

# Tomorrow's Kwinana



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## Employment and Economic Development Study



## Economic Analysis for Local Planning Strategy

City of Kwinana  
April 2019

***ERA***

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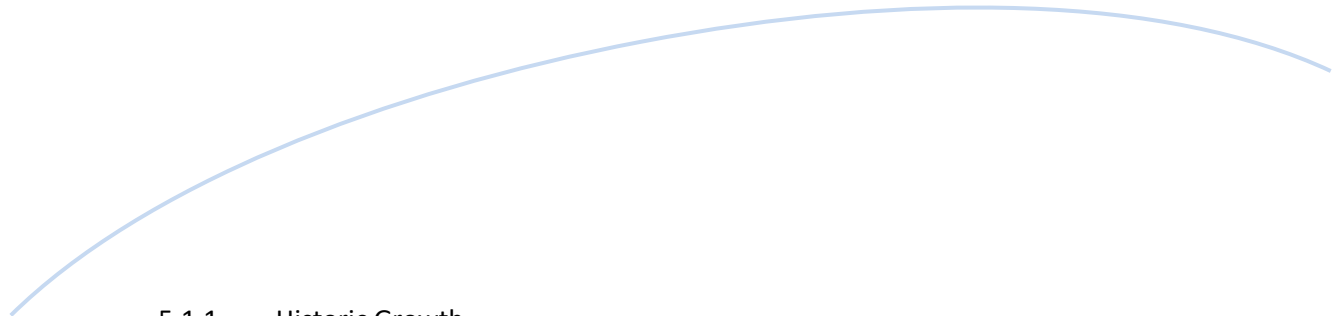
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## Executive Summary

### Population

In common with all of the municipalities in the Perth South Metropolitan and Peel regions, Kwinana is experiencing substantial population growth. The population of the City of Kwinana is in the middle of a strong growth phase. It grew from 23,986 in 2006 to 30,697 in 2011 and to 40,058 in 2016.

The City's population is projected to more than double to 85,158 by 2036. This has several direct implications:

- An increased resident workforce, with the consequent demand for increased employment opportunities;
- Increased demand for activity centre floorspace (retail, commercial, services) – this will primarily affect existing activity centres in the City.

The City is bounded to the north and south by the much larger Cities of Cockburn and Rockingham respectively. This constitutes its immediate local region. Together they contain the main local and regional employment centres: The Western Trade Coast (the Kwinana / Rockingham Industrial Complex and Henderson), the Rockingham Strategic Metropolitan Centre and Stirling base.

The region is growing quickly: between 2016 and 2036 the population of the three cities combined will almost double to 436,000. Kwinana is somewhat smaller in population than the other two, constituting around 20% of the total by 2036. To the south the Peel region is also growing strongly and its population will almost double to 248,000 by 2036. Population growth will bring proportionate increases in the resident workforce and demand for employment.

### Employment

While employment self-containment (i.e. the proportion of resident workers who are employed within the boundaries of the Local Government Area or region) for the City of Kwinana is quite low (18.5%), a further 25% of resident workers are employed in the adjacent Cities of Rockingham and Cockburn. Employment in the Cities of Kwinana, Rockingham and Cockburn overall accounts for 43.4% of employment for Kwinana working residents. Employment provision for Kwinana residents thus requires a regional view: the future of Rockingham City Centre and of Henderson within the Western Trade Coast is important to Kwinana residents.

One aspect of employment for Kwinana residents that has proved particularly problematic is the unemployment rate. This is currently (and consistently) nearly twice that of Greater Perth and Western Australia as a whole.





## Employment Growth

Employment in Kwinana is not keeping up with population growth. Since 2005/06 employment in Kwinana has remained steady at around 15,500 jobs, while the population has increased from 24,000 to over 42,000 in 2018.

The City and its local region currently have quite high jobs capacity, expressed as employment self-sufficiency (i.e. the ratio of total jobs to the resident workforce): around 78% for the City of Kwinana and 73% for the local region overall. If these ratios were to be maintained as the population grows, then another 12,000 jobs need to become available in the City of Kwinana, and 34,100 jobs in the local region overall between 2018 and 2036. This is an enormous task.

A proportion of these jobs (around one-third) will be population-driven, namely jobs that arise to directly service the local population. They include local retail and business services, health services, education services (particularly primary and secondary education) and personal services. However, this leaves 6,900 jobs in Kwinana and 18,500 jobs in the local region that must be found in strategic and externally oriented jobs. These jobs are typically found in the Western Trade Coast and major city centres, such as Rockingham.

Providing places for employment for Kwinana residents is thus an important objective for City land use planning. These jobs also need to match the skill levels of resident workers. They also need to account for changes, likely in the form of upgrades, in education and skill levels as the population changes.

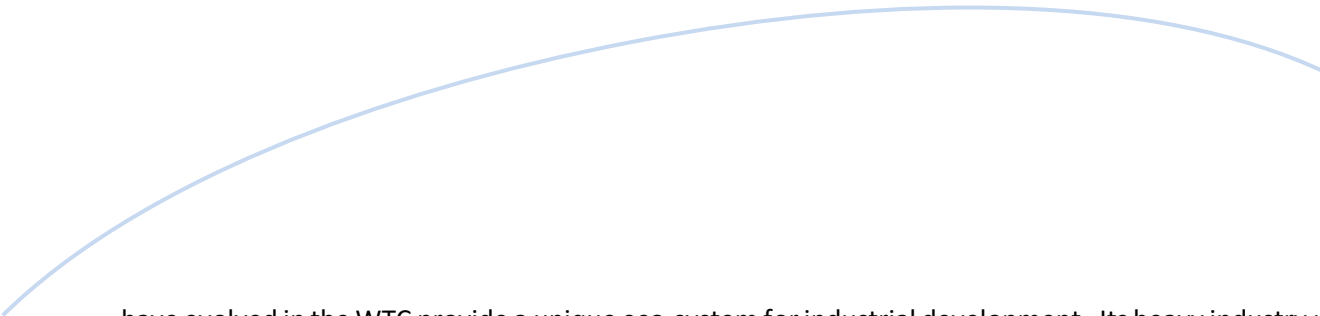
## Employment Locations

### *Western Trade Coast*

Understanding the industry base in Kwinana is made slightly more complex because it includes the State's premier heavy industry area. As such, it fills a particular economic role in the economy of the State. This role influences the mix of industry in Kwinana and its relative position within the broader economy.

The Western Trade Coast (WTC) includes the Kwinana Industrial Complex - the southern portion of which is in the City of Rockingham – and Henderson in the City of Cockburn. As a large well established and complex port-related heavy industry zone with access to a highly skilled labour pool, the Western Trade Coast is unique in Western Australia and unusual, even in international terms. Its core industries are minerals and chemicals processing and production, with associated bulk transport and distribution. These are all highly integrated and have grown over time.

It has strong competitive advantages, in particular its highly sophisticated inter-organisational relationships and networks. By one count there are over 158 interconnecting pipes and conveyors between organisations in the Kwinana complex, with off-take from one organisation forming the intake for another. New entrants add to the network. For example, chemical companies will provide inputs to lithium processing and processing waste is used as feedstock to concrete production. As an indication of the importance of this network, for example, the Kalunborg Eco-industrial Estate in Denmark, often held as a good example of industrial symbiosis, has just 30 reported synergies. The number of synergies that



have evolved in the WTC provide a unique eco-system for industrial development. Its heavy industry uses are protected by a buffer zone. This allows the heavy industry operations to continue and is a key element of its competitive advantage.

Although there are potential areas for expansion of the core industries in the buffer zone, principally at Latitude 32, these are undeveloped, with no time frame for critical land assembly and land servicing tasks to be undertaken. There is a current general shortage of suitable land for core industries. New entrants are increasingly seeking very large sites, with lithium processors requiring sites of 35 – 70 ha and these are practically non-existent.

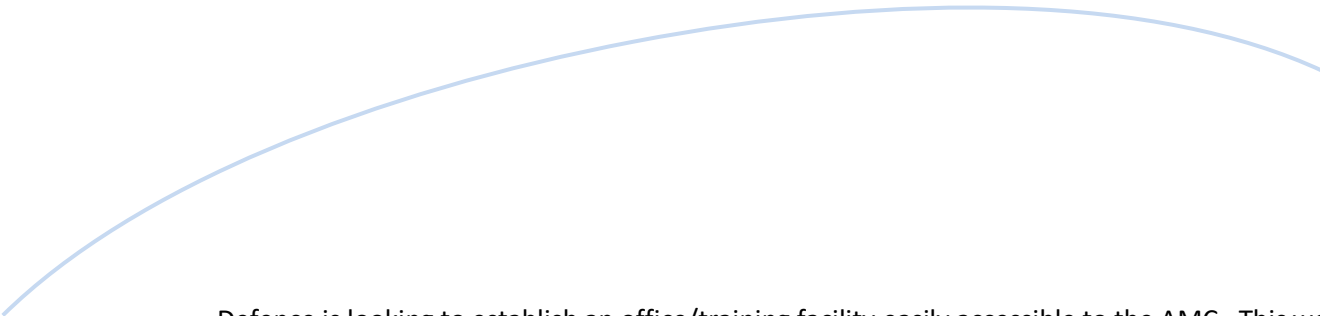
WTC employment has grown from 9,000 in 1997 to 14,350 in 2017, a 59% increase. Over the same period, floorspace has increased from 0.67 million m<sup>2</sup> to 1.84 million m<sup>2</sup>, a 176% increase, indicating a sharp reduction in employment intensity. Both the Kwinana Industrial Complex and Henderson have grown over the period, with floorspace increasing by 146% and 302% respectively and employment by 49% and 87% respectively. In each these locations employment density has reduced, with floorspace growing more than employment by some margin. In the Kwinana Complex the major land uses of Manufacturing and Storage/Distribution have shown the strongest floorspace growth. In Henderson, in addition to substantial growth in Manufacturing and Storage/Distribution floorspace, there has also been strong growth in Office / business, Service industry and Utilities/communications floorspace.

The employment picture is quite different: for both the Kwinana Complex and for Henderson, all industry sectors have shown either minimal growth or a decline. The exception is Office/business uses, which has grown strongly in employment numbers and proportion. Office/business uses now account for over 50% of all employment in the Western Trade Coast. While some of this employment is directly related to the on-site industrial activity, much of it is not specific to the land uses on the sites on which the offices are located.

There are several drivers of new and expanded projects in the Western Trade Coast:

- 1 Defence industries. These are mostly concentrated in and around the Henderson Australian Marine Complex (AMC). The vision is for Western Australia to be the principal location for delivery of all maintenance and sustainment requirements for Australia's submarines and frigates. Some points to note:
  - Time frames are long: the main defence industries projects will not be fully operational until the early 2030s.
  - Available information indicates that the AMC is near capacity and is congested. Some proactive management is needed to ensure land is available in the area to ensure that the defence opportunities can be fulfilled. LandCorp has some adjacent land which it is planning to develop by 2021 and this will provide some expansion capacity to activities in the AMC.



- 
- Defence is looking to establish an office/training facility easily accessible to the AMC. This would put considerable pressure on land availability in the WTC if it were located there.
  - In the main defence assets maintenance phase (i.e. after 2030) substantial number of Defence personnel might be based in and around Kwinana for extended periods, requiring facilities including housing, social services, cafes etc. This is an opportunity for Kwinana as a nearby, attractive and well-serviced residential location.
  - There is a need for skills development around defence. The Henderson campus of South Metropolitan TAFE provides specialist engineering, fabrication and shipbuilding courses and both this campus and the Kwinana TAFE campus would be good locations to expand to provide semi-professional and trade training for the defence industry.
- 2 New energy materials – one project lithium processing plant is now in construction with another in prospect. There is a considerable interest in taking new energy metals (lithium, nickel and cobalt) processing as far down the value chain as possible (e.g. refined lithium chemicals, anodes and cathodes, separators and energy storage batteries). There is potential for this to be a main activity in the WTC in the future. This will only occur if land is available.
  - 3 Oil & gas (processing and new projects) - the Henderson area of the WTC has had fabrication and assembly business in the past for the construction phase of oil and gas projects the north-west. This phase is now largely complete. However, there are several substantial NW gas expansion projects in prospect and this might be an opportunity for the AMC and the Henderson common user facility (CUF).
  - 4 Waste-to-energy: construction of a waste-to energy plant is underway, for completion by 2021.

Other drivers for WTC development include extension and expansion of existing activities, for example:

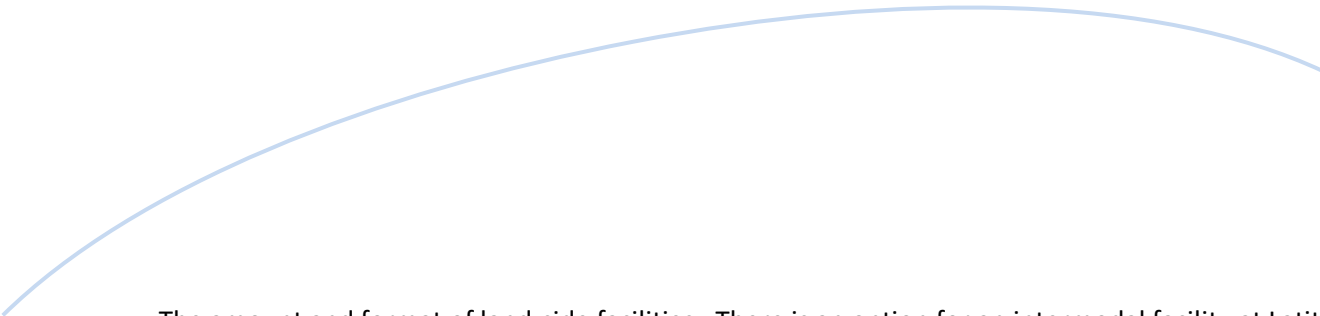
- Grain exports
- Petroleum products processing and handling

Some existing industries would benefit from the proximity of a container port at Outer Harbour. For example, some specialist grain is containerised, as are lithium chemicals. However, the bulk ports are also vital to the well-being of the WTC overall and there is some evidence that they require upgrading.

### **Westport**

The Westport Taskforce is currently considering options for the future of port facilities for Perth and there are scenarios including the relocation of container facilities to Outer Harbour in Cockburn Sound. The possible economic benefit to Kwinana from an expanded port at Outer Harbour is dependent on the ultimate form that the port and its associated transport and logistics infrastructure takes. There are many aspects of the future of Outer Harbour which are still to be decided, for example:

- Whether a transition of container traffic from Fremantle is in whole or in part – this is clearly a question of scale;
- Whether any transition occurs gradually or quickly; and

- 
- The amount and format of land-side facilities. There is an option for an intermodal facility at Latitude 32. However, intermodal facilities are large land users and relatively small employers. Moreover, intermodal facilities do not require the air quality buffer that protects many of the uses in the Kwinana industrial complex. While the proximity of a container port will be beneficial to many current and prospective industries, an open question is the extent to which the transport, storage and logistics aspects of outer harbour operations assist the Kwinana economy, beyond the employment of a relatively small, and diminishing in relative terms, number of transport workers, especially in an age of increasing automation of these activities. Detailed analysis is therefore required on whether this is the best use of scarce land capable of heavy and strategic industry uses in the WTC.

### ***Kwinana City Centre***

The Kwinana City Centre (along with other activity centres in the City) will expand with population growth. The City's Commercial Centres Strategy shows capacity for the retail floorspace in the Centre to grow from 26,400 m<sup>2</sup> in 2016 to around 45,000 m<sup>2</sup> by 2031 and with continuing population growth it is on track to have capacity for around 50,000 m<sup>2</sup> of retail floorspace by 2036. Associated local business services in the Centre will increase at the same rate. There are currently around 1,850 people employed in the Kwinana Centre, and this could approximately double by 2036. It is a very valuable focal point for the residents of Kwinana and is an important component of local residential amenity.

However, there are very low prospects of activity in the Kwinana Centre expanding beyond this local role:

- Its catchment is constrained, being effectively bounded by industrial areas to the west and north and the Freeway to the east.
- There is significant leakage to Cockburn for new and proposed residential areas east of the Freeway.
- There is no evidence of significant current or future commercial spin-off from Western Trade Coast activities.

### **Key Considerations**

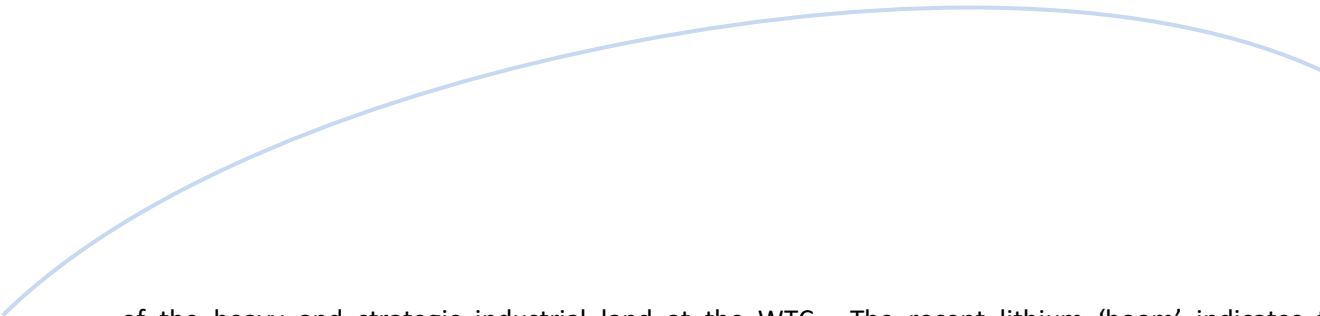
There are several considerations in determining the implications for land use planning of Kwinana's economic environment.

#### ***Industrial Land Supply***

1. There is limited supply of buffer-protected heavy industrial land in the WTC. This supply is under pressure from uses which do not require the buffer protection, most particularly freight and logistics and office / business uses.
2. There is limited supply of light and general industrial land in the South Metro and Peel region generally.

#### ***Industrial Land Demand***

For **Heavy and Strategic industrial land**, some demand can be identified in existing growth sectors. However, many viable future projects in existing and new sectors may not yet be apparent but their possibility needs to be allowed for in planning. This is a particular aspect of the unique and scarce nature



of the heavy and strategic industrial land at the WTC. The recent lithium ‘boom’ indicates that opportunities can come up very quickly (i.e. within a 5 – 10 year time frame ). It was the availability of sites and the particular advantages of WTC that made the Kwinana location viable.

For **Light and General industrial land**, demand will continue from general population growth plus special uses associated with Outer Harbour activities.

### ***Health Services***

An expanding population will mean increased demand for health services. However, the delivery of these services is changing rapidly and this has some implications for land use in Kwinana. In brief:

- There is a significant trend towards home delivery of services and more day surgery with reduced emphasis on big hospitals, except for acute needs and specialist services.
- Rockingham Hospital the primary regional health campus for the long term, delivering increased day surgery and specialist services and this will be the acute and specialist hospital for Kwinana.
- The physical focus of health services in Kwinana is might be a community-focussed health services centre that might include expanded GP services, tele-connected to specialists with visiting services to patients’ homes. This might locate in the City Centre.
- The need for nursing homes for the very frail aged will continue to grow. The population growth of people aged over 85 in the City indicates the need for two to three additional nursing homes by 2036. These are large employers.

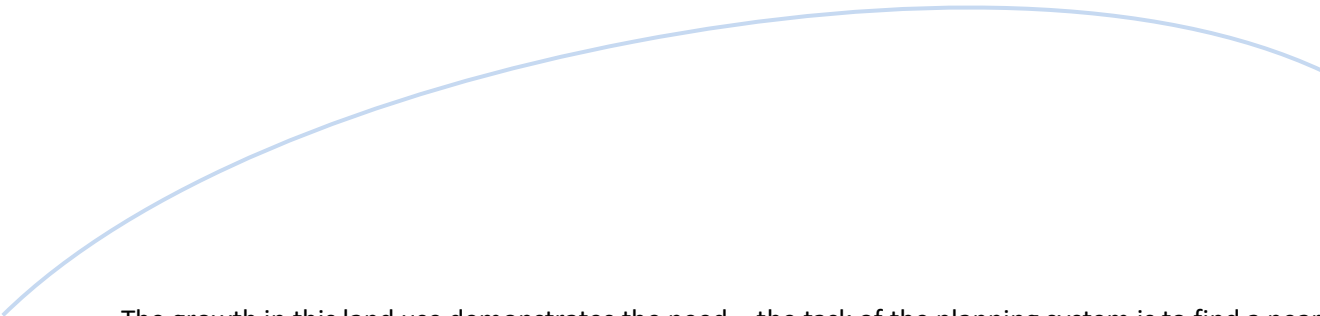
### ***Movement Economy***

The City’s location on the Kwinana Freeway provides opportunity for very large format retail outlets that have a metropolitan wide catchment; its location on the main east-west freight routes to the Outer Harbour provides freight and logistics and servicing opportunities. Properties around the off ramps to the Freeway, particularly at Thomas Road with its proximity to the Kwinana rail station, are well placed to take advantage of this exposure. A significant potential benefit is that retail employment opportunities offer the best option to make inroads into unemployment in younger age groups which is well above average in Kwinana.

### ***Office / Business uses in Industrial Land***

In the Western Trade Cost over 50% of all employment is now in office/ business activities. While some is directly associated with nearby or adjacent industrial land uses, much of it does not and could be located elsewhere. There are several problems with this scale of office use on industrial land:

- In the case of the WTC it takes up scarce land that could be used for purposes that require the heavy industrial / strategic industry zoning;
- The land is not well served by public transport for worker access;
- It has limited facilities for worker amenity;
- It is within the Kwinana air buffer.



The growth in this land use demonstrates the need – the task of the planning system is to find a nearby alternative.

