Economic Analysis of South Jerrabomberra Masterplan

Jensen PLUS

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Executive summary

South Jerrabomberra has been chosen as a Regional Job Precinct (RJP) in New South Wales. RJPs aim to identify and develop locations to drive growth, investment and development opportunities in regional NSW.

The purpose of this Economic Analysis report is to review the employment context surrounding South Jerrabomberra.

The site under consideration for the proposed South Jerrabomberra Master Plan is located on the NSW side of the ACT/NSW border. The northeast of the site is suburban space (Jerrabomberra), with a school, sports clubs and local shops; and beyond this, the Queanbeyan West industrial area. To the west of the site is the ACT border, and the Canberra industrial suburb of Hume.

Economic drivers of Queanbeyan and Canberra

The proximity of ACT and Queanbeyan means that their economies function interdependently, with thousands of people and businesses crossing the border daily for work, shopping and leisure. The CBDs of Queanbeyan and Canberra are only 20 minutes' drive from each other. Around two-thirds of employed Queanbeyan residents work in Canberra, and around a third of Queanbeyan's jobs are held by Canberrans.

The ACT derives a majority of its gross value add (GVA, a measure of economic activity) from Public Administration and Safety. Public administration services made up 33.4% of Gross Value add in 2016, and 32.0% in 2021. From 2016 to 2021, Professional, Scientific and Technical Services have increased from 8.37% of the GVA of the ACT to 11.51%. Professional services now make up the second largest amount value add in the ACT economy. For Queanbeyan, the largest sector of the economy is construction, followed, by ownership of dwellings and public administration.

Recent economic trends affecting Canberra and Queanbeyan that are relevant to South Jerrabomberra's development include:

- Professional, Scientific and Technical Services increasing as a share of the ACT economy, accompanied by a decline in Public Administration and Safety, as government work is increasingly completed by the private sector
- Increasing military expenditure as a % of Australia's GDP.
- Population growth in the Canberra/Queanbeyan region is projected to increase from just over half a million people today to around 700,000 by 2046.

Existing employment centres in Queanbeyan and Canberra

Queanbeyan's major employment centres are the Queanbeyan CBD (Commercial), Queanbeyan West/Crestwood (Industrial) and Queanbeyan East (Industrial).

SUMMARY OF EXISTING EMPLOYMENT LANDS IN QUEANBEYAN

Precinct	Zone	Land Area excluding roads (ha)	Total lots	Median lot size (ha)
Queanbeyan West	IN1	46.84	279	0.1
Queanbeyan West	IN2	12.78	80	
Queanbeyan East	IN1	75.92	312	0.18
Queanbeyan East	IN2	16.93	85	
Queanbeyan East	B5	8.41	6	
South Tralee	B4	1.85	NA	

Source: SGS Economics and Planning 2015

While Queanbeyan West, Queanbeyan East and Crestwood have considerable areas of vacant and underutilised land and vacant buildings, much of it is fragmented, with limited availability of large lots or floorspace areas, based on the most recent data provided from QPRC.

Other employment centres in Queanbeyan-Palerang, including Googong and Bungendore, do not provide employment lands comparable to the South Jerrabomberra offer. Googong’s employment lands predominantly service Googong’s population, and Bungendore’s offer is more agricultural in character.

Canberra has around 915 hectares of industrial land and 1.88 million square metres of floorspace, with 317 hectares of this land in Hume, adjacent to South Jerrabomberra.

Strategy and policy review

Queanbeyan-Palerang’s Regional Economic Development strategy aims to harness innovation in the workforce and identifies South Jerrabomberra’s proposed Defence and Technology precinct and digital connectivity infrastructure as key infrastructure priorities. The QPRC’s Local Strategic Planning Statement describes the intended character of South Jerrabomberra as a business precinct focused on high value-added ‘defence, space, energy and waste renewables technology’. This is envisioned alongside a residential community to absorb much of the Region’s expected population growth. Infrastructure provision must therefore respond to the needs of both types of use, requiring digital connectivity, community infrastructure, and transport infrastructure for both freight and public transit.

Queanbeyan, Canberra and regional New South Wales plans all understand that cross-border cooperation is essential for future economic development This applies to land use planning, economic development initiatives and governance arrangements in the region. These must be developed according to a shared logic which recognises that labour-force and business linkages are functionally connected in a catchment area unrestricted by administrative boundaries.

While ACT is recognised as a hub for the public service, defence and supporting industries, ACT’s planning strategy for a compact and accessible city may mean that some land uses that thrive by proximity to the ACT’s industry mix may not be able to operate in the ACT, particularly electricity-hungry businesses that cannot be cost competitive with ACT electricity prices. South Jerrabomberra can fill this gap by providing a close substitute for ACT employment lands.

South Jerrabomberra's contribution to future employment lands

South Jerrabomberra's location under the Canberra Airport flight path prevents much of the land from being used for residential purposes. Instead, the following land uses are planned:

- Poplars – 36 hectares of B7 and 8 hectares of B1 land to provide a technology business park, focusing on advanced manufacturing, defence, tech and aerospace.
- North Tralee – 16 hectares of land will be sold for traditional industrial use, plus a planned 6 hectares of B7 business park land.
- South Tralee – 48 hectares of residential land, with 3 hectares of B1 and 2 hectares of B4 to support the new community.
- Environa –approximately 74 ha, anticipated to provide a mix of local business and industry as well as advanced manufacturing, Defence, aerospace and technology uses. The rezoning of the sub precinct is subject to the provision of infrastructure.

Market sounding

To better understand the needs of businesses targeted by South Jerrabomberra, developers and government, market sounding discussions were held with businesses planning to establish in South Jerrabomberra, developers selling land in the area and ACT and QPRC representatives. The key advantages seen for businesses locating in South Jerrabomberra were:

- Access to secure ICON fibre optic network, capacity for high power use.
- Access to Federal Government departments and Defence, with a lower cost of operation than locating in the ACT.
- Tech and advanced manufacturing among businesses establishing at Stage 1 of Poplars, commencing a 'critical mass' process.

Investments that would make South Jerrabomberra a more attractive place for businesses to locate include:

- Buildings being built and accredited to a Defence Industry Security Program (DISP) Zone 1 and have the ability to have a Secure Compartment Information Facility (SCIF).
- Reliable range of transport options, including suitably fast road transport, public transport and active travel; and sufficient roads and cross-border connections to manage residential and business cross-border travel.
- Placemaking and support businesses such as cafes, bars, gyms, attractive outdoor spaces.
- Access to technically minded labour force, with the right skills mix from degree qualified to Year 12 only but willing to learn. A new comprehensive high school offering STEM subjects is welcome with the possibility for traineeships, a university or TAFE location could be beneficial in the future.
- Permissions to run new and innovative testing and manufacturing techniques.
- A new comprehensive high school that offers STEM subjects.
- Complementary businesses located nearby.

Projected growth in demand for employment lands

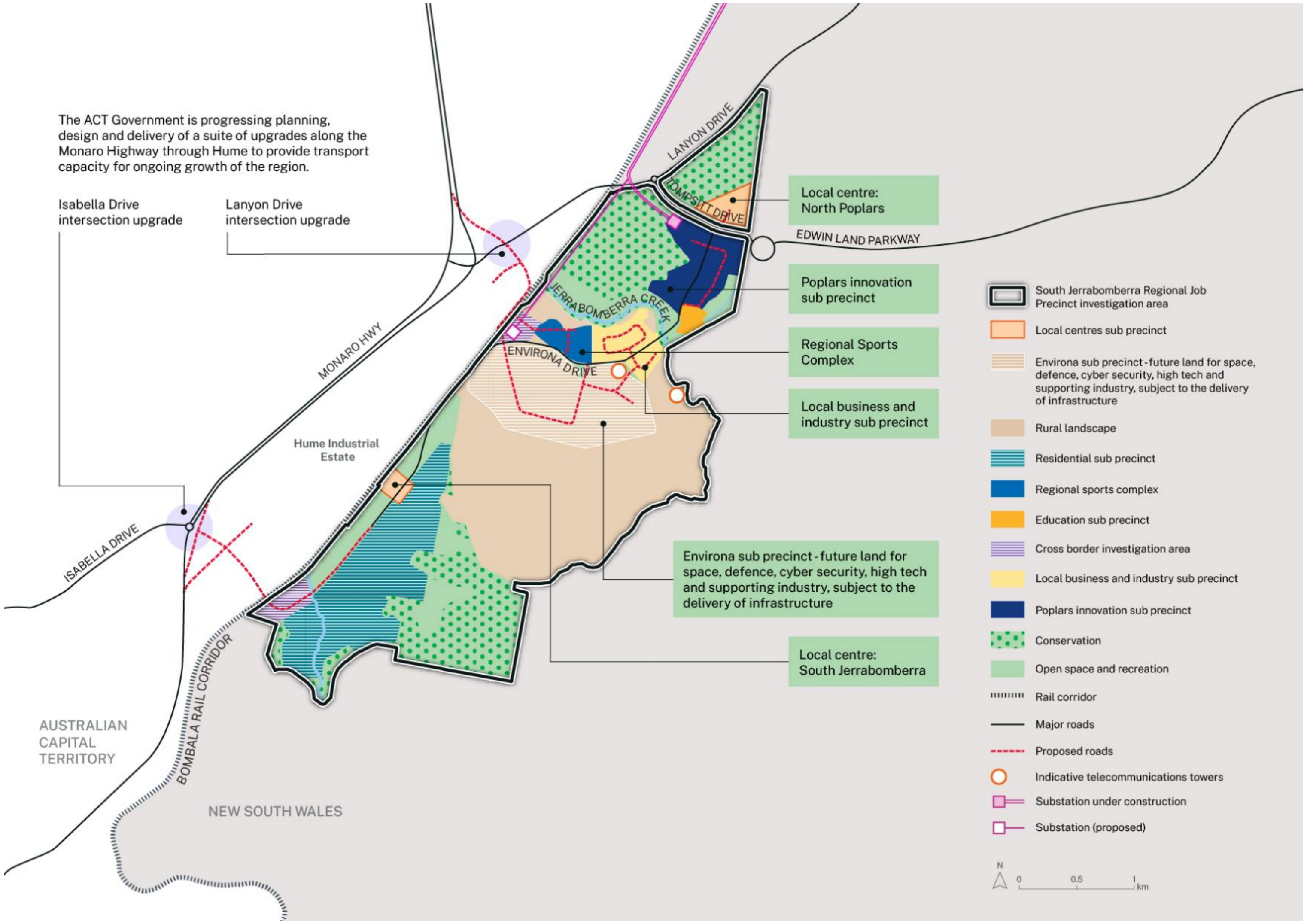
Demand for employment lands comes from population driven demand, i.e., space required to support businesses such as residential construction and maintenance, car mechanics and big box retail; and targeting businesses with markets beyond population support, i.e., manufacturing and services for a regional, national or international market. The Capital Region is expected to need 10-15 hectares of new employment lands per year to support population growth. If advanced manufacturing, aerospace, defence and technology industries are targeted with the aim of encouraging existing businesses to set up in the Capital Region, and nurturing new businesses located here, then an additional 10-35 hectares of employment land could be required per year.

If South Jerrabomberra is designed to attract these industries, then there is expected to be sufficient demand for approximately 150 hectares of employment land to be taken up in South Jerrabomberra by the mid-2040s, based on a combination of population driven demand and business targeting.

The Draft Masterplan

The Draft Masterplan provides for approximately 150 hectares of employment lands. This includes the existing Poplars innovation sub-precinct (darkest blue), the local business and industry sub-precinct at North Tralee (light yellow), one small cross border investigation areas with the potential for use as retail or employment precincts and an additional 92.85 hectares of employment lands in the Environa sub-precinct for space, defence, security, high tech and supporting industry.

DRAFT MASTERPLAN LAND-USE ZONING



Expected jobs in South Jerrabomberra

The Environa area is expected to be host to just over 500 jobs by 2031. By 2041, this expected to grow to over 2300 jobs, with 1,335 of these in focused on advanced manufacturing, tech, aerospace and so forth and 1,028 in supporting light industrial jobs. South Poplars and North Tralee are expected to be completed and fully operational by 2031, with South Poplars expecting 1,150 jobs and North Tralee expecting 452 jobs.

EXPECTED LAND USES AND EMPLOYMENT IN ENVIRONA, 2031-2041

		2031				**2036**				**2041**			
Environa (Advanced manufacturing, tech, defence, aerospace)													
Land use mix		Land (Ha) ex roads	Building + site cover	GFA (sqm)	Jobs	Land (Ha) ex roads	Building + site cover	GFA (sqm)	Jobs	Land (Ha) ex roads	Building + site cover	GFA (sqm)	Jobs
Light industrial	20%	1	6,712	10,068	57	4	22,431	33,647	190	6	31,499	47,248	267
Heavy manufacturing	10%	1	3,356	5,034	28	2	11,216	16,823	95	3	15,749	23,624	134
High tech manufacturing	50%	3	16,780	25,170	142	11	56,078	84,116	475	16	78,747	118,120	668
Business Park	20%	1	6,712	10,068	57	4	22,431	33,647	190	6	31,499	47,248	267
Total		7	33,560	50,340	284	22	112,155	168,233	951	31	157,493	236,240	1,335
Environa (supporting light industrial)													
Land use mix		Land (ha)	Building + site cover	GFA (sqm)	Jobs	Land (ha)	Building + site cover	GFA (sqm)	Jobs	Land (ha)	Building + site cover	GFA (sqm)	Jobs
Light industrial	50%	7	33,142	16,571	160	11	56,215	44,972	272	21	106,235	84,988	514
Freight and logistics	20%	3	13,257	6,628	64	4	22,486	17,989	109	8	42,494	33,995	206
High tech manufacturing	10%	1	6,628	3,314	32	2	11,243	8,994	54	4	21,247	16,998	103
Big box retail	20%	3	13,257	6,628	64	4	22,486	17,989	109	8	42,494	33,995	206
Total		13	66,284	33,142	321	22	112,431	89,945	544	42	212,470	169,976	1,028

Source: SGS Economics and Planning 2022

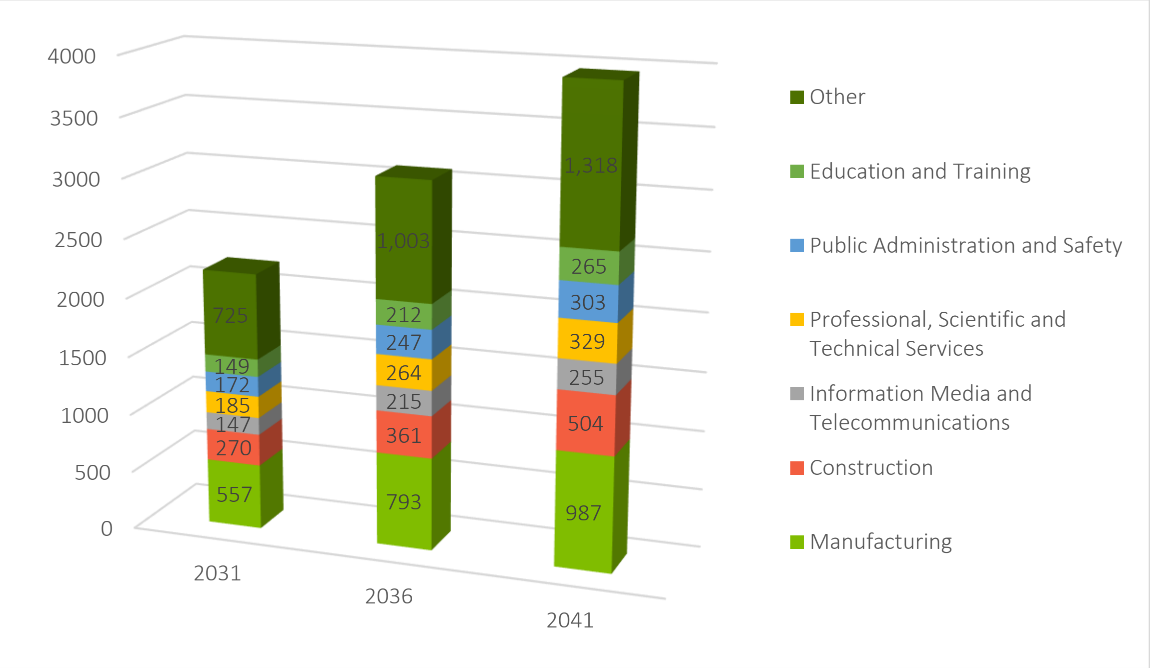
EXPECTED LAND USES AND EMPLOYMENT IN SOUTH POPLARS AND NORTH TRALEE IN 2031

					2031
South Poplars					
Land use mix		Land (Ha) ex roads	Building + site cover	GFA (sqm)	Jobs
Business park	80%	26	119,680	134,640	920
High tech manufacturing	20%	6	29,920	33,660	230
Total		30	149,600	168,300	1,150
North Tralee					
Land use mix		Land (ha)	Building + site cover	GFA (sqm)	Jobs
Light industrial	50%	9	45,612	34,209	226
Freight and logistics	20%	4	18,245	13,683	90
High tech manufacturing	10%	2	9,122	6,842	45
Big box retail	20%	4	18,245	13,683	90
Total		18	91,223	68,417	452

Source: SGS Economics and Planning 2022

It is expected that Manufacturing will be the main industry in the new South Jerrabomberra employment zones, followed by Construction, which is driven by the Business/Industry Precincts. The next most significant industries will be Professional, Scientific and Technical Services, Public Administration and Safety, Education and Training and Information Media and Telecommunications.

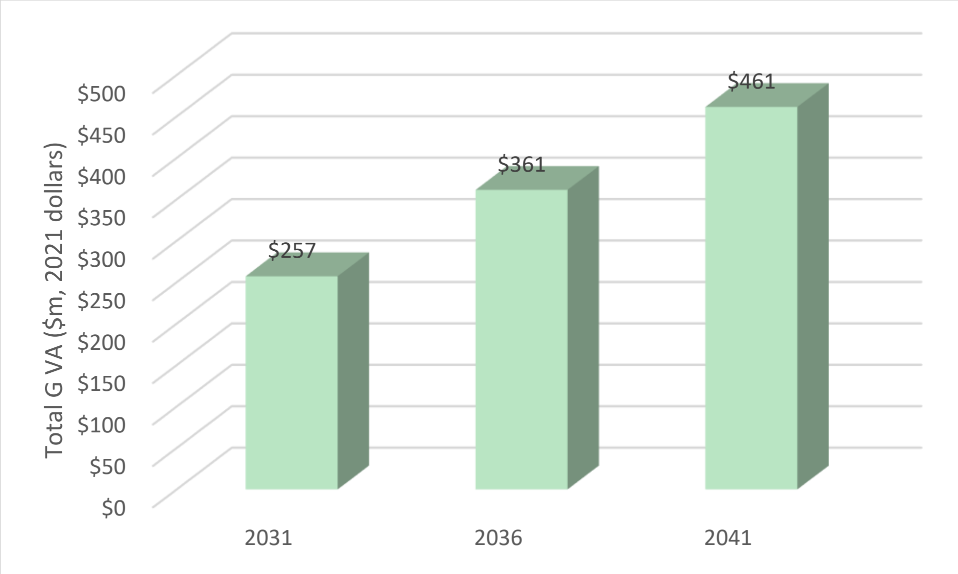
EMPLOYMENT UNDER SOUTH JERRABOMBERRA MASTERPLAN



Source: SGS Economics and Planning 2022

This boost in jobs in the area, particularly highly educated and paid jobs, is expected to enable strong economic growth in South Jerrabomberra. When South Poplars and North Tralee are finalised and the new Environa areas are just starting to come online, economic activity in South Jerrabomberra is expected to amount to $257 million per year. Ten years later, when Environa is expected to be mostly complete, economic activity is expected to reach $461 million – a significant boost in the Queanbeyan-Palerang LGA.

EXPECTED ECONOMIC ACTIVITY IN SOUTH JERRABOMBERRA UNDER THE DRAFT MASTERPLAN



Source: SGS Economics and Planning 2022

Why South Jerrabomberra?

There are several reasons why South Jerrabomberra is a highly suitable place for this development of a strategic employment precinct, compared to other potential locations.

The strategic importance of reserving employment lands for advanced manufacturing, defence, tech and aerospace

The Capital Region has significant strategic advantages over other alternative locations for advanced manufacturing, defence, tech and aerospace businesses. South Jerrabomberra is within 30 minutes' drive from major universities, including Australian National University, University of Canberra and University of NSW, within 15 minutes of several significant Defence locations, and is close to the heads of Federal Government, Mount Stromlo Observatory and the Tidbinbilla Tracking Station. The ICON Network will allow secure communications with Defence and the Federal Government that will simply not be possible outside of the Capital Region.

Identifying and reserving precincts for businesses in these industries will allow for a critical mass of knowledge sharing and efficiencies in service provision, that could not occur if these businesses were to locate in a general business park or industrial estate. The businesses consulted with as part of the market sounding indicated a desire for co-location with businesses in similar industries or complementary businesses. Some of the benefits stated of locating in an advanced manufacturing/defence precinct include:

- Access to secure buildings and the ICON network;
- A high amenity environment, including access to green space, active transport, cafes and shops; and

- The opportunity to informally network and collaborate with similar and complementary businesses.

The types of businesses that will benefit most from this proximity include:

- Manufacturers of technology for end use by Defence, who will benefit from the ICON network and close proximity to Defence;
- Commercialisation of research/patents from Canberra universities;
- Aerospace manufacturing and R&D, which will benefit from proximity to Stromlo, the universities and defence;
- Manufacturers of high value add technology equipment with high power usage; and
- Tech businesses that can support these businesses, such as data centres.

Reserving a precinct specifically for these businesses will allow for a higher quality environment that will enable networking and information sharing, improve staff retention, and will attract/retain businesses in the Capital Region that might otherwise locate in Western Sydney or Adelaide.

Supporting the development of these businesses underpins economic growth in general and aligns with Federal Government strategies for advanced manufacturing.

The strategic importance of reserving employment lands for light industrial use in South Jerrabomberra

The Queanbeyan Residential and Economic Strategy Review 2015-2031 identified the fragmented and largely exhausted nature of existing Queanbeyan employment lands, and highlighted the need for around 92 hectares of employment lands in Environa, in addition to planned lands at Tralee.

Maintaining a supply of general and light industrial land is essential for population servicing, even in an area like the Capital Region with its main economic drivers of the public service, professional services and education. At a bare minimum, populations need spaces where they can have their cars serviced, houses built and renovated, food and drink manufactured and their goods manufactured or warehoused after transport, to maintain a reasonable standard of living. In addition, availability of industrial land supports local innovation and diversifying of the Capital Region economy – for example, Capital Region industrial land is used for everything from award winning craft brews to hydrogen power trials to computer component manufacturing. Ensuring an availability of industrial land in the Capital Region ensures that innovation and business development can be supported within the region – otherwise innovators who develop great business ideas may leave the Capital Region to expand their businesses. This is essential to maintain employment growth and employment diversity.

