

FAR lane

East Wanneroo Economic Development Strategy

**Department of
Planning Lands and
Heritage**

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TABLE OF CONTENTS

Table of Contents	1
1. Executive Summary	4
1.1 East Wanneroo's Future Economy	4
1.2 Economic Geography within East Wanneroo	5
1.2.1 East Wanneroo District Centre	5
1.2.2 Neighbourhood Centres	5
1.2.3 Public Purpose	6
1.2.4 Industrial Investigation Area North	6
1.2.5 East Industrial Investigation Area	7
1.2.6 Gnangara South Precinct	7
1.2.7 Retention of Rural Activities	7
1.3 Economic opportunities	8
1.4 Precursor Milestones to Planning for Development of Key Economic Sites	8
2 Introduction	11
3 The City of Wanneroo Economy	12
3.1 Economic Development Context	12
3.2 Economic Development Scenario	12
3.2.1 Growth in the Local Economy	13
3.2.2 Leveraging Existing Highly Competitive Traded Industries and Infrastructure	15
3.2.3 Development of new 'traded' clusters	17
3.2.4 Summary	19
3.3 City of Wanneroo Economic Geography	20
4 East Wanneroo Current Context	21
4.1 Location	21
4.2 Current Demography	22
4.3 Current Economic Geography	22
5 East Wanneroo Future Context	25
5.1 Population Projections	25
5.2 Staging	25
5.3 Demographic Projections	26

5.3.1	WA Tomorrow	26
5.3.2	Labour Force Participation	33
5.4	Economic Development Scenario	33
6	Economic Development Roles for East Wanneroo	35
6.1	A Vision for a Sustainable and Prosperous Community	35
6.2	Promote Livability and Choice in Housing and Business Locations	35
6.3	Leverage Investment	36
7	East Wanneroo's Future Economic Geography	37
7.1	East Wanneroo Activity Centre Hierarchy and Staging	37
7.2	East Wanneroo District Centre	37
7.2.1	Context	37
7.2.2	Potential Roles	38
7.2.3	Scale and Configuration	38
7.2.4	Timing and Precursors	40
7.3	Neighbourhood and Local Centres	40
7.3.1	Context	40
7.3.2	Potential Roles	40
7.3.3	Scale and Configuration	41
7.3.4	Timing and Precursors	42
7.4	Home Based Business	42
7.4.1	Context	42
7.4.2	Potential Impacts	42
7.5	Public Purpose	43
7.5.1	Context	43
7.5.2	Scale and Configuration	43
7.6	Recreation and Public Open Space	44
7.6.1	Context	44
7.6.2	Scale and Configuration	44
7.7	Industrial Investigation Area North	45
7.7.1	Context	45
7.7.2	Potential Comparative Advantages and Roles	45
7.7.3	Recommendations	45
7.7.4	Potential Impacts	46

7.8	East Industrial Investigation Area	46
7.8.1	Context and Scale	46
7.8.2	Potential Comparative Advantages and Roles.....	47
7.8.3	Recommendations	47
7.8.4	Potential Impacts.....	47
7.9	Gnangara South Precinct	48
7.9.1	Context and Scale	48
7.9.2	Potential comparative advantages and roles	49
7.9.3	Recommendations	49
7.9.4	Potential Impacts.....	49
7.10	Retention of Rural Activities.....	50
8	Implementation Strategies and Guidance for Future Planning.....	51
8.1	Prioritise Employment Lands	51
8.2	Staging to Ensure Optimal Long-Term Economic Development Outcomes	53
8.3	Deconstraining Economic Activities.....	54
8.4	Planning Frameworks to Encourage Home-Based and Mixed-Use Businesses	55
8.5	Reporting on Impacts.....	55
9	Appendix I – Industrial and Commercial Job Estimation Method.....	57
10	Appendix II – East Wanneroo Precinct Staging (Indicative)	58

1. EXECUTIVE SUMMARY

This Economic Development and Employment Study provides insights into the future economic potential for the East Wanneroo District Structure Plan Area. The Study Area extends from Gnangara Road in the south, to Neerabup in the north, and from the existing urban zoned land in the west to the State Forest (Gnangara Pine Plantation) in the east.

1.1 EAST WANNEROO'S FUTURE ECONOMY

The precinct analysis supplied by the Department estimates a yield of 49,750 dwellings at full build out. This equates to a total residential population of 150,000 over the same time period. Based upon these yields and the employment self-sufficiency targets set by the Western Australian State Government and the City of Wanneroo, it was estimated that approximately 49,000 extra jobs will be required within the City of Wanneroo by full build out to accommodate this growth in population (Figure 1).

Figure 1- Economic Development Goals for East Wanneroo

	2016	2026	2041	Full Build out
Population	3,390	27,644	64,393	150,743
Labour Force	1,941	14,977	34,883	81,663
Target Employment Self Sufficiency	60%	60%	60%	60%
Required Employment within the City of Wanneroo	1,165	8,987	20,930	48,998

Source: City of Wanneroo 2016, Department of Lands and Heritage 2018, id. 2018, FAR lane 2018

To realise this employment yield East Wanneroo will need to address three core challenges:

- Develop a vibrant local economy to service the needs of the local community;
- Leverage investment in major transport infrastructure that will likely transect the site; and
- Support the development of new and diverse employment in the City of Wanneroo's traded economy to effectively compensate for the existing economy that will be displaced through the urbanisation of East Wanneroo.

In overcoming these challenges, the City's Employment Lands Study suggests that it will be plausible that approximately 49,000 local jobs could be provided for within the structure plan area at full build out, with commercial and industrial activity centres acting at full maturity.

1.2 ECONOMIC GEOGRAPHY WITHIN EAST WANNEROO

The economic development outcomes within East Wanneroo will largely be provided for within a network of activity centres and employment zones:

- East Wanneroo District Centre;
- A Neighbourhood Centre;
- Public Purpose;
- Industrial Investigation Area North;
- East Industrial Investigation Area; and
- Gngara South Rural Precinct

1.2.1 East Wanneroo District Centre

The East Wanneroo District Centre will function to service the growing local residential catchment whilst realising the significant inbound and outbound opportunities that transit oriented development (TOD) anchored by passenger rail can offer. A spatial distribution of the employment targets suggests approximately 58,600m² of floorspace (predominantly shop retail) could be demanded by 2050 (Figure 2). The development of the District could likely be developed in two stages with the first stage to be complete by approximately 2031 and second stage completed between 2041-50.

Figure 2- Projected floor space yields required within the East Wanneroo District (sqm/NLA)

Year	2026	2031	2041	2050
Sqm NLA	220	13,550	24,609	58,545
Jobs	5	488	953	2,268

1.2.2 Neighbourhood Centres

Analysis suggested there will be a need for one neighbourhood centre within East Wanneroo. With the location to be dependent on the final location for the district centre, however collocation with one of the two proposed high school sites in Mariginiup would be preferable. It is recognised that

the neighbourhood centre should be orientated toward a high amenity offer that reflects the needs of the local population.

1.2.3 Public Purpose

Public purpose uses such as education and community service are often located outside of activity centres, with schools, child care and health and wellbeing uses distributed through the urban landscape. Full build out suggests 41 schools will be required by full build out, driving an estimated 2,500 education related jobs (Figure 3).

Figure 3- Estimated Education Infrastructure Requirements

	Requirement
Government Primary School	25
Government High School	5
Private Primary School	9
Private High School	2
Total	41

1.2.4 Industrial Investigation Area North

This proposed industrial precinct, located in the north of the study area (precinct 22) is currently designated within the District Structure Plan as being subject to future planning. A wide range of employment yields between 6,625 and 9,200 may result from development of the industrial precinct (Figure 4).

Figure 4- Industrial Investigation Area Potential Yields

Benchmark Location	Employment Intensity	Potential Yield for Industrial Investigation Area
Wangara Industrial Area	100 Jobs/ha	9,200 Jobs
Jandakot Industrial Area	90 Jobs/ha	8,280 Jobs
Landsdale Industrial Area	72 Jobs/ha	6,625 Jobs

1.2.5 East Industrial Investigation Area

The 420-hectare Mariginiup East Precinct (precinct 23) designated as for employment purposes (subject to further planning within the District Structure Plan). Much of the land is recognised within the Structure Plan as being designated a Priority 1 Drinking Water Area and having a pending mining tenement over it. The precinct has linkages to Sydney and Neaves Road.

The potential job yield between 1,010 and 5,120 for the site could support to the growth of strategic focus areas (outlined in the economic development strategy) such as agribusiness, advanced manufacturing and clean technology (Figure 5).

Figure 5- Benchmark Location Employment Intensity Potential Yields for Mariginiup East

Benchmark Location	Employment Intensity	Potential Yield for Mariginiup East
Neerabup Agri-Industry Activity	61 Jobs/ha	5,120 Jobs
Bibra Lake Industrial	12 Jobs/ha	1,010 Jobs

Given its potential importance as an economic asset, it is not anticipated that exclusively residential development be contemplated for this precinct.

1.2.6 Gnangara South Precinct

The North-West regional planning framework identifies the Northern Element (precinct 5) as urban expansion, and the Southern Element (precinct 7) as urban expansion, whilst the Northlink Industrial Park (precinct 6) is a new industrial development with lots currently being sold. Based upon the currently understood site context for the Gnangara South Rural Precinct it is recommended that the optimal use and zoning for the Northern Element should be assessed after passenger rail corridor and location of the DSP is confirmed.

Further development of the Northlink Industrial Area could potentially yield a total of 15 ha (NLA) of service commercial floor space, which could potentially host between 1,000 and 1,500 jobs, particularly in advanced manufacturing and clean technology.

1.2.7 Retention of Rural Activities

Rural activity should remain and leverage existing infrastructure and investment including:

- Nanovich Park Training Facility (Wanneroo Trotting and Training Club);
- Lakelands Country Club; and
- Significant greenhouse and nursery build infrastructure

1.3 ECONOMIC OPPORTUNITIES

Detailed planning of the sub-region and each of the key economic precincts and centres discussed in this study should include consideration of the scope, feasibility and implementation of initiatives that will be key to de-constraining the area and realizing its economic potential. Such activities may include:

- Ensuring that future regional freight and passenger transport infrastructure routes and configurations considers the servicing of East Wanneroo Activity Centres and economic precincts;
- Ensuring that the future passenger rail alignment and location of train station/s allows for development, and precedes development of intense, diverse and mature transit-oriented activity centres;
- Considering the roles that ground water allocations no longer required for rural uses may play in the realisation of economic development aspirations;
- Support for continued development of the City of Wanneroo's peri urban food economy, with consideration of opportunities including production, manufacture, distribution, retailing, education and hospitality; and
- Opportunities to utilise next-generation technologies and techniques to realise competitive advantages that may result from the provision of lower than market rates, and/or improved reliability, for energy and water. This may include consideration of micro-grid solutions if trunk servicing becomes the inhibitor to development in regard to either timeframes or costs.

1.4 PRECURSOR MILESTONES TO PLANNING FOR DEVELOPMENT OF KEY ECONOMIC SITES

The anticipated milestones for each site are summarised in Figure 6.

Figure 6-Precursor Milestones to Planning for Development of Key Economic Sites

Site/Precinct	Anticipated Milestones to Trigger Detailed Planning	Anticipated Timeframe
East Wanneroo District Centre	Establishment of (passenger) rail corridor reserve	Medium-Long Term
	Confirmation of high frequency transit corridor to Wanneroo Regional Centre	Medium-Long Term
East Wanneroo Neighbourhood Centre	Confirmation of the location of urban infrastructure including high schools and regional sporting reserve, including the formal commencement of scheme amendments to gazette planning reserves	Short-Medium Term
Industrial Investigation Area North (Precinct 22)	Industrial development found to be constrained or not able to be realised within Neerabup and surrounding industrial areas to adequately keep pace with market demand over an extended period	Long Term
	The site is identified for a specific strategic economic development role that will bring about impacts of Regional significance	Medium-Long Term
	Confirmation of the route, configuration and timing of the East Wanneroo Bypass and Flynn Drive Extensions, including the formal commencement of scheme amendments to gazette planning Reserves	Medium Term
Mariginiup East Precinct (Precinct 23) Industrial Investigation Area	Confirmation of route, configuration and timing for development of the East Wanneroo Bypass and passenger rail line, including the formal commencement of scheme amendments to gazette planning reserves	Medium-Long Term

Site/Precinct	Anticipated Milestones to Trigger Detailed Planning	Anticipated Timeframe
	Identification of a need for a location for hosting of sustainable service infrastructure within the Study Area, or broader catchment	Medium-Long Term
	Identification and active investment in opportunities specific to the site as part of a City of Wanneroo/Regional Peri-Urban Food Strategy	Medium Term
Gnangara South (Precincts 5,6,7)	Northern Element - confirmation of passenger rail corridor and location of the DSP is confirmed, including the formal commencement of scheme amendments to gazette planning reserves	Medium-Long Term
	Southern Element - transition to urban land uses, ensuring strong connections through to the adjacent industrial development and the greater Wangara development.	Short Term
East Zone Precinct (Precincts 8,9,10,11,25)	Successful development of Mariginup East, Jandabup and Gnangara East precincts.	Long Term

2 INTRODUCTION

This Economic Development and Employment Study (the Study) provides insights into the future economic potential for the East Wanneroo District Structure Plan Area. It informs future planning and development within East Wanneroo by articulating the roles that the precinct will play in realising the North West Sub-Region's economic development targets.

The Study acts as a technical appendix to the District Structure Plan and should be read in conjunction with the corresponding plans and studies laid out in this document.

3 THE CITY OF WANNEROO ECONOMY

3.1 ECONOMIC DEVELOPMENT CONTEXT

Various State and Local Government planning and economic development studies have recognised the significant existing and future employment challenges facing the North West sub-region of the Perth Metropolitan area:

“The North West sub-region has experienced considerable growth in both population and labour force. However, the combination of an increased labour force coupled with limited employment opportunities within the sub-region has resulted in the sub-region having an employment self-sufficiency of 49 percent (2011) — one of the lowest across the Perth and Peel regions.”