### **Land Use and Strategic Implications**

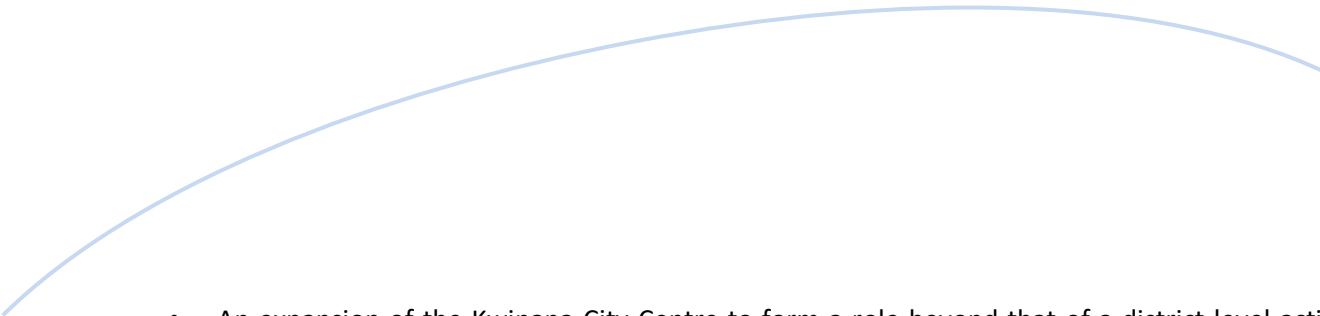
The most significant economic driver for Kwinana, and the employment site for many of its residents, is its current and potential future industrial estates, including the buffer-protected strategic and heavy industrial land in the Kwinana complex and also the adjacent light and general industrial land, which accommodates many spin-off activities and also those activities that find advantage in the Kwinana location but do not need heavy industrial land capability and zoning. These must be regarded as a scarce resource and managed accordingly.

Employment land supply and currently planned future provision is well behind future employment demand, with prospects of declining rates of employment self-sufficiency and self-containment unless all measures are taken to maximise the amount of employment land in the City and to ensure its highest value use. It may be some time until a firm decision on the outer harbour and this provides current uncertainty. Many land development projects in the Western Trade Coast are on-hold until the future of Outer Harbour is determined. However, this is not the whole story: there are many industry developments now underway, particularly in defence support and defence industries and in new energy metals, that have their own dynamic and time scale independent of the Outer Harbour. Time frames for much of this are long: significant defence expansion and outer harbour operations are unlikely before 2031, at best.

For employment provision for Kwinana residents a regional view is key: the future of Rockingham City Centre and of Henderson is important to Kwinana residents. Almost as many Kwinana residents work in each of the Cities of Rockingham and Cockburn as in the City of Kwinana.

The broad implications of this analysis for City planning are:

- Industrial land and infrastructure must be project ready - that is, available for major projects when they occur. Further supply of strategic industrial land is required and further areas of new light and general industrial land must be preserved, even for long term time frames.
- Industrial land must be protected from encroachment and inappropriate use. For heavy and strategic sites in the Kwinana Complex, this means discouragement of uses which do not contribute to the network in the complex and which do not require the operational protection afforded by the buffer uses around the complex. This particularly includes activities which are which are large land users but small employers, such as storage, freight and logistics, and large employment uses which could be located elsewhere, such as office / business uses. It also requires strict protection of the buffer from residential encroachment. This also applies to light and general industrial land generally.
- A corollary to this is that it is critical that the specific form of any Outer Harbour works is carefully considered to ensure the highest and best long term use of scarce strategic industrial land is preserved.

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- An expansion of the Kwinana City Centre to form a role beyond that of a district-level activity centre is very unlikely. As the key activity centre with a catchment area with quite rapid population growth, its form will evolve over time and current planning and land use can allow for that. The City needs to ensure that available land in the City Centre is managed in a way that allows full advantage to be taken of evolving opportunities. Health services is one such opportunity where the best form of delivery will only become apparent in the medium term as the population grows to its longer term size and the service delivery models themselves mature. The City holds several properties in key locations in the City Centre and they will at some time in the future be very suitable sites as the focal point for the delivery of some of these services. There are few, if any, currently viable and suitable long term uses for these sites and they should be preserved for future use in a form so that they can be easily accessed when these long term uses become available.
  - There is future opportunity for Kwinana as a residential and service location for personnel involved with the defence assets maintenance phase at Henderson. The residential amenity of Kwinana overall will then become important. This will include:
    - A range of housing choice including housing suitable for people on short term rotation or secondment; and
    - The services available in activity centres, particularly the Kwinana City Centre.
  - There is an opportunity to capitalise on the access and location advantages of Freeway exposure at sites around the off-ramps at Thomas Road (in particular), Rowley Road, Anketell Road and Mortimer Road. Uses for these sites would fit into a broad service commercial category and might include very large format retail uses. These are large employers which otherwise would not locate in the City. Their presence would have no, or minimal effect on existing activity centres, including the City Centre itself.
  - There is an opportunity for an office precinct to develop at the Thomas Road / Freeway intersection and around the Kwinana train station. Sites here have easy access to the Western Trade Coast and could service activities there. The objective would be to draw office and business uses away from the Western Trade Coast. This would have two main purposes:
    - Freeing up sites in industrial areas for industrial uses; and
    - Providing employment at sites much better served by public transport than the WTC.



## 1. Introduction

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This economic analysis of the City of Kwinana is prepared to aid in the preparation of a new Local Planning Strategy. The analysis applies to the Town Planning Scheme zones, which include Kwinana City Centre, Commercial, Service Commercial, Mixed Business 1, General Industry, Light Industry, Rural A, and Rural B and will be used to guide the allocation of land to various land uses and aid the preparation of future strategies to guide employment and economic development.

It is intended to guide the allocation of land to various land uses and aid in the preparation of future strategies to guide employment and economic development. The study is required to bridge the gap between planning and economics, recognising the key role that land availability and the economic activity on it has in the prosperity of a community.

The overall focus of the study is to establish the opportunities where the provisions of the Local Planning Strategy might be able to help in expanding the economy of the City. The opportunities are likely to come from several sources:

- Demographic changes: for example, a growth in elderly age groups creates demand and opportunity for aged care facilities; population growth increases the scale and expands the range of viable land uses at key activity centres.
- Location of transport routes: for example, the City's location on the Kwinana Freeway provides an opportunity for very large format retail outlets that have a metropolitan wide catchment; its location on the main east-west freight routes to the Outer Harbour provides freight and logistics and servicing opportunities.
- Strategic: Kwinana City centre is identified as a secondary centre in the South Metropolitan Peel Sub-regional Planning Framework (WAPC 2018), with an identified role as a key employment node, a local service centre and the opportunity to target key support sectors, focusing on training provision for industrial activities.
- Regional: its location, with major industrial and employment areas, namely most of the Western Trade Coast and Kwinana Industrial Area, within its boundaries.





## 2. Policy Overview

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There are several current State Government and City of Kwinana documents that are relevant to the further development of the Kwinana economy.

### 2.1. State Planning Strategy

The State Planning Strategy 2050 is an integral part of the Western Australia planning system designed to inform planning policies and decisions throughout the State. The State Planning Strategy is the lead strategic planning document within Government. This document takes into account what is known about the future and the expectations of Western Australians, to provide a guide for future land-use planning and development throughout the State.

Relevant State Strategic Goals for Kwinana are:

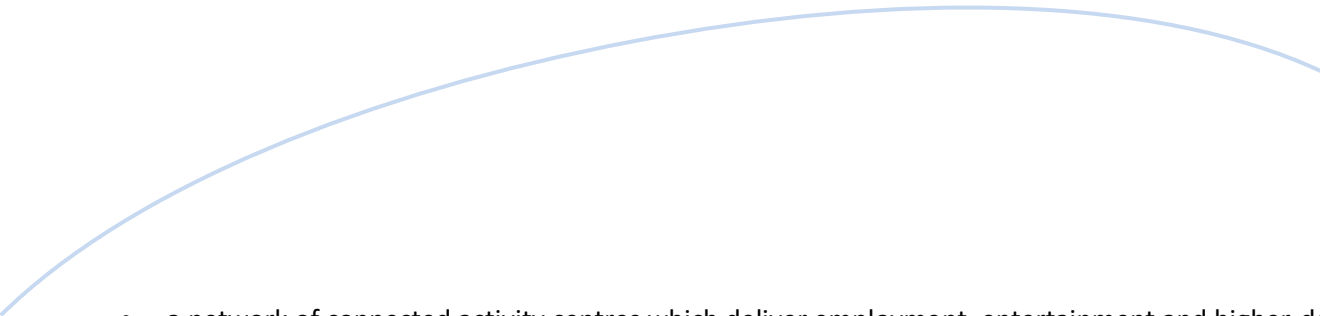
- Global competitiveness:
  - diversifying the economic base
- Strong and resilient regions:
  - creating liveable places
  - building strong networks
- Infrastructure planning:
  - supporting economic diversity,
  - resource-efficient services
  - linking regional economic opportunities
  - creating opportunities
- Sustainable communities:
  - responsive to diverse needs
  - attractive liveable environments
  - connections between and within communities
  - integrated and outcome based planning

### 2.2. Perth and Peel @ 3.5 million (WAPC 2018)

The overall spatial framework for Perth and Peel the *Perth and Peel@3.5 million* suite of documents is guided by the 'Connected City' principles, involving substantial intensification and increased development density. It also identifies the key structuring element of people movement and freight transport as these employment areas obviously need well-formed and connected transport routes.

A **connected city** is identified as the preferred future growth pattern because it provides the best balance between urban infill and fringe development. As a connected city Perth and Peel will have:

- a strong central business district that is the business, finance, service, retail, cultural and entertainment centre of the State;

- 
- a network of connected activity centres which deliver employment, entertainment and higher-density lifestyle choices. These centres will be designed to be attractive, accessible, compact, vibrant, pedestrian and cycling-friendly environments that have high-quality public transport and road linkages;
  - connected, specialised hubs of innovation, education, health, research and technology which are designed and located to enable access to skilled labour and appropriate infrastructure;
  - urban areas that deliver a range of contemporary lifestyle choices from low density suburban, to medium-density urban and high-density inner-city lifestyles in strategically-located areas;
  - high-quality global and local infrastructure networks including roads, public transport, energy, water, communication and globally competitive, highly accessible airport and sea port infrastructure;
  - urban form that maximises the use of existing infrastructure assets in parallel with extending infrastructure into the development areas of the outer sub-regions identified in the relevant draft sub-regional planning frameworks; and
  - integrated land and water management that provides social amenity, environmental protection and resilience to climate change for a more liveable city into the future, through better urban water management, water sensitive urban design and green infrastructure.

### **2.3. South Metropolitan Peel Sub-Regional Planning Framework (WAPC 2018)**

The South Metropolitan Peel Sub-Regional Planning Framework (SMPS-RPF) is an element of the *Towards Perth and Peel @ 3.5 million* suite of documents.

The Framework notes that to deliver jobs within the sub-region, and therefore contribute to the employment self-sufficiency levels in each sector, employment growth needs to better match the sub-region's labour force and demographic profile. This includes knowledge-based employment strategically located at major centres.

The Framework anticipates that to 2050 job numbers within the industrial centres will be concentrated within the Latitude 32 and Nambelup industrial centres, with a total of approximately 24,000 additional jobs being provided within these two centres. Industrial centres at Forrestdale, Maddington/Kenwick and Mundijong–Cardup are also predicted to contribute approximately 20,000 jobs during this timeframe. The job numbers are a projection only, based on the draft framework scenario, and may vary due to a number of factors including economic drivers, staging and sequencing of land uses as well as infrastructure provision.

The analysis in this report suggests that, with employment densities in industrial estates generally declining, this might be an over-estimate of the future employment growth in Latitude 32.

### **2.4. State Planning Policy 4.2 – Activity Centres for Perth and Peel (SPP 4.2).**

The main purpose of State Planning Policy 4.2 (SPP 4.2) is to specify broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel. It is mainly concerned with the distribution, function, broad land use and urban design

criteria of activity centres, and with coordinating their land use and infrastructure planning. It describes a hierarchy for activity centres to meet different levels of community need and enable employment, goods and services to be accessed efficiently and equitably by the community.

Kwinana City Centre, along with Cockburn Centre, is classified as a Secondary Centre in the Policy.

Rockingham City Centre is classified as a Strategic Metropolitan Centre in the Policy. They are the most important centres in their metropolitan sub-region and Rockingham is the Strategic Metropolitan Centre for the Kwinana area. The intended characteristics of Secondary Centres, compared with Strategic Metropolitan Centres, are shown in the following table:

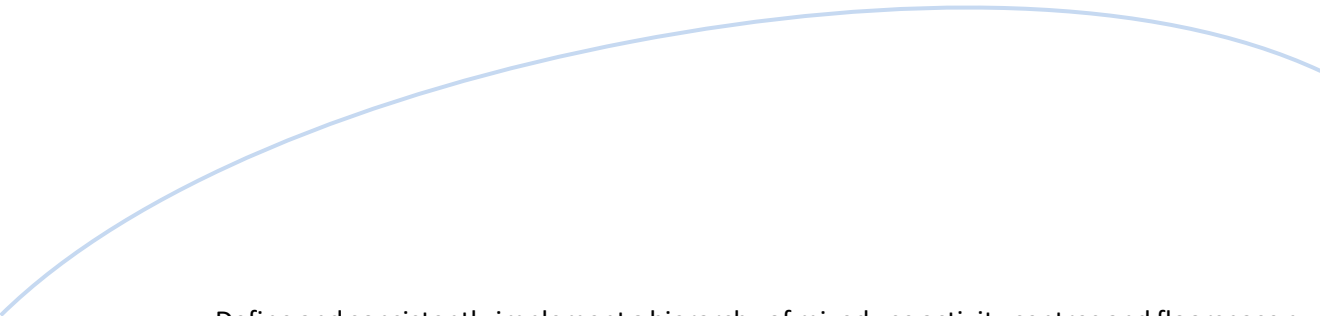
	<i>Strategic Metropolitan Centres (e.g. Rockingham)</i>	<i>Secondary Centres (e.g. Kwinana, Cockburn)</i>
<b>Main role/function</b>	<i>Strategic metropolitan centres are the main regional activity centres. They are multipurpose centres that provide a diversity of uses. These centres provide the full range of economic and community services necessary for the communities in their catchments.</i>	<i>Secondary centres share similar characteristics with strategic metropolitan centres but serve smaller catchments and offer a more limited range of services, facilities and employment opportunities. They perform an important role in the city's economy, and provide essential services to their catchments.</i>
<b>Transport connectivity and accessibility</b>	<i>Important focus for passenger rail and high frequency bus networks.</i>	<i>Important focus for passenger rail and/or high frequency bus network.</i>
<b>Typical retail types</b>	<ul style="list-style-type: none"> <li>• Department store/s</li> <li>• Discount department stores</li> <li>• Supermarkets</li> <li>• Full range of speciality shops</li> </ul>	<ul style="list-style-type: none"> <li>• Department store/s</li> <li>• Discount department store/s</li> <li>• Supermarkets</li> <li>• Speciality shops</li> </ul>
<b>Typical Office development</b>	<ul style="list-style-type: none"> <li>• Major offices</li> <li>• State government agencies</li> </ul>	<ul style="list-style-type: none"> <li>• Major offices</li> <li>• Professional and service businesses</li> </ul>

**2.5. City of Kwinana Local Commercial Activity Centres Strategy 2014**

The City of Kwinana Local Commercial and Activity Centre Strategy is intended to assist in the identification and/ or confirmation of sufficient sites for activity centres in appropriate locations throughout the City, so that the shopping and other commercial/ community needs of the population can be conveniently satisfied to the maximum practicable extent. The retail needs and floorspace figures estimated through the Strategy are not intended as rigid “caps” on each centre to be implemented through development control and policy. Rather, they are intended as an indicator of market potential over time and a guide for the strategic planning of the City’s activity centres.

The Strategy proposes a series of strategies proposed to realise the adopted strategic intentions, including inter alia:

- Pro-actively maintain the Kwinana city centre as the largest and most complex activity centre in the Kwinana hierarchy of centres by ensuring that all higher-level commercial, civic and cultural activities that should be there are permitted there (and preferably nowhere else); and by ensuring that the other centres in the hierarchy remain appropriately matched to their designated roles.

- 
- Define and consistently implement a hierarchy of mixed use activity centres and floorspace quantity controls aimed at ensuring that the centres hierarchy is maintained, while nevertheless allowing a significant degree of flexibility for the commercial operation of the market within the defined activity centres.
  - Assess the future retail needs of the population and provide guidance to the market in relation to the estimated future trade potential of all existing and planned activity centres .
  - Within reason, be willing to allow virtually any development or change of use proposal that would improve the condition and/ or performance of an existing local activity centre.
  - Where appropriate, take a proactive role in encouraging and facilitating improvements to existing activity centres. In the first instance, prioritise energetic continuation of current initiatives aimed at the improvement of local centres.
  - Ensure that developers allocate enough land for the long term floorspace potential of planned mixed use activity centres.
  - Enforce SPP 4.2 “mix of land use” provisions in district centres and higher.
  - Encourage “mix of land use” provisions in neighbourhood and local activity centres, where practicable.
  - Zone land for medium and high density residential development in the immediate vicinity of activity centres.

### 3. Key demographic drivers:

#### 3.1 Population

##### 3.1.1 Historic Growth

In common with all of the municipalities in the Perth South Metropolitan and Peel regions, Kwinana is experiencing substantial population growth. It has large areas of undeveloped greenfields land to accommodate population growth and also substantial infill potential. The population of the City of Kwinana is in the middle of a strong growth phase. It grew from 23,986 in 2006 to 30,697 in 2011 and to 40,058 in 2016. The average annual growth rate in both the 2006 – 2011 and 2011 – 2016 periods was higher than the average for metropolitan Perth overall, as shown in Table 3.1.

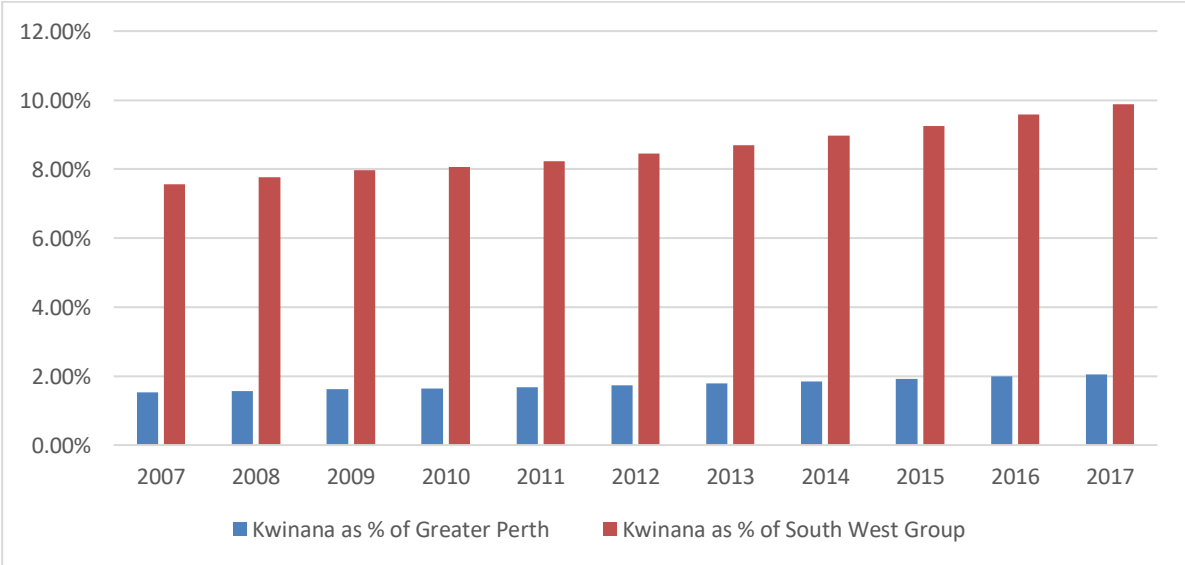
**Table 3.1: Historic Population Growth, City of Kwinana and Metropolitan Perth**

	Population			Ave Annual Growth Rate	
	2006	2011	2016	2006 - 2011	2011 - 2016
City of Kwinana	23,986	30,697	40,058	5.1%	5.5%
Perth (Metropolitan)	1,533,413	1,772,899	1,925,794	3.1%	1.7%

Source: ABS Regional Population Growth, Cat. 3218.0

Kwinana’s growth has meant that it has slightly increased its share of the Perth population overall and of the South West Group<sup>1</sup> of local governments. This will continue given the current population forecast (see below).

**Fig 3.1: City of Kwinana Population Share of Greater Perth and of South West Group of Councils**



<sup>1</sup> The South West Group is a voluntary regional organisation of councils including City of Cockburn, Town of East Fremantle, City of Fremantle, City of Kwinana, City of Melville and City of Rockingham.

