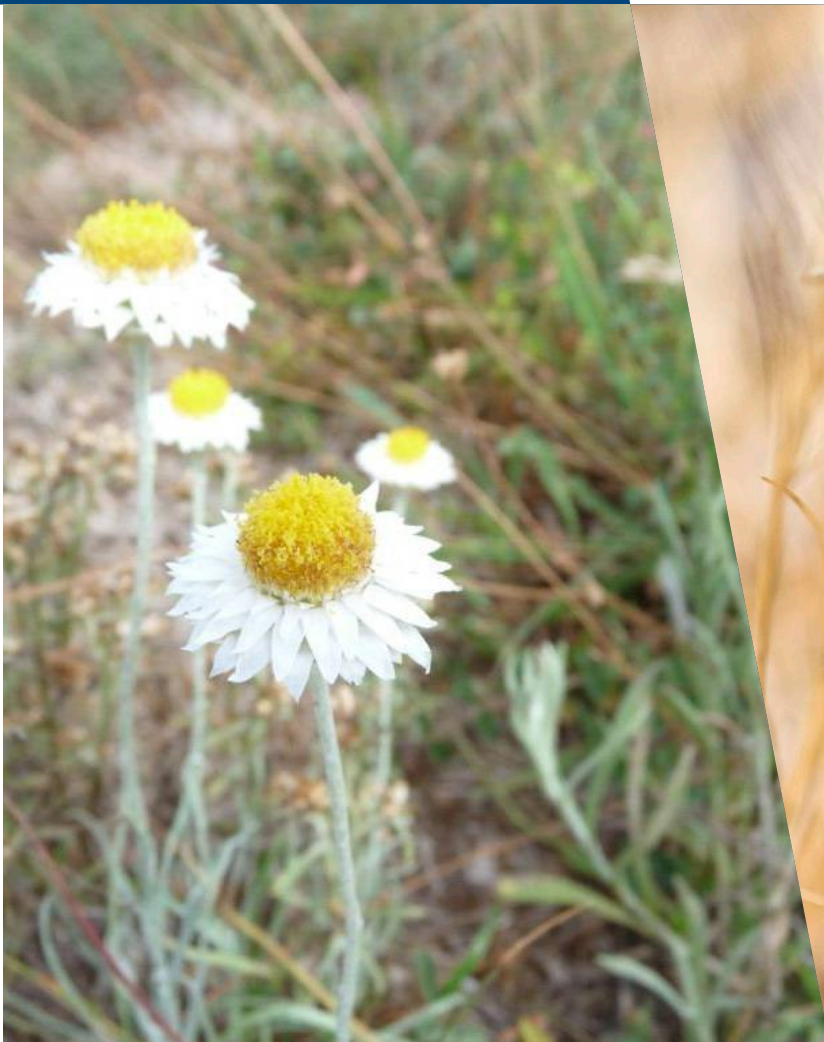
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**AIRPORT ENVIRONMENT  
STRATEGY**

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MASTER PLAN 2014

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# Canberra Airport 2014 Environment Strategy

## Index

<b>1</b>	<b>Overview</b>	<b>270</b>
1.1	Achievements	271
1.2	Future direction	271
1.3	Legislative obligations	272
1.4	Airport environment officer	275
1.5	Annual environment report	275
1.6	Environmental approvals	275
1.7	Environmentally significant area	276
1.8	Environmentally sensitive areas	277
<b>2</b>	<b>Environment management framework</b>	<b>279</b>
2.1	Airport environment policy	280
2.2	Environment management system	280
2.3	Environmental objectives	282
2.4	Board of Directors	283
2.5	Director of Planning	283
2.6	Environment officer	283
2.7	Environmental training and development	284
2.8	Airport tenants and contractors	284
2.9	Incidents and clean-up	285
2.10	Construction environment management plan	285
2.11	Environment monitoring	285
2.12	Environment auditing	286
<b>3</b>	<b>Environmental action plans</b>	<b>287</b>
3.1	Air quality and ozone depleting substances	287
3.2	Indigenous heritage	289
3.3	European heritage	291
3.4	On Airport noise	292
3.5	Water management	294
3.6	Natural resources	298
3.7	Soil pollution	303
3.8	Hazardous products	306
3.9	Land management	308

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# CHAPTER 1 OVERVIEW

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“THESE TRIALS AND RESEARCH ARE CONTRIBUTING SIGNIFICANTLY TO THE BODY OF KNOWLEDGE ABOUT RESTORING NATURAL TEMPERATE GRASSLAND.”