Impacts on the ACT

On the supply and demand for industrial land

The ACT's Indicative Land Release Program, released in 2021, showed around 92 hectares of industrial land were planned for release over the next four years, some of which may be affected by environmental approvals. However, when the industrial suburbs of Symonston, Hume, Fyshwick, Mitchell and Beard reach capacity, there are no new industrial suburbs planned. Eastern Broadacre is expected to provide future employment lands, but environmental concerns have been raised.

An additional source of industrial land in South Jerrabomberra would allow businesses who prefer to locate in the Capital Region to remain in the Capital Region, if no suitable site can be found in the ACT, instead of moving the business to Sydney or another location. This will support the creation of, and retention of jobs for workers living in Canberra and Queanbeyan.

On cross border transport

Businesses spoken to as part of the market sounding process indicated that they saw the proximity of the ACT to South Jerrabomberra as a supply of potentially complementary locations for future business growth. Traffic modelling has shown that an additional border crossing near Hume will be necessary to support employment growth in South Jerrabomberra, which will assist in keeping technical and industrial jobs in the Capital Region.

Ensuring a second border crossing in or near Hume will support the development of businesses on both sides of the ACT and NSW border, creating a seamless cross-border employment district, as well as supporting the connection of people and jobs in ACT and NSW.

1. Economic drivers of Queanbeyan/ Canberra

The economies of the ACT and Queanbeyan function as one unit.

Sixty three percent of employed Queanbeyan-Palerang residents, over 18,000 people, worked in the ACT at the time of 2016 Census. Seventy-four percent of employed Jerrabomberra residents worked in the ACT. Jerrabomberra is highly accessible to the ACT by road, with Tompsitt Drive and Lanyon Drive providing access to the ACT via the Monaro Highway or Canberra Avenue in less than five minutes. It is highly likely that any new residential developments in the South Jerrabomberra area will be largely taken up by people who work for ACT employers.

TABLE 1: CROSS BORDER COMMUTERS IN QUEANBEYAN AND ACT

	Work in Queanbeyan	Work in Canberra
Live in Queanbeyan	9,264	18,834
Live in Canberra	4,769	197,585

Source: ABS 2017

The proximity of the ACT's industrial areas to the ACT/NSW border means that Queanbeyan is an attractive place to live for workers in ACT's industrial zones. Thirty percent of workers in Hume and 25% of workers in Fyshwick lived in New South Wales at the time of the 2016 Census. The opposite is also true, with forty percent of people working in Queanbeyan West - Jerrabomberra living in the ACT.

The employment lands generated through this Master Plan are likely to be a close substitute for ACT employment lands. South Jerrabomberra will provide an alternative source of office space and industrial land for businesses that might otherwise consider business parks at Brindabella Business Park, Symonston, Fyshwick or Hume. The relative competitiveness of the ACT and Queanbeyan/ NSW business environments and land costs may be a deciding factor. The potential market for these employment lands should be as wide as the entire Capital Region, including Canberra.

Any analysis undertaken of the economic and social impacts of masterplanning in Queanbeyan – Palerang must also consider the interactions with the ACT. Future industrial and office space in the ACT will need to be taken into account. This will need to consider the capacity of roads such as Lanyon Drive, Alderson Place, Canberra Avenue and the Monaro Highway to cope with any increase in traffic. A business park would need to consider public transport connections with both Q City and ACTION bus services.

1.1 Size of the of Queanbeyan and ACT Economy

The ACT derives a majority of its gross value add (GVA, a measure of economic activity) from Public Administration and Safety. Public administration services made up 33.4% of Gross Value add in 2016, and 32.0% in 2021. From 2016 to 2021, Professional, Scientific and Technical Services have increased from 8.37% of the GVA of the ACT to 11.51%. Professional services now make up the second largest amount value add in the ACT economy. For Queanbeyan, the largest sector of the economy is construction, followed, by ownership of dwellings and public administration. (Note that construction tends to fluctuate as the industry is generally procyclical, in the absence of specific government stimulus.) In addition, some construction businesses have their headquarters in Queanbeyan because of lower costs but service the ACT.

TABLE 2: VALUE OF THE CAPITAL REGION ECONOMY 2021

ANZIC Industry	QBN Value Add ($m, 2021)	ACT Value Add ($m, 2021)[1]	QBN Value Add (%) 2021	ACT Value Add (%) 2021
Agriculture, Forestry and Fishing	77	22	2.8%	0.1%
Mining	25	35	0.9%	0.1%
Manufacturing	174	394	6.2%	1.0%
Electricity, Gas, Water and Waste Services	47	795	1.7%	1.9%
Construction	542	2,790	19.3%	6.8%
Wholesale Trade	108	486	3.9%	1.2%
Retail Trade	116	1,451	4.1%	3.5%
Accommodation and Food Services	58	705	2.1%	1.7%
Transport, Postal and Warehousing	103	630	3.7%	1.5%
Information Media and Telecommunications	23	1,399	0.8%	3.4%
Financial and Insurance Services	30	1,157	1.1%	2.8%
Rental, Hiring and Real Estate Services	109	926	3.9%	2.3%
Professional, Scientific and Technical Services	177	4,736	6.3%	11.5%
Administrative and Support Services	88	1,337	3.1%	3.3%
Public Administration and Safety	384	13,153	13.7%	32.0%
Education and Training	116	2,452	4.1%	6.0%
Health Care and Social Assistance	151	3,924	5.4%	9.5%
Arts and Recreation Services	18	307	0.6%	0.7%
Other Services	71	743	2.5%	1.8%
Ownership of dwellings	387	3,695	13.8%	9.0%
Total	2,806	41,138		

[1] ABS, 2021- 5220.0 Australian National Accounts: State Accounts

Source: SGS Economics and Planning 2021

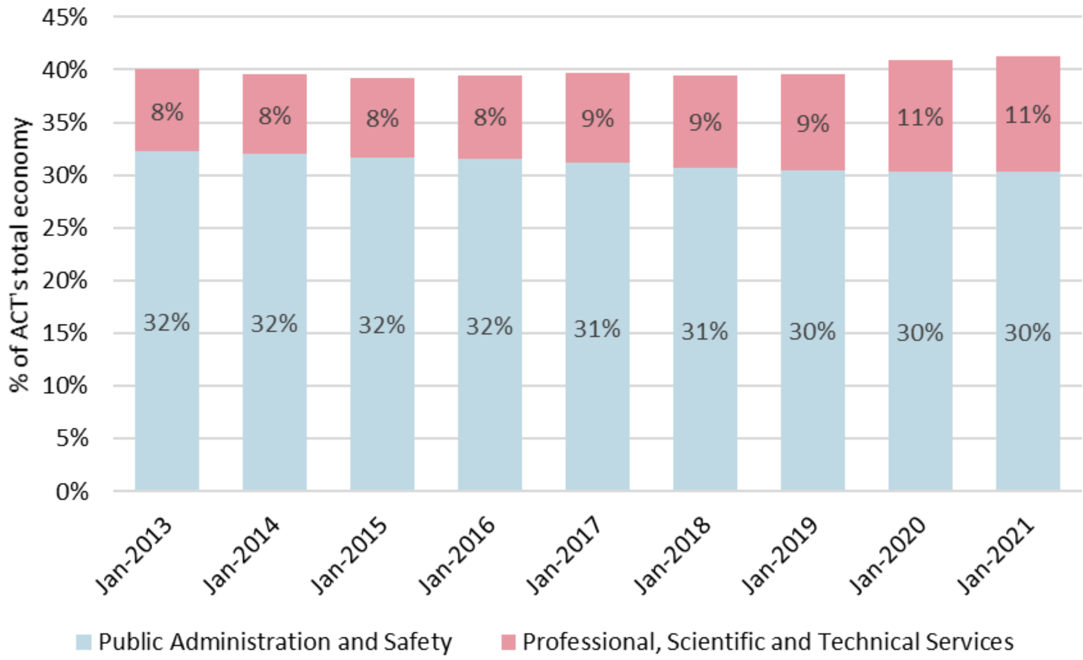
Economic trends affecting the Capital Region

The major driver of economic activity in the Capital Region has historically been the public service (Public Administration and Safety) and supporting industries (notably Professional, Scientific and Technical Services and Education and Training).

Recent trends show Public Administration and Safety declining as a total share of Canberra's economy, as Professional, Scientific and Technical Services has increased (see Table 3). In 2010, Professional Services was the sixth largest industry in the ACT economy; by 2021, it was the second largest.

There are several factors driving this – hiring freezes in the public service leading to outsourcing, private firms achieving economies of scale in niche areas of expertise and selling that expertise to governments, and governments encouraging innovation in the private sector that governments can then use themselves.

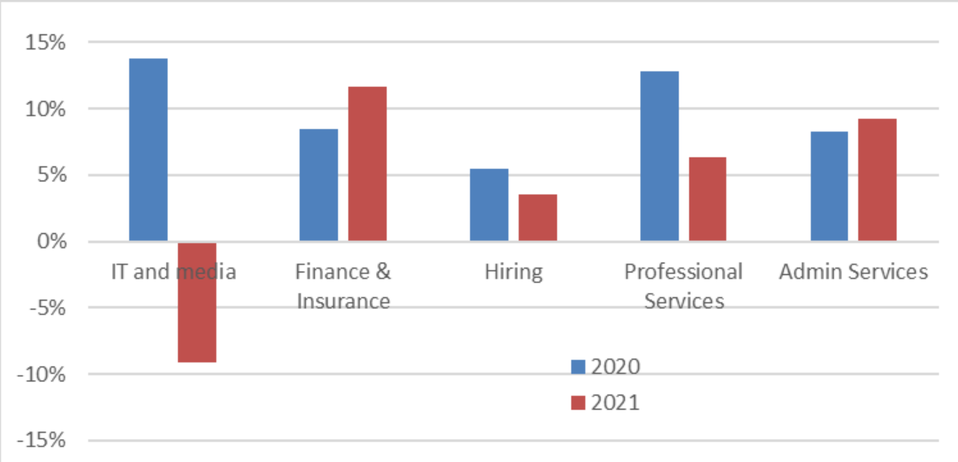
FIGURE 1: SHARE OF CANBERRA'S ECONOMY, THE PUBLIC SERVICE AND PROFESSIONAL SERVICES



Source: SGS Economics and Planning 2021

In recent years, there has been a surge in business registrations in the Queanbeyan-Palerang area. Financial and Insurance Services business registrations grew by 21% in total from 2019 to 2021, while Professional, Scientific and Technical Services business registrations grew by 20% and Administrative and Support Services registrations grew by a total of 18% over this two-year period. This may be a leading indicator of an economic shift in Queanbeyan-Palerang tertiary educated workers and away from construction.

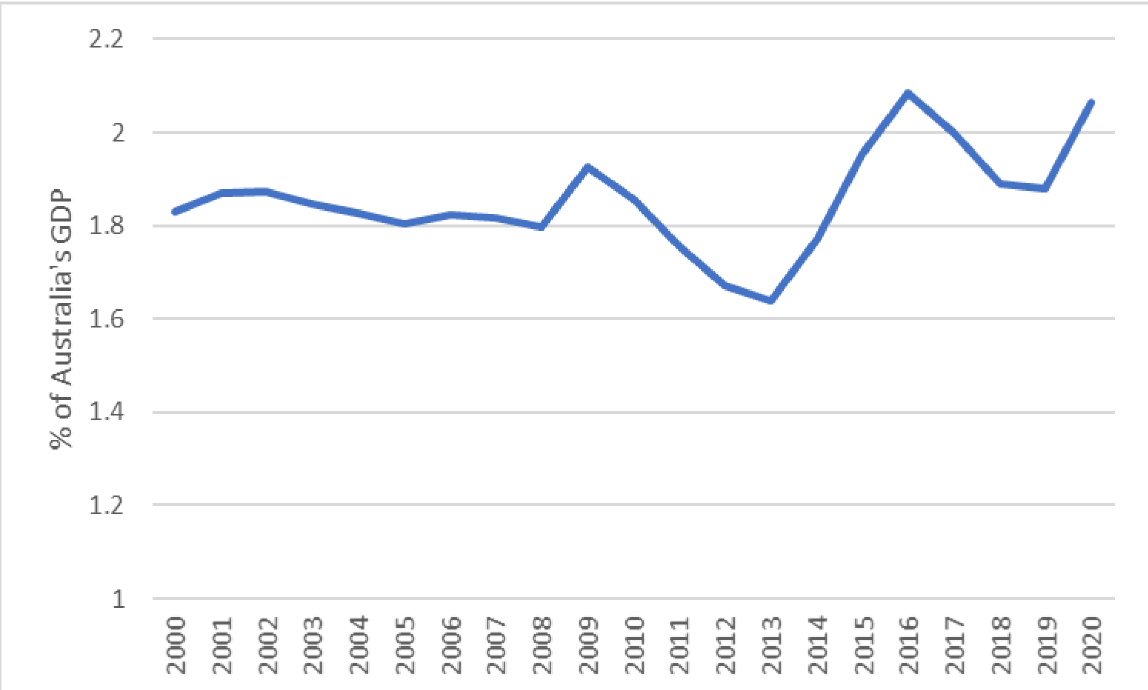
FIGURE 2: INCREASE IN BUSINESS REGISTRATIONS, QUEANBEYAN - PALERANG



Source: ABS 2021

Defence spending has been on an upward trend in recent years. After remaining flat or declining up until 2013, Australian military spending as a percentage of GDP has been increasing over the last seven years to more than 2% of GDP. This was highlighted as a significant achievement in the 2022 Budget, with a commitment to continue increasing spending in Defence (Australian Treasury, 2022). While Defence expenditures tend to be distributed around the country and around the world, there is a strong Defence presence in Canberra including the head offices in Russell, the Army Officer training establishment at Duntroon and several private military suppliers choosing to locate in Canberra to maintain close ties with the Federal Government.

FIGURE 3: AUSTRALIAN MILITARY SPENDING AS A PERCENTAGE OF GDP



Source: World Bank 2021

The increasing willingness to invest in Defence spending, combined with the private sector increasingly providing goods and services to the public sector in the Capital Region economy, suggests that the demand for space for private businesses to supply the public sector could be growing in the future.

The impact of the significance of Defence can be seen in the Location Quotients for Canberra and Queanbeyan- Palerang. A Location Quotient, or LQ, is equal to 1 if the prevalence of the industry in the local area is equivalent of the industry's prevalence in the wider area; greater than 1.2 if the industry is more prevalent in the local area or less than 0.8 if the industry is less prevalent in the local area.

Queanbeyan-Palerang has a high LQ for both Public Administration and Safety and Manufacturing, indicating it has a stronger presence of these industries than the rest of NSW. The sub-industry that is strongest is Defence, with a LQ of 7.57, indicating that Defence is over seven times larger as a proportion of the economy in Queanbeyan-Palerang compared to NSW as a whole.

Manufacturing, particularly wood product, metal and furniture manufacturing, have been identified as potential 'Engines of Growth' specialisations, due in part to their high LQs.

TABLE 3: LOCATION QUOTIENT OF MAJOR INDUSTRIES IN QUEANBEYAN PALERANG

	2020-21			2015-16			Change
Industry	**%.**	**NSW%**	**LQ QPRC**	**%.**	**NSW%**	**LQ QPRC**	**2019-20 – 2015-16**
Public Administration and Safety	11.5	6.1	1.89	11.0	5.9	1.86	+0.02
Public Administration	6.2	4.1	1.51	5.5	3.7	1.51	+0.00
Defence	3.8	0.5	7.57	3.9	0.6	6.04	+0.25
Public Order, Safety and Regulatory Services	1.6	1.5	1.03	1.6	1.6	0.97	+0.06
Manufacturing	8.4	6.6	1.28	9.7	6.7	1.45	-0.12
Beverage and Tobacco Product Manufacturing	0.5	0.2	2.15	0.4	0.2	1.74	+0.23
Wood Product Manufacturing	1.1	0.3	3.38	1.7	0.4	4.49	-0.25
Fabricated Metal Product Manufacturing	1.3	0.5	2.58	1.9	0.4	4.61	-0.44
Furniture and Other Manufacturing	1.4	0.5	2.60	1.2	0.4	2.90	-0.10

Source: id Forecasting 2022

1.2 Population

Canberra and Queanbeyan have seen steady growth in their populations since 2016, COVID notwithstanding. Low unemployment, a high density of universities and a strong market of well paid jobs makes the region an attractive place to live.

Table 4 shows recent population growth in Queanbeyan and the ACT, both as separate entities and as a combined significant urban area (SUA).

TABLE 4: HISTORIC POPULATION OF ACT AND QUEANBEYAN

Population	2016	2017	2018	2019	2020
Canberra-Queanbeyan SUA[2]	439,971	449,012	456,935	461,710	464,995
ACT[3]	403,104	412,025	420,379	426,285	431,380
Queanbeyan LGA[5]	57,790	58,268	58,746	59,225	59,703

Source: ABS 2021

Projections

The population of the ACT and Queanbeyan is expected to maintain steady growth over the next fifteen years, according to a series of different population projections shown in the table below. The Centre for Population projections have included the fall in net internal and overseas migration from COVID-19, therefore the projected growth for the ACT is lower. In addition, the 2017 ABS Projections have not been re-based to take into account COVID impacts.

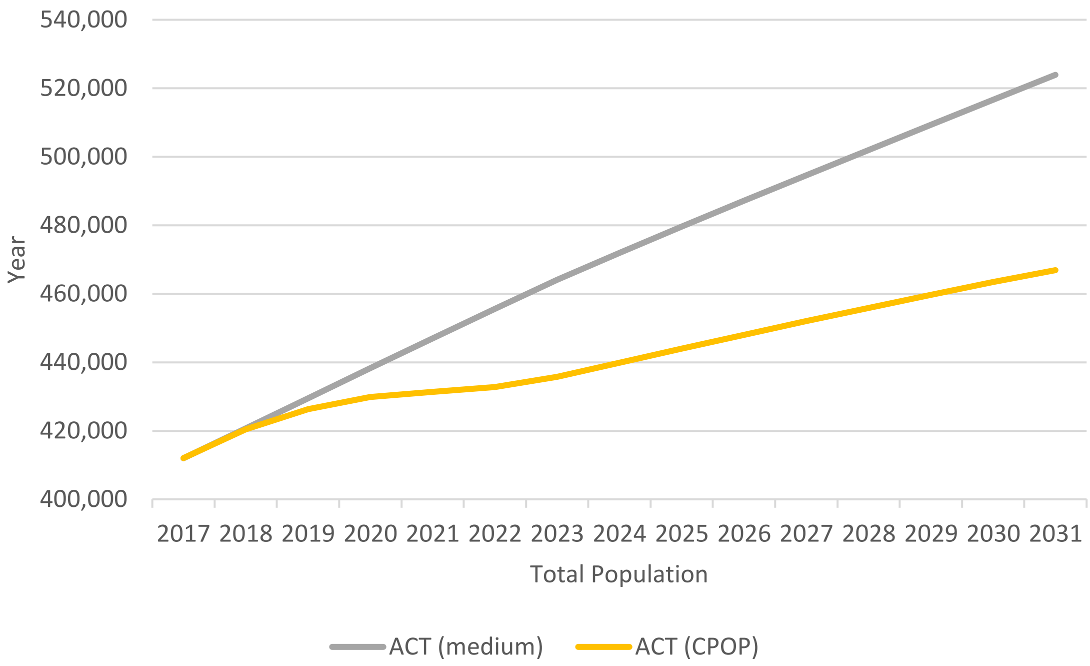
TABLE 5: ACT AND QUEANBEYAN POPULATION PROJECTIONS

Projection	2021	2026	2031	2036	AARG (2021 – 2036); (2021 – 2031 for CPOP)
ACT (ABS Projections 2017 - Medium)[3]	446,983	487,211	523,922	559,760	1.51%
ACT (Centre for Population – with COVID)[4]	431,400	448,000	466,900	n/a	0.79%
Queanbeyan (DPE)[5]	60,181	62,224	63,714	64,734	0.49%

Source: ABS 2021, Centre for Population 2020, Department of Planning 2020

[2] ABS.Stat – Accessed November 2021
[3] ABS (2018) – Population Projections, Australia 2017 (base) - 2066
[4] Centre for Population (2020) - Population Statement: Capital city and balance of state (GCCSA) Population Projections, 2019-20 to 2030-31
[5] Department of Planning, Industry and Environment, 2020 – NSW 2019 Population Projections, ASGS 2019 LGA Projections

FIGURE 4: ACT POPULATION PROJECTION SCENARIOS



Source: ABS 2021, Centre for Population 2020

Projections from the NSW Department of Planning, Industry and Environment (Department of Planning, 2020) project a steady increase in the number of households within Queanbeyan to 2036. The data in Table 6 shows that non-family households are expected to grow faster than family-based households. Projections from forecast.id are shown for comparison, although these are generally higher than those from the Department of Planning.

TABLE 6: HOUSEHOLD TYPE QUEANBEYAN PROJECTIONS – NSW DEPARTMENT OF PLANNING AND FORECAST.ID

Department of Planning	**2016**	**2021**	**2026**	**2031**	**2036**	**2041**	**AARG 2021-2036**
Queanbeyan - Family	16,145	17,079	17,787	18,313	18,706	18,946	0.7%
Queanbeyan - Non-Family	6,534	7,213	7,847	8,390	8,840	9,170	1.6%
Total	22,679	24,292	25,634	26,702	27,546	28,116	1.0%

forecast.id	**2021**	**2026**	**2031**	**2036**
Queanbeyan Council	61,832	66,593	72,177	78,756
Tralee - Environa	288	1,520	3,260	5,890

Source: id Forecasting 2017

1.3 Employment

At the most recent Census (ABS, 2017), 14.7% of Queanbeyan workers were employed in Construction, compared to 8.5% for Australia and 4.5% for the ACT[6]. Queanbeyan had a higher proportion of its population than ACT's or the Australian average working in Manufacturing, which suggests that Queanbeyan's workforce provides industrial related industries that service the ACT and surrounding NSW's populations. Compared to the national average, the ACT has a higher proportion of public administration and professional service workers.

However, the surge in registrations of Professional, Scientific and Technical Services businesses in the ACT, as shown in Figure 2, suggests that Queanbeyan may expect to see an increase in the share of workers in this industry when the 2021 Census data is released in October 2022.

TABLE 7: INDUSTRY BY PLACE OF WORK SA3 (2016)

INDP 1 Digit	Queanbeyan total	ACT total	Australia Total	Queanbeyan Proportion	ACT Proportion	Australia Proportion
Agriculture, Forestry and Fishing	524	495	266,952	3.5%	0.2%	2.5%
Mining	82	68	177,640	0.5%	0.0%	1.7%
Manufacturing	1,060	3,353	683,686	7.1%	1.5%	6.4%
Electricity, Gas, Water and Waste Services	289	1,518	115,753	1.9%	0.7%	1.1%
Construction	2,202	9,974	911,058	14.7%	4.5%	8.5%
Wholesale Trade	281	2,191	307,743	1.9%	1.0%	2.9%
Retail Trade	1,284	15,909	1,053,815	8.6%	7.2%	9.9%
Accommodation and Food Services	999	14,056	738,232	6.7%	6.4%	6.9%
Transport, Postal and Warehousing	579	4,981	499,485	3.9%	2.3%	4.7%
Information Media and Telecommunications	96	3,999	179,519	0.6%	1.8%	1.7%
Financial and Insurance Services	133	3,466	384,603	0.9%	1.6%	3.6%
Rental, Hiring and Real Estate Services	261	2,901	182,146	1.7%	1.3%	1.7%
Professional, Scientific and Technical Services	747	21,195	775,978	5.0%	9.6%	7.3%
Administrative and Support Services	349	5,127	365,732	2.3%	2.3%	3.4%
Public Administration and Safety	1,879	71,595	713,142	12.6%	32.4%	6.7%

[6] Proportion of employment may have changed since 2016 census. For example, recent employment statistics from 2021 show that 6.6% of the ACT population works in construction.

Education and Training	1,073	20,961	925,890	7.2%	9.5%	8.7%
Health Care and Social Assistance	1,494	22,833	1,351,018	10.0%	10.3%	12.6%
Arts and Recreation Services	198	3,824	176,667	1.3%	1.7%	1.7%
Other Services	669	6,508	399,634	4.5%	2.9%	3.7%
Inadequately described	559	3,759	344,816	3.7%	1.7%	3.2%
Not stated	190	1,906	130,326	1.3%	0.9%	1.2%
Total	14,947	220,647	10,683,844			

Source: ABS 2016 Census (ABS, 2017)

Employment in Queanbeyan and ACT industrial areas

Industrial areas are generally classified as the SA2s of Mitchell, Hume, and Fyshwick for the ACT, and Queanbeyan West, and Queanbeyan East SA2s for Queanbeyan.

The largest sector of employment for all industrial areas (apart from Fyshwick) is construction. The proportion of workers employed in Manufacturing varies between 5.3% of the workforce in Mitchell to 12.2% in Queanbeyan East. Compared to the ACT-Queanbeyan region as a whole, these industrial areas have a large focus on Construction and Manufacturing.

TABLE 8: NUMBER OF WORKERS IN INDUSTRIAL AREAS BY PLACE OF WORK (2016)

INDP 1 Digit	Mitchell	Hume	Fyshwick	Queanbeyan West - Jerrabomberra	Queanbeyan - East
Agriculture, Forestry and Fishing	3	3	39	3	4
Mining	6	0	9	0	13
Manufacturing	263	294	1,121	257	485
Electricity, Gas, Water and Waste Services	172	154	158	55	46
Construction	1,293	868	1,862	577	583
Wholesale Trade	166	168	739	56	101
Retail Trade	316	61	2,288	146	167
Accommodation and Food Services	53	14	373	59	277
Transport, Postal and Warehousing	261	538	899	136	212
Information Media and Telecommunications	210	71	319	15	3
Financial and Insurance Services	8	0	141	20	5
Rental, Hiring and Real Estate Services	58	19	159	28	50
Professional, Scientific and Technical Services	452	41	1,047	134	112
Administrative and Support Services	212	47	465	38	61

Public Administration and Safety	332	327	1,218	41	126
Education and Training	93	35	164	129	67
Health Care and Social Assistance	193	40	220	133	34
Arts and Recreation Services	153	25	52	23	22
Other Services	436	105	702	127	164
Inadequately described	218	142	526	108	128
Not stated	53	22	122	35	33
Total	4,943	2,961	12,609	2,114	2,715

Source: ABS 2016 Census (ABS, 2017)

For the Canberra/Queanbeyan Significant Urban Area, (including some but not all of Queanbeyan), the largest sector of employment is Public Administration, followed by Health Care[7]. This is largely in line with the employment split in Table 9.

TABLE 9: NUMBER OF WORKERS, CANBERRA SIGNIFCANT URBAN AREA EMPLOYMENT (2016)

INDP 1 Digit Industry	**People**	**Proportion**
Agriculture, Forestry and Fishing	605	0.3%
Mining	153	0.1%
Manufacturing	4,094	1.8%
Electricity, Gas, Water and Waste Services	1,652	0.7%
Construction	13,819	6.2%
Wholesale Trade	2,375	1.1%
Retail Trade	16,349	7.3%
Accommodation and Food Services	14,507	6.5%
Transport, Postal and Warehousing	5,379	2.4%
Information Media and Telecommunications	3,904	1.7%
Financial and Insurance Services	3,392	1.5%
Rental, Hiring and Real Estate Services	2,953	1.3%
Professional, Scientific and Technical Services	20,433	9.1%
Administrative and Support Services	5,819	2.6%
Public Administration and Safety	68,239	30.4%
Education and Training	20,895	9.3%
Health Care and Social Assistance	23,258	10.4%
Arts and Recreation Services	3,806	1.7%
Other Services	6,789	3.0%

[7] Not applicable responses of 126,664 people were excluded from the analysis.

Inadequately described	4,048	1.8%
Not stated	2,007	0.9%
Total	224,463	100%

Source: ABS 2016 Census (ABS, 2017)

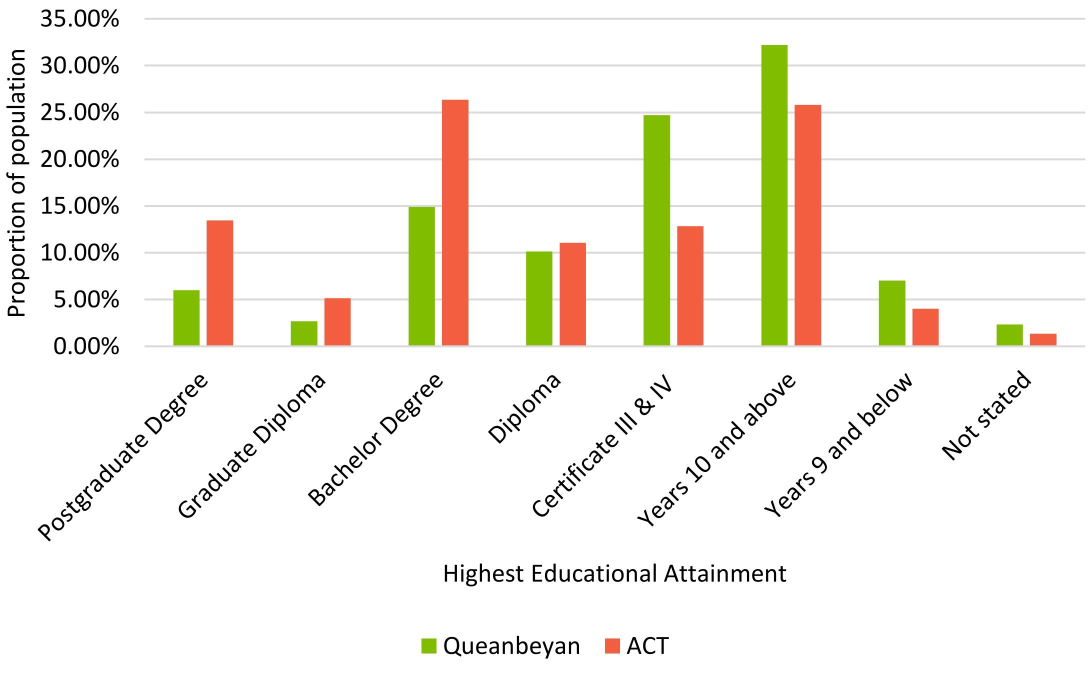
1.4 Education

The analysis of employment in the Canberra and Queanbeyan area was undertaken based on Place of Work and Place of residence, to highlight where jobs are by industry. All analysis is based on the 2016 ABS Census.

Educational Attainment

As Figure 5 shows, workers in the ACT have a higher educational attainment than workers in Queanbeyan.

FIGURE 5: EDUCATIONAL ATTAINMENT BY PLACE OF WORK

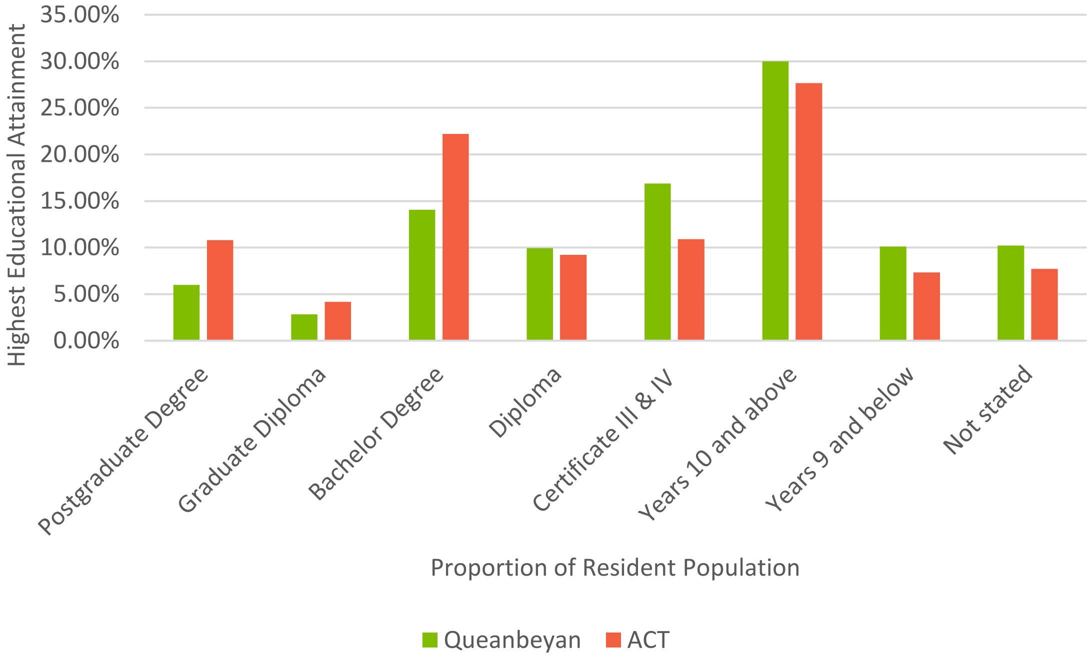


Source: ABS 2016 Census (ABS, 2017)

The education gap between ACT and Queanbeyan residents is less than the gap for workers, presented in Figure 9[8].suggests that Queanbeyan residents with a Bachelor degree or higher are more likely to commute into the ACT than work in Queanbeyan.

[8] Responses of 'Not applicable' for Place of Usual Residence were dropped.

FIGURE 6: HIGHEST EDUCATIONAL ATTAINMENT BY PLACE OF RESIDENCE



Source: ABS 2016 Census (ABS, 2017)

Workers in industrial areas - Fyshwick, Hume, Mitchell, and Queanbeyan West - Jerrabomberra, and Queanbeyan East – have a different qualification mix compared to the rest of ACT and Queanbeyan. A large proportion of workers in these zones did not study beyond Year 12, with another significant portion also attaining Certificate III and IV qualifications. Compared to the Canberra/Queanbeyan average, comparatively fewer have Bachelor degrees or higher.

TABLE 10: PROPORTION OF HIGHEST EDUCATIONAL ATTAINMENT IN SA2 INDUSTRIAL AREAS BY PLACE OF WORK

	Postgraduate Degree	Graduate Diploma	Bachelor Degree	Diploma	Certificate III & IV	Years 10 and above	Years 9 and below	Not stated
Mitchell	4.3%	1.8%	12.1%	9.5%	29.1%	36.1%	5.1%	1.9%
Hume	1.8%	1.0%	6.8%	8.0%	33.0%	39.5%	7.7%	2.4%
Fyshwick	4.7%	1.4%	13.2%	10.6%	25.7%	36.6%	5.7%	2.0%
Queanbeyan - East	2.9%	0.6%	9.0%	7.6%	32.7%	36.1%	9.0%	1.8%
Queanbeyan West - Jerrabomberra	3.0%	1.8%	10.4%	8.6%	34.1%	32.8%	7.3%	1.7%

Source: ABS Census 2016

1.5 Summary of findings

Queanbeyan and ACT have been growing in population size in recent years, and population projections suggest that this growth is likely to continue, creating a need for more places to live and work, and demand for services and jobs.

The employment mix in industrial areas in Queanbeyan and the ACT tends to be very different to other commercial zones in these areas, with far more jobs in Construction and Manufacturing- and very few in Professional Services or Public Administration and Safety. The educational mix is also quite different, with more people working in industrial areas having high school education only or a Certificate III/IV rather than the Bachelor degrees that are common among residents of Queanbeyan and ACT.

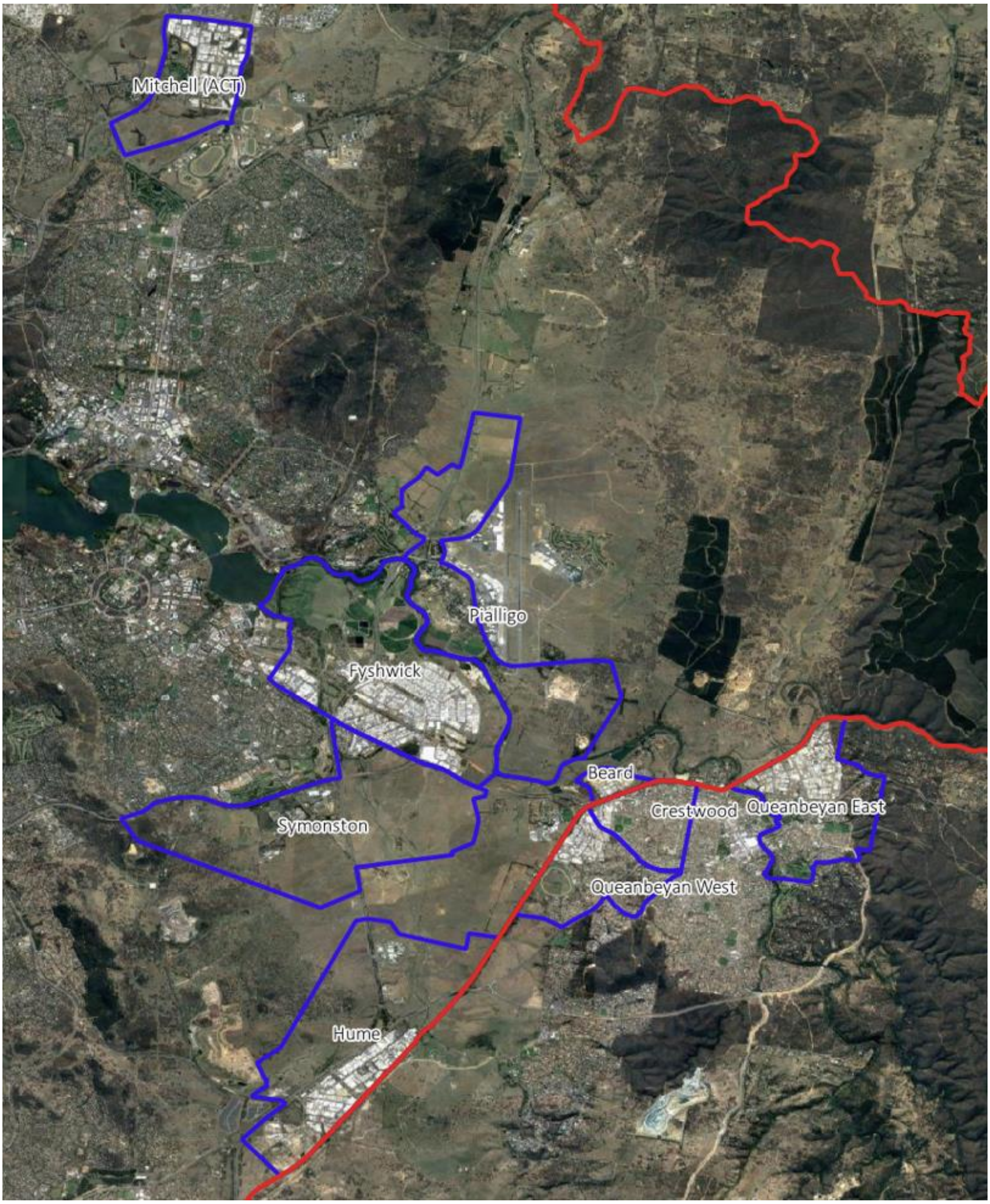
2. Employment centres of Queanbeyan/ Canberra region

South Jerrabomberra will be providing additional retail, commercial and industrial floorspace that will be competing with or complementing existing spaces in Queanbeyan and Canberra.

This section summarises existing business floorspace in the Queanbeyan and the ACT. Queanbeyan floorspace estimates are from 2015, and the ACT floorspace estimates are from 2018, as the COVID-19 outbreaks and associated restrictions have made updating floorspace infeasible. It should also be noted that the ACT Commercial and Industrial Floorspace Survey does not calculate all floorspace. It focuses on retail space, ground floor and first floor office and industrial floorspace, but does not estimate floorspace in commercial office towers.

The figure below shows the main employment suburbs of ACT and Queanbeyan.

FIGURE 7 MAJOR EMPLOYMENT SUBURBS OF ACT AND QUEANBEYAN



2.1 Queanbeyan/Palerang employment centres

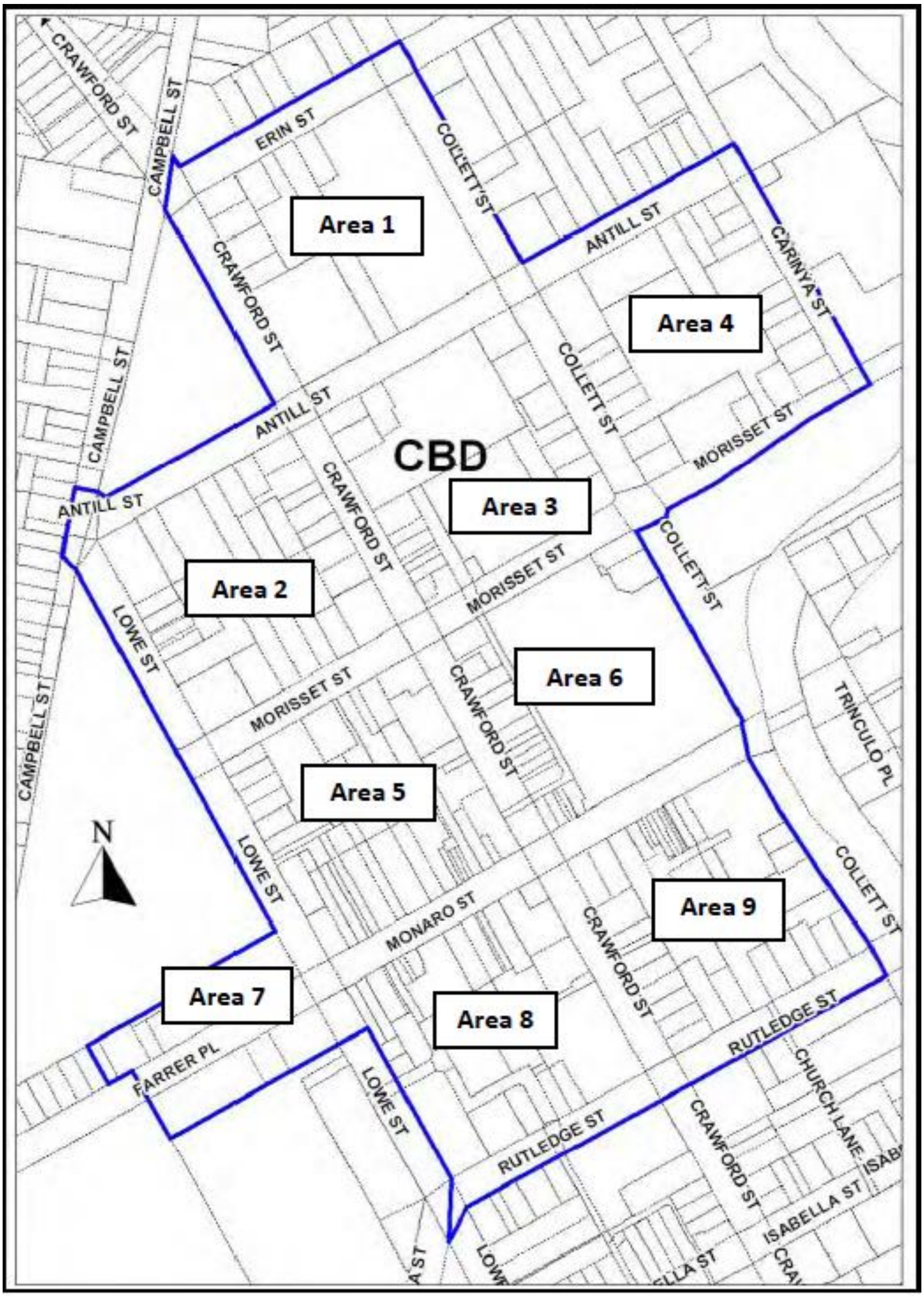
Queanbeyan's development profile is much closer to that of a traditional regional town than Canberra's planned city. Its character is a city centre that grew up around a main street, providing retail and professional services to populations surrounding the main street. The industrial areas, providing services such as vehicle sales and maintenance, home maintenance and manufacturing, were established away from the town centre. In this case, Queanbeyan's industrial spaces are pressed up against the ACT/NSW border, along the main road arteries going in and out of town.

Queanbeyan CBD

Queanbeyan CBD somewhat approximately covers the city blocks surrounding Crawford Street, from Eris Street to Rutledge Street.

It is a commercial/retail centre, with a mix of ground floor retail, including a shopping centre, and street facing office and retail space.

FIGURE 8: QUEANBEYAN CBD



Source: (Queanbeyan City Council , 2015)

TABLE 11: FLOOR SPACE IN SQUARE METRES, QUEANBEYAN CBD, 2015

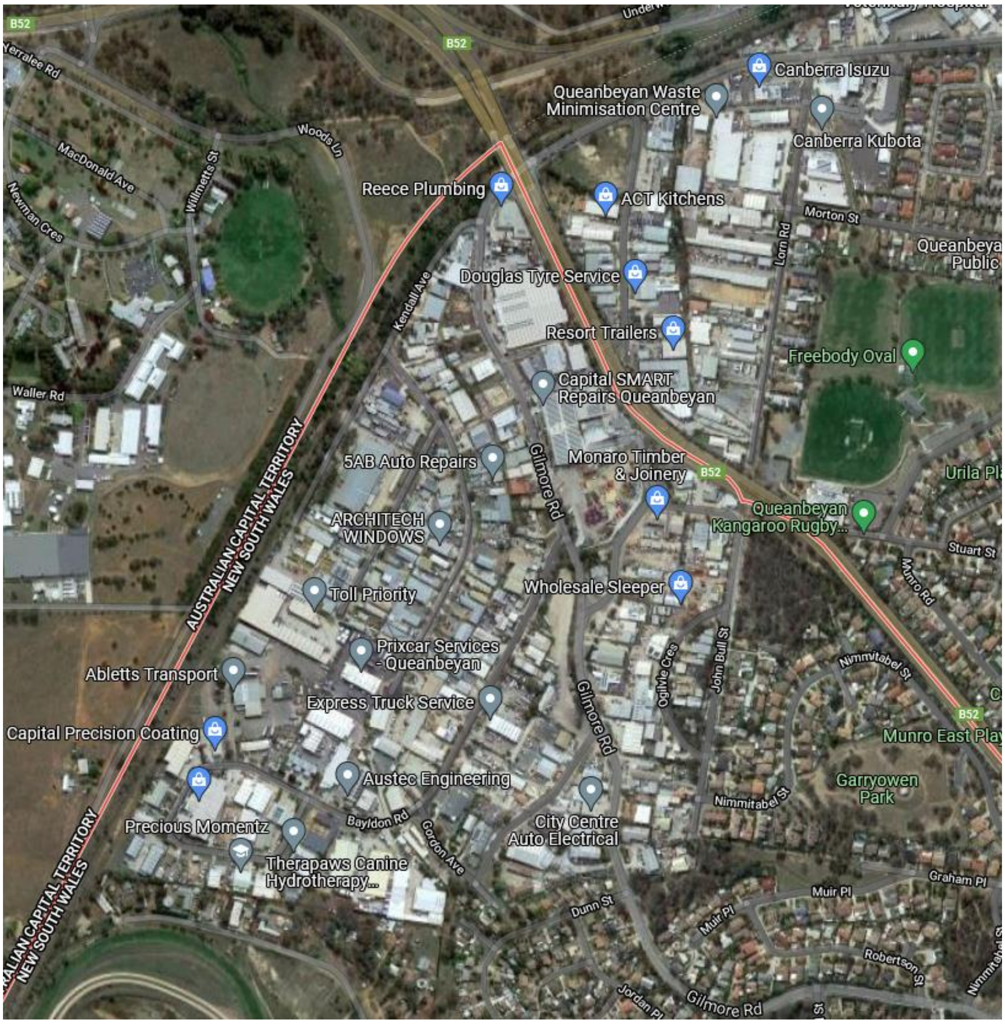
Area	Total Gross Floorspace	Total Gross Ground Floor space	Number of vacant premises	Total vacant floor area
Area 1 (including Queanbeyan Hospital)	18,852	12,497	5	347
Area 2	12,286	7,971	0	0
Area 3	22,650	15,156	2	360
Area 4	0	0	0	0
Area 5	37,236	18,870	15	2,712
Area 6	28,408	25,430	11	3,544
Area 7	10,960	4,635	0	0
Area 8	22,992	16,699	6	3,273
Area 9	13,534	9,984	4	338
Total	166,918	111,242	43	10,574

Source: (Queanbeyan City Council , 2015)

Queanbeyan West

Queanbeyan West industrial area is bordered by the ACT/NSW border and Canberra Avenue. The industrial area extends north of Canberra Avenue to Crestwood.

FIGURE 9: QUEANBEYAN WEST/CRESTWOOD INDUSTRIAL AREA



Queanbeyan West has 56.8 hectares of total land area zoned IN1 and 15.62 hectares zoned IN2.

In 2021, Queanbeyan West had 4819 sqm of vacant land, 31,084 sqm of underutilised land and 13,085 sqm of lots with vacant buildings. Most of this vacant or underutilised land is heavily fragmented – the average sized vacant lot is 803 sqm and the average size of an underutilised lot is 3108 sqm. Only one vacant building is on a lot of more than one hectare and only one underutilised lot is larger than a hectare.

In Crestwood and North Crestwood, a total of 24,028 sqm are available as vacant land, 1973 sqm as underutilised land and 6583 sqm are available in vacant buildings. The largest lot size available is around 5700 sqm.

Queanbeyan East

Queanbeyan East Industrial area is located northeast of the Queanbeyan Town Centre, on either side of Yass Road, between Kings Highway and the ACT Border. Queanbeyan East has 129,097 square metres of vacant land, 120,655 square metres of floorspace in vacant buildings and 28,410 square metres of underutilised land.

FIGURE 10: QUEANBEYAN EAST INDUSTRIAL AREA

TABLE 12: SUMMARY OF EXISTING EMPLOYMENT LANDS IN QUEANBEYAN

Precinct	Zone	Land Area excluding roads (ha)	Total lots	Median lot size (ha)
Queanbeyan West	IN1	46.84	279	0.1
Queanbeyan West	IN2	12.78	80	
Queanbeyan East	IN1	75.92	312	0.18
Queanbeyan East	IN2	16.93	85	
Queanbeyan East	B5	8.41	6	
South Tralee	B4	1.85	NA	

Source: (SGS Economics and Planning , 2015)

TABLE 13: CURRENT VACANCIES IN QUEANBEYAN INDUSTRIAL LAND

	Vacant land	Underutilised land	Vacant buildings
	Square metres	Square metres	Square metres
Queanbeyan West	4,819	31,084	13,085
Queanbeyan East	129,097	28,410	120,665

Crestwood	16,356	1,973	6,583
North Crestwood	7,672	-	-
Queanbeyan	1,627	-	613

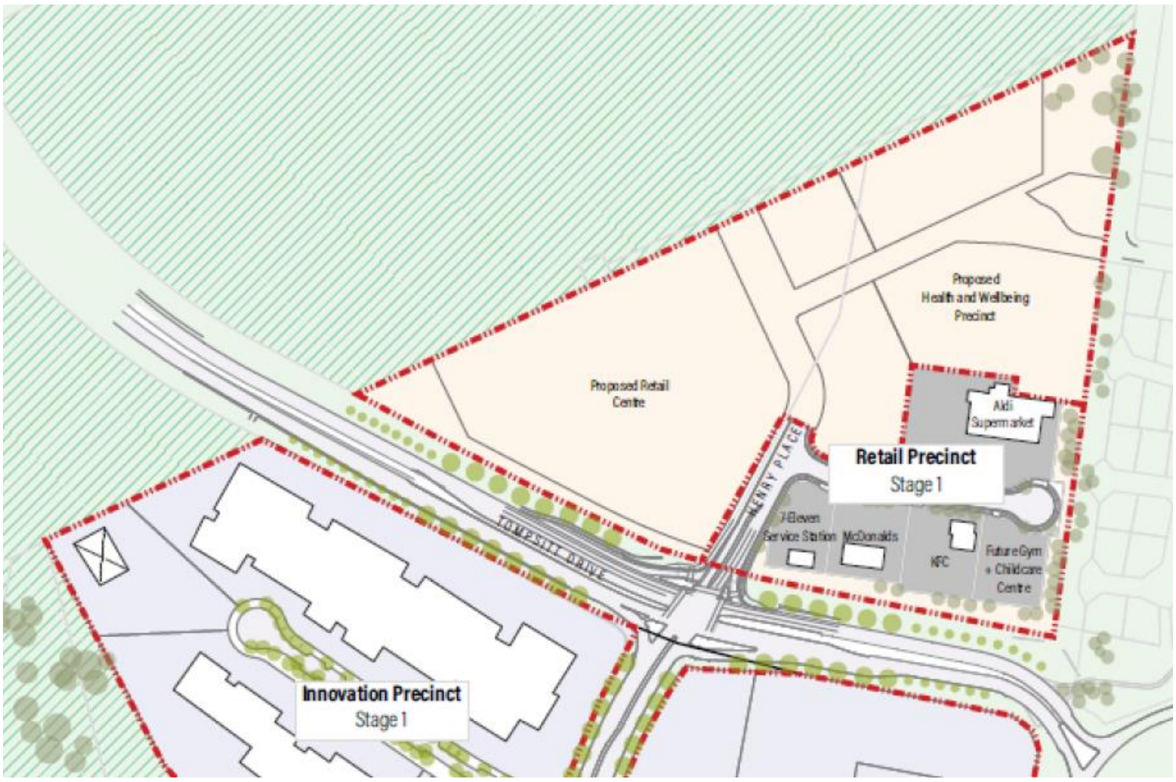
Source: Direct communication with Queanbeyan Palerang Regional Council

While Queanbeyan West, Queanbeyan East and Crestwood have considerable areas of vacant and underutilised land and vacant buildings, much of it is fragmented with limited availability of large lots or floorspace areas.

Planned North Poplars retail centre

North Poplars lies between Lanyon Drive, Tompsitt Drive and the existing Jerrabomberra suburb boundary. Stage 1 of North Poplars is complete and currently has a petrol station, supermarket and two fast food restaurants. North Poplars contains 7.6 hectares of B1 (Neighbourhood Centre) and 4.9 hectares currently zoned B7 (Business Park). It is currently limited to a maximum of 7000 square metres of retail to ensure that the premises support rather than compete with other retail centres, until a Retail and Business Hierarchy strategy can be prepared. Planned future developments in North Poplars include a retail centre, health and wellbeing precinct, childcare centre and gym (subject to Council approval).

FIGURE 11: NORTH POPLARS



North Poplars is expected to play an important support role for the Innovation Precinct and potentially, the North Tralee industrial area. It will provide shopping, fitness, café/bar/restaurant and wellbeing facilities for people in these areas, making the area a more attractive place to work. It will also support Jerrabomberra residents.

Analysis of future retail demand in Jerrabomberra

Hill PDA modelling (2021) suggests there is currently an undersupply of retail space in Jerrabomberra of 3900 square metres, which is expected to increase to 9600 sqm by 2036 unless additional retail space is provided. This analysis is based on the following:

- Primary trade area from Jerrabomberra and secondary trade area of Queanbeyan West, Karabar and North Tralee.
- Most of the increased demand for the new centre will come from South Jerrabomberra. Jerrabomberra's population is expected to decline slightly to 2036, while South Jerrabomberra's population is expected to grow.
- Transport for NSW Projections showing 7820 workers could be working in the catchment area.
- Based on this, retail sales within the Jerrabomberra trade area are expected to increase from $107 million in 2019 to $164 million by 2036.

Based on the analysis in this report, the expected increase in retail sales in Jerrabomberra is not unreasonable. The proposed neighbourhood centre serving South Tralee is small in size and are unlikely to offer a choice of supermarkets or full-sized supermarkets. The North Poplars centre could provide larger supermarket(s), pharmacy, hairdressing, a choice of dining and takeaway food options, specialty stores and some professional services such as a medical centre or real estate agents.

How will this fit in with the Queanbeyan retail hierarchy?

The size of the North Poplars catchment, covering the residential areas of Jerrabomberra and South Tralee and the proposed employment lands in South Jerrabomberra, would operate as a Local Centre in the Queanbeyan retail hierarchy.

Two potential risks to a North Poplars retail centre attracting sufficient turnover to maintain the centre's vibrancy would be:

- The extent to which retail patterns change post-COVID. As the Hill PDA study notes, COVID restrictions have accelerated the growth in the share of expenditure directed to online retail. While demand for in-store shopping is unlikely to disappear completely, if growth in the online share of retail continues, then in-store expenditure may be lower than projected.
- The potential expansion of residential development south of South Tralee and any alternative retail offerings that develop along with it. For example, if residential development including and surrounding South Tralee was sufficient to establish its own Local Centre, then there may not be sufficient demand to justify a Local Centre-sized development at North Poplars.

2.2 Other employment centres in QPRC

There is limited information on employment lands in these new centres. Googong has been recently built and parts are still under development. It was only just commencing construction at the last time the then-Queanbeyan Council surveyed its commercial floorspace, and Bungendore was not part of the

QPRC at the time. SGS does not have statistics on the current floorspace or size of employment lands in these areas.

Googong

Googong Township is a masterplanned community southeast of Queanbeyan near Googong Dam. When completed, Googong Township is planned to have around 6500 homes, with supporting retail, schools, recreational facilities, health services and office spaces. Most of the employment lands in Googong are population supporting spaces focused on Googonians, such as restaurants, hairdressers, GPs and so forth, rather than providing space for business parks, medium to large businesses or industrial spaces.

Googong has eighteen hectares of land zoned as B2 – Local Centre. Other small retail and recreational businesses are established as part of mixed-use developments in R1 zoned land.

Bungendore

Bungendore is around 30 minutes' drive from Queanbeyan, formerly of Palerang Council before it was merged with Queanbeyan. It has four clusters of IN2-zoned land, one between Ellendon Street and the rail line around King Street, another at the intersection of Ellendon and Rutledge Street, and one side of Turraloo Terrace and Butmaroo Street, each cluster running for one block. These clusters are mixed in with residential, recreational and commercially zoned land.

2.3 Commercial centres in Canberra

Canberra has a planned employment centres hierarchy designed around the ideal of a polycentric city. These city centres are Civic, the CBD, and the surrounding Inner North suburbs; Belconnen, to the west of the CBD; Gungahlin, to the north of the CBD; Woden, south of the lake; and Tuggeranong, further south again. In addition to this, there is also the Inner North, which is a population centre but not a town centre.

The structure of the town centres is generally a core of CZ1 (Commercial Core) and CZ2 (Commercial – Business) which typically contain office towers, major shopping centres and street level retail, which acts as the city centre. There is also typically a ribbon of CZ3 (Commercial Services) adjacent to the town centre. These areas typically provide semi-industrial population serving space for motor trades, home improvements and big box retail.

TABLE 14: FLOORSPACE IN TOWN CENTRES, ACT, 2018

Town Centre	Other	Retail	Services	Vacant
Belconnen Core	4,580	75,562	64,535	8,544
Belconnen Services	46,172	40,055	56,524	10,928
Civic	13,920	99,338	120,645	29,122
Gungahlin Core	1,135	36,059	21,227	1,841
Gungahlin Services	4,032	29,392	28,096	14,351
Woden Core	1,225	51,731	38,160	8,669
Woden Services	60,826	22,140	29,581	22,845

Tuggeranong Core	2,971	67,937	26,439	9,879
Tuggeranong Services	32,778	17,719	36,532	2,889
Total	167,639	439,933	421,739	109,068

Source: (SGS Economics and Planning, 2018)

Other smaller employment centres in the ACT include Group Centres, which are retail and small office hubs that serve several suburbs, and local centres, which typically contain a handful of shops and a limited amount of office space. Their character tends to be providing retail, hospitality and personal services (for example medical centres, hairdressers and some limited professional services).

2.4 Industrial centres in Canberra

The nature of Canberra's employment distribution – predominantly Public Administration and Safety and Professional Services – means there is less need for industrial land than most other cities around Australia, which have larger industries requiring industrial land such as Manufacturing, Wholesale Trade, Transport, Postal and Warehousing. Analysis in Sydney has used ACT's industrial land per person as a benchmark of the minimum amount of industrial land needed for a population (SGS Economics and Planning, 2017).

ACT's industrial land is generally zoned either IZ1 or IZ2.

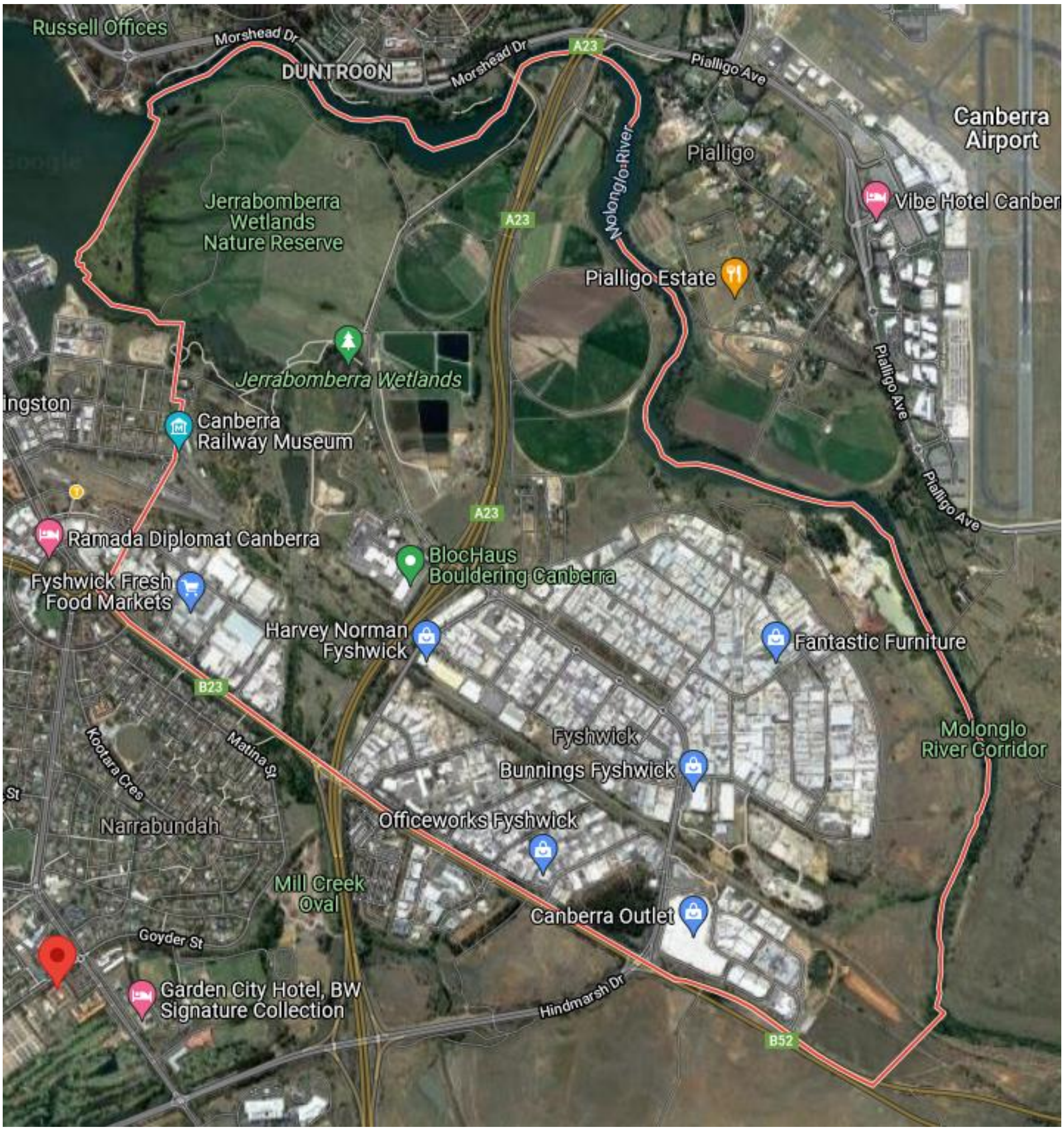
IZ1, or General Industrial, aims to support the diversification and expansion of the ACT's industrial base and employment growth, and make provisions for manufacturing, warehouse and transport land uses requiring large land areas accessible to main interstate road and rail connections. A key aim is to ensure that these lands are not jeopardised by uncontrolled development of higher rent commercial uses such as retailing and offices. This is generally comparable to QPRC's IN1 zoning.

IZ2, or Industrial Mixed Use Zone, has some similar aims to IZ1, but aims to provide industry-associated retailing and services without jeopardising an adequate supply of industrial land. Compared to IZ1, IZ2 land is aimed more at providing a mix of general industry along with supporting activities, lower rent bulky goods retailing and other types of commercial and industrial uses that can coexist. This is broadly comparable to QPRC's IN2 zoning.

Fyshwick

Fyshwick is Canberra's largest industrial centre with 1.06 million square metres of floorspace. It is around 11km by road from South Jerrabomberra, in Canberra's inner south.

FIGURE 12: FYSHWICK INDUSTRIAL AREA

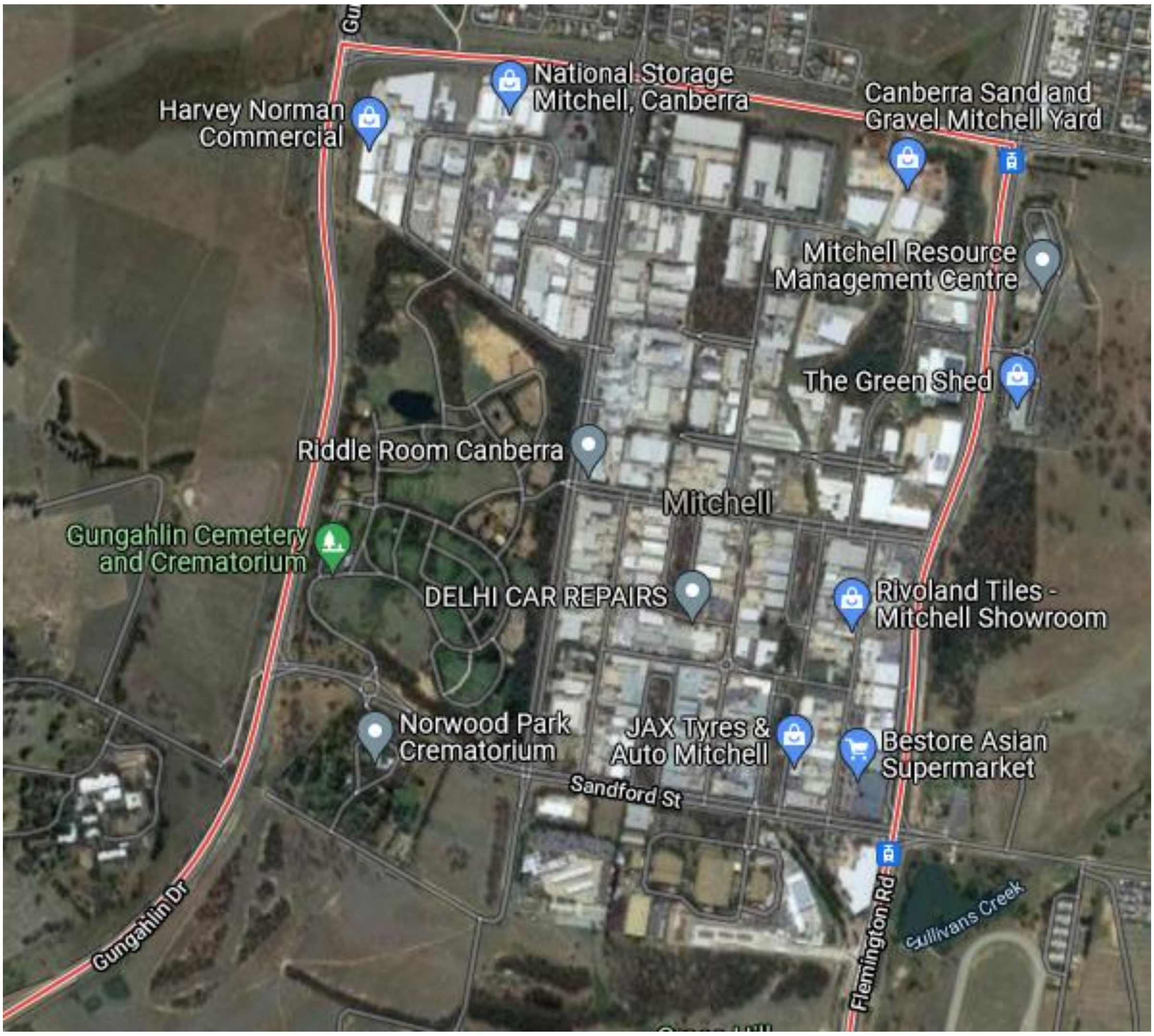


Although it is industrial, mostly zoned IZ2 with some IZ1, more than 30% of the floorspace is dedicated to retail. This retail is predominantly homewares and discount outlets, but also includes the DFO shopping centre.

Mitchell

Mitchell is the only dedicated industrial zone north of Lake Burley Griffin. It is more industrial in character than Fyshwick, with most of the land zoned IZ1 and some IZ2. It has approximately 412,000 square metres of floorspace.

FIGURE 13: MITCHELL INDUSTRIAL CENTRE



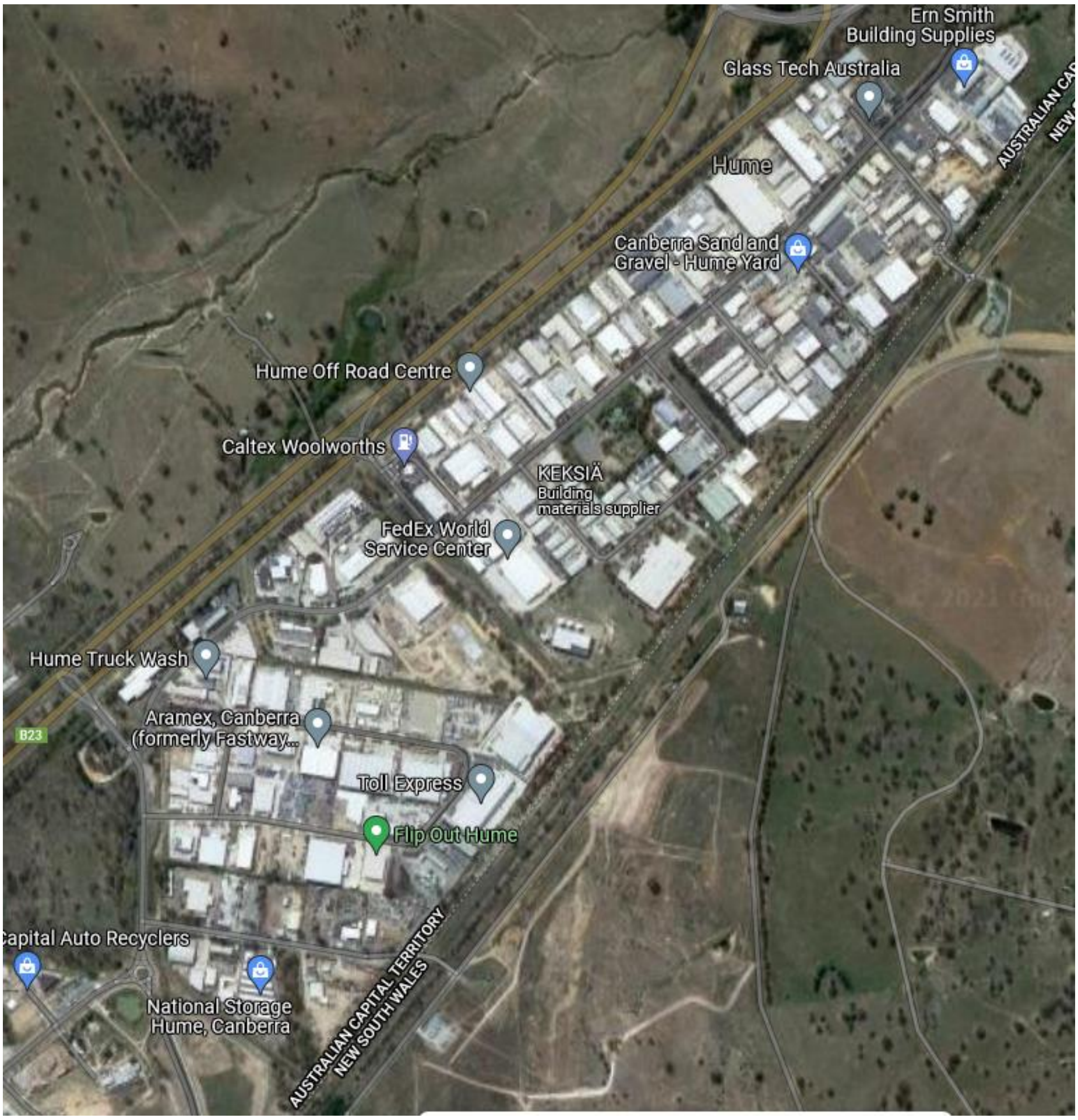
Mitchell is approximately 30 km by road from South Jerrabomberra, or around half an hour by car.

Hume

Hume is predominantly zoned IZ1. It is located on the west side of the ACT/NSW border, on the opposite side of the border from South Jerrabomberra. Generally, the quickest way to access Environa North is via Hume. Hume is home to around 357,000 square metres of industrial floorspace. The most common use of its floorspace is 'Other' which includes manufacturing, warehouses and office space. Of all of the industrial areas in the ACT, Hume is the most traditional industrial and the least population serving area of Canberra.

Hume is not yet built out, with vacant IZ1 land available southwest of the existing structures, and just over sixty hectares available on the opposite side of Monaro Highway.

FIGURE 14: HUME INDUSTRIAL AREA



Beard

Beard is a small industrial estate on the west side of the ACT/NSW border, to the north of Canberra Avenue. It is on the opposite side of the border from the Crestwood industrial area in Queanbeyan. As with Hume, the character of Beard is focused on traditional industrial uses rather than services or retail, although its zoning is NUZ1 – Broadacre. It is the second smallest of ACT's industrial zones, with approximately 28,000 square metres of floorspace.

FIGURE 15: BEARD INDUSTRIAL ZONE

Symonston

Symonston is located on the opposite side of Canberra Avenue from Fyshwick. Its character is more of a low rise business park than an industrial zone, with major employers such as Telstra and Northrop Grumman based there. The current business park is zoned IZ1 with around 26,000 square metres of floorspace, surrounded by IZ2 land which is currently vacant.

FIGURE 16: SYMONSTON INDUSTRIAL ZONE

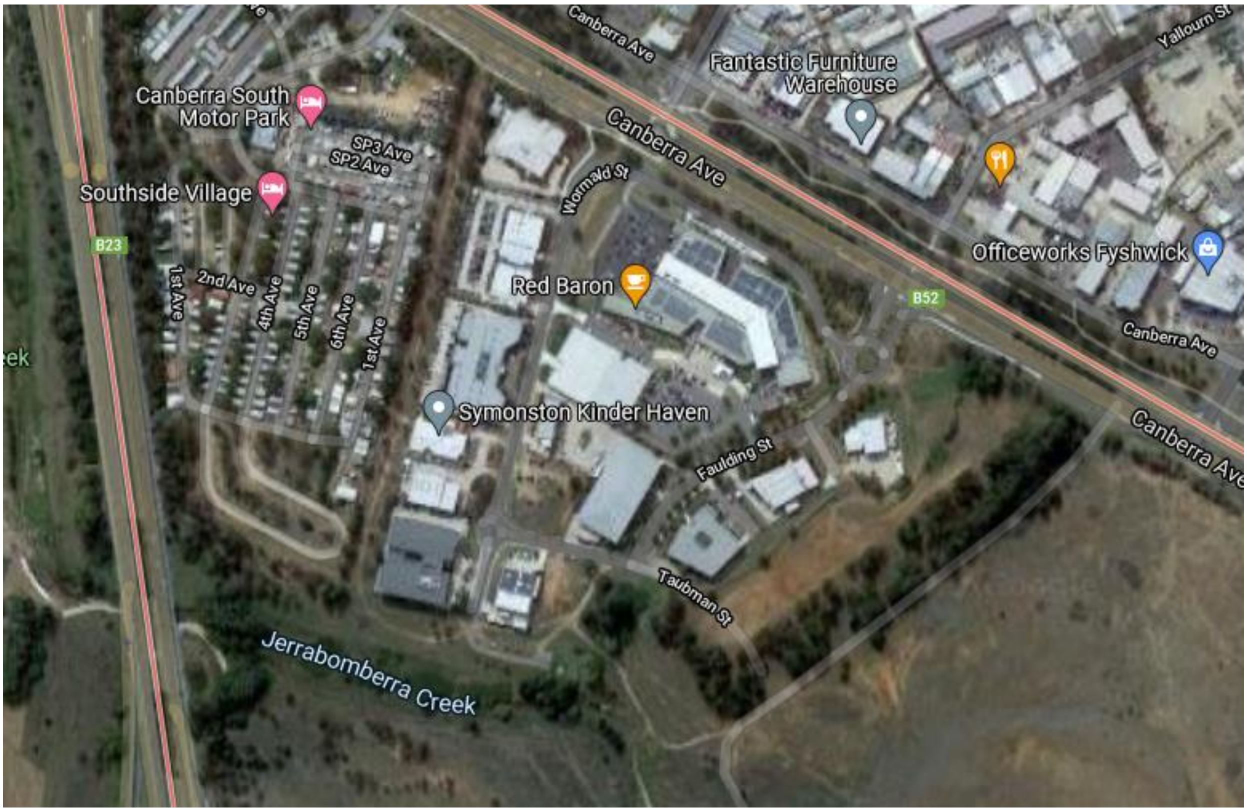


Table 15 and Figure 17 below show the distribution of floorspace and the number of premises in Industrial Areas by category. Most notably the number of premises increased from 2,740 in 2015 to 5,500 in 2018.

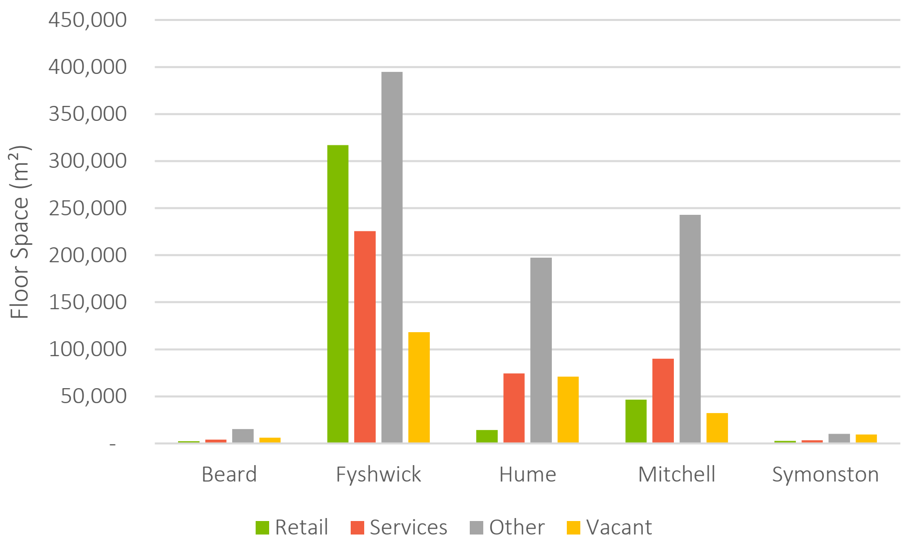
TABLE 15: DISTRIBUTION OF FLOORSPACE IN INDUSTRIAL AREAS BY CATEGORY

	Floorspace (sqm)	Number of Premises	Hectares
Beard			
Retail	2,222	4	
Services	4,024	24	
Other	15,268	38	
Vacant	6,111	22	
Total	27,625	34	34
Fyshwick			
Retail	317,114	928	
Services	225,711	1,024	
Other	394,755	956	
Vacant	118,084	572	
Total	1,055,664	34	364
Hume			
Retail	14,404	32	
Services	74,470	128	

Other	197,348	290	
Vacant	70,992	152	
Total	357,214	34	317
Mitchell			
Retail	46,573	182	
Services	90,061	450	
Other	242,931	526	
Vacant	32,337	140	
Total	411,902	34	144
Symonston			
Retail	2,828	2	
Services	3,483	18	
Other	10,202	20	
Vacant	9,470	14	
Total	25,983	34	25
Total ACT			
Retail	383,141	1,148	
Services	397,749	1,644	
Other	860,504	1,830	
Vacant	236,994	900	
Total	1,878,388	170	915

Source: (SGS Economics and Planning, 2018)

FIGURE 17: FLOORSPACE IN INDUSTRIAL AREAS BY MAIN CATEGORY



Source: (SGS Economics and Planning, 2018)

Pialligo/Majura Park/Brindabella Business Park

The area around the airport is zoned NUZ1 Broadacre, and much has been converted into a business park/office towers and big box retail. It also has a single IZ2 area which has 25,671 square metres of floorspace, dedicated to Ikea. The office space is generally not within scope for the ACT Floorspace Survey[9], and it has grown since 2018. The areas closest to the airport terminal, off Terminal Avenue, contain multiple high-rise office buildings (approximately 10 stories), plus an airport hotel and petrol station. The immediate north of the terminal contains an indoor shopping centre comparable in size and scope to a Group Centre in the ACT retail hierarchy, plus several big-box retailers including Costco and Bunnings and additional high rise office buildings.

2.5 Summary of findings

- Queanbeyan West and Queanbeyan East have a combined total of 194 hectares of industrial land (roads excluded).
- Queanbeyan as a whole currently has around 160,000 square metres of vacant land in industrial areas, however much of this is fragmented into smaller lots, reducing its utility for locations with larger lots.
- ACT provides a total of 915 hectares of industrial land, with planned land releases on the way.

[9] The ACT Commercial and Industrial Floorspace Survey targets ground floor and first floor commercial spaces. Medium to high rise office dwellings are excluded, although their ground floor level retail floorspace may be included.

3. Strategy and policy review

This section summarises the strategic planning context for the South Jerrabomberra area and surrounds.

It provides an overview the strategic drivers most relevant to South Jerrabomberra, rather than addressing all aspects of the relevant strategies and regulatory frameworks in detail. This includes both land use planning and economic development, and includes strategies published in the ACT, and at state and local government levels in NSW.

3.1 ACT Government

ACT Planning Strategy 2018

The ACT Planning Strategy (2018) is the high-level structure plan for the ACT. It sets out the land use vision for the ACT according to social, economic and environmental goals. This vision is expressed in five main themes:

1. Compact and efficient
2. Diverse
3. Sustainable and resilient
4. Liveable
5. Accessible.

Subsequent directions and actions give effect to these broad policy aims. Several of these relate closely to the South Jerrabomberra RJP:

- *Direction 1.5;* 'Protect the ACT and NSW border interface'. *Action 1.5.1* refers to maintaining an adequate buffer between urban land uses in the ACT and those in NSW. This is directed towards objectives for compact settlement, minimisation of land use conflict, and preservation of natural settings on approach to Canberra.
- *Direction 2.5* focuses on planning for a diverse mixture of employment lands with coordinated infrastructure provision. *Action 2.5.2* refers specifically to investigation of opportunities for new employment areas in the Eastern Broadacre area, which the South Jerrabomberra RJP sits adjacent to. The presence of critically endangered flora and fauna have been identified in the area, so potential uses will need to be less sensitive. Some examples were identified as:
  - Light industrial
  - Warehousing distribution stations
  - Freight support facilities.

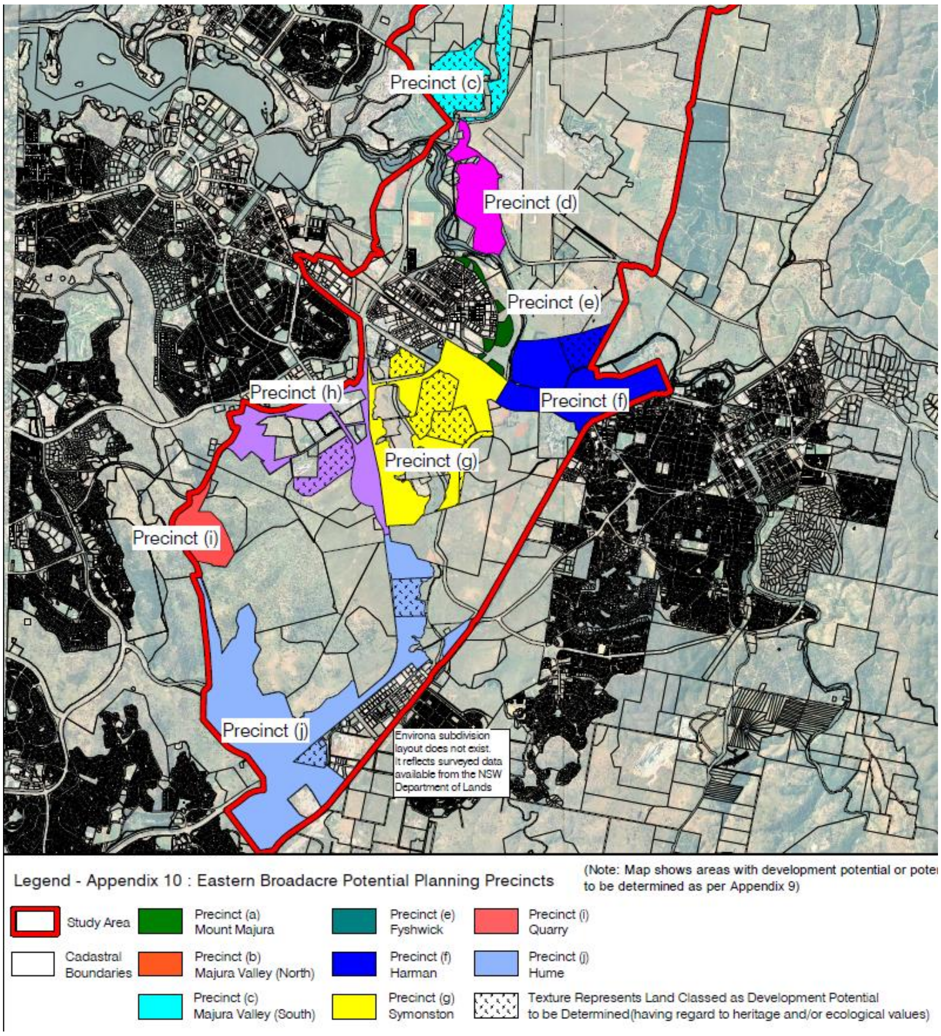
The Australian Government has entered into an agreement with the ACT Government to undertake a strategic assessment of the Eastern Broadacre area. The purpose of this assessment is to assess the impacts of development in Eastern Broadacre on threatened and migratory species and consider other environmental and heritage matters (Department of Agriculture, Water and Environment, 2021). SGS Economics and Planning understands that these assessments are ongoing.

ACT Eastern Broadacre Economic and Strategic Planning Direction Study

The Eastern Broadacre area of the ACT includes Fyshwick, Symonston, Hume, the Airport Zone, Brindabella Park and Majura. The southern stretch of the Eastern Broadacre area is adjacent to the ACT/Queanbeyan border, next to the South Jerrabomberra RJP study area. The area is under flight paths, so cannot be used for residential purposes. It has been identified as a north south employment corridor for development in the medium to long term (Macroplan, 2009).

Symonston and Jerrabomberra areas were identified for development as a short to medium term priority, while lands further north in Majura Valley were identified as medium to long term priority. Potential precincts for future development are identified below – note that potential for expansion of Hume adjacent to South Jerrabomberra is identified.

FIGURE 18: POTENTIAL FUTURE EASTERN BROADACRE PRECINCTS



Source: (Macroplan, 2009), Appendix 10

3.2 NSW State Government

20 Year Economic Vision for Regional NSW February 2021

The 20 Year Economic Vision for Regional NSW (NSW Government, 2021) sets out the NSW State Government's investment priorities for Regional NSW at a high level. Following an initial release in 2018, it was amended in 2021 in response to major natural disasters and the ongoing global pandemic. It states three core aims for regional communities:

- 'Be an appealing alternative to city living'.
- 'Contribute to future transformation' referring to the development of new industry specialisations, supporting innovation.
- 'Remain at the forefront of Australia's drive for high productivity'.

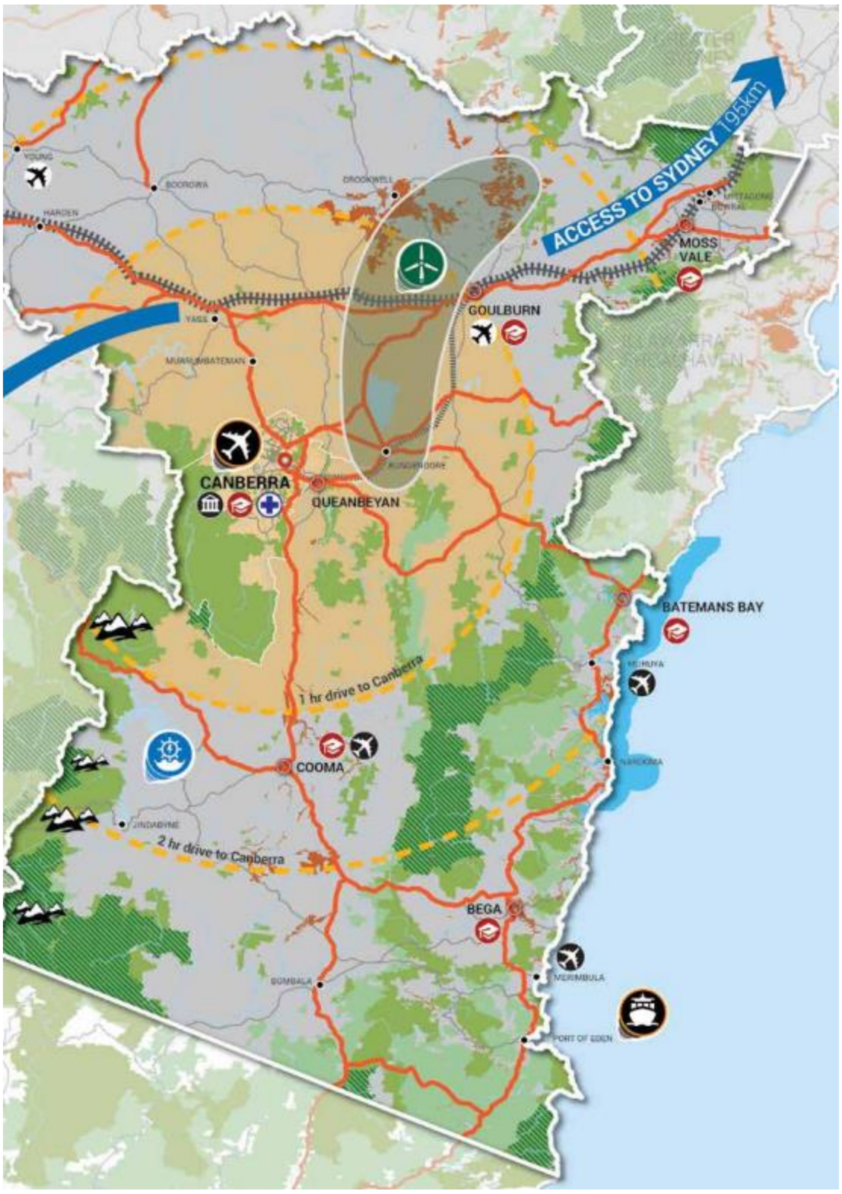
The Vision places Jerrabomberra into the 'Capital' economic region, which is classified as a 'metro satellite' in recognition of its functional linkages with Canberra. Major points of focus for regions under this classification include economic diversification, investment attraction and natural resource management.

A commitment of $23 million towards the 'South Jerrabomberra Innovation Precinct' is also referenced specifically. This funding was allocated from the $500m 'Growing Local Economies Fund'.

South East and Tablelands Regional Plan 2036

The South East and Tablelands Regional Plan (NSW Planning and Environment, 2017) provides the State Government's 20-year vision for the area shown in Figure 19 below. The Plan is currently undergoing its first five-year review to extend the Plan to 2041.

FIGURE 19: SOUTH EAST AND TABLELANDS REGION



Source: NSW Planning and Environment (2017)

The overarching vision set out is for a 'connected and borderless Canberra region'. Emphasis is placed on cross-border cooperation economic development and infrastructure coordination. This is supported by four broad policy goals and downstream directions and actions. Directions most relevant to this project are:

- *Direction 19*; 'Strategic cross-border connectivity.' This is about improving public transportation between the ACT and cross-border population centres.
- *Direction 26*: 'Coordinate infrastructure and water supply in cross-border selling.' *Action 26.1* identifies South Jerrabomberra specifically as a location where infrastructure coordination is a focus.

Cross border agreements with ACT and NSW

Regional NSW's Office of the Cross-Border Commissioner has established an ACT-NSW Memorandum of Understanding for Regional Collaboration with the ACT (Regional NSW, 2020). This was originally signed in 2011 and renewed in December 2016 and June 2020. It sets out the framework within which the ACT and NSW will work together in the delivery of targeted services, economic outcomes and policy implementation regarding cross border communities.

The most recent Priority Focus Area Plan for ACT and NSW highlights the need for cross-border groups to facilitate seamless infrastructure and cross-border transport, and to facilitate cooperation on housing, water, waste and an electric vehicle strategy. Future potential areas of regional collaboration include collaborating in the defence industry and supply chains, cross-border labour mobility and regional transport networks.

Queanbeyan-Palerang Regional Economic Development Strategy 2018 – 2022

The Queanbeyan-Palerang Regional Economic Development Strategy (QPRC, 2018) is the result of collaboration between the NSW Government and the Queanbeyan-Palerang Regional Council. It is an evidence base and framework for actions to grow and develop the Region's economy.

The Strategy identifies Public Administration and Safety and Health Care and Social Assistance as the areas of strongest employment growth in the Region. It also acknowledges the significance of 'labour-sharing' with the neighbouring ACT to the Region's economy. Opportunities are raised for the development of cross-border linkages and economic specialisations.

The Strategy's recommendations and action pathways are grouped into four parts:

1. 'Improve digital connectivity and access to harness the innovative capacity of the workforce.' The South Jerrabomberra Defence and Technology precinct and digital connectivity infrastructure are identified here as key infrastructure priorities. South Jerrabomberra is positioned as of central importance to the creation of high-value jobs in the Region.
2. 'Re-establish the town centres as places for people.'
3. 'Grow the population and internal markets of the region.' Measures here include smoothing regulatory asymmetry with the ACT to promote cross-border economic activity. Advocating for a Canberra City Deal to provide this cross-jurisdictional alignment is a key feature.
4. 'Further develop specialised agriculture and food and cultural tourism.'

This strategy is currently in the process of being updated.

3.3 Local Government

South Jerrabomberra Structure Plan 2013

The South Jerrabomberra Structure Plan 2013 (Queanbeyan City Council, 2014) was published by state and local authorities as the shared policy vision for the development of land uses at South Jerrabomberra. The Plan is mostly concerned with coordinating infrastructure servicing for the precinct with the scale and location of future land uses. Possibilities for cross-border infrastructure servicing are of particular interest.

The Plan has since been incorporated and refreshed in more recent strategic plans, including Council's LSPS.

Towards 2040; QPRC LSPS

The Local Strategic Planning Statement (LSPS) (QPRC, 2020) is the key policy document concerning Council's long term planning aspirations. The overarching vision statement is expressed as:

> "A historical country lifestyle, cherishing its natural and physical character, fostering business prosperity to complement our nation's capital while maximising international connections."

The LSPS introduces a range of 'key characteristics' of the LGA. Among these are high rates of population growth, strength in population-serving industry sectors and a reliance on private motor vehicle transport.

'Strategic pillars' are translated into 'planning priorities' which form the basis for the document's focus and subsequent intervention pathways. Planning priorities which link to actions concerned specifically with the study area are:

- *Planning Priority 10.* This deals with provision of community facilities. *Action 4.10.1* provides for the zoning of land for a 'new Regional Sports Facility' at West Jerrabomberra.
- *Planning Priority 11.* This is deals more generally with the coordination of land release areas with supporting infrastructure. *Action 4.11.2* refers to finalisation of the 'Jerrabomberra Innovation Precinct Local Planning Agreement'. *Action 4.11.8* states that Council will 'construct enabling infrastructure for land release at West Jerrabomberra and South Jerrabomberra.

The strategic overview for 'Queanbeyan and Surrounds' describes the intended character of South Jerrabomberra as a business precinct focused on high value-added 'defence, space, energy and waste renewables technology'. This is envisioned alongside a residential community to absorb much of the Region's expected population growth.

Queanbeyan Residential and Economic Strategy 2036

This Strategy (Queanbeyan City Council, 2015) provides an update to a previous version adopted by Council in 2006. Its purpose is to outline a 25-year framework for residential and employment land release in the Queanbeyan area. Its five main concerns are summarised as:

1. Ensuring that residential growth is environmentally sensitive.
2. Providing for residential growth at Googong and South Jerrabomberra.
3. Clarifying areas suitable for future urban development.
4. Retention of employment lands.
5. Infrastructure coordination.

The Strategy revises downward the expected dwelling yield at South Jerrabomberra, due to concerns with biodiversity conservation. It also notes that an additional supply of land zoned for employment uses will be required, stating that employment lands should be investigated as a possibility at Poplars, North Tralee and Environa North. The expected use of this employment land is mostly accounted for by urban services and light industry. The Strategy then provides a list of necessary infrastructure to support the anticipated employment uses.

An oversupply of industrial land in the ACT is identified as a threat to the prospects of newly zoned employment land across the border. There is a need to align initiatives in both jurisdictions to generate mutual benefits from industry linkage.

3.4 Federal Government

Modern Manufacturing Strategy

In the 2020-21 Budget, the Federal Government announced a $1.5 billion Modern Manufacturing Strategy. The Strategy aimed to help Australian Manufacturers to scale up, improve competitiveness and build more resilient supply chains.

Six priority areas were developed with industry, with the aim of strengthening Australia's manufacturing capability in these areas. These areas were:

- Space
- Medical Products
- Resources Technology and Critical Minerals Processing
- Food and Beverage
- Defence
- Recycling and clean energy

The Defence road map aimed to allow for more Australian businesses to contribute to local and international defence supply chains, while the Space road map identified the importance of leveraging our world class R&D and greater local manufacturing capability of space products. These are areas in which R&D from Defence, Australian universities, astronomy research and the CSIRO could be implemented and manufactured.

3.5 Summary of findings

South Jerrabomberra fits within a strategic narrative of strong population growth in the region and efforts to develop higher-order industrial and enterprise uses. It is envisioned as both a home of high-technology industry and a new residential community. Infrastructure provision must therefore respond to the needs of both types of use, requiring digital connectivity, community infrastructure, and transport infrastructure for both freight and public transit.

Cross-border cooperation is another prominent theme throughout all levels of strategic policy concerned with the study area. This applies to land use planning, economic development initiatives and governance arrangements in the region. These must be developed according to a shared logic which recognises that labour-force and business linkages are functionally connected in a catchment area unrestricted by administrative boundaries.

While ACT is recognised as a hub for the public service, defence and supporting industries, ACT's planning strategy for a compact and accessible city may mean that some land uses that thrive by proximity to the ACT's industry mix may not be able to operate in the ACT, particularly electricity-hungry businesses that cannot be cost competitive with ACT electricity prices. South Jerrabomberra can fill this gap by providing a close substitute for ACT land use.

4. South Jerrabomberra's contribution to employment lands

Lands in South Jerrabomberra have been earmarked for employment lands in the Queanbeyan Residential and Economic Strategy 2036. The location under the flight path for the Canberra Airport makes much of the land unsuitable for residential use.

South Jerrabomberra's location next to Hume on the other side of the ACT allows for the possibility of a major cross-border employment hub, providing a shared core of employment lands for Queanbeyan and Canberra.

The main sub precincts are:

- **Poplars:** This area is planned out as a future advanced manufacturing, defence, tech and aerospace precinct. South Poplars, the area south of Tompsitt Drive, is being designed to attract these businesses. The first release of the Poplars Innovation Precinct (10 hectares) has been allocated fully and developers are identifying businesses for Stage 2 (17 hectares). A further 9 hectare release is planned. North Poplars, north of Tompsitt Dive, currently has an Aldi, McDonalds and a KFC. This is planned to be developed into a retail and services precinct, which could include a small shopping centre, hospitality services or a health care/wellness centre. South west Poplars is adjacent to Jerrabomberra Creek and is a potential flood risk, and is expected to be left for conservation use.
- **North Tralee:** This area is planned to have a regional sports complex on 20 hectares adjacent to the ACT/NSW border and approximately 23 hectares of light industrial employment lands. The developers have indicated that they are not specifically targeting advanced manufacturing and defence. They have indicated that they have more demand than they have land and intend to choose businesses that do not have a negative street amenity.
- **Environa:** This sub-precinct is almost entirely under the flight path. At present it is zoned RU2 and is intended to be used as a combination of employment land and open space. The current landowner has expressed a desire to protect historic artefacts on site and take advantage of the views on more elevated areas of the land. The potential combination of industrial, commercial and recreational use will be dependent on a number of factors including the wishes of the current owner. **The planning of Environa is a major focus for this Masterplan as it currently zoned RU2.** Careful zoning and planning will allow Environa to set the character and act as a drawcard for South Jerrabomberra.
- **South Tralee:** South Tralee has been partly developed as residential. Stage 1 of the South Tralee residential development is almost complete at the time of writing. A community centre and local retail centre is planned adjacent to the ACT border. Other parts of South Tralee will be unsuitable for residential development as they are under the flight path and have been allocated as Environmental Conservation or Private Recreation lands. Further development of South Tralee as a residential area will depend on improving access routes to the ACT and the rest of Queanbeyan.

- **Forest/Morrison, Walsh:** This section is planned for future residential development, with some potential provision for employment lands.

These estimates of land availability exclude land that expected to be set aside for conservation or environmental uses.

FIGURE 20 SOUTH JERRABOMBERRA PRECINCTS, JULY 2021

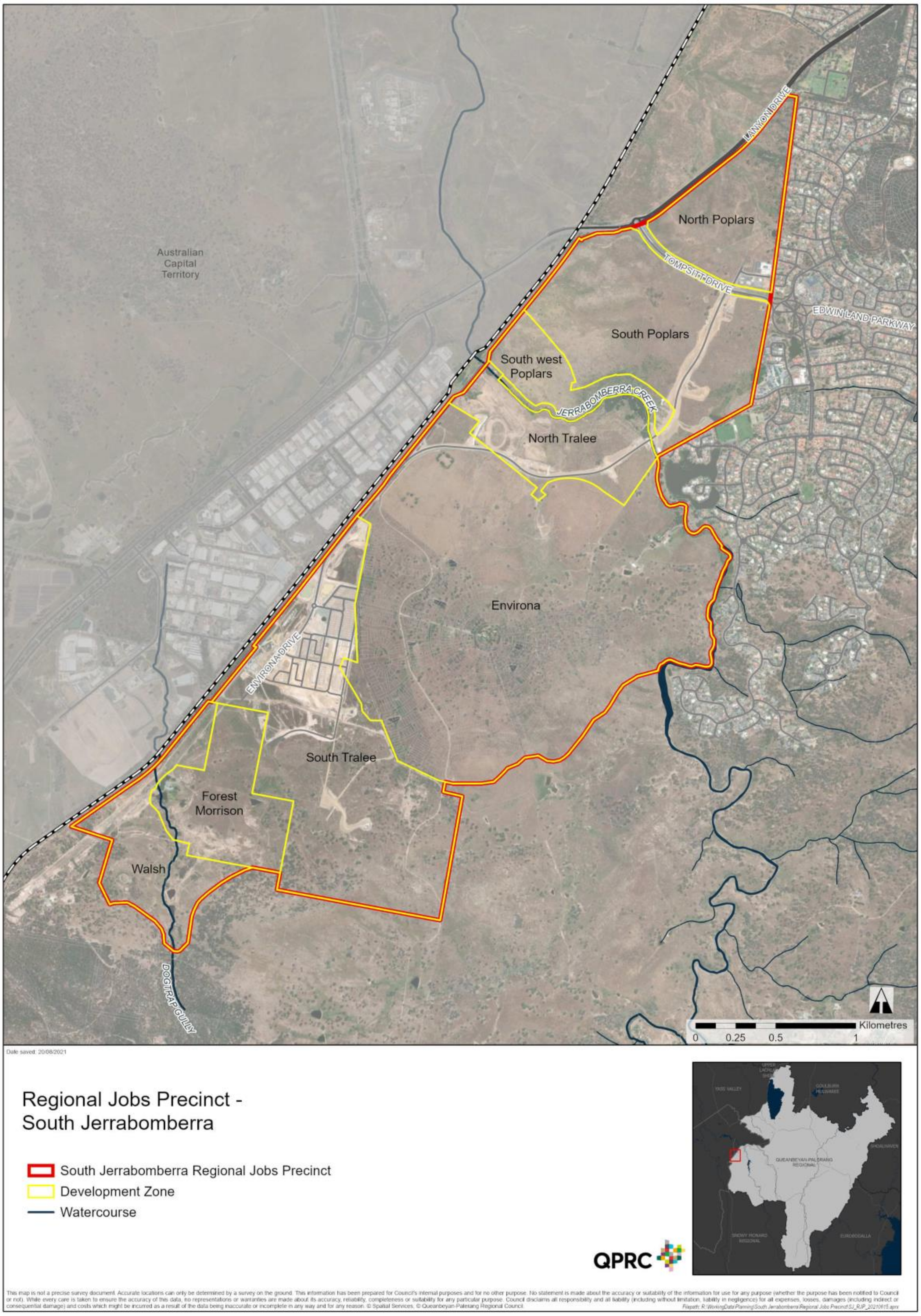


TABLE 16: SIZE OF PROPOSED ZONES IN SOUTH JERRABOMBERRA AND ALTERNATIVE ZONES

Location	Land use	Land area (Hectares)
South Poplars	B1	8
	B7	32
North Tralee	IN2	16
	B7	11
	RU2	11
South Tralee	B1	3
	B4	2
	R1	48
Environa	RU2	74

Source: (SJB Planning, 2021)

Notes: New employment zones are currently being rolled out across NSW. A consolidated LEP for the Queanbeyan-Palerang LGA is being developed. Land within the Environa sub-precinct is zoned for rural purposes under Queanbeyan LEP 1998.

North and South Poplars and North Tralee are expected to provide a supply of employment lands for the next 10-20 years. After this, Environa land releases will be needed to supply additional employment lands. The specific mix of employment lands and environmental or recreation lands has not yet been conclusively determined.

4.1 Other employment lands supply

In the shorter term, the ACT's Indicative Land Release Program shows around 92 hectares of new industrial land planned for release over the next four years. The Symonston land releases may be affected by Australian Government approvals required under the Environmental Protection and Biodiversity Conservation Act 1999.

TABLE 17: INDICATIVE INDUSTRIAL LAND RELEASES IN 2021-22 TO 2024-25, CANBERRA (HECTARES)

Location	2021-22	2022-23	2023-24	2024-25	Zoning
Hume	11.1				IZ1
Fyshwick	0.6				IZ2
Symonston		40		40	IZ2

Source: (EPSDD, 2021)

The ACT is investigating Eastern Broadacre lands for future industrial, employment and urban services use. These lands could compete with or be complementary to the proposed South Jerrabomberra development.

Macroplan (2009) identified just over 5000 hectares of land that could be potentially available for employment lands. Of this, between 2,200 and 3,200 is considered urban capable land for development, with around 1,000 ha yet to be determined. The report forecasts three rates of uptake of employment lands, from a status quo (population driven demand only) of 10ha of new employment lands per year, to the ACT developing as a significant freight and business hub and requiring 60ha of new employment lands per year.

5. Market sounding

The development of South Jerrabomberra as an advanced manufacturing precinct will be dependent on sufficient demand for new floorspace in the advanced manufacturing, defence, tech and aerospace sectors.

Part of this requires developing a 'critical mass' of businesses in these industries, where the establishment of a minimum number of businesses in the area will establish the character of the precinct, attracting more businesses with complementary needs. Conversely, precincts will need to avoid non-complementary uses. While there is demand for industrial space in the ACT and Queanbeyan, there is a need to target high-value advanced manufacturing to the area, preserving its character. There is a risk that if non-complementary industry moves into the precinct, such as big box retail, the advantages of agglomeration may not be met.

To better understand the needs of these businesses, several market sounding discussions were undertaken with prospective businesses interested in South Jerrabomberra. The participants comments have been aggregated to preserve confidentiality. SGS also held discussions with developers operating in South Jerrabomberra; and Queanbeyan Palerang Regional Council and ACT Government (Chief Minister's Department, Environment, Planning and Sustainable Development, Transport).

5.1 Alternative employment lands

Businesses seeking locations in which to establish tended to consider three main alternatives alongside South Jerrabomberra. These were Adelaide, Canberra and the Sydney Aerotropolis, near the new Western Sydney International (Nancy-Bird Walton) Airport.

FIGURE 21: ALTERNATIVE EMPLOYMENT LANDS FOR DEFENCE, ADVANCED MANUFACTURING

Adelaide	ACT	Aerotropolis	South Jerra
• Low cost land • Government incentives • Proximity to Defence industry	• Access to Government/ Defence • Access to unis/Stromlo • Transport connections	• Access to large Sydney labour market • Transport connections	• Lower cost than Canberra • Access to Government/ Defence • Access to unis/Stromlo

The key advantages of Canberra were seen as proximity to established offices, access to Government, Defence, universities and Stromlo. Access the to the Canberra Airport and potential for future export market access were also a consideration. The key drawbacks were higher operating and establishment costs, for example rates, payroll tax and utilities, accessing suitably skilled workers and lack of suitable land.

Adelaide's key advantage is its proximity to Defence manufacturing and research operations. Adelaide land costs are also relatively affordable, and the South Australian government is providing incentives for businesses to move to South Australia.

Western Sydney International (Nancy-Bird Walton) Airport and the Aerotropolis hub, is planned to be the second international airport of Sydney, and Sydney's 3rd CBD. This is planned to be curfew free, offering fast freight access. One advantage of South Jerrabomberra over Aerotropolis is that the Nancy-Bird Walton Airport is not expected to be operational until 2026. The Aerotropolis will take longer than this to be fully functional as an employment precinct.

South Jerrabomberra offers a number of advantages compared to similar options for advanced manufacturing businesses in Australia. Some of the advantages of South Jerrabomberra identified from the market sounding were:

- Proximity to Stromlo for aerospace industries
- Close to Parliament and Federal Government Departments
- Canberra Airport – no curfew
- Close access to Defence facilities
- Close to existing Canberra based offices and staff
- Access to the Universities, in particular UNSW, ANU and University of Canberra
- Access to the Intra-government Communications Network (ICON) network. ICON is a secure and unmetered telecommunications network linked by 3000 fibre links across the ACT and surrounds.
- Close to quality suburban areas for easy access between home and work.

However, market sounding suggested that businesses might not choose to locate in South Jerrabomberra unless they already had a connection with the Capital Region, Defence or other organisations in the area. All businesses indicated difficulty attracting and retaining staff in the Capital Region, and that the reason they were attracted to South Jerrabomberra was proximity to Federal Government and particularly Defence, and to a lesser extent Stromlo and Canberra's universities. If these were not attracting factors, businesses are likely to locate elsewhere with lower costs and easier access to labour.

5.2 Relationship with ACT

Generally, all market sounding participants agreed that on the importance of strong cross-border connections between NSW and ACT. Most of the businesses engaged with had operations or clients on both sides of the border.

Road connections through Hume

There is acknowledgment from most market sounding participants that there is a need for road connections from South Jerrabomberra to the ACT, to improve cross-border connectivity.

Queanbeyan has prepared plans for Dunns Creek Road, which would run from Old Cooma Road near Googong directly west, south of Environa and through the South Tralee residential development, passing over the ACT/NSW border connecting to Tralee Street or Shepherd St in Hume. This would allow a more direct access route from Googong and South Tralee to Canberra's southern suburbs, but the ACT Government does not want residential traffic passing through Hume, which would lead to congestion and delays for industrial traffic.

The ACT Government's preferred option is to extend Isabella Drive in the ACT across the Monaro Highway to the ACT/NSW border, south of Hume, to connect to Dunns Creek Road.

Recent advice suggests that Dunns Creek Road will not be acceptable for environmental reasons, which suggests that road connections from south of Queanbeyan, Googong and Jerrabomberra do not appear to have an immediate resolution.

Developers have acknowledged that their ability to attract businesses to the area and to support more residents will depend on an expansion of road access to the South Jerrabomberra area. Businesses interested in locating in the area were primarily interested in accessing their main clients or sister offices in the inner north or inner south of the ACT or Queanbeyan, and would most likely access these by Tompsitt Drive rather than the Dunns Creek Road connection to the ACT. However this access will be hindered by congestion if Tompsitt Drive remains the sole access point from South Jerrabomberra into the ACT. Resolving the issue of cross-border connections will be necessary before major rezonings can be undertaken in South Jerrabomberra.

ACT's plans for Eastern Broadacre

Currently there is a lack of suitable industrial floorspace in the ACT, with proposed land releases in Hume and Symonston. The Eastern Broadacre development aims to release new industrial lands between existing industrial lands in Hume, Symonston and Fyshwick and north of the airport. Early indications suggest that parts of Eastern Broadacre could be planned as an innovation precinct. ACT and businesses considering locating in South Jerrabomberra view the Eastern Broadacre development as complementary to, rather than a competitor to, South Jerrabomberra.

Businesses and developers indicated that they would welcome future employment lands at Eastern Broadacre to establish a site in addition to their potential South Jerrabomberra location, rather than instead of it (unless they were unable to secure a site at South Jerrabomberra).

A key advantage of Poplars and North Tralee over Eastern Broadacre is that they are already established and approved, while the timing of Eastern Broadacre, its zoning and potential uses are uncertain.

5.3 Business requirements for South Jerrabomberra

The businesses intending to locate at South Poplars will generally be large lots (around one hectare on average, with floorspace of at least 2000 sqm per business – most will average around 5000 square metres). Some of these will be two to three storey office/research spaces, other spaces will be larger, single storey factory style spaces. Semi-trailers will need to access the businesses.

Each business is likely to have specific requirements for their building, for example clean rooms, sound proofing, vehicle access and specific laboratories.

Physical building requirements including suitable security for Defence contracts

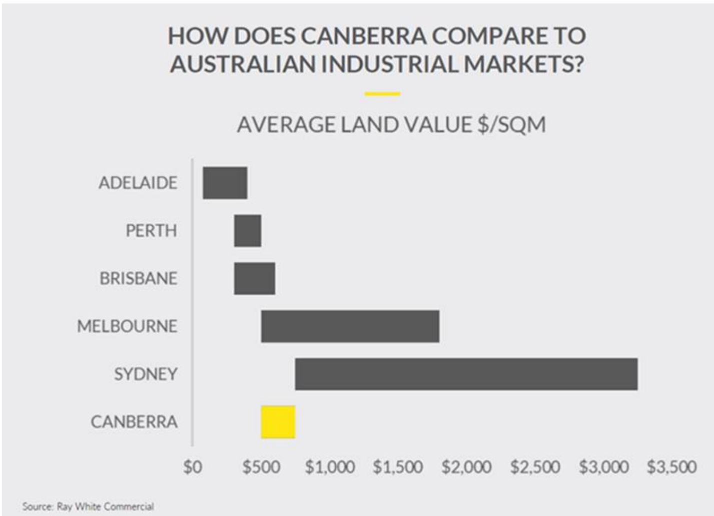
Building security was highlighted an advantage for attracting defence suppliers to South Jerrabomberra. Buildings that are built and accredited[10] to a Defence Industry Security Program (DISP) Zone 1 and that have the ability to have a Secure Compartment Information Facility (SCIF), provide a basic level of security for businesses that deal with Defence and can be readily upgraded to higher levels of security if required. Businesses indicated that retrofitting an existing building to DISP or SCIF standards is much more expensive than fitting a new building out according to these standards.

Power, utilities, ICON cable

Intra-government Communications Network (ICON) is planned to be built out to the South Jerrabomberra site. The ICON provides secure telecommunication for government departments up to a "PROTECTED" classification without the need for encryption (Department of Finance, 2021). The ability for defence companies to use the ICON eases communication with the Department of Defence.

A 132 kv substation has been committed for the Poplars Estate to support businesses that have substantial power needs as part of Stage 1 of Poplars. One business highlighted high electricity costs in the ACT as a reason for locating their manufacturing in NSW. Other businesses indicated that proximity to IT services could be an advantage.

Lower land costs and business operating costs



Market sounding participants generally indicated that South Jerrabomberra would have lower costs of operation than having the same size establishment in the ACT. Business and property rates, and workers' compensation were all indicated to be lower in NSW than the ACT for their business. Land prices in particular were indicated as significantly lower in South Jerrabomberra, with industrial land starting at $250/sqm, compared to over $500/sqm for comparable land in Canberra.

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[10] DISP and SCIF building accreditation needs a Defence sponsor.

Suitable amenity

Several prospective tenants of South Jerrabomberra expressed the desire to have suitable amenities and placemaking in and around the precinct area. Suitable amenities were highlighted as a key want for the South Jerrabomberra precinct, due to competitive pressures attracting staff.

For example:

- Cafes, bars and restaurants
- Childcare facilities
- Retail (e.g., supermarkets)
- Sport and recreation amenities (e.g., gym)
- Active transport and public transport options with links to Canberra, Tralee, Googong, and Queanbeyan.

The retail and planned childcare at North Poplars will probably be sufficient for the South Poplars Innovation Precinct, but a café in the South Poplars precinct could be beneficial in promoting informal networking among businesses in the precinct.

For businesses within South Jerrabomberra, transport links to Canberra Airport were mentioned due to staff and visitors flying in for meetings. These links may be public transport, shuttle buses or taxis/rideshare.

Complementary businesses

Businesses indicated that the character of the area would be important to them – they wanted to be located near businesses with a similar character to their own, or businesses that operated as inputs to theirs or used their outputs. R&D organisations, other advanced manufacturing businesses, IT and tech related industries and Defence organisations were all described as desirable neighbours by the businesses spoken to. One business noted that an earlier product of their company had arisen from discussions with a nearby business at a coffee shop, highlighting the innovation benefits that can come from locating with similar businesses.

Businesses had expressed a desire not to be surrounded by completely unrelated organisations, such as big box retail, mechanics, construction and so forth. However, the Village Building Company, which is establishing the North Tralee IN2 zones, indicated that while there was high demand for industrial land, they would not be curating the precinct to focus on advanced manufacturing, defence, tech and aerospace. They indicated that they had enough demand to choose suitable businesses for the area but were focused on stable businesses who would be establishing for the long term that would not have negative amenity impacts on neighbouring businesses or nearby residential. The types of businesses they were considering included local manufacturing (although not necessarily advanced manufacturing), construction and automotive. Unsuitable businesses include those that have poor visual amenity (e.g., car wreckers or metal recycling) or produced unpleasant smells, noise, dust or vibration (e.g., concrete manufacturing, mulch).

Intermodal terminal within Poplars

The businesses spoken to indicated that an intermodal terminal at Poplars would not be a major attractor for their specific businesses, although it would not be a hindrance. Advanced manufacturing benefits from South Poplars' proximity to the Canberra Airport and the Monaro Highway, but an intermodal terminal would not add significant value to the location for them. It may be beneficial for other businesses, particularly more traditional industrial businesses.

5.4 Staffing requirements for future South Jerrabomberra businesses

Businesses highlighted the need for appropriately skilled staff to work in innovative advanced manufacturing industries. From the market sounding discussions, one of the key constraints to business expansion is attracting the right skill mix of staff.

For example, there are no civil engineering degrees available from Canberra based universities, a key qualification for some advanced manufacturing businesses. Despite this, South Jerrabomberra also offers a competitive advantage being close to Canberra, where there is already a mature defence industry and skilled workers in defence.

Skill level mix

From market sounding consultations, there is a diverse skill mix required for the precinct. These include:

- Skilled tradespersons, including those with niche skills e.g., 'space tradies'
- Engineers – Specifically Civil, Mechanical, and Aerospace
- Employees with no specific skills, but stability and a technical mindset who can learn on the job or through traineeships.

Consultations from the market sounding noted that there is a desire for skilled tradespeople to work on technologically advanced projects. These skills would require further training either in further education or on the job. For example, an electrician who had trained in working in homes and businesses might need additional on the job training to understand how electrical devices work differently in low oxygen or zero gravity environments.

In addition, some of the businesses consulted during the market sounding noted that some employees will only require on the job training, as the skills needed will be role and company specific.

Also noted was the need to engage with schools, TAFEs and universities to ensure the right skill mix moving into the future. Participants in the market sounding suggested that local high schools should prioritise STEM subjects, establish links with tertiary education institutions in the ACT and Queanbeyan, and establish links with advanced manufacturing businesses. In addition, it was proposed that a specialised STEM high school could be established within South Jerrabomberra, providing links to local employment and training opportunities with advanced manufacturing firms. There was some indication that businesses could be interested in offering internships to students who were technically minded but did not necessarily want to go to university or TAFE.

While businesses indicated that the establishment of a TAFE or university campus to teach the skills required would not be unwelcome, they believed that would not be necessary until South Jerrabomberra was already well developed.

Currently, Queanbeyan-Palerang Regional Council have a Memorandum of Understanding (MoU) with the University of Canberra to contribute to the development of the innovation ecosystem. In addition, University of New South Wales (UNSW) have expressed interest in hypersonic capacity in the South Jerrabomberra precinct.

Number of staff required for business

SGS inquired about the planned number of staff at these sites, understanding that the manufacturing and R&D planned for the sites would result in lower employment densities than primarily office-based employment, for example at Brindabella Park.

The expected number of employees from the discussions range from 75 FTE for a 4,200 sqm site, to 200 FTE for a 10,000 sqm site. Another business required a site for 150 employees. In discussion with Poplars, businesses generally expressed interest in having around 50 to 100 employees. However, some businesses will have much lower employment numbers than this.

5.5 Summary of market sounding

Key advantages of South Jerrabomberra as it exists

Some of South Jerrabomberra's attractors for advanced manufacturing and technology businesses already exist. These include:

- ICON network, capacity for high power use;
- DISP accredited construction if possible;
- Access to Federal Government departments and Defence, with a lower cost of operation than locating in the ACT; and
- Tech and advanced manufacturing among businesses establishing at Stage 1 of Poplars, commencing a 'critical mass' process.

How can South Jerrabomberra be developed to improve attractiveness?

- Reliable range of transport options, including suitably fast road transport, public transport and active travel; and sufficient roads and cross-border connections to manage residential and business cross-border travel.
- DISP accreditation
- Placemaking and support businesses such as cafes, bars, gyms, attractive outdoor spaces
- Access to technically minded labour force, with the right skills mix from degree qualified to Year 12 only but willing to learn. A new comprehensive high school offering STEM subjects is welcome with the possibility for traineeships, a university or TAFE location could be beneficial in the future

- Permissions to run new and innovative testing and manufacturing techniques
- Complementary businesses located nearby.

As other businesses expressed interest in South Jerrabomberra, it would be helpful to establish open lines of communication to understand the needs of new businesses.

Expected uptake of employment lands at South Jerrabomberra

Discussion with developers has indicated that businesses have expressed strong demand for South Jerrabomberra employment lands, with one developer indicating that they could sell twice the amount of land that was available if they had no interest in curating the precinct.

6. Projecting demand for employment lands

Demand for employment lands in a region is dependent on a number of factors – population size, location and quality of transport links, establishment of large or significant 'anchor' industries or businesses around which other businesses will locate themselves and the dominance of incompatible industries.

At a minimum, most towns and cities will have a certain baseline level of employment lands. This will be the land required to service the needs of the population – car mechanics, construction industries, food and beverage manufacturing, big box retail and so forth. These employers tend to focus on servicing the local population, with minimal production for final use outside of the city.

Other drivers may result in some areas having a higher than average need for industrial land. Major highways, sea ports and airports will typically be surrounded by industrial land for two reasons – first, amenity is too low for residential or commercial/retail, and second, proximity to major transport links reduces costs for businesses of accessing inputs and selling outputs. Existing large factories or employers can act as 'anchor tenants' drawing in businesses who supply complementary goods and services.

Some factors may lead to a town or city having a lower than average need for industrial land. A picturesque location such as a beautiful beach in a regional town can drive demand for tourism accommodation activities in the town, driving up prices and reducing the cost-competitiveness of industrial lands in the area. Some population serving industrial businesses may service the town's needs from neighbouring towns that are less picturesque.

The SUA of Canberra/Queanbeyan has none of these factors. Previous research by SGS on the suitable 'minimum' level of employment lands in major capital cities used the provision of industrial land in Canberra/Queanbeyan as a benchmark for the base level of industrial lands needed to service a population – as the main employers in Canberra/Queanbeyan are office-based.

South Jerrabomberra is expected to provide employment lands over and above the baseline employment lands needed to service the population.

This economic analysis produces potential employment and economic outcomes based on two scenarios in which South Jerrabomberra provides new employment lands – a baseline scenario, in which land is provided to any business that requires it; and a Masterplan scenario, in which new employment lands are curated to attract advanced manufacturing, defence, aerospace and related industries.

6.1 Growth in demand for employment lands

The overall ACT/Queanbeyan population is expected to grow by nearly 50% to 2050, and so a similar growth of industrial land will be required just to meet the needs of the population. Based on the ACT/Queanbeyan's current industrial land supply of around 1100 hectares and population of just over half a million people, the region will need to add 10-15 hectares of industrial land per year just to maintain sufficient land to support population serving industrial businesses.

Employment precincts that aim to attract, expand or establish new businesses that are not population-supporting will result in additional demand for employment lands above this amount.

To attract new businesses to the area and encourage expansion of advanced manufacturing, defence, tech and aerospace businesses in the Capital Region, new precincts targeted to these industries must be prepared and released.

The release schedule of employment lands in South Jerrabomberra is highly uncertain and will depend on unknown factors such as future economic growth, release of alternative employment lands elsewhere in the Capital Region, competitiveness of other employment lands with Defence proximity such as Adelaide and the Aerotropolis and sufficient skilled workers. Previous analysis by Macroplan (2009) suggested that with a suitable design and investment attraction strategy, employment lands in Canberra could be taken up at a rate of 30-60 hectares per annum, depending on the level of investment attraction undertaken, compared to their baseline estimate of 10 hectares per annum.

The estimates of population driven demand have been based on ABS's Medium population projections for the ACT and NSW Department of Planning Population projections for Queanbeyan, based on data gathered in December 2021 – January 2022. Since then, the 2021 Census results have indicated that ACT's population was underestimated and forecast.id projections are preferable. These latter projections are higher and assume a faster uptake of employment lands. These are contained in a separate addendum.

6.2 Employment projections

Transport for NSW's Transport, Performance and Analytics (TPA) provides projections of employment at the travel zone level in NSW, but these do not yet incorporate the proposed development of South Jerrabomberra.

To estimate the extent of possible employment growth in new areas, historic employment growth rates for employment areas in New South Wales and Victoria were studied. There was considerable variation in growth rates, with some growth areas showing modest growth in the early years and growing stronger later, and others growing quickly in their initiation period and then slowing down. On average, urban areas tended to show strong growth in the first ten years before growth slowed, while rural areas experienced an initial rapid boost of growth, and further boosts after ten years.

TABLE 18: HISTORIC GROWTH RATES OF EMPLOYMENT AREAS

Location	0-5yrs	5-10yrs	10-15yrs
Docklands	23%	19%	10%
Olympic Park	5%	19%	3%
Cremorne	10%	3%	1%
Sydney Airport	5%	2%	1%
Melbourne Airport	1%	7%	2%
Ballarat West	14%	1%	3%
East Bendigo	6%	1%	2%
Pakenham Nth	15%	0%	16%
Wodonga Nth	0%	3%	20%
Average	9%	6%	7%
Average (urban)	*9%*	*10%*	*3%*
Average (rural)	*9%*	*1%*	*10%*

Source: ABS Census

These growth rates were drawn upon to understand the potential of new employment zones to expand, with a focus on the characteristics of South Jerrabomberra and the intention to target specific industries. SGS notes that growth is expected to be strong, due to the intention to target advanced manufacturing industries, increasing Defence spending across Australia, pent up demand for industrial lands and the potential for spillover of employment lands demand for the ACT. Table 19 shows the expected growth in demand for employment lands in South Jerrabomberra from 2023 onwards, based on typical growth rates of employment land districts shown in Table 18. Business Park/Advanced manufacturing refers to targeted industries such as aerospace, defence, technology and advanced manufacturing. Traditional industrial refers to businesses that would generally be located in IN1 or IN2 zones.

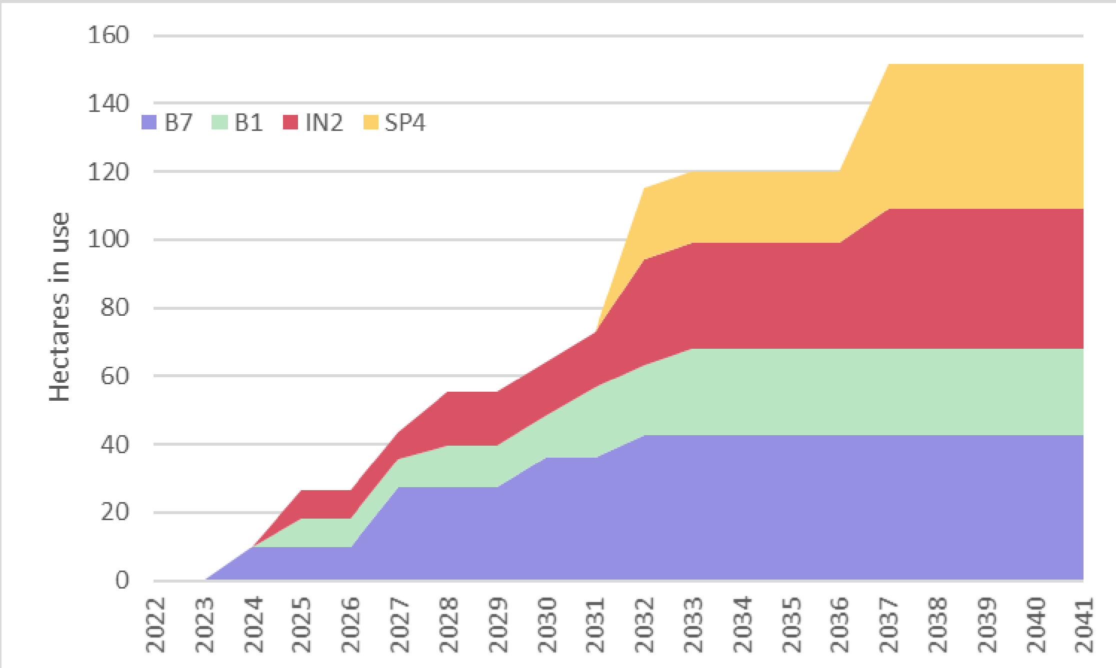
TABLE 19: PROJECTED GROWTH OF EMPLOYMENT LANDS IN SOUTH JERRABOMBERRA

Location	2023-27	2028-32	2033-2037	2038+
Business Park/Advanced manufacturing	9%	15%	9%	2%
Traditional industrial	15%	10%	10%	2%

Source: SGS Economics and Planning 2022

Since employment growth and land uptake are expected to grow hand in hand, these growth rates were applied to the initial releases of land in Poplars (Business Park/Advanced Manufacturing) and North Tralee (Traditional industrial). Based on these growth rates and allowing for some land to be used for retail and hospitality to support workers in the area (e.g., coffee shops, small supermarket) employment lands demand could amount to approximately 150 hectares by the 2040s if advanced manufacturing is targeted.

FIGURE 22: PROJECTED EMPLOYMENT LANDS UPTAKE IF ADVANCED MANUFACTURING IS TARGETED



Source: SGS Economics and Planning 2022

6.3 Summary of findings

Preliminary projections of employment land demand in South Jerrabomberra found that there was sufficient demand for approximately 150 hectares of employment land to be taken up in the area by the mid-2040s, if advanced manufacturing, defence, tech and aerospace industries are targeted along with some provision for traditional industrial lands. This is based on a combination of population driven employment growth, attracting new firms and expanding firms to the region, and drawing in some firms that might otherwise locate in the ACT.

These projections are based on expected demand for employment lands and **do not consider supply constraints**. They do not take into account the possibility that land releases may be delayed due to insufficient transport links or lack of utilities, for example. Investment in suitable utilities and road infrastructure, both local roads and connecting roads to Queanbeyan and the ACT, will be essential to support uptake of employment lands by businesses.

7. The South Jerrabomberra Masterplan and employment projections

On Thursday 3rd and Friday 4th of March 2022, Jensen Plus held a series of three Integration Workshops that pulled together findings from experts in environment, heritage, civil engineering, urban planning and economics.

These workshops deliberated over a series of aims and goals for the precinct and discussed how these could be achieved. Some of the constraints taken into account included:

- The need to allow for recreational open space and environmental protection, including habitat for endangered species such as the golden sun moth;
- Slope of some of the Environa lands which would increase their costs for employment land use;
- Proximity to residential areas in South Tralee and Jerrabomberra;
- Road connections within the precinct and to the ACT and when these could be developed;
- Flood risk areas near the creek;
- Technical issues with the provision of water, power and sewerage;
- The need for future employment lands, and future residential lands in areas unaffected or only minimally affected by flight noise; and
- Limitations to building under the flight path.

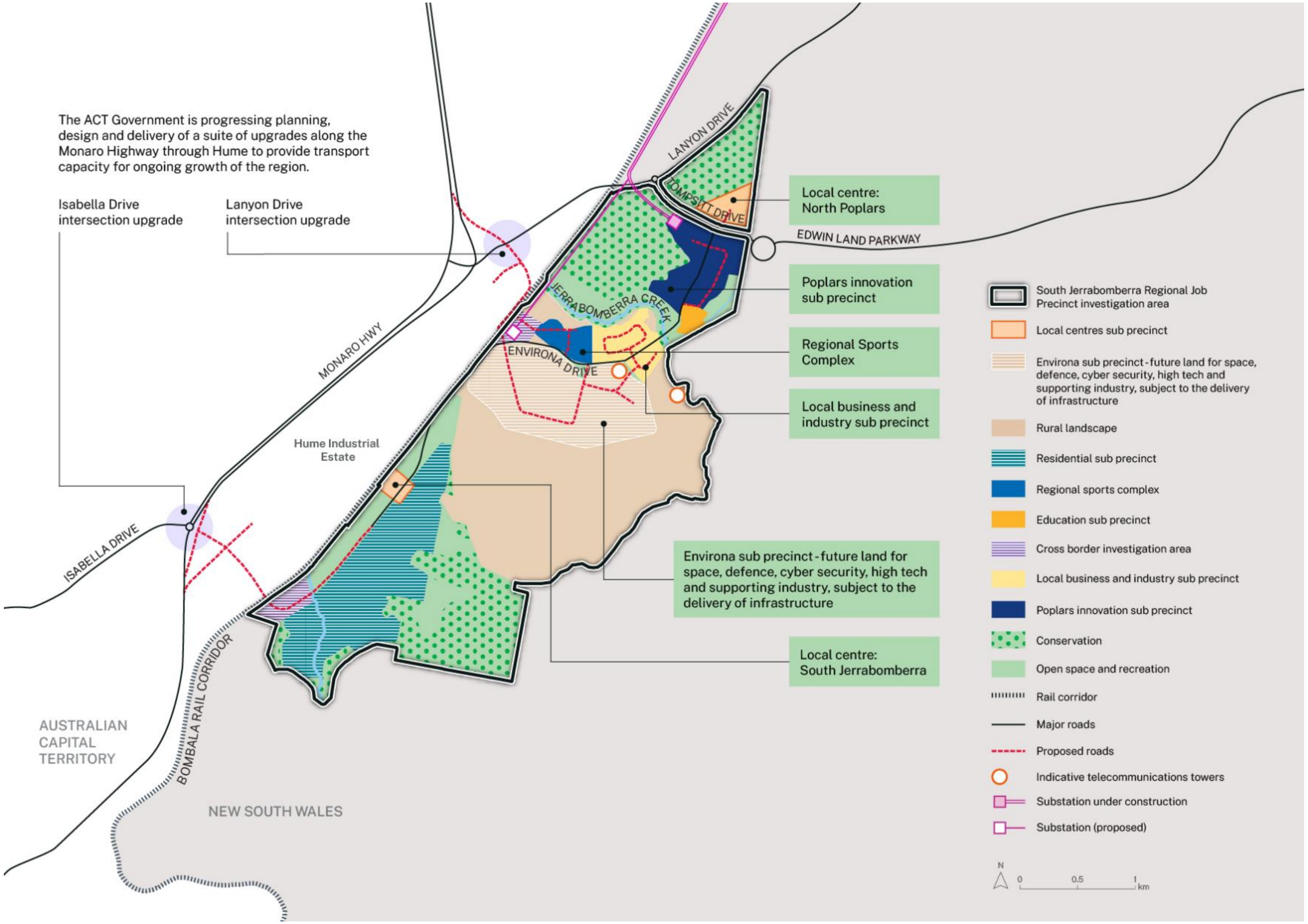
Based on these, a series of six possible plans for South Jerrabomberra were developed. Small teams of experts and stakeholders rated the aspects of each of the draft plans according to a set of criteria to highlight which aspects of the plans were positively or negatively viewed. The strongest ideas from each plan were pulled together to make up the Draft Masterplan for South Jerrabomberra.

This section prepares an economic analysis of the Draft Masterplan, explaining how planning a high amenity employment zone and targeting businesses in advanced manufacturing, defence, tech and aerospace with a purpose-built precinct is expected to result in greater growth in employment and economic activity than allowing the employment zones to develop without masterplanning.

7.1 The Draft Masterplan

This includes the existing Poplars innovation sub-precinct (darkest blue), the local business and industry sub-precinct at North Tralee (light yellow), one small cross border investigation area with the potential for use as retail or employment precincts and an additional 92.85 hectares of employment lands in the Environa sub-precinct for space, defence, security, high tech and supporting industry.

FIGURE 23 SOUTH JERRABOMBERRA STRUCTURE PLAN



7.2 Expected future job numbers in South Jerrabomberra under the Draft Masterplan

The Draft Masterplan was designed to attract a certain balance of businesses to drive amenity in the overall precinct, support advanced manufacturing, defence and tech industries, and to ensure that there is sufficient provision for industrial lands to support the growing population in Queanbeyan, and to a lesser extent the ACT. Zoning for employment lands has been chosen with a specific character in mind to draw in specific types of industries.

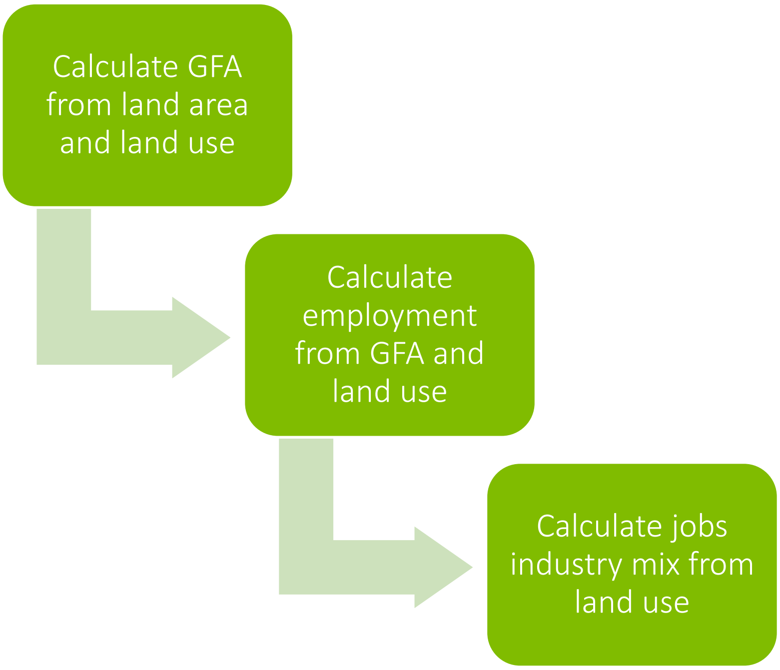
This analysis looks at a mix of two potential uses of land at Environa, subject to supporting infrastructure:

- Employment lands for space, defence, cyber security and high tech industries, and
- Employment lands for traditional light industrial uses which can support high tech industries, eg transport and warehousing, as well as

The aim is to estimate the employment numbers, industry mix and incomes in these areas, to understand how the Draft Masterplan zoning will affect traffic, demand for utilities, the number of jobs and the overall economic impact of the precinct on Queanbeyan.

Method

There are three steps to calculating jobs in this process. The first step uses averages from comparable business sites and industrial areas to estimate how many square metres of gross floor area can be expected based on the area size and comparable employment land uses. The second step calculates expected employment numbers based on this GFA and the expected mix of land uses, which are drawn from previous parameter estimates of jobs per square metre by SGS and Landcom. The final step estimates the number of expected jobs by ANZSIC (Australian and New Zealand Industry Classification) code, based on the industries targeted in the area and the total number of jobs expected. A flow chart of these steps is shown below.



Environa: advanced manufacturing, defence, technology employment

Approximately 31 hectares of land is expected to be dedicated to support advanced manufacturing, technology, defence, aerospace and so forth. It is intended that the large size of the precinct will allow for sufficient space for innovation and industry cross-collaboration

Assumptions for this land use were broadly drawn from an assessment of land use in similar existing buildings across Canberra, Adelaide and Sydney, such as the sites for Raytheon, BAE Systems and Fleet Space Technologies. This considered factors such as average lot size, building and site cover, and total impervious area across sites. These were used as a baseline, with some adjustments to allow for amenity, privacy and the somewhat more regional feel of South Jerrabomberra compared to some city areas. Based on this, the following assumptions were made regarding the expected overall floorspace as a function of available land:

- Area of land dedicated to roads = 20%
- Percentage of non-road land under impervious surface = 80%
- Average storeys per building: 1.5
- Gross Floor Area (GFA) as a percentage of building and site cover = 80%.

The main uses for this employment land use at Environa are expected to be high tech manufacturing (50%), light industrial (20%), business park (20%) and heavy manufacturing (10%).

Environa: light industrial, supporting advanced manufacturing, defence, technology and population serving industrial uses

Approximately 42 hectares of Environa land is expected to be used for a mix of light industrial purposes. This land can be used flexibly – it can provide land for population supporting light industrial uses when

North Tralee is completed, or it could be used to provided services such as transport and warehousing to support high tech activities elsewhere in Environa. Ideally, the zoning for this land could allow for some flexibility to attain either a business park, light industrial or special purpose use, or some combination of the above, depending on demand for these land types.

The assumptions for this land were not dissimilar to the advanced manufacturing/tech land use, with an allowance for most buildings to be single storey.

- Area of land dedicated to roads = 20%
- Percentage of non-road land under impervious surface = 80%
- Average storeys per building: 1 - 1.5
- Gross Floor Area (GFA) as a percentage of building and site cover = 80%.

The main employment lands mixes for this area of Environa are expected to be light industrial (50%), freight and logistics (20%), big box retail (20%) and high tech manufacturing (10%).

Note that the estimates of total areas of land dedicated to each land use are early, general estimates for modelling purposes and a different mix of land uses may eventuate.

Based on these assumptions and demand growth estimates for South Jerrabomberra from the previous section, the expected GFA and jobs for these two areas are shown over the page.

TABLE 20: EXPECTED LAND USES AND EMPLOYMENT IN ENVIRONA, 2031-2041

		2031				2036				2041			
Environa (Advanced manufacturing, tech, defence, aerospace)													
Land use mix		Land (Ha) ex roads	Building + site cover	GFA (sqm)	Jobs	Land (Ha) ex roads	Building + site cover	GFA (sqm)	Jobs	Land (Ha) ex roads	Building + site cover	GFA (sqm)	Jobs
Light industrial	20%	1	6,712	10,068	57	4	22,431	33,647	190	6	31,499	47,248	267
Heavy manufacturing	10%	1	3,356	5,034	28	2	11,216	16,823	95	3	15,749	23,624	134
High tech manufacturing	50%	3	16,780	25,170	142	11	56,078	84,116	475	16	78,747	118,120	668
Business Park	20%	1	6,712	10,068	57	4	22,431	33,647	190	6	31,499	47,248	267
Total		7	33,560	50,340	284	22	112,155	168,233	951	31	157,493	236,240	1,335
Environa (supporting light industrial)													
Land use mix		Land (ha)	Building + site cover	GFA (sqm)	Jobs	Land (ha)	Building + site cover	GFA (sqm)	Jobs	Land (ha)	Building + site cover	GFA (sqm)	Jobs
Light industrial	50%	7	33,142	16,571	160	11	56,215	44,972	272	21	106,235	84,988	514
Freight and logistics	20%	3	13,257	6,628	64	4	22,486	17,989	109	8	42,494	33,995	206
High tech manufacturing	10%	1	6,628	3,314	32	2	11,243	8,994	54	4	21,247	16,998	103
Big box retail	20%	3	13,257	6,628	64	4	22,486	17,989	109	8	42,494	33,995	206
Total		13	66,284	33,142	321	22	112,431	89,945	544	42	212,470	169,976	1,028

Source: SGS Economics and Planning 2022

TABLE 21: EXPECTED LAND USES AND EMPLOYMENT IN SOUTH POPLARS AND NORTH TRALEE IN 2031

					2031
South Poplars					
Land use mix		Land (Ha) ex roads	Building + site cover	GFA (sqm)	Jobs
Business park	80%	26	119,680	134,640	920
High tech manufacturing	20%	6	29,920	33,660	230
Total		30	149,600	168,300	1,150
North Tralee					
Land use mix		Land (ha)	Building + site cover	GFA (sqm)	Jobs
Light industrial	50%	9	45,612	34,209	226
Freight and logistics	20%	4	18,245	13,683	90
High tech manufacturing	10%	2	9,122	6,842	45
Big box retail	20%	4	18,245	13,683	90
Total		18	91,223	68,417	452

Source: SGS Economics and Planning 2022

South Poplars and North Tralee are expected to be completed and fully operational by 2031, with South Poplars expecting 1,150 jobs and North Tralee expecting 452 jobs.

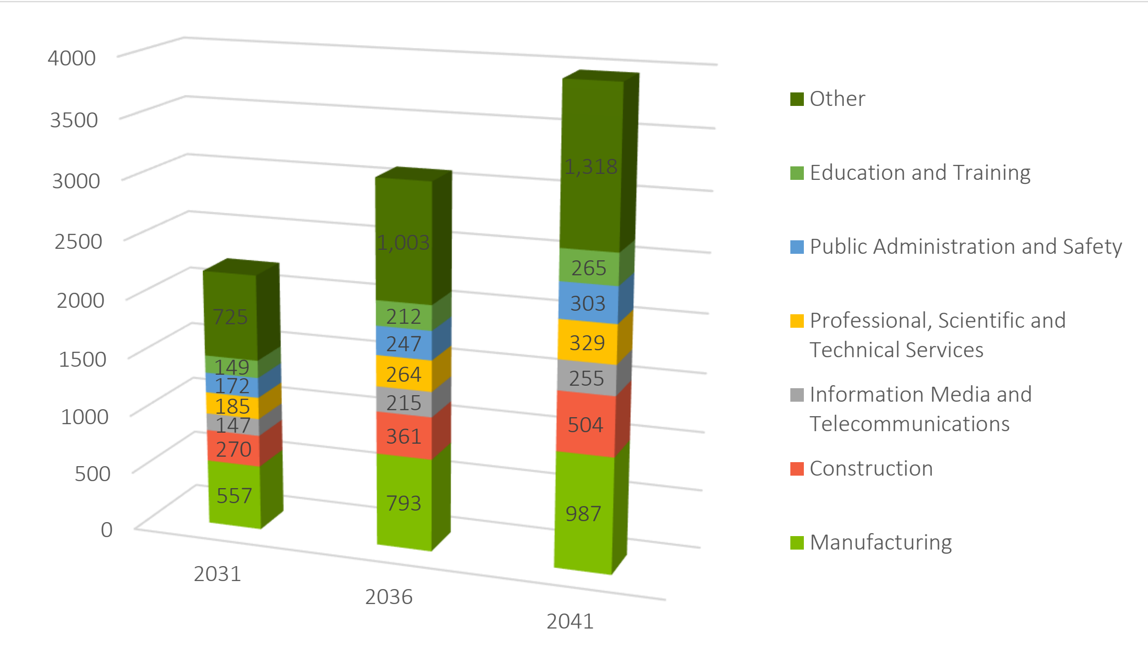
The Environa area is expected to be host to just over 500 jobs by 2031. By 2041, this expected to grow to over 2300 jobs, with 1,335 of these focused on advanced manufacturing, defence, tech and aerospace and 1,028 in supporting light industrial industries.

7.3 Industry mix of employment

The South Poplars and advanced manufacturing/tech industries of Environa are expected to end up with a very different mix of jobs by industry to a traditional industrial area. Their industry and education mix were designed on the basis of discussions in the Market Sounding, reflecting the jobs mix that is currently targeted in the South Poplars precinct. The North Tralee and light industrial areas of Enivrona mix of jobs was loosely based on the employment industry and education mix currently in place in Queanbeyan's industrial suburbs. The mix of employment and education levels is shown in the Appendix.

Based on these estimates, SGS have calculated the following employment mix in South Jerrabomberra. It is expected that Manufacturing will be the main industry in the precinct, followed by Construction, which is driven by the light industrial precincts. The next most significant industries will be Professional, Scientific and Technical Services, Public Administration and Safety, Education and Training and Information Media and Telecommunications.

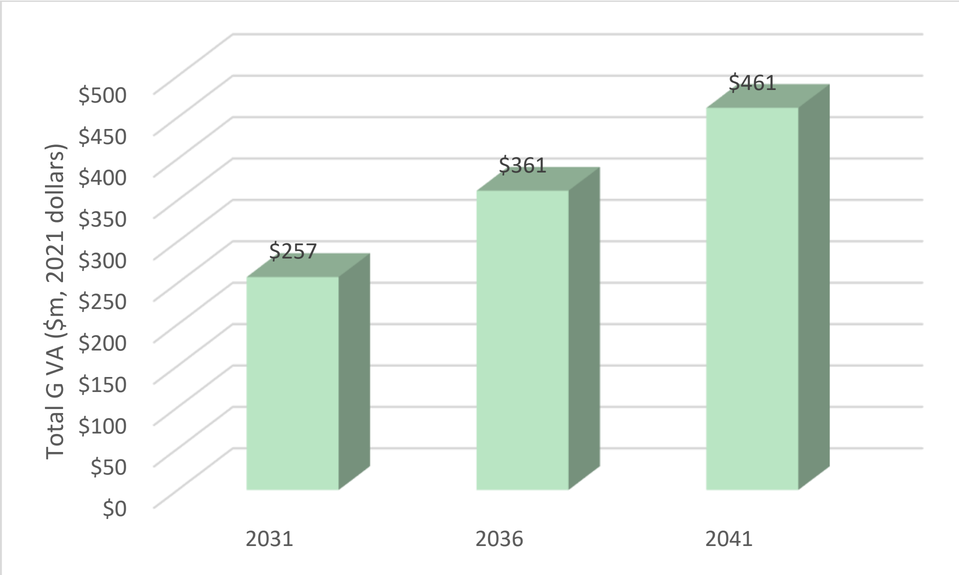
FIGURE 24: EMPLOYMENT UNDER SOUTH JERRABOMBERRA MASTERPLAN



Source: SGS Economics and Planning 2022

This boost in jobs in the area, particularly highly educated and paid jobs, is expected to enable strong economic growth in South Jerrabomberra. When South Poplars and North Tralee are finalised and the new Environa areas are just starting to come online, economic activity in South Jerrabomberra is expected to amount to $257 million per year. Ten years later, when Environa is expected to be mostly complete, economic activity is expected to reach $461 million – a significant boost in the Queanbeyan-Palerang LGA.

FIGURE 25: EXPECTED ECONOMIC ACTIVITY IN SOUTH JERRABOMBERRA UNDER THE DRAFT MASTERPLAN ($MILLIONS)



Source: SGS Economics and Planning 2022

7.4 Caveats to modelling outcomes

As with all economic modelling, these estimates are dependent on economic activity and existing economic trends remaining stable. Changes to these, such as a major recession, boosts or cuts to public sector expenditure or changes to Defence spending will all impact these outcomes.

Use of Environa lands, including the need for infrastructure

At this stage, the potential future uses of Environa lands are uncertain, both the amount of land that can be used for employment and the timing of the release. If releases are delayed or if little of the land area can be used for employment lands, then South Jerrabomberra might not generate sufficient critical mass to attract major advanced manufacturing, defence, aerospace and tech businesses.

Before Environa can be developed into employment lands, there will need to be investment in road, water, sewerage and electricity infrastructure of a standard required to support future businesses in aerospace, tech and advanced manufacturing.

Interaction with ACT

With ACT industrial land being both complementary to, and competitive with, South Jerrabomberra industrial lands, much of South Jerrabomberra's uptake will be impacted by land releases in the ACT. Some planned future employment lands releases are dependent on environmental approvals, which could delay the release of ACT employment lands and result in more demand for South Jerrabomberra land. Investment in road transport infrastructure to ensure that residents and workers can cross from ACT and Queanbeyan into South Jerrabomberra and out again will be essential to ensuring the Environa precinct can develop as an employment centre.

8. Conclusions

There is substantial interest in an innovation precinct with access to Canberra based organisations and workers, but with lower costs of operation found in NSW.

Discussions with businesses, developers and government representatives suggest that South Jerrabomberra has significant potential to be developed as an innovation and manufacturing precinct, with government and private sector working side by side to engage in research to develop new advanced products for local manufacture, and for use around Australia in Defence, aerospace and tech industries, with potential for export in the future.

Developing the precinct in line with the Masterplan, which aims to provide the infrastructure, development and amenity required to attract these businesses, and implementing a plan of business attraction, is expected to bring new jobs and economic growth to the area. Implementation of the Masterplan and a business attraction strategy is expected to result in 3,961 jobs in South Jerrabomberra by 2041 and $461 million in economic activity.

This analysis has identified several features that businesses see as necessary or desirable, that South Jerrabomberra could adopt to drive its development as a hub of innovation in defence and advanced manufacturing.

8.1 Choose land uses and businesses wisely

Choosing key 'anchor' businesses to set the character of a precinct can be important in ensuring that South Jerrabomberra develops into the innovation precinct it intends to be. This may mean hard decisions – turning away businesses who are interested in new areas that do not fit the planned character. Once the initial businesses are in place and established, maintaining the innovation character of the precinct becomes easier, as businesses with conflicting land uses are less likely to be attracted to the precinct. South Poplars has commenced well, with Stage 1 already allocated and strong demand for Stage 2.

8.2 Be flexible with innovation ideas

Some businesses have 'wish lists' of grand ideas of new facilities that would allow for research to occur in South Jerrabomberra that otherwise would need to occur elsewhere, or not occur at all. Plans for South Jerrabomberra should consider whether some of these grand research ideas could be accommodated within South Jerrabomberra. Ideally, if some of these ideas have merit, planning for them should start early before land is taken up by incompatible land uses.

8.3 Importance of placemaking

A risk involved in establishing a business in a new area is that in its initial stages, a new location can have low amenity – no decent coffee or lunches nearby, no supermarkets to buy dinner ingredients while on lunchbreak, no pub to relax at with workmates after work, no public transport or paths and workday errands require a special trip. These were all strongly highlighted in market sounding as essential to attract employees and to promote placemaking and informal networking that is the reason innovation precincts are desirable. Having attractive outdoor spaces, active transport locations and shared spaces where workers can meet and share ideas generates new ideas for new research, collaboration and innovation. The precinct must design places where workers want to go, to allow these informal gatherings to occur.

8.4 Don’t forget the need for population driven employment land uses

While innovation precincts can be excellent drivers of jobs and economic activity, it is important for cities to retain land for population serving uses, including some uses that may be incompatible with offices, general retail or residential. Queanbeyan has no plans for future employment lands other than South Jerrabomberra. If South Jerrabomberra is devoted to innovation and advanced manufacturing, QPRC may need to consider where other industrial businesses can be located, particularly those that produce noise, smells or vibration that can’t exist near residential areas. These businesses are still essential for a region’s economic activity and need a place to locate. Sectioning off an area of South Jerrabomberra for traditional industrial uses or consolidating vacant land in existing industrial areas into sufficiently large blocks may be necessary.

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Appendix A: Detailed assumptions

The light industrial employment zones are expected to have very different employment characteristics than the advanced manufacturing/tech hubs in South Poplars and Environa.

Mix of employment

In the areas targeted to light industrial uses, the major employer is expected to be Construction, as is currently the case in Queanbeyan industrial lands. In the South Poplars and Environa zones targeting advanced manufacturing/tech, this is expected to be Manufacturing.

The mix of industries in the Environa and South Poplars assumes that the Draft Masterplan will be successful at attracting advanced manufacturing industries. It also assumes a higher level of employment from supporting industries that produce inputs into advanced manufacturing, such as Information Media and Telecommunications, Professional, Scientific and Technical Services (R&D), Education and Training (Universities, tech schools, trade education) and Public Administration and Safety (Department of Defence, other government departments).

TABLE 22: SHARE OF INDUSTRY OF EMPLOYMENT

Industry of employment	Local Business/Industry	Environa, South Poplars
Agriculture, Forestry and Fishing	0%	0%
Mining	0%	0%
Manufacturing	16%	35%
Electricity, Gas, Water and Waste Services	2%	2%
Construction	26%	5%
Wholesale Trade	4%	1%
Retail Trade	7%	2%
Accommodation and Food Services	7%	2%
Transport, Postal and Warehousing	8%	4%
Information Media and Telecommunications	0%	10%
Financial and Insurance Services	1%	1%

Rental, Hiring and Real Estate Services	2%	2%
Professional, Scientific and Technical Services	5%	10%
Administrative and Support Services	2%	2%
Public Administration and Safety	4%	10%
Education and Training	4%	8%
Health Care and Social Assistance	4%	0%
Arts and Recreation Services	1%	1%
Other Services	6%	5%

Education mix

TABLE 23: EDUCATION MIX

Education level	Local Business/Industry	Environa, South Poplars
Bachelor or higher	14%	30%
Certificate III/IV or diploma	42%	40%
Years 10-12 only	35%	30%
Less than Year 12	8%	0%

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