### 3.1.2 Projected Growth – The City

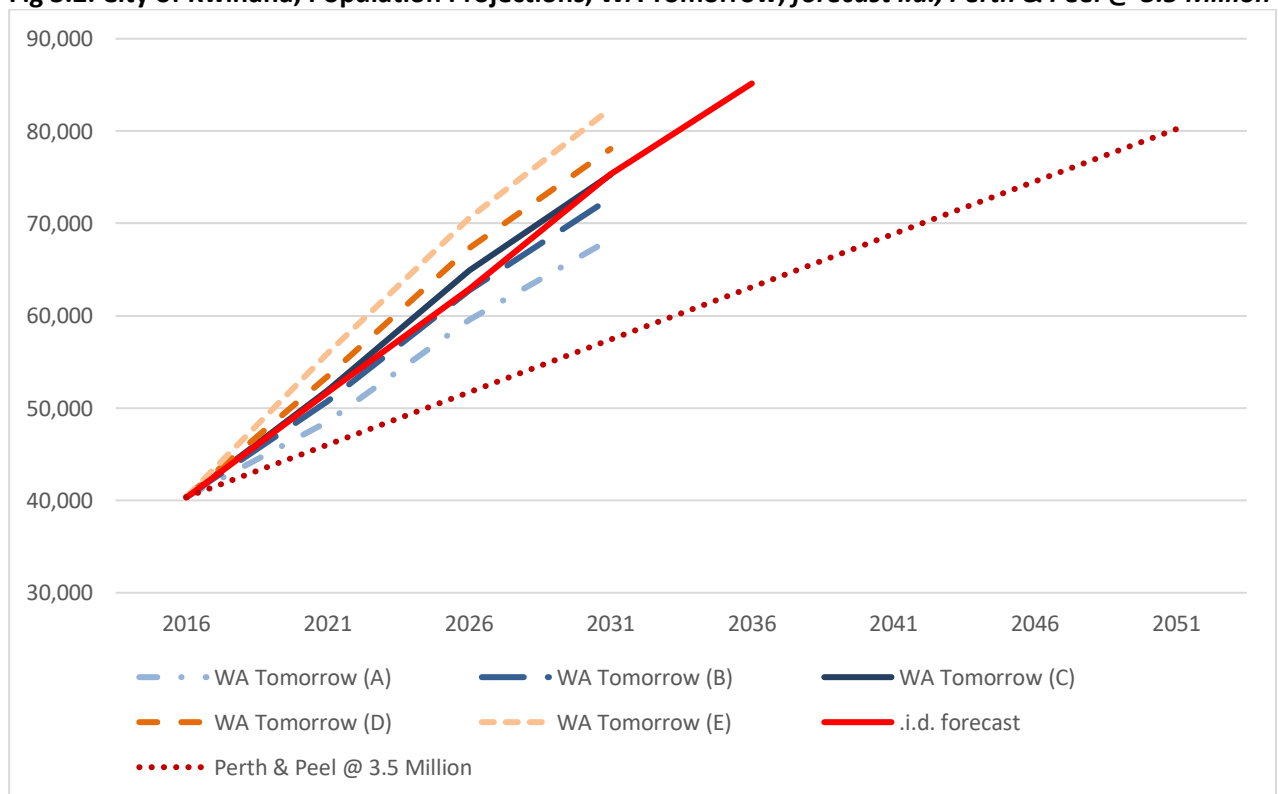
Population analysis is primarily based on the City of Kwinana *forecast i.d.* dataset. This is checked against WAPC WA Tomorrow forecasts.

The City’s population is projected by *forecast i.d.* (latest update December 2017) to grow from 40,305 (2016) to 85,158 (2036). This is generally consistent with WAPC WA Tomorrow<sup>2</sup> projections, which show population increasing to between 68,290 and 75,270 by 2031, with a mid-range (Band C) almost identical to the *forecast id* projection at 75,260 in 2031.

The differences are illustrated in Figure 3.2.

It should be noted that the draft WAPC South Metropolitan Peel Sub-regional Planning Framework<sup>3</sup> shows the population of the City being at 80,000 in 2051. This either implies slower growth than the current trajectory of the *.id forecast* series or no growth after 2036.

**Fig 3.2: City of Kwinana, Population Projections, WA Tomorrow, *forecast i.d.*, Perth & Peel @ 3.5 Million**



Source: WA Tomorrow (2018); *i.d. forecast* (2017); Perth @ Peel @ 3.5 Million (WAPC 2018)

<sup>2</sup> Western Australia Tomorrow, Population Report No. 11 - sub-State ASGS (SA2), Medium-Term Population Forecasts 2016 to 2031

<sup>3</sup> WAPC, Perth & Peel @ 3.5 Million, South Metropolitan Peel Sub-regional Planning Framework, March 2018



The City's population is projected to more than double to 85,158 by 2036. This has several direct implications:

- An increased resident workforce, with the consequent demand for increased employment opportunities;
- Increased demand for activity centre floorspace (retail, commercial, services) – this will primarily affect existing activity centres in the City.
- An increase in the aged population, with the consequent need for 2 - 3 additional aged care facilities plus in-home services. These are large employers.

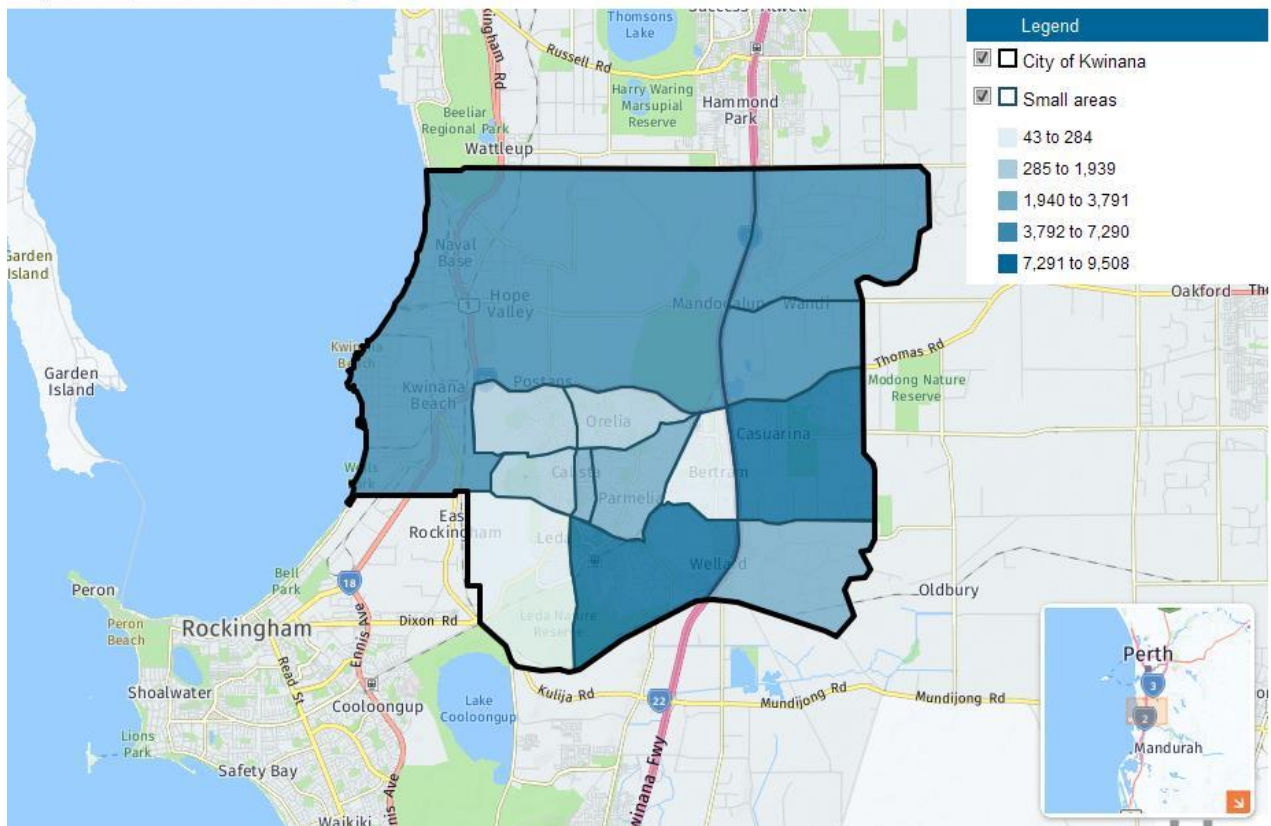
### 3.1.3 Location of Population Growth

Map 3.1 shows the location of the forecast population growth. It is mostly in Casuarina and Wellard. These are close to public transport but generally away from employment centres.

#### Map 3.1: City of Kwinana: Location of Population Growth

##### Population and age structure map - 0 to 85

City of Kwinana, 2016 to 2036 number change



Source: Population and household forecasts, 2016 to 2036, prepared by .id, the population experts, December 2017.

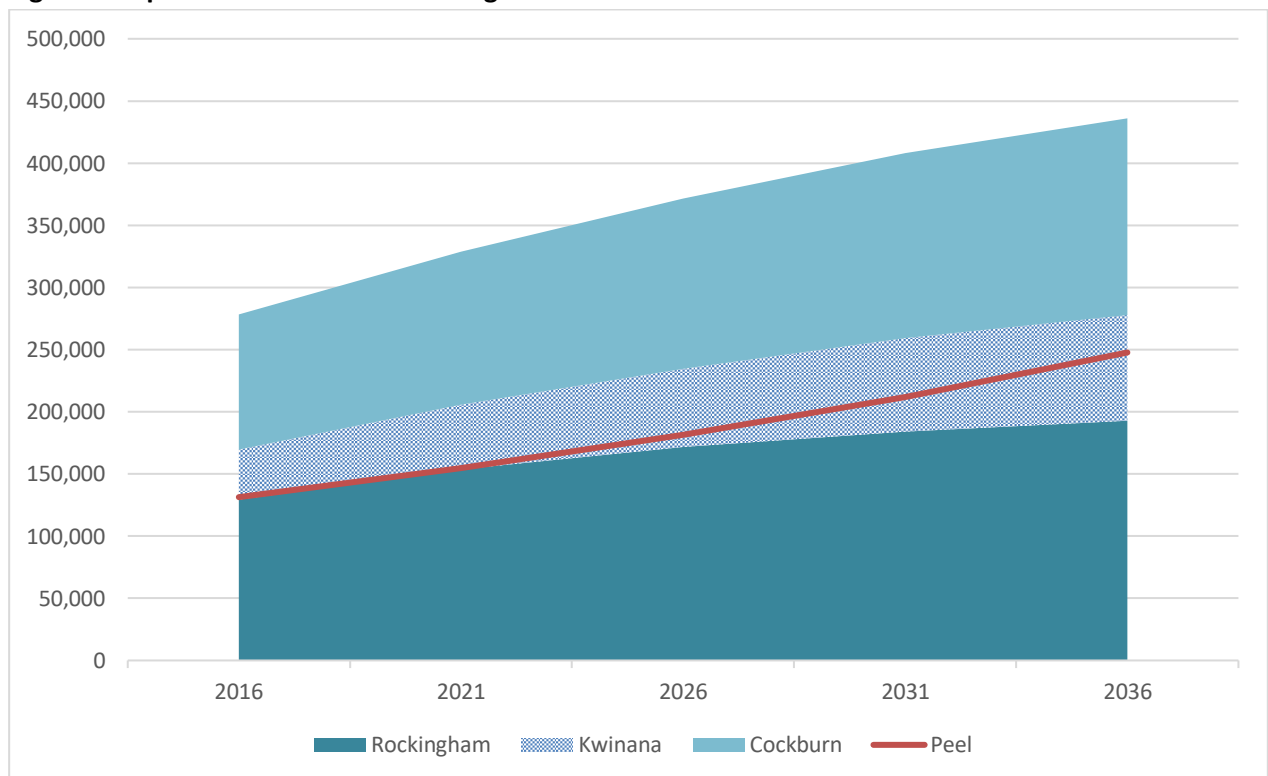
.id  
the population experts

### 3.1.4 Regional Context

The City is bounded to the north and south by the much larger Cities of Cockburn and Rockingham respectively. This constitutes its immediate local region. Together they contain the main local and regional employment centres: The Western Trade Coast (the Kwinana / Rockingham Industrial Complex and Henderson), the Rockingham Strategic Metropolitan Centre and Stirling base. This local region is the employment location for 43.4% of the City of Kwinana resident workforce.

The region is growing quickly: between 2016 and 2036 the population of the three cities combined will almost double to 436,000. Kwinana is somewhat smaller in population than the other two, constituting around 20% of the total by 2036. To the south the Peel region is also growing strongly and its population will almost double to 248,000 by 2036.

**Fig 3.3: Population Growth in Local Region**



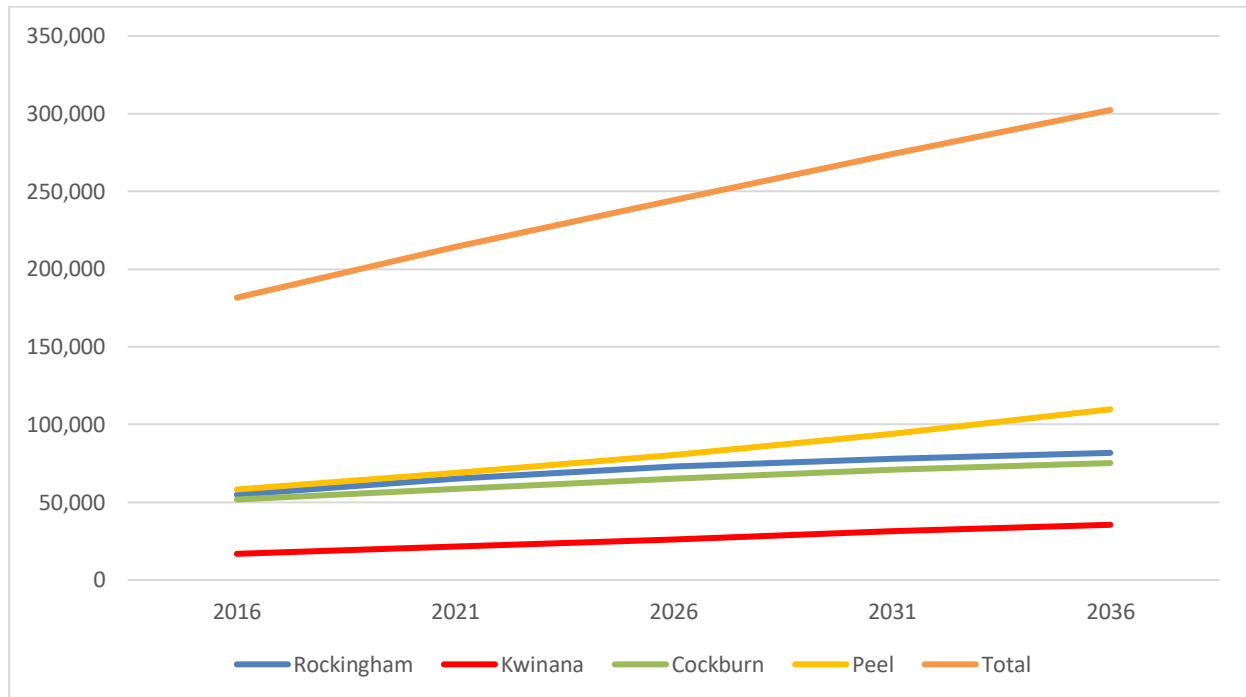
Source: WA Tomorrow (2018; i.d. forecast (2017));

With population growth will come a substantial increase in the resident workforce across the three cities, increasing by 69,100 in the local region. Local population-driven services (e.g. retail, education, health) will provide employment opportunities for around one-third of this number, leaving 46,000 new strategic jobs to be found in the local region if local employment to match workforce growth.

The City and its local region currently have quite high jobs capacity, expressed as employment self-sufficiency (i.e. the ratio of total jobs to the resident workforce): around 78% for the City of Kwinana and

73% for the local region overall. If these ratios were to be maintained, then another 14,600 jobs need to become available in the City of Kwinana, and 50,400 jobs in the local region overall between 2016 and 2036. This is a very big task.

**Fig 3.4: Resident Workers Growth in Local Region**



Source: *i.d. forecast (2017)*;

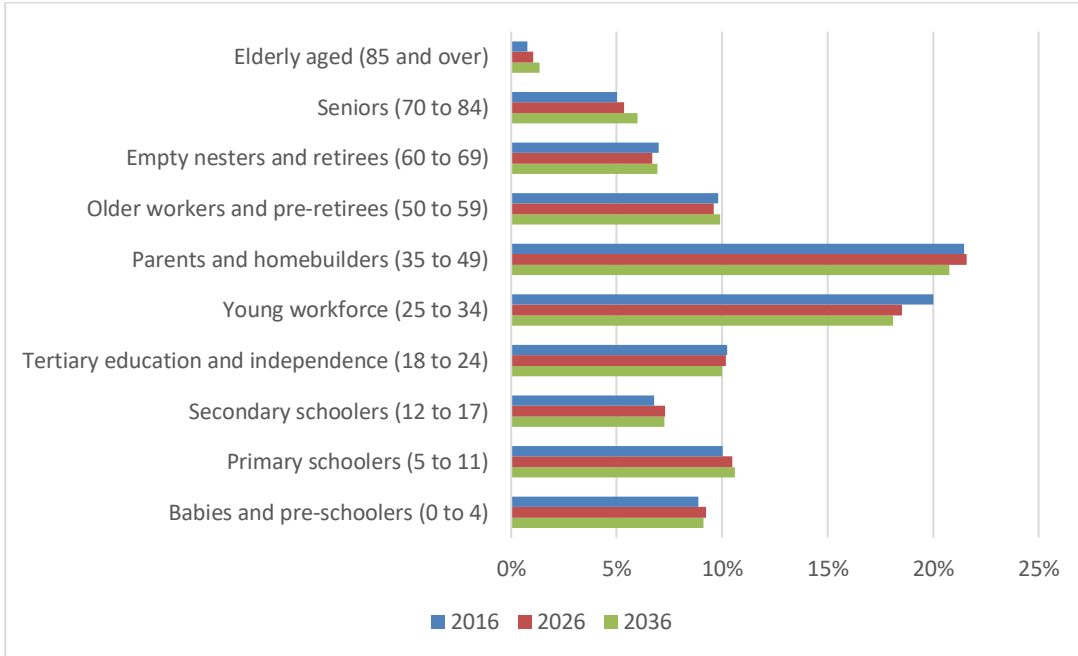
Provision of places to provide employment for Kwinana residents is thus an important objective for City land use planning. These jobs also need to match the skill levels of resident workers. Employment self-containment (i.e. the proportion of resident workers who are employed within the boundaries of the Local Government Area or region) for the City of Kwinana is quite low (18.5%), although a further 25% of resident workers are employed in the adjacent Cities of Rockingham and Cockburn. The Kwinana employment self-containment figures are much lower than its neighbours: for Cockburn it is 28% and for Rockingham 39%. In 2016 there were 123,164 resident workers in the combined three Cities, with 53,668, or 44%, working there.

### 3.1.5 Age Profile

The age structure of the Kwinana population is similar to the wider region. Recent growth has been strongest for young workforce (25 to 34) parents and homebuilders (35 to 49).

Growth projections indicate little change in overall population composition (Fig 3.5)

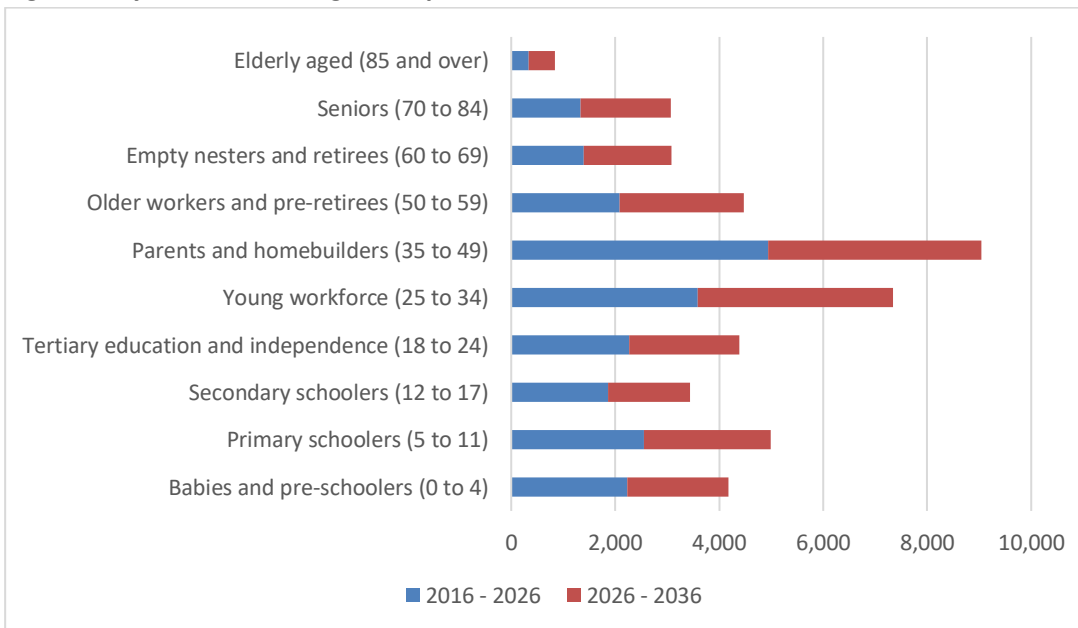
**Fig 3.5: City of Kwinana - Age Group Population Proportion**



Source: WA Tomorrow (2018; i.d. forecast (2017));

Between 2016 and 2036, the City’s population in the 70 – 84 age group will increase by around 3,100 and by around 835 persons in the 85 and above age group. This increase in the aged population, will generate the need for at least 2 - 3 additional aged care facilities plus in-home services. These are large employers.

**Fig 3.5: City of Kwinana - Age Group Growth 2016 - 2036**



Source: WA Tomorrow (2018; i.d. forecast (2017));

Persons over 85 form a high proportion of people in aged care accommodation. At 30 June 2014 Australia-wide the majority (77%) of people in care were aged 80 or over and the average age for people in permanent residential aged care was 84.5<sup>4</sup>.

There are two nursing homes in the City of Kwinana, offering around 138 places, a ratio of one per 2.3 people aged over 85. This is somewhat below WA average care and staffing ratios<sup>5</sup>, which would indicate the need for around 178 places. At current ratios, there will be a need for a total of around 475 aged care beds by 2036, an increase of around 340 on present numbers and to make up for a current shortfall. This is equivalent to three large nursing homes and the City should make accommodation in its planning for this number.

There will also be significant demand for in-home services and significant demand for additional care facilities by 2036. The ratios indicate an additional 140 home care places in Kwinana between 2011 and 2036 as shown in Table 3.2. This may prove to be an underestimate, given a shift in policy towards more in-home care provision.