GREENING AUSTRALIA





# 1 Overview

The Canberra Airport 2014 Master Plan includes for the first time the Environment Strategy as an Appendix following 2010 amendments to the *Airports Act*. 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 fourth Environment Strategy for Canberra Airport since privatisation in 1998 and complements and builds upon Canberra Airport's previous Environment Strategies (1999, 2005, 2010) and facilitates the ongoing development of Canberra Airport as a contemporary airport.

This Environment Strategy supports this Master Plans proposal for future aviation growth to generate economic and employment growth and to meet the travel and social needs of the community 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 around 10 years. Trigeneration 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.

Canberra Airport has continued to manage NTG and listed threatened species on Airport in accordance with the *Canberra Airport Threatened Species Management Plan, March 2010*.

Canberra Airport is also increasing the body of knowledge for NTG and fauna through joint ventures with the University of Canberra and Greening Australia.

The upgrade and development of aviation infrastructure is ongoing and is required to meet aviation demand and ensure the safety, efficiency, and regularity of the Airport. The award winning terminal is a focal entry point to the Nation's Capital ensuring the travel and social needs of visitors and the community.

This Environment Strategy outlines Canberra Airport's methods to minimise environmental impacts during the implementation of infrastructure upgrades and growth in operations in response to the 2014 Master Plan and details the ongoing high quality environmental management of the Airport. 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 has investigated and implemented a range of environmental initiatives in the past five years. Major environmental, social, and economic achievements include:

- Completion of the wholesale redevelopment of the terminal precinct, including the installation of two 650,000 litre tanks for collecting rainwater to reuse in non-potable toilet flushing and irrigation of the landscaping in the precinct;
- Completion of the terminal building using recycled materials where appropriate and other initiatives such as the installation of a low energy lighting system managed by a Digital Addressable Lighting Interface (DALI);
- Installation of two more gas powered trigeneration plants, producing low emission electricity and capturing fugitive emissions to heat and cool buildings;
- Sponsoring research of NTG through a joint venture with Greening Australia;
- Sponsoring research of GED and GSM through a joint venture with the University of Canberra;
- Our role as a major economic driver, and the major public transport gateway of the region, providing employment opportunities including growth for Aviation, construction workers, and new businesses on and off Airport; and
- Further development of sport and recreation facilities including cycling lanes in the Brindabella Business Park, Majura Park, and Fairbairn to facilitate a healthy Airport working community.

## 1.2 FUTURE DIRECTION

This Environment Strategy builds upon previous environment strategies. Additional issues raised in this 2014 Environment Strategy include:

- The ongoing implementation of Canberra Airport's *Water Management Plan*, in compliance with the *Airport (Environment Protection) Regulations 1997*;
- The ongoing development and implementation of the *FHMP*; and

- Ongoing review and development of management procedures (including compliance with approvals under the *EPBC Act*) to ensure approved infrastructure upgrades and construction at Canberra Airport mitigate impact on listed threatened species and the total environment including reducing the demand on natural resources.

### 1.3 LEGISLATIVE OBLIGATIONS

The key pieces of legislation controlling the environmental operations of the Airport are the *Airports Act*, *Airports (Environment Protection) Regulations 1997* and the *EPBC Act*.

<b>AIRPORTS ACT 1996</b>	<b>REFERENCE</b>
71(2)(h) an environment strategy that details: (i) the airport-lessee company's objectives for the environmental management of the airport; and	2.3
(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	1.7
(iii) the sources of environmental impact associated with airport operations; and	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	3
(v) the time frames for completion of those studies and reviews and for reporting on that monitoring; and	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	3
(vii) the time frames for completion of those specific measures; and	3
(viii) details of the consultations undertaken in preparing the strategy (including the outcome of the consultations); and	Chapter 3 of the 2014 Master Plan
(ix) any other matters that are prescribed in the regulations; and	See <i>Airport 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:

<b>AIRPORTS REGULATIONS 1997</b>	<b>REFERENCE</b>
5.02A(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 (b) any relevant Commonwealth or State body.	3.2
5.02A(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.	3
5.02A(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 (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).	2.7 and 2.12
5.02B(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	3
(b) progressive reduction in extant pollution at the airport; and	3
(c) development and adoption of a comprehensive environmental management system for the airport that maintains consistency with relevant Australian and international standards; and	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 value; and	3
(e) involvement of the local community and airport users in development of any future strategy; and	2.12 and Chapter 3 and 15 of the 2014 Master Plan
(f) dissemination of the strategy to sub-lessees, licensees, other airport users and the local community.	2.12 and Chapter 3 and 15 of the 2014 Master Plan

<b>AIRPORTS REGULATIONS 1997</b>	<b>REFERENCE</b>
5.02B(3) In specifying under subparagraph 71(2)(h)(ii) or (3)(h)(ii) 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 or similar matters; and	1.7
(c) any relevant recommendation of a body established in the State in which the airport is located, having responsibilities in relation to conservation biota, habitat, heritage or similar matters.	N/A
5.02B(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	3.1
(b) water quality, including potentially affected groundwater, estuarine waters and marine waters; and	3.5
(c) soil quality, including that of land known to be already contaminated; and	3.7
(d) release, into the air, of substances that deplete stratospheric ozone; and	3.1
(e) generation and handling of hazardous waste and any other kind of waste; and	3.6 and 3.8
(f) usage of natural resources (whether renewable or non-renewable); and	3.6
(g) usage of energy the production of which generates emissions of gases known as 'greenhouse gases'; and	3.6
(h) generation of noise.	3.4
5.02B(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, and 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	3.2, 3.3, 3.9
(c) the approaches and measures identified by 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



<b>AIRPORTS REGULATIONS 1997</b>	<b>REFERENCE</b>
(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
5.02B(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 co-operation 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 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 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**

The requirements to upgrade and construct additional infrastructure are identified in the 2014 Master Plan and are necessary to meet aviation demand and ensure the safety, efficiency, and regularity of aviation and other traffic on and around the Airport. Development on the Airport that impacts on eco systems or species requires approval under the *EPBC Act*.

Two referrals have been approved with conditions under the *EPBC Act* as shown in Table 1.1. The conditions of approval include the development, approval, and implementation of the *Threatened Species Management Plan*, offset strategies and standard *CEMP*.

**Table 1.1 - Environment referrals**

REFERRAL APPROVAL	DOCUMENT	CONDITION APPROVED
2009/4748	<i>Threatened Species Management Plan</i>	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.

## 1.7 ENVIRONMENTALLY SIGNIFICANT AREA

Canberra Airport has identified an environmentally significant area, 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 *Airport (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.

## 1.8 ENVIRONMENTALLY SENSITIVE AREAS

Canberra Airport has identified environmental sensitive areas on Airport. This includes a potential Indigenous heritage site in the south-east corner of the Glenora Precinct of the Airport (as discussed in Section 3.2). The potential Indigenous heritage site is unlikely to be affected by development during the next five years. Procedures are in place (if required) with the ACT Heritage Unit for the assessment, relocation and recording of Indigenous artefacts.

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 3.3. These heritage values are managed in response to the *FHMP*.

**Figure 1.1 - areas subject to EPBC approved referrals and Natural Temperate Grassland**



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## CHAPTER 2 ENVIRONMENT MANAGEMENT FRAMEWORK

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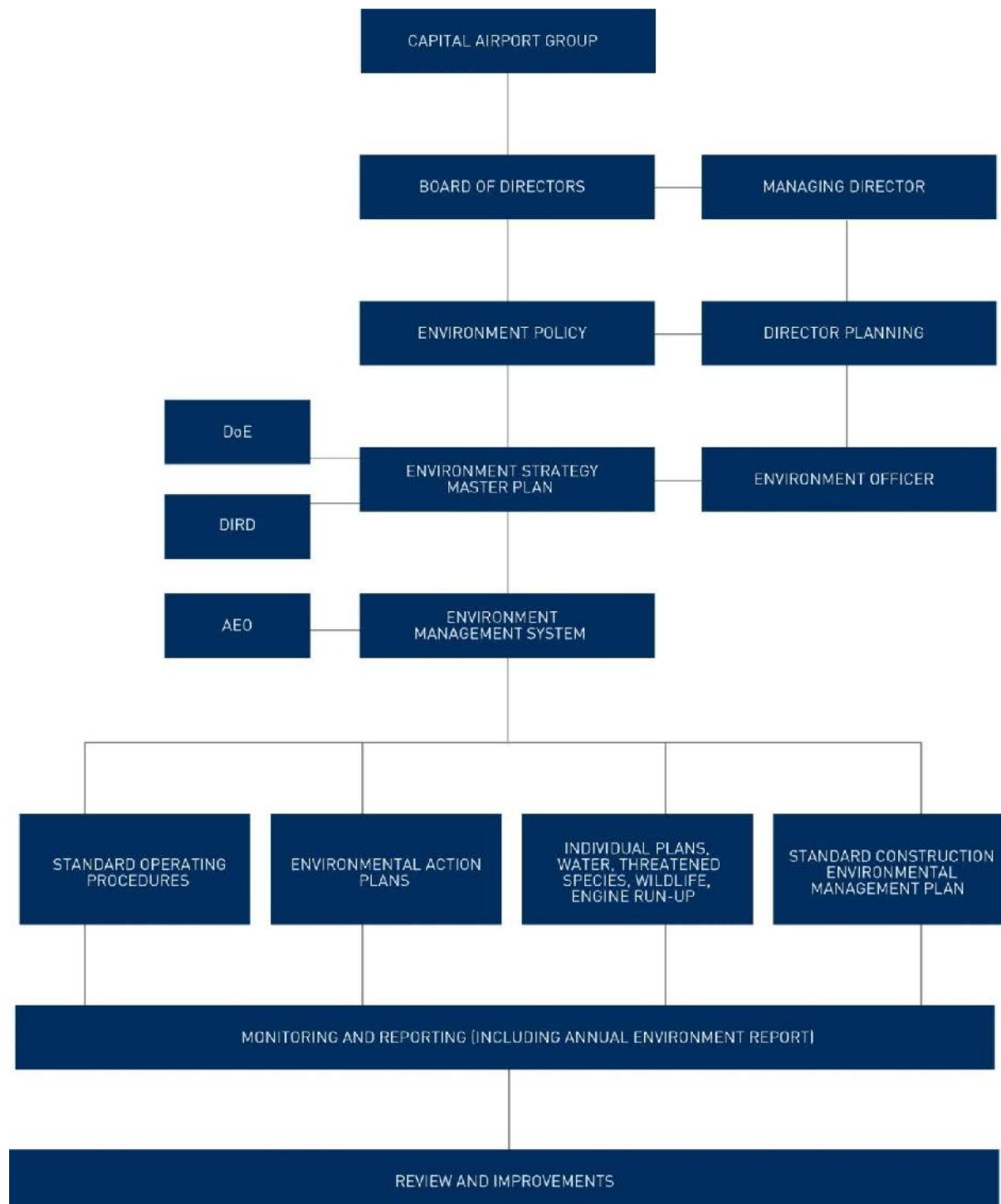
THE ENVIRONMENT MANAGEMENT SYSTEM IS THE BASIS FOR A CULTURE OF ECOLOGICALLY SUSTAINABLE WORKING PRACTICES AMONGST CANBERRA AIRPORT STAFF, TENANTS AND CONTRACTORS.



## 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 endorsed 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; and
- Broad consultation with the community, government agencies, and other major stakeholders.

## 2.2 ENVIRONMENT MANAGEMENT SYSTEM

The *Environmental Management System (EMS)*, which has been 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.

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.

The EMS is reviewed in June of every year when preparing the AER. This review is undertaken in consultation with the AEO.



## 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 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 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. As required, staff and contractors attend Green Building Council of Australia training courses, including the Green Star Accreditation Program.

## **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 ISO14001:2004 *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 *Airport (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 *Airport (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 are not identified 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 ISO14001:2004 *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 *Airport (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 2013/14 and included pre-consultation on this Master Plan including the Environment Strategy.

Following discussions with the AEO, in response to the 2013/14 Tenant Audits, Canberra Airport will review the current tenant audit procedures in consultation with the AEO.

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.



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## CHAPTER 3 ENVIRONMENTAL ACTION PLANS

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“THE MECHANIZED DIRECT SEEDING...REPRESENTS A HUGE STEP FORWARD IN BOTH THE SCALE AND EFFICIENCY OF OUR GRASSLAND RESTORATION...AND TO MY KNOWLEDGE, THIS IS A FIRST IN SOUTH EASTERN AUSTRALIA.”

GRAHAM FIFIELD, GREENING AUSTRALIA



## 3 Environmental action plans

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 period;
- S-Short term - first two years of Environment Strategy period;
- M-Medium term - third to fourth year of Environment Strategy period;
- L-Long term - fifth year of Environment Strategy period or beyond.

### 3.1 AIR QUALITY AND OZONE DEPLETING SUBSTANCES

#### 3.1.1 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.

#### 3.1.2 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 and Regional Development.

The CEMP addresses air quality issues including excessive exhaust emissions from construction machinery and airborne dust.

**Table 3.1 - 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 five 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)	0	Continued investigation in new technologies to meet contemporary standards	Report new technologies in AER
	0	Maintain the refrigerant (including ozone depleting	Database reviewed and updated

OBJECTIVES	PRIORITY	INITIATIVES	MONITORING & REPORTING
emissions)		substance) database.	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
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 ARFF and the Department of Infrastructure. Expiry May 2015.	Report in AER

## 3.2 INDIGENOUS HERITAGE

### 3.2.1 OBJECTIVE

To continue to manage Indigenous heritage sites in a culturally sensitive manner and in accordance with the *EPBC Act*.



### 3.2.2 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 3.2 - 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	0	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
	0	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

## 3.3 EUROPEAN HERITAGE

### 3.3.1 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.

### 3.3.2 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 3.3 - European heritage action plan**

OBJECTIVES	PRIORITY	INITIATIVES	MONITORING & REPORTING
Implement <i>FHMP</i> 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 and Regional Development.	Report in AER

### 3.4 ON AIRPORT NOISE

#### 3.4.1 OBJECTIVE

To minimise noise generation on Airport and to comply with the noise standards as stated in the *Airport (Environment Protection) Regulations 1997*.

#### 3.4.2 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 3.4 – 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
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

## 3.5 WATER MANAGEMENT

### 3.5.1 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*.

### 3.5.2 OVERVIEW

Canberra Airport's February 2009 *Water Management Plan* builds upon and supersedes the 2005 *Stormwater Management Plan*. The 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 *Airport (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.



### 3.5.3 STORMWATER

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. 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.

### 3.5.4 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**



### 3.5.5 RECYCLED WATER

Two state-of-the-art water recycling systems are installed at Canberra Airport to recycle waste water. Local standards and approvals from ActewAGL and ACT Health and Environment Protection Unit (EPU) have been adopted.

Subterranean water released by excavations of building sites will be treated and recycled for landscape and toilet flushing use.

### 3.5.6 TRADE WASTE AGREEMENT

In the absence of an Australian Government standard, Canberra Airport has adopted the ActewAGL local standard for trade waste. Individual agreements are obtained for each tenant including details on the installation and maintenance of waste disposal systems.

**Table 3.5 - 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
	M/L	Water Recycling monitoring to be undertaken in accordance with ACT Health, ACT EPU and ActewAGL agreements	Report in AER
Implementation and ongoing review of the <i>Water Management Plan</i>	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 stormwater 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 and Regional Development	Ongoing monitoring and trend analysis

OBJECTIVES	PRIORITY	INITIATIVES	MONITORING & REPORTING
	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
	S	Review management programs in response to monitoring outcomes and evolving best practice	Review the <i>Water Management Plan</i> as required.
Ongoing adoption of ACTEW local standard trade waste agreements	O	Individual ACTEW Water trade waste agreements to be adopted as required	Report changes to standard in AER

## 3.6 NATURAL RESOURCES

### 3.6.1 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.

### 3.6.2 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 *We're Just Plane Green* brochure and *Re-New Management Plan* on the Canberra Airport Website.

### 3.6.3 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 3.2. 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 3.2 - sustainability management flowchart**



### **3.6.4 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
- Irrigation.

Rainwater is treated and used in the new terminal to reduce reliance on potable water. Airport grounds are irrigated using recycled rainwater and groundwater.

### **3.6.5 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.

### **3.6.6 USE OF RECYCLED MATERIALS**

Buildings are constructed with a high percentage of recycled materials, including post-consumer concrete, fly ash, steel, and timber.

### 3.6.7 CONSTRUCTION WASTE

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.

### 3.6.8 TWIN BIN (CO-MINGLED RECYCLING) SYSTEM

The twin bin system at each employee's desk (additional bin supplied and managed by the Airport and its cleaning contractors) has been implemented successfully across Brindabella Business Park, Majura, and Fairbairn (tenants are permitted to use other systems if they can demonstrate comparable or better recycling results).

### 3.6.9 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 3.6 - natural resource management action plan**

OBJECTIVES	PRIORITY	INITIATIVES	MONITORING & REPORTING
Apply Green Building Council Green Star Principles	0	Base building modelled to minimum 4 Star Green Star	Monitor energy and water usage
	0	Base building modelled to minimum 5 Star NABERS	Monitor energy and water usage
Monitoring of energy and water efficiency in all new buildings	0	Active water leak detection through building management system	Daily monitoring and resolution of issues.
	0	Buildings sub-metered for electricity and water use, quarterly review of energy and water usage	Usage monitored
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

OBJECTIVES	PRIORITY	INITIATIVES	MONITORING & REPORTING
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/M	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 generation aircraft	Report additional support in AER
	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

### 3.7 SOIL POLLUTION

#### 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; and
- The ARFF training area now fully remediated.

All of the above sites emanate from events prior to the privatisation of the Airport in 1998.

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 *Airport (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>Airport (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>Airport (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

#### 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.

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**

<b>OBJECTIVES</b>	<b>PRIORITY</b>	<b>INITIATIVES</b>	<b>MONITORING &amp; REPORTING</b>
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 tenant audits	Report in AER and Tenant Audit Report
Remove asbestos as required	0	Asbestos removal ongoing	Report removal in AER
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 incidents	Report in AER

OBJECTIVES	PRIORITY	INITIATIVES	MONITORING & REPORTING
Substitute hazardous products with non-hazardous alternatives	0	Seek opportunity to replace hazardous products.	Report in AER

### 3.9 LAND MANAGEMENT

#### 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, and 2013. The last sighting of GED on Airport was in 2013. 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, and 2013/14.

#### **3.9.6 PERUNGA GRASSHOPPER**

The Perunga Grasshopper (*Perunga Ochracea*) is listed as vulnerable under the *ACT Nature Conservation Act 1980*. 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.

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	O	Manage the natural values on Airport in accordance with the <i>Threatened Species Management Plan</i>	Report changes in AER
	O	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 five 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	O	Annual weed spraying in areas of high quality grassland (weather dependent)	Report in AER
	O	Weed spraying along runway, taxiway and airside edges	Report in AER
	O	Cables placed in conduits to minimise soil disturbance	Report in AER
	O	Mowing machinery cleaned to minimise weed transfer	Report in AER
	O	Mowing of grassland from highest to lowest quality	Report in AER
Review and update Bird and Animal Hazards and Wildlife Hazards Management Plan	O	Management Plans reviewed annually	Report in AER
	O	Ongoing monitoring of bird and animal activity	Report in AER
Landscape Master Plan	O	Enhancement of the parkland design	Report in AER
Retention of high quality grassland, enhancement and revegetation of lower quality areas	O	Promote the diversity of the grassland maintained	Report in AER
Implementation of GED Protocol	O	Implementation of GED Protocol during construction works	Report in AER

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