

An aerial photograph of the Yarrowongga area, showing a mix of urban development, agricultural fields, and a winding river. The image is in grayscale with a blue tint. The text is overlaid on the left side of the image.

# Yarrowongga Growth Management Strategy

## Stage 2: Forecast Report

Prepared by MacroPlan Dimasi  
For the Victoria Planning Authority

25 September 2017



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# \_Executive Summary

## Introduction & Scope

### Introduction

This report has been prepared by MacroPlan Dimasi for the Victorian Planning Authority, in conjunction with Moira Shire Council. It presents Stage 2 of the Yarrowonga Growth Management Strategy, and reflects the key findings and implications of the Stage 1: Background Analysis Report.

MacroPlan acknowledges the contribution of the VPA and Moira Shire in the preparation of this report. MacroPlan also acknowledges Ethos Urban as partner consultants undertaking the spatial analysis contained in this report.

### Scope of works

This report presents the findings of Stage 2 of this engagement. Three growth scenarios were prepared for analytical purposes to enable forecasting of population, jobs and dwellings from 2016 to 2051. MacroPlan has also prepared forecasts for floor space consumption and jobs per sector from 2016 to 2051. These forecasts inform spatial analysis and land use recommendations contained in this report.

### Scenario Definition

Three scenarios were defined to enable analysis of indicative future growth conditions. Victoria In Future 2016 official population projections (VIF2016) have been adopted as the trend scenario and for reference purposes. Scenarios include:

- Scenario 1: Low Scenario - below VIF2016 trend growth.
- Scenario 2: Trend Scenario – adopts VIF2016 trend growth.
- Scenario 3: High Scenario – above VIF2016 trend growth.

## Population Forecasts

Under all three scenarios, Yarrowonga will continue to experience positive population growth.

### Summary of Population Forecasts

Under all scenarios, Yarrowonga continues to experience net growth in population to 2051. This will result in continued ongoing demand for dwellings, jobs and services within Yarrowonga over the next 34 years.

- Under the low growth scenario, Yarrowonga will grow by 3,275 people from 2016 to 2051. Yarrowonga is forecast to reach a population of 11,137 in 2051.
- Under the VIF2016 Trend scenario, Yarrowonga will grow by 6,150 residents from 2016 to 2051. By 2051, Yarrowonga's population is estimated at 14,012 people – effectively having doubled in size since 2016.
- Under the high growth scenario, Yarrowonga will grow by 14,260 residents from 2016 to 2051. This would result in Yarrowonga's emergence as a key regional centre, with population reaching 22,121 residents in 2051.

MacroPlan notes that forecasts have been prepared for analytical purposes only, and are based on the author's own judgement of a variety of factors influencing future growth trajectories.

VIF2016 population projections published by the State Government Department of Environment, Land, Water and Planning have also been utilised to inform forecasts in this report.

## Dwellings Forecasts

Under all dwelling scenarios, Yarrowonga is forecast to continue to experience positive demand for new dwellings that continues to grow as the size of Yarrowonga's residential population scales upward.

- Under the low growth scenario, Yarrowonga experiences demand for 1,424 dwellings from 2016 to 2051.

- Under the VIF2016 Trend scenario, Yarrowonga experiences demand for 2,674 dwellings from 2016 to 2051.
- Under the high growth scenario, Yarrowonga experiences demand for 6,200 dwellings from 2016 to 2051. This stimulates a requirement for additional zoned land.

Current Development Plan Overlay (DPO) areas and identified development areas have capacity to accommodate growth within the low and VIF2016 trend scenarios above. Detailed review should be undertaken between 2041-2046 to identify appropriate locations for the next stage of urban growth.

## Employment Forecasts

Under all employment scenarios, Yarrowonga is forecast to grow the number of local jobs in alignment with population growth rates.

- Under the low scenario, the number of jobs in Yarrowonga will grow by 942 from 2016 to 2051.
- Under the VIF2016 Trend scenario, the number of jobs in Yarrowonga will grow by 1,766 from 2016 to 2051.
- Under the high scenario, Yarrowonga experiences demand for 3,960 jobs from 2016 to 2051. This stimulates a requirement for additional zoned land.

## Floorspace Forecasts

The table below summarises forecast floorspace demand for each scenario by sector from 2016 to 2051.

SCENARIO	RETAIL	COMMERCIAL	INDUSTRIAL
Low Growth	7,860 sqm	7,404 sqm	6,950 sqm
VIF2016 Trend	14,761 sqm	13,275 sqm	16,760 sqm
High Growth	34,223 sqm	28,626 sqm	37,896 sqm

Source: MacroPlan (2017)

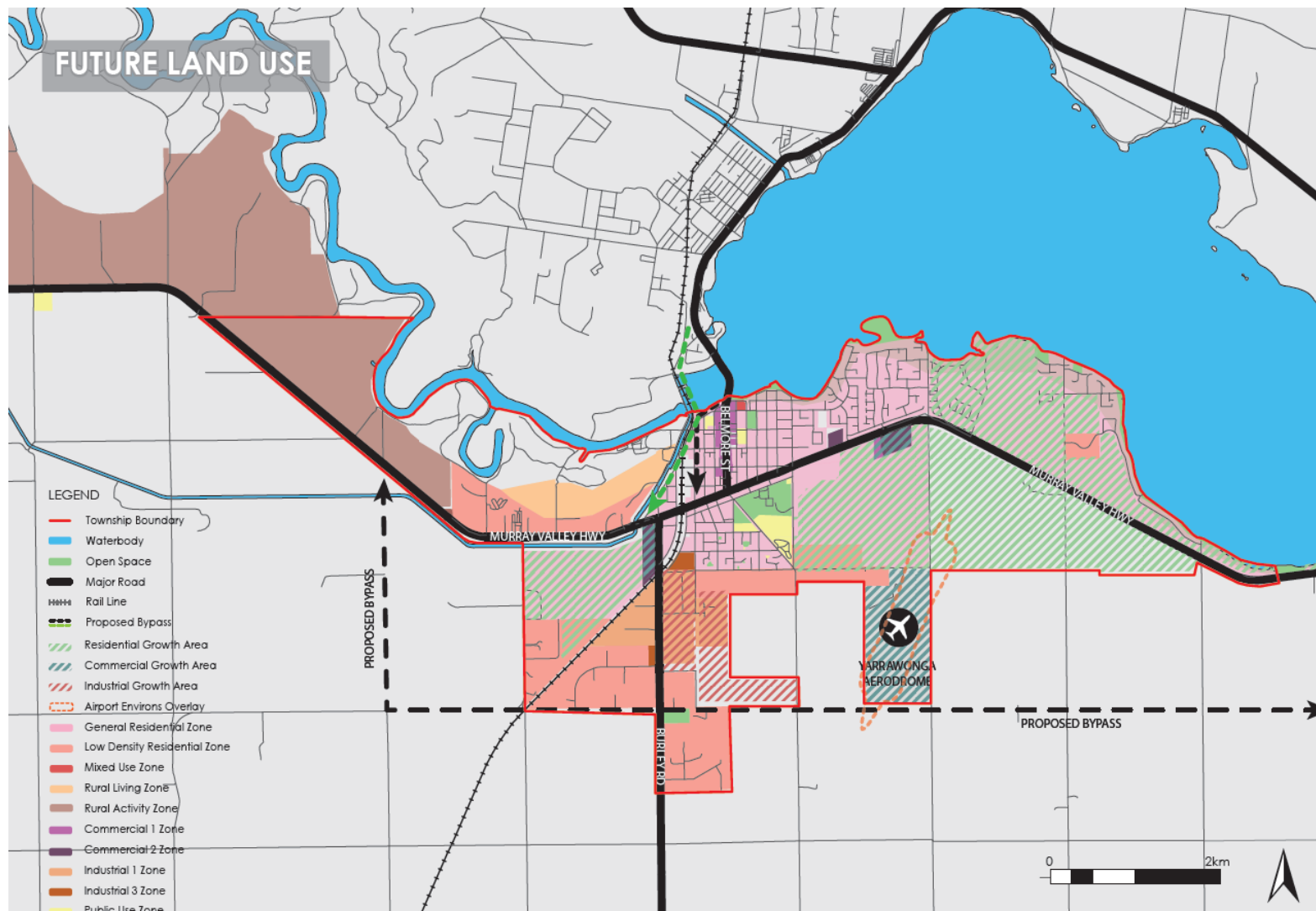
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## Summary of Key Findings, Actions & Recommendations

LAND USE	SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-20 YEARS)	LONG-TERM (20+ YEARS)
<b>RESIDENTIAL USES</b>	<ul style="list-style-type: none"> <li>Adequate existing zoned residential land to accommodate growth under low, trend and high growth scenarios. Total lot capacity estimated at 5,200 lots.</li> <li>Plan for dwelling demand of 174 lots (low) – 544 lots (high) dwellings over the five years from 2016 to 2021. This is most likely to be accommodated within DPO6 and DPO7.</li> <li>Monitor planning permit applications to identify change in residential development trajectory that would trigger a need to advance infrastructure planning in DPO6 and DPO7.</li> </ul>	<ul style="list-style-type: none"> <li>Adequate zoned residential land to accommodate growth under all scenarios.</li> <li>Plan for dwelling demand of 578 lots (low) – 2,211 lots (high) over fifteen years from 2021 to 2036. This can be accommodated within DPO6 and DPO7, noting that the Glanmire Park development (DPO7) is likely to be completed by this time.</li> <li>Infrastructure planning should be monitored within DPO6 and DPO7, noting that DPO7 should be advanced sequentially prior to DPO6 due to ease of infrastructure roll-out (due to presence of established land use to the south and north-east).</li> </ul>	<ul style="list-style-type: none"> <li>Generally adequate volume of zoned residential land to accommodate expected growth, but is likely to reach completion by 2051.</li> <li>Begin to plan for new residential growth post-2051, which should be undertaken cohesively with a holistic review of retail, service and infrastructure provision and demand. Consider undertaking a revised Growth Management Strategy process.</li> </ul>
<b>RETAIL &amp; COMMERCIAL USES</b>	<ul style="list-style-type: none"> <li>Sufficient C1Z / C2Z / MUZ to accommodate short-term growth. Identify any need to facilitate rezoning of historic residential dwellings for adaptive re-use for commercial uses in gateway locations (north and south of Belmore St).</li> <li>Clarify intended role and function of the identified Commercial 2 precinct situated south of the Murray Valley Hwy adjacent the Yarrowonga Industrial Precinct to the west.</li> <li>Identify the potential to support a future supermarket within the Kaiela Business Park or Belmont Street South, noting that the development of a supermarket is likely to be subject to market demand.</li> </ul>	<ul style="list-style-type: none"> <li>High likelihood that capacity at Belmore St is exhausted, with some ongoing capacity for urban renewal and redevelopment.</li> <li>Capacity and market interest at Belmont Street South should also be monitored, and potential for lot consolidation to enable larger-format retail uses considered if properties are listed for sale.</li> <li>Identify any change in retail conditions that would trigger a need for new intervention, noting that forecasts indicate a high likelihood of remaining capacity at Kaiela Business Park to 2036.</li> <li>Identify a need to specifically identify Kaiela Business Park as a secondary town centre which includes a supermarket, if one has not already developed in this location.</li> </ul>	<ul style="list-style-type: none"> <li>Undertake detailed review of retail trade area conditions and a detailed demand and supply analysis, noting that the period of relevance for SED's retail analysis is likely to have elapsed.</li> <li>Determine need to support a secondary centre or develop a secondary town centre if one has not developed.</li> <li>Undertake market sounding to identify potential for major catalyst health or education infrastructure project. Likely to have major implications for other retail &amp; commercial use types.</li> </ul>
<b>INDUSTRIAL USES</b>	<ul style="list-style-type: none"> <li>Facilitate advancement of development on Yarrowonga Saleyards site.</li> <li>Clarify intended role and function of future C2Z precinct adjacent the Yarrowonga Industrial Precinct to the west, noting possibility for use as industrial expansion land.</li> <li>Identify land owner appetite to advance existing industrial zoned land to market.</li> </ul>	<ul style="list-style-type: none"> <li>Based on the alignment of the proposed Murray Valley Highway bypass, identify implications for future industrial development and capacity. In particular, assess the availability of existing industrial zoned land with direct access to the new bypass.</li> <li>Assess a need to rezone land with proximity to the new bypass for future industrial uses.</li> <li>Assess the potential for Yarrowonga Airport to support higher-intensity employment outcomes, including its potential for commercial uses in the northern section of the site and industrial uses in the southern section of the site.</li> </ul>	<ul style="list-style-type: none"> <li>Undertake a detailed land use analysis study to identify specific industrial trends and development outlooks. Identify impact of expected population-based consolidation within Moira upon Yarrowonga's overall industrial demand.</li> <li>Identify ongoing opportunities to facilitate the delivery of catalyst, large-format industrial uses within Yarrowonga. Continue to plan for and accommodate large-scale market lead proposals in high-value sites such as the Yarrowonga Saleyards, Yarrowonga waterfront and Yarrowonga Airport.</li> </ul>
<b>OTHER COMMENTS</b>	<ul style="list-style-type: none"> <li>No immediate need for land use intervention in most sectors due to sufficient zoned land supply.</li> <li>Lack of clarity around major infrastructure initiatives (new bridge re-alignment and potential Murray Valley Hwy bypass) may be impacting market potential for growth. Resolution of these issues will address these concerns.</li> </ul>	<ul style="list-style-type: none"> <li>No immediate need for land use intervention in residential, retail or commercial sectors.</li> <li>Need to consider medium-term industrial land outlook, noting that infrastructure-related issues (bridge re-alignment and Murray Valley Hwy bypass) present issues outside of Council control.</li> <li>Investigate potential master plan process for Yarrowonga Airport, noting strong strategic location and high potential to benefit from Murray Valley Hwy bypass alignment to the south. Advocacy by Council may be required to ensure correct alignment is achieved.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor planning applications to identify market segments that could be targeted to occupy key sites, such as the saleyards. This notes the availability of Moira Shire's business development unit to liaise with market operators.</li> <li>Consider the potential application of a fast-track planning process for large-scale, catalyst projects.</li> <li>Consider initiatives to enhance the reputation and brand awareness of Yarrowonga as an industrial / commercial location. This may be achieved via partnership with State Government agencies and regional stakeholders, such as the Committee for Yarrowonga.</li> </ul>

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## INDICATIVE FUTURE LAND USE OUTCOMES



Source: Ethos Urban (2017)

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# 1\_Introduction

## 1.1\_Introduction

This report has been prepared by MacroPlan Dimasi for the Victorian Planning Authority. It presents the findings of detailed growth modelling undertaken during the preparation of the Yarrowonga Growth Management Strategy.

This report is a continuance of previous works as part of Stage 1 – Background & Analysis which included an assessment of local and regional economic context and analysis of local residential, commercial and industrial market conditions.

The process also included consultation with the Victorian Planning Authority (VPA), Moira Shire Council and Department of Environment, Land, Water and Planning (DELWP) in the development of the assumptions that inform forecasts in this report.

## 1.2\_Population Growth Scenarios

The following population growth scenarios for the period 2016 to 2051 have been defined for discussion purposes and may be further refined in collaboration with relevant stakeholders. It is noted that scenarios will be forecast to 2051 after stakeholder consultation.

### Population Scenarios

- Scenario 1: Low Scenario - below VIF2016 trend growth.
- Scenario 2: Trend Scenario – adopts VIF2016 trend growth.
- Scenario 3: High Scenario – above VIF2016 trend growth.

### Outputs

These scenarios, together with a high level interpretation of demographic and household formation indicators will enable estimation of future residential dwelling requirements by type and candidate locations.

## 1.3\_Employment Growth Scenarios

The following employment growth scenarios from 2016 to 2051 have been defined for discussion purposes and reflect the author's analysis and interpretation of industry configuration and employment trends within the study area, specifically, the Yarrowonga Statistical Area Level 2.

### Employment Scenarios

- Scenario 1: Low Scenario - employment growth scales based on below-average VIF2016 population growth rates applied to constant industry shift-share.
- Scenario 2: Trend Scenario – employment growth rates are equivalent to VIF2016 population growth rates, and scale based on constant industry shift-share.
- Scenario 3: High Scenario – above average population growth rates are applied to employment growth, with industry shift-share remaining consistent with other scenarios.

### Outputs

These scenarios, together with a high level interpretation of local employment composition, floor space availability and infrastructure indicators will enable estimation of direction and quantum of change in demand for the following in key candidate locations:

- Commercial floor space by industry type
- Industrial floor space by industry type
- Retail floor space

# 1\_Introduction

## 1.4\_Additional Remarks

### SED Retail Policy Framework (2017)

MacroPlan acknowledges the development of the Retail Policy Framework for Cobram and Yarrowonga undertaken in parallel to the development of the Yarrowonga Growth Management Strategy by SED in mid-2017. It is noted that the SED Options Report presented has been endorsed by Council, and as such, SED forecasts have adopted the recommendations identified in both the Background Analysis Report and the draft Options Report.

### Adopted Assumptions

MacroPlan has adopted a number of metrics identified by SED's Retail Policy Framework reports. Key assumptions that have been used in the preparation of forecasts and this report include:

- Proposed retail floor space ratios of 2.2 – 2.4 sqm per resident, noting that the current ratio is estimated at 2.39 sqm per person;
- Vacancy rates are low at approximately 5% of retail floor space;
- Based on a ratio of 2.4sqm per person (consistent with current situation and identified as appropriate for future land use planning in Yarrowonga by SED), there will be demand for approximately 5,650m<sup>2</sup> of additional retail floor space by 2031. This includes tourism-related floor space.

### Additional Notes

The SED Options Report identifies that:

- *"Given the current balance between estimated supply and demand, additional retail floor space should preferably support the strategic functioning of the Yarrowonga town centre by increasing choice and diversity, reducing potential leakage to other catchments, support tourism and ensure the potential negative impact on existing retailers is minimised."*

Additionally, it also states that:

- *"The retail offer in Yarrowonga in terms of range of goods and services is considered good for the catchment size."*
- *"A number of new developments support the floor space supply and range of services/goods within the town centre, most notably in the southern end of the town centre."*
- *"The catchment size of [Yarrowonga] town centre benefit from having centralised town centres and retail development that generates economies of scale. The current development pattern and available commercial land generally supports integrated development outcomes and can accommodate projected future demand."*

- *"Additional floorspace should preferably support the strategic functioning of the Yarrowonga town centre by increasing choice and diversity, reducing potential leakage to other catchments, support tourism and ensure the potential negative impact on existing retailers is minimised."*
- *"Yarrowonga has limited zoned land to accommodate retail development or retail expansion. A limited number of properties used for residential purposes are available for conversion to retail use, however most of these do not have frontage to Belmore St or main retail streets and will most likely be suitable for non-retail commercial development."*



# 1\_Introduction

## 1.4\_Additional Remarks

### SED Retail Policy Framework (cont.)

#### Suggested Actions

MacroPlan has reviewed the draft SED Options Report, and notes the following recommendations were presented:

- To 2031, plan for an additional 4,752m<sup>2</sup> of general retail demand and 810m<sup>2</sup> of tourism-related retail demand based on SED's population forecasts.
- This would support an additional supermarket, a small Discount Department Store (DDS) and additional retail and restricted-retail floor space.
- Maintain a retail floorspace ratio of 2.4m<sup>2</sup> per person to support retail supply and enhance diversity of services and goods, embedding Yarrawonga's role as a regional centre and providing for growth in tourism-related retail uses.
- Based on coverage of 35-40%, approximately 1.25-1.5 hectares of zoned commercial land is required to 2031 to accommodate floorspace demand stated above.
- Additional floorspace should preferably support the strategic functioning of the Yarrawonga town centre by increasing choice and diversity, reducing potential leakage to other catchments, support tourism and ensure the potential negative impact on existing retailers is minimised.

#### Key Opportunities

The draft SED Options Report identifies that Yarrawonga's retail structure can currently support:

- A compact centralised town centre functioning around Belmore St;
- Restricted retail (hardware) developments in decentralised locations within the C2Z with frontage to the Murray Valley Highway;
- Limited retail development clustered around the Belmore St / Murray Valley Hwy intersection within the GRZ, including convenience restaurants and a service station.

The Options Report also notes that there is minimal remaining vacant land within the Yarrawonga town centre, but that residential conversions may provide some opportunities for non-retail commercial uses.

The report identifies a number of areas for future investigation, including:

- Current vacant zoned land within the C1Z, C2Z and MUZ;
- Land along Belmore St, south of the current town centre, identified in the Planning Scheme as suitable for 'complementary business' development.

- The land surrounding the Kaeila Business Park (new Bunnings development) in the east of the township with frontage to Murray Valley Hwy may comprise 35-40% retail, producing floorspace capacity of approximately 9,100-10,500m<sup>2</sup>. This is approximately double the estimated required demand to 2031, suggesting significant capacity for future growth to 2051.
- Land to the south of the town centre, around the intersection of Belmore St and Telford St. Existing residential uses are adaptable for commercial uses. The land is identified for 'complementary business' uses.
- Land within the MUZ at the north of the town centre, with frontage to the lake foreshore. Dependent upon land owners choosing to take product to market, and may require assessment of potential to apply MUZ more broadly within the precinct to facilitate development.
- Land to the south of the Murray Valley Hwy, north of the industrial precinct. Consideration for C2Z and subject to DPO6.
- Land along the proposed new alignment of the connection to the Murray Valley Highway, which was identified by the Moira Shire Economic Analysis as an investigation area;
- The former Yarrawonga Saleyards site, identified by Moira Shire as an investigation area. MacroPlan notes that this site is considered a high-value redevelopment site, which may be suitable for a large-format retail, commercial or industrial use.

## 2\_Population & Dwelling Forecasts

### 2.1\_Overview

This section presents the findings of population and dwelling projections for Yarrawonga reflecting three possible growth scenarios. MacroPlan has adopted VIF2016 official population projections as the baseline for the scenarios explored.

#### Scenario Definition

##### *Scenario 1: below VIF2016 trend.*

Yarrawonga's growth rate slows to approximately 1% annual average growth per annum, while retaining an upward trend. Population growth rates decline by approximately 1% per annum from VIF2016 to reflect slowing migration and an aging population.

##### *Scenario 2: VIF2016 trend.*

The population of Yarrawonga grows consistently with VIF2016 population growth rates, at a progressively decreasing growth rate of 1.9% in 2016 and declining over time to 1.5% after 2031. The decrease in growth rate reflects the growing size and scale of Yarrawonga's resident population, rather than any negative future trend.

##### *Scenario 3: above VIF2016 trend.*

Yarrawonga's growth rate increases to approximately 2.9% annual average growth per annum. The population of Yarrawonga increases to reflect increased migration to a rate approximately 1% above forecasts recorded in VIF2016 official projections.

### 2.2\_Core Assumptions & Methodology

#### Assumptions

Detailed analysis conducted during the Background & Analysis Report produced a number of relevant implications for consideration in growth forecast assumptions. Key statistical indicators that provide the basis for model assumptions are summarised below:

- Yarrawonga has accommodated approximately 81% of Moira's population growth over the past decade. VIF2016 forecasts indicate that from 2016-2031, Yarrawonga will accommodate 88% of future population growth in Moira.
- Based on the 2011 and 2016 Census, the average household size in Yarrawonga has remained stable at 2.3 persons per household.
- Based on the 2011 and 2016 Census, the population to dwellings ratio has declined from 2.08 to 2.05 persons per dwelling. This indicates that there has been a small level of growth in unoccupied dwellings. This is likely to reflect tourism-related dwellings that are unoccupied in non-holiday periods.

## 2\_Population & Dwelling Forecasts

### 2.3\_Summary of Population & Dwelling Forecast Findings

#### Summary of Forecasts

These scenarios have been adopted for analysis purposes only, and reflect the author's own judgement concerning a range of potential future growth factors and trajectories.

Under each of these growth scenarios, the population to 2051 is assumed to grow in a linear fashion. The adjacent table summarises the outcomes of the population growth projections, showing the estimated Yarrawonga population and number of dwellings per 5-year period including the theoretical number of dwellings required to accommodate the growing population and associated change in jobs.

Based on the scenarios summarised adjacent, Yarrawonga should plan for ongoing population growth that will continue to increase the size and scale of the township from 2016 to 2051.

#### Scenario 1: Low scenario, Yarrawonga SA2, AAGR declines to ~1% p.a.

	2016	2021	2026	2031	2036	2041	2046	2051
Population	7,862	8,263	8,684	9,127	9,593	10,082	10,596	11,137
Population Net Growth		+401	+421	+442	+465	+489	+514	+540

#### Scenario 2: VIF2016 forecast, Yarrawonga SA2, AAGR of ~1.9% p.a.

	2016	2021	2026	2031	2036	2041	2046	2051
Population	7,862	8,722	9,574	10,391	11,207	12,074	13,007	14,012
Population Net Growth		+860	+851	+817	+816	+866	+933	+1005

#### Scenario 3: High scenario, Yarrawonga SA2, AAGR increases to ~3% p.a.

	2016	2021	2026	2031	2036	2041	2046	2051
Population	7,862	9,114	10,565	12,248	14,199	16,460	19,082	22,121
Population Net Growth		+1252	+1451	+1682	+1950	+2261	+2621	+3039

Source: MacroPlan, VIF 2016

## 2\_Population & Dwelling Forecasts

### 2.4\_Residential Scenario #1

#### Scenario 1 – Low Trend

The following tables show the estimated change in mix of dwellings and household types associated with Scenario 1.

Scenario 1 considers the decline over time in growth rate adopted by the VIF2016 Yarrowonga SA2 forecast, but applies an immediate and constant Annual Average Growth Rate (AAGR) of 1% from 2016.

Key additional assumptions include:

- Average household size of 2.3 persons per dwelling – consistent between 2006, 2011 and 2016 Census.
- Constant maintained ratio of dwelling bedroom types, noting that this may be subject to change over time;
- Constant maintained ratio of household types, based on 2016 Census.

#### Population growth

	2016	2021	2026	2031	2036	2041	2046	2051	Change (2016-21)	Change (2021-2036)	Change (2036-2051)	TOTAL CHANGE
Population	7,862	8,263	8,684	9,127	9,593	10,082	10,596	11,137	401	1,330	1,544	3,275
Population Growth (5-yr)		401	421	443	466	489	514	541				

#### Forecast dwelling demand

	2016	2021	2026	2031	2036	2041	2046	2051	Change (2016-21)	Change (2021-2036)	Change (2036-2051)	TOTAL CHANGE
Dwellings	3,418	3,592	3,776	3,968	4,171	4,383	4,607	4,842	174	578	671	1,424
Dwelling Demand (5-yr)		174	183	193	202	213	224	235				

#### SCENARIO SUMMARY





## 2\_Population & Dwelling Forecasts

### 2.5\_Residential Scenario #2

#### Scenario 2 – VIF2016 Trend

The following tables show the estimated change in mix of dwellings and household types associated with Scenario 2.

Scenario 2 adopts the VIF2016 Yarrawonga SA2 forecast (noting that it is confidential) and associated growth rates and trends.

Key additional assumptions include:

- Average household size of 2.3 persons per dwelling – consistent between 2006, 2011 and 2016 Census.
- Constant maintained ratio of dwelling bedroom types, noting that this may be subject to change over time;
- Constant maintained ratio of household types, based on 2016 Census.

#### Population growth

	2016	2021	2026	2031	2036	2041	2046	2051	Change (2016-21)	Change (2021-2036)	Change (2036-2051)	TOTAL CHANGE
Population	7,862	8,722	9,574	10,391	11,207	12,074	13,007	14,012	861	2,485	2,804	6,150
Population Growth (5-yr)		861	852	817	816	866	933	1,005				

#### Forecast dwelling demand

	2016	2021	2026	2031	2036	2041	2046	2051	Change (2016-21)	Change (2021-2036)	Change (2036-2051)	TOTAL CHANGE
Dwellings	3,418	3,792	4,163	4,518	4,873	5,249	5,655	6,092	374	1,080	1,219	2,674
Dwelling Demand (5-yr)		374	370	355	355	377	406	437				

#### SCENARIO SUMMARY



## 2\_Population & Dwelling Forecasts

### 2.6\_Residential Scenario #3

#### Scenario 3 – High Trend

The following tables show the estimated change in mix of dwellings and household types associated with Scenario 3.

Scenario 3 considers the potential for increased growth at a rate above VIF2016, and applies an immediate and constant Annual Average Growth Rate (AAGR) of 3% from 2016. This represents a 1% increase above VIF2016 growth rates, noting that this should be considered a maximum scenario.

Key additional assumptions include:

- Average household size of 2.3 persons per dwelling – consistent between 2006, 2011 and 2016 Census.
- Constant maintained ratio of dwelling bedroom types;
- Constant maintained ratio of household types, based on 2016 Census.

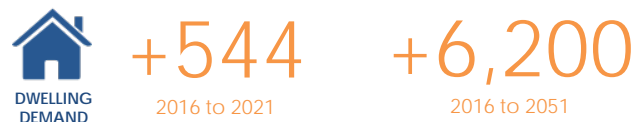
#### Population growth

	2016	2021	2026	2031	2036	2041	2046	2051	Change (2016-21)	Change (2021-2036)	Change (2036-2051)	TOTAL CHANGE
Population	7,862	9,114	10,565	12,248	14,199	16,460	19,082	22,121	1,252	5,085	7,922	14,260
Population Growth (5-yr)		1,252	1,452	1,683	1,951	2,261	2,622	3,039				

#### Forecast dwelling demand

	2016	2021	2026	2031	2036	2041	2046	2051	Change (2016-21)	Change (2021-2036)	Change (2036-2051)	TOTAL CHANGE
Dwellings	3,418	3,962	4,594	5,325	6,173	7,157	8,296	9,618	544	2,211	3,445	6,200
Dwelling Demand (5-yr)		544	631	732	848	983	1,140	1,321				

#### SCENARIO SUMMARY



## 2\_Population & Dwelling Forecasts

### 2.7\_Key Findings: General Remarks


#### Interpretation of Findings

The forecast period assessed in this report extends over a 35-year period, noting that VIF2016 historic population figures are derived from the ABS Estimated Resident Population publication which accounts for the impact of typical population movements (such as holiday or business travel) on 2011/2016 Census population figures.

Due to the length of the forecast period, key findings and implications have been divided into short, medium and long-term outcomes and associated recommendations and actions.

The figure below provides guidance on interpreting the findings of this chapter.

SHORT-TERM (1-5 yrs)	MEDIUM-TERM (5-15 yrs)	LONG-TERM (20+ yrs)
<p><u>ACTIONS:</u></p> <ul style="list-style-type: none"> <li>Monitor market-facing data (planning applications) to monitor growth activity.</li> <li>Develop Framework Plan to assist deliver of the Growth Management Strategy.</li> </ul>	<p><u>ACTIONS:</u></p> <ul style="list-style-type: none"> <li>Continue implementation of Framework Plan. Undertake periodic 5-year review of outcomes to ensure Framework Plan is facilitating delivery of Council policy.</li> <li>Monitor economic and property market conditions to ensure no substantial deviation from projected outcomes in population, dwellings and jobs. Census 2021 and 2026 are key review points.</li> <li>Monitor market-facing data (planning permits) to identify potential catalyst projects, and develop initiatives to fast-track high-value investment in priority locations.</li> </ul>	<p><u>ACTIONS:</u></p> <ul style="list-style-type: none"> <li>Conduct detailed land supply audit post-2041 to identify remaining land supply relative to Yarrawonga Growth Management Strategy projections and take-up rates. Identify need to rezone additional land to facilitate ongoing development in employment-related sectors, given likely exhaustion.</li> <li>Consider need to revise Growth Management Strategy based on change in demographics or market conditions.</li> <li>Prior to 2051, commence preparations for subsequent Growth Management Strategy.</li> </ul>



A horizontal timeline diagram with a central line and dots at both ends. Below the line are eight black rectangular boxes, each containing a year. The years are 2016, 2021, 2026, 2031, 2036, 2041, 2046, and 2051, spaced evenly along the timeline.

# 2\_Population & Dwelling Forecasts

## 2.7\_Key Findings: Short-term (0 – 5 years: 2016 to 2021)

### Scenario 1: Low Scenario

Despite below-average growth rates of approximately 1% per annum, Yarrawonga continues to experience positive population growth. This scenario indicates that Yarrawonga would retain positive population growth with a growth rate approximately half of official VIF2016 forecasts.

#### Key Findings: 5-year outlook

- Yarrawonga will grow by an estimated 401 residents, or approximately 80 new residents per year from 2016 to 2021.
- Assuming the population per household ratio remains constant at 2.3 persons per household, demand for dwellings is estimated at 174 new dwellings. Take-up rates are estimated at approximately 34.8 per year.

#### Outlook / Likelihood

- Moderate

#### Suggested Actions

- No significant change to zoning required to facilitate this growth trajectory. New residential development undertaken during this period is likely to be subject to developer interest, and as such, no intervention is suggested.
- Consideration may be given to early engagement with any residential developer seeking to advance a development proposal, as a mechanism to ensuring appropriate infrastructure servicing and minimising infrastructure costs for Council that may result from speculative or small-scale development.
- Monitor planning permits to identify any change in development trajectory for residential lot creations / residential building approvals.

### Scenario 2: VIF2016 Trend

Yarrawonga continues its current growth trajectory, experiencing positive but slowly declining growth rates. VIF2016 projections indicate ongoing growth in Yarrawonga's share of new population in Moira. This scenario is considered to be the most viable.

#### Key Findings: 5-year outlook

- Yarrawonga will grow by an estimated 861 residents, or approximately 172 new residents per year from 2016 to 2021.
- Assuming the population per household ratio remains constant at 2.3 persons per household, demand for dwellings is estimated at 374 new dwellings. Take-up rates are estimated at approximately 74.8 per year.

#### Outlook / Likelihood

- High

#### Suggested Actions

- Yarrawonga's current supply of land is considered capable of accommodating this threshold of growth with no significant changes required during this timeframe.
- The areas incorporated by DPO6 and DPO7 should be prioritised as development locations, given the high level of capacity within these precincts and their high potential to accommodate a staged development in a location that is relatively contiguous with the main urban area of Yarrawonga.
- Monitor planning permits to identify market proposals in key sectors (aged care / retirement living and tourism) as catalyst projects, particularly in locations with proximity to the waterfront or active developments such as at Silverwoods Golf Course.

### Scenario 3: High Scenario

Yarrawonga experiences a significant surge in growth that is sustained for the duration of the forecast. This trajectory is considered aggressive and comprises the upper limit of achievable population growth in Yarrawonga, with associated significant increases in dwellings and jobs required.

#### Key Findings: 5-year outlook

- Yarrawonga will grow by an estimated 1,252 residents, or approximately 250 new residents per year from 2016 to 2021.
- Assuming the population per household ratio remains constant at 2.3 persons per household, demand for dwellings is estimated at 544 new dwellings. Take-up rates are estimated at approximately 108.8 per year.

#### Outlook / Likelihood

- Low

#### Suggested Actions

- Development at this threshold may stimulate quicker requirement to plan for infrastructure delivery within DPO6 and DPO7. If development increases to this rate, there will be significant new demand for infrastructure (inc. water, power and sewage) with a clear risk that out-of-sequence infrastructure delivery constrains residential growth. This should be consistently reviewed by Council, including any associated cash flow modelling for public works.
- If growth rates used in this scenario should eventuate, Council should plan for accelerated dwelling demand within DPO6 and DPO7, and should escalate planning within Yarrawonga East as a future residential release area.



# 2\_Population & Dwelling Forecasts

## 2.7\_Key Findings: Medium-term (5 – 20 years: 2021 to 2036)

### Scenario 1: Low Scenario

Yarrawonga continues its upwards population growth trajectory with growth rates maintained at approximately 1% average annual growth per annum.

#### Key Findings: 15-year outlook

- From 2021 to 2036, Yarrawonga will grow by an estimated 1,330 residents, or approximately 88 new residents per year from 2021 to 2036.
- The population per household ratio remains constant at 2.3 persons per household, with population-induced demand for dwellings estimated at 578 new dwellings. Take-up rates are estimated at approximately 38 per year, escalating slightly.

#### Outlook / Likelihood

- Moderate

#### Suggested Actions

- Yarrawonga's ongoing population growth continues to consume residential land at a slow rate that can be accommodated within currently zoned residential land, but take-up rates escalate marginally. Potential opportunities for rural living product on larger lot sizes, consistent with local market demand.
- Glanmire Park (DPO7) and Yarrawonga East (DPO3 and 6) are well positioned to accommodate medium-term growth, and have adequate capacity in the medium-term to accommodate the entirety of residential growth under this scenario.
- Relatively low take-up rates expressed in this scenario suggest that it more be more economically feasible to develop new residential land within a single, unified growth front to simplify infrastructure delivery. This is predominantly subject to external market forces, but may be influenced by Council in its engagement with land owners / developers.

### Scenario 2: VIF2016 Trend

Yarrawonga continues to emerge as a regional centre, with positive population growth that progressively declines over time to 1.5% annual average growth per annum after 2031. Easing of growth rate reflects overall increase in size and scale of the township.

#### Key Findings: 15-year outlook

- From 2021 to 2036, Yarrawonga will grow by an estimated 2,485 residents, or approximately 165 new residents per year from 2021 to 2036.
- The population per household ratio remains constant at 2.3 persons per household, with population-induced demand for dwellings estimated at 1,080 new dwellings. Take-up rates are estimated at approximately 72 per year, decreasing slightly.

#### Outlook / Likelihood

- High

#### Suggested Actions

- Residential development expected to have advanced south of Murray Valley Hwy. Review of future infrastructure and buffers relating to aircraft usage of the airport required to identify constraints on ongoing residential development.
- Residential growth continues at a rate that can be accommodated within the Glanmire Park and Yarrawonga East development areas. By 2036, it is expected that there will be clear indications as to the remaining capacity of these areas with a growing need to provide alternative sites to market for future residential development.
- Planning for future residential and other uses within the Yarrawonga East development area should be commenced and completed to provide clarity to market on expected uses, yields and development constraints.

### Scenario 3

Yarrawonga continues an aggressive growth trajectory and emerges as a key regional centre. Growth rates continue at 2.9% per year, driving ongoing consistent demand for new dwellings and stimulating increased employment.

#### Key Findings: 15-year outlook

- From 2021 to 2036, Yarrawonga will grow by an estimated 5,085 residents, or approximately 339 new residents per year from 2021 to 2036.
- The population per household ratio remains constant at 2.3 persons per household, with population-induced demand for dwellings estimated at 2,211 new dwellings. Take-up rates are estimated at approximately 147 per year, escalating significantly.

#### Outlook / Likelihood

- Low

#### Suggested Actions

- This scenario would result in the majority of currently zoned residential lots within Glanmire Park and Yarrawonga East being exhausted within this period. Later stages of these developments may be subject to market interest, noting that some land is constrained by aviation-related and flood-related buffers.
- Existing residential land within Glanmire Park (DPO7) is likely to be exhausted by 2036 (assuming that it is developed first in sequence), with Yarrawonga East development area coming online after 2031 at which point it is expected to emerge as the main residential expansion area.
- By 2036, it is suggested that precinct-level planning be undertaken for the Yarrawonga West development area (DPO5 & 6) that identifies the expected residential capacity and other supportive uses to be developed – noting that the precinct may also be utilised for retail, commercial or industrial uses.

## 2\_Population & Dwelling Forecasts

### 2.7\_Key Findings: Long-term (20 - 35 years: 2036 to 2051)

#### Scenario 1: Low Scenario

Yarrowonga maintains some momentum in population growth, but the size and scale of Yarrowonga's growth trajectory remains subdued. Yarrowonga continues to grow at a rate of approximately 1% annual average growth per year.

#### Key Findings: 15-year outlook

- From 2036 to 2051, Yarrowonga will grow by an estimated 1,330 residents, or approximately 102 new residents per year from 2036 to 2051.
- The population per household ratio remains constant at 2.3 persons per household, with population-induced demand for dwellings estimated at 671 new dwellings. Take-up rates are estimated at approximately 44.7 per year, escalating slightly.

#### Outlook / Likelihood

- Moderate

#### Suggested Actions / Recommendations

- This scenario indicates that despite a slowing of population growth rates, Yarrowonga will continue to grow in population, jobs and dwellings by 2051.
- At 2016, there is capacity for over 3,000 lots within current residential zones. By 2051, it is estimated that the total take-up from 2016-2051 is 1,424 dwellings. This indicates that current residential zoning is adequate to support forecast growth within a low growth scenario.
- If growth rates progressively slow to resemble this scenario, consideration may be given to initiatives that increase the supply of specialty housing within Yarrowonga. In particular, the aged care / retirement living sector may present a long-term opportunity to attract a specialist aged care provider to Yarrowonga.

#### Scenario 2: VIF2016 Trend

Yarrowonga continues to emerge as a regional centre, maintaining a 1.5% growth rate per annum. This reflects ongoing population growth momentum and consistent upward growth in inward migration that is consistent with growth rates in the medium-term (2021-2036).

#### Key Findings: 15-year outlook

- From 2036 to 2051, Yarrowonga will grow by an estimated 2,804 residents, or approximately 186 new residents per year from 2036 to 2051.
- The population per household ratio remains constant at 2.3 persons per household, with population-induced demand for dwellings estimated at 1,219 new dwellings. Take-up rates are estimated at approximately 81 per year, increasing slightly.

#### Outlook / Likelihood

- High

#### Suggested Actions / Recommendations

- Overall residential growth from 2016-2051 is estimated at 2,674 dwellings, suggesting that by 2051 further planning should be commenced to identify the next stage of residential development in Yarrowonga.
- Current residential areas have adequate supply to ensure that the short-term outlook after 2051 is unlikely to require any drastic intervention.
- Yarrowonga may increasingly become subject to challenges relating to out-of-sequence development in the long-term. Monitoring should be undertaken to ensure that development is contiguous with existing urban area as much as is practically possible, and that isolated areas that are detached from the main urban area are minimised.

#### Scenario 3

By 2051, Yarrowonga has emerged as a key regional centre and major regional service hub. Sustained growth rates of approximately 2.9% average annual growth per year have achieved a size and scale of township that fundamentally changes Yarrowonga's regional economic role.

#### Key Findings: 15-year outlook

- From 2021 to 2036, Yarrowonga will grow by an estimated 7,922 residents, or approximately 528 new residents per year from 2036 to 2051.
- The population per household ratio remains constant at 2.3 persons per household, with population-induced demand for dwellings estimated at 3,445 new dwellings. Take-up rates are estimated at approximately 229 per year, escalating significantly.

#### Outlook / Likelihood

- Low

#### Suggested Actions / Recommendations

- This scenario demonstrates the impact of a major population growth surge on Yarrowonga's potential size and scale, which is forecast to stimulate residential growth of 6,200 dwellings by 2051.
- It is noted that under this scenario, approximately 20% of total dwelling demand would be accommodated within medium-density or specialty housing types (retirement living / aged care), equivalent to approximately 800-1100 dwellings. Approximately 4,800-5,200 dwellings (80%) would be accommodated within identified growth areas.
- Residential demand in this context would necessitate a broad review of land supply conditions after 2036, with planning refocusing on supporting Yarrowonga's new role as a significant regional centre.

## 3\_Employment & Floor Space Forecasts

### 3.1\_Overview

This section presents employment forecasts and floor space estimates by type for the three scenarios previously defined. The tables presented on p21 provide a summary of net change in employment by sector and the proportional change in industry share by sector for the 2001-2011 period.

#### Scenario Definition

##### *Scenario 1: below VIF2016 trend.*

Population growth rates remain positive and upward, but decline below VIF2016 trend to occur at 1% growth per annum. This scenario describes a 'minimum scenario' for Yarrowonga's growth to 2051.

##### *Scenario 2: VIF2016 trend.*

Population growth rates occur consistently with the slowly declining but consistently positive rate of growth in the official VIF2016 population projections. Growth rates decline from 2% to approximately 1.5% per annum from 2016 to 2031, remaining constant in subsequent years. This scenario should be considered the most likely and viable population scenario.

##### *Scenario 3: above VIF2016 trend.*

Population growth rates increase above VIF2016 growth rates, and occurs at 2.9% growth per year. This scenario may be used to describe a maximum growth trajectory for Yarrowonga's growth to 2051.

### 3.2\_Core Assumptions & Methodology

#### General Remarks

Detailed analysis conducted during the Background & Analysis Report produced a number of relevant implications for consideration in growth forecast assumptions. Key statistical indicators that provide the basis for model assumptions are summarised below:

- While some sectors have experienced significant proportional change from 2001 to 2011, rates of change from 2006 to 2011 flattened significantly.
- Between 2006 and 2011, the majority of industry sectors demonstrated low degrees of change in the proportion of workers employed by individual employing sectors. This is the basis for adopting a single, static shift-share model that is applied to all population-based growth scenarios.
- It is noted the majority of significant changes to industry of employment structure will reflect changes in population, which has particularly strong influence on the Retail Trade sector (which is the single largest employing sector in Yarrowonga) and Construction sector (which responds to residential building activity).

Further detailed analysis and assessment of historic economic conditions and trends is provided in the Background Analysis Report. This analysis has formed the basis of assumptions included in forecasts presented in this report.

## 3\_Employment & Floor Space Forecasts

### 3.2\_Core Assumptions & Methodology (cont.)

#### Summary of Employment Growth by Scenario

This section presents a summation of findings as they relate to the forecast employment growth analysed under the three defined scenarios from 2016 to 2051.

The table adjacent summarises the net growth in employment per scenario, per 5-year period from 2016 to 2051. Additional comments are provided below:

- Under *Scenario 1: Low Trend*, Yarrawonga's jobs will grow by 942 from 2016 to 2051. Under this scenario, employment growth continues to scale slowly but consistently over time in response to positive, but below average population growth.
- Under *Scenario 2: VIF2016 Trend*, Yarrawonga will experience progressive increase in demand for jobs. The count of jobs in Yarrawonga will increase by 1,766 from 2016 to 2051, reflecting strong positive population growth that declines over time as the size of the township increases.
- Under *Scenario 3: High Trend*, the count of jobs in Yarrawonga will increase by 3,960 jobs from 2016 to 2051. This reflects Yarrawonga's modelled emergence as a regional centre due to above-average population growth rates.

Under all scenarios analysed in this report, Yarrawonga will continue to experience positive jobs growth. This report also notes that Yarrawonga is estimated to continue to experience positive net growth in local employment even considering the potential for growth rates to halve from the current rate, which is explored in *Scenario 1: Low Trend*.

#### Scenario 1: Low Trend

	2016	2021	2026	2031	2036	2041	2046	2051	Change (2016-21)	Change (2021-2036)	Change (2036-2051)	TOTAL CHANGE
Jobs	2,287	2,402	2,524	2,651	2,785	2,926	3,073	3,229	115	383	444	942
Jobs Created (5-yr)		115	121	127	134	141	148	155				

#### Scenario 2: VIF2016 Trend

	2016	2021	2026	2031	2036	2041	2046	2051	Change (2016-21)	Change (2021-2036)	Change (2036-2051)	TOTAL CHANGE
Jobs	2,287	2,532	2,775	3,007	3,241	3,492	3,762	4,053	245	709	811	1,766
Jobs Created (5-yr)		245	242	233	234	251	270	291				

#### Scenario 3: High Trend

	2016	2021	2026	2031	2036	2041	2046	2051	Change (2016-21)	Change (2021-2036)	Change (2036-2051)	TOTAL CHANGE
Jobs	2,287	2,640	3,048	3,518	4,061	4,688	5,412	6,247	353	1,421	2,186	3,960
Jobs Created (5-yr)		353	408	470	543	627	724	835				



## 3\_Employment & Floor Space Forecasts

### 3.2\_Core Assumptions & Methodology (cont.)

The tables adjacent provide a summary of net change by sector and proportional change in industry share by sector for the 2001-2011 period. The proportional change in employment by sector has formed the basis of subsequent forecast industry change by sector. For further detail on labour force conditions in Yarrawonga, please refer to the Stage 1 Background & Research Report.

MacroPlan notes that the majority of Australian and New Zealand Standard Industrial Classification (ANZSIC) sectors experienced relatively low levels of change. The implications of this for the growth model are discussed on the subsequent page.

#### Data note:

It is noted that labour force data has not been published for the 2016 Census at the time of writing. MacroPlan has therefore utilised the shift in relative employment share from 2001 to 2011 to forecast long-term trends in Yarrawonga.

It is noted that MacroPlan forecasts are based on REMPLAN data prepared in conjunction with Moira Shire, as such, values may be different. MacroPlan has used REMPLAN data as the numerical basis for forecast job volume, as reflected in the Stage 1 report.

Secondary analysis of the ABS Time Series Profile (TSP) for Yarrawonga was undertaken to confirm the historic change in relative shares of each individual industrial sector to ensure geographic equivalency between land areas assessed in previous Census periods, noting that the Australian Statistical Geography Standard (ASGS) was only developed for Census 2011.

It is noted that data presented in the TSP is normalised by the ABS to ensure geographical consistency over time, reflecting that regional townships grow in population and urban size over time. As such, industry shift-share has been modified slightly from the tables presented in the Background & Analysis Report to account for geographical changes between the 2001, 2006 and 2011 inter-Censal periods.

Yarrawonga SA2				
	2001	2006	2011	Change '01-'11
Agriculture, forestry and fishing	168	148	93	-75
Mining	0	0	4	4
Manufacturing	379	388	378	-1
Electricity, gas, water and waste services	15	14	16	1
Construction	124	241	262	138
Wholesale trade	81	74	74	-7
Retail trade	273	357	330	57
Accommodation and food services	283	341	351	68
Transport, postal and warehousing	74	98	92	18
Information media and telecommunications	17	16	16	-1
Financial and insurance services	41	43	46	5
Rental, hiring and real estate services	24	28	31	7
Professional, scientific and technical services	69	61	81	12
Administrative and support services	50	57	66	16
Public administration and safety	56	60	82	26
Education and training	126	145	172	46
Health care and social assistance	205	286	327	122
Arts and recreation services	28	20	26	-2
Other services	55	83	96	41
Inadequately described/Not stated	63	39	57	-6
<b>Total</b>	<b>2,131</b>	<b>2,499</b>	<b>2,600</b>	<b>469</b>

Yarrawonga SA2				
	2001	2006	2011	Change '01-'11
Agriculture, forestry and fishing	7.9%	5.9%	3.6%	-4.3%
Mining	0.0%	0.0%	0.2%	0.2%
Manufacturing	17.8%	15.5%	14.5%	-3.2%
Electricity, gas, water and waste services	0.7%	0.6%	0.6%	-0.1%
Construction	5.8%	9.6%	10.1%	4.3%
Wholesale trade	3.8%	3.0%	2.8%	-1.0%
Retail trade	12.8%	14.3%	12.7%	-0.1%
Accommodation and food services	13.3%	13.6%	13.5%	0.2%
Transport, postal and warehousing	3.5%	3.9%	3.5%	0.1%
Information media and telecommunications	0.8%	0.6%	0.6%	-0.2%
Financial and insurance services	1.9%	1.7%	1.8%	-0.2%
Rental, hiring and real estate services	1.1%	1.1%	1.2%	0.1%
Professional, scientific and technical services	3.2%	2.4%	3.1%	-0.1%
Administrative and support services	2.3%	2.3%	2.5%	0.2%
Public administration and safety	2.6%	2.4%	3.2%	0.5%
Education and training	5.9%	5.8%	6.6%	0.7%
Health care and social assistance	9.6%	11.4%	12.6%	3.0%
Arts and recreation services	1.3%	0.8%	1.0%	-0.3%
Other services	2.6%	3.3%	3.7%	1.1%
Inadequately described/Not stated	3.0%	1.6%	2.2%	-0.8%

Source: ABS – Yarrawonga SA2 Time Series Profile

## 3\_Employment & Floor Space Forecasts

### 3.2\_Core Assumptions & Methodology (cont.)

#### Industry of Employment Relative-Share Change

The table adjacent summarises the assumed proportional shift in employment per industry sector by five year cohort for the forecast period 2011 to 2051. The table has been developed based on extensive benchmarking of comparable regional cities undertaken in the Background & Analysis Report, in addition to the specific local and regional employment analysis on Yarrawonga and Moira Shire contained within the same report.

Based on the relatively low levels of industry shift witnessed from 2006-2011 in Yarrawonga, MacroPlan has adopted a single shift-share model to enable the forecasting of jobs by industry sector for each of the three population-based scenarios. This assumes that the trajectory and direction of industry relative share change is consistent across all three growth scenarios, and maintains as a constant the ratio of jobs to local residents.

Adopting this ratio accommodates for the high level of transience in the Yarrawonga labour force, with an above-average level of mobility witnessed in labour force movements as a result of proximity to Mulwala and the inter-connectivity of the Victorian / New South Wales border region.

The industry shifts in the table adjacent have been reviewed by stakeholders including the VPA and Moira Shire.

It is noted the majority of significant changes to industry of employment structure will reflect changes in population, which has particularly strong influence on the Retail Trade sector (which is the single largest employing sector in Yarrawonga) and Construction sector (which responds to residential building activity).

	2011-2016	2016-2021	2021-2026	2026-2031	Change ('11-'31)
Agriculture, forestry and fishing	2.4%	2.0%	1.5%	1.0%	-1.4%
Mining	0.0%	0.0%	0.0%	0.0%	0.0%
Manufacturing	5.0%	4.5%	4.0%	3.5%	-1.5%
Electricity, gas, water and waste services	0.5%	0.5%	0.4%	0.3%	-0.2%
Construction	9.3%	9.5%	10.0%	10.5%	1.2%
Wholesale trade	2.1%	2.0%	1.8%	1.6%	-0.5%
Retail trade	19.0%	19.5%	20.2%	20.4%	1.4%
Accommodation and food services	9.8%	10.0%	10.1%	10.2%	0.4%
Transport, postal and warehousing	3.1%	3.0%	3.0%	3.0%	-0.1%
Information media and telecommunications	1.0%	0.9%	0.8%	1.0%	0.0%
Financial and insurance services	2.6%	2.4%	2.2%	2.0%	-0.6%
Rental, hiring and real estate services	1.9%	1.9%	2.0%	2.0%	0.1%
Professional, scientific and technical services	3.6%	3.8%	4.0%	4.2%	0.6%
Administrative and support services	2.1%	2.1%	2.1%	2.1%	0.0%
Public administration and safety	2.0%	2.1%	2.2%	2.3%	0.3%
Education and training	8.6%	9.0%	9.0%	9.2%	0.6%
Health care and social assistance	21.8%	22.0%	22.2%	22.2%	0.4%
Arts and recreation services	0.8%	0.8%	0.5%	0.5%	-0.3%
Other services	4.3%	4.0%	4.0%	4.0%	-0.3%

Data note:

Red indicates negative change from the previous 5-year period.

Green indicates positive change from the previous 5-year period.

Source: MacroPlan (2017)

## 3\_Employment & Floor Space Forecasts

### 3.3\_Employment Scenario #1 – Low Growth

Under this scenario, population growth is assumed to decline to 1% annual average growth rate (AAGR) within the Yarrawonga SA2, resulting in positive but slowing population growth. The number of jobs continues to grow in line with the population based on equivalent growth rates between jobs and population.

#### Scenario Description

Yarrawonga SA2 experiences a long term progressive slow-down in population and employment growth, consistent with forecast changes in the Hume region and broader Moira municipality. This reflects the continued ageing of the local population and changes in industry structure, with a long-term shift away from traditional industries such as agriculture and manufacturing partly being offset by an increasing relative share of employment in key services industries including health care and social assistance. This will have implications for the mix of skills and jobs in the township and the quantum of housing and floor space requirements in the future.

#### Population

Average annual population growth rates decline from a five year average growth rate (2011-2016) of approx. 2.0% p.a. to an average annual growth rate of approximately 1.0% p.a. between 2016 -2051 – approximately 1% below the VIF 2016 forecast growth rate of 1.9% p.a.

This outcome is broadly consistent with the VIF 2016 forecast average annual growth rate observed across the Hume Region during this period. This reflects continued ageing of the resident population and declines in employment levels in traditional industries, with moderate growth in employment within services sectors.

#### Demographics

The median age of residents living in Yarrawonga increases from 47 in 2015 to over 50 by 2031, with 49.8% of Yarrawonga's residents within the 55+ age cohort. This reflects continued declines in the relative share of residents aged 0-14 years and 15-19 years within Yarrawonga and Moira, partly offset by modest increases in residents aged 20-25 years and 25-34 years, representing a services based workforce. The relative share of residents in all other age cohorts is expected to decline moderately during the period 2015-2031.

#### Forecast change in age profile, VIF2016

Age Distribution (% ERP)	Yarrawonga SA2		Moira (S)	
	2015	2031	2015	2031
0-14	18.2%	13.1%	18.6%	15.7%
15-19	5.1%	4.7%	6.1%	5.2%
20-24	3.9%	4.1%	4.0%	4.2%
25-34	8.2%	8.7%	9.1%	9.2%
35-44	10.9%	9.0%	10.7%	10.3%
45-54	11.0%	10.6%	13.2%	10.9%
55+	42.7%	49.8%	38.3%	44.4%

Source: VIFSA Katamatite-Yarrawonga District

#### Employment

There are three important drivers of employment forecasts presented in this paper.

- The share of employed persons in Yarrawonga SA2 relative to Moira municipality – an indicator of the future propensity for employed persons to work in Yarrawonga compared to other areas in the municipality;
- Ratio of employed residents to total residents in Yarrawonga SA2 – an indicator of local population servicing capacity;
- Relative share of employment by industry type – indicator of the shifting relative share of employment between industries.

Another element expected to vary under this scenario include the share of employed persons in Yarrawonga SA2 relative to Moira municipality overall will increase moderately in services sectors and potentially decrease in more traditional sectors such as agriculture, forestry and fishing – resulting in an overall increase in relative share of total employed persons of around 2.5-3% that reflects the increasing share of future population growth in Yarrawonga relative to the balance of Moira Shire.

## 3\_Employment & Floor Space Forecasts

### 3.3\_Employment Scenario #1 – Low Growth

#### *Assumptions: Declining relative shares (key sectors)*

- Agriculture, forestry and fishing may continue to decline to a long term relative share of around 1% of Yarrawonga SA2 employment;
- Manufacturing may decline to a long term relative share of around 3.5% of Yarrawonga SA2 employment;
- Wholesale trade may decline marginally to 0.6% of Yarrawonga SA2 employment;
- Transport, postal & warehousing may experience marginal decline to 3% of total Yarrawonga SA2 employment;
- Electricity, gas, water and waste services may decline to 0.3% of Yarrawonga SA2 employment;
- Financial and insurance services may decline to 2% of Yarrawonga SA2 employment;
- Arts and recreation services may decline to 0.5% of Yarrawonga SA2 employment;
- Other services may decline to 4% of Yarrawonga SA2 employment;

#### *Assumptions: Increasing relative share (key sectors)\**

- Retail trade may increase to a long term relative share of around 20.4% of Yarrawonga SA2 employment;
- Construction may increase to a long term relative share of around 10.5% of Yarrawonga SA2 employment;

- Accommodation and food services may increase to a long term relative share of around 10.2% of Yarrawonga SA2 employment;
- Public administration and safety may increase to a long term relative share of around 2.3% of Yarrawonga SA2 employment.
- Professional, scientific and technical services may increase to a long term relative share of around 4.2% of Yarrawonga SA2 employment;
- Education and training may increase to a long term relative share of around 9.2% of Yarrawonga SA2 employment;
- Health care and social assistance may increase to a long term relative share of around 22% of Yarrawonga SA2 employment.

All other industry groups will either remain unchanged or change marginally reflecting the above adjustments.

Note: \* numbers may not add due to rounding.

#### *Retail Floor Space*

Demand for retail floor space is maintained in line with recommendations from SED indicating a recommended retail provision of 2.4m<sup>2</sup> per resident in Yarrawonga. This includes the impacts of seasonal workers and tourism visitation, both of which are expected to remain consistent with established market conditions in this scenario.

#### *Commercial Floor Space*

Demand for commercial floor space is anticipated to meet provision rates of between 5-20m<sup>2</sup> per person for white collar skilled employment i.e. Administrative and support services, Professional, scientific and technical services, Financial and insurance services as well as Education and training and Health care and social assistance.

Estimating commercial floor space requirements for tourism and accommodation and food services is typically more difficult and reflects a number of factors relating to the overall feasibility and investment appetite for short-stay accommodation and tourism projects.

The majority of C1Z commercial zoned land located in central Yarrawonga is occupied by commercial and retail premises and car parking, with limited vacant C1Z land available. Currently there appears to be more than sufficient C2Z commercial zoned land available to support a mix of new commercial developments. The location of C2Z land is located some kilometres outside the central Yarrawonga area and may take some years to come on stream.

## 3\_Employment & Floor Space Forecasts

### 3.3\_Employment Scenario #1 – Low Growth

#### *Industrial Floor Space*

There is sufficient stocks of vacant zoned industrial land located within Yarrawonga to meet theoretical future demand for the foreseeable future. With continued declines in the relative share of traditional industries requiring industrial land in Yarrawonga SA2, forecast demand is manageable within the current supply of industrial land except where large contiguous uses requiring B-double access demonstrate market demand.

Industrial land is currently constrained by single ownership and unwillingness to advance land to market for development. The location and positioning of this land is considered to still represent the most suitable location for industrial development in the short-term. Council may investigate the viability of strategies to encourage the development of this land, including potential re-zoning or levying of higher rates for long-term vacant land.

If constraints within existing vacant zoned land cannot be overcome, investigation by Council should be undertaken to identify potential expansion land for future industrial uses. This should include consultation with land owners to identify appetite to release land to market. It is suggested that engagement with the land owner of Yarrawonga Aerodrome be undertaken to identify potential opportunities within the site's boundaries particularly within the south of the property.

Other suggested areas for land owner engagement include the area covered by the Yarrawonga West Development Plan (Development Plan Overlay 5 & 6), which is identified for future industrial, commercial, retail or residential uses.

### 3.3\_Employment Scenario #1 – Low Growth

COMMERCIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring commercial / office space	Total Floorspace				Net Change		
			2016	2021	2036	2051	0-5 years 2016-2021	5-20 years 2021-2036	20+ years 2036-2051
Agriculture, forestry and fishing	0	0%	0	0	0	0	0	0	0
Mining	0	0%	0	0	0	0	0	0	0
Manufacturing	0	0%	0	0	0	0	0	0	0
Electricity, gas, water and waste services	12.5	5%	7	7	5	6	1	-2	1
Construction	12.5	5%	131	141	181	210	10	40	29
Wholesale trade	0	0%	0	0	0	0	0	0	0
Retail trade	0	0%	0	0	0	0	0	0	0
Accommodation and food services	0	0%	0	0	0	0	0	0	0
Transport, postal and warehousing	0	0%	0	0	0	0	0	0	0
Information media and telecommunications	15	95%	308	305	393	456	-3	88	63
Financial and insurance services	20	100%	1,190	1,142	1,103	1,279	-48	-39	176
Rental, hiring and real estate services	15	95%	616	644	786	911	28	142	125
Professional, scientific and technical services	20	100%	1,622	1,808	2,317	2,685	186	509	369
Administrative and support services	20	100%	930	999	1,158	1,343	69	159	184
Public administration and safety	20	100%	887	999	1,269	1,471	112	269	202
Education and training	15	95%	2,758	3,051	3,615	4,191	293	565	576
Health care and social assistance	15	95%	6,981	7,458	8,724	10,114	477	1,266	1,389
Arts and recreation services	12.5	75%	172	178	129	150	6	-49	21
Other services	12.5	50%	608	595	689	799	-14	95	110
<b>TOTAL</b>			<b>16,210</b>	<b>17,328</b>	<b>20,370</b>	<b>23,614</b>	<b>1,118</b>	<b>3,042</b>	<b>3,244</b>
<b>AVERAGE ANNUAL CHANGE</b>							<b>224</b>	<b>203</b>	<b>216</b>
INDUSTRIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring industrial space	Total Floorspace				Net Change		
			2016	2021	2036	2051	0-5 years 2016-2021	5-20 years 2021-2036	20+ years 2036-2051
Agriculture, forestry and fishing	50	100%	2,703	2,379	1,379	1,599	-325	-1,000	220
Mining	0	0%	0	0	5	20	0	5	15
Manufacturing	35	100%	3,936	3,747	3,378	3,916	-189	-369	538
Electricity, gas, water and waste services	60	95%	616	678	472	547	62	-206	75
Construction	30	95%	5,979	6,441	8,253	9,567	462	1,812	1,314
Wholesale trade	90	100%	4,282	4,282	3,971	4,604	0	-311	632
Retail trade	0	0%	0	0	5	20	0	5	15
Accommodation and food services	15	100%	3,309	3,568	4,219	4,891	259	651	672
Transport, postal and warehousing	70	100%	4,845	4,996	5,791	6,714	151	796	922
Information media and telecommunications	15	5%	16	16	21	24	0	5	3
Financial and insurance services	0	0%	0	0	5	20	0	5	15
Rental, hiring and real estate services	15	5%	32	34	41	48	1	7	7
Professional, scientific and technical services	0	0%	0	0	0	0	0	0	0
Administrative and support services	0	0%	0	0	0	0	0	0	0
Public administration and safety	0	0%	0	0	0	0	0	0	0
Education and training	30	5%	290	321	381	441	31	59	61
Health care and social assistance	30	5%	735	785	918	1,065	50	133	146
Arts and recreation services	15	25%	69	71	52	60	2	-20	8
Other services	15	50%	730	714	827	959	-16	114	132
<b>TOTAL</b>			<b>27,544</b>	<b>28,032</b>	<b>29,718</b>	<b>34,494</b>	<b>488</b>	<b>1,687</b>	<b>4,776</b>
<b>AVERAGE ANNUAL CHANGE</b>							<b>98</b>	<b>112</b>	<b>318</b>

Data note: floor space per worker ratios are based on a variety of sources including: City of Sydney Floor Space & Employment Survey (2012), City of Perth Evolving City Report (2009), Claremont North-East Precinct Economic Review (2008) and UK Government Employment Densities Guide 3rd Edition (2015). MacroPlan has adjusted floor space ratios to closer reflect Yarrowonga's local and regional economic conditions.

Source: MacroPlan, ABS, VIF2016



## 3\_Employment & Floor Space Forecasts

### 3.3\_Employment Scenario #1 – Low Growth

#### Scenario 1: Retail Uses

MacroPlan acknowledges the Retail Strategy prepared by SED, and has adopted the proposed retail ratios contained within the report.

It is noted that differences in population forecast methodologies and datasets have resulted in marginally different retail floorspace demand figures. MacroPlan does not contest the established figures provided by SED – but has rather applied the two proposed retail floorspace ratios to the three population scenarios investigated in this report.

Population growth of approximately 1,265 residents would result in demand for approximately 3,037 m<sup>2</sup> of new retail floorspace by 2031 under the Low Scenario. To 2051, an additional 4,823m<sup>2</sup> of new retail floorspace is estimated to be required.

Under a low growth scenario, there is a significantly lower requirement for retail-related uses than in the baseline trend and high trend scenarios. This has corresponding implications for tourism, with a lower proportion of casualised local workers expected to be supported if population growth rates slow dramatically. This is likely to have implications for youth and young adult employment, and for regional migration.

#### Scenario 1: Retail Floorspace Demand, 2016-2051

	Total Retail Floorspace				Net Change		
	2016	2021	2036	2051	0-5 years 2016-2021	5-20 years 2021-2036	20+ years 2036-2051
Population	7,862	8,263	9,593	11,137	401	1,330	1,544
Retail floorspace required @ 2.4sqm/p	18,868	19,830	23,022	26,728	962	3,192	3,706
Retail floorspace required @ 2.2sqm/p	17,295	18,178	21,104	24,501	882	2,926	3,397

Source: MacroPlan, ABS, VIF2016

## 3\_Employment & Floor Space Forecasts

### 3.4\_Employment Scenario #2 – VIF2016 Trend

Under this scenario, population growth is assumed to continue at VIF 2016 rates within the Yarrawonga SA2. The number of jobs continues to grow in line with the population based on equivalent growth rates between jobs and population.

#### Description

Yarrawonga SA2 experiences a stable growth in population consistent with VIF2016 supporting steady growth in employment. Demographic changes including ageing and changes in industry structure including a long-term shift away from traditional industries continues, however these changes are offset in many ways by an increasing relative importance of services industries including health care and social assistance. This will ultimately influence the mix of skills and jobs in the township and the quantum of housing and floor space requirements in the future.

#### Population

Average annual population growth rates moderate only slightly from a five year average rate (2011-2016) of approx. 2.0% p.a. to an average annual growth rate of approx. 1.9% between 2016 -2031. This is consistent with VIF2016 forecasts, which provide for an easing of growth rate over time.

#### Demographics

The median age of residents living in Yarrawonga increases from 47 in 2015 to over 50 by 2031, with 49.8% of Yarrawonga's residents within the 55+ age cohort. This reflects continued declines in the relative share of residents aged 0-14 years and 15-19 years within Yarrawonga and Moira, partly offset by modest increases in residents aged 20-25 years and 25-34 years, representing a services based workforce.

The relative share of residents in all other age cohorts is expected to decline moderately during the period 2015-2031.

#### Employment

- The share of employed persons in Yarrawonga SA2 relative to Moira municipality overall will increase in services sectors and potentially decrease in more traditional sectors such as agriculture, forestry and fishing – resulting in an overall increase in relative share of total employed persons of around 5.0-6.0%;
- The ratio of employed residents to total residents is forecast to remain unchanged at 80.1%;
- The relative share of employed persons by industry is also expected to change with continued declines in employment in agriculture, forestry and fishing and manufacturing offset by increases in employment in health care and other services industries including retail, accommodation, education and other services. Details are described below.

The following describes changes in the relative share of employed persons in key industries in Yarrawonga SA2 and Moira municipality in 2006 and 2011.

#### *Assumptions: Declining relative shares (key sectors)*

- Agriculture, forestry and fishing may continue to decline to a long term relative share of around 1% of Yarrawonga SA2 employment;
- Manufacturing may decline to a long term relative share of around 3.5% of Yarrawonga SA2 employment;

- Wholesale trade may decline marginally to 0.6% of Yarrawonga SA2 employment;
- Transport, postal & warehousing may experience marginal decline to 3% of total Yarrawonga SA2 employment;
- Electricity, gas, water and waste services may decline to 0.3% of Yarrawonga SA2 employment;
- Financial and insurance services may decline to 2% of Yarrawonga SA2 employment;
- Arts and recreation services may decline to 0.5% of Yarrawonga SA2 employment;
- Other services may decline to 4% of Yarrawonga SA2 employment;

#### *Assumptions: Increasing relative share (key sectors)\**

- Retail trade may increase to a long term relative share of around 20.4% of Yarrawonga SA2 employment;
- Construction may increase to a long term relative share of around 10.5% of Yarrawonga SA2 employment;
- Accommodation and food services may increase to a long term relative share of around 10.2% of Yarrawonga SA2 employment;
- Public administration and safety may increase to a long term relative share of around 2.3% of Yarrawonga SA2 employment.

## 3\_Employment & Floor Space Forecasts

### 3.4\_Employment Scenario #2 – VIF2016 Trend

- Professional, scientific and technical services may increase to a long term relative share of around 4.2% of Yarrawonga SA2 employment;
- Education and training may increase to a long term relative share of around 9.2% of Yarrawonga SA2 employment;
- Health care and social assistance may increase to a long term relative share of around 22% of Yarrawonga SA2 employment.

All other industry groups will either remain unchanged or change marginally reflecting the above adjustments.

Note: \* numbers may not add due to rounding.

#### Retail Floor Space

Demand for retail floor space will continue in line with current levels (2.4m<sup>2</sup> per person) owing to long term steady growth in the population growth rate in Yarrawonga SA2. This excludes the impacts of seasonal workers and tourism visitation, both of which are expected to remain unchanged in this scenario.

#### Commercial Floor Space

Demand for commercial floor space is anticipated to meet provision rates of between 5-20m<sup>2</sup> per person for white collar skilled employment i.e. Administrative and support services, Professional, scientific and technical services, Financial and insurance services as well as Education and training and Health care and social assistance.

Estimating commercial floor space requirements for tourism and accommodation and food services is typically more difficult and reflects a number of factors relating to the overall feasibility and investment appetite for short-stay accommodation and tourism projects.

The majority of C1Z commercial zoned land located in central Yarrawonga is occupied by commercial and retail premises and car parking, with limited vacant C1Z land available. Currently there appears to be more than sufficient C2Z commercial zoned land available to support a mix of new commercial developments. The location of C2Z land is located some kilometres outside the central Yarrawonga area and may take some years to come on stream.

#### Industrial Floor Space

There is sufficient stocks of vacant zoned industrial land located within Yarrawonga to meet theoretical future demand for the foreseeable future. With continued declines in the relative share of traditional industries requiring industrial land in Yarrawonga SA2, forecast demand is manageable within the current supply of industrial land except where large contiguous uses requiring B-double access demonstrate market demand.

Industrial land is currently constrained by single ownership and unwillingness to advance land to market for development. The location and positioning of this land is considered to still represent the most suitable location for industrial development in the short-term. Council may investigate the viability of strategies to encourage the development of this land, including potential re-zoning or levying of higher rates for long-term vacant land.

If constraints within existing vacant zoned land cannot be overcome, investigation by Council should be undertaken to identify potential expansion land for future industrial uses. This should include consultation with land owners to identify appetite to release land to market. It is suggested that engagement with the land owner of Yarrawonga Aerodrome be undertaken to identify potential opportunities within the site's boundaries particularly within the south of the property.

Other suggested areas for land owner engagement include the area covered by the Yarrawonga West Development Plan (Development Plan Overlay 5 & 6), which is identified for future industrial, commercial, retail or residential uses.

### 3.4\_Employment Scenario #2 – VIF2016 Trend

COMMERCIAL	Total Floorspace				Net Change				
	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring commercial / office space	2016	2021	2036	2051	0-5 years 2016-2021	5-20 years 2021-2036	20+ years 2036-2051
Agriculture, forestry and fishing	0	0%	0	0	0	0	0	0	0
Mining	0	0%	0	0	0	0	0	0	0
Manufacturing	0	0%	0	0	0	0	0	0	0
Electricity, gas, water and waste services	12.5	5%	7	6	6	8	-1	0	2
Construction	12.5	5%	136	158	213	266	22	54	53
Wholesale trade	0	0%	0	0	0	0	0	0	0
Retail trade	0	0%	0	0	0	0	0	0	0
Accommodation and food services	0	0%	0	0	0	0	0	0	0
Transport, postal and warehousing	0	0%	0	0	0	0	0	0	0
Information media and telecommunications	15	95%	293	361	462	577	68	101	116
Financial and insurance services	20	100%	1,098	1,114	1,297	1,621	16	182	324
Rental, hiring and real estate services	15	95%	619	722	924	1,155	102	202	231
Professional, scientific and technical services	20	100%	1,738	2,026	2,723	3,404	288	697	681
Administrative and support services	20	100%	961	1,013	1,361	1,702	52	349	341
Public administration and safety	20	100%	961	1,063	1,491	1,864	103	428	373
Education and training	15	95%	2,933	3,247	4,250	5,313	314	1,002	1,063
Health care and social assistance	15	95%	7,170	8,010	10,254	12,820	840	2,244	2,566
Arts and recreation services	12.5	75%	172	119	152	190	-53	33	38
Other services	12.5	50%	572	633	810	1,013	61	177	203
TOTAL			16,658	18,472	23,942	29,933	1,814	5,470	5,991
AVERAGE ANNUAL CHANGE							363	365	399

INDUSTRIAL	Total Floorspace				Net Change				
	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring industrial space	2016	2021	2036	2051	0-5 years 2016-2021	5-20 years 2021-2036	20+ years 2036-2051
Agriculture, forestry and fishing	50	100%	2,287	1,899	1,621	2,026	-388	-278	406
Mining	0	0%	0	0	5	20	0	5	15
Manufacturing	35	100%	3,602	3,545	3,971	4,964	-57	426	994
Electricity, gas, water and waste services	60	95%	652	577	554	693	-74	-23	139
Construction	30	95%	6,192	7,216	9,700	12,127	1,024	2,484	2,427
Wholesale trade	90	100%	4,117	4,102	4,668	5,836	-15	566	1,168
Retail trade	0	0%	0	0	5	20	0	5	15
Accommodation and food services	15	100%	3,430	3,836	4,959	6,200	406	1,123	1,241
Transport, postal and warehousing	70	100%	4,803	5,317	6,807	8,510	515	1,490	1,703
Information media and telecommunications	15	5%	15	19	24	30	4	5	6
Financial and insurance services	0	0%	0	0	5	20	0	5	15
Rental, hiring and real estate services	15	5%	33	38	49	61	5	11	12
Professional, scientific and technical services	0	0%	0	0	0	0	0	0	0
Administrative and support services	0	0%	0	0	0	0	0	0	0
Public administration and safety	0	0%	0	0	0	0	0	0	0
Education and training	30	5%	309	342	447	559	33	105	112
Health care and social assistance	30	5%	755	843	1,079	1,349	88	236	270
Arts and recreation services	15	25%	69	47	61	76	-21	13	15
Other services	15	50%	686	760	972	1,216	74	213	243
TOTAL			26,949	28,542	34,928	43,709	1,593	6,386	8,781
AVERAGE ANNUAL CHANGE							319	426	585

Data note: floor space per worker ratios are based on a variety of sources including: City of Sydney Floor Space & Employment Survey (2012), City of Perth Evolving City Report (2009), Claremont North-East Precinct Economic Review (2008) and UK Government Employment Densities Guide 3rd Edition (2015). MacroPlan has adjusted floor space ratios to closer reflect Yarrowonga's local and regional economic conditions.

Source: MacroPlan, ABS, VIF2016

## 3\_Employment & Floor Space Forecasts

### 3.4\_Employment Scenario #2 – VIF2016 Trend

#### Scenario 2: Retail Uses

MacroPlan acknowledges the Retail Strategy prepared by SED, and has adopted the proposed retail ratios contained within the report.

It is noted that differences in population forecast methodologies and datasets have resulted in marginally different retail floorspace demand figures. MacroPlan does not contest the established figures provided by SED – but has rather applied the two proposed retail floorspace ratios to the three population scenarios investigated in this report.

Population growth of approximately 2,530 residents would result in demand for approximately 6,071 m<sup>2</sup> of new retail floorspace by 2031 – which is broadly comparable with SED's proposed floorspace increase when accounting for leakage and tourism-related retail uses.

Under a low growth scenario, there is growth in requirement for retail-related uses compared to the low trend scenarios. A higher proportion of casualised local workers would be supported if population growth rates remain consistent with VIF2016. This is likely to have implications for youth and young adult employment, who will be advantaged by access to a larger pool of retail-related casual jobs.

#### Scenario 2: Retail Floorspace Demand, 2016-2051

	Total Retail Floorspace				Net Change		
	2016	2021	2036	2051	0-5 years 2016-2021	5-20 years 2021-2036	20+ years 2036-2051
Population	7,862	8,722	11,207	14,012	861	2,485	2,804
Retail floorspace required @ 2.4sqm/p	18,868	20,934	26,898	33,629	2,066	5,964	6,731
Retail floorspace required @ 2.2sqm/p	17,295	19,189	24,656	30,826	1,894	5,467	6,170

Source: MacroPlan, ABS, VIF2016

## 3\_Employment & Floor Space Forecasts

### 3.5\_Employment Scenario #3 – High Growth

Under this scenario, population growth is assumed to escalate to approximately 3% AAGR within the Yarrawonga SA2. The number of jobs continues to grow in line with the population based on equivalent growth rates between jobs and population.

#### Description

Yarrawonga SA2 experiences a higher than anticipated VIF2016 growth in population supporting strong growth in employment. Demographic changes including ageing and changes in industry structure including a long-term shift away from traditional industries continues, however these changes are largely offset by increased relative importance of services industries including health care and social assistance. This will ultimately change the mix of skills and jobs in Yarrawonga and surrounding areas and increase demand for housing and other floor space requirements in the future.

#### Population

Average annual population growth rates increase slightly from a five year average rate (2011-2016) of approx. 2.0% p.a. to an average annual growth rate of approx. 2.2% between 2016 -2031. This is slightly higher than VIF2016 forecasts and assumes ageing population trends are offset by increased working-age population in the area in response to growing regional investment activities and infrastructure supporting enhanced employment opportunities for skilled workers and families seeking a country lifestyle with access to regional services.

#### Demographics

The median age of residents living in Yarrawonga increases from 47 in 2015 to over 50 by 2031, with 49.8% of Yarrawonga's residents within the 55+ age cohort. This reflects continued declines in the relative share of residents aged 0-14 years and 15-19 years within Yarrawonga and Moira, partly offset by modest increases in residents aged 20-25 years and 25-34 years, representing a services based workforce. The relative share of residents in all other age cohorts is expected to decline moderately during the period 2015-2031.

#### Employment

- The share of employed persons in Yarrawonga SA2 relative to Moira municipality overall will increase in services sectors and potentially decrease in some traditional sectors such as agriculture, forestry and fishing – resulting in an overall increase in relative share of total employed persons between Yarrawonga and Moira Shire.
- The ratio of employed residents to total residents is forecast to remain unchanged at 80.1%.
- The relative share of employed persons by industry is also expected to change with continued declines in employment in agriculture, forestry and fishing and manufacturing offset by increases in employment in health care and other services industries including retail, accommodation, education and other services. Details are described below.

#### *Assumptions: Declining relative shares (key sectors)*

- Agriculture, forestry and fishing may continue to decline to a long term relative share of around 1% of Yarrawonga SA2 employment;
- Manufacturing may decline to a long term relative share of around 3.5% of Yarrawonga SA2 employment;
- Wholesale trade may decline marginally to 0.6% of Yarrawonga SA2 employment;
- Transport, postal & warehousing may experience marginal decline to 3% of total Yarrawonga SA2 employment;
- Electricity, gas, water and waste services may decline to 0.3% of Yarrawonga SA2 employment;
- Financial and insurance services may decline to 2% of Yarrawonga SA2 employment;
- Arts and recreation services may decline to 0.5% of Yarrawonga SA2 employment;
- Other services may decline to 4% of Yarrawonga SA2 employment;

#### *Assumptions: Increasing relative shares (key sectors)*

- Retail trade may increase to a long term relative share of around 20.4% of Yarrawonga SA2 employment;
- Construction may increase to a long term relative share of around 10.5% of Yarrawonga SA2 employment;



## 3\_Employment & Floor Space Forecasts

### 3.5\_Employment Scenario #3 – High Growth

- Accommodation and food services may increase to a long term relative share of around 10.2% of Yarrawonga SA2 employment;
- Public administration and safety may increase to a long term relative share of around 2.3% of Yarrawonga SA2 employment.
- Professional, scientific and technical services may increase to a long term relative share of around 4.2% of Yarrawonga SA2 employment;
- Education and training may increase to a long term relative share of around 9.2% of Yarrawonga SA2 employment;
- Health care and social assistance may increase to a long term relative share of around 22% of Yarrawonga SA2 employment.

All other industry groups will either remain unchanged or change marginally reflecting the above adjustments.

Note: \* numbers may not add due to rounding.

#### Retail Floor Space

Demand for retail floor space will continue in line with current levels (2.4m<sup>2</sup> per person) owing to long term steady growth in the population growth rate in Yarrawonga SA2. This excludes the impacts of seasonal workers and tourism visitation, both of which are expected to remain unchanged in this scenario.

#### Commercial Floor Space

Demand for commercial floor space is anticipated to meet provision rates of between 5-20m<sup>2</sup> per person for white collar skilled employment i.e. Administrative and support services, Professional, scientific and technical services, Financial and insurance services as well as Education and training and Health care and social assistance.

Estimating commercial floor space requirements for tourism and accommodation and food services is typically more difficult and reflects a number of factors relating to the overall feasibility and investment appetite for short-stay accommodation and tourism projects.

The majority of C1Z commercial zoned land located in central Yarrawonga is occupied by commercial and retail premises and car parking, with limited vacant C1Z land available. Currently there appears to be more than sufficient C2Z commercial zoned land available to support a mix of new commercial developments. The location of C2Z land is located some kilometres outside the central Yarrawonga area and may take some years to come on stream.

#### Industrial Floor Space

There is sufficient stocks of vacant zoned industrial land located within Yarrawonga to meet theoretical future demand for the foreseeable future. With continued declines in the relative share of traditional industries requiring industrial land in Yarrawonga SA2, forecast demand is manageable within the current supply of industrial land except where large contiguous uses requiring B-double access demonstrate market demand.

Industrial land is currently constrained by single ownership and unwillingness to advance land to market for development. The location and positioning of this land is considered to still represent the most suitable location for industrial development in the short-term. Council may investigate the viability of strategies to encourage the development of this land, including potential re-zoning or levying of higher rates for long-term vacant land.

If constraints within existing vacant zoned land cannot be overcome, investigation by Council should be undertaken to identify potential expansion land for future industrial uses. This should include consultation with land owners to identify appetite to release land to market. It is suggested that engagement with the land owner of Yarrawonga Aerodrome be undertaken to identify potential opportunities within the site's boundaries particularly within the south of the property.

Other suggested areas for land owner engagement include the area covered by the Yarrawonga West Development Plan (Development Plan Overlay 5 & 6), which is identified for future industrial, commercial, retail or residential uses.

### 3.5\_Employment Scenario #3 – High Growth

COMMERCIAL	Total Floorspace						Net Change		
	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring commercial / office space	2016	2021	2036	2051	0-5 years 2016-2021	5-20 years 2021-2036	20+ years 2036-2051
Agriculture, forestry and fishing	0	0%	0	0	0	0	0	0	0
Mining	0	0%	0	0	0	0	0	0	0
Manufacturing	0	0%	0	0	0	0	0	0	0
Electricity, gas, water and waste services	12.5	5%	7	8	7	11	1	-1	4
Construction	12.5	5%	131	152	259	398	21	107	139
Wholesale trade	0	0%	0	0	0	0	0	0	0
Retail trade	0	0%	0	0	0	0	0	0	0
Accommodation and food services	0	0%	0	0	0	0	0	0	0
Transport, postal and warehousing	0	0%	0	0	0	0	0	0	0
Information media and telecommunications	15	95%	308	329	562	865	21	233	303
Financial and insurance services	20	100%	1,190	1,231	1,578	2,428	42	347	850
Rental, hiring and real estate services	15	95%	616	695	1,125	1,730	78	430	605
Professional, scientific and technical services	20	100%	1,622	1,950	3,315	5,099	328	1,365	1,784
Administrative and support services	20	100%	930	1,077	1,657	2,549	147	580	892
Public administration and safety	20	100%	887	1,077	1,815	2,792	191	738	977
Education and training	15	95%	2,758	3,290	5,173	7,958	532	1,883	2,785
Health care and social assistance	15	95%	6,981	8,042	12,483	19,203	1,062	4,441	6,719
Arts and recreation services	12.5	75%	172	192	285	285	20	-7	100
Other services	12.5	50%	608	641	987	1,518	33	345	531
TOTAL			16,210	18,686	29,147	44,836	2,475	10,462	15,689
AVERAGE ANNUAL CHANGE							495	697	1,046

INDUSTRIAL	Total Floorspace						Net Change		
	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring industrial space	2016	2021	2036	2051	0-5 years 2016-2021	5-20 years 2021-2036	20+ years 2036-2051
Agriculture, forestry and fishing	50	100%	2,703	2,565	1,973	3,035	-138	-592	1,062
Mining	0	0%	0	0	5	20	0	5	15
Manufacturing	35	100%	3,936	4,040	4,834	7,436	104	794	2,602
Electricity, gas, water and waste services	60	95%	616	731	675	1,038	115	-56	363
Construction	30	95%	5,979	6,946	11,809	18,165	967	4,863	6,356
Wholesale trade	90	100%	4,282	4,618	5,682	8,741	335	1,065	3,059
Retail trade	0	0%	0	0	5	20	0	5	15
Accommodation and food services	15	100%	3,309	3,848	6,038	9,287	539	2,190	3,250
Transport, postal and warehousing	70	100%	4,845	5,387	8,287	12,747	543	2,900	4,460
Information media and telecommunications	15	5%	16	17	30	46	1	12	16
Financial and insurance services	0	0%	0	0	5	20	0	5	15
Rental, hiring and real estate services	15	5%	32	37	59	91	4	23	32
Professional, scientific and technical services	0	0%	0	0	0	0	0	0	0
Administrative and support services	0	0%	0	0	0	0	0	0	0
Public administration and safety	0	0%	0	0	0	0	0	0	0
Education and training	30	5%	290	346	545	838	56	198	293
Health care and social assistance	30	5%	735	847	1,314	2,021	112	468	707
Arts and recreation services	15	25%	69	77	74	114	8	-3	40
Other services	15	50%	730	770	1,184	1,821	40	414	637
TOTAL			27,544	30,228	42,517	65,440	2,684	12,289	22,922
AVERAGE ANNUAL CHANGE							537	819	1,528

Data note: floor space per worker ratios are based on a variety of sources including: City of Sydney Floor Space & Employment Survey (2012), City of Perth Evolving City Report (2009), Claremont North-East Precinct Economic Review (2008) and UK Government Employment Densities Guide 3rd Edition (2015). MacroPlan has adjusted floor space ratios to closer reflect Yarrowonga's local and regional economic conditions.

Source: MacroPlan, ABS, VIF2016

## 3\_Employment & Floor Space Forecasts

### 3.5\_Employment Scenario #3 – High Growth

#### Scenario 3: Retail Uses

MacroPlan acknowledges the Retail Strategy prepared by SED, and has adopted the proposed retail ratios contained within the report.

It is noted that differences in population forecast methodologies and datasets have resulted in marginally different retail floorspace demand figures. MacroPlan does not contest the established figures provided by SED – but has rather applied the two proposed retail floorspace ratios to the three population scenarios investigated in this report.

Population growth of approximately 2,530 residents would result in demand for approximately 6,071 m<sup>2</sup> of new retail floorspace by 2031 – which is broadly comparable with SED's proposed floorspace increase when accounting for leakage and tourism-related retail uses.

Under a high growth scenario, there is significant growth in requirement for retail-related uses compared to the low trend and baseline scenarios. A higher proportion of casualised local workers would be supported if population growth rates grow above VIF2016 trend. This will provide for increased local employment opportunities for youth and young adults.

Notably, growth on this scale would indicate potential to attract a larger share of regional migrants to Yarrawonga as the size and scale of the township increases. This is particularly likely to have implications for the large seasonal workforce associated with crop picking within the region, and enhances the potential for Yarrawonga to capture an increased share of employment-related tourism.

#### Scenario 3: Retail Floorspace Demand, 2016-2051

	Total Retail Floorspace				Net Change		
	2016	2021	2036	2051	0-5 years 2016-2021	5-20 years 2021-2036	20+ years 2036-2051
Population	7,862	9,114	14,199	22,121	1,252	5,085	7,922
Retail floorspace required @ 2.4sqm/p	18,868	21,873	34,077	53,091	3,005	12,204	19,014
Retail floorspace required @ 2.2sqm/p	17,295	20,050	31,237	48,667	2,755	11,187	17,429

Source: MacroPlan, ABS, VIF2016

## 3.6\_Key Findings: Short-term (0 – 5 years: 2016 to 2021)

### Scenario 1: Low Scenario

Despite below-average growth rates of approximately 1% per annum, Yarrawonga continues to experience positive population growth. This scenario indicates that Yarrawonga would retain positive population growth with a growth rate approximately half of official VIF2016 forecasts.

#### Key Findings: 5-year outlook

- Assuming that the ratio of population to jobs remains constant at 3.43 persons per job, population growth stimulates employment growth estimated at 115 new jobs.

#### Outlook / Likelihood

- Moderate

#### Suggested Actions

- Monitor retail / commercial / industrial sales to identify any change in property prices that may be a catalyst for intensified development.
- Monitor capacity of key local infrastructure assets including schools, aged care facilities and health facilities (including the Yarrawonga District Health Service) for capacity. Identify opportunities to leverage Commonwealth and State Government funding for regional development to enhance these existing assets.
- Monitor planning permits to identify short-term opportunities to promote catalyst projects in high-value sites, such as the Saleyards or in adaptive re-use sites in the southern Belmore St gateway precinct.

### Scenario 2: VIF2016 Trend

Yarrawonga continues its current growth trajectory, experiencing positive but slowly declining growth rates. Notably, Yarrawonga continues to grow in the proportion of total population growth in Moira from 81% to 88% by 2031. This scenario is considered to be the most viable.

#### Key Findings: 5-year outlook

- Assuming that the ratio of population to jobs remains constant at 3.43 persons per job, population growth stimulates employment growth estimated at 245 new jobs.

#### Outlook / Likelihood

- High

#### Suggested Actions

- Monitor planning permits to identify market proposals in key sectors (aged care / retirement living and tourism) as catalyst projects.
- Engage with ownership of Silverwoods Golf Course to identify timing and staging of future on-site development, and identify if public realm improvements may enhance opportunities for waterfront development.
- Monitor retail / commercial planning permit applications to ensure alignment with strategic role and function of Belmore St town centre.
- Ensure that ongoing monitoring is undertaken to appropriately manage any application proposing the creation of an additional supermarket in Yarrawonga, noting that the quantum of estimated retail floorspace demand stated in SED Advisory's draft Retail Framework Plan would be sufficient to accommodate an additional supermarket in Yarrawonga by 2031. It is suggested that Council consider the need for an application of this type to include a retail trade area report from an independent party to establish demand before approval.

### Scenario 3

Yarrawonga experiences a significant surge in growth that is sustained for the duration of the forecast. This trajectory is considered aggressive and comprises the upper limit of achievable population growth in Yarrawonga, with associated significant increases in dwellings and jobs required.

#### Key Findings: 5-year outlook

- Assuming that the ratio of population to jobs remains constant at 3.43 persons per job, population growth stimulates employment growth estimated at 245 new jobs.

#### Outlook / Likelihood

- Low

#### Suggested Actions

- Retail demand would escalate quickly and significantly above SED's proposed retail options and floor space ratios. This population threshold would potentially stimulate a need for a small, second supermarket centre in a location viable for use by residents in the east of the town.
- Population growth of this scale is likely to stimulate growing demand for retail / commercial floorspace within small tenancies (50-150 sqm) to provide for growth in white-collar household and business services enterprises. Uses of this type are often situated within the periphery of the core town centre, and would be suitable for development within urban renewal / adaptive re-use projects in the Belmore St and Belmore St south precincts.

## 3.6\_Key Findings: Medium-term (5 – 20 years: 2021 to 2036)

### Scenario 1: Low Scenario

Yarrawonga continues its upwards population growth trajectory with growth rates maintained at approximately 1% average annual growth per annum.

#### Key Findings: 15-year outlook

- Assuming that the ratio of population to jobs remains constant at 3.43 persons per job, population growth stimulates employment growth estimated at 383 new jobs or approximately 25 jobs per year.

#### Outlook / Likelihood

- Moderate

#### Suggested Actions

- Belmore St is expected to be at capacity, with demand reaching thresholds to advance the development of a secondary supermarket-based retail centre. Kaeila Business Park is appropriately zoned and positioned to accommodate this demand.
- Belmore Street South is likely to experience above-average demand and real estate market interest when Belmore St reaches completion, with high potential for adaptive re-use of existing buildings. Real estate listings should be monitored to identify market interest in this precinct.
- The assumed advancement of the Murray Valley Bypass will necessitate detailed review of industrial land supplies, triggering potential zoning of new industrial land. Review of the airport's potential should be undertaken.

### Scenario 2: VIF2016 Trend

Yarrawonga continues to emerge as a regional centre, with positive population growth that declines over time to 1.5% annual average growth per annum. Easing of growth rate reflects overall increase in size and scale of the township.

#### Key Findings: 15-year outlook

- Assuming that the ratio of population to jobs remains constant at 3.43 persons per job, population growth stimulates employment growth estimated at 709 new jobs or approximately 47 jobs per year.

#### Outlook / Likelihood

- High

#### Suggested Actions

- Capacity of Belmore St expected to be exhausted, with occasionally urban renewal / infill opportunities. Need to consider secondary centre, with Kaeila Business Park well positioned to deliver this outcome.
- Identify opportunities to expand the existing health cluster to the east of Belmore Street, noting that health care & social assistance is forecast to experience the largest increase in jobs and floorspace demand of any individual sector to 2051.
- Identify opportunities to attract a tertiary education / vocational education & training provider within Yarrawonga.
- Identify opportunities to encourage the relocation of current industrial uses which could be relocated to Commercial 2 Zones. In particular, trade supply and showroom uses could be encouraged to relocate to the Yarrawonga West precinct which has been proposed for potential Commercial 2 uses.
- Relocation of trade supply enterprises would enable new industrial capacity, but monitoring should be undertaken to ensure this is sufficient in the medium-term.

### Scenario 3

Yarrawonga continues an aggressive growth trajectory and emerges as a key regional centre. Growth rates continue at 2.9% per year, driving ongoing consistent demand for new dwellings and stimulating increased employment.

#### Key Findings: 15-year outlook

- Assuming that the ratio of population to jobs remains constant at 3.43 persons per job, population growth stimulates employment growth estimated at 1,421 new jobs or approximately 94 jobs per year.

#### Outlook / Likelihood

- Low

#### Suggested Actions

- Population thresholds would definitely support a secondary retail centre by 2036, as the population reaches 14,199 in 2036. Escalation in population growth at this rate would necessitate review of existing retail and employment strategies.
- Yarrawonga would be well positioned to increase its share of knowledge-intensive jobs at this population threshold, stimulating additional need to provide new land for large-format uses in commercial / office, health-related and education-related uses.
- May enhance need to 'pivot' requirements for industrial land to provide improved development areas for knowledge-based uses, as opposed to supporting light industrial and trade-supply type uses.

## 3.6\_Key Findings: Long-term (20 - 35 years: 2036 to 2051)

### Scenario 1: Low Scenario

Yarrawonga maintains some momentum in population growth, but the size and scale of Yarrawonga's growth trajectory remains subdued. Yarrawonga continues to grow at a rate of approximately 1% annual average growth per year.

#### Key Findings: 15-year outlook

- Assuming that the ratio of population to jobs remains constant at 3.43 persons per job, population growth stimulate employment growth estimated at 444 new jobs or approximately 29.6 jobs per year.

#### Outlook / Likelihood

- Moderate

#### Suggested Actions

- Overall population growth from 2016-2051 of 3,275 residents is most likely below the threshold required for a secondary town centre, but would probably support an additional supermarket. Existing zones are considered adequate to provide for this scale of development.
- If they remain undeveloped, consideration should be given to the potential to encourage catalyst projects through urban renewal / redevelopment in key sites such as the Yarrawonga Saleyards and former Primary School site. This may have linkages with any future Framework Plan, or may form the basis of a future Investment Prospectus for Yarrawonga.

### Scenario 2: VIF2016 Trend

Yarrawonga continues to emerge as a regional centre, with positive population growth that declines over time to 1.5% annual average growth per annum. Easing of growth rate reflects overall increase in size and scale of the township.

#### Key Findings: 15-year outlook

- Assuming that the ratio of population to jobs remains constant at 3.43 persons per job, population growth stimulate employment growth estimated at 811 new jobs or approximately 54 jobs per year.

#### Outlook / Likelihood

- High

#### Suggested Actions

- Retail / commercial demand would be expected to be approaching a need for a secondary town centre / major employment precinct by 2051 to support additional growth of approximately 1,219 jobs from 2036-2051. From 2036-2051, an additional 6,729m<sup>2</sup> of retail floorspace would be required (based on 2.4m<sup>2</sup> per person).
- The former primary school site represents a notable redevelopment opportunity, given its size and relatively straightforward site rehabilitation. Consideration should be given to the potential for the site to support a range of retail and community uses that could not be supported within more constrained sites, with additional consideration of planning controls to preserve the site for future use.
- It is recommended that the former primary school site be considered in any future Framework Plan in conjunction with other high-value redevelopment sites such as the Yarrawonga Saleyards.

### Scenario 3

By 2051, Yarrawonga has emerged as a key regional centre and major regional service hub. Sustained growth rates of approximately 2.9% average annual growth per year have achieved a size and scale of township that fundamentally changes Yarrawonga's regional economic role.

#### Key Findings: 15-year outlook

- Assuming that the ratio of population to jobs remains constant at 3.43 persons per job, population growth stimulate employment growth estimated at 2,186 new jobs or approximately 145 jobs per year.

#### Outlook / Likelihood

- Low

#### Suggested Actions

- Existing zoned retail, commercial and industrial uses would be exhausted under this scenario. Extensive planning of new residential areas would be required, followed by subsequent retail and commercial rezoning's to facilitate the development of one or more additional secondary centres.
- Ongoing monitoring should occur to monitor large-scale sites that are put to market by landowners, due to the potential for these sites to achieve a higher-order use. In particular, sites that are centrally located within existing employment areas or greenfield sites with direct access to major roads or the Murray Valley Hwy.



## 4\_Spatial Analysis

### 4.1\_Overview

This section presents a spatial analysis and suggested actions by land use sector that have resulted from the growth modelling presented in this report. This section has been developed based upon spatial analysis undertaken by Ethos Urban (formerly Ethos Urban).

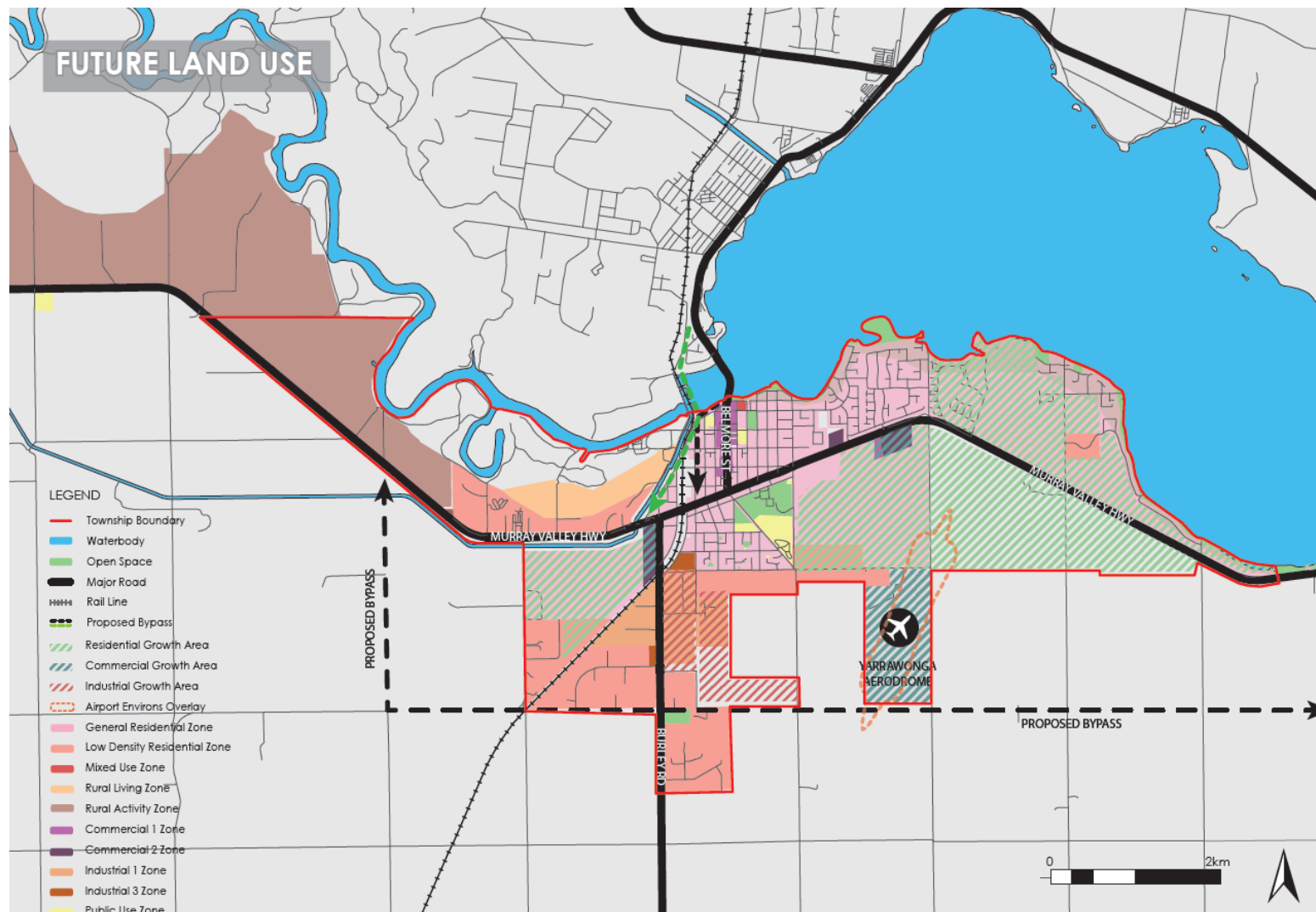
Sectors and locations explored in this section include:

- 1) Residential;
- 2) Commercial & Retail;
- 3) Industrial;
- 4) Tourism;
- 5) Belmore Street.

#### Data note

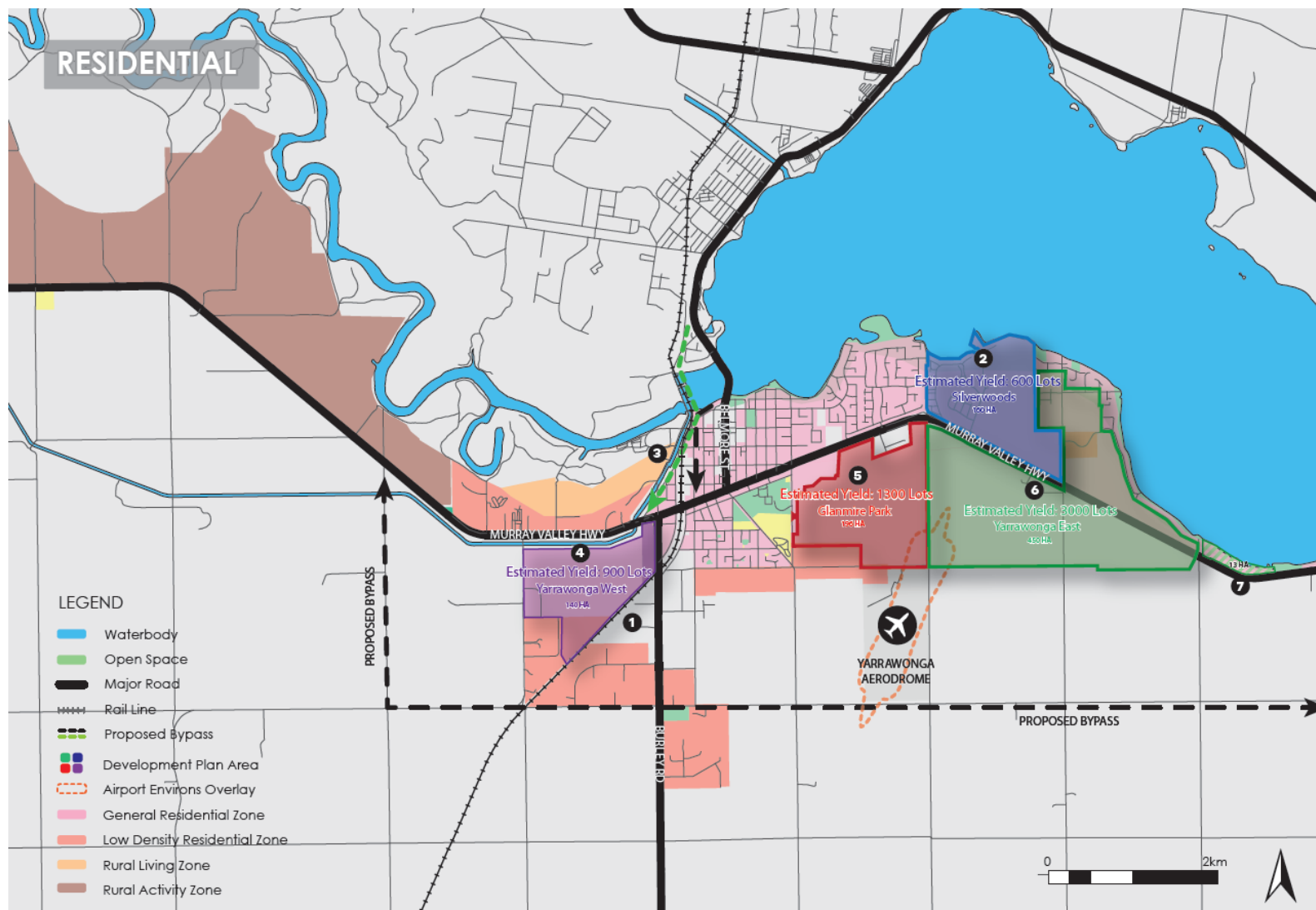
Numbering on maps is associated with strategic commentary or recommendations on the subsequent page.

## 4\_Spatial Analysis



Source: Ethos Urban (2017)

## 4\_Spatial Analysis



Source: Ethos Urban (2017)

## 4\_Spatial Analysis

### 4.3\_Residential

#### 1. POTENTIAL BUFFER

Required in this location to provide separation between densified residential uses and future industrial development. Likely to be influenced by market interest in large scale industrial uses.

#### 2. SILVERWOODS DEVELOPMENT (DPO6)

This development included the construction of a golf course, as well as golf facilities and a number of smaller public open spaces. The plan also consists of a number of medium density residential dwellings. There are estimated to be 600 residential lots within this development plan. Development of the western side of the precinct has commenced and staged residential subdivision is continuing. (Total 160 HA)

#### 3. RAILWAY STATION REDEVELOPMENT

Railway station redevelopment may provide a location for a branded urban renewal project, given its heritage value, proximity to the new community centre and development potential along the bypass route and adjoining rail lines.  
(Approx 10 HA)

#### 4. YARRAWONGA WEST DEVELOPMENT PLAN (DPO5 & 6)

Consists of standard residential dwellings and low density residential developments, with medium density dwellings proposed in the centre of the precinct. Commercial developments are proposed to abut the north-eastern edge, along with a number of public open spaces throughout. The land has not yet been developed for residential purposes, but once complete will deliver a yield of approximately 900 residential lots. At the current take up rate of 150 lots per annum, this equates to approximately 6 years supply. This area has been identified partly as land subject to inundation and as such will require the provision of water management infrastructure. (Total 140 HA)

#### 5. GLANMIRE PARK DEVELOPMENT PLAN (DPO7)

This development plan delivers residential developments in the form of conventional residential dwellings and townhouse/ retirement villages. Also included within this plan is a potential school, 3 public open spaces and a blueway overland flow path. This site has not yet been developed, but once complete could deliver a yield of approximately 1300 residential lots. This equates to approximately 8 years of supply based on the current take up rate of 150 lots per annum. Development in this location will need to include provision for infrastructure to assist with the management of flood water, as identified by an L510 overlay located across the site. Consideration will also be required for appropriate use of the land falling under the Airport Environs Overlay. (Total 196 HA)

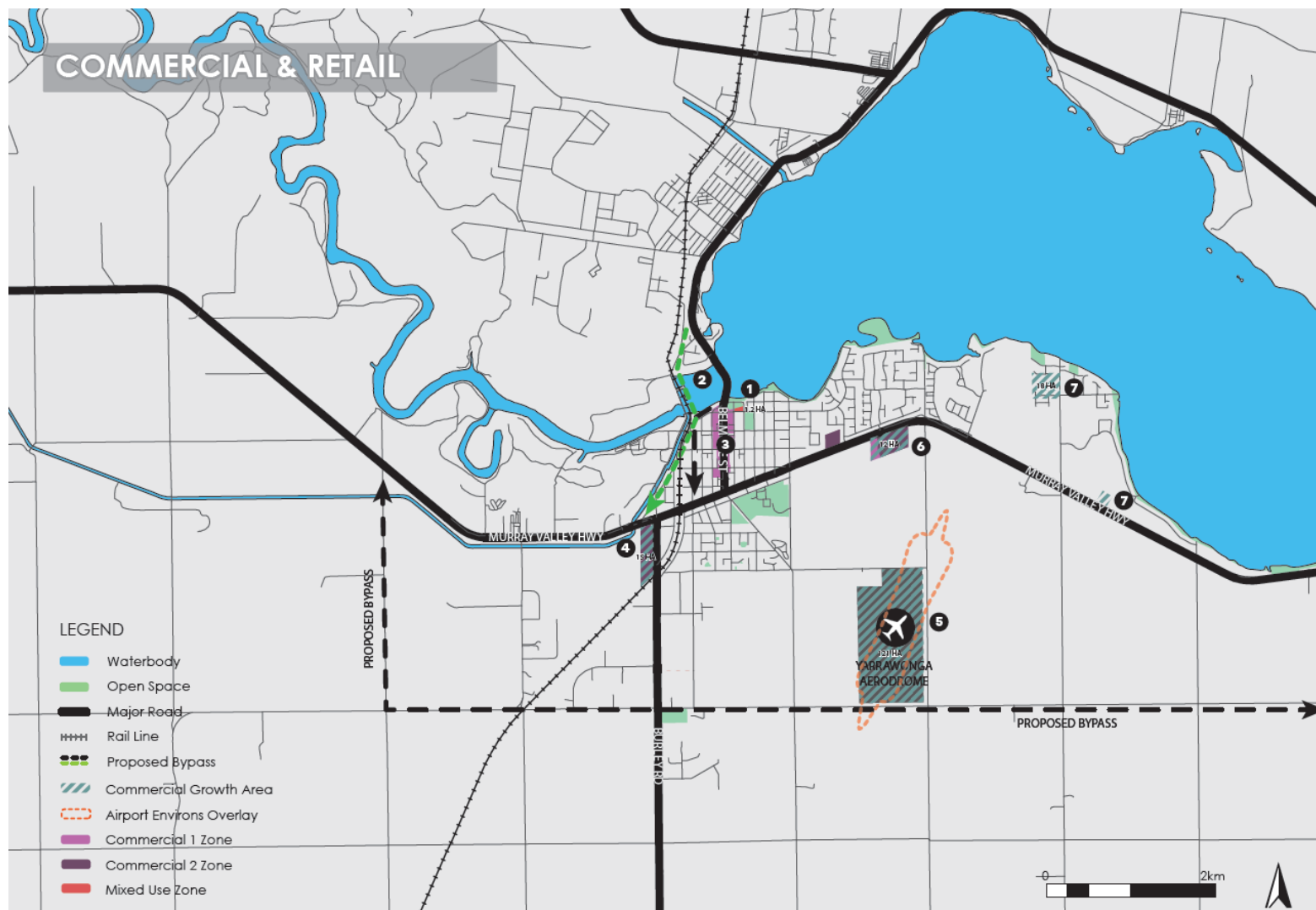
#### 6. YARRAWONGA EAST DEVELOPMENT PLAN (DPO3 & DPO6)

Consists of a mix of residential dwellings including standard, low and medium density. There is also provision for 15 public parks and 2 commercial neighbourhood activity centres. It is estimated that there has been a total of 55 hectares of residential development occur within the precinct, but has the potential to deliver the approximately 3000 residential lots. This equates to 20 years supply (based on recent take up rates of 150 lots per annum). It is noted that part of the land within the development plan is currently zoned as Farm Zone. The development of this land is reliant on the provision of infrastructure including reticulated sewerage. Consideration will also be required for appropriate use of the land falling under the Airport Environs Overlay. (Total 410 HA)

#### 7. RESIDENTIAL DEVELOPMENT PLAN (DPO4)

This development plan involves the subdivision of the area into 11 residential lots. It is estimated that 8 hectares of this site has been developed for residential use. (12.6 HA)

## 4\_Spatial Analysis



Source: Ethos Urban (2017)

## 4\_Spatial Analysis

### 4.4\_Commercial & Retail

#### 1. MIXED USE ZONE

Potential for broader application of the MUZ in the waterfront precinct to provide diversity of potential private sector development options. (Total 1.2 HA)

#### 2. FUTURE BRIDGE AND BYPASS

Alignment may have significant impact on activation of the waterfront, and intensification of retail/commercial uses.

#### 3. BELMORE STREET

Few remaining lots suitable for development and relatively high fragmentation of land. Large scale retail & commercial uses unlikely to be accommodated within this centre unless consolidation of smaller lots occurs.

#### 4. FUTURE COMMERCIAL 2 PRECINCT

Capable of accommodating retail/commercial uses involving bulky goods. Possible constraints from rail line and Yarrawonga Main Channel. (Approx 15 HA)

#### 5. YARRAWONGA AERODROME

Potential for commercial uses incorporating showroom style retailing and warehousing. Commercial development potential within the airport buffer that restricts residential uses, preserving unaffected land for residential purposes. (Approx 121 HA)

#### 6. KAIELA BUSINESS PARK

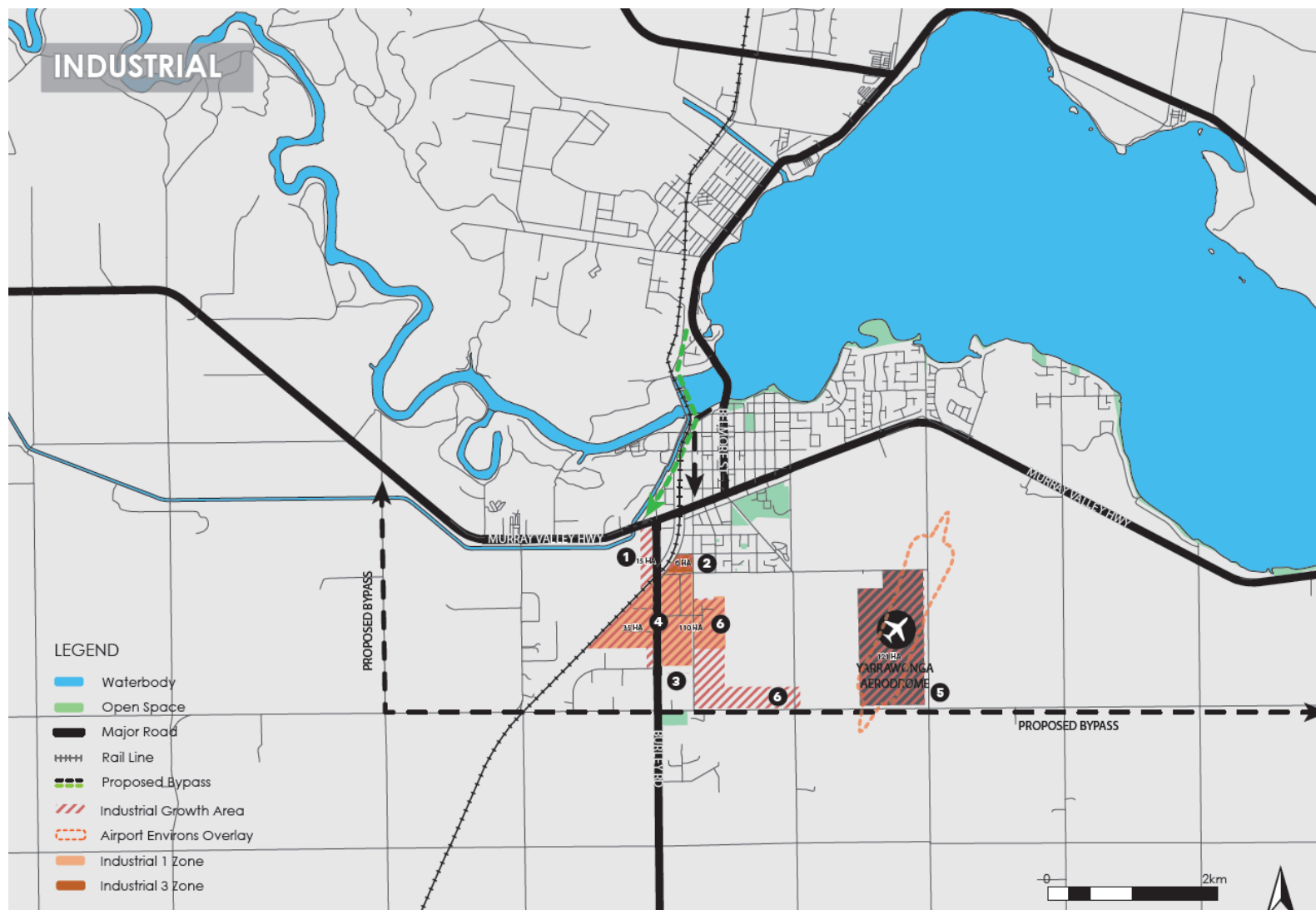
Currently developing with room for further expansion. Logical location for secondary town centre or supermarket due to high capacity, large lot availability and existing zoning as part C1Z. Consideration required to supporting retail demand from future residential to the south. (Total 12 HA)

#### 7. YARRAWONGA EAST NEIGHBOURHOOD CENTRE

Potential community & retail uses, plus tourism accommodation. Further potential for additional tourism related uses aligned to Silverwood Golf Course development with neighbourhood shopping areas designated on development plan. (Approx 18 HA)



## 4\_Spatial Analysis



Source: Ethos Urban (2017)

## 4\_Spatial Analysis

### 4.5\_Industrial

#### 1. FUTURE INDUSTRIAL PRECINCT

While identified for future commercial uses, this precinct also has potential to accommodate industrial uses. This may have implications for any future residential development to the West. (Approx 15 HA)

#### 2. YARRAWONGA SALE YARDS

Key development site and high value location for industrial land uses. There is existing marketing interest with council for large single-user sites for industrial purposes. However IN3Z Zoning limits some intensive industrial uses. (Approx 6 HA)

#### 3. YARRAWONGA TRANSFER STATION

Presence may diminish market interest in properties to the south of the precinct, but may also provide opportunities to locate large-scale intrusive uses. Any intrusive uses would require amenity buffers guided by the Planning Scheme. (Approx 35 HA)

#### 4. BUILDING DENSITIES

Within the industrial cluster, densities are relatively sparse, with a large amount of surplus land within existing properties, including some large single land holdings (20ha +). There is significant capacity to increase the density of small scale industrial use.

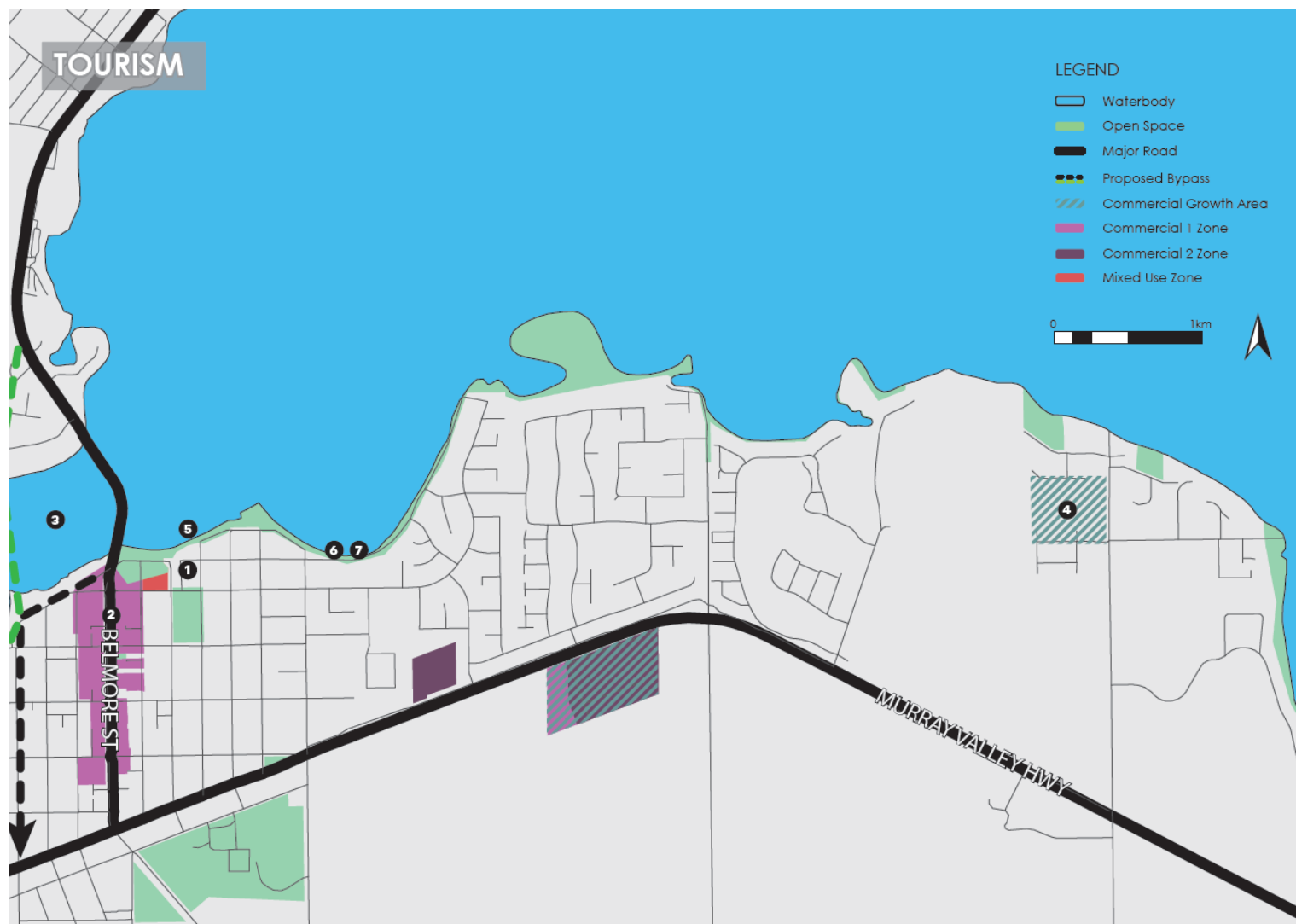
#### 5. UNDEVELOPED AREA SURROUNDING AERODROME

Significant capacity to accommodate one or more large scale industrial uses, subject to land owner/market delivery. However consideration will be required regarding the Airport Environs Overlay and Land Subject to Inundation Overlay that applies to parts of this land. (Approx 121 HA)

#### 6. FUTURE INDUSTRIAL GROWTH AREA

Area identified for expansion of industrial land uses. Will need to be developed with consideration given to existing Land Subject to Inundation Overlay. There are also opportunities for the development of activities complementary to the existing rail corridor, however an amenity buffer along the railway line on the may be required. (Approx 110 HA).

## 4\_Spatial Analysis



Source: Ethos Urban (2017)

## 4\_Spatial Analysis

### 4.6\_Tourism

#### 1. MIXED USE ZONE

Potential for broader application of the MUZ in the waterfront precinct to provide diversity of potential private sector development options, with potential to increase tourism related uses. Also the most probable location for an increase in density for mixed use and tourism related developments.

#### 2. BELMORE STREET TOWN CENTRE

Potential to increase tourism related uses within the town centre through targeted urban renewal.

#### 3. BRIDGE ALIGNMENT

Future crossing/bypass may have significant impact on the potential to better activate the waterfront, and on the intensification of tourism related uses. Two routes have been identified for this bypass; a duplication of the existing bridge connecting to the Murray Valley Highway and an alternate route across the Yarrawonga weir. A decision on the final route has yet to be made.

#### 4. YARRAWONGA EAST NEIGHBOURHOOD CENTRE

Potential for development of accommodation along with potential capacity for additional tourism related uses aligned with the Silverwoods Golf Course.

#### 5. TOWN BEACH

A proposed 'town beach' would form part of a revitalisation project, creating an event precinct along the Lake Mulwala foreshore.

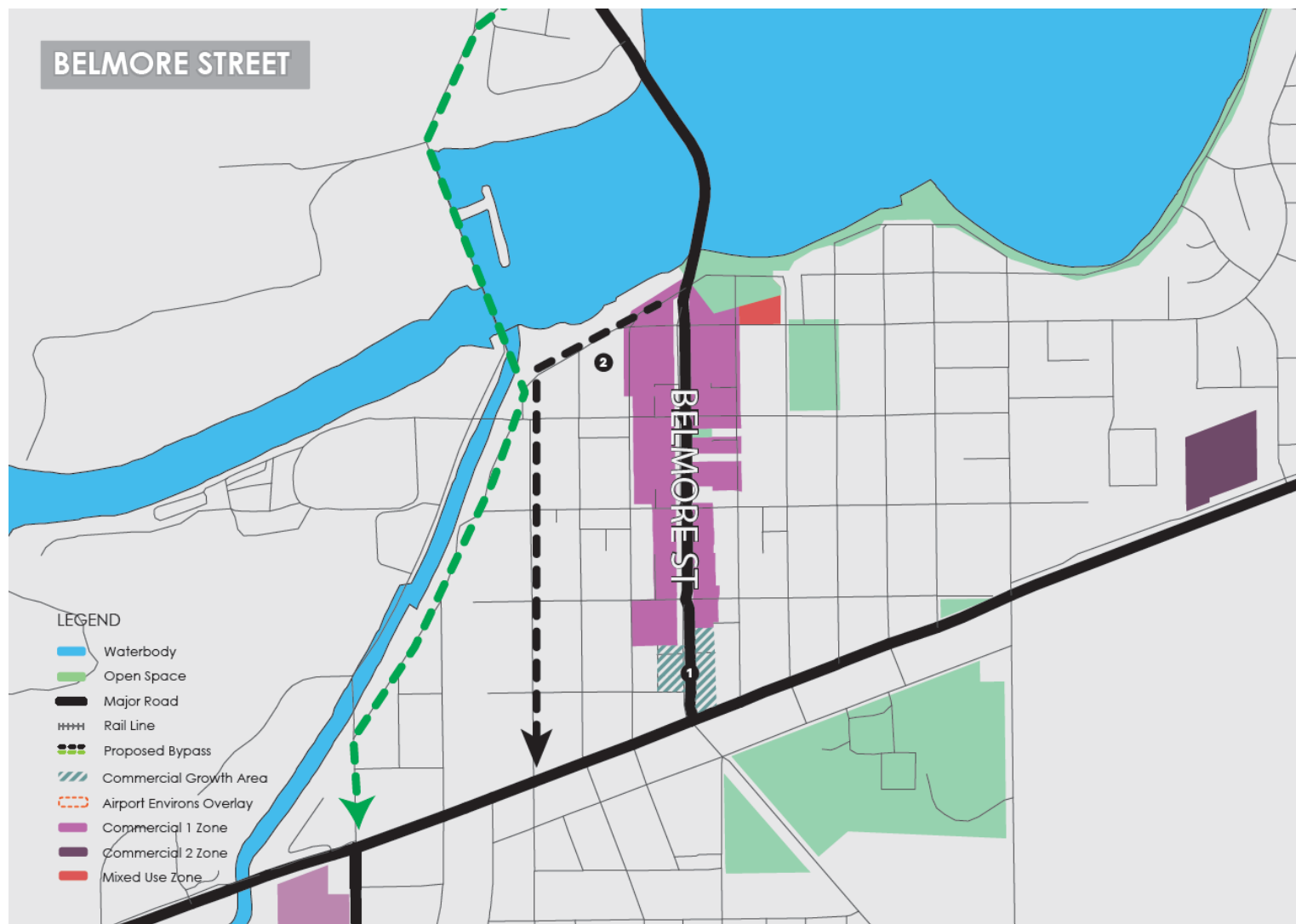
#### 6. EVENT SPACE

A dedicated event space on the foreshore would link the Belmore street shopping precinct directly to Lake Mulwala and the proposed town beach, providing an opportunity for an increase in tourism related uses.

#### 7. RIVER ROAD BOARDWALK

The stabilisation of this section of the foreshore would allow for the development of a shared pathway, drastically improving connectivity across this section of the foreshore.

## 4\_Spatial Analysis



Source: Ethos Urban (2017)

## 4\_Spatial Analysis

### 4.7\_Belmore Street

#### 1. BELMORE STREET

Opportunity to apply the Mixed Use Zone or Commercial 1 Zone to the land fronting Belmore Street north of the Murray Valley Highway as identified in the Yarrawonga Futures Plan, enabling the expansion of the existing town centre. This land could potentially support 3000-4000m<sup>2</sup> of extra retail floor space.

#### 2. SCHOOL SITE

The existing primary school to the west of Belmore Street should be considered for preservation in the short term. This would allow for the land to be used to expand CBD retail space when the demand for it arises.

## 5 Interpretation & Implementation

### 5.1 Overview

This section presents a summation of findings and recommendations for action by the VPA and Moira Shire Council.

The strategic justification for this section is based on the analysis and assessment of economic and property market conditions summarised in the Stage 1 Background Analysis Report, and on the growth model summarised in this report and associated spatial analysis undertaken by Ethos Urban.

MacroPlan considers the VIF2016 trend to be a viable indicator of Yarrawonga's future growth trajectory, and therefore aligns well with forecast land use requirement from 2016 to 2051.

### 5.2 Reconciliation of Land Use Requirements

#### Residential Land Supply

Existing DPO's identify a total capacity of 5,200 residential lots within identified future residential growth areas. The location and capacity of these areas is summarised below:

##### Yarrawonga West – Map Precinct #4

- Subject to DPO5 and DPO6.
- Proximity of Yarrawonga Industrial Precinct may enable extension of trunk infrastructure to residential release area.
- Capacity for 900 residential lots – approximately 6-10 years supply.

##### Glanmire Park – Map Precinct #5

- Subject to DPO7.
- Capacity for 1,300 residential lots – approximately 8-15 years supply.

##### Yarrawonga East – Map Precinct #6

- Subject to DPO3 and DPO6.
- Capacity for 3,000 residential lots – approximately 20-30 years supply.

#### Residential Assessment

MacroPlan's forecast model identifies that under Scenario 1: Low and Scenario 2: VIF2016 (adopted as baseline), Yarrawonga will require an additional 1,400 - 1,800 dwellings from 2016 to 2051. The location and capacity of future identified residential growth areas has sufficient capacity to accommodate the entirety of growth in this trajectory, with substantially remaining land for future urban development after 2051 with approximately 3,400 lots remaining.

Under Scenario 3: High, Yarrawonga is envisaged to grow in size and scale to emerge as a regional centre. If the High Scenario is reached, Yarrawonga will require additional land to be rezoned for residential lot creation between 2031-2036 – noting that this scale and intensity of urban development is unlikely to be realised. This indicates that Yarrawonga has sufficient residential land identified to accommodate a large-scale increase in population growth.

#### Suggested Actions

Based on adequate existing land supply, no significant intervention is required to ensure appropriate residential land supply to 2051 based on forecast outcomes.

Undertake a Highest & Best Use Assessment for key sites including the Yarrawonga Saleyards and former primary school site. High potential for these sites to support uses complimentary to future residential areas, including retail, commercial and community uses.

Periodic review of market conditions should be undertaken to monitor any change in land use requirements. Market-facing data such as planning permit applications should also be monitored to track market-based interest in Yarrawonga as a development location.

Preparation of precinct plans to coordinate and support development to occur. Plans should consider infrastructure required to service future residential development including transport (including public transport on key roads), drainage, water and sewage, community facilities and open space. Consideration of future primary and secondary education requirements may also be specifically considered within this process.



## 5 Interpretation & Implementation

### 5.2 Reconciliation of Land Use Requirements (cont.)

#### Retail Land Supply

Further consideration of demand and supply factors relating to commercial uses is provided later in this report.

Belmore Street is identified as Map Precinct #3 on the Commercial & Retail Map (p43). The existing supply of Commercial 1 Zone within Yarrawonga is broadly at capacity, noting that retail floor space is generally considered to be aging within the Belmore St Town Centre and well-suited to accommodate urban renewal and infill development in the short- to medium-term.

There is some scope to accommodate additional small-scale retail and commercial floor space demand via the adaptive re-use of residential dwellings for retail and commercial purposes around the southern entrance to Belmore St. The Belmore Street Map (p49) identifies land with redevelopment potential as item #1 of this map.

New supply has been provisioned for within Kaiela Business Park (Precinct #6 of the Retail & Commercial Map), in the east of the township and south of the Murray Valley Hwy. This precinct has a mix of C1Z and C2Z land, providing for both retail and commercial uses. Land zoned C1Z is estimated by SED to be capable of supporting approximately 9,100-10,500m<sup>2</sup> of retail floorspace, with abundant abutting land within the C2Z to provide for long-term bulky goods retail and commercial uses.

#### Retail Assessment

MacroPlan accepts the findings of the SED Retail Options report, and considers that the retail forecast land use requirements contained within this report are in alignment with the analysis and options proposed by SED.

MacroPlan supports the implementation of a 2.4 m<sup>2</sup> per resident retail floorspace ratio in Yarrawonga, as recommended by SED's retail report. The retention and support for the Belmore St Town Centre is also acknowledged as a core component of SED's Retail Options strategy.

To 2051, 14,761m<sup>2</sup> of retail floorspace is required under the VIF2016 Trend Scenario. While there is minimal remaining developable land within the core Belmore St precinct, urban renewal and infill will contribute positively to retail / commercial floor space via the adaptive re-use of residential dwellings for retail and commercial purposes around the southern entrance to Belmore Street. Belmore Street South and the former primary school site will also provide opportunities for adaptive re-use and urban renewal that contributes to the supply of smaller retail floorspace that is well suited to personal or business services enterprises.

Additionally, the emerging precinct known commercially as Kaiela Business Park has capacity to accommodate a full-line supermarket and has previously had planning approval for a supermarket, which has since lapsed. The retail floorspace capacity available at Kaiela Business Park is considered to be sufficient to accommodate the entirety of forecast retail floor space demand under Scenario 1: Low and Scenario 2: VIF2016 Trend. Scenario 2 is generally consistent with SED's forecast floorspace demand to 2031.

It is explicitly noted that SED's forecast retail demand to 2031 of 5,650m<sup>2</sup> can be accommodated within the C1Z parcel at Kaiela Business Park. It is anticipated that a future supermarket would accommodate a large share of total retail demand.

If population growth consistent with Scenario 3: High resulted in Yarrawonga's development as a regional centre, existing supplies of C1Z / C2Z / MUZ would be exhausted between 2031-2036. It is noted that this scenario is considered unlikely, but would potentially justify the development of a regionally-significant retail offering akin to a shopping centre.

#### Actions Required

The supply of C1Z in Yarrawonga is considered appropriate to accommodate future retail demand to 2051.

It is noted that the current remaining supply of developable C1Z land is located out-of-centre at Kaiela Business Park, and that the SED Retail Options Report prioritises the Belmore St Town Centre as the main retail precinct for Yarrawonga. Council should consider the manner in which development at Kaiela Business Park which responds to growing retail demand affects retail activities within the main town centre.

It is suggested that a detailed retail supply and demand analysis be undertaken periodically to monitor retail-related impacts of population growth. This may also be triggered by any planning application from a supermarket operator.

Periodic monitoring of vacancy rates and take-up rates at retail growth areas should be undertaken to ensure that new retail enterprises are trading successfully and having minimal negative impact upon established traders in the town centre.

# 5 Interpretation & Implementation

## 5.2 Reconciliation of Land Use Requirements (cont.)

### Commercial Land Supply

This section considers the supply of Commercial 2 Zone within Yarrawonga, noting that the supply of Commercial 1 Zone has been assessed in the previous section as “retail land supply”.

MacroPlan notes that at the current time a notable proportion of bulky goods / trade supply uses are contained within existing C1Z, C2Z and IN1Z land.

There is some capacity for established trade supply uses within the Yarrawonga Industrial Precinct to relocate to new Commercial 2 precincts, if adequate replacement supply is developed. Land identified in the Commercial & Retail Map as Precinct #4 has approximately 15 hectares of capacity and is capable of accommodating commercial uses, subject to factors such as infrastructure service and appropriate management of flood-related planning controls.

Kaiela Business Park (identified as Precinct #6 on the Commercial & Retail Map) has abundant C2Z land and is located within a business park context. As such, it is likely to be attractive to both new enterprises and existing Yarrawonga businesses seeking to relocate to a new offering. Market interest is expected to be sufficient to enable this precinct to develop naturally, based on market interest and market-led proposals. Infrastructure is already in place in this location due to the development of the Bunnings, and as such, Kaiela Business Park is identified as the most capable location to accommodate short- and medium-term commercial development.

### Commercial Assessment

Kaiela Business Park (Precinct #6) has a significant volume of easily developable land, which will be well supported by existing trunk infrastructure and the presence of other retail and commercial uses within a business park context. As such, it is well positioned to continue to develop as a secondary town centre and support the entirety of new commercial demand from 2016 to 2031, depending upon take-up rates and new commercial floor space being built and put to market. Consideration should be given to ensuring that the strategic focus of the Kaiela Business Park does not detract from the main town centre at Belmore Street, while noting that it remains the most viable short- or medium-term location for commercial uses requiring large sites and freeway access.

Beyond 2031, there is adequate land supply within the zoned Commercial 2 precinct south of the Murray Valley Hwy, adjacent the Yarrawonga Industrial Precinct (Precinct #4 of the Commercial & Retail Map). The land area contained within this parcel is significant at 15 hectares, and likely to support a mix of uses. Further land use planning is required to determine the potential mix of uses within this precinct, and to determine the proportion of land to be used for retail or commercial uses. Based on the scale and population growth trajectory of Scenario 2: VIF2016 Trend, this site is considered capable of fulfilling the entirety of forecast new commercial demand from 2031 to 2051, assuming that the sequencing of commercial development provides for the completion of Kaiela Business Park (Precinct #6) prior to new supply reaching market in the future growth precinct.

### Suggested Actions

There is considered to be sufficient capacity within the Kaiela Business Park to accommodate the majority of expected commercial growth from 2016 to 2031, noting that there are some pre-commitments from automotive dealerships to occupy land with frontage to the Murray Valley Hwy. Engagement with land owners may be beneficial to confirm take-up of land put to market.

Future land for commercial development adjacent the Yarrawonga Industrial Cluster is identified for mixed uses, including residential uses. Further detailed land use planning is required to confirm the volume of land available for commercial uses in this location, noting that this parcel also has capacity to accommodate residential uses and may be affected by industrial buffers. These factors should be clarified by Council through a mechanism such as a DPO (consistent with the application applied elsewhere in Yarrawonga) that provides certainty to land owners to facilitate the release of land to market.

Preparation of precinct plans to coordinate and support any retail or commercial development to occur within future development areas. Precinct plans should consider infrastructure required to service retail and commercial development including transport connections to major roads, accessibility for public transport, drainage, water and sewage. Proximity or direct access to community facilities and open space should also be considered.

## 5 Interpretation & Implementation

### 5.2 Reconciliation of Land Use Requirements (cont.)

#### Industrial Land Supply

This section considers the supply of industrial land within the Yarrawonga Industrial Precinct (identified as Precinct #4 in the Industrial Map, p45), with additional consideration of the Yarrawonga Airport as a major potential future employment precinct.

Based on Council data, there are currently 10 hectares of serviced vacant industrial land remaining and an additional 42.75Ha of unserviced industrial zoned land. The total vacant industrial land supply is estimated at 52.86Ha.

It is noted that there remains significant capacity within existing industrial areas, which reflects two key factors:

- 1) Generally low levels of site coverage, with large blocks accommodating a large volume of undeveloped / underutilised surplus land around existing buildings, carparks and storage areas;
- 2) Land owner decisions to withhold zoned industrial land from the market (via sale or development).

It is acknowledged that market-side constraints have historically restricted the release of zoned industrial for development. As such, the overall potential for currently zoned industrial land to support future industrial growth is unclear. For this reason, engagement with land owners at South Road/Melaleuca St (22.51Ha parcel) and 96 Benalla-Yarrawonga Rd (20.24Ha parcel) is suggested to clarify potential for development or land sale.

Analysis of land use conditions within Yarrawonga Industrial Precinct indicate that development has typically occurred on large blocks, with a generally high level of under-utilisation of land that may create ongoing opportunities for land consolidation via subdivision, subject to land owner development of land.

#### Industrial Assessment

Overall, Yarrawonga is considered to have a sufficient supply of short-term zoned industrial land (10.11Ha) but is likely to require a significant expansion precinct to facilitate medium- and long-term industrial growth.

Given that the balance of remaining industrial land is heavily subject to land owner preference, and that minimal evidence to date suggests proactive willingness to advance development on vacant industrial land, it is considered appropriate that Council review the likelihood of development of existing zoned land. The two large parcels comprising 42.75Ha of land are well positioned for further investigation of landowner intent and would provide sufficient capacity to accommodate total forecast demand of approximately 16,760sqm of industrial floorspace to 2051.

It is noted that any decision to rezone additional land for industrial uses carries an inherent risk. The potential exists for any rezoning of new land to trigger the delivery of existing land to market, resulting in a potential oversupply. It is considered that this risk is most likely to have adverse impact upon land owners seeking to sell industrial land in the short-term, but would address the high prices associated with industrial land in Yarrawonga that are likely to be constraining current industrial development.

#### Suggested Actions

The potential re-alignment of the Murray Valley Hwy to run south of the Yarrawonga Industrial Precinct has major potential to re-align Yarrawonga's industrial demand. Resolving the location of the potential future highway bypass will provide increased certainty to land owners and the market.

The development of the bypass also has potential to fundamentally shift the viability of Yarrawonga Aerodrome to support an increase in employing capacity and develop as an employment hub containing mixed industrial and commercial uses.

Consideration may be given to developing Yarrawonga Aerodrome as a future employment hub, noting a requirement to preserve capacity for aviation-related uses. The potential Murray Valley Hwy bypass has the potential to connect directly to both Yarrawonga Industrial Precinct and Yarrawonga Airport, while also diverting heavy traffic from the main township.

Consideration may also be given to conducting stakeholder engagement with land owners on the fringe of the Yarrawonga Industrial Precinct to identify a willingness to advance land to market. If willingness to develop is identified, planning should be undertaken to advance infrastructure servicing of the 42.75Ha of unserviced zoned industrial land. It is noted that any rezoning of new land to IN1Z or IN3Z should consider the market impact of any rezoning – noting that to address the land supply constraint issue, it is contingent upon owners to put land or product to market.

## 5 Interpretation & Implementation

### 5.3 Key Locations

#### Yarrawonga Airport

The Yarrawonga Airport is considered to be a high-value infrastructure asset that offers a key competitive advantage for Yarrawonga. There is potential to continue to develop Yarrawonga Airport as a future employment hub with a mix of industrial, commercial and aviation uses.

##### Current State

The airport is currently zoned Special Use Zone, which may not be intended or suited to facilitate an increase in employing uses within the airport precinct. The application of the zone is also relatively broad and includes significant surplus land to the south.

##### Suggested Actions

The future development of the airport as an employment hub may benefit from a master-planning process to identify the potential location and size of land for future development within the current airport boundary. This process may also provide recommendations for zoning (including potential rezoning) or subdivision of land to facilitate a market-driven outcome.

##### Key Catalysts

Advancement of the Murray Valley Hwy bypass project is a key trigger for action. Ongoing land owner issues regarding release of industrial land may also advance requirement to review potential use of under-utilised airport land for industrial uses.

#### Yarrawonga Waterfront

MacroPlan notes that the Mixed Use Zone is not broadly applied in Yarrawonga, but has been applied to a site with proximity to the waterfront. The waterfront is a key competitive advantage for Yarrawonga, and a natural location to promote the development of tourism-related activities. The MUZ provides for broad potential development options that will provide the flexibility required to achieve a market-driven development outcome.

##### Current State

The northern sector of the town centre is significantly affected by uncertainty regarding the Yarrawonga-Mulwala bridge alignment. This has particular relevance for the waterfront precinct, given direct access to the main VIC-NSW border connection between Yarrawonga and Mulwala.

##### Suggested Actions

Identify specific parcels or precincts with walkable proximity to the waterfront that have the potential to facilitate urban renewal / infill outcomes, and assess their suitability for rezoning to MUZ.

Additionally, consider a need to support this approach with a marketing and branding strategy aligned to local tourism attractors and tourism stakeholder groups.

##### Key Catalysts

Finalisation of the Yarrawonga-Mulwala bridge alignment will determine the future location and potential of waterfront development.

#### Yarrawonga Saleyards

The Yarrawonga Saleyards is considered to be a high value location for a major catalyst development, which is most likely to attract market interest for retail, commercial, or non-invasive industrial uses such as freight and logistics or warehousing. Consideration is required to ensure that any development in this location does not negatively impact on nearby residential uses to the north-east / east.

##### Current State

The site is generally vacant, developable and of sufficient size to support a large-format use. It is well positioned at the gateway to the precinct, with relatively direct access to the Murray Valley Hwy.

##### Suggested Actions

Engagement with the land owner would be beneficial in identifying the future potential of the site. While the site is well-suited to contain a large-format industrial use, this is dependent upon a market outcome.

The site also has the potential to be subdivided and cater to small-format commercial or industrial uses (such as trade supply or showrooms), providing a level of flexibility and diversity to potential future options on the site and may be a commercially-beneficial option for the land-owner.

##### Key Catalysts

Ongoing issues relating to industrial land release due to lack of land owner action may result in a need to consider a fast-track planning outcome for any development proposal on this site as a catalyst development.

## 5 Interpretation & Implementation

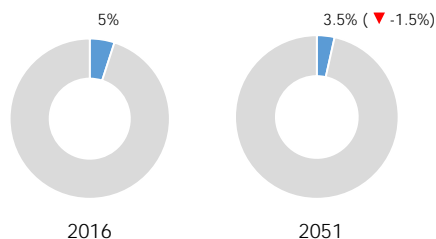
### 5.4 Key Declining Sectors

#### Manufacturing

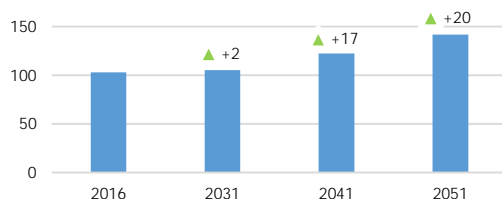
MacroPlan has forecast a progressive decline in the proportion of jobs accounted for within Yarrawonga's manufacturing sector. Despite this, the total number of manufacturing jobs will grow from 2016 to 2051.

MacroPlan has forecast a progressive decline from 5% of total employment to 3.5% by approximately 2031. Given the relatively recent growth in Moira Shire's food manufacturing capacity, further decline has not been factored into the model to account for a potential future regional increase in manufacturing activity and its flow-on impact to Yarrawonga.

#### Outlook



#### Manufacturing jobs in Yarrawonga



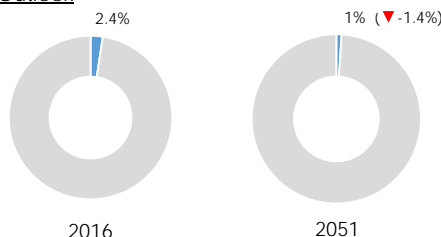
Source: MacroPlan (2017)

#### Agriculture, forestry & fishing

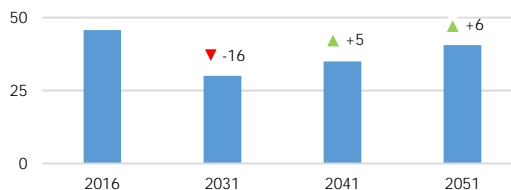
MacroPlan has forecast consistent decline in the agriculture, forestry & fishing sector in Yarrawonga, declining from a relative share of 2.4% in 2016 to 1% in 2051. Under the employment scenarios identified by MacroPlan, the agriculture, forestry & fishing sector is the only individual sector to suffer a net loss of jobs under Scenario 2: VIF2016 Trend.

This notes that the scenarios explored by MacroPlan account for an initial correction (decrease) in proportional employment, that effectively then continues to scale over time to produce small increases in jobs within the sector over time to 2051.

#### Outlook



#### Agriculture, forestry & fishing jobs in Yarrawonga



Source: MacroPlan (2017)

#### Other Declining Sectors

As stated previously, under the baseline scenario (Scenario 2: VIF2016 Trend) there is only one single sector experiencing a net loss of jobs: agriculture, forestry & fishing.

Three other sectors experienced neutral or negative net loss in jobs:

1. Mining – no recorded jobs in Yarrawonga at the 2011 Census, no subsequent forecast change to 2051.
2. Electricity, gas, water and waste services – small decline over time (0.5% in 2011 to 0.3% in 2051) with a small net increase of 1 additional job from 2016-2051. This notes that infrastructure-related jobs are transient and generally aligned to the 'home' employment location such as a depot. Net growth in this sector is considered to be generally more likely to occur at Cobram, the seat of local government.
3. Arts and recreation services – given the reliance of this sector upon investment to stimulate growth, only a small change is forecast with net growth of 2 jobs. This is despite a decline in relative share from 0.8% in 2011 to 0.5% in 2051.

#### Implications

MacroPlan's analysis indicates that under the baseline scenario, the majority of Yarrawonga's employing sectors will experience net growth in jobs from 2016 to 2051. While traditional rural and industrial sectors will continue to experience proportional decline in relative share of jobs, this is not estimated to coincide with any substantial net loss of jobs that would stimulate a need for intervention.

## 5 Interpretation & Implementation

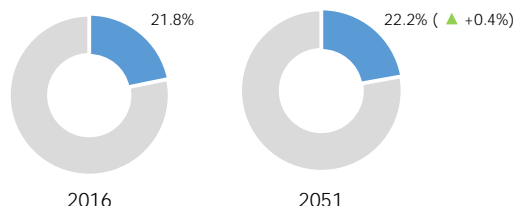
### 5.5\_Key Growing Sectors

#### Health Care & Social Assistance

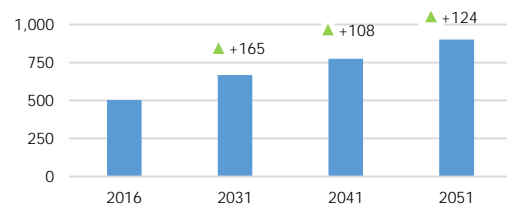
Under the forecast Scenario 2: VIF2016 Trend (adopted as baseline), the Health Care & Social Assistance sector is estimated to experience the largest net growth of any employing sector in Yarrawonga from 2016 to 2051.

Proportionately, the relative share of jobs within this sector will increase by a relatively minimal 0.4% overall – from 21.8% of jobs in 2011, to 22.2% of jobs in 2051. This small proportionate increase is estimated to result in net growth of 397 jobs in Yarrawonga from 2016 to 2051, reflecting the expected centralisation of health-related services in Yarrawonga over the next two decades due to its accommodating the majority of municipal population growth over the same period.

#### Outlook



#### Health Care & Social Assistance jobs in Yarrawonga



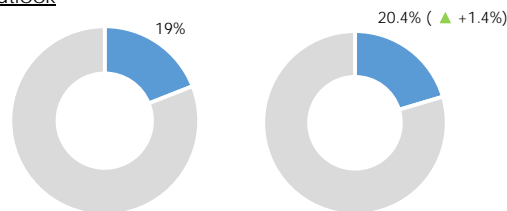
Source: MacroPlan (2017)

#### Retail Trade

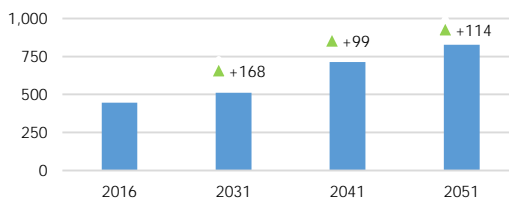
Under the forecast Scenario 2: VIF2016 Trend, Retail Trade is estimated to produce the second largest net growth in jobs from 2016 to 2051 at 381 new jobs. It is noted that this figure includes expected growth in retail-related tourism jobs, further noting that there will be separate additional net growth of 185 jobs in the Accommodation and Food Services sector.

Retail Trade will grow in relative share of jobs from 19% in 2011 to 20.4% in 2051. This reflects a relatively slow rate of growth that continues to scale retail-related jobs with population levels – an approach consistent with maintaining a population-based retail floorspace ratio to estimate demand.

#### Outlook



#### Retail Trade jobs in Yarrawonga



Source: MacroPlan (2017)

#### Other Growing Sectors

Under the forecast Scenario 2: VIF2016 Trend, 18 out of 19 individual employment sectors demonstrated positive net growth in jobs. The previous page detailed the sectors forecast to experience decline or neutral growth. The section below summarises net positive jobs growth in key sectors in Yarrawonga:

1. **Construction** – estimated growth in relative share from 9.3% (2011) to 10.5% (2051), creating net growth of 208 jobs.
2. **Education & Training** – estimated growth in relative share from 8.6% (2011) to 9.2% (2051), producing net growth of 167 jobs.
3. **Accommodation & Food Services** – estimated growth in relative share from 9.8% (2011) to 10.2% (2051), producing net growth of 185 jobs.

#### Implications

Demand for population-based services is expected to continue to escalate, driving demand for health care, education and 'pink collar' service-based jobs. These use types are well-suited to be accommodated in identified sites at the southern gateway to Belmore St, the majority of which comprise adaptive re-use of residential dwellings for commercial purposes.

## 5 Interpretation & Implementation

### 5.6\_Catalyst Drivers

#### Critical Success Factors / Infrastructure Interdependencies

The following factors may be considered important success factors in attracting future residential development, investors, residents, users and activities to Yarrawonga.

##### Residential

- A strong investor and owner-occupier market (High)
- Direct or indirect access to main roads and freeways (Medium/High)
- Access to a Town Centre / Services Precinct (High)
- Access to a Commercial Precinct (Low, Medium)
- Access to public transport (High)
- Parks, gardens and open space (Medium)
- On site community amenity / services (Medium)
- Children's Services on site / nearby (High)
- Retail on site or nearby (i.e. supermarket, speciality) (Low, Medium)
- Environmentally Sustainable Design features (Medium)
- Personal security (High)
- Quiet neighbourhood (High)

Note – some residents (particularly those who live and work within Yarrawonga) are likely to value different aspects more than others i.e. access to a Commercial Precinct, which may less directly affect residents of Mulwala who travel to Yarrawonga for employment.

##### Commercial

- Availability of tenant market / lease pre-commitments (High)
- Access to business centre / support services (Medium/High)
- Connectivity via a Main Street/pedestrian spine (Medium)
- On-site dedicated car parking (High)
- Direct or indirect access to main roads and freeways (High)
- Access to public transport (Medium/High)
- Parks, gardens and open space (Low, Medium)
- Community amenity / services (Medium)
- Children's services on site / nearby (High)
- Retail on site or nearby (i.e. supermarket, speciality) (High)
- ESE Design features (Low, Medium)
- Security (Medium)
- Quiet neighbourhood (Low, Medium)

Note – some investors and/or tenants may value different aspects more than others i.e. ESD features, access to a Services Precinct, public transport, on-site services.



## 5 Interpretation & Implementation

### 5.6\_Catalyst Drivers (cont.)

#### Critical Success Factors / Infrastructure Interdependencies

The following factors may be considered important success factors in attracting future retail investment, tourists, users and activities to Yarrowonga.

##### Retail

- A strong surrounding residential catchment/ workers (High)
- Potential growth in centre size and ancillary services (High)
- Direct or indirect access to main roads and freeways (High)
- Connectivity via a Main Street/pedestrian spine (Medium)
- On site community amenity / services (Medium)
- Children's Services on site / nearby (High)
- Access to a Commercial Precinct (Medium/High)
- Access to public transport (High)
- Parks, gardens and open space (Medium)
- Environmentally Sustainable Design features (Low)
- Personal security (High)
- Quiet neighbourhood (High)

##### Child Care Services

- Access to a large primary and secondary catchment (High)
- Potential to combine trip with retail / other services (High)
- On site community amenity / services (High)
- Proximity to neighbouring schools (Medium/High)
- Access to public transport (High)
- Parks, gardens and open space (Medium)
- Personal security (High)
- On-site parking, pick up and set-down (High)

##### Allied Health Services

- Access to a large primary and secondary catchment (High)
- Proximity to primary health services/hospitals (High)
- On site community amenity / services (High)
- Access to public transport (High)
- Parks, gardens and open space (Medium)
- On-site parking, pick up and set-down (High)

## 5 Interpretation & Implementation

### 5.7\_Key Questions

The following questions provide additional guidance and interpretation to assist the preparation of any implementation plan.

*What are the key catalyst projects across Yarrawonga?  
How does the development of these unlock potential further development opportunities?*

The long term success of Yarrawonga will be influenced by a range of factors, with a steady population-growth based trajectory likely to be affected by the development (or lack of development) of major catalyst projects that stimulate employment-based outcomes.

Key catalyst projects that will be most important in addressing these factors during the short-term (0-5 years) and medium-term (5-20 years) may include:

- A well branded, high quality and competitively priced residential project comprising a mix of 2 and 3 bedroom houses along with affordable residential town houses targeting key workers, students and downshifters. This would provide some support for empty-nesters and retirees, who currently lack alternative dwelling options. Consideration should be given to the potential for the former primary school site to accommodate a share of medium-density residential dwellings that may be independent or co-located within a larger-scale tourism accommodation or other mixed use development.
  - An entertainment and events focused development – i.e. niche entertainment/cinema, bowling alley and/or business centre with high quality meeting rooms and high-speed internet with the potential for teaching/meeting rooms for students, workers and business visitors to the region. This notes that the development of Silverwoods Golf Course has already provided a foundation for an entertainment-based tourism experience in Yarrawonga.
  - A major services anchor– i.e. a new allied medical health related project or teaching/institutional use that will generate significant day-time visitation which may attract workers and university students to the area for training and placements.
  - A commercial office project – i.e. 5,000-1,000m2 GFA office building anchored by a regional corporate HQ/Government agency which will attract workers and visitors during the day. Anecdotal, there is a growing willingness amongst State Government agencies to support regional jobs growth via decentralisation of government services. Given Yarrawonga's growing role as a regional hub for services and its cross-border links with New South Wales, there may be a future opportunity to attract a State or Federal Government department to establish a regional presence in Yarrawonga.
- Given Yarrawonga's rural location, migration has a strong relationship with employment. Promoting new opportunities for jobs creation will continue to drive population growth, increasing the size and scale of Yarrawonga.
- The factors most likely to influence increased residential property activity within new residential release areas include:
- High quality and interesting designs, mix and diversity of dwellings and private open spaces; plus localised amenity including accessible public open space, walkways, entries, features, canopies and green spaces.
  - The potential for an 18-20 hour day-night/weekend economy – including retail, good quality shops and food retail/restaurants and spaces for indoor (health centre, gym) and outdoor recreation and relaxation close to shops and amenity.
  - A mix of anchors and quality of spaces – including well appointed work spaces, retail shops with good sun aspect and connectivity to indoor/outdoor areas and car parking.

## 5 Interpretation & Implementation

### 5.7\_Key Questions

*How do land owners create critical mass on their site? Why is this the case?*

Planning for multiple development fronts has the potential to attract different investors/developers with potentially different interests. This will result in a 'precincts' approach to delivery, consistent with other successful mixed-use urban renewal concepts observed nationally.

The types of precincts which may arise through multiple development fronts on the site may include:

- Residential Precincts – anchored by high quality detached dwelling and town house developments, with early development of new residential housing offerings (in the first stages) followed by progressively more diverse residential developments throughout the core of the site including townhouses and small-format detached dwellings (1-2 bedrooms).
- Core Town Centre / Retail Activity Precinct – consolidating retail uses within Belmore St and activating gateway sites with commercial uses. This will create an improved sense of place and identity and create a place of address for other projects to take place.
- Services Precinct – anchored by a major allied health centre which is currently located within the Town Centre node. This will bring users to the area for reasons other than retail or business related activities and add to the brand essence of the precinct.
- Commercial Precinct – located at the northern and southern gateways to the Town Centre precinct, with a business hub/central arrival point connecting users north and south via an internal pedestrian Main Street spine, connecting to other uses within the Town Centre including gym, health and fitness, services precinct, retail and residential areas.

*Which infrastructure should be delivered first to ensure the long term success of the mixed use project?*

Coordination with infrastructure agencies and service providers including VicRoads and relevant utilities providers / authorities will likely take place on an ongoing basis due to the finalisation of the future bridge alignment connecting Yarrowonga to Mulwala. Finalisation of alignment is considered a key milestone due to its significant impact upon land uses at the northern gateway to Belmore St, and associated impact upon the town centre.

Coordination and consultation with VicRoads is also required to monitor the status of the proposed Murray Valley Hwy bypass, which will have a major impact upon future industrial land in Yarrowonga. The preferred alignment for the bypass should be determined as quickly as possible, and it is suggested that Moira Shire take an active role in participating in this process.

Consultation with infrastructure stakeholders may also be required to determine timing or staging of new residential development within DPO6 and DPO7, south of the Murray Valley Hwy. Consultation with land owners is also required to determine willingness to advance future residential demand to market for development.

## 5 Interpretation & Implementation

### 5.7\_Key Questions

*What are the critical inter-relationships between uses / nodes that influence the success of the mixed use project?*

The following factors will be important:

- Direct physical links between uses along a pedestrian Belmore Street for visitors to that precinct who also wish to access a Retail Precinct, Services Precinct and Commercial Precinct – it is important to create easy access for visitors undertaking weekly shopping trips whilst also allowing them to connect to other areas within the development.
- Direct physical links to Yarrowonga waterfront, allowing for walkability within the precinct and connections for residents and visitors using public transport to access the area and surrounding neighbourhoods.
- Future Public Transport – allowing for integrated bus services as a minimum into or past the Town Centre via Belmore St connecting to new residential growth areas and employment nodes – this will be important to plan early prior to releasing new residential release areas.
- Waterfront – including a long term plan for redevelopment of parcels fronting the waterfront as a means of activating this frontage and integrating with the town centre and northern gateway to Belmore St.

*How can the owner/developer fund infrastructure costs relating to the project?*

The owner (acting alone) without a development partner/s) may wish to fund a portion of up-front site infrastructure required to activate investment by recouping a portion of this cost through future land sales and/or future value capture from development of the project.

The proceeds of land sales from a stage 1 residential project may generate significant up-front funds, with at least a large portion of this being available from as early as 2018, which may facilitate site works, remediation works and/or construction of a pedestrian Main Street/spine.

Alternatively the owner may wish to partner with or sell down the site to a developer/developers with those parties accepting infrastructure costs and potentially discounting a portion of these costs against the financial contributions for to the site land.

Whilst this approach involves reduced costs/risk to the owner, this arrangement may require coordination between a range of different developers over time (in the event there isn't a master developer) and infrastructure agencies the timing of infrastructure contributions for major roads is likely to take many years following the first stages of development.

Therefore, in order to ensure timely development the owner will either need to negotiate with one (or a group of) developers to ensure a timely infrastructure funding or delivery or provide funding for infrastructure up-front with a view to recouping this cost at a later stage following early stages of development.



An aerial photograph of a city and its surrounding landscape. The city is characterized by a dense grid of streets and buildings, particularly in the central and right portions. To the left, a river or canal winds through a more natural, wooded area. The right side of the image shows a mix of urban development and open fields. The overall tone is monochromatic, with various shades of gray.

# \_Annexure



# Commercial Floorspace Demand: Employment Scenario #1 – Low Growth

COMMERCIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring commercial / office space	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Change (2016-2031)
Agriculture, forestry and fishing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity, gas, water and waste services	12.5	5%	7	7	7	7	7	7	6	6	6	6	6	5	5	5	5	5	-1.8
Construction	12.5	5%	131	136	137	138	140	141	150	152	153	155	156	166	167	169	171	172	41.2
Wholesale trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accommodation and food services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transport, postal and warehousing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Information media and telecommunications	15	95%	308	293	296	299	302	305	274	277	279	282	285	360	363	367	370	374	65.9
Financial and insurance services	20	100%	1,190	1,098	1,109	1,120	1,131	1,142	1,057	1,068	1,078	1,089	1,100	1,010	1,020	1,030	1,040	1,050	-139.4
Rental, hiring and real estate services	15	95%	616	619	625	632	638	644	685	691	698	705	712	719	726	734	741	748	131.8
Professional, scientific and technical services	20	100%	1,622	1,738	1,755	1,773	1,790	1,808	1,922	1,941	1,960	1,980	1,999	2,120	2,141	2,162	2,184	2,205	583.1
Administrative and support services	20	100%	930	961	970	980	989	999	1,009	1,019	1,029	1,039	1,050	1,060	1,070	1,081	1,092	1,103	172.6
Public administration and safety	20	100%	887	961	970	980	989	999	1,057	1,068	1,078	1,089	1,100	1,161	1,172	1,184	1,196	1,208	320.9
Education and training	15	95%	2,758	2,933	2,962	2,991	3,021	3,051	3,081	3,112	3,142	3,174	3,205	3,309	3,341	3,375	3,408	3,442	683.3
Health care and social assistance	15	95%	6,981	7,170	7,241	7,312	7,385	7,458	7,600	7,675	7,751	7,828	7,906	7,984	8,063	8,143	8,223	8,305	1324.3
Arts and recreation services	12.5	75%	172	172	173	175	177	178	113	114	115	116	117	118	119	121	122	123	-49.3
Other services	12.5	50%	608	572	577	583	589	595	601	607	613	619	625	631	637	644	650	656	48.0
TOTAL			16,210	16,658	16,823	16,990	17,158	17,328	17,555	17,728	17,904	18,081	18,260	18,642	18,826	19,013	19,201	19,391	3,181
ANNUAL CHANGE			260	448	165	167	168	170	227	174	176	177	179	381	185	186	188	190	

COMMERCIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring commercial / office space	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Change (2031-2051)
Agriculture, forestry and fishing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity, gas, water and waste services	12.5	5%	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	1.1
Construction	12.5	5%	172	174	176	177	179	181	183	185	186	188	190	192	194	196	198	200	202	204	206	208	210	37.5
Wholesale trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accommodation and food services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transport, postal and warehousing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Information media and telecommunications	15	95%	374	378	382	385	389	393	397	401	405	409	413	417	421	425	429	434	438	442	447	451	456	81.5
Financial and insurance services	20	100%	1,050	1,060	1,071	1,082	1,092	1,103	1,114	1,125	1,136	1,147	1,159	1,170	1,182	1,194	1,205	1,217	1,229	1,242	1,254	1,266	1,279	228.7
Rental, hiring and real estate services	15	95%	748	756	763	771	778	786	794	802	810	818	826	834	842	850	859	867	876	885	893	902	911	163.0
Professional, scientific and technical services	20	100%	2,205	2,227	2,249	2,271	2,294	2,317	2,339	2,363	2,386	2,410	2,434	2,458	2,482	2,507	2,531	2,556	2,582	2,607	2,633	2,659	2,685	480.3
Administrative and support services	20	100%	1,103	1,114	1,125	1,136	1,147	1,158	1,170	1,181	1,193	1,205	1,217	1,229	1,241	1,253	1,266	1,278	1,291	1,304	1,317	1,330	1,343	240.1
Public administration and safety	20	100%	1,208	1,220	1,232	1,244	1,256	1,269	1,281	1,294	1,307	1,320	1,333	1,346	1,359	1,373	1,386	1,400	1,414	1,428	1,442	1,456	1,471	263.0
Education and training	15	95%	3,442	3,476	3,510	3,545	3,580	3,615	3,651	3,687	3,724	3,761	3,798	3,836	3,874	3,912	3,951	3,990	4,029	4,069	4,109	4,150	4,191	749.6
Health care and social assistance	15	95%	8,305	8,387	8,470	8,554	8,639	8,724	8,811	8,898	8,986	9,075	9,165	9,256	9,347	9,440	9,533	9,628	9,723	9,819	9,916	10,015	10,114	1808.8
Arts and recreation services	12.5	75%	123	124	126	127	128	129	131	132	133	134	136	137	139	140	141	143	144	145	147	148	150	26.8
Other services	12.5	50%	656	663	669	676	683	689	696	703	710	717	724	731	739	746	753	761	768	776	784	791	799	142.9
TOTAL			19,391	19,583	19,777	19,973	20,170	20,370	20,572	20,775	20,981	21,189	21,399	21,611	21,824	22,041	22,259	22,479	22,702	22,927	23,154	23,383	23,614	4,223
ANNUAL CHANGE			190	192	194	196	198	200	202	204	206	208	210	212	214	216	218	220	223	225	227	229	232	

Data note #1: retail trade has been excluded due to consideration on the subsequent page.

Data note #2: industrial floorspace uses have generally considered a requirement for commercial / office / showroom floorspace, noting that while this floorspace is accounted for as commercial land, it would generally be co-located within industrial precincts.

Source: MacroPlan, ABS, VIF2016

## Industrial Floorspace Demand: Employment Scenario #1 – Low Growth

INDUSTRIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring industrial space	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Change (2016-2031)
Agriculture, forestry and fishing	50	100%	2,703	2,287	2,310	2,333	2,356	2,379	1,802	1,820	1,838	1,856	1,874	1,262	1,274	1,287	1,300	1,313	-1,391
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	35	100%	3,936	3,602	3,638	3,674	3,710	3,747	3,363	3,397	3,430	3,464	3,499	3,092	3,122	3,153	3,184	3,216	-720
Electricity, gas, water and waste services	60	95%	616	652	658	665	671	678	548	553	559	564	570	432	436	440	445	449	-167
Construction	30	95%	5,979	6,192	6,253	6,315	6,378	6,441	6,847	6,915	6,983	7,052	7,122	7,552	7,627	7,703	7,779	7,856	1,877
Wholesale trade	90	100%	4,282	4,117	4,157	4,199	4,240	4,282	3,892	3,931	3,969	4,009	4,048	3,634	3,670	3,707	3,743	3,780	-502
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accommodation and food services	15	100%	3,309	3,430	3,464	3,499	3,533	3,568	3,640	3,676	3,712	3,749	3,786	3,861	3,900	3,938	3,977	4,017	708
Transport, postal and warehousing	70	100%	4,845	4,803	4,850	4,898	4,947	4,996	5,045	5,095	5,146	5,197	5,248	5,300	5,352	5,405	5,459	5,513	668
Information media and telecommunications	15	5%	16	15	16	16	16	16	14	15	15	15	15	19	19	19	19	20	3
Financial and insurance services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rental, hiring and real estate services	15	5%	32	33	33	33	34	34	36	36	37	37	37	38	38	39	39	39	7
Professional, scientific and technical services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative and support services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public administration and safety	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education and training	30	5%	290	309	312	315	318	321	324	328	331	334	337	348	352	355	359	362	72
Health care and social assistance	30	5%	735	755	762	770	777	785	800	808	816	824	832	840	849	857	866	874	139
Arts and recreation services	15	25%	69	69	69	70	71	71	45	45	46	46	47	47	48	48	49	49	-20
Other services	15	50%	730	686	693	700	707	714	721	728	735	742	750	757	765	772	780	788	58
<b>TOTAL</b>			<b>27,544</b>	<b>26,949</b>	<b>27,216</b>	<b>27,485</b>	<b>27,757</b>	<b>28,032</b>	<b>27,078</b>	<b>27,346</b>	<b>27,616</b>	<b>27,890</b>	<b>28,166</b>	<b>27,183</b>	<b>27,452</b>	<b>27,724</b>	<b>27,998</b>	<b>28,276</b>	<b>732</b>
<b>ANNUAL CHANGE</b>			<b>442</b>	<b>-595</b>	<b>267</b>	<b>269</b>	<b>272</b>	<b>275</b>	<b>-954</b>	<b>268</b>	<b>271</b>	<b>273</b>	<b>276</b>	<b>-983</b>	<b>269</b>	<b>272</b>	<b>274</b>	<b>277</b>	

INDUSTRIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring industrial space	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Change (2031-2051)
Agriculture, forestry and fishing	50	100%	1,313	1,326	1,339	1,352	1,365	1,379	1,393	1,406	1,420	1,434	1,449	1,463	1,477	1,492	1,507	1,522	1,537	1,552	1,567	1,583	1,599	286
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	35	100%	3,216	3,248	3,280	3,312	3,345	3,378	3,412	3,446	3,480	3,514	3,549	3,584	3,620	3,655	3,692	3,728	3,765	3,802	3,840	3,878	3,916	700
Electricity, gas, water and waste services	60	95%	449	453	458	462	467	472	476	481	486	491	495	500	505	510	515	520	526	531	536	541	547	98
Construction	30	95%	7,856	7,934	8,012	8,092	8,172	8,253	8,334	8,417	8,500	8,584	8,669	8,755	8,842	8,929	9,018	9,107	9,197	9,288	9,380	9,473	9,567	1,711
Wholesale trade	90	100%	3,780	3,818	3,856	3,894	3,932	3,971	4,011	4,050	4,090	4,131	4,172	4,213	4,255	4,297	4,339	4,382	4,426	4,470	4,514	4,559	4,604	823
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accommodation and food services	15	100%	4,017	4,056	4,097	4,137	4,178	4,219	4,261	4,303	4,346	4,389	4,432	4,476	4,521	4,565	4,611	4,656	4,702	4,749	4,796	4,843	4,891	875
Transport, postal and warehousing	70	100%	5,513	5,568	5,623	5,678	5,735	5,791	5,849	5,907	5,965	6,024	6,084	6,144	6,205	6,266	6,328	6,391	6,454	6,518	6,583	6,648	6,714	1,201
Information media and telecommunications	15	5%	20	20	20	20	20	21	21	21	21	22	22	22	22	23	23	23	23	24	24	24	24	4
Financial and insurance services	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20	20
Rental, hiring and real estate services	15	5%	39	40	40	41	41	41	42	42	43	43	43	44	44	45	45	46	46	47	47	47	48	9
Professional, scientific and technical services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative and support services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public administration and safety	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education and training	30	5%	362	366	369	373	377	381	384	388	392	396	400	404	408	412	416	420	424	428	433	437	441	79
Health care and social assistance	30	5%	874	883	892	900	909	918	927	937	946	955	965	974	984	994	1,003	1,013	1,023	1,034	1,044	1,054	1,065	190
Arts and recreation services	15	25%	49	50	50	51	51	52	52	53	53	54	54	55	55	56	57	57	58	58	59	59	60	11
Other services	15	50%	788	795	803	811	819	827	836	844	852	861	869	878	886	895	904	913	922	931	940	950	959	172
<b>TOTAL</b>			<b>28,276</b>	<b>28,559</b>	<b>28,844</b>	<b>29,133</b>	<b>29,424</b>	<b>29,718</b>	<b>30,016</b>	<b>30,316</b>	<b>30,619</b>	<b>30,924</b>	<b>31,233</b>	<b>31,545</b>	<b>31,860</b>	<b>32,178</b>	<b>32,500</b>	<b>32,824</b>	<b>33,152</b>	<b>33,482</b>	<b>33,816</b>	<b>34,154</b>	<b>34,494</b>	<b>6,218</b>
<b>ANNUAL CHANGE</b>			<b>277</b>	<b>283</b>	<b>286</b>	<b>289</b>	<b>291</b>	<b>294</b>	<b>297</b>	<b>300</b>	<b>303</b>	<b>306</b>	<b>309</b>	<b>312</b>	<b>315</b>	<b>318</b>	<b>321</b>	<b>324</b>	<b>328</b>	<b>331</b>	<b>334</b>	<b>337</b>	<b>341</b>	

Data note #1: retail trade has been excluded due to consideration on the subsequent page.

Data note #2: industrial floorspace uses have generally considered a requirement for commercial / office / showroom floorspace, noting that while this floorspace is accounted for as commercial land, it would generally be co-located within industrial precincts.

Source: MacroPlan, ABS, VIF2016



## Commercial Floorspace Demand: Employment Scenario #2 – VIF2016 Trend

COMMERCIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring commercial / office space	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Change (2016-2031)
Agriculture, forestry and fishing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity, gas, water and waste services	12.5	5%	7	7	7	8	8	6	6	7	7	7	5	5	5	5	6	6	-1.5
Construction	12.5	5%	136	139	141	144	147	158	161	164	167	170	182	185	188	191	194	197	61.6
Wholesale trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accommodation and food services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transport, postal and warehousing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Information media and telecommunications	15	95%	293	299	306	312	318	361	368	375	382	389	395	402	409	415	422	429	135.2
Financial and insurance services	20	100%	1,098	1,120	1,143	1,168	1,191	1,114	1,136	1,157	1,179	1,200	1,110	1,129	1,147	1,166	1,184	1,203	105.2
Rental, hiring and real estate services	15	95%	619	632	645	659	672	722	736	750	763	777	791	804	817	831	844	857	237.9
Professional, scientific and technical services	20	100%	1,738	1,774	1,811	1,849	1,887	2,026	2,065	2,104	2,143	2,181	2,331	2,370	2,409	2,448	2,487	2,526	788.1
Administrative and support services	20	100%	961	980	1,001	1,022	1,043	1,013	1,033	1,052	1,072	1,091	1,165	1,185	1,205	1,224	1,244	1,263	302.6
Public administration and safety	20	100%	961	980	1,001	1,022	1,043	1,063	1,084	1,105	1,125	1,145	1,276	1,298	1,319	1,341	1,362	1,383	422.9
Education and training	15	95%	2,933	2,993	3,055	3,120	3,184	3,247	3,311	3,373	3,436	3,497	3,637	3,699	3,760	3,821	3,882	3,943	1009.6
Health care and social assistance	15	95%	7,170	7,317	7,468	7,626	7,782	8,010	8,166	8,320	8,475	8,626	8,777	8,925	9,072	9,220	9,367	9,514	2344.2
Arts and recreation services	12.5	75%	172	175	179	182	186	119	121	123	126	128	130	132	134	137	139	141	-30.6
Other services	12.5	50%	572	583	596	608	621	633	645	657	670	682	694	705	717	729	740	752	180.1
<b>TOTAL</b>			<b>16,658</b>	<b>17,000</b>	<b>17,352</b>	<b>17,719</b>	<b>18,081</b>	<b>18,472</b>	<b>18,832</b>	<b>19,187</b>	<b>19,544</b>	<b>19,893</b>	<b>20,494</b>	<b>20,839</b>	<b>21,183</b>	<b>21,527</b>	<b>21,871</b>	<b>22,214</b>	<b>5,555</b>
<b>ANNUAL CHANGE</b>			<b>448</b>	<b>342</b>	<b>352</b>	<b>366</b>	<b>362</b>	<b>391</b>	<b>359</b>	<b>355</b>	<b>357</b>	<b>349</b>	<b>601</b>	<b>345</b>	<b>344</b>	<b>344</b>	<b>344</b>	<b>343</b>	

COMMERCIAL	Estimated gross floorspace (sq m) per worker	Proportion of employed workers requiring commercial / office space	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Change (2031-2051)
Agriculture, forestry and fishing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Electricity, gas, water and waste services	12.5	5%	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	8	2.0	
Construction	12.5	5%	197	200	203	206	210	213	216	219	222	226	229	233	236	240	243	247	251	254	258	262	266	68.6
Wholesale trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Accommodation and food services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Transport, postal and warehousing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Information media and telecommunications	15	95%	429	435	442	448	455	462	469	476	483	490	498	505	513	520	528	536	544	552	561	569	577	148.9
Financial and insurance services	20	100%	1,203	1,221	1,240	1,259	1,277	1,297	1,316	1,336	1,356	1,376	1,397	1,418	1,439	1,461	1,482	1,505	1,527	1,550	1,573	1,597	1,621	418.1
Rental, hiring and real estate services	15	95%	857	870	883	897	910	924	938	952	966	980	995	1,010	1,025	1,041	1,056	1,072	1,088	1,105	1,121	1,138	1,155	297.9
Professional, scientific and technical services	20	100%	2,526	2,565	2,604	2,643	2,683	2,723	2,764	2,805	2,847	2,890	2,933	2,977	3,022	3,067	3,113	3,160	3,207	3,255	3,304	3,354	3,404	877.9
Administrative and support services	20	100%	1,263	1,283	1,302	1,321	1,341	1,361	1,382	1,403	1,424	1,445	1,467	1,489	1,511	1,534	1,557	1,580	1,604	1,628	1,652	1,677	1,702	439.0
Public administration and safety	20	100%	1,383	1,405	1,426	1,447	1,469	1,491	1,513	1,536	1,559	1,583	1,606	1,630	1,655	1,680	1,705	1,730	1,756	1,783	1,809	1,837	1,864	480.8
Education and training	15	95%	3,943	4,003	4,064	4,125	4,187	4,250	4,313	4,378	4,444	4,510	4,578	4,647	4,716	4,787	4,859	4,932	5,006	5,081	5,157	5,234	5,313	1370.2
Health care and social assistance	15	95%	9,514	9,660	9,806	9,953	10,103	10,254	10,408	10,564	10,723	10,883	11,047	11,212	11,381	11,551	11,725	11,900	12,079	12,260	12,444	12,631	12,820	3306.3
Arts and recreation services	12.5	75%	141	143	145	147	150	152	154	157	159	161	164	166	169	171	174	176	179	182	184	187	190	49.0
Other services	12.5	50%	752	763	775	787	798	810	823	835	847	860	873	886	899	913	927	940	955	969	983	998	1,013	261.3
TOTAL			22,214	22,556	22,896	23,240	23,589	23,942	24,301	24,666	25,036	25,412	25,793	26,180	26,572	26,971	27,375	27,786	28,203	28,626	29,055	29,491	29,933	7,720
ANNUAL CHANGE			343	342	341	343	349	354	359	365	370	376	381	387	393	399	405	411	417	423	429	436	442	

Data note #1: retail trade has been excluded due to consideration on the subsequent page.

Data note #2: industrial floorspace uses have generally considered a requirement for commercial / office / showroom floorspace, noting that while this floorspace is accounted for as commercial land, it would generally be co-located within industrial precincts.

Source: MacroPlan, ABS, VIF2016

## Industrial Floorspace Demand: Employment Scenario #2 – VIF2016 Trend

INDUSTRIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring industrial space	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Change (2016-2031)
Agriculture, forestry and fishing	50	100%	2,287	2,334	2,382	2,433	2,482	1,899	1,936	1,972	2,009	2,045	1,387	1,411	1,434	1,457	1,480	1,504	-783
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	35	100%	3,602	3,676	3,752	3,831	3,910	3,545	3,614	3,682	3,750	3,817	3,399	3,456	3,513	3,570	3,627	3,684	82
Electricity, gas, water and waste services	60	95%	652	665	679	693	707	577	589	600	611	622	474	482	490	498	506	514	-138
Construction	30	95%	6,192	6,319	6,450	6,586	6,721	7,216	7,357	7,495	7,635	7,771	8,303	8,443	8,582	8,721	8,861	9,000	2,808
Wholesale trade	90	100%	4,117	4,201	4,288	4,379	4,468	4,102	4,182	4,261	4,340	4,417	3,995	4,063	4,130	4,197	4,264	4,331	214
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accommodation and food services	15	100%	3,430	3,501	3,573	3,649	3,723	3,836	3,911	3,984	4,059	4,131	4,245	4,317	4,388	4,459	4,530	4,601	1,171
Transport, postal and warehousing	70	100%	4,803	4,901	5,003	5,108	5,213	5,317	5,421	5,523	5,626	5,726	5,826	5,925	6,023	6,120	6,218	6,316	1,513
Information media and telecommunications	15	5%	15	16	16	16	17	19	19	20	20	20	21	21	22	22	22	23	7
Financial and insurance services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rental, hiring and real estate services	15	5%	33	33	34	35	35	38	39	39	40	41	42	42	43	44	44	45	13
Professional, scientific and technical services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative and support services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public administration and safety	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education and training	30	5%	309	315	322	328	335	342	348	355	362	368	383	389	396	402	409	415	106
Health care and social assistance	30	5%	755	770	786	803	819	843	860	876	892	908	924	939	955	970	986	1,001	247
Arts and recreation services	15	25%	69	70	71	73	74	47	48	49	50	51	52	53	54	55	56	56	-12
Other services	15	50%	686	700	715	730	745	760	774	789	804	818	832	846	860	874	888	902	216
<b>TOTAL</b>			<b>26,949</b>	<b>27,502</b>	<b>28,071</b>	<b>28,664</b>	<b>29,250</b>	<b>28,542</b>	<b>29,097</b>	<b>29,646</b>	<b>30,197</b>	<b>30,737</b>	<b>29,884</b>	<b>30,387</b>	<b>30,889</b>	<b>31,390</b>	<b>31,892</b>	<b>32,392</b>	<b>5,443</b>
<b>ANNUAL CHANGE</b>			<b>-595</b>	<b>553</b>	<b>570</b>	<b>592</b>	<b>586</b>	<b>-708</b>	<b>555</b>	<b>549</b>	<b>551</b>	<b>540</b>	<b>-853</b>	<b>504</b>	<b>502</b>	<b>501</b>	<b>501</b>	<b>500</b>	

INDUSTRIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring industrial space	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Change (2031-2051)
Agriculture, forestry and fishing	50	100%	1,504	1,527	1,550	1,573	1,597	1,621	1,645	1,670	1,695	1,720	1,746	1,772	1,799	1,826	1,853	1,881	1,909	1,938	1,967	1,996	2,026	523
Mining	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20
Manufacturing	35	100%	3,684	3,741	3,797	3,854	3,912	3,971	4,030	4,091	4,152	4,214	4,278	4,342	4,407	4,473	4,540	4,608	4,677	4,747	4,819	4,891	4,964	1,280
Electricity, gas, water and waste services	60	95%	514	522	530	538	546	554	563	571	580	588	597	606	615	624	634	643	653	663	673	683	693	179
Construction	30	95%	9,000	9,138	9,276	9,415	9,557	9,700	9,845	9,993	10,143	10,295	10,450	10,606	10,765	10,927	11,091	11,257	11,426	11,597	11,771	11,948	12,127	3,128
Wholesale trade	90	100%	4,331	4,397	4,464	4,531	4,599	4,668	4,738	4,809	4,881	4,954	5,028	5,104	5,180	5,258	5,337	5,417	5,498	5,581	5,664	5,749	5,836	1,505
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accommodation and food services	15	100%	4,601	4,672	4,743	4,814	4,886	4,959	5,034	5,109	5,186	5,264	5,343	5,423	5,504	5,587	5,670	5,756	5,842	5,930	6,018	6,109	6,200	1,599
Transport, postal and warehousing	70	100%	6,316	6,413	6,510	6,607	6,706	6,807	6,909	7,013	7,118	7,225	7,333	7,443	7,555	7,668	7,783	7,900	8,018	8,139	8,261	8,385	8,510	2,195
Information media and telecommunications	15	5%	23	23	23	24	24	24	25	25	25	26	26	27	27	27	28	28	29	29	30	30	30	8
Financial and insurance services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rental, hiring and real estate services	15	5%	45	46	46	47	48	49	49	50	51	52	52	53	54	55	56	56	57	58	59	60	61	16
Professional, scientific and technical services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative and support services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public administration and safety	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education and training	30	5%	415	421	428	434	441	447	454	461	468	475	482	489	496	504	511	519	527	535	543	551	559	144
Health care and social assistance	30	5%	1,001	1,017	1,032	1,048	1,063	1,079	1,096	1,112	1,129	1,146	1,163	1,180	1,198	1,216	1,234	1,253	1,271	1,291	1,310	1,330	1,349	348
Arts and recreation services	15	25%	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	20
Other services	15	50%	902	916	930	944	958	972	987	1,002	1,017	1,032	1,048	1,063	1,079	1,095	1,112	1,129	1,145	1,163	1,180	1,198	1,216	314
<b>TOTAL</b>			<b>32,392</b>	<b>32,894</b>	<b>33,393</b>	<b>33,897</b>	<b>34,409</b>	<b>34,928</b>	<b>35,454</b>	<b>35,989</b>	<b>36,531</b>	<b>37,082</b>	<b>37,641</b>	<b>38,208</b>	<b>38,783</b>	<b>39,368</b>	<b>39,961</b>	<b>40,562</b>	<b>41,173</b>	<b>41,793</b>	<b>42,422</b>	<b>43,061</b>	<b>43,709</b>	<b>11,317</b>
<b>ANNUAL CHANGE</b>			<b>500</b>	<b>502</b>	<b>500</b>	<b>504</b>	<b>511</b>	<b>519</b>	<b>527</b>	<b>535</b>	<b>543</b>	<b>551</b>	<b>559</b>	<b>567</b>	<b>576</b>	<b>584</b>	<b>593</b>	<b>602</b>	<b>611</b>	<b>620</b>	<b>629</b>	<b>639</b>	<b>648</b>	

Data note #1: retail trade has been excluded due to consideration on the subsequent page.

Data note #2: industrial floorspace uses have generally considered a requirement for commercial / office / showroom floorspace, noting that while this floorspace is accounted for as commercial land, it would generally be co-located within industrial precincts.

Source: MacroPlan, ABS, VIF2016

## Commercial Floorspace Demand: Employment Scenario #3 – High Growth

COMMERCIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring commercial / office space	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Change (2016-2031)
Agriculture, forestry and fishing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity, gas, water and waste services	12.5	5%	7	7	7	8	8	8	7	7	7	7	7	6	6	6	6	6	-0.3
Construction	12.5	5%	131	136	140	144	148	152	165	170	175	180	185	200	206	212	218	224	93.2
Wholesale trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accommodation and food services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transport, postal and warehousing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Information media and telecommunications	15	95%	308	293	302	311	320	329	301	310	319	328	338	434	447	460	473	487	178.9
Financial and insurance services	20	100%	1,190	1,098	1,130	1,163	1,196	1,231	1,162	1,195	1,230	1,266	1,303	1,219	1,255	1,291	1,329	1,367	177.8
Rental, hiring and real estate services	15	95%	616	619	637	656	675	695	752	774	797	820	844	869	894	920	947	974	357.9
Professional, scientific and technical services	20	100%	1,622	1,738	1,789	1,841	1,894	1,950	2,112	2,174	2,237	2,302	2,369	2,560	2,635	2,711	2,790	2,871	1249.4
Administrative and support services	20	100%	930	961	989	1,017	1,047	1,077	1,109	1,141	1,174	1,209	1,244	1,280	1,317	1,356	1,395	1,436	505.7
Public administration and safety	20	100%	887	961	989	1,017	1,047	1,077	1,162	1,195	1,230	1,266	1,303	1,402	1,443	1,485	1,528	1,572	685.7
Education and training	15	95%	2,758	2,933	3,018	3,106	3,197	3,290	3,386	3,484	3,586	3,690	3,798	3,995	4,112	4,231	4,355	4,482	1723.2
Health care and social assistance	15	95%	6,981	7,170	7,379	7,593	7,815	8,042	8,352	8,595	8,845	9,103	9,368	9,641	9,922	10,211	10,508	10,814	3833.5
Arts and recreation services	12.5	75%	172	172	177	182	187	192	124	127	131	135	139	143	147	151	156	160	-12.1
Other services	12.5	50%	608	572	588	606	623	641	660	679	699	719	740	762	784	807	830	855	246.3
<b>TOTAL</b>			<b>16,210</b>	<b>16,658</b>	<b>17,144</b>	<b>17,643</b>	<b>18,157</b>	<b>18,686</b>	<b>19,290</b>	<b>19,852</b>	<b>20,430</b>	<b>21,025</b>	<b>21,638</b>	<b>22,510</b>	<b>23,166</b>	<b>23,841</b>	<b>24,535</b>	<b>25,250</b>	<b>9,039</b>
<b>ANNUAL CHANGE</b>			<b>260</b>	<b>448</b>	<b>485</b>	<b>499</b>	<b>514</b>	<b>529</b>	<b>605</b>	<b>562</b>	<b>578</b>	<b>595</b>	<b>612</b>	<b>873</b>	<b>656</b>	<b>675</b>	<b>694</b>	<b>715</b>	

COMMERCIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring commercial / office space	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Change (2031-2051)
Agriculture, forestry and fishing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity, gas, water and waste services	12.5	5%	6	7	7	7	7	8	8	8	8	9	9	9	9	9	10	10	10	10	11	11	11	5.0
Construction	12.5	5%	224	231	238	245	252	259	267	274	282	290	299	308	317	326	335	345	355	365	376	387	398	174.0
Wholesale trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accommodation and food services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transport, postal and warehousing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Information media and telecommunications	15	95%	487	501	516	531	546	562	579	596	613	631	649	668	687	708	728	749	771	794	817	841	865	377.9
Financial and insurance services	20	100%	1,367	1,407	1,448	1,490	1,534	1,578	1,624	1,672	1,720	1,771	1,822	1,875	1,930	1,986	2,044	2,103	2,165	2,228	2,293	2,359	2,428	1060.7
Rental, hiring and real estate services	15	95%	974	1,003	1,032	1,062	1,093	1,125	1,157	1,191	1,226	1,262	1,298	1,336	1,375	1,415	1,456	1,499	1,542	1,587	1,633	1,681	1,730	755.7
Professional, scientific and technical services	20	100%	2,871	2,955	3,041	3,130	3,221	3,315	3,411	3,511	3,613	3,718	3,826	3,938	4,053	4,171	4,292	4,417	4,546	4,678	4,814	4,955	5,099	2227.4
Administrative and support services	20	100%	1,436	1,478	1,521	1,565	1,610	1,657	1,706	1,755	1,806	1,859	1,913	1,969	2,026	2,085	2,146	2,209	2,273	2,339	2,407	2,477	2,549	1113.7
Public administration and safety	20	100%	1,572	1,618	1,665	1,714	1,764	1,815	1,868	1,922	1,978	2,036	2,095	2,156	2,219	2,284	2,350	2,419	2,489	2,562	2,636	2,713	2,792	1219.8
Education and training	15	95%	4,482	4,612	4,746	4,885	5,027	5,173	5,324	5,479	5,639	5,803	5,972	6,146	6,325	6,509	6,699	6,894	7,095	7,301	7,514	7,733	7,958	3476.4
Health care and social assistance	15	95%	10,814	11,129	11,453	11,787	12,130	12,483	12,847	13,221	13,606	14,003	14,411	14,830	15,262	15,707	16,164	16,635	17,120	17,618	18,131	18,659	19,203	8388.7
Arts and recreation services	12.5	75%	160	165	170	175	180	185	190	196	202	207	214	220	226	233	240	246	254	261	269	276	285	124.3
Other services	12.5	50%	855	879	905	931	959	987	1,015	1,045	1,075	1,107	1,139	1,172	1,206	1,241	1,277	1,315	1,353	1,392	1,433	1,475	1,518	662.9
<b>TOTAL</b>			<b>25,250</b>	<b>25,985</b>	<b>26,742</b>	<b>27,521</b>	<b>28,322</b>	<b>29,147</b>	<b>29,996</b>	<b>30,870</b>	<b>31,769</b>	<b>32,694</b>	<b>33,647</b>	<b>34,627</b>	<b>35,635</b>	<b>36,673</b>	<b>37,741</b>	<b>38,841</b>	<b>39,972</b>	<b>41,136</b>	<b>42,334</b>	<b>43,567</b>	<b>44,836</b>	<b>19,587</b>
<b>ANNUAL CHANGE</b>			<b>715</b>	<b>735</b>	<b>757</b>	<b>779</b>	<b>802</b>	<b>825</b>	<b>849</b>	<b>874</b>	<b>899</b>	<b>925</b>	<b>952</b>	<b>980</b>	<b>1,009</b>	<b>1,038</b>	<b>1,068</b>	<b>1,099</b>	<b>1,131</b>	<b>1,164</b>	<b>1,198</b>	<b>1,233</b>	<b>1,269</b>	

Data note #1: retail trade has been excluded due to consideration on the subsequent page.

Data note #2: industrial floorspace uses have generally considered a requirement for commercial / office / showroom floorspace, noting that while this floorspace is accounted for as commercial land, it would generally be co-located within industrial precincts.

Source: MacroPlan, ABS, VIF2016

## Industrial Floorspace Demand: Employment Scenario #3 – High Growth

INDUSTRIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring industrial space	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Change (2016-2031)
Agriculture, forestry and fishing	50	100%	2,703	2,287	2,354	2,422	2,493	2,565	1,980	2,038	2,097	2,158	2,221	1,524	1,568	1,614	1,661	1,709	-994
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	35	100%	3,936	3,602	3,707	3,815	3,926	4,040	3,696	3,804	3,914	4,028	4,146	3,733	3,842	3,954	4,069	4,188	251
Electricity, gas, water and waste services	60	95%	616	652	671	690	710	731	602	619	637	656	675	521	536	552	568	585	-32
Construction	30	95%	5,979	6,192	6,372	6,558	6,749	6,946	7,524	7,743	7,969	8,201	8,440	9,120	9,385	9,659	9,940	10,230	4,251
Wholesale trade	90	100%	4,282	4,117	4,236	4,360	4,487	4,618	4,277	4,401	4,530	4,662	4,797	4,388	4,516	4,648	4,783	4,923	640
Retail trade	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accommodation and food services	15	100%	3,309	3,430	3,530	3,633	3,739	3,848	4,000	4,116	4,236	4,359	4,486	4,663	4,799	4,938	5,082	5,230	1,921
Transport, postal and warehousing	70	100%	4,845	4,803	4,943	5,087	5,235	5,387	5,544	5,706	5,872	6,043	6,219	6,400	6,586	6,778	6,976	7,179	2,334
Information media and telecommunications	15	5%	16	15	16	16	17	17	16	16	17	17	18	23	24	24	25	26	9
Financial and insurance services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rental, hiring and real estate services	15	5%	32	33	34	35	36	37	40	41	42	43	44	46	47	48	50	51	19
Professional, scientific and technical services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative and support services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public administration and safety	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education and training	30	5%	290	309	318	327	337	346	356	367	377	388	400	421	433	445	458	472	181
Health care and social assistance	30	5%	735	755	777	799	823	847	879	905	931	958	986	1,015	1,044	1,075	1,106	1,138	404
Arts and recreation services	15	25%	69	69	71	73	75	77	50	51	52	54	56	57	59	61	62	64	-5
Other services	15	50%	730	686	706	727	748	770	792	815	839	863	888	914	941	968	997	1,026	296
<b>TOTAL</b>			<b>27,544</b>	<b>26,949</b>	<b>27,734</b>	<b>28,541</b>	<b>29,373</b>	<b>30,228</b>	<b>29,755</b>	<b>30,622</b>	<b>31,514</b>	<b>32,431</b>	<b>33,376</b>	<b>32,824</b>	<b>33,780</b>	<b>34,764</b>	<b>35,777</b>	<b>36,819</b>	<b>9,275</b>
<b>ANNUAL CHANGE</b>			<b>442</b>	<b>-595</b>	<b>785</b>	<b>808</b>	<b>831</b>	<b>856</b>	<b>-473</b>	<b>867</b>	<b>892</b>	<b>918</b>	<b>945</b>	<b>-552</b>	<b>956</b>	<b>984</b>	<b>1,013</b>	<b>1,042</b>	

INDUSTRIAL	Estimated gross floorspace (sq.m) per worker	Proportion of employed workers requiring industrial space	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Change (2031-2051)
Agriculture, forestry and fishing	50	100%	1,709	1,759	1,810	1,863	1,917	1,973	2,031	2,090	2,151	2,213	2,278	2,344	2,412	2,482	2,555	2,629	2,706	2,785	2,866	2,949	3,035	1,326
Mining	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20
Manufacturing	35	100%	4,188	4,310	4,435	4,564	4,697	4,834	4,975	5,120	5,269	5,422	5,580	5,743	5,910	6,082	6,259	6,442	6,629	6,822	7,021	7,225	7,436	3,248
Electricity, gas, water and waste services	60	95%	585	602	619	637	656	675	694	715	735	757	779	802	825	849	874	899	925	952	980	1,009	1,038	453
Construction	30	95%	10,230	10,528	10,834	11,150	11,475	11,809	12,153	12,507	12,871	13,246	13,632	14,029	14,437	14,858	15,290	15,736	16,194	16,666	17,151	17,651	18,165	7,935
Wholesale trade	90	100%	4,923	5,066	5,213	5,365	5,522	5,682	5,848	6,018	6,194	6,374	6,560	6,751	6,947	7,150	7,358	7,572	7,793	8,020	8,253	8,494	8,741	3,818
Retail trade	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20
Accommodation and food services	15	100%	5,230	5,383	5,539	5,701	5,867	6,038	6,213	6,394	6,581	6,772	6,970	7,173	7,381	7,596	7,818	8,045	8,280	8,521	8,769	9,024	9,287	4,057
Transport, postal and warehousing	70	100%	7,179	7,388	7,603	7,824	8,052	8,287	8,528	8,777	9,032	9,295	9,566	9,845	10,131	10,426	10,730	11,043	11,364	11,695	12,036	12,386	12,747	5,569
Information media and telecommunications	15	5%	26	26	27	28	29	30	30	31	32	33	34	35	36	37	38	39	41	42	43	44	46	20
Financial and insurance services	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20
Rental, hiring and real estate services	15	5%	51	53	54	56	58	59	61	63	65	66	68	70	72	74	77	79	81	84	86	88	91	40
Professional, scientific and technical services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative and support services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public administration and safety	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education and training	30	5%	472	485	500	514	529	545	560	577	594	611	629	647	666	685	705	726	747	769	791	814	838	366
Health care and social assistance	30	5%	1,138	1,171	1,206	1,241	1,277	1,314	1,352	1,392	1,432	1,474	1,517	1,561	1,607	1,653	1,701	1,751	1,802	1,855	1,909	1,964	2,021	883
Arts and recreation services	15	25%	64	66	68	70	72	74	76	78	81	83	85	88	90	93	96	99	101	104	107	111	114	50
Other services	15	50%	1,026	1,055	1,086	1,118	1,150	1,184	1,218	1,254	1,290	1,328	1,367	1,406	1,447	1,489	1,533	1,578	1,623	1,671	1,719	1,769	1,821	796
<b>TOTAL</b>			<b>36,819</b>	<b>37,894</b>	<b>39,001</b>	<b>40,140</b>	<b>41,312</b>	<b>42,517</b>	<b>43,758</b>	<b>45,035</b>	<b>46,350</b>	<b>47,702</b>	<b>49,093</b>	<b>50,525</b>	<b>51,999</b>	<b>53,516</b>	<b>55,076</b>	<b>56,682</b>	<b>58,335</b>	<b>60,035</b>	<b>61,785</b>	<b>63,586</b>	<b>65,440</b>	<b>28,621</b>
<b>ANNUAL CHANGE</b>			<b>1,042</b>	<b>1,075</b>	<b>1,107</b>	<b>1,139</b>	<b>1,172</b>	<b>1,206</b>	<b>1,241</b>	<b>1,277</b>	<b>1,314</b>	<b>1,352</b>	<b>1,392</b>	<b>1,432</b>	<b>1,474</b>	<b>1,516</b>	<b>1,561</b>	<b>1,606</b>	<b>1,653</b>	<b>1,701</b>	<b>1,750</b>	<b>1,801</b>	<b>1,853</b>	

Data note #1: retail trade has been excluded due to consideration on the subsequent page.

Data note #2: industrial floorspace uses have generally considered a requirement for commercial / office / showroom floorspace, noting that while this floorspace is accounted for as commercial land, it would generally be co-located within industrial precincts.

Source: MacroPlan, ABS, VIF2016

## Retail Floorspace: Employment Scenario #1 – Low Growth

### Scenario 1: Retail Uses, 2016-2031

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Change (2016-2031)
Population	7,862	7,940	8,020	8,100	8,181	8,263	8,345	8,429	8,513	8,598	8,684	8,771	8,859	8,947	9,037	9,127	1,265
Retail floorspace required @ 2.4sqm/p	18,868	19,056	19,247	19,439	19,634	19,830	20,028	20,229	20,431	20,635	20,842	21,050	21,261	21,473	21,688	21,905	3,037
Retail floorspace required @ 2.2sqm/p	17,295	17,468	17,643	17,819	17,998	18,178	18,359	18,543	18,728	18,916	19,105	19,296	19,489	19,684	19,881	20,079	2,784

### Scenario 1: Retail Uses, 2031-2051

	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Change (2031-2051)
Population	9,127	9,218	9,310	9,404	9,498	9,593	9,688	9,785	9,883	9,982	10,082	10,183	10,284	10,387	10,491	10,596	10,702	10,809	10,917	11,026	11,137	2,010
Retail floorspace required @ 2.4sqm/p	21,905	22,124	22,345	22,568	22,794	23,022	23,252	23,485	23,720	23,957	24,196	24,438	24,683	24,930	25,179	25,431	25,685	25,942	26,201	26,463	26,728	4,823
Retail floorspace required @ 2.2sqm/p	20,079	20,280	20,483	20,688	20,895	21,104	21,315	21,528	21,743	21,960	22,180	22,402	22,626	22,852	23,081	23,311	23,545	23,780	24,018	24,258	24,501	4,421

Source: MacroPlan, ABS, VIF2016

## Retail Floorspace: Employment Scenario #2 – VIF2016 Trend

### Scenario 2: Retail Uses, 2016-2031

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Change (2016-2031)
Population	7,862	8,026	8,196	8,373	8,547	8,722	8,895	9,066	9,238	9,406	9,574	9,738	9,902	10,065	10,228	10,391	2,530
Retail floorspace required @ 2.4sqm/p	18,868	19,263	19,670	20,094	20,514	20,934	21,349	21,759	22,172	22,575	22,977	23,371	23,764	24,156	24,548	24,939	6,071
Retail floorspace required @ 2.2sqm/p	17,295	17,658	18,031	18,420	18,804	19,189	19,570	19,946	20,324	20,694	21,063	21,424	21,783	22,143	22,502	22,861	5,565

### Scenario 2: Retail Uses, 2031-2051

	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Change (2031-2051)
Population	10,391	10,554	10,717	10,879	11,042	11,207	11,376	11,546	11,719	11,895	12,074	12,255	12,439	12,625	12,814	13,007	13,202	13,400	13,601	13,805	14,012	3,621
Retail floorspace required @ 2.4sqm/p	24,939	25,330	25,720	26,109	26,500	26,898	27,301	27,711	28,126	28,548	28,977	29,411	29,852	30,300	30,755	31,216	31,684	32,160	32,642	33,132	33,629	8,690
Retail floorspace required @ 2.2sqm/p	22,861	23,219	23,577	23,933	24,292	24,656	25,026	25,402	25,783	26,169	26,562	26,960	27,365	27,775	28,192	28,615	29,044	29,480	29,922	30,371	30,826	7,965

Source: MacroPlan, ABS, VIF2016

## Retail Floorspace: Employment Scenario #3 – High Growth

### Scenario 3: Retail Uses, 2016-2031

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Change (2016-2031)
Population	7,862	8,097	8,340	8,590	8,848	9,114	9,387	9,669	9,959	10,257	10,565	10,882	11,209	11,545	11,891	12,248	4,386
Retail floorspace required @ 2.4sqm/p	18,868	19,434	20,017	20,617	21,236	21,873	22,529	23,205	23,901	24,618	25,357	26,117	26,901	27,708	28,539	29,395	10,528
Retail floorspace required @ 2.2sqm/p	17,295	17,814	18,349	18,899	19,466	20,050	20,652	21,271	21,909	22,566	23,243	23,941	24,659	25,399	26,161	26,946	9,650

### Scenario 3: Retail Uses, 2031-2051

	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Change (2031-2051)
Population	12,248	12,615	12,994	13,384	13,785	14,199	14,625	15,063	15,515	15,981	16,460	16,954	17,463	17,987	18,526	19,082	19,654	20,244	20,851	21,477	22,121	9,873
Retail floorspace required @ 2.4sqm/p	29,395	30,277	31,185	32,121	33,084	34,077	35,099	36,152	37,237	38,354	39,505	40,690	41,910	43,168	44,463	45,797	47,171	48,586	50,043	51,545	53,091	23,696
Retail floorspace required @ 2.2sqm/p	26,946	27,754	28,587	29,444	30,327	31,237	32,174	33,140	34,134	35,158	36,213	37,299	38,418	39,570	40,758	41,980	43,240	44,537	45,873	47,249	48,667	21,721

Source: MacroPlan, ABS, VIF2016