**Table 3.2: Kwinana, Operational Aged Care Places (modelled on WA Ave ratios)**

	2016	2026	2036	Change 2016 - 2036
Residential care	178	305	475	297
Home care	84	143	223	139

Aged care is a substantial employer. The aged care workforce could almost double to over 700 in the City by 2036, with around 340 working in residential aged care. This is contingent upon the number of aged care beds in the City increasing from its current to around 500 beds by 2036.

This is shown in Table 3.3.

**Table 3.3: Kalamunda, Aged Care Workforce to 2036**

	2016	2026	2036	Change 2016 - 2036
Residential care workforce	206	353	550	343
Community care workforce	232	398	619	387
<b>Total</b>	<b>438</b>	<b>751</b>	<b>1169</b>	<b>730</b>

<sup>4</sup> <http://www.aihw.gov.au/aged-care/residential-and-home-care-2013-14/characteristics/>

<sup>5</sup> Ref: Australian Government, Department of Social Services, 2013–14 Concise Facts & Figures in Aged Care. Note that WA has a similar overall operational aged care ratio as Australia, but a lower proportion of residential care places and a higher proportion of home care places per person aged over 70.

### 3.2 Socio-Economic Characteristics


Table 3.4 shows summary socio-economic data for the City of Kwinana. Compared with the Greater Perth metropolitan area, Kwinana has:

- Lower individual and household incomes;
- A lower median age
- A higher proportion of one-parent families;
- A much higher proportion of separate (single residential) housing and a much lower proportion of medium and higher density housing;
- A high proportion of mortgage holders;
- A lower proportion of higher and post-secondary qualifications;
- A lower proportion of managers & professionals and a higher proportion of technical and trades workers.

**Table 3.4: City of Kwinana – Selected Socio-economic Characteristics**

	City of Kwinana	Greater Perth
<b>Income</b>		
Median individual income (annual)	\$684	\$728
Median household income (weekly)	\$1,467	\$1,636
Median Age (years)	32	36
<b>Country of Birth</b>		
Australia	58.0%	57.3%
Other Major English Speaking Countries	14.0%	13.6%
Other Overseas Born	28.0%	29.1%
<i>% speak English only at home</i>	71.4%	73.5%
Aboriginal and Torres Strait Islander population	3.6%	1.6%
<b>Family Composition</b>		
Couple family – Total	79.8%	83.8%
One parent family – Total	18.4%	14.5%
<b>Dwelling Structure (Occupied Private Dwellings)</b>		
Separate house	90.4%	76.9%
Semi-detached, row or terrace house, townhouse etc.	5.3%	16.0%
Flat, unit or apartment	3.4%	6.6%
Other dwelling	0.5%	0.3%
<b>Occupancy rate</b>		
Average household size	2.7	2.6
<b>Tenure Type (Occupied Private Dwellings)</b>		
Owned outright	16.2%	28.1%
Owned with a mortgage	54.2%	41.9%
Rented	26.7%	26.7%
Other tenure type	0.5%	2.3%





	City of Kwinana	Greater Perth
<b>Car Ownership per Dwelling</b>		
None	4.9%	4.9%
One	32.6%	32.2%
Two	39.3%	39.4%
Three of more	20.3%	20.8%
<b>Highest Year of School Completed (% of population aged 15 years and over)</b>		
Bachelor/ Diploma and above	22.0%	32.2%
Certificate iii - iv	19.4%	16.3%
Year 12 or equivalent	15.5%	16.7%
Year 10-11 or equivalent	20.1%	15.9%
Year 9 or below	6.0%	5.5%
Did not go to school	0.4%	0.6%
Highest year of school not stated	14.0%	9.9%
<b>Occupation</b>		
Managers & professionals	22.9%	33.7%
Clerical, admin & sales workers	22.7%	22.8%
Technicians & trades workers	18.5%	15.6%
Machinery operators & drivers	11.0%	6.5%
Labourers & related workers	12.4%	9.0%

Source: ABS Census 2016

## 4. Employment

### 4.1. Employment

#### 4.1.1. Employment by Industry

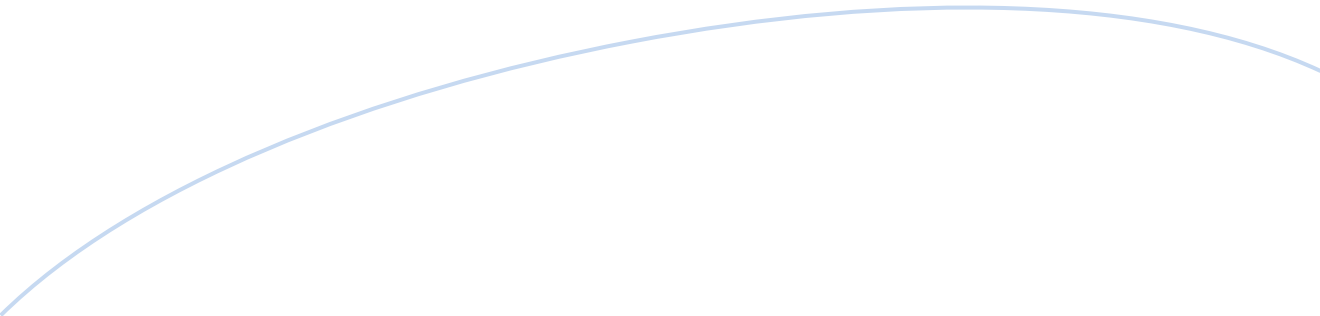
At the 2016 Census there were 12,650 working in Kwinana. Although employed in Kwinana, they may or may not be local residents. Employment is heavily concentrated in two employment sectors – manufacturing (23.9%) and construction (11.6%). In large part this reflects the history of Kwinana, especially its role as the primary heavy industry area in the State.

In contrast, across the Greater Perth area the focus is Health Care and Social Assistance (13%), Retail Trade (10.4%), Education and Training (9.4%) and Construction (8.3%). Manufacturing accounts for just 5.9% of total employment.

**Table 4.1: City of Kwinana – Employment by Industry**

Industry	Number	Kwinana %	Greater Perth %
Agriculture, Forestry and Fishing	314	2.5	0.7
Mining	506	4.0	3.1
Manufacturing	3,021	23.9	5.9
Electricity, Gas, Water and Waste Services	388	3.1	1.2
Construction	1,463	11.6	8.3
Wholesale Trade	381	3.0	2.8
Retail Trade	800	6.3	10.4
Accommodation and Food Services	424	3.4	6.8
Transport, Postal and Warehousing	660	5.2	4.6
Information Media and Telecommunications	42	0.3	1.1
Financial and Insurance Services	318	2.5	2.9
Rental, Hiring and Real Estate Services	214	1.7	1.9
Professional, Scientific and Technical Services	339	2.7	7.5
Administrative and Support Services	317	2.5	3.0
Public Administration and Safety	788	6.2	6.8
Education and Training	826	6.5	9.4
Health Care and Social Assistance	744	5.9	13.0
Arts and Recreation Services	138	1.1	1.8
Other Services	325	2.6	4.1
Industry not classified	642	5.1	4.7
<b>Total</b>	<b>12,650</b>	<b>100.0</b>	<b>100.0</b>

Source: ABS Census 2016



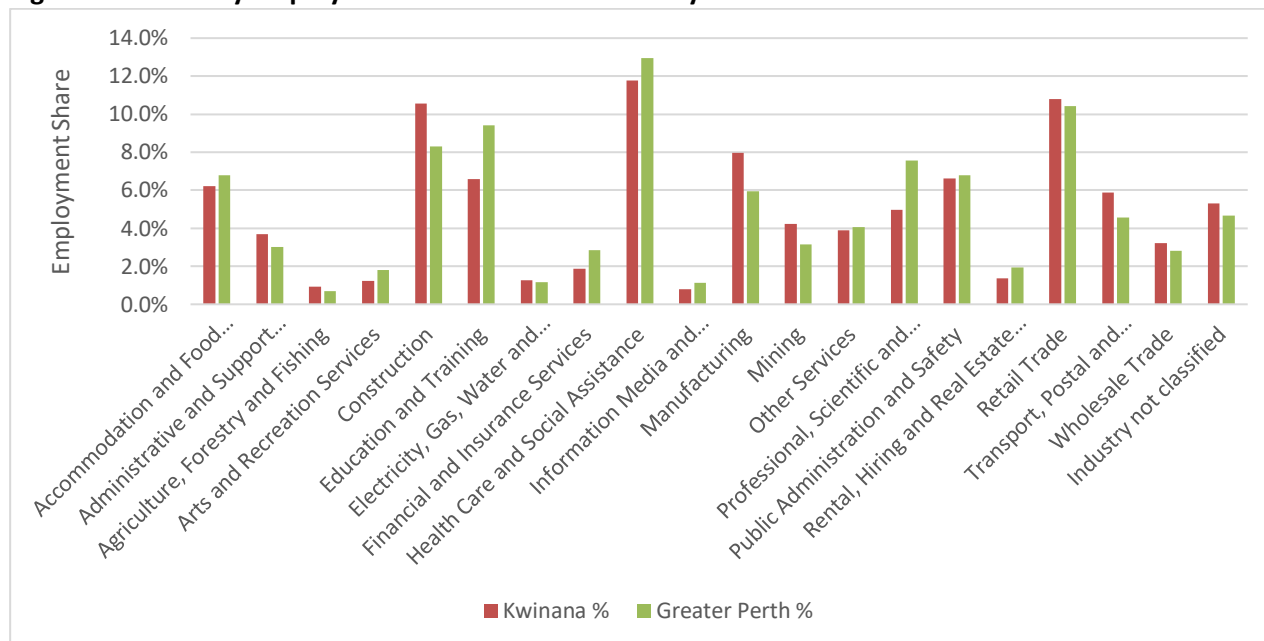
Some 3,092 residents of Kwinana work locally within the City of Kwinana. There are two broad ways to interpret this number. It represents 24.5% of the 12,650 local jobs. This is referred to as a self-sufficiency measure. It indicates that local residents are not dominant in filling local jobs and, by definition travel outside of the city for work.

The 3,092 residents who work locally is 18.5% of the 16,802 Kwinana residents who are employed. This is sometimes referred to as a self-containment index. It effectively shows the proportion of resident workers who are employed within the City. The balance of around 13,500 find work outside of the City.

One difficulty with these measures is that they need to be carefully interpreted in terms of (a) the planning and development history, (b) area specialisation, (c) City size (d) wider trends in industry and economic development and (e) closely available regional employment. This is particularly relevant for Kwinana. As noted in Section 3.1.4, around 25% of Kwinana residents who are employed work in the adjacent municipalities of Rockingham and Cockburn, and the local region (i.e. the combined Cities of Kwinana, Rockingham and Cockburn) has a self-containment figure of 44%.

Of particular interest for Kwinana is manufacturing, which as noted above, dominates employment in the City. The manufacturing share of total employment in the City is 23.9%, with around 3,000 employed. Of these around 300 live in the City, an industry self-sufficiency index of 10%. Interestingly of the 16,727 employed Kwinana residents only 1,358, or 8%, work in manufacturing (i.e. in all locations – see Table 4.3). Manufacturing has a greater representation in City located employment than it does in resident employment. The distribution of employment by industry for Kwinana residents is in fact very close to that of residents as a whole across Perth. This is shown in Figure 4.1 and Table 4.2.

**Figure 4.1: Industry Employment Share of Residents: City of Kwinana and Perth**



Source: ABS Census 2016

**Table 4.2: City of Kwinana – Resident Workforce – Industry of Employment**

Industry	Number	Kwinana %	Western Australia %
Agriculture, Forestry and Fishing	167	1.0	2.5
Mining	718	4.3	6.3
Manufacturing	1,358	8.1	5.6
Electricity, Gas, Water and Waste Services	227	1.4	1.2
Construction	1,780	10.6	9.8
Wholesale Trade	530	3.2	2.5
Retail Trade	1,808	10.8	9.5
Accommodation and Food Services	1,045	6.2	6.4
Transport, Postal and Warehousing	993	5.9	4.6
Information Media and Telecommunications	152	0.9	1.0
Financial and Insurance Services	329	2.0	2.4
Rental, Hiring and Real Estate Services	233	1.4	1.7
Professional, Scientific and Technical Services	850	5.1	6.4
Administrative and Support Services	635	3.8	3.3
Public Administration and Safety	1,123	6.7	6.2
Education and Training	1,103	6.6	8.7
Health Care and Social Assistance	1,973	11.7	11.7
Arts and Recreation Services	211	1.3	1.6

Other Services	672	4.0	4.0
Industry not classified	895	5.3	4.6
<b>Total</b>	<b>16,802</b>	<b>100.0</b>	<b>100.0</b>

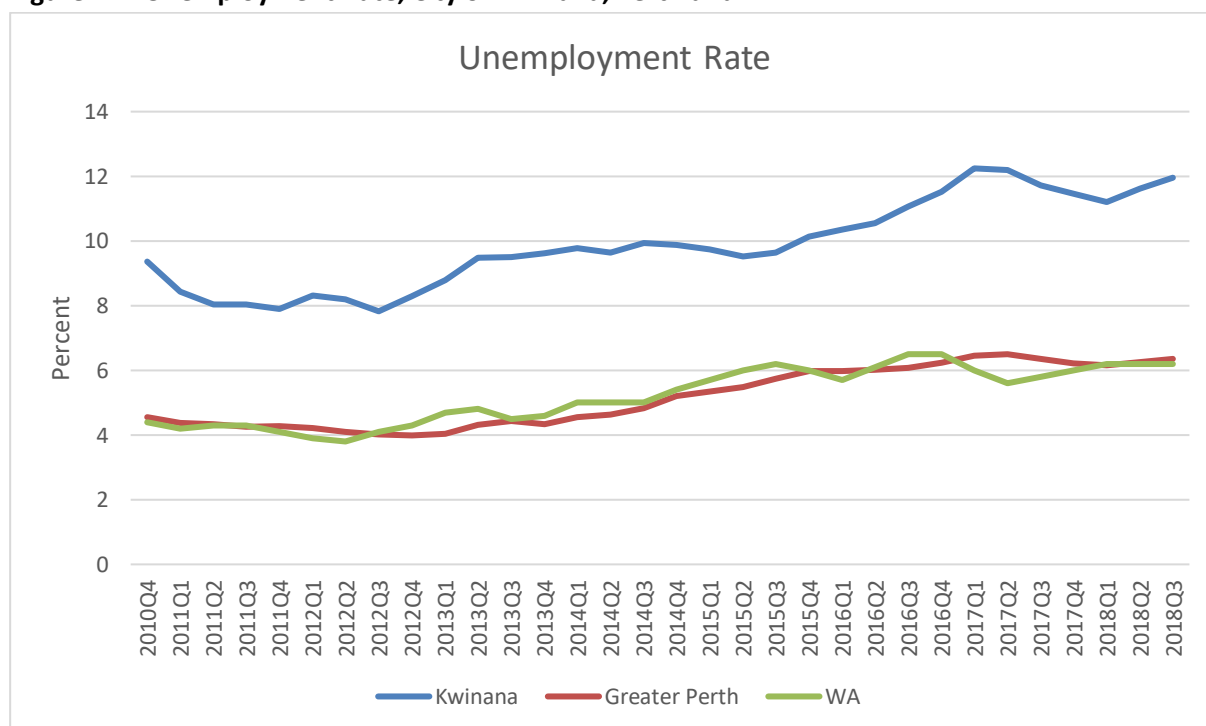
Source: ABS Census 2016

The significance of this is simply that the manufacturing employment in Kwinana is very important to many employees from outside of the City whereas employment elsewhere in key employment sectors like retail and services is very important to the employment of prospects for Kwinana residents. This goes to two key issues considered later in the report, namely (a) the need to protect key industrial lands in Kwinana in the interest of the region and the State and (b) the need to adjust land use planning in Kwinana to facilitate employment developments in sectors where Kwinana residents will be most likely to work going forward as population grows.

#### 4.1.2. Unemployment

One aspect of employment for Kwinana residents that has proved particularly problematic is the unemployment rate. This is currently (and consistently) nearly twice that of Greater Perth and Western Australia as a whole.

Figure 4.2: Unemployment Rate, City of Kwinana, Perth and WA

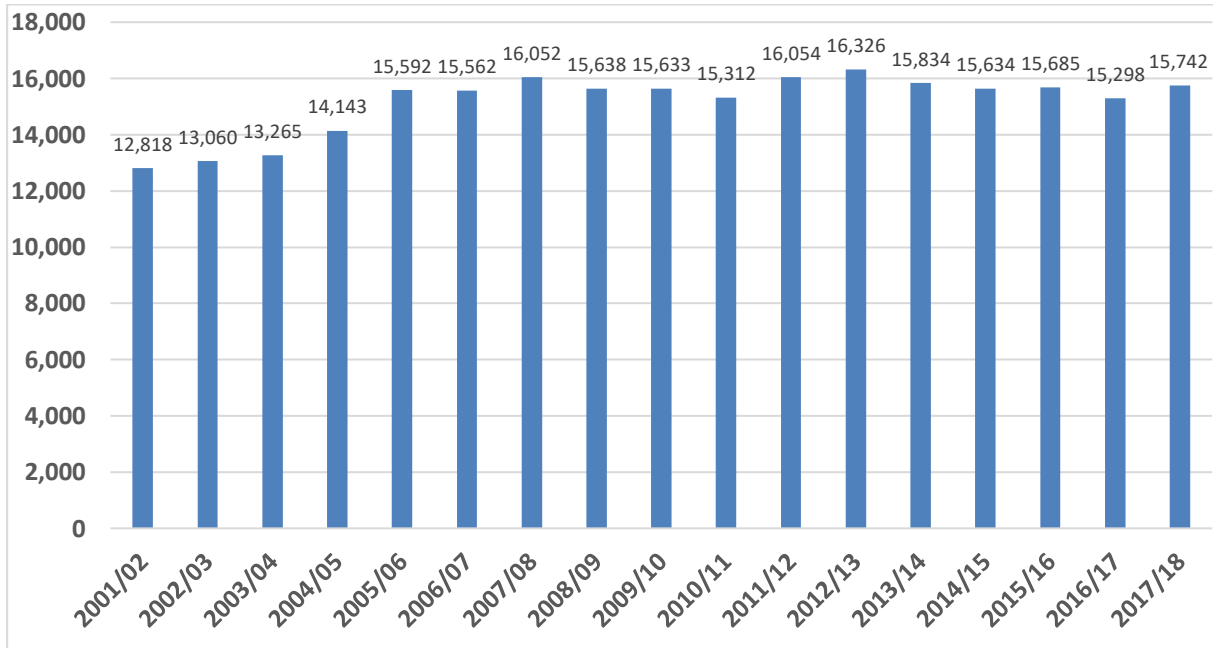


Source: i.d. forecast (2017)

### 4.1.3. Employment Growth

Recent employment growth in Kwinana is shown below.

**Fig 4.3: City of Kwinana, Employment Growth**



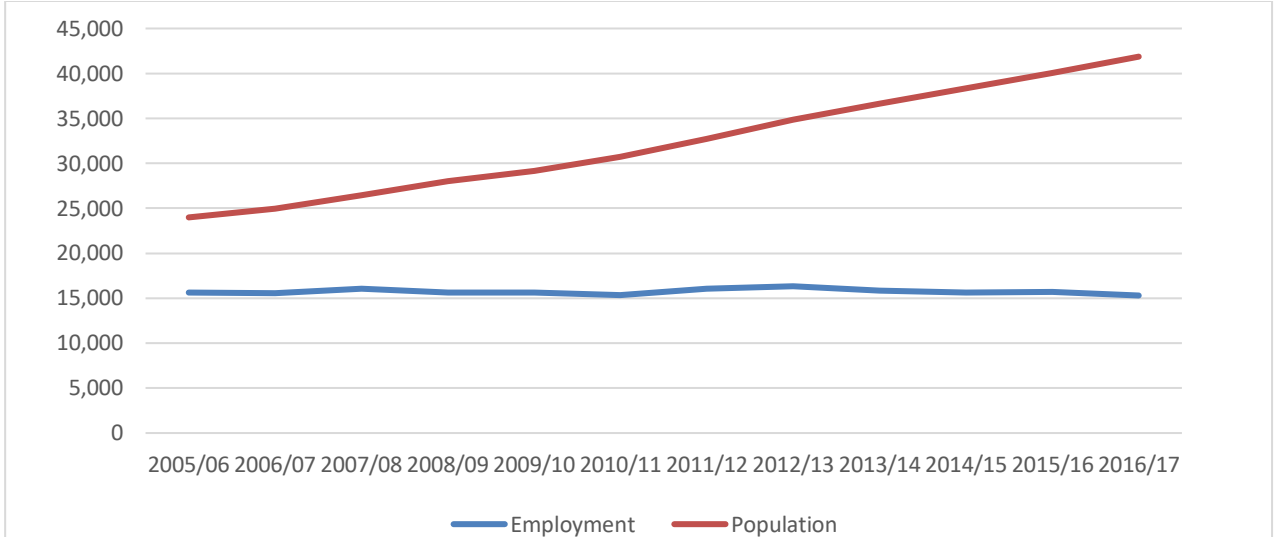
Source: i.d. forecast (2017)

While there has been some recent growth in employment the salient feature is that employment in Kwinana is not keeping up with population growth. Since 2005/06 employment in Kwinana has remained steady at around 15,500 jobs, while the population has increased from 24,000 to over 42,000 in 2018.

Employment growth has not matched the employment growth in the broader South West Group area nor the employment growth in Greater Perth.