North West Sub-Regional Framework

Implications of job creation not keeping pace with population growth include:

- Increased pressure on inter-regional transport linkages as residents are forced to commute further to access their place of work;
- Increased prevalence of ‘dormitory suburbs’, with corresponding socioeconomic impacts;
- Exposure of populations to transport costs and congestion impacts;
- Increased expenditure leakage from region as spending is captured at places of work; and
- Reliance on sub-regional population growth to drive local employment (e.g. residential construction jobs).

These impacts likely lead to a less resilient urban economy that is more exposed to macroeconomic shocks and has the potential to deliver a lower standard of living to residents over the medium-long term.

Urban development within East Wanneroo has the potential to positively support, or exacerbate, this economic development trend.

3.2 ECONOMIC DEVELOPMENT SCENARIO

The City of Wanneroo has quantified its job-creation challenge, with the supply of local jobs estimated to be required to nearly double from 49,000 jobs in 2016 to 96,000 by 2031 (Figure 7) if a target employment self-sufficiency of 60% is to be realised.

Figure 7. City of Wanneroo Economic Development Goals

	2016	2031	Net Change	% Change
Population	195,697	325,471	130,219	66%
Employed Residents	97,000	157,000	60,000	62%
Total (Jobs)	50,268	96,000	45,732	81%

Source: .id and Wanneroo EDS 2016

In discourse around urban economic development, there is consensus around one area: that entrepreneurial, export-led development is likely to produce higher economic growth rates and employment outcomes than inward-looking focussed 'population driven' activity. As such, it is fundamental to differentiate between the local economy (firms servicing the needs of local markets) and the traded economy (firms serving markets beyond which they are located).

Notwithstanding such theory, the City's dramatic trajectory of urban development will also mean that significant economic activity will result from population growth, as public and private sector enterprises respond to the needs of new populations.

The economic targets set by the City of Wanneroo will, therefore, be realised through three types of interrelated activities:

1. Growth in the local economy in response to growth in local demand;
2. Leveraging existing highly competitive traded industries and infrastructure to realise new growth; and
3. Development of new 'traded economy' clusters that meet the needs of global markets into the future.

To understand the role(s) that East Wanneroo may play in realising these outcomes, it is necessary to translate this high-level goal of 45,700 net new City jobs, into targets for specific industries.

3.2.1 Growth in the Local Economy

Currently, the Wanneroo economy is overwhelmingly 'local', servicing the needs of the local residents and businesses. Between 2011 and 2016 the proportion of output attributed to Wanneroo's local economy has increased from 80.53% to 84.61%. Over the same time period, local economy jobs per capita increased by 1.23%. This possibly reflects a maturation in local offer, as the critical mass necessary to support the provision of a more diverse range of goods and service locally, attracts

investment and operators. This occurred as full-time equivalent (FTE) jobs per capita decreased 5.23%, implying an overall trend of casualisation.

The top five local economy industries by employment in the City of Wanneroo are:

1. Construction Services - 6,777 jobs
2. Preschool and School Education - 5,924 jobs
3. Other Store Based Retailing - 3,261 jobs
4. Food Retailing - 2,957 jobs
5. Food and Beverage Service - 2,366 jobs

With the future dramatic expansion of Wanneroo's residential population, significant economic activity will be required to meet the needs of this rapidly growing local market. Currently, approximately 87% of local employment in the City of Wanneroo serves local markets. This equates to a current ratio of 0.23 local jobs per resident.

The scale of activities in the local economy is highly correlated to population growth. In parallel, significant local population growth will further provide the critical mass necessary to support the provision of an increasingly diverse range of goods and services locally.

Anticipating local economy-oriented industry growth is becoming increasingly complex due to the fast-paced disruptions occurring across urban economies and systems. Many of these disruptions impact upon the City's employment structure and requirements for local jobs, including:

- Normalisation of online retail and commercial transactions and the increasing prevalence of provision of services through online solutions;
- Increasingly globalised supply chains changing the location and functions of the traded (export and import) supply chains;
- Automation, machine learning and artificial intelligence causing a decrease in the intensity of labour required across industries, ranging from retail to logistics and manufacturing;
- Local (population-driven) activities increasingly being bundled into collocated single brand offerings (e.g. bundling of supermarkets, hardware and fuel offerings); and
- Increase in the prevalence of buy-local initiatives including development of farmers' markets, artisanal products (e.g. microbreweries), and high-amenity precincts serving local needs.

Given the potential push and pull of these competing forces in alternative directions, it has been assumed for the purposes of this analysis that the ratio of local economy employment per capita in the City of Wanneroo remains constant over the period of study. This translates to a net increase of 29,393 new jobs, approximately 64% of the total employment target.

3.2.2 Leveraging Existing Highly Competitive Traded Industries and Infrastructure

The priority areas reflect both areas of existing comparative advantage (i.e. Agribusiness) and areas where the City would like to consciously develop a comparative advantage (i.e. Clean Tech). The employment projections outlined in Figure 1 suggests the ratio residents to local economy jobs is approximately 0.3 jobs per resident in 2031, whereas the current jobs per resident is 0.23. To understand how the remaining 0.07 of the required employment may be achieved in 2031, a detailed analysis of existing comparative advantage was undertaken using shift-share analysis.

Shift share analysis decomposes regional job growth into three components, to better understand the drivers of local job growth. The three components are:

1. State growth effect - the amount of growth or decline in an industry that could be attributed to the overall growth of the State.
2. Industry mix effect - the amount of growth or decline in an industry that could be attributed to the performance of the specific industry at the State level.
3. Regional competitive effect - the amount of growth or decline in a specific industry that could be attributed to a local advantage or disadvantage.

Based on the analysis it is possible to discern four types of industries:

- Type 1 – Local firms outperforming in a high growth industry
- Type 2 - Local firms underperforming in a high growth industry
- Type 3 - Local firms underperforming in a low growth industry
- Type 4 – Local firms outperforming in a low growth industry

Type 1 and type 4 are industries in which the region has some comparative advantage.

The majority of the industries in which the City of Wanneroo has a comparative advantage are population driven industries such as preschool and school education and retailing. Recognising that export-led development is paramount to the achievement of the economic development goals of the City, the industries of comparative advantages were sorted in order of proportion of output that is exported (Figure 8).

Figure 8. City of Wanneroo Export Orientated Comparative Advantages

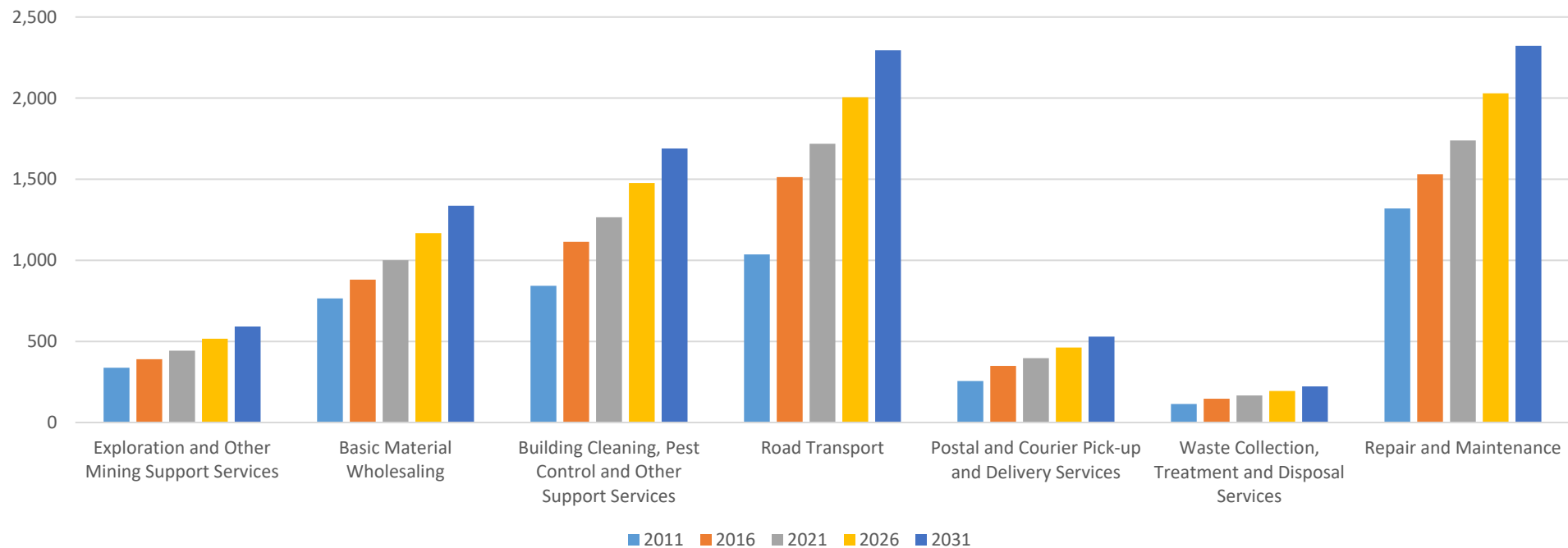
Industry	Total Jobs 2015	Total Jobs 2011	Change	Benchmark Growth Effect	Industry Mix Effect	Regional Competitive Effect	Total	Type	Export %
Exploration and Other Mining Support Services	390	338	+52	38	-2	16	52	Type 4	67.49%
Basic Material Wholesaling	881	765	+116	85	-24	54	116	Type 4	43.94%
Building Cleaning, Pest Control and Other Support Services	1,114	843	+271	94	32	145	271	Type 1	39.19%
Road Transport	1,513	1,036	+477	116	-15	376	477	Type 4	36.33%
Postal and Courier Pick- up and Delivery Services	349	256	+93	29	-1	66	93	Type 4	36.01%
Waste Collection, Treatment and Disposal Services	147	114	+34	13	-1	22	34	Type 4	35.00%
Repair and Maintenance	1,531	1,320	+211	147	-20	83	211	Type 4	23.78%

Source: ABS Census 2016, 2011, id 2018, FAR lane 2018

Note: Industries captured in the priority traded cluster analysis were excluded, e.g. agriculture.

A goal seek was used to determine the average annual growth rate these industries would need to grow at to meet the employment shortfall. Figure 9 summarises the growth required in these industries to achieve the balance of the economic development target.

Figure 9. The city of Wanneroo required growth in other areas of comparative advantage



Source: City of Wanneroo Employment Lands Study 2018, FAR lane 2018

3.2.3 Development of new 'traded' clusters

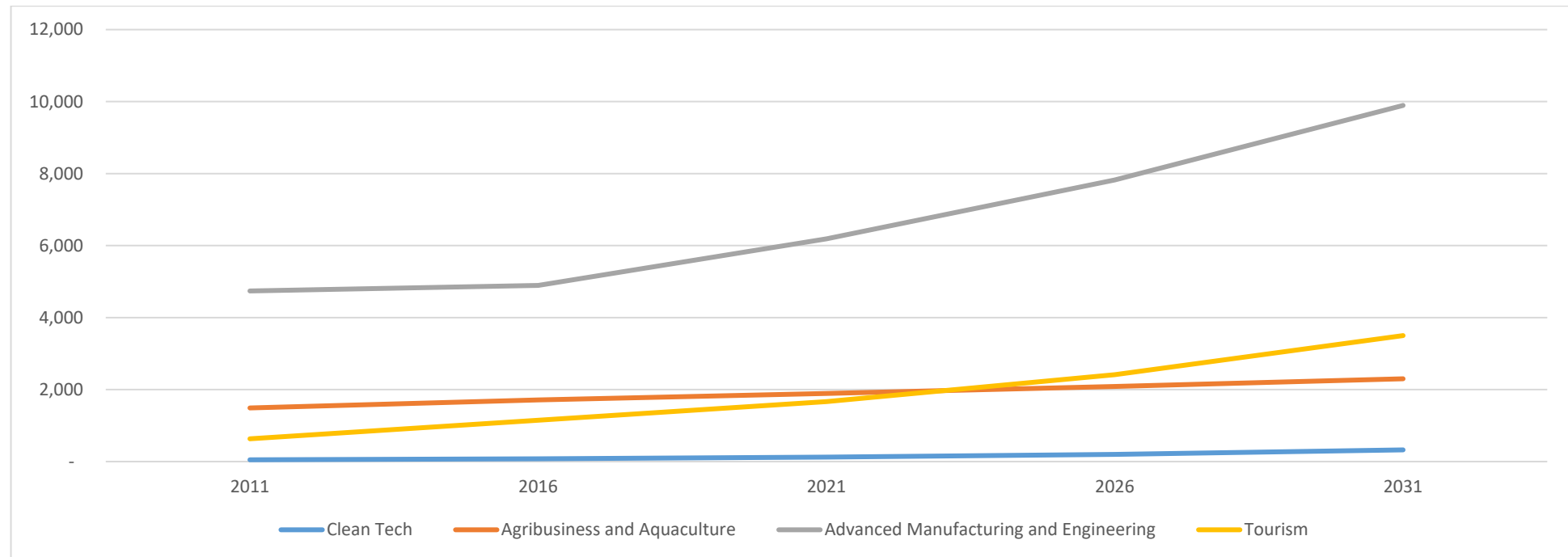
A key goal of the City of Wanneroo Economic Development Strategy and Action Plan (2016-2021) is economic diversification toward more export-orientated activity. To this end, the Strategy identifies four priority areas where the City will actively seek to facilitate employment growth. These four priority areas are:

- Clean Tech;
- Agribusiness and Aquaculture;
- Advanced Manufacturing and Engineering; and

- Tourism

Based on benchmarking and in consultation with the Project working group and other key stakeholders, a series of direct employment targets for these industries were proposed. Figure 10 summarises the targets for the priority areas.

Figure 10. Priority Areas Direct Employment Targets



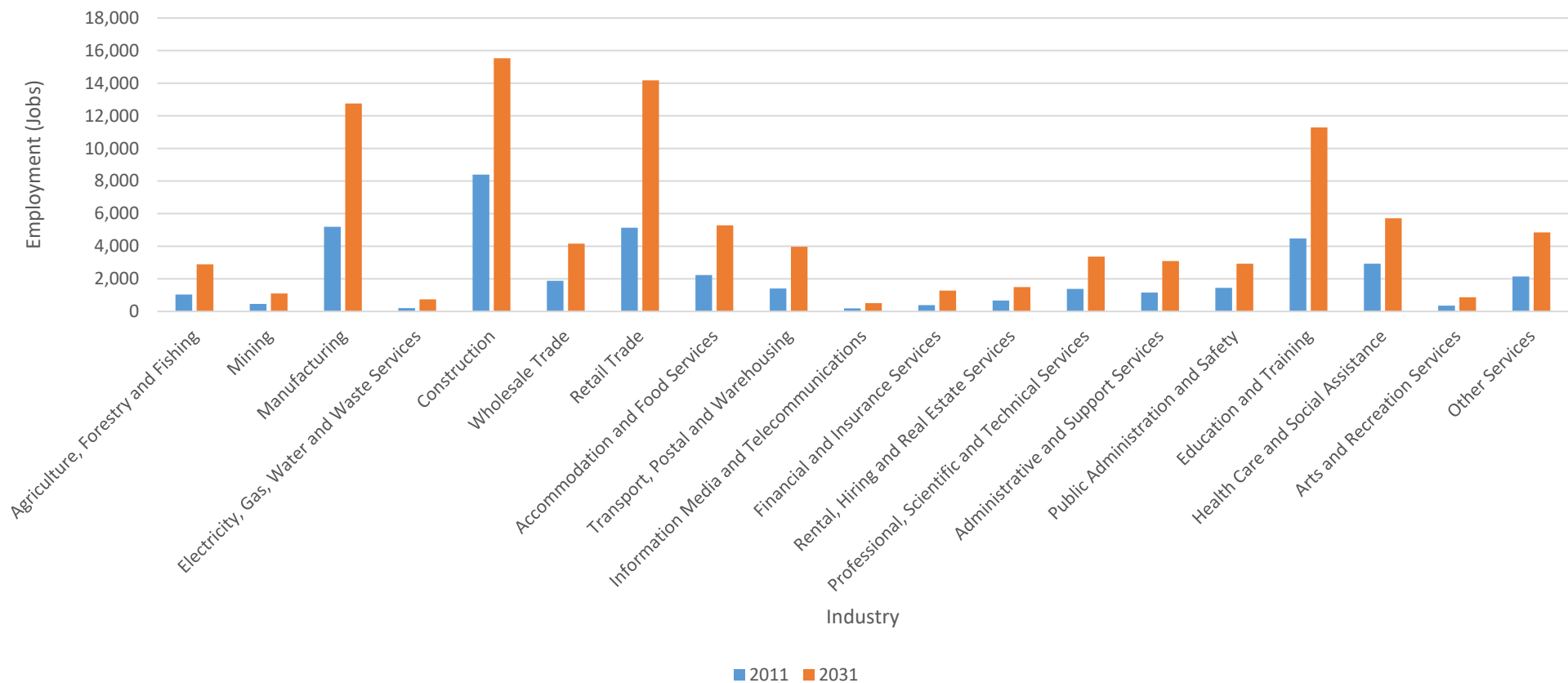
Source: City of Wanneroo Employment Lands Study 2018, FAR lane 2018

The flow-on effects to the economy, resulting from the achievement of these direct targets, were assessed using the City of Wanneroo's Economic Impact Model, supplied by .id. An estimated 13,276 jobs will result from the achievement of these targets in priority areas. This is approximately 29% of the total employment target. Approximately 51% of these jobs are expected to be servicing markets outside the City of Wanneroo (Traded).

3.2.4 Summary

Based on the aforementioned analysis, the economic development scenario for the City of Wanneroo can be expressed in term of industry-specific employment growth targets (Figure 11).

Figure 11. City of Wanneroo Economic Development Target by Industry



Source: City of Wanneroo Employment Lands Study 2018, FAR lane 2018

This economic development scenario is characterised by:

- A significant increase in total employment (45,700 jobs)
- Realisation of greater economic diversity
- A significant increase in the traded economy (from 12.3% of jobs to 16.7%).

3.3 CITY OF WANNEROO ECONOMIC GEOGRAPHY

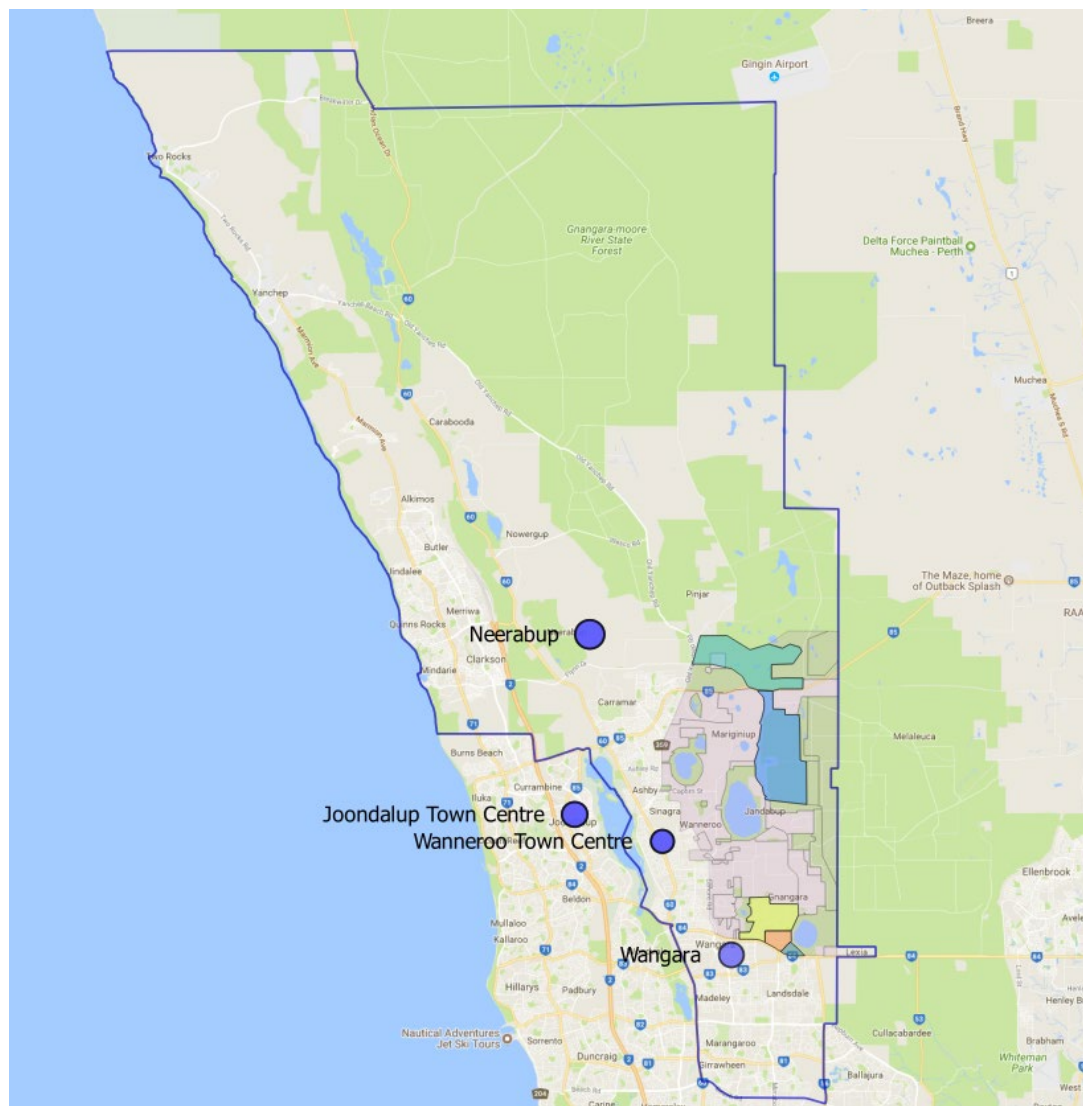
The City of Wanneroo has almost 100 existing, developing or proposed employment locations, ranging from local centres through to strategic commercial and industrial hubs. Currently, approximately 67% of the total employment within the City of Wanneroo is concentrated within its main Activity Centres (District Level and above). The remaining 33% is distributed throughout the area, this includes employment in Neighbourhood and Local centres, mobile employment (i.e. construction or trades) and home-based employment.

4 EAST WANNEROO CURRENT CONTEXT

4.1 LOCATION

The East Wanneroo Structure Plan Area comprises approximately 8000 hectares located approximately two kilometres east of the Wanneroo townsite, six kilometres east of Joondalup city centre and 25 kilometres north of Perth CBD (see Figure 12). The Study Area extends from Gnangara Road in the south, to Neerabup in the north, and from the existing urban zoned land in the west to the State Forest (Gnangara Pine Plantation) in the east (Figure 13). It is served primarily by Wanneroo Road, which is the main north to south road link. Due to its history of intermittent rural development and the presence of several significant wetlands, the existing lot configuration and road pattern are characterised by a number of disconnected “cells”.

Figure 12 - Map of City Boundaries and Study Area



Source: East Wanneroo District Structure Plan (2011).

4.2 CURRENT DEMOGRAPHY

The population of the structure plan area is currently approximately 3,101 (ABS Census 2016). The population grew steadily at a rate of 3.46% per annum since 2011. An analysis of the population profile for the structure plan area shows that the residential communities in this area were generally characterised by:

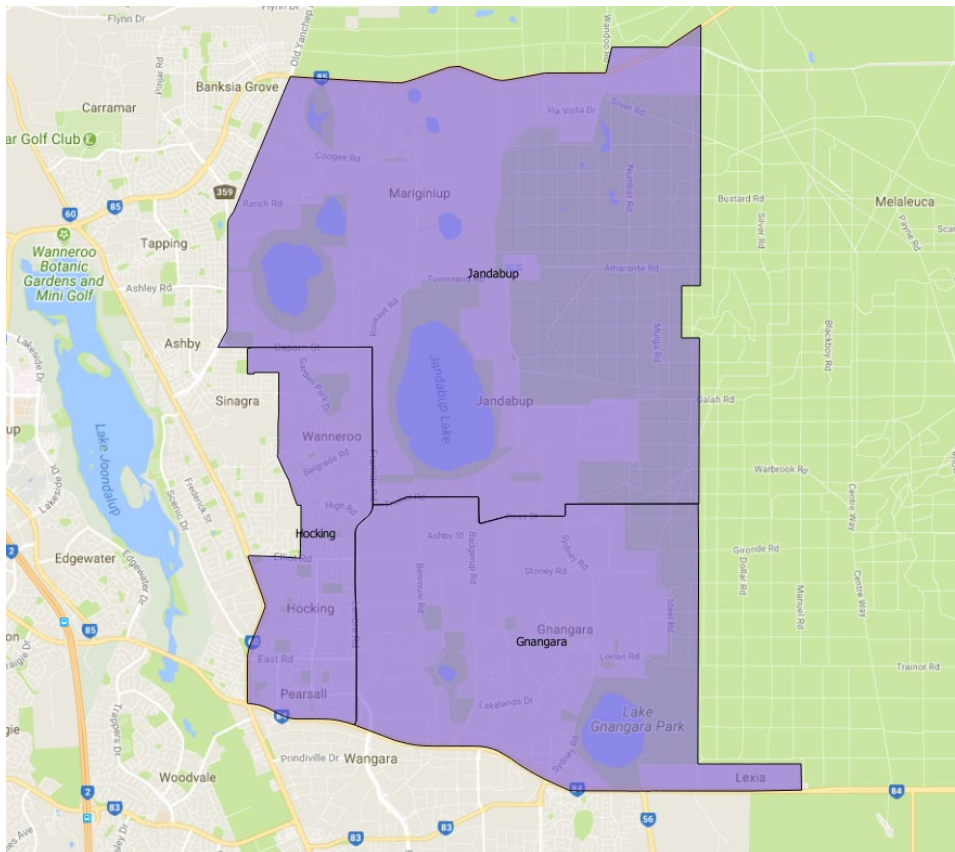
- An older population, with 45% of East Wanneroo residents aged 50 years and over compared with 25% for the City of Wanneroo and 31% for Greater Perth;
- A much higher proportion of couples with no children (32%), compared with 23.3% in the City of Wanneroo and 25.4% in Greater Perth;
- Average individual incomes;
- Much higher rates of home ownership, with 44% of dwellings being owned outright, compared with 18.6% in the City of Wanneroo and 26.7% for Greater Perth; and
- Lower rates of unemployment. In 2016, unemployment in East Wanneroo was 5.36%, compared with 8.3% in the City of Wanneroo and 8.1% for the Greater Perth Area. The labour force participation rate in East Wanneroo (67.1%) is comparable to that of the City of Wanneroo (67.2%) which is high relative to Greater Perth (63.7%)

4.3 CURRENT ECONOMIC GEOGRAPHY

As noted in the East Wanneroo Structure Plan (2011), East Wanneroo currently performs an agricultural and peri-urban function for Perth. It accommodates a range of market gardens, turf farms, plant nurseries, extractive industries, and rural living lots.

Three destination zones cover the East Wanneroo Structure plan area and extend into the neighbouring suburb of Hocking (Figure 13).

Figure 13- East Wanneroo Destination Zone Map



Source: ABS 2016

In 2017, approximately 2,711 were employed within the Study Area. The industries by employment are Agriculture, Construction and Healthcare, which make up approximately 42% of jobs in wider East Wanneroo. (Source: ABS Census (POW) 2011, 2016)

The number of jobs within the area has increased by just over 50% since 2011. This growth can be attributed to a number of key industries including:

- Construction;
- Retail Trade;
- Education and Training; and
- Healthcare and Social Assistance.

Approximately half (46%) of the people employed in East Wanneroo also live in Wanneroo/East Wanneroo, and approximately two thirds (66%) live within the City of Wanneroo. This suggests that the East Wanneroo area is less reliant on drawing its labour force from surrounding areas.

The vast majority of these growth industries are based within Hocking. Notwithstanding, approximately 40% (1,349) of East Wanneroo's employment is based in the Gnaragana and Jandabup destination zones which make up the majority of the Structure Plan area.

Within the Gnangara and Jandabup area, the industries of employment are predominantly:

- Construction – 290 Jobs
- Agriculture, Forestry and Fishing – 289 Jobs
- Manufacturing – 69 Jobs
- Wholesale Trade – 51 Jobs
- Retail Trade – 45 Jobs.

Urbanisation of East Wanneroo through the realisation of the Structure Plan will effectively displace or constrain much of the existing economic activity within Gnangara and Jandabup. Industry disruptions such as artificial intelligence, automation, advanced robotics and similar technologies in which machines replace humans carrying out replicable tasks are likely to impact the number and nature of the key employment industries in Wanneroo.

5 EAST WANNEROO FUTURE CONTEXT

5.1 POPULATION PROJECTIONS

The Precinct Analysis supplied by The Department indicates 49,750 dwellings at full build out. Applying an average household size of 3.03 indicates East Wanneroo would have an estimated a total residential population of approximately 150,000¹.

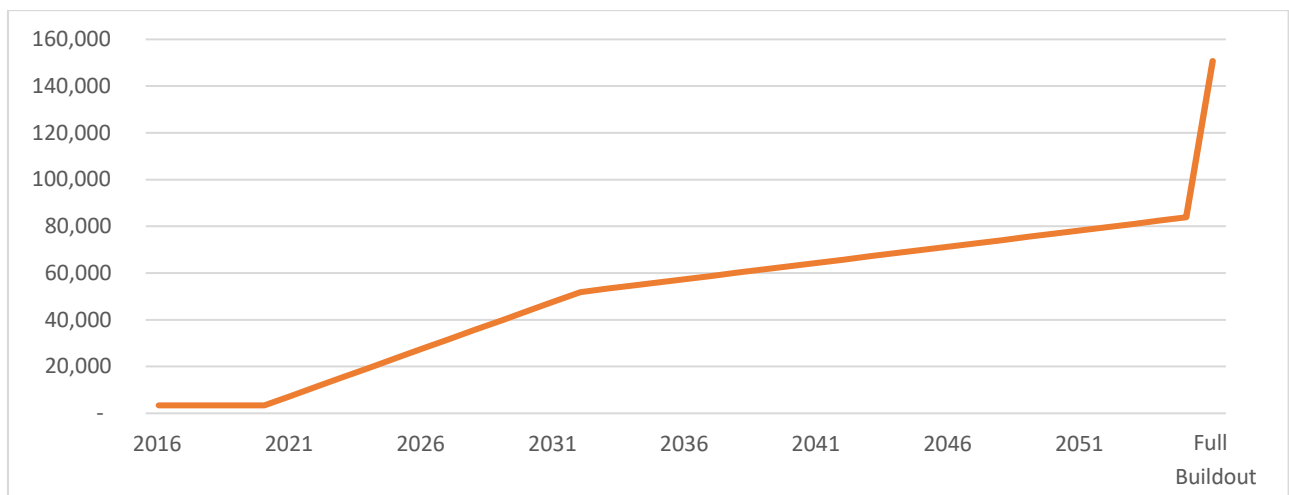
5.2 STAGING

The exact timing for the realisation of full build-out at East Wanneroo is still in development, with an indicative population staging map provided as Appendix II. Consultation with the client indicates that the likely development front will move from North West to South East. Based on this, the following potential staging was developed (Figure 14), with indicative population implications of development outlined in Figure 15. Ultimate development yields and timing will be dependent upon a range of factors including market demand.

Stage	Year	Dwellings
Stage 1	2021-33	16,000
Stage 2	2033-55	10,550
Stage 3	2055-	23,200

Source: Department of Planning, Lands and Heritage

Figure 15- East Wanneroo Population Projection Time Series



Source: Department of Planning, Lands and Heritage 2018

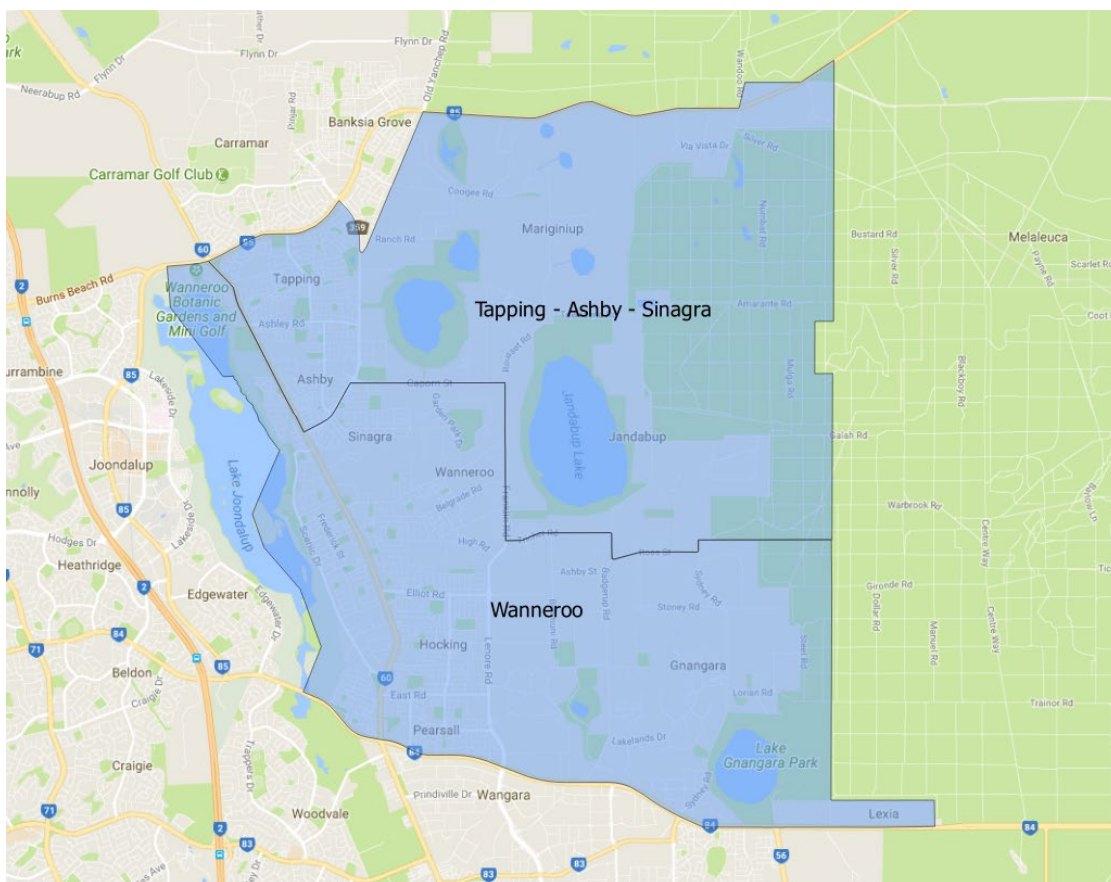
¹ North-West Sub-regional Planning Framework - March 2018, Page 73

5.3 DEMOGRAPHIC PROJECTIONS

5.3.1 WA Tomorrow

Western Australia Tomorrow is a set of forecasts representing the State Government's best estimate of Western Australia's future population size based on current fertility, mortality and migration trends. The smallest spatial area for these projections is SA2. There are two SA2 areas that cover East Wanneroo, Tapping – Ashby - Singra and Wanneroo. Importantly these spatial areas also cover significant areas outside of East Wanneroo (Figure 16).

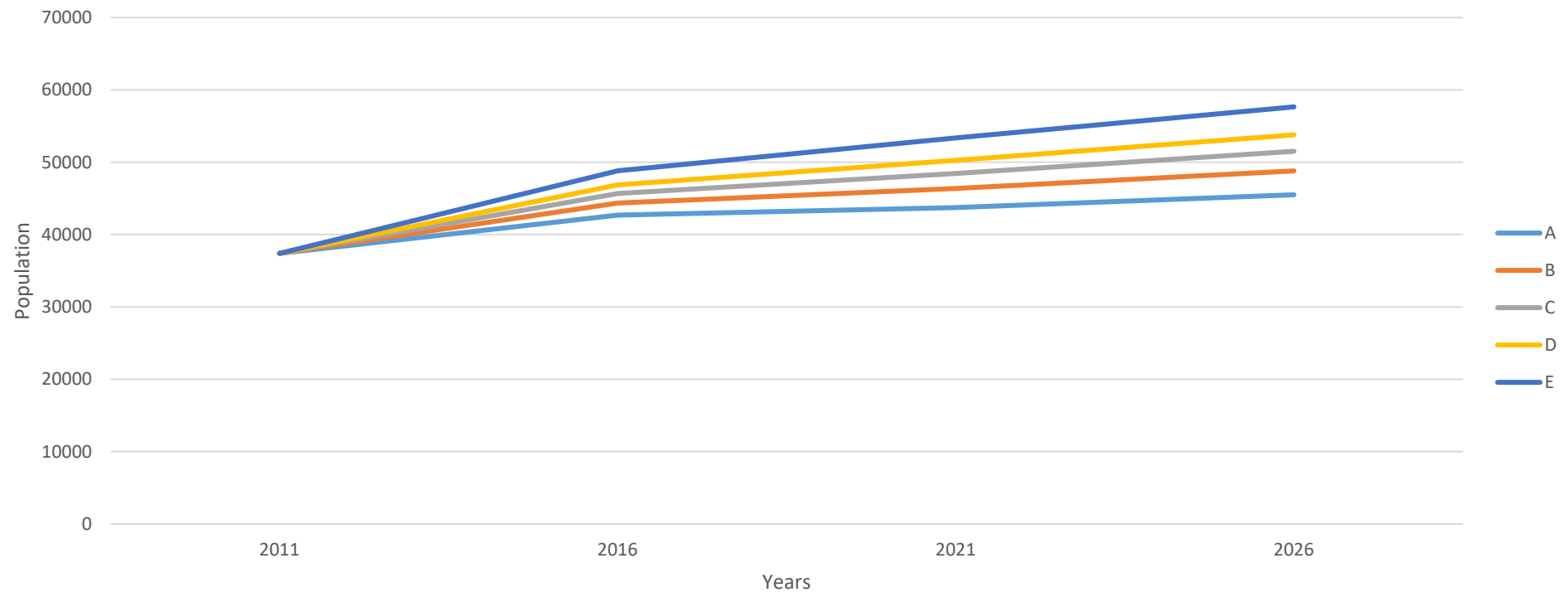
Figure 16- Study Area SA2 Map



Source: ABS 2016

WA Tomorrow indicates an increase in the overall population from a base estimate of 37,400 in 2011, to between 45,500 and 57,650 in 2026 (Figure 17).

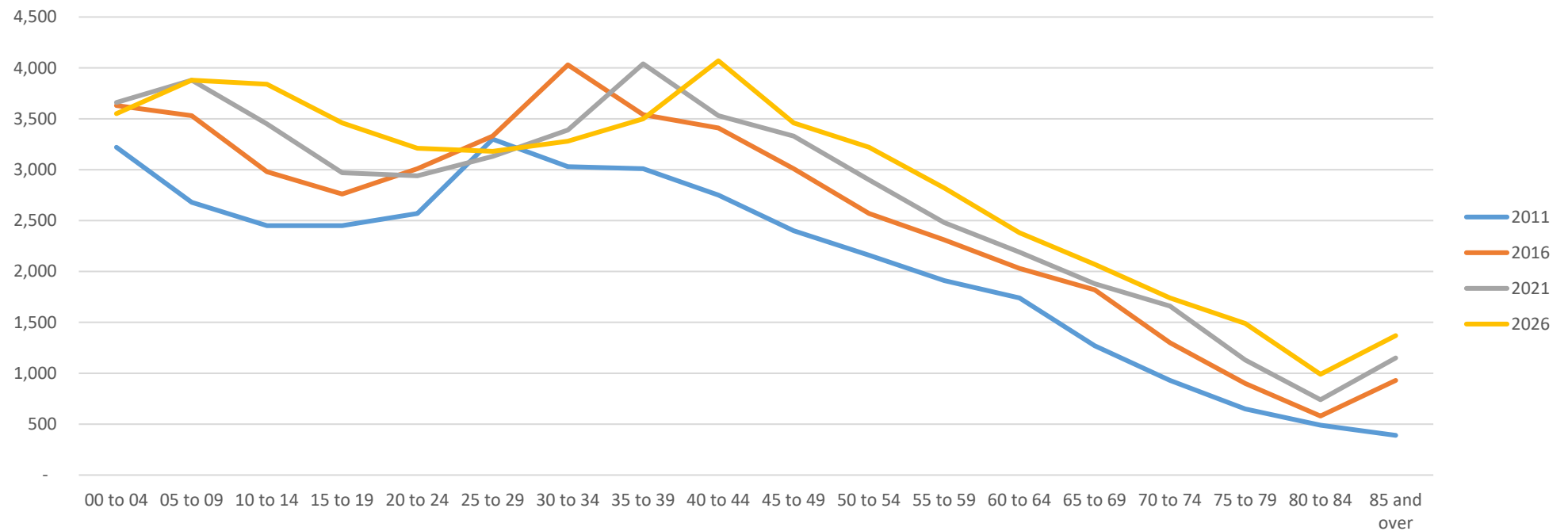
Figure 17. WA Tomorrow Projections (Wanneroo, Tapping – Ashby and Singra)



Source: WA Tomorrow (2015)

The projections anticipate, a growing youth population (aged 5-24 years), a declining young adult cohort (aged 25-39 years) and growth in all cohorts over 40 years. Overall the proportion of the population that is working age (15 years and over) is forecast to remain relatively stable over time (Figure 18).

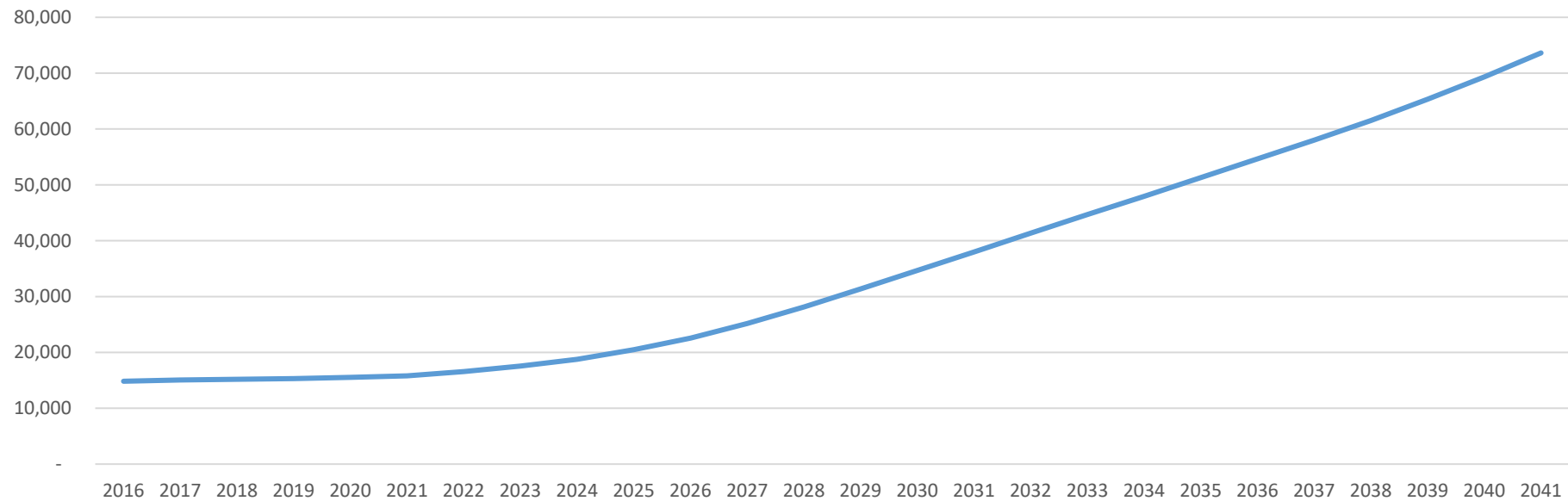
Figure 18. WA Tomorrow Demographic Projections (Wanneroo, Tapping – Ashby and Singra)



Source: .id

The City of Wanneroo's Population Projections, prepared by .id, extend beyond the horizon of WA Tomorrow to 2041. Like WA Tomorrow, the geography takes in areas surrounding East Wanneroo. In contrast to WA Tomorrow, the City of Wanneroo's Population Projections do not anticipate the development of East Wanneroo prior to 2021.

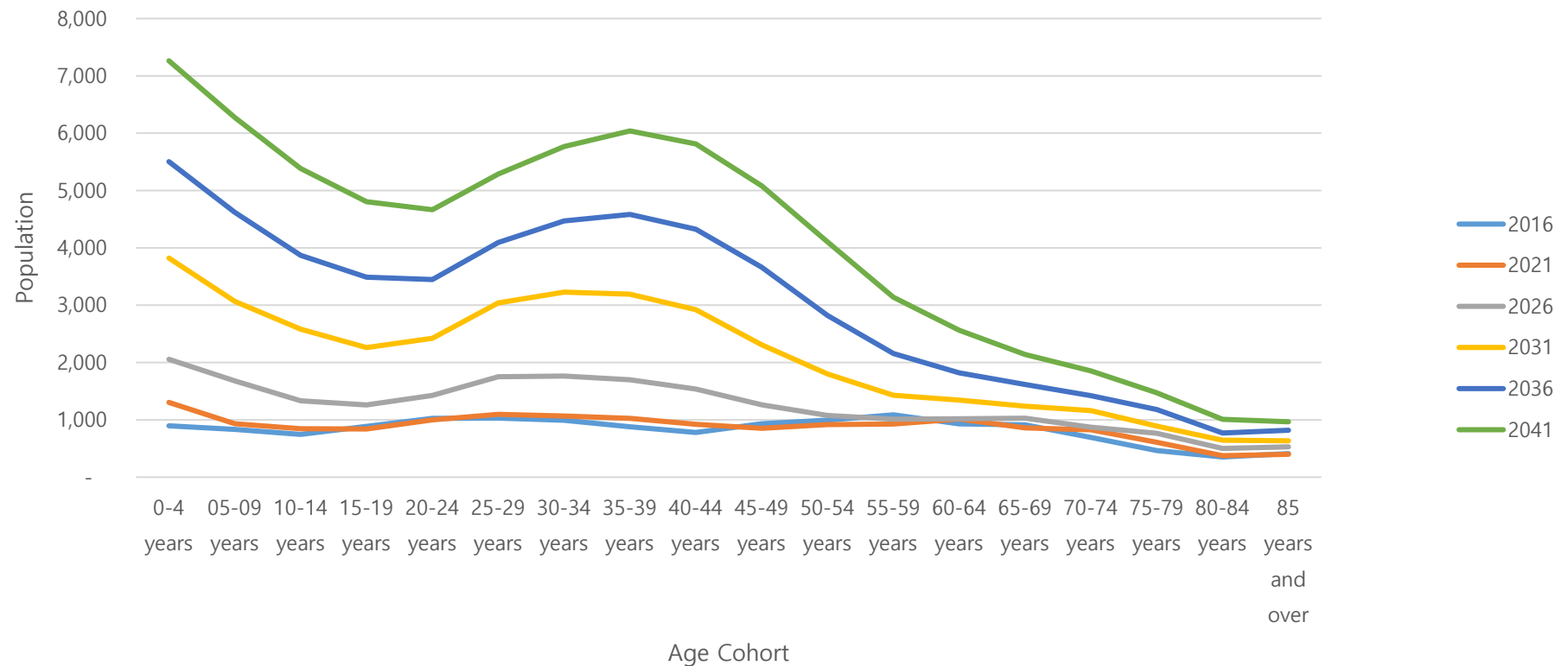
Figure 19. .id Population Projections (Gnangara – Jandabup – Mariginiup and Wanneroo)



Source: .id

Overall, the proportion of the population that is working age (15 years and over) is forecast to decrease significantly over time, corresponding to a boom in the child and youth population.

Figure 20. .id Demographic Projection (Gnangara – Jandabup – Mariginiup and Wanneroo)

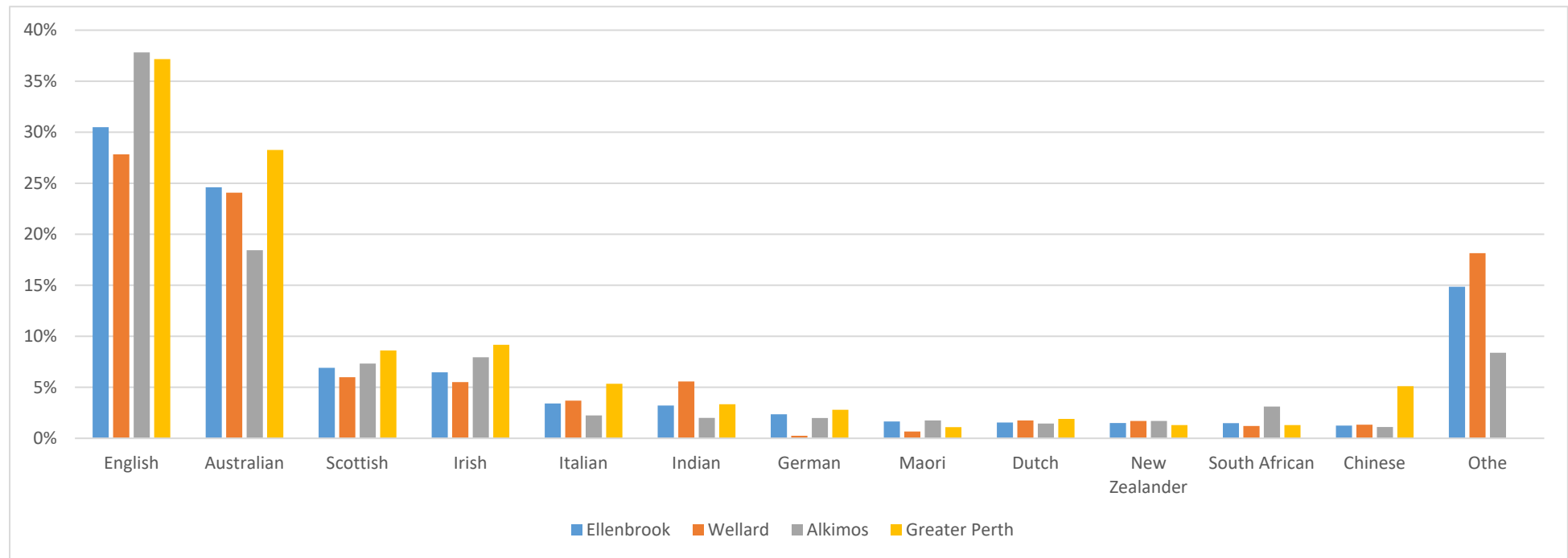


Source: .id

For the purposes of this analysis, the .id projections regarding gender and age have been adopted and applied to the indicative staging for East Wanneroo.

A potential cultural profile for East Wanneroo at full build-out was prepared by benchmarking against comparative contemporary developments including Ellenbrook, Wellard and Alkimos (Figure 22). If East Wanneroo was to realise an outcome similar to any of these three potential benchmark communities, East Wanneroo at full build would mostly be of English, Australian and European descent.

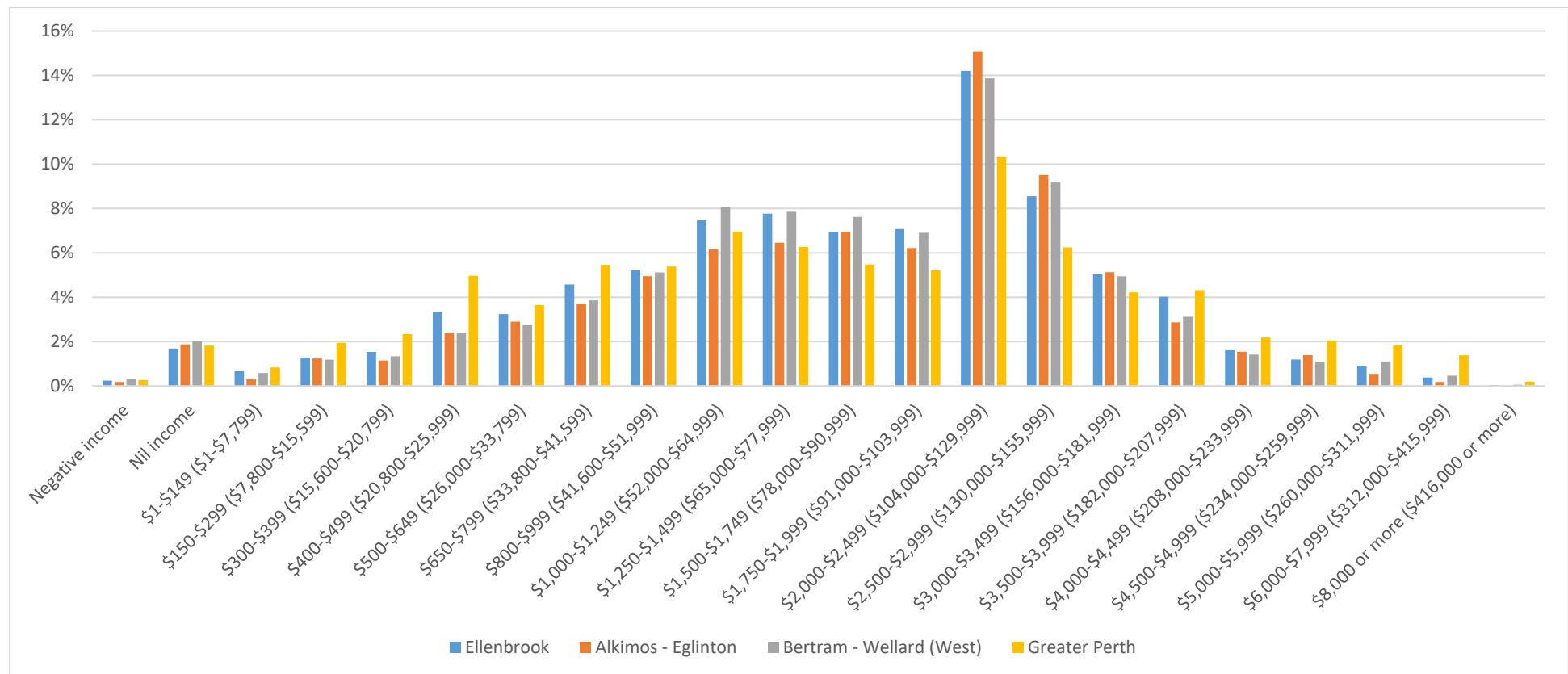
Figure 21- Cultural Profile of Each Benchmark Area (% of resident population)



Source: ABS Census 2016

A potential household income profile for East Wanneroo at full build was prepared by benchmarking against comparative contemporary developments including Ellenbrook, Wellard and Alkimos (Figure 23). If East Wanneroo was to realise an outcome similar to any of the three benchmark areas, the majority of households are likely to earn between \$1,000 and \$3,000 per week.

Figure 22- Household Income Profiles of Benchmark Areas



Source: ABS Census 2016

5.3.2 Labour Force Participation

Economic development goals within Perth metropolitan area are frequently expressed in terms of Employment Self Sufficiency (ESS). That is, the ratio of jobs to labour force within a given area. Given a target ESS, it is the rate of labour force participation in a new community that determines the quantum of employment required.

Current age specific labour force participation rates are not a reliable indication of future participation rates as Government policy (resulting in a steady increase in the pension age), personal preference, and financial necessity are such that these rates are likely to increase or stabilise across all age cohorts. The Australian Governments Intergenerational Report (2015) provides projections of the age specific participation rates for both men and women to 2054–55. Applying these rates to the .id projections, indicates that over the short-term, the labour force participation in the area is expected to remain relatively constant from the base level of 68.72% in 2011 to 68.6% in 2031 before increasing slightly to 70.6% in 2041.

5.4 ECONOMIC DEVELOPMENT SCENARIO

Figure 23 summarises the projections for East Wanneroo and the economic development challenge based on the employment self-sufficiency target set by the WA State Government and the City of Wanneroo.

Figure 23- Economic Development Goals for East Wanneroo

	2016	2026	2041	Full Build out
Population	3,390	27,644	64,393	150,743
Labour Force	1,941	14,977	34,883	81,663
Target Employment Self Sufficiency	60%	60%	60%	60%
Required Employment within the City of Wanneroo	1,165	8,987	20,930	48,998

Source: City of Wanneroo 2016, Department of Lands and Heritage 2018, id. 2018, FAR lane 2018

At full build out, 49,000 jobs will be required within the City of Wanneroo to achieve 60% employment self-sufficiency for this new population. Consideration must also be given to the fact that urbanisation of East Wanneroo through the realisation of the Structure Plan will effectively displace much of the existing economic activity within East Wanneroo. Therefore, in addition to the creation of 49,000 jobs, a further 1,350 jobs will be required to offset this loss.

The scale of activities in the local economy is highly correlated to population growth. The significant local population growth at East Wanneroo, will support the development of the local economy, as well as provide the critical mass necessary to support the provision of an increasingly diverse range of goods and services within the City of Wanneroo.

At this stage in the planning process for Wanneroo, there is nothing to suggest the incomes, and in turn the disposable income, of the Future East Wanneroo resident will vary significantly from those residents elsewhere with the City of Wanneroo. Therefore, it has been assumed that per capita demand for goods and services will be comparable. This translates to a requirement for approximately 34,670 local economy jobs within the City of Wanneroo by full build out (Figure 24). The remaining jobs (approximately 14,000) will need to be developed in the traded economy, creating and facilitating the transfer of goods and services to meet demands of external markets.

Figure 24. Employment Required within the City of Wanneroo to Meet the Economic Development Requirements of East Wanneroo



Source: FAR lane 2018

6 ECONOMIC DEVELOPMENT ROLES FOR EAST WANNEROO

6.1 A VISION FOR A SUSTAINABLE AND PROSPEROUS COMMUNITY

The Economic Development Analysis for the City of Wanneroo, as part of its Employment Lands Study, concluded that there is ample employment land currently zoned and planned with the LGA to realise its employment goals to 2050. In this context, the economic development challenge for East Wanneroo is:

- To develop a vibrant local economy to service the needs of the local community;
- To leverage investment in major transport infrastructure that will likely transect the site; and
- To support the development of new and diverse employment in the City of Wanneroo's traded economy to effectively compensate for the existing economy that will be displaced through the urbanisation of East Wanneroo.

As such, East Wanneroo will:

Break the mould for development in the North West Sub-Region by delivering an economically vibrant community that fosters local enterprise and innovation, leverages infrastructure investment and supports the maturation of surrounding commercial and industrial activity centres.

6.2 PROMOTE LIVABILITY AND CHOICE IN HOUSING AND BUSINESS LOCATIONS

To realise East Wanneroo's economic potential, its commercial activity centres will need to be differentiated from other surrounding centres. They will need to be intense, diverse and focused. They will showcase centres within the sub-region, that are characterised by:

- Collocation with community infrastructure including education, sport and recreation and healthcare activities to develop strong urbanisation economies;
- Strong utilisation by surrounding communities through inclusion of a range of dwelling types within walkable catchments, strong public transport linkages, and diverse offerings within centres;
- Appropriately staged to facilitate investment, centre maturation and agglomerations of activity;
- Complementary to the offer of higher order centres outside of the Structure Plan area; and
- Encouragement of home based business activities.

6.3 LEVERAGE INVESTMENT

The role of infrastructure in optimising the economic potential of the North West Sub-Region was recognised within the North West Sub-Regional Planning Framework.

“Maximise the use of existing infrastructure, including transport, community/social and service, where there is a concentration of urban and employment opportunities.”

This will be particularly important in East Wanneroo, with a range of strategic transport and urban infrastructure being envisaged within the Sub Regional Planning Framework and East Wanneroo Structure Plan including:

- East Wanneroo Bypass (major freight road/primary regional road);
- Flynn Drive extension (major freight road/primary regional road);
- Potential passenger rail;
- Potential regional sport and recreation reserve;
- Five designated high schools; and
- Potential high frequency transit corridor to Wanneroo Town Centre.

East Wanneroo’s activity centres will need to have strong interrelationships with each of these investments if optimal benefits are to be realised, with the configuration and timing of development needing to be informed by the configuration and timing of infrastructure.

7 EAST WANNEROO'S FUTURE ECONOMIC GEOGRAPHY

7.1 EAST WANNEROO ACTIVITY CENTRE HIERARCHY AND STAGING

The indicative development front for East Wanneroo is such that short term local needs of the first stages of the new community will be met by:

- Services and offer within the existing Wanneroo Secondary Centre;
- Establishment of a neighbourhood centre to be potentially co-located with land uses such as education or healthcare; and
- Distribution of local centres and distributed niche commercial offer throughout the urban area.

Extension of the development front to the south and east of the Structure Plan area will generate the critical mass to require the establishment of a District Centre post 2031.

The prevalence and proximity of surrounding industrial lands in Wangara and Neerabup suggests that the requirement for local-market oriented industrial activity is limited. All additional industrial or specialist employment lands are anticipated to be focused on the development of Wanneroo's traded economy over the medium to long term.

7.2 EAST WANNEROO DISTRICT CENTRE

7.2.1 Context

To ensure the delivery of a transit orientated development, the location of the train station should determine the exact location of the District Centre. Notwithstanding the environmental factors which will influence rail alignment, the train station should be situated to maximise patronage and the density of a walkable local catchment of out-bound residents and in-bound workers/customers.

The location of the Centre will therefore be likely to be located in the proximity of the intersection of Elliot and Badgerup Roads in Precinct 4 (Appendix II), where a 360-degree catchment transit-oriented development is possible.

7.2.2 Potential Roles

The East Wanneroo District Centre will function to service the growing local residential catchment whilst realising the significant inbound and outbound opportunities that transit oriented development (TOD) anchored by passenger rail can offer.

Investment in the development and operation of commercial activities within the Centre will therefore be primarily driven by three opportunities:

- Meeting demand for goods and services from the local catchment, across areas including retail, healthcare, education, and municipal services;
- Providing opportunities for small-medium traded economy enterprises to locate within a vibrant, high amenity TOD;
- Providing opportunities for residents to access a diverse range of housing in proximity to TOD commercial activities and transport infrastructure; and
- Provide for opportunities for staged development, with interim lower density business, service commercial, residential and service industrial activities making way for higher intensity uses as the value proposition of the centre matures.

7.2.3 Scale and Configuration

Estimation of plausible future distribution of the employment targets for the City of Wanneroo was undertaken using gravity model techniques. This approach reflects the desire of local economic activity to locate in proximity to customers, as well as potential labour pools. The value proposition for the East Wanneroo District Centre was benchmarked loosely on Maylands District Centre. Maylands was chosen as a benchmark district centre because it's transport-oriented development characteristics such as proximity to housing, retail and employment locations could be also realised in East Wanneroo.

Figure 26 and Figure 27 describes a plausible distribution of floor space (net lettable area) and employment (by PLUC) resulting from a TOD based district centre.

Figure 25- Projected floor space yields required within the East Wanneroo District (sqm/NLA)

Sqm NLA	2026	2031	2041	2050
PRI	-	-	-	-
MAN	-	-	-	-
STO	-	-	-	-
SER	-	1,253	1,612	3,402
SHP	-	4,089	12,519	30,563
RET	-	-	-	-

Sqm NLA	2026	2031	2041	2050
OFF	68	4,705	6,395	14,424
HEL	-	2,800	3,349	8,382
ENT	152	329	253	758
RES	-	374	481	1,016
UTE	-	-	-	-
TOTAL	220	13,550	24,609	58,545

Figure 26- Projected jobs resulting from floor space demand projections

Jobs	2026	2031	2041	2050
PRI	-	-	-	-
MAN	-	-	-	-
STO	-	-	-	-
SER	-	18	23	49
SHP	-	179	547	1,336
RET	-	-	-	-
OFF	3	224	304	685
HEL	-	58	70	175
ENT	2	6	5	14
RES	-	3	4	9
UTE	-	-	-	-
TOTAL	5	488	953	2,268

7.2.4 Timing and Precursors

Based on the proposed staging for the development of East Wanneroo, the District Centre could likely be developed in two stages with the first stage complete in approximately 2031 and second stage complete in 2041. The function of this centre is to meet the needs of the local population, therefore its relationship to other centres is going to be:

- Providing further population catchments and demand for higher order activities in the Wanneroo Town Centre and Joondalup City Centre.
- Removing pressures from convenience and day-to-day activities in Banksia Grove and Wanneroo Town Centre (of which both centres have potential land constraints that may limit their ability to meet these needs).

If the Centre is to be realised as a genuine transit oriented development, a majority of development beyond that of a neighbourhood centre should be preceded by investment in passenger rail. This will help ensure that development in the centre is focused on leveraging this infrastructure, with the configuration being one that integrates the transport infrastructure rather than just sits parallel to it. This will also ensure that early phase development does not then artificially constrain the density and height required to deliver a true TOD as a result of community unrest (e.g. Currambine).

7.3 NEIGHBOURHOOD AND LOCAL CENTRES

7.3.1 Context

In addition to a district centre, the East Wanneroo community will need to be serviced by a network of vibrant neighborhood and local centres.

7.3.2 Potential Roles

In 2016, Wall Street Journal reported that online retailer Amazon is planning to open physical convenience stores as it expands its push into the grocery market. In August 2017, Amazon launched “Amazon Instant Pickup” in five locations across the US. Online purchase of groceries is a convenient option, however, a majority of consumers prefer not to purchase their fresh groceries online, since they like to pick the produce themselves. Indeed, the desire to see, touch, smell, taste or hear products before purchasing is something that is likely to endure. Neighbourhood and local centres will provide the hubs for these types of exchanges and interactions.

In a modern context, centres should not necessarily just contain retail and commercial uses, but also incorporate community, education, health and residential. As such it recommended that wherever possible neighbourhood/local centres are collocated with high schools and future train stations, with local centres collocated with primary schools.

7.3.3 Scale and Configuration

It is anticipated there will be a need for a single neighbourhood centre within East Wanneroo. The exact location of the centre will depend on the alignment of public transport, with it likely to be co-located with a high school in Precinct 19 (Appendix II), east of the rail alignment and south of Lakeview St.

The neighbourhood centre should be orientated toward a high amenity offer that reflects the needs of the local population. Examples of such centres are Angove Street, Angelo Street and Karawara. Each of these centres are also integrated with other uses such as education and health care.

This would equate to a neighbourhood centre with a floorspace breakdown equivalent to:

Figure 27 - Indicative Neighbourhood Centre Configuration

Sqm NLA	2026	2031	2041	2050	Full Buildout
PRI	-	-	-	-	-
MAN	-	-	-	-	-
STO	-	-	-	-	-
SER	-	-	-	-	-
SHP	767	1,327	1,786	2,133	4,181
RET	-	-	-	-	-
OFF	337	583	785	938	1,838
HEL	-	-	-	-	-
ENT	-	-	-	-	-
RES	-	-	-	-	-
UTE	-	-	-	-	-
TOTAL	1,104	1,910	2,571	3,071	6,019

Source: Department of Planning Lands and Heritage South Perth Land Use Employment Survey 2015-17. Department of Planning, Lands and Heritage 2018, FAR lane 2018.

Based upon the State Planning Policy 4.2, indicates a neighbourhood centre should service an indicative population of 2,000 to 15,000 within a 1km radius. Taking into consideration the rapid population growth projection between 2021 and 2031 in Figure 15, demand for a neighbourhood centre is likely to be realised between 2026 and 2031.

7.3.4 Timing and Precursors

Based on the proposed staging for the development of East Wanneroo, the neighbourhood centre could precede or develop concurrently to the district centre, with catchments generally developing in a direction from the existing development front to the east and north east, then moving southwards.

Absolutely critical in the development of the entire Structure Plan area will be the protection of the future passenger rail corridor through early reservation. This is just as important to the early development of neighbourhood centres, as retrofitting rail corridors is always challenging and likely to result in sub-optimal alignments with limited catchment (i.e. the recent convention of locating rail in road corridors which makes great use of existing reserves but limits the catchment and creates access challenges).

7.4 HOME BASED BUSINESS

7.4.1 Context

One of the challenges is identifying home-based businesses. Census of Population and Housing includes a variable Method of Travel to Work. This variable records the method(s) a person used to get to work on Census Day. One of the responses to this variable is "Worked from home". This response would capture home based businesses, as well as workers who normally work outside of the home but worked from home on Census day. i.e. A Wanneroo resident who works four days a week in Perth CBD, and one day a week (Census Day) from home.

While working from home is an important behaviour, particularly with regard to demand for infrastructure, if the job is not located within the City of Wanneroo, then it will not contribute to the employment self-sufficiency of the area. To isolate the genuine home-based businesses, place of work by SA2 is cross tabulated with place of residence by SA2 and filtered to isolate those who responded "worked from home". This is an imperfect measure as it counts those who have a residence and place of employment in separate locations within the same SA2 as being home based. This over count is likely to be insignificant.

Analysis of home-based business within the City of Wanneroo indicates that there were approximately 2,560 home-based businesses operating at the time of the 2016 Census. This equates to approximately 5% of total employment and accounts for 2.64% of the labour force. A rapidly growing sector, the rate of employment residents operating a business from home in the City of Wanneroo increased by about 7.5% since 2011. When benchmarked with other areas in the north of Perth the rates of homebased employment in the City of Wanneroo are low.

7.4.2 Potential Impacts

Applying the benchmark ratio (3.28% of labour force being home based) to the future labour force of East Wanneroo, indicates the potential for 1,880 home based businesses at full build out. Key factors in determining the development of home-based businesses within East Wanneroo are:

- The City of Wanneroo's Town Planning Scheme and the extent to which it supports and encouraged home-based business; and
- The urban form of East Wanneroo and the extent to which the design manages the externalities associated with located employment in residential areas.

7.5 PUBLIC PURPOSE

7.5.1 Context

Public purpose uses such as education and community service are often located outside of activity centres, with schools, child care and health and wellbeing uses distributed through the urban fabric. In contrast with other activities which are provided by the private sector, many of these uses are publicly funded by state and local government. It has been assumed that the normal mechanisms for ensuring adequate provision of this type of activity will hold.

7.5.2 Scale and Configuration

The Department of Education currently requires the following provision of school sites².

- Primary Schools - one site for between 1,500 and 1,800 housing units for government schools; and
- Secondary Schools - one site for every four or five primary schools for government.

Whilst the basis for providing non-government schools will be different from government schools, their provision at the average ratio of one non-government to three government primary schools and one to two for secondary schools may be an appropriate basis for planning.

Applying these ratios to East Wanneroo indicates the following requirements at full build out.

Figure 28- Estimated Education Infrastructure Requirements

Requirement	
Government Primary School	25
Government High School	5
Private Primary School	9
Private High School	2
Total	41

According to the Land Use and Employment Survey Data collected by the Department of Planning, Lands and Heritage 2015-17, high schools in the North West corridor typically accommodate 175 jobs each. An analysis based on primary school staffing ratios indicates that each primary school could be expected to

² (WAPC Policy DC 2.4, 1998)

accommodate 45 jobs. This equates to 2,500 education related jobs within East Wanneroo at full build out.

For TAFE colleges (technical colleges), the general requirement is one site for every 60,000 to 70,000 population. However, this may vary because of the particular demographic characteristics of the area. The growth in population at East Wanneroo will require a TAFE college, however, in line with the Activity Centre hierarchy this activity should ideally be accommodated within the Wanneroo Secondary Centre.

In the event that a TAFE cannot be located with the Wanneroo Secondary Centre, then it could be accommodated within the East Wanneroo Structure Plan area, and may specifically be targeted to align with agri-industry/peri-urban food activity. Additionally, due to the increasing availability of external/online education resources offered by tertiary institutions there will likely be a reduced need for a campus within East Wanneroo.

7.6 RECREATION AND PUBLIC OPEN SPACE

7.6.1 Context

The new suburbs in each of the fringe growth sub-regions of Perth already have a shortage of active playing fields³. Wanneroo is no exception. There is an opportunity to provide high quality active recreation space within East Wanneroo to not only support the needs of future residents but to address the currently unmet demand from residents in the surrounding area.

The Structure Plan area is served by a planned facility adjacent to Whiteman Park (to the south east of the Study Area). Two district open space facilities are required within the Structure Plan area, the location of which will be determined through district structure planning. Local structure planning will determine the location of local reserves and open space. The employment potential of these open spaces is largely dependent on the extent to which commercial activities are allowed to operate.

7.6.2 Scale and Configuration

Regional reserves are crown land set aside for a particular purpose. Every such reservation has its description and designated purpose registered on a Crown Land Title. Once created, a reserve is usually placed under the care, control and management of a State Government department, Local Government or incorporated community group by way of a Management Order. Historically a number of small kiosks have been approved on recreation reserves, however typically large café or restaurant style commercial developments (such as those seen in private recreation facilities such as golf courses) have not been allowed on the basis that these developments are not ancillary to the purpose of recreation. As such, it is strongly recommended that in the creation of recreation reserves in East Wanneroo that, as far as practicable:

- Designate a purpose for the reserves that does not preclude commercial development; and

³ [http://www.dsr.wa.gov.au/support-and-advice/facility-management/developing-facilities/public-open-space/active-open-space-\(playing-fields\)-in-a-growing-perth-peel](http://www.dsr.wa.gov.au/support-and-advice/facility-management/developing-facilities/public-open-space/active-open-space-(playing-fields)-in-a-growing-perth-peel)

- All management orders for the reserves include the power to lease.

7.7 INDUSTRIAL INVESTIGATION AREA NORTH

7.7.1 Context

This proposed industrial precinct (precinct 22 in Appendix II), located in the North of the Study Area is currently designated within the District Structure Plan as being subject to future planning. The site is bordered by a future Flynn Drive extension to the south, and Old Pinjar Road to the west. It is located in close proximity to the existing Neerabup Strategic Industrial Area, Wanneroo Golf Course, and Barabagallo Raceway.

The precinct is currently designated as a Priority 1 Drinking Water Source Area, as well as having a pending mining tenement over much of the site. Whilst largely unencumbered by proximity to residential development, the site's south-west may potentially interact with the easternmost boundary of Banksia Grove external to the Study Area, and the Mariginiup North Rural Precinct, Mariginiup Wetlands Precinct, and the Mariginiup NE Rural Precinct within the Study Area.

7.7.2 Potential Comparative Advantages and Roles

The area under investigation to the north of a future Flynn Drive extension has a range of potential comparative advantages including:

- Strong East-West linkages for freight and passenger transport resulting from the extension of Flynn Drive (connecting to Neaves Road).
- Potential ability to leverage any available service and shared infrastructure located either within the Neerabup industrial area or Mariginiup East Precinct.
- Potential ability to develop linkages with surrounding horticulture and other intensive food production and manufacturing activities.

Overall, the location of the site suggests that it may be suitable to act as a potential industrial expansion area to the greater Neerabup Industrial Area. Analysis conducted for the City of Wanneroo's Employment Lands Study, however, indicates that there is likely to be sufficient industrial lands within the City, suggesting that this is a long-term strategic asset. The site may also be an appropriate location for agri-industry and business related activities, as well as for large-scale renewable energy infrastructure dependent upon the ultimate needs of surrounding industry.

7.7.3 Recommendations

Given the significant employment lands already planned and implemented, and the need to develop mature agglomerations of activity, it is suggested that this asset remain a strategic investigation area that is positioned to enhance the ultimate value proposition of the Neerabup and Pinjar industrial areas.

In doing this, any future land uses on this site should realise regionally significant employment outcomes.

7.7.4 Potential Impacts

Given uncertainty over its economic application, a wide range of employment yields may result from development of the Precinct. Figure 30 describes the potential yields realised if development was to occur at a similar intensity to benchmark locations (Wangara Industrial Area, Landsdale Industrial Area and Jandakot Industrial Area). The potential job yield for the site could support to the growth of strategic focus areas (outlined in the economic development strategy) such as agribusiness, advanced manufacturing and clean technology (see technical appendix for calculation method).

Figure 29- Industrial Investigation Area Potential Yields

Benchmark Location	Employment Intensity	Potential Yield for Industrial Investigation Area
Wangara Industrial Area	100 Jobs/ha	9,200 Jobs
Jandakot Industrial Area	90 Jobs/ha	8,280 Jobs
Landsdale Industrial Area	72 Jobs/ha	6,625 Jobs

7.8 EAST INDUSTRIAL INVESTIGATION AREA

7.8.1 Context and Scale

The East Industrial Investigation Area (precinct 23 in Appendix II), is located within the Study Area's north east, is designated as for employment purposes (subject to further planning within the District Structure Plan). Bisected by the East Wanneroo Bypass, the Precinct has linkages to Sydney and Neaves Road.

Much of the land is recognised within the Structure Plan as being designated a Priority 1 Drinking Water Area, and has a pending mining tenement over it.

7.8.2 Potential Comparative Advantages and Roles

The precinct is a substantial land asset within the Study Area that has the potential to perform an important economic function over the medium-long term. Given its scale, and the potential timeframes before development, there is significant uncertainty over the highest and best uses for the site, however, if planning constraints in place over Priority 1 areas remain consistent, this area would be strongly positioned to utilise some, or all, of the groundwater and stormwater assets generated from urban development, as well as output sustainable power and water generation infrastructure (including a potential micro-grid) to deliver reliable and cheap energy and water to economic activities that will not impact upon groundwater resources. In particular, if a combination of low-cost water and energy is made available, out-of-soil horticulture may be a competitive use in this location.

7.8.3 Recommendations

Given the significant uncertainty over the site's context into the future, detailed scoping of the precinct should occur when triggered by one or more of the following events:

- Confirmation of route, configuration and timing for development of the East Wanneroo Bypass and passenger rail line;
- Identification of a need for a location for hosting of sustainable service infrastructure within the Study Area, or broader catchment; and
- Identification and active investment in opportunities specific to the site as part of a City of Wanneroo/Regional Peri-Urban Food Strategy.

Given its potential importance as an economic asset, it is not anticipated that residential development be contemplated for this precinct.

7.8.4 Potential Impacts

Given uncertainty over its economic application, a wide range of employment yields may result from development of the Precinct. Figure 32 describes the potential yields realised if development was to occur at a similar intensity to benchmark locations (Neerabup and Bibra).

The potential job yield for the site could support to the growth of strategic focus areas (outlined in the economic development strategy) such as agribusiness, advanced manufacturing and clean technology.

Figure 30- Benchmark Location Employment Intensity Potential Yields for the East Industrial Investigation Area

Benchmark Location	Employment Intensity	Potential Yield for Mariginiup East
Neerabup Agri-Industry Activity	61 Jobs/ha	5,120 Jobs
Bibra Lake Industrial	12 Jobs/ha	1,010 Jobs

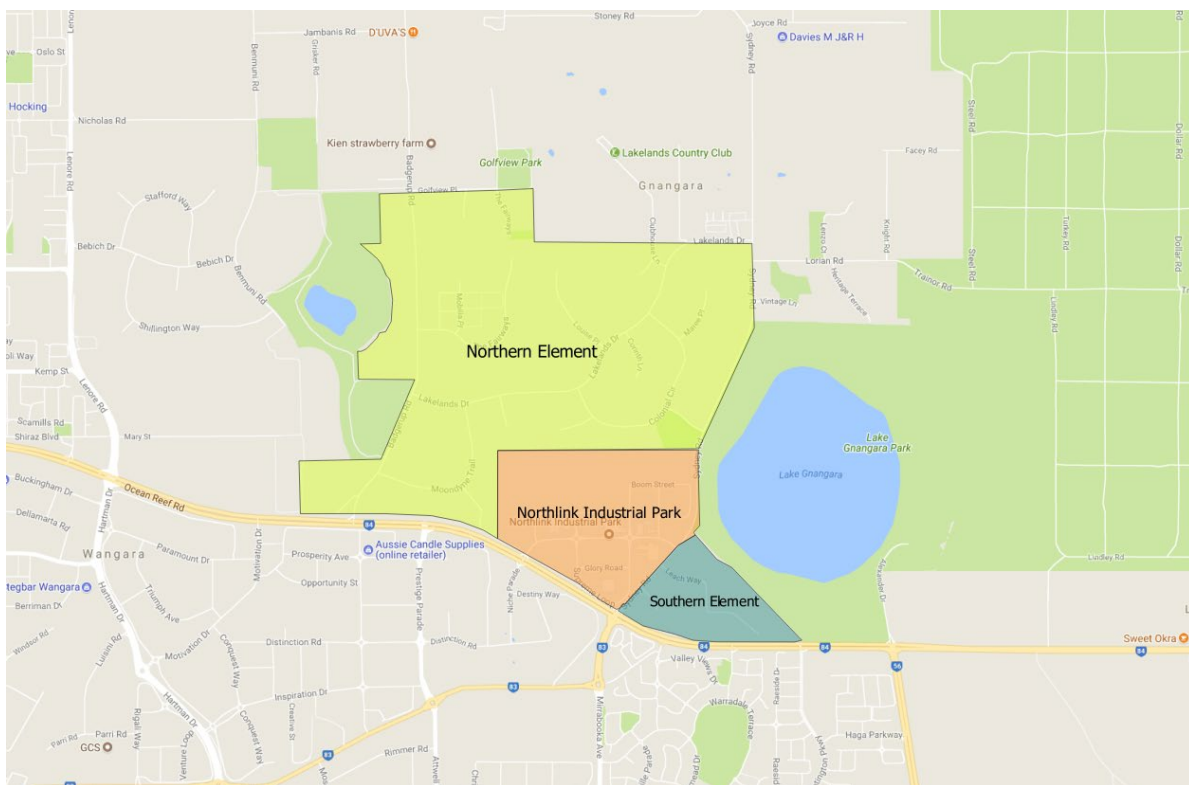
7.9 GNANGARA SOUTH PRECINCT

7.9.1 Context and Scale

The Gnangara South Rural Precinct is an area made up of three distinct land elements in the south-east of the site (Figure 33). For the purposes of this Study, these are referenced as:

- Northern Element (precinct 5);
- Northlink Industrial Park (precinct 6); and
- Southern Element (precinct 7)

Figure 31-Gnangara South Rural Precinct Map



Source: East Wanneroo Structure Plan (2011).

The North-West Regional Planning Framework identifies the northern element as 'urban expansions, and the Southern element as 'urban investigation', whilst the Northlink Industrial Park is a new industrial development with lots currently being sold.

The precinct is abutted by Ocean Reef Road in the south, with Badgerup Rd serving the western aspects, and Sydney Road the east. The Southern element of the Precinct is relatively isolated and disjointed from the remainder of the Structure Plan area.

7.9.2 Potential comparative advantages and roles

Given that the Northlink Industrial Park is currently under development, commentary on future comparative advantages and roles focuses on the Northern and Southern Elements.

The Northern Element's future context may include:

- Proximity to future passenger rail station;
- Proximity to a future District Centre; and
- Industrial linkage through to Ocean Reef Rd and Wangara Industrial Area.

Given the Northern Element's designation within the Planning Framework, this precinct will be appropriate as a transition zone into the East Wanneroo District Centre TOD, with capacity for development of approximately 4,000 dwellings.

The Southern Element's future context will likely be defined by its proximity to the Industrial Park and its access to Gngangara and Sydney Roads, as well as the spine of Leach Way. Given these characteristics, the Southern Element is likely suitable for targeted highway service commercial offer servicing passing trade along Gngangara and Sydney Roads that complements and expands the offer of the Wangara Industrial Estate.

7.9.3 Recommendations

Based upon the currently understood site context for the Gngangara South Rural Precinct it is recommended that:

- The Northern Element should be planned as a predominately residential precinct that builds in intensity as it transitions in closer proximity to the future District Centre; and
- Facilitate transition of Southern Element to allow for service commercial uses that cater for users of the Wangara Industrial area, and passing trade along Ocean Reef Rd.

7.9.4 Potential Impacts

Development of the Southern Element could potentially yield a total of 15 ha (NLA) of service commercial floor space, which could host between 1,000 and ,1500 jobs.

7.10 RETENTION OF RURAL ACTIVITIES

Any existing rural activity which employment generating activity should have its operations protected until urban staging makes activity untenable/is rezoned to urban uses. This may mean utilisation of buffers if required. It would be contrary to the economic development goals of the City to prematurely constrain an existing employment activity.

8 IMPLEMENTATION STRATEGIES AND GUIDANCE FOR FUTURE PLANNING

To ensure the intent of the East Wanneroo Structure Plan's Economic Development Strategy is realised, local structure planning of individual precincts that encompass anticipated economic activity should include detailed consideration of economic development considerations including:

- Prioritisation of employment lands;
- Staging of development to maximise long-term economic development outcomes;
- Deconstraining early-stage economic development activities; and
- Estimation of impacts.

This chapter outlines the minimum considerations across each of these areas that these local structure plans should show consideration of.

8.1 PRIORITISE EMPLOYMENT LANDS

The North West Sub-Regional Framework recognises the importance of prioritising and protecting employment lands if required employment outcomes are to be realised, as follows:

"Protect employment land from other competing land uses that could limit its ability to be used for employment purposes."

Within East Wanneroo, this will mean ensuring that:

- Sufficient time and effort is made during detailed planning and development phases to support the sustainable relocation of existing rural enterprises including those that require specific site characteristics, buffers etc. Ideally these relocations will occur to other suitable sites within the City of Wanneroo and in the interim the existing buffers and protects of rural enterprises must be maintained; and
- The optimal use and configuration of sites identified for medium-long term economic development initiatives is revisited at identified key planning and development milestones.

Anticipated milestones for each site are summarised in Figure 34.

Figure 32. Precursor Milestones to Planning for Development of Key Economic Sites

Site/Precinct	Anticipated Milestones to Trigger Detailed Planning	Anticipated Timeframe
East Wanneroo District Centre (Precinct 4)	Establishment of (passenger) rail corridor reserve	Medium-Long Term
	Confirmation of high frequency transit corridor to Wanneroo Regional Centre	Medium-Long Term
East Wanneroo Neighbourhood Centre (Precinct 19)	Confirmation of the location of urban infrastructure including high schools and regional sporting reserve, including the formal commencement of scheme amendments to gazette planning reserves	Short-Medium Term
Industrial Investigation Area North (Precinct 22)	Industrial development found to be constrained or not able to be realised within Neerabup and surrounding industrial areas to adequately keep pace with market demand over an extended period	Long Term
	The site is identified for a specific strategic economic development role that will bring about impacts of Regional significance	Medium-Long Term
	Confirmation of the route, configuration and timing of the East Wanneroo Bypass and Flynn Drive Extensions, including the formal commencement of scheme amendments to gazette planning Reserves	Medium Term
East (Precinct 23) Industrial Investigation Area	Confirmation of route, configuration and timing for development of the East Wanneroo Bypass and passenger rail line, including the formal commencement of scheme amendments to gazette planning reserves	Medium-Long Term
	Identification of a need for a location for hosting of sustainable service infrastructure within the Study Area, or broader catchment	Medium-Long Term

Site/Precinct	Anticipated Milestones to Trigger Detailed Planning	Anticipated Timeframe
	Identification and active investment in opportunities specific to the site as part of a City of Wanneroo/Regional Peri-Urban Food Strategy	Medium Term
Gnangara South (Precincts 5,6,7)	Northern Element - confirmation of passenger rail corridor and location of the DSP is confirmed, including the formal commencement of scheme amendments to gazette planning reserves	Medium-Long Term
	Southern Element - transition to urban land uses, ensuring strong connections through to the adjacent industrial development and the greater Wangara development.	Short Term
East Zone Precinct (Precincts 8,9,10,11,25)	Successful development of Mariginup East, Jandabup and Gnangara East precincts.	Long Term

Local structure planning should be triggered once the milestones identified in Figure 34 have been arrived at, or with justification as to why earlier development would benefit the economic development aspirations of the City of Wanneroo. Justification must include reasoning beyond the early introduction of a consumer population to support population-driven activity in adjacent centres.

8.2 STAGING TO ENSURE OPTIMAL LONG-TERM ECONOMIC DEVELOPMENT OUTCOMES

The North West Sub-Regional Framework articulates a strong strategic planning logic as to the orderly staging of development that is particularly valid for the East Wanneroo Structure Plan Area:

“For proposals to be considered ahead of the timeframe, it will need to demonstrate that:

- There is a demand for such development that cannot be readily met elsewhere in the Perth and Peel regions in the same timeframe;
- The proposal would be a logical expansion and consolidation of the existing urban form;

- The proposal supports the economic development of the area, with a focus on the provision of employment opportunities for the projected population within the sub-region;
- The development can be readily accessed; and
- The land can be efficiently and economically serviced.”

For the North West Sub-Region to minimise the impacts of continued growth outpacing employment, developments like East Wanneroo must ensure that any future shifts from ‘under investigation’ areas to an ‘urban zoning’ should align with this logic. In particular, future detailed planning needs to ensure that economic lands and investments precede, or occur concurrently to, residential development.

In addition, development of commercial activity should reinforce the primacy of the proposed activity centre network, with early stage commercial activities (such as large format service commercial development) accommodated for within the ultimate boundaries of the District and Neighborhood Centre’s rather than along corridors or within industrial areas (the exception being in the Southern Element of Precinct 7 along Gngara Road where such activity would act as an extension and support to the Wangara Industrial Estate).

Finally, interim uses should also be identified and resourced within the ultimate activity centre locations to encourage the local community’s orientation towards these sites. This may include development of short-term entertainment and retail precincts and provision of activated public open space/festival spaces.

8.3 DECONSTRaining ECONOMIC ACTIVITIES

Local Structure Planning of each of the key economic precincts and centres discussed in this study should include consideration of the scope, feasibility and implementation of initiatives that will be key to deconstraining the area and realising its economic potential. Such activities may include:

- Ensuring that future regional freight and passenger transport infrastructure routes and configurations take into account the servicing of East Wanneroo Activity Centres and economic precincts;
- Ensuring that the future passenger rail alignment and location of train station/s allows for development, and precedes development of intense, diverse and mature transit-oriented activity centres;
- Considering the roles that ground water allocations no longer required for traditional rural uses may play in the realisation of economic development aspirations;
- Support for continued development of the City of Wanneroo’s peri urban food economy, with consideration of opportunities including production, manufacture, distribution, retailing, education and hospitality; and

- Opportunities to utilise next-generation technologies and techniques to realise competitive advantages that may result from the provision of lower than market rates, and/or improved reliability, for energy and water. This may include consideration of micro-grid solutions if trunk servicing become the inhibitor to development in regard to either timeframes or costs.

8.4 PLANNING FRAMEWORKS TO ENCOURAGE HOME-BASED AND MIXED-USE BUSINESSES

With an opportunity to capture a minimum of 5% of total employment within the area, or 3.28% of the labour force at current ratios, home-based businesses should be considered a vital part of the economic story of East Wanneroo. Whilst there is potential for 1,880 home based businesses at full build out, supportive planning frameworks should encourage this number higher compared to the expected or predicted trajectory.

Realising this will require each LSP to recognise and prioritise home-based businesses as a high-priority employment generating activity. Moving the perception of these employers from stay-at-home parents having 'hobbies' to professionals running legitimate businesses will be important, and strategies to encourage and support home-based businesses should include developing home-based business service hubs (printers, mail centres, meeting spaces).

A review of the City of Wanneroo's Town Planning Scheme will also need to occur to consider its limitation on size and scale (maximum number of employees), and the parking requirements associated. It is important to plan for the longer term in East Wanneroo, and the extent to which autonomous vehicles, ride share and take up of active transport will reduce the need for car parking at home-based businesses removes one of the major issues currently associated with their scale.

Finally, LSPs should encourage early-stage residential development in the major centres in a form that is ultimately designed for, or at least does not preclude, conversion to commercial space in the long term. Design guidelines and approvals could be specifically linked to the presence of home-based businesses in these locations. Such a strategy would see short term development of centres with some small employment generating activities which help form the nucleus of more active centres. Co-working spaces should also be encouraged, as the desire to work *from* home should also be extended to a simple desire to work *near* home.

8.5 REPORTING ON IMPACTS

Local Structure Plans and Activity Centre Plans for precincts containing economic assets identified in this Strategy must provide detailed estimates of the impacts of proposed plans and initiatives on the vision and employment yields described within this study in a minimum of 5-year increments to full build-out. Plans should document and justify benchmarks for this assessment, with a sensitivity analysis provided to allow for understanding of the risks of development underachieving.

Finally, plans should also outline the governance and implementation structures that will ensure achievement of these outcomes, as well as any critical dependencies that may impact upon the realisation of desired outcomes (e.g. third party investments).

9 APPENDIX I – INDUSTRIAL AND COMMERCIAL JOB ESTIMATION

METHOD

The method of calculating employment intensity for East Wanneroo employment zones utilises the Department's LUES data as the basis to benchmark the potential employment intensity against comparative metropolitan area (including Wangara industrial area).

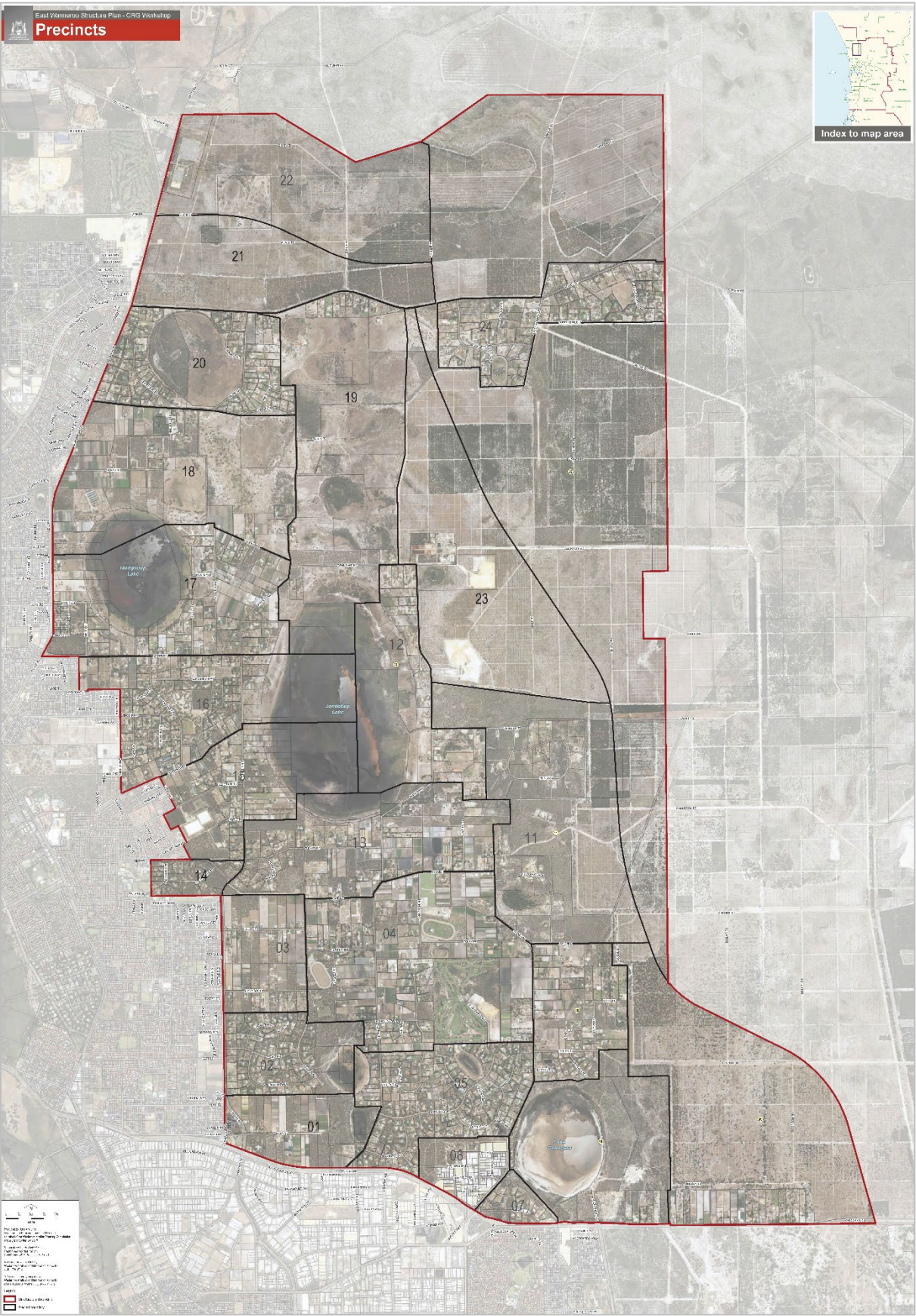
Our methodology involves manually dividing the number of reported jobs from each benchmark industrial center in the Department's Land Use Employment Survey by the reported NLA. For example:

LUES reports 11,303 industrial jobs in the Wangara industrial centre and 113.3195 Ha (NLA) - which equals 99.74 jobs per Ha of NLA. Data sets for the benchmark industrial centers were acquired from <https://www.planning.wa.gov.au/lues.aspx>

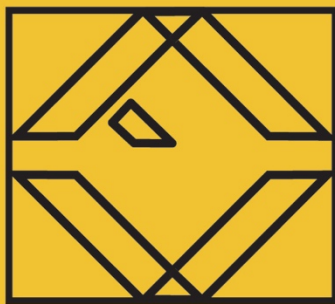
Dividing the NLA from the LUES by the gross area measured in GIS to calculate NLA to gross area ratios (between 0.18 and 0.21). For the purpose of this analysis we assumed a ratio of NLA to gross area to be 0.2. Therefore by multiplying the gross employment areas provided by the Department by 0.2, we can estimate the NLA.

The number of jobs is then calculated by multiplying the estimated NLA by the jobs/Ha from the LUES. For example, Jandabup Industrial Investigation Area was reported to have 450Ha, which equals approximately 93 Ha of NLA and multiplying by 99.74 jobs per Ha (NLA) equals 9,275 - Report rounds to 9,300.

10 APPENDIX II – EAST WANNEROO PRECINCT STAGING (INDICATIVE)



Source: Department of Planning, Lands and Heritage (2018)



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