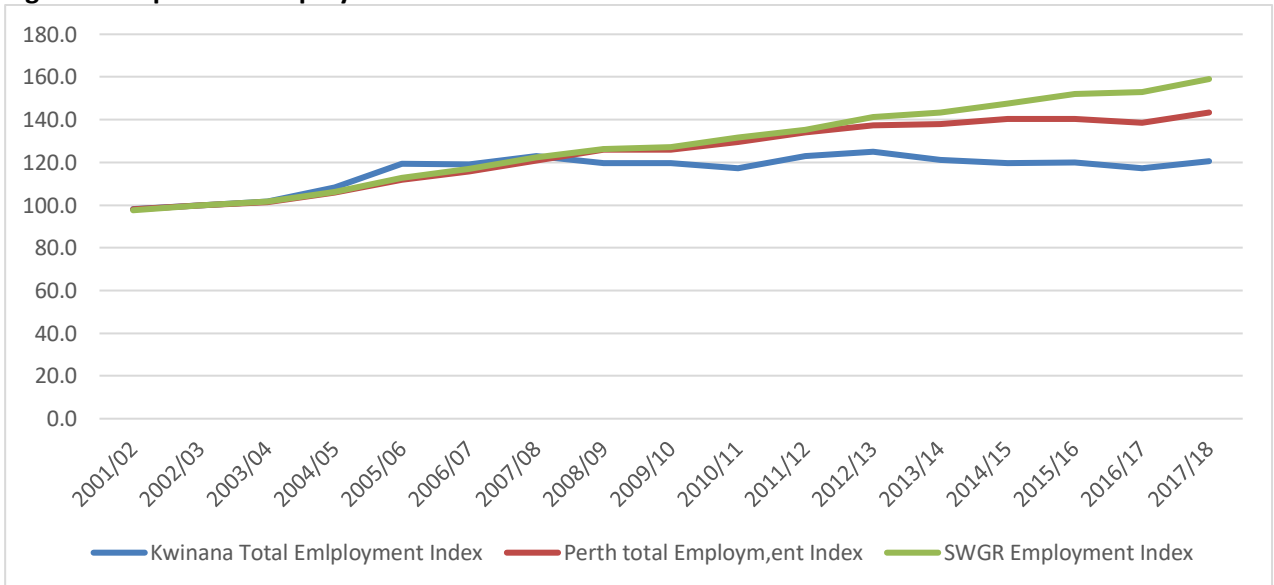
Figure 4.4 shows that employment has been flat since 2005/06. The Kwinana share of employment has fallen compared to both Perth and the South West Group, as shown in Figure 4.5. These trends in employment growth show the challenge associated with having job growth in Kwinana keep pace with projected population growth.

**Fig 4.4: Kwinana, Employment versus Population Growth**



Source: i.d. forecast (2017)

**Fig 4.5: Comparative Employment Growth Kwinana**



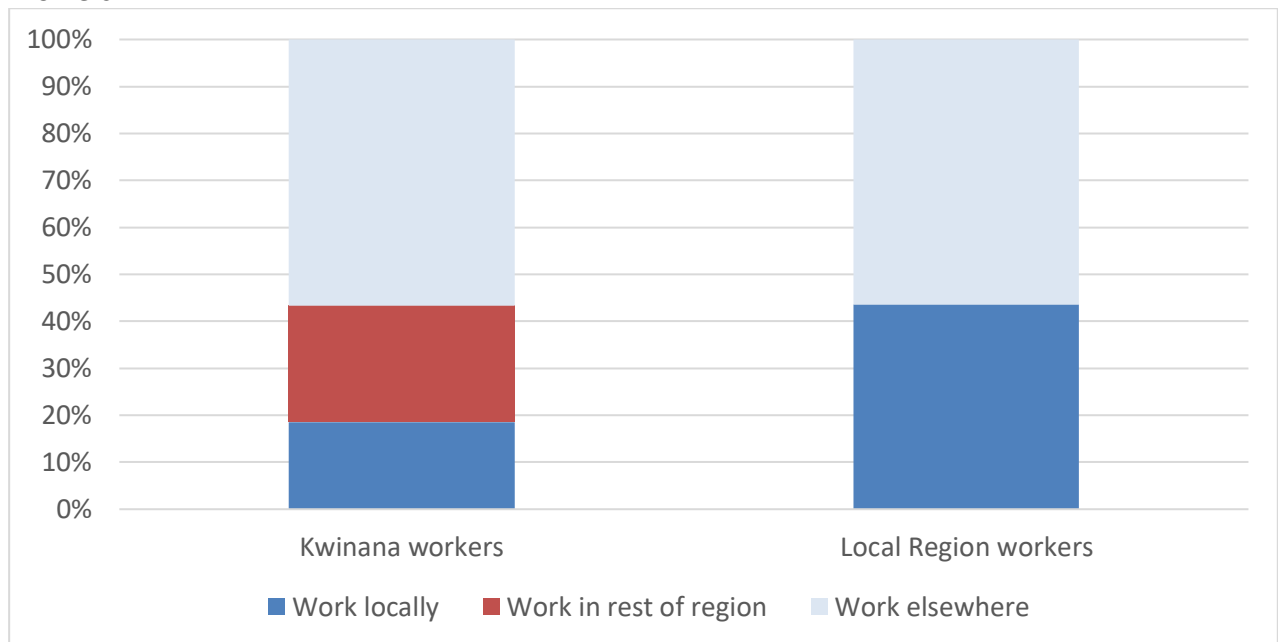
Source: i.d. forecast (2017)

## 4.2 Employment Locations

Regional Employment is very important to Kwinana resident workers. Around 18.5% of Kwinana the resident workforce works in the City, with the majority increasingly needing to find work outside of the City. While much of this (around 25% of the total) is in the adjacent Cities of Cockburn and Rockingham, high proportions of Kwinana working residents work further afield in the Cities of Perth, Melville (Murdoch) and Canning.

Overall, 44% of workers living in the local region (Kwinana, Rockingham, Cockburn) work in the region; This puts pressure on local employment provision as the workforce grows.

**Fig 4.6: Employment Location of Kwinana and Local Region (Kwinana, Rockingham, Cockburn) Resident Workers**



Source: ABS Census, 2016

Employment Capacity (sometimes known as employment self-sufficiency) is the ratio of total jobs in a location to the resident workforce. It is a useful measure of whether the local economy is providing sufficient jobs for its workforce. The job capacity for Kwinana is currently quite high: in 2017/18 there were 15,764 local jobs and 20,156 resident workers<sup>6</sup>, giving a job capacity ratio of 78%.

The situation is similar for the local region overall: in 2017/18 there were 106,451 local region jobs and 145,810 resident workers<sup>7</sup>, giving a regional job capacity ratio of 73%. If these ratios were to be maintained as the population grows, then another 12,000 jobs need to become available in the City of Kwinana, and 34,100 jobs in the local region overall between 2018 and 2036. This is an enormous task.

A proportion of these jobs (around one-third) will be population-driven, namely jobs that arise to directly service the local population. They include local retail and business services, health services, education services (particularly primary and secondary education) and personal services. However, this leaves 6,900 jobs in Kwinana and 18,500 jobs in the local region that must be found in strategic and externally oriented jobs. These jobs are typically found in the Western Trade Coast and major city centres, such as Rockingham.

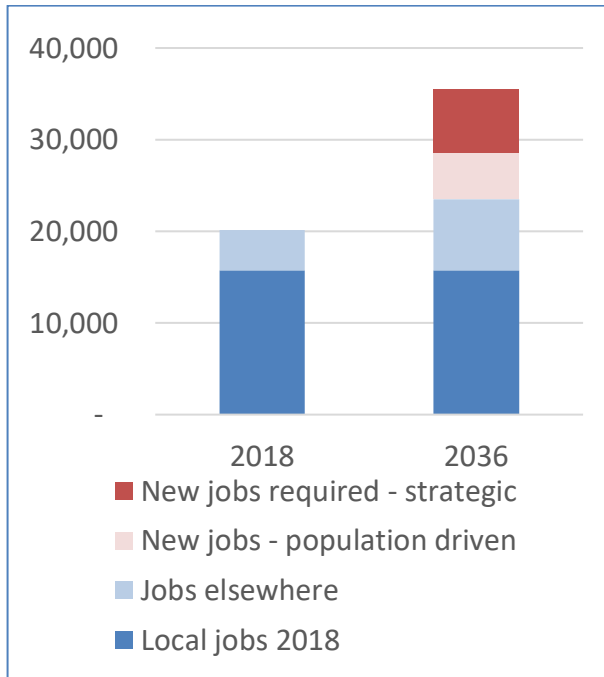
<sup>6</sup> Source: National Institute of Economic and Industry Research (NIEIR); economy.id

<sup>7</sup> Source: National Institute of Economic and Industry Research (NIEIR); economy.id

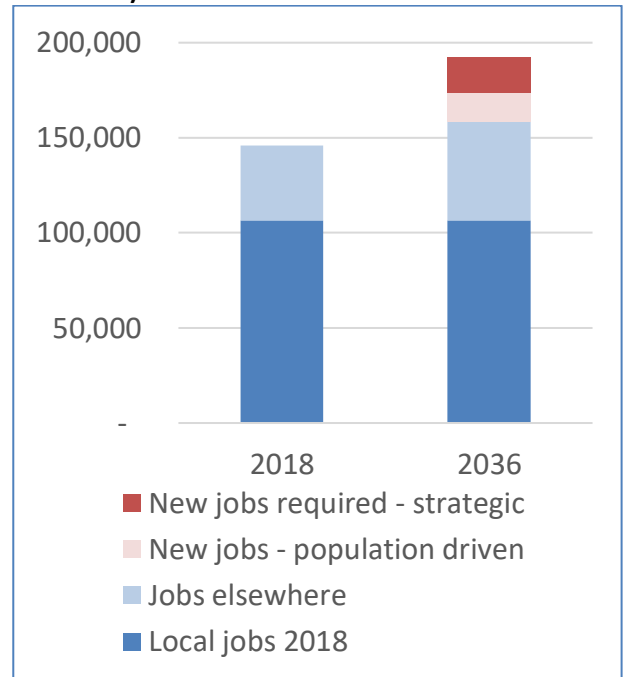


**Fig 4.7: Job Requirements to Maintain Current Job to Workers Ratio**

**Fig 4.7a: Kwinana**



**Fig 4.7b: Local Region (Kwinana, Rockingham, Cockburn)**



### 3.3. Industry Base

Understanding the industry base in Kwinana is made slightly more complex because it is the State’s premier heavy industry area. As such, it fills a particular economic role that other LGAs do not.

This role influences the mix of industry in Kwinana and its relative position within the broader economy. In particular, manufacturing is represented disproportionately in its economy, even though, as discussed above, it is not a dominant employer of Kwinana residents.

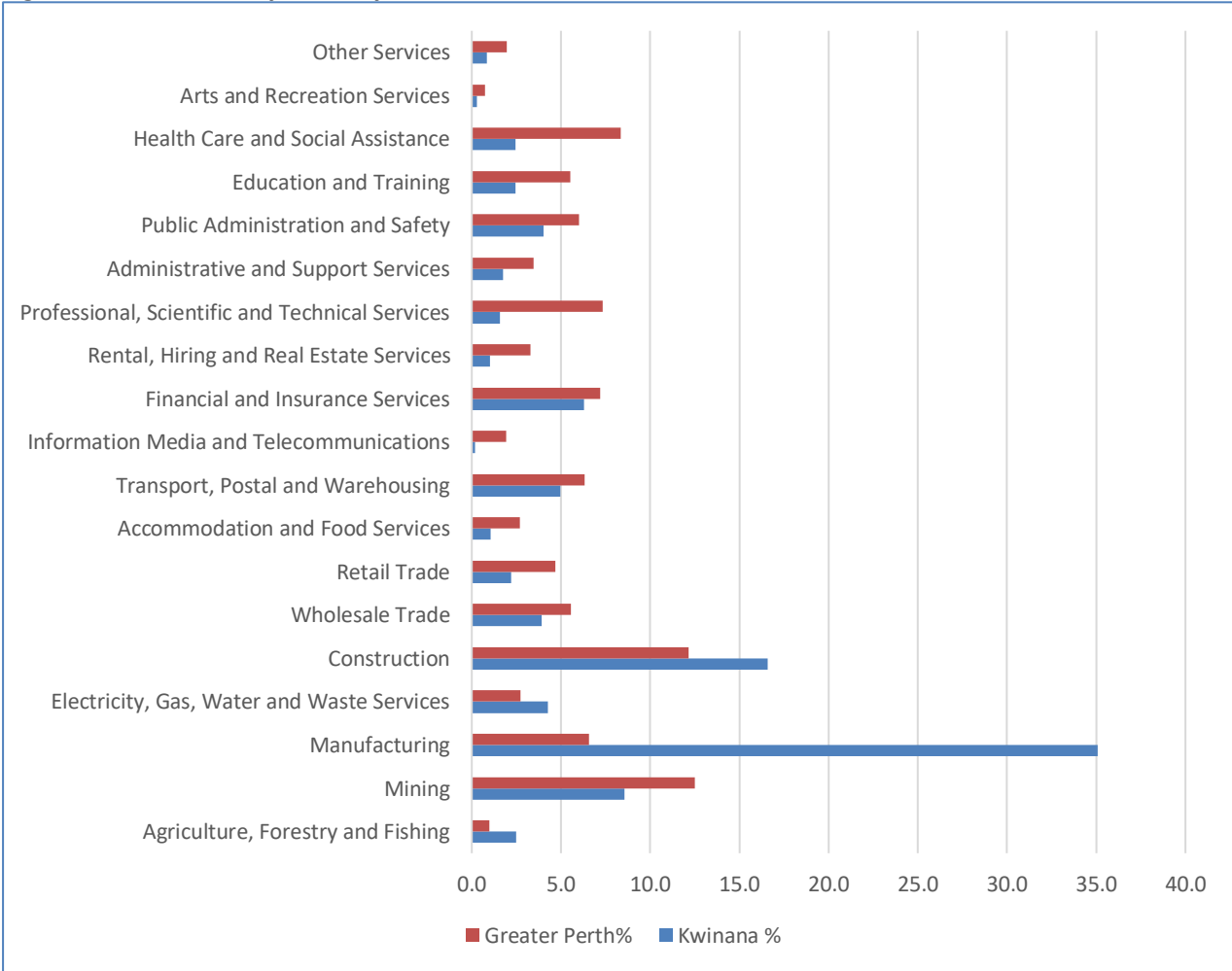
Figure 4.8 shows value added by industry. The three dominant industries are: Manufacturing (\$1,020 million or 35.1%), Construction (\$482 million or 16.6%), Mining (\$249 million or 8.6%). Clearly in terms of value added, Kwinana has a strong manufacturing orientation.

This is further illustrated by reference to the location quotients (LQ) for Kwinana compared to Greater Perth. Location quotient shows the percentage of the local economy characteristic (e.g. employment, value added) in a particular industry divided by the percentage of the wider area (region, state, nation) that this industry makes up. These are shown in Figure 4.9. They indicate that the three strongest industries in Kwinana compared to the Greater Perth area are Manufacturing (4.1), Agriculture, Forestry and Fishing (3.7), Electricity, Gas, Water and Waste Services (2.5) and Construction (1.4). For most other industries Kwinana is either about on par or under-represented compared to the Greater Perth region.

Most notably it is under-represented in Retail Trades (0.64) and Health Care and Social Assistance (0.44) which are the two biggest employment sectors for Kwinana residents (see Table 4.2).

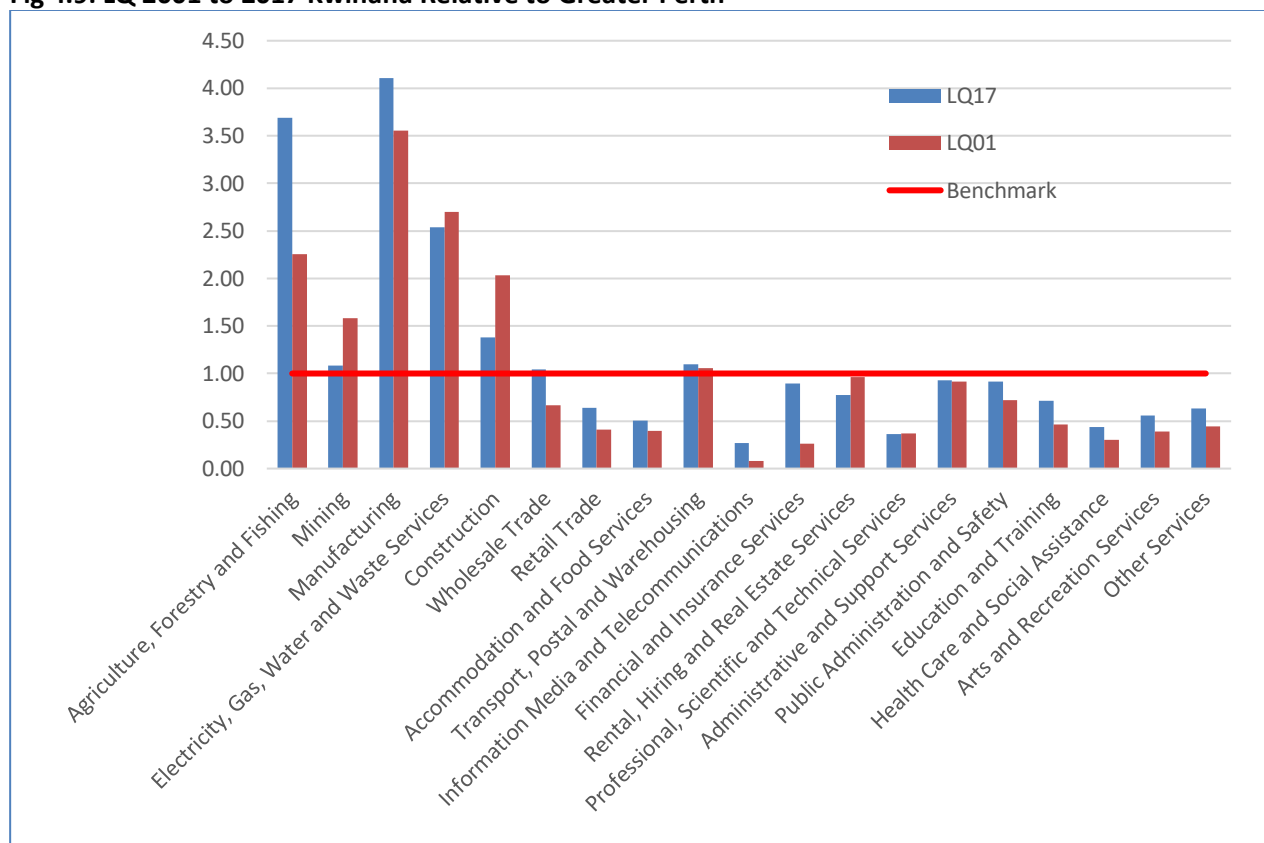
A further perspective can be obtained if we focus just on manufacturing. This is shown in Table 4.3. It shows that Kwinana accounts for 6% of manufacturing employment in Perth but 22% of its international exports. It accounts for 5% of WA’s manufacturing employment but 16% of its international exports. Manufacturing in Kwinana has a significantly higher worker productivity at \$272,118 per worker compared to \$155,804 for Perth. Across all industries worker productivity is \$137,680 for Greater Perth and the wider South West Metropolitan region. This difference reflects the high capital intensity of the heavy industry sector in Kwinana. Of 3,000 manufacturing workers in Kwinana, around 300 live locally.

**Fig 4.8: Value Added by Industry 2017/18**



Source: i.d. forecast (2017)

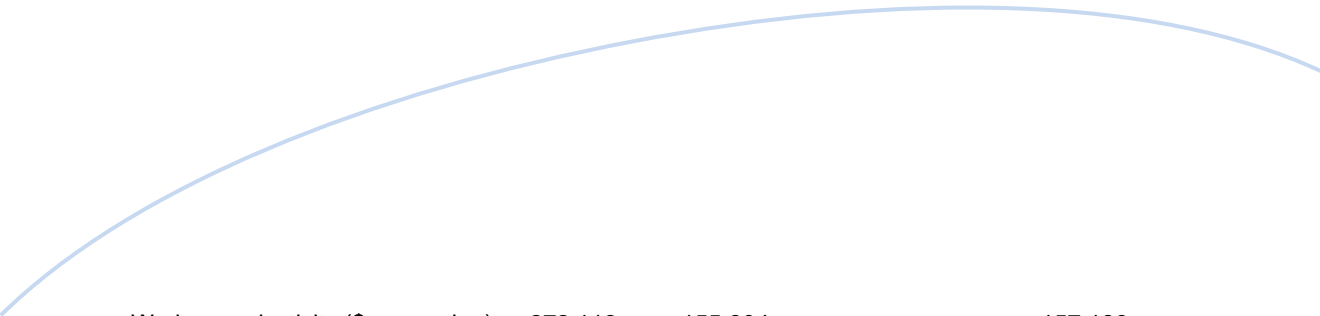
**Fig 4.9: LQ 2001 to 2017 Kwinana Relative to Greater Perth**



Source: i.d. forecast (2017)

**Table 4.3: Manufacturing in Kwinana, Perth and WA**

Economic measure	City of Kwinana	Greater Perth	City of Kwinana as a % of Greater Perth	Western Australia	City of Kwinana as a % of Western Australia
Employment (total)	3,750	61,387	6	77,380	5
Employment (FTE)	3,975	62,906	6	78,413	5
FTE to total employment ratio	1	1		1	
Output/Total Sales (\$m)	4,742	36,372	13	48,157	10
Value add (\$m)	1,020	9,564	11	12,163	8
Exports (\$m)	4,175	23,942	17	32,756	13
Exports (domestic) (\$m)	895	8,924	10	11,903	8
Exports (international) (\$m)	3,280	15,018	22	20,853	16
Imports(\$m)	1,407	40,486	3	57,987	2
Imports (domestic) (\$m)	391	11,043	4	16,700	2
Imports (international) (\$m)	1,016	29,443	3	41,287	2
Local Sales (\$m)	567	12,448	5	15,420	4



Worker productivity (\$ per worker)	272,118	155,804	157,189
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Source: *i.d. forecast (2017)*

The above analysis is central to understanding the employment challenge in Kwinana.

Kwinana is highly specialised. However, that specialisation is in areas like heavy industry manufacturing. These industries:

- Are project driven;
- Need “project ready” industrial land to facilitate new investment;
- Cannot be greatly influenced by local planning;
- Are relatively more important to Greater Perth and WA economies than to Kwinana narrowly defined.

Kwinana is under-weight in some key areas critical to expanding local employment as population grows within Kwinana and the broader South West metropolitan region. In particular it is currently under-represented in:

- Retail
- Education
- Health Care
- Professional and scientific

In recent years employment has grown in these sectors largely as a consequence of Kwinana’s growth which has increased as a share of SWGR and Greater Perth population.

One area that stands out in the heavy industry group is waste services. This is an area of specialisation for Kwinana as shown by the location quotient data in Figure 4.9 and is an area where, although small in absolute terms, has experience significant employment growth in recent years. Waste services will continue to grow as an economic opportunity as industry pursues options relating to (a) waste to energy and (b) recycling of household wastes as an alternative to landfill and (c) recycling of wastewater treatment plant waste as an alternative to landfill.

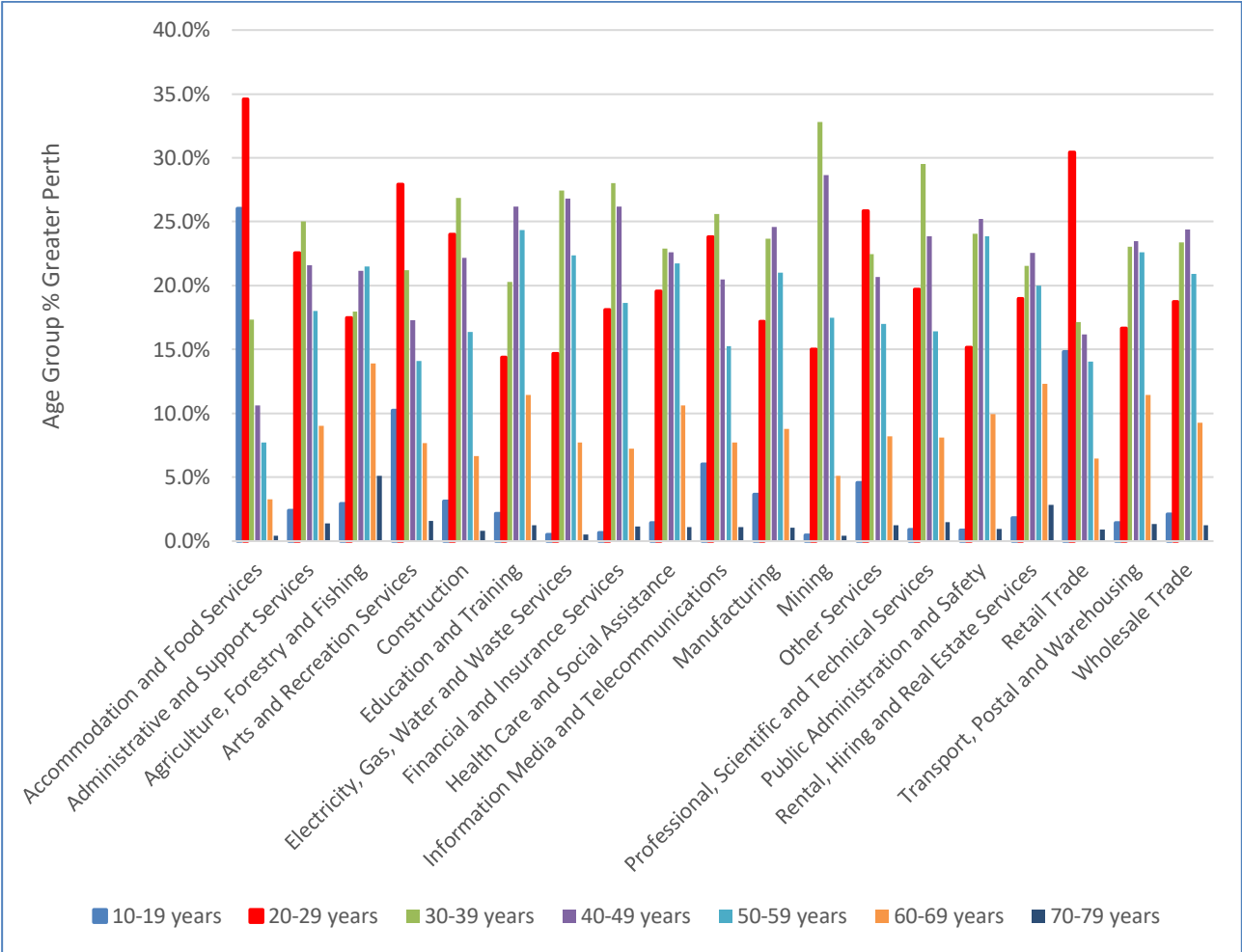
Land options need to be available that can facilitate investment in heavy industry as projects arise. The recent lithium project illustrates this perfectly. The lithium plants locate in Kwinana due to its competitive advantages, but also because land is available here. Land options also need to be planned and developed that can facilitate employment growth in retail and health services.

#### **4.4 Employment and Age Groups**

As already noted in Table 4.2, Kwinana residents are heavily weighted to retail, health care and construction in terms of the sectors in which they are employed. As population grows these will be important areas to grow if Kwinana is to provide jobs locally. A particularly important aspect is the

provision of jobs for young employees. Youth unemployment is very high In Kwinana. More generally the dominant areas of work for younger employees are in areas like retail, accommodation and food services and recreation services. Manufacturing, waste services and mining are oriented to older employees. This is illustrated in Figure 4.10 which shows employment share by age group for industries across Greater Perth. Local planning, top the greatest extent possible, will need to facilitate employment in these service related industries to offer local job opportunities for younger employees.

**Fig 4.10: Employment by Industry for Age Groups**



Source. ABS Census, 2016

## 5. Major Employment Centres

### 5.1. Western Trade Coast

#### 5.1.1. Historic Growth

The Western Trade Coast (WTC) includes the Kwinana Industrial Complex - the southern portion of which is in the City of Rockingham – and Henderson in the City of Cockburn. The southern part of the WTC comprises the Kwinana Industrial Area, which is based on heavy industry, including petroleum and minerals refineries, power stations, chemical plants, cement works and a range of supporting industries.

On the fringes of the heavy industrial complex, the Rockingham Industrial Zone and East Naval Base factory area house well established fabrication facilities, depots for transport, warehousing and a range of construction supply activities. To the east, the Latitude 32 Industry Zone provides space for transport, storage and laydown areas as well as new industrial land for supporting industries. In the northern part of the WTC is the Australian Marine Complex, which is an area for shipbuilding, marine engineering, manufacturing, fabrication, defence services, technology and general engineering.

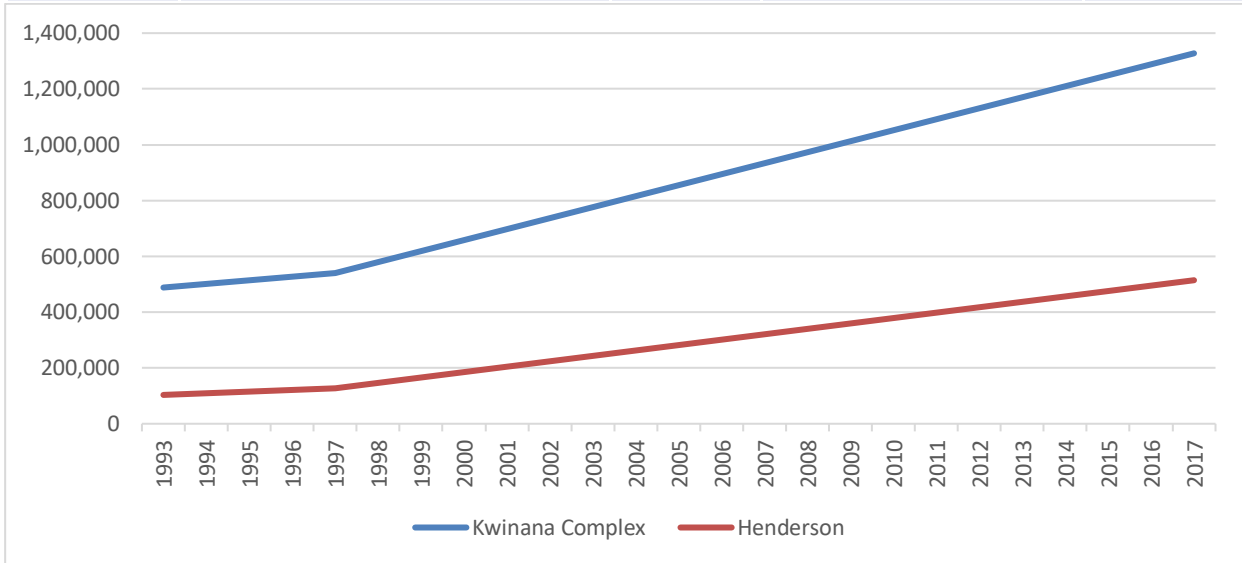


WTC employment has grown from 9,000 in 1997 to 14,350 in 2017, a 59% increase. Over the same period, floorspace has increased from 0.67 million m<sup>2</sup> to 1.84 million m<sup>2</sup>, a 176% increase, indicating a sharp reduction in employment intensity. Each of the Kwinana Industrial Complex and Henderson has grown over the period, with floorspace increasing by 146% and 302% respectively and employment by 49% and 87% respectively. In each these locations employment density has reduced, with floorspace growing more than employment by some margin.

Tables and Figures 5.1 and 5.2 show the floorspace and employment changes in the Kwinana Complex and Henderson from 1993 to 2017.

**Table 5.1 and Fig 5.2: Floorspace (m2)**

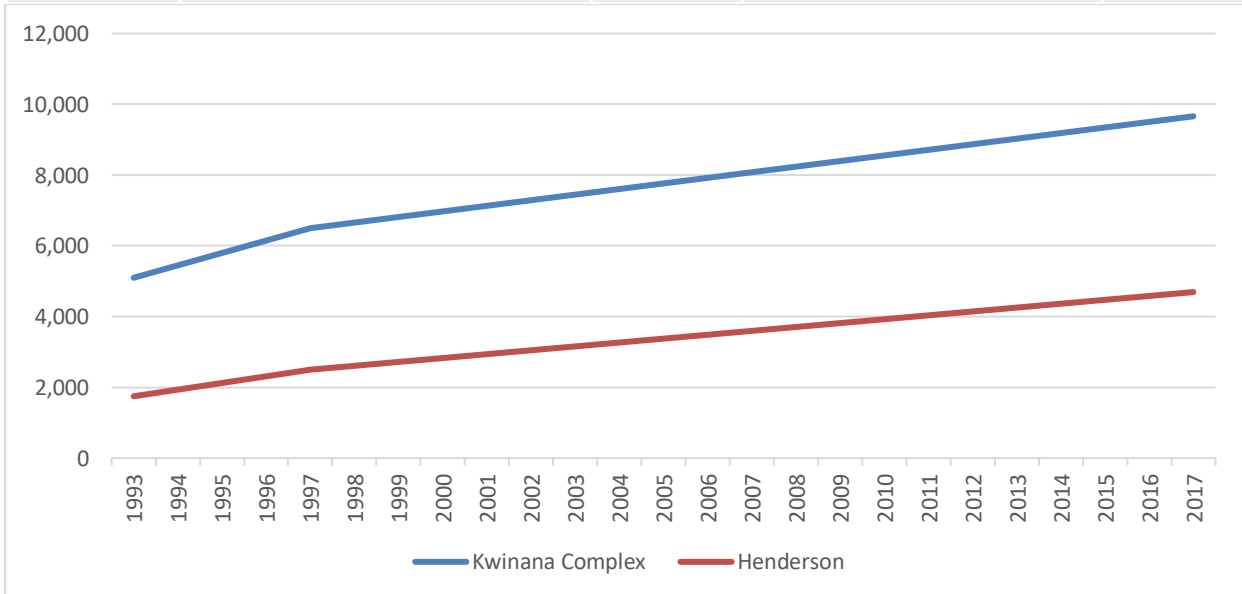
	Kwinana Complex	Increase	Henderson	Increase
<b>2017</b>	1,327,570	<b>146%</b>	514,398	<b>302%</b>
<b>1997</b>	540,262		127,996	



Source: WAPC Land Use and Employment Surveys, 1993, 1997, 2017.

**Table 5.2 & Fig 5.2: Employment**

	Kwinana Complex	Increase	Henderson	Increase
<b>2017</b>	9,659	<b>49%</b>	4,692	<b>87%</b>
<b>1997</b>	6,502		2,504	

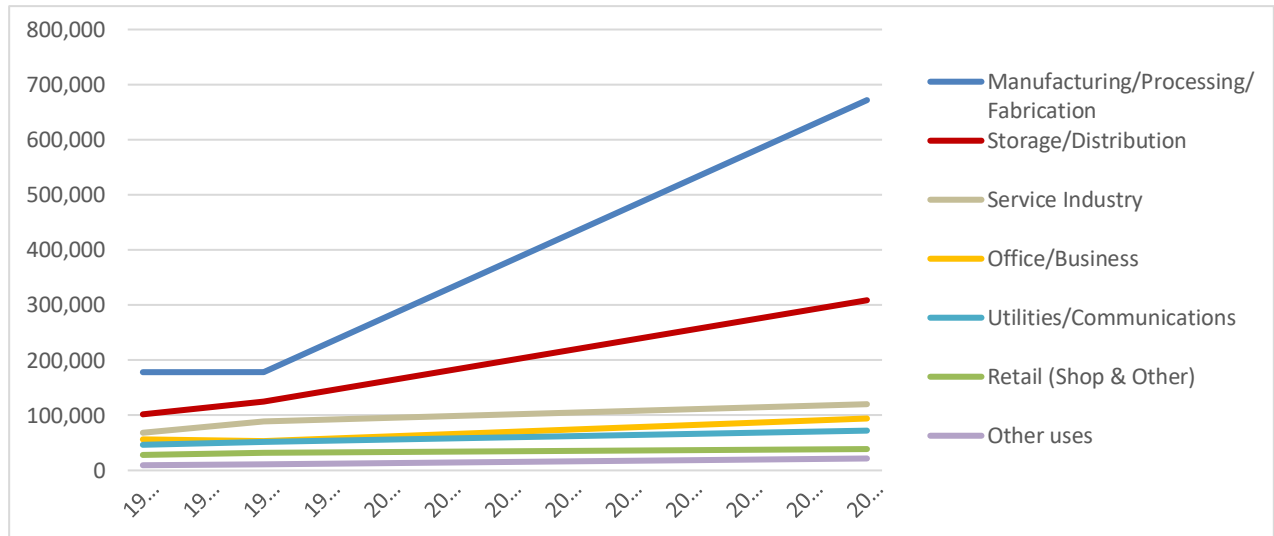


Source: WAPC Land Use and Employment Surveys, 1993, 1997, 2017.



In the Kwinana Complex the major land uses of Manufacturing and Storage/Distribution have shown the strongest floorspace growth.

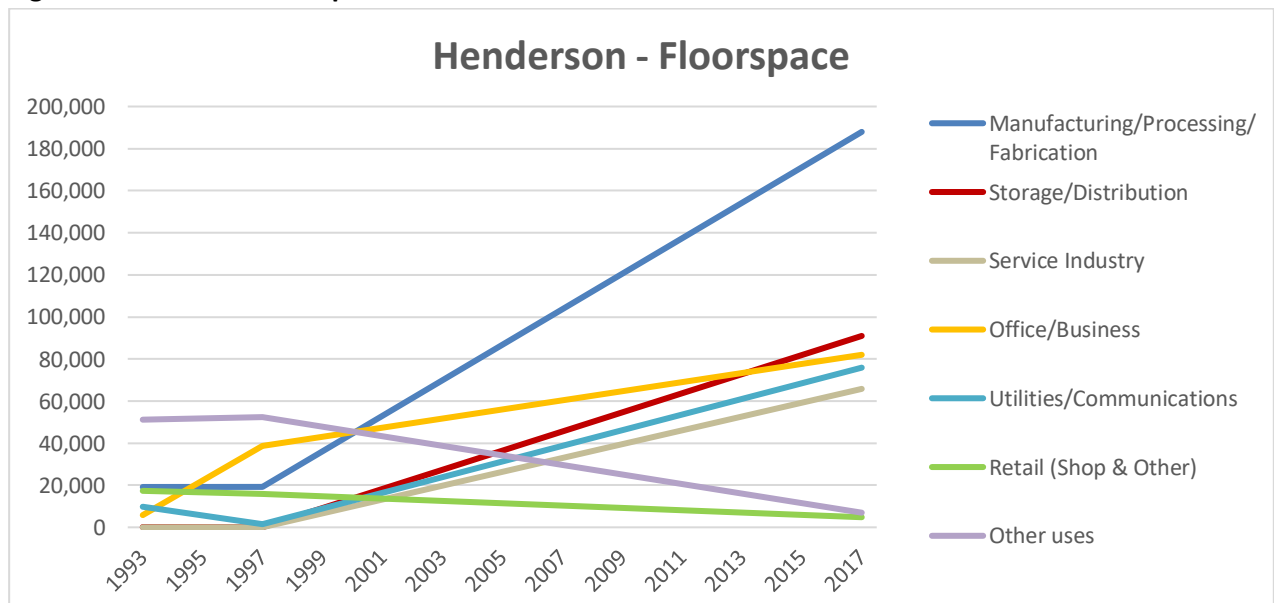
**Fig 5.3: Kwinana Complex - Floorspace**



Source: WAPC Land Use and Employment Surveys, 1993, 1997, 2017.

In Henderson, in addition to substantial growth in Manufacturing and Storage/Distribution floorspace, there has also been strong growth in Office / business, Service industry and Utilities/communications floorspace.

**Fig 5.4: Henderson - Floorspace**

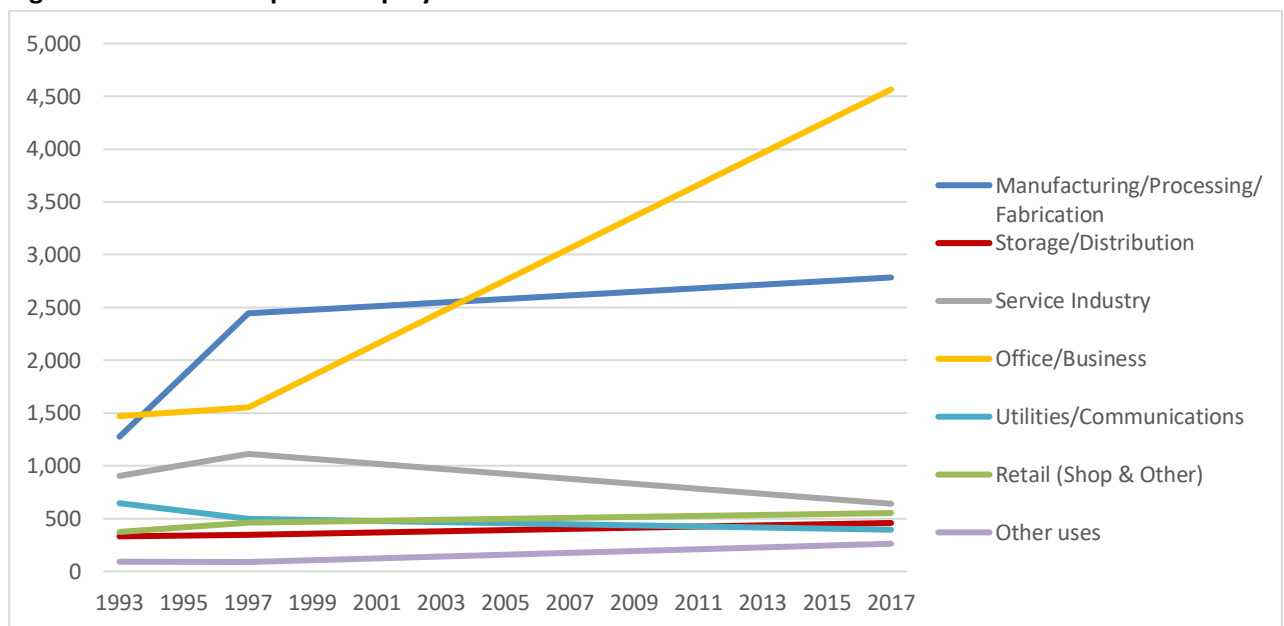


Source: WAPC Land Use and Employment Surveys, 1993, 1997, 2017.



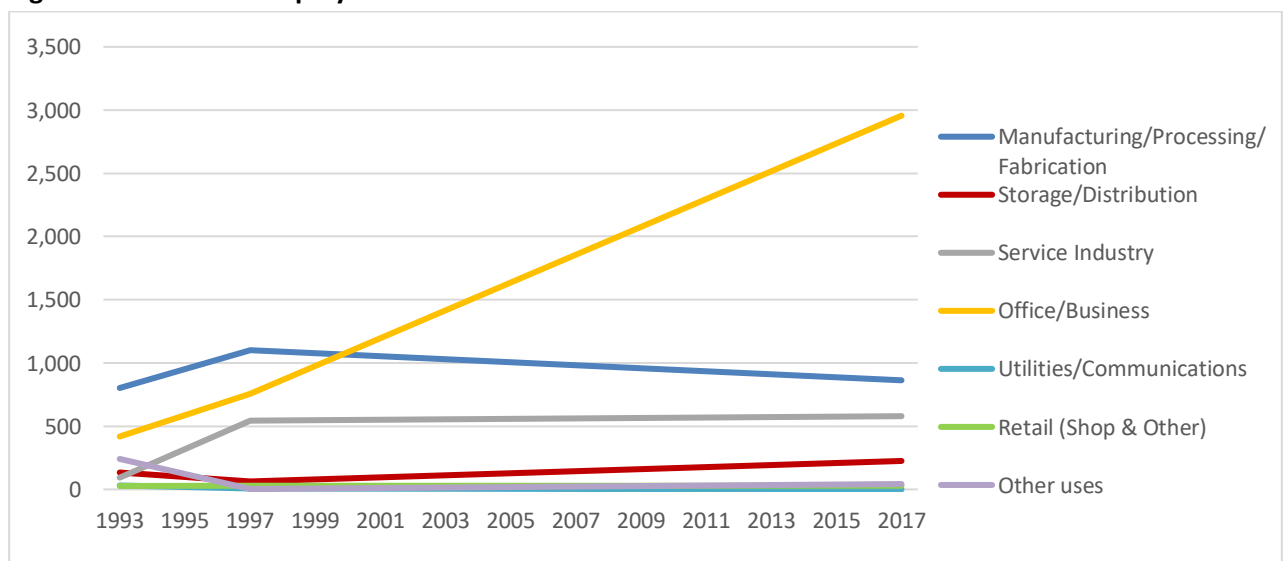
However, the employment picture is quite different: for both the Kwinana Complex and for Henderson, all industry sectors have shown either minimal growth or a decline. The exception is Office/business uses, which has grown strongly in employment numbers and proportion. Office/business uses now account for over 50% of all employment in the Western Trade Coast (Figure 5.7). While some of this employment is directly related to the on-site industrial activity, much of it is not specific to the land uses on the sites on which the offices are located.

**Fig 5.5: Kwinana Complex - Employment**



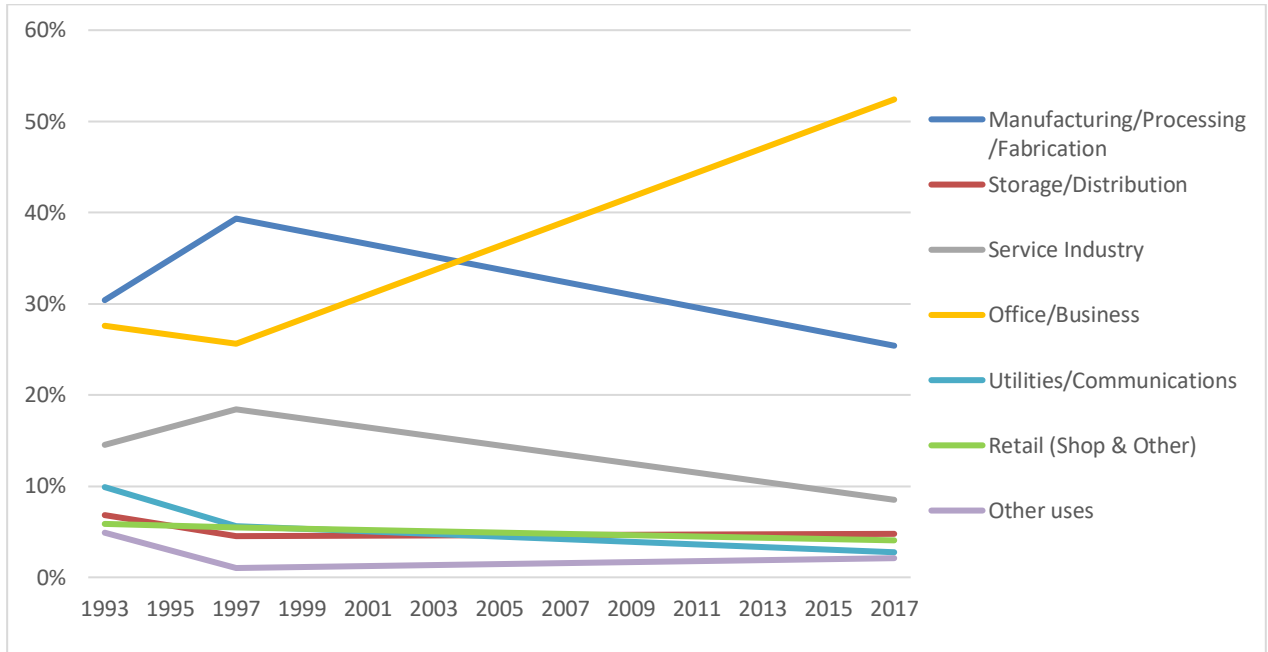
Source: WAPC Land Use and Employment Surveys, 1993, 1997, 2017.

**Fig 5.6: Henderson - Employment**



Source: WAPC Land Use and Employment Surveys, 1993, 1997, 2017.

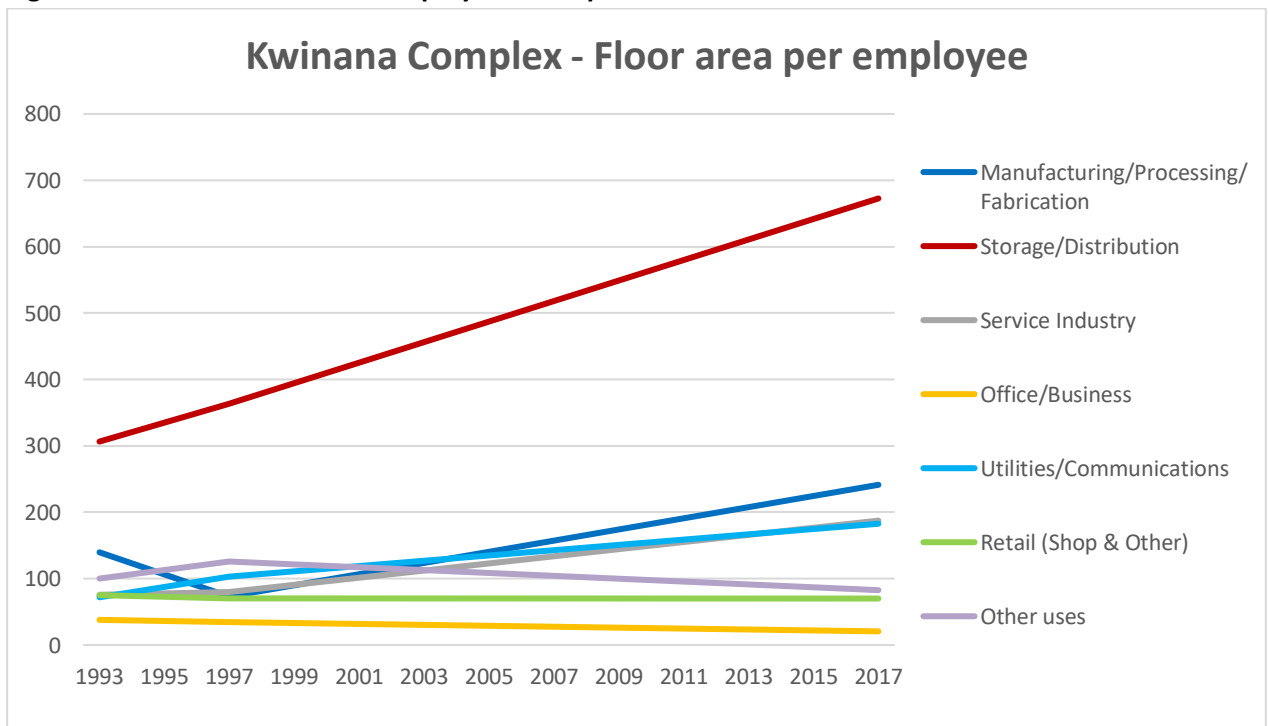
**Fig 5.7: Western Trade Coast – Employment Proportion**



Source: WAPC Land Use and Employment Surveys, 1993, 1997, 2017.

The most marked decrease in employment density has been in Storage/distribution uses

**Fig 5.7: Western Trade Coast – Employment Proportion**



Source: WAPC Land Use and Employment Surveys, 1993, 1997, 2017.



### 5.1.2. Strategic Position

As a large well established and complex port-related heavy industry zone with access to a highly skilled labour pool, the Western Trade Coast is unique in Western Australia and unusual, even in international terms. Its core industries are minerals and chemicals processing and production, with associated bulk transport and distribution. These are all highly integrated and have grown over time.

It has strong competitive advantages, in particular its highly sophisticated inter-organisational relationships and networks. By one count there are over 158 interconnecting pipes and conveyors between organisations in the Kwinana complex, with off-take from one organisation forming the intake for another. New entrants add to the network. For example, chemical companies will provide inputs to lithium processing and processing waste is used as feedstock to concrete production. Its heavy industry uses are protected by a buffer zone. This allows the heavy industry operations to continue and is a key element of its competitive advantage.

Figure 5.8 shows the companies and their connections and interactions in 1990. At that time there were 13 established operations with 27 interactions. Figure 5.9 shows the situation in 2013. It shows 27 established operations with 158 interactions, and a further 13 not mapped and another 4 in prospect. As an indication of the importance of this network, for example, the Kalunborg Eco-industrial Estate in Denmark, often held as a good example of industrial symbiosis, has just 30 reported synergies.

The number of synergies that have evolved in the WTC provide a unique eco-system for industrial development.

Although there are potential areas for expansion of the core industries in the buffer zone, principally at Latitude 32, these are undeveloped, with no time frame for critical land assembly and land servicing tasks to be undertaken. There is a current general shortage of suitable land for core industries. The Rockingham Industrial Zone (RIZ) is fully allocated. New entrants are increasingly seeking very large sites, with lithium processors requiring sites of 35 – 70 ha and these are practically non-existent.

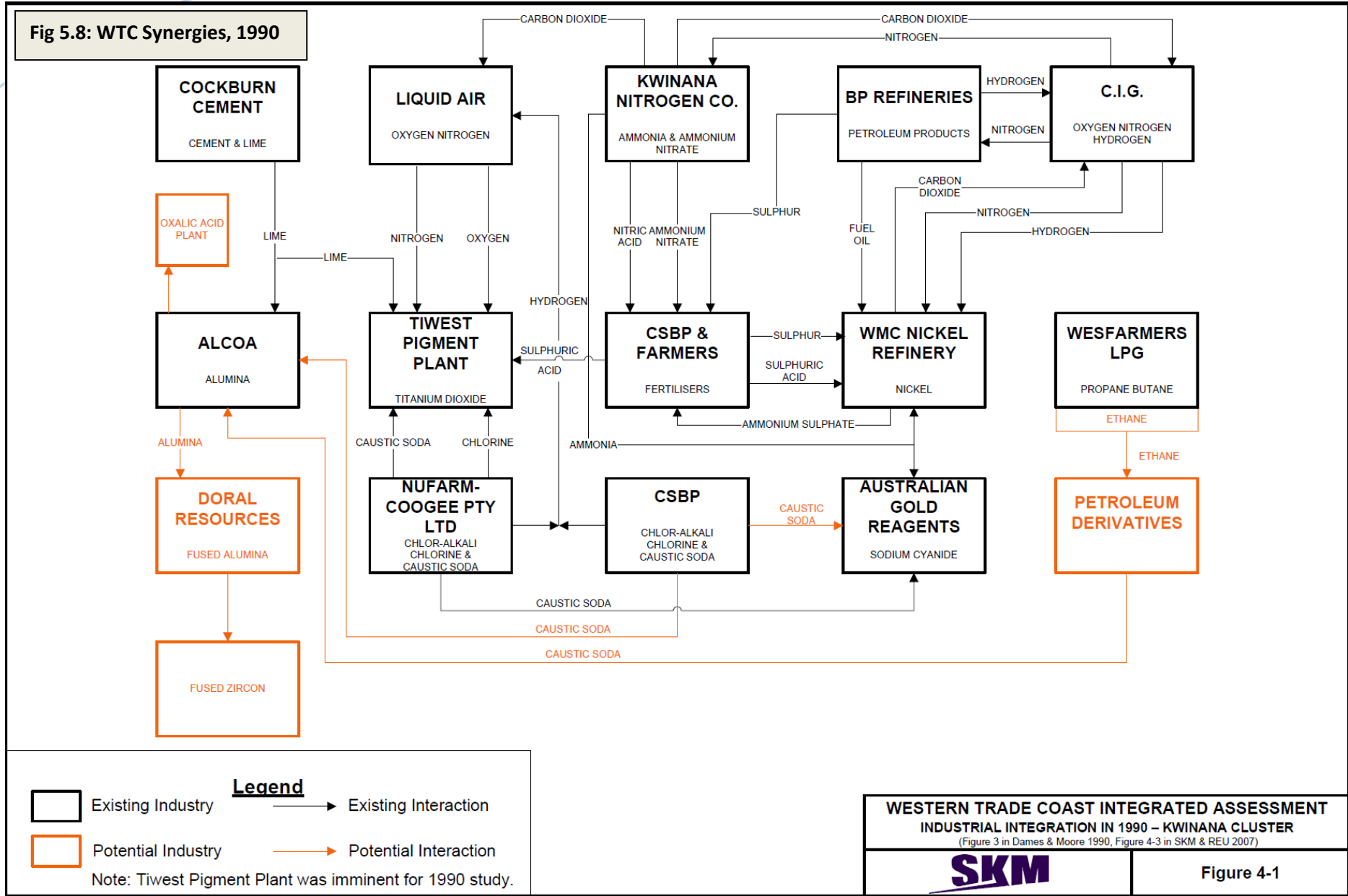
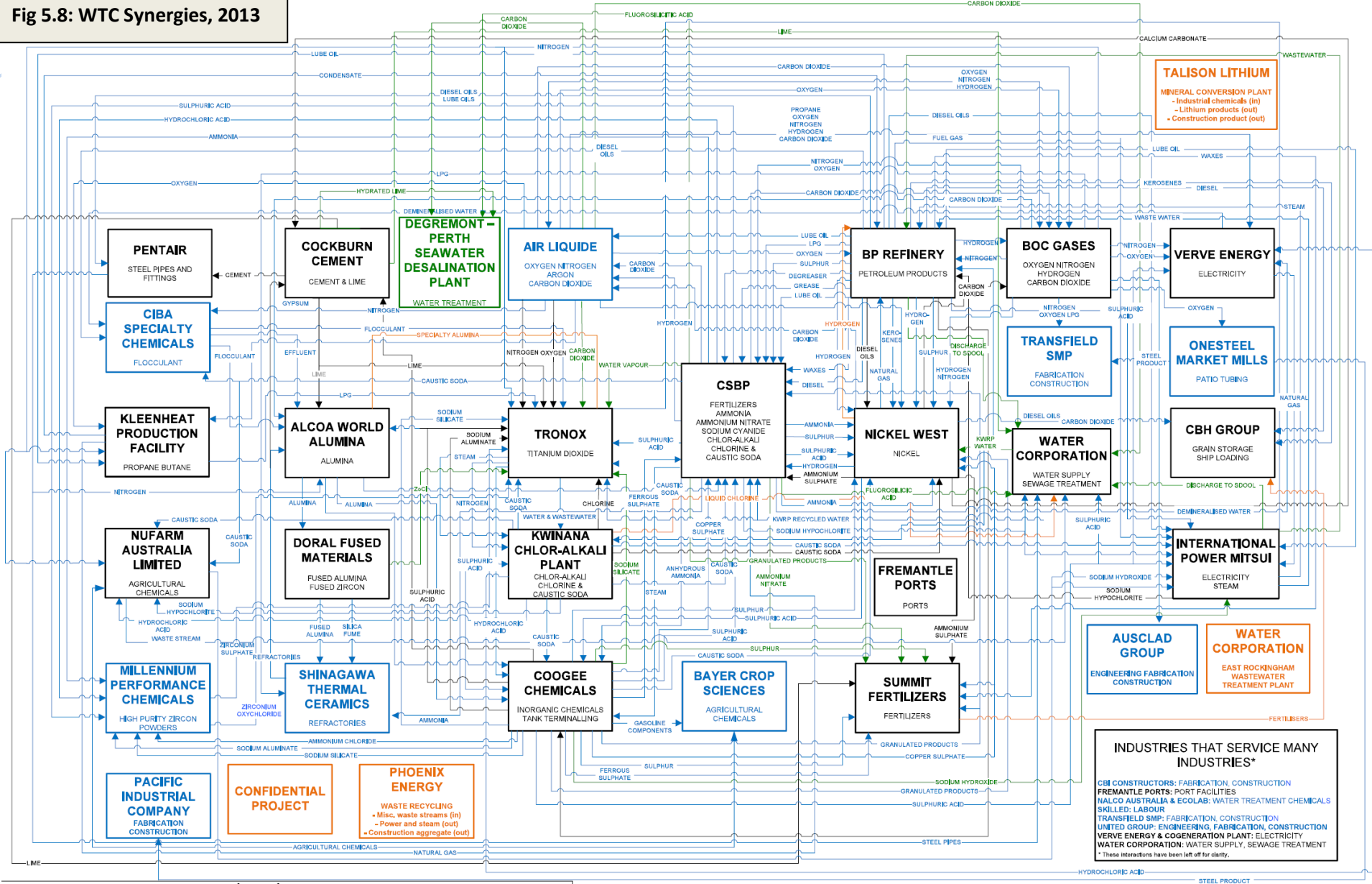


Fig 5.8: WTC Synergies, 2013



**Legend**

- Industry from previous studies not participating in 2013
- 2013 participating industry
- New industry to the WTC and/or the study
- Potential industry
- Interaction from previous studies unconfirmed for 2013
- 2013 confirmed interaction
- New interaction for 2013
- Potential interaction



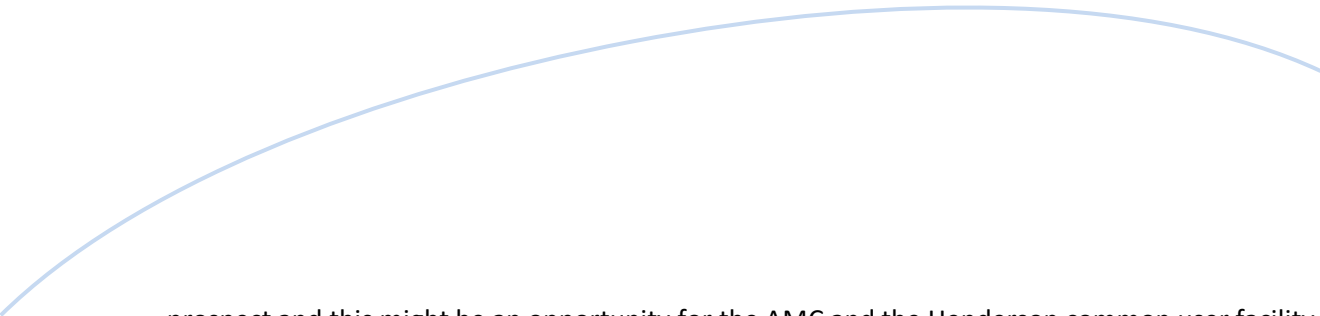


### 5.1.3 Drivers and Prospects

#### ❖ Drivers

There are several drivers of new and expanded projects in the Western Trade Coast:

- 5 Defence industries. These are mostly concentrated in and around the Henderson Australian Marine Complex. The vision is for Western Australia to be the principal location for delivery of all maintenance and sustainment requirements for Australia's submarines and frigates. Some points to note:
  - Time frames are long: the main defence industries projects will not be fully operational until the early 2030s.
  - Defence has committed \$120 million into the AMC. However, while this represents a significant potential boost, and will lead to increased activity in the AMC, available information indicates that the AMC is near capacity and is congested. Some proactive management is needed to ensure land is available in the area to ensure that the defence opportunities can be fulfilled. LandCorp has some adjacent land which it is planning to develop by 2021 and this will provide some expansion capacity to activities in the AMC.
  - Defence is looking to establish an office/training facility easily accessible to the AMC. In discussions there was some indication that Defence might be looking for up to 300 ha of land in the medium and longer term to meet all of its requirements in the defence assets maintenance phase, although this needs to be scoped and confirmed. If so, it would put considerable pressure on land availability in the WTC.
  - In the main defence assets maintenance phase (i.e. after 2030) approximately 1,000 personnel (many on a long term rotation) are to be located in areas easily accessible to Henderson, requiring facilities including housing, social services, cafes etc. This is an opportunity for Kwinana as a nearby, attractive and well-serviced residential location.
  - There is a need for skills development around defence. The Henderson campus of South Metropolitan TAFE provides specialist engineering, fabrication and shipbuilding courses and both this campus and the Kwinana TAFE campus would be good locations to expand to provide semi-professional and trade training for the defence industry.
- 6 New energy materials – one project lithium processing plant (Tianqui Lithium) now in construction with another (Kidman) in prospect. There is a considerable interest in taking new energy metals (lithium, nickel and cobalt) processing as far down the value chain as possible (e.g. refined lithium chemicals, anodes and cathodes, separators and energy storage batteries). There is potential for this to be a main activity in the WTC in the future. This will only occur if land is available.
- 7 Oil & gas (processing and new projects): the Henderson area of the WTC has had fabrication and assembly business in the past for the construction phase of oil and gas projects the north-west. This phase is now largely complete. However, there are several substantial NW gas expansion projects in



prospect and this might be an opportunity for the AMC and the Henderson common user facility (CUF).

8 Waste-to-energy: construction of a waste-to energy plant is underway, for completion by 2021.

Other drivers for WTC development include extension and expansion of existing activities, for example:

- Grain exports
- Petroleum products processing and handling

Some existing industries would benefit from the proximity of a container port at Outer Harbour. For example, some specialist grain is containerised, as are lithium chemicals. However, the bulk ports are also vital to the well-being of the WTC overall and there is some evidence that they require upgrading.

#### ❖ **Prospects - Westport**

The future of the three main port facilities in Perth and the south-west (Fremantle Ports Inner Harbour, Fremantle Ports Outer Harbour and Bunbury) is currently the subject of a study by the Westport Taskforce. The Taskforce has completed and publicly released its Stage One report which identifies eight options for the ports. Three of these include container facilities at Outer harbour (Kwinana). There are strong reasons for its inclusion and there are reasonably high prospects that container facilities at outer harbour will form part of a long term strategy. However, it will be some time before a definite decision will be available. At best, the program is :

- Stage 2 - Identification of the preferred option: aiming for completion by the end of 2019;
- Stage 3 - A more intensive study of the preferred option to a bankable stage: aiming for completion by end of 2021.

There are many aspects of the future of Outer Harbour which are still to be decided, but which will have considerable bearing on its role, in the general economy of Kwinana. For example:

- Whether a transition of container traffic from Fremantle is in whole or in part – this is clearly a question of scale.
- Whether any transition occurs gradually or quickly: the more a new port is executed as a large, new facility, the greater its long term operational efficiency and thus competitiveness. This would imply a high degree of automation in its operations.
- The amount and format of land-side facilities. There is an option for an intermodal facility at Latitude 32. However, intermodal facilities are relatively large land users and relatively small employers. Moreover, intermodal facilities do not require the air quality buffer that protects many of the uses in the Kwinana industrial complex and an intermodal facility at Latitude 32 would thus have considerable opportunity costs, effectively reducing the amount of buffer-protected land suitable for high value processing facilities at Kwinana.

The possible economic benefit to Kwinana from an expanded port at Outer Harbour is thus dependent on the ultimate form that the port and its associated transport and logistics infrastructure takes. While the



proximity of a container port will be beneficial to many current and prospective industries in Kwinana – for example, processed lithium and specialist grains are transported in containers. However, an open question is the extent to which the transport, storage and logistics aspects associated with outer harbour operations will assist the Kwinana economy beyond the employment of a relatively small, and diminishing in relative terms, number of transport workers. Automation is essential for a world class intermodal. This reduces the potential direct employment impact.

For context, a possible form of an intermodal facility is shown in Figure 5.11. This is based on a previous detailed study (undertaken in 2008), but is likely to be indicative of a possible intermodal solution for a new container port at Outer Harbour. It illustrates that intermodal facilities typically require large land areas for container handling, container parks and warehousing. These are all very low labour uses and would be highly automated in any new facility that was built.

The map in Figure 5.10 shows the extent of the land requirement for this intermodal facility and the extent to which it excludes large parts of Kwinana from other uses. As a reference point, the land shown for the container park is large enough to accommodate three large lithium processing plants. It is also worth noting that once this core area of Latitude 32 is developed, there are only limited opportunities for development of other large land parcels that are practically available<sup>8</sup> in the WTC.

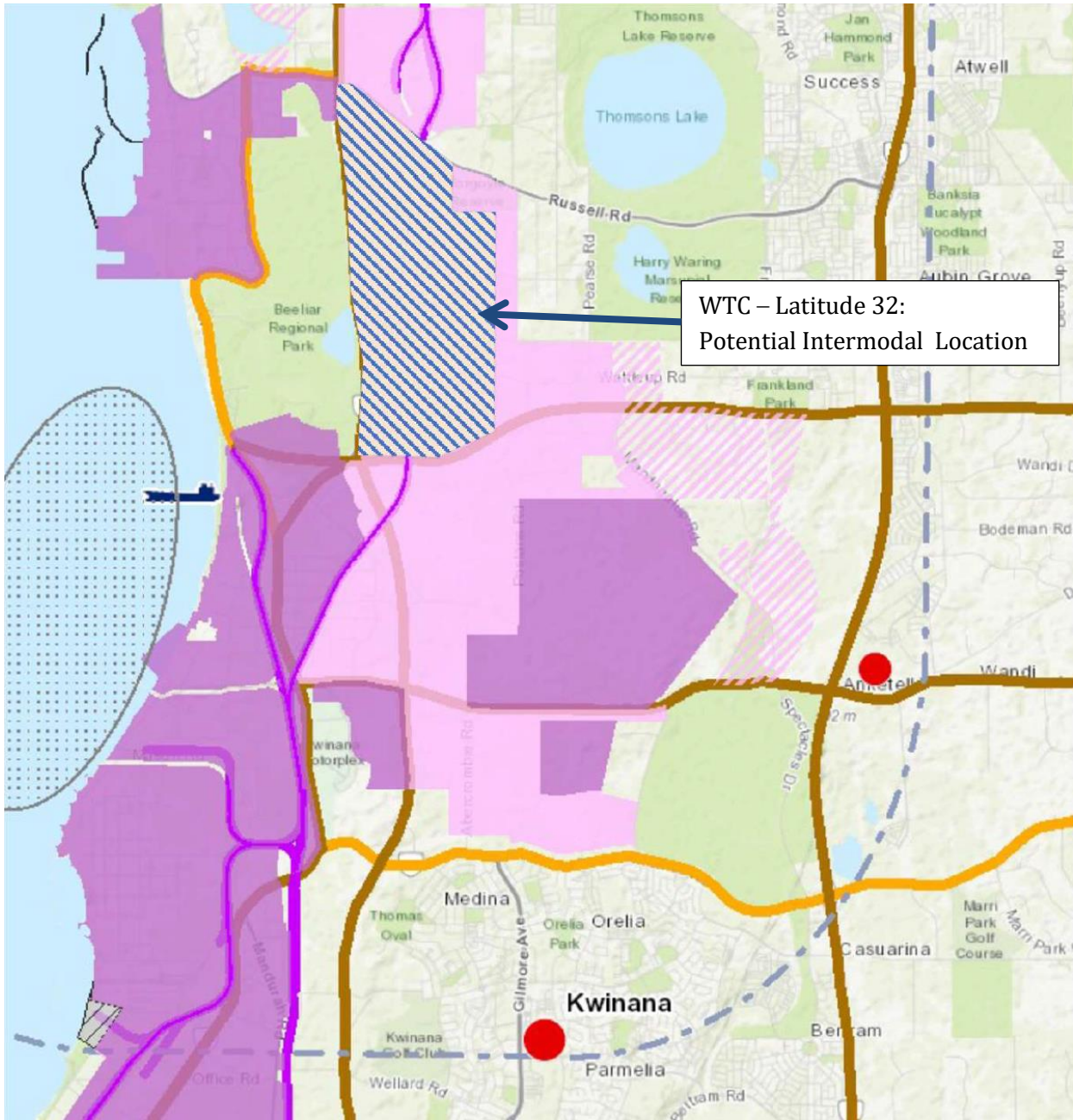
Other forms of an intermodal facility are possible. The map opposite shows the development zones for Latitude 32. The parcel marked ‘5’ has been earmarked as a possible location for an intermodal terminal. It would seem that this would be the minimum land requirement for an effective and efficient facility.



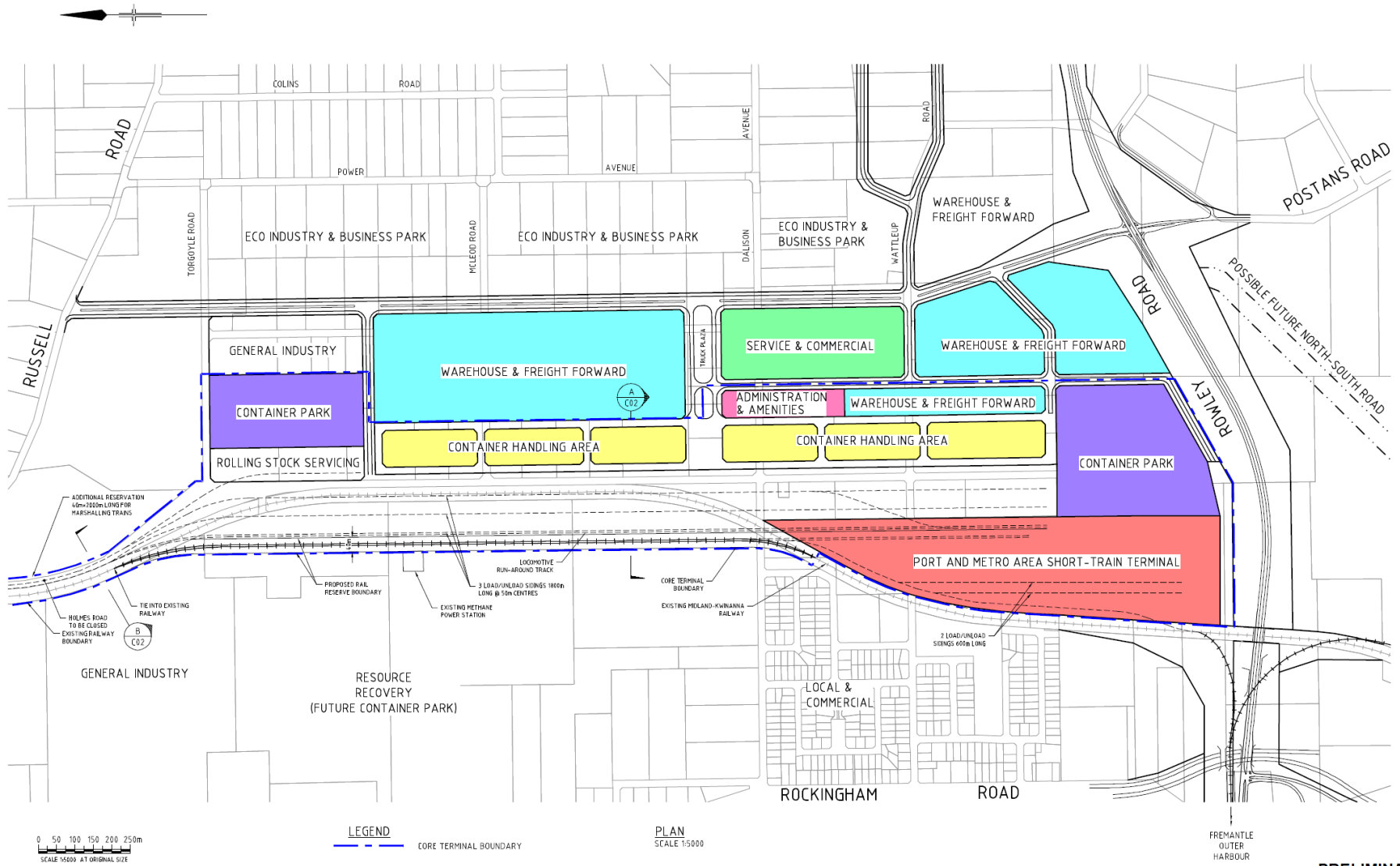
<sup>8</sup> E.g. not constrained by land ownership, topography, existing major trunk services, on-going mining leases etc.



**Fig 5.10: Possible Intermodal Scale and Location (2008 Study)**



**Fig 5.11: Latitude 32: Intermodal Concept (GHD / Meyrick 2007)**



**PRELIMINARY**

Ref: GHD and Meyrick and Assoc., Report for Kwinana Intermodal Terminal, Site Evaluation & Planning Study, DPI, December 2007



## 5.2 Light and General Industrial Land

There is a limited supply of light and general industrial land in the South Metro and Peel region generally.

Base planning and demand analysis for light and general industrial land in Perth and Peel was completed 10 years ago<sup>9</sup> and the subsequent key WAPC policy document, the *Economic and Employment Lands Strategy (EELS)*<sup>10</sup>, supported by demand modelling, planned in detail only to 2031. The EELS documents a shortfall of industrial land in 2031 in the Metropolitan South West region (i.e. including Kwinana) of 278 ha and in the Peel region of 544 ha. This accounts for known industrial land developments such as Latitude 32 and Nambelup and also the Port Kennedy extension. No detail on future employment land demand for future years is contained in the *Perth & Peel @ 3.5 Million* suite of documents and very little other new land is identified in the region for future general business and industrial employment beyond 2031. Some land that was identified in the EELS as a possible medium term industrial site, for example at North East Baldivis, is now not shown as future industrial in the final *South Metropolitan Peel Sub-regional Planning Framework (SMPSRF)*. This large site in North East Baldivis (354 ha) was identified as an Industrial Investigation area in the draft *South Metropolitan Peel Sub-regional Planning Framework (2015)* but is not so identified in the final (2018) version.

A large proportion of the land identified as future industrial land supply in the Regional Framework is in Latitude 32. This would be better regarded as future supply for strategic and heavy uses and not available for light and general uses and cannot be counted as potential land for light and general industrial land supply.

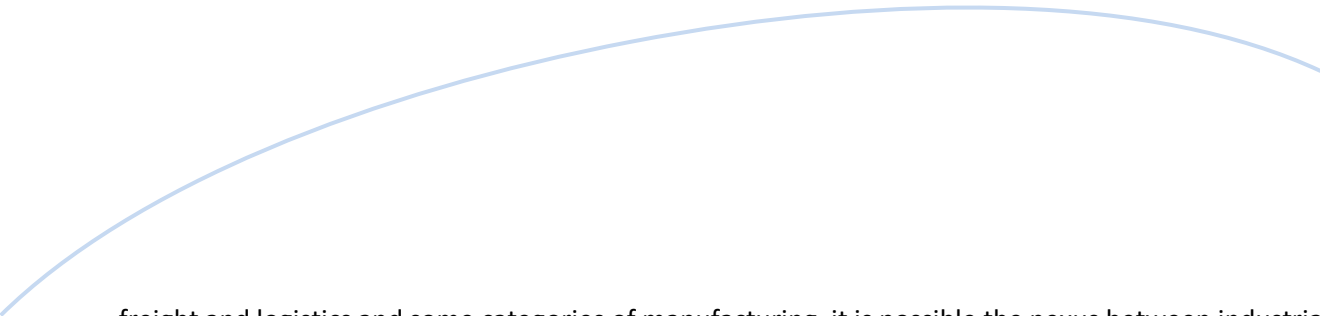
To the south, the Port Kennedy industrial estate has only a small amount of land still to be developed and in the City of Mandurah, the Gordon Road / Park Road complex is essentially fully developed, with limited capacity for further expansion. The proposed Nambelup Industrial Area (NIA) will be an estate of approximately 1,000 ha of industrial land, which, when fully developed, has the capacity for employment of 10,000 – 15,000 workers. While this is substantial, it should be seen in the context of regional population growth. The current (2018) population of the City of Mandurah and the Shire of Murray combined is 105,900. This is expected to be 312,300 by 2050, creating considerable local employment demand.

Based on some research and analysis, the demand modelling for the Industrial Land Needs Study and for the EELS used regional workforce size as the best predictor for non-heavy industrial land demand. With the rapid incorporation of automated systems for some categories of industrial land use, particularly

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<sup>9</sup> Syme Marmion & Co, Industrial Land Needs Study, LandCorp and DPI, 2008

<sup>10</sup> WAPC, Economic and Employment Lands Strategy: non-heavy industrial, Perth metropolitan and Peel regions, April 2012



freight and logistics and some categories of manufacturing, it is possible the nexus between industrial land and workforce size is now weaker. However, it is likely that the nexus between total population and industrial land demand endures. While employment densities in industrial estates that contain a high proportion of freight and logistics and manufacturing are declining, the economic activity being undertaken there is still essential to support the population and the land is required to accommodate that activity. Thus, just as the population of the South Metropolitan Peel area is expected to increase by a factor of 2.4 between 2011 and 2050<sup>11</sup>, so the provision of industrial land in the area should also more than double.

This is only partly allowed for in current planning.

In 2011/12 there was around 2,862 ha of developed industrial land in the South Metropolitan Peel area<sup>12</sup>. This equates to 52.0 m<sup>2</sup> of light and general industrial land per resident in the area. The SMPSRF (2018) forecasts total light and general industrial land demand of 5,900 ha by 2050. Based on historic population multipliers this is considered an under-estimate of at least 10% and that at least 6,500 – 7,000 ha will be required.

The EELS identified 2,862ha of developed light and general industrial land in the region, plus a further 892 ha of zoned but undeveloped land. Since that time a further 2,275 ha of light and general industrial land has been zoned, developed, or identified for future development but as yet unzoned. This does not include land in Latitude 32 which is or could be zoned for heavy and strategic industry. The two largest parcels of this are Nambeelup and the Maddington Kenwick Strategic Employment Area (MKSEA). This overlaps the central Perth metro planning region, which has a current overall shortage of industrial land and demand for the MKSEA will therefore be boosted by this unfilled demand and its supply seen in this context.

Kwinana is a very attractive area for light and general industrial land and development of such land in this area must be given some priority.

### 5.3 Kwinana City Centre

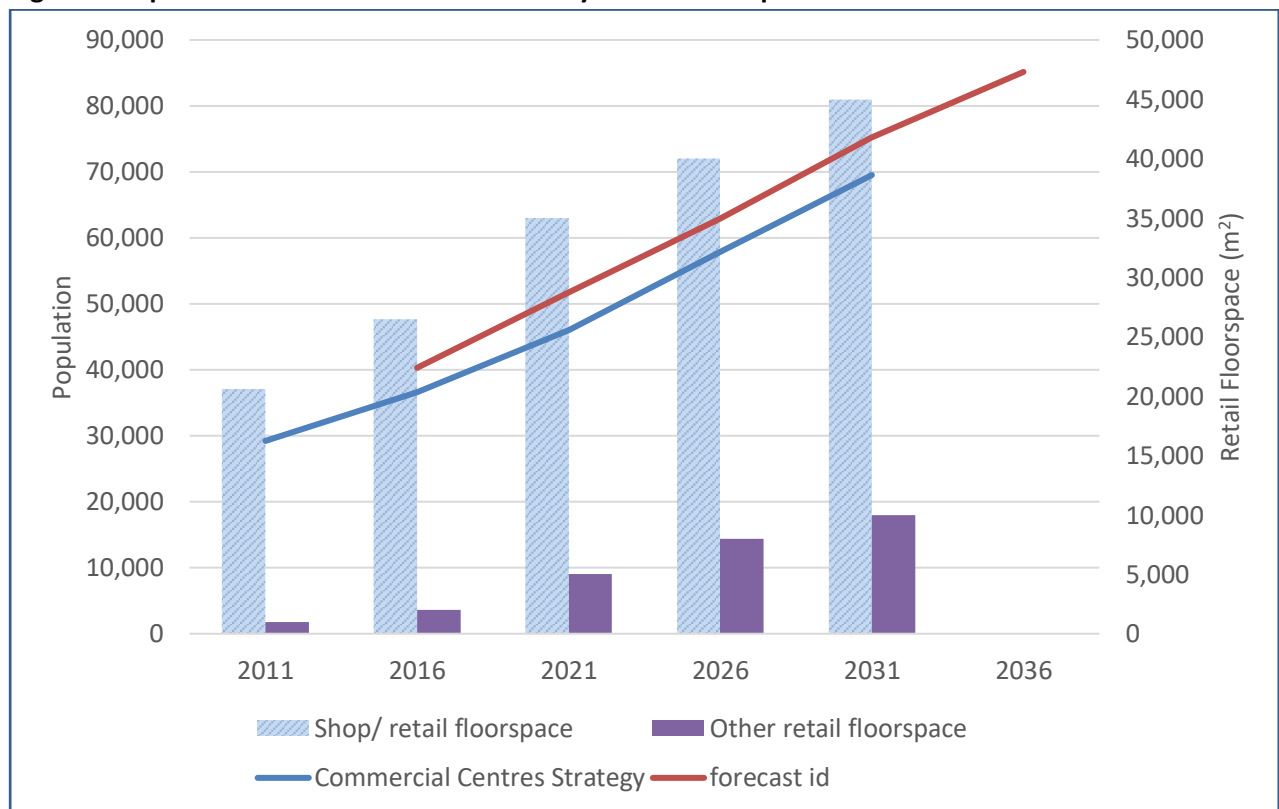
The Kwinana City Centre (along with other activity centres in the City) will expand with population growth. The City's Commercial Centres Strategy shows capacity for the retail floorspace in the Centre to grow from 26,400 m<sup>2</sup> in 2016 to around 45,000 m<sup>2</sup> by 2031 and with continuing population growth it is on track to have capacity for around 50,000 m<sup>2</sup> of retail floorspace by 2036. Associated local business services in the Centre will increase at the same rate. There are currently around 1,850 people employed in the Kwinana Centre, and this could approximately double by 2036. It is a very valuable focal point for the residents of Kwinana and is an important component of local residential amenity.

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<sup>11</sup> WAPC, South Metropolitan Peel Sub-regional Planning Framework, 2018

<sup>12</sup> WAPC, Economic and Employment Lands Strategy: non-heavy industrial, Perth metropolitan and Peel regions, April 2012

**Fig 5.12: Population Forecasts and Kwinana City Centre Floorspace**



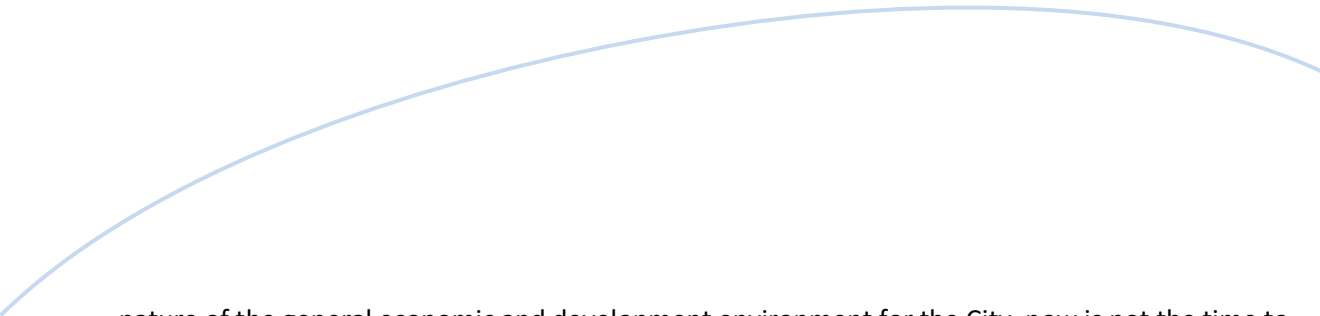
Source: City of Kwinana Commercial Centres Strategy; SMCo

However, there are very low prospects of activity in the Kwinana Centre expanding beyond this local role:

- Its catchment is constrained, being effectively bounded by industrial areas to the west and north and the Freeway to the east. This is in contrast to, for example, Cockburn Central, which has prominent highway exposure and the Rockingham City Centre, which as a Strategic Metropolitan Centre is much bigger in scale with a wide regional draw.
- There is significant leakage to Cockburn for new and proposed residential areas east of the Freeway. The typical travel drive time from potential sites of new residential areas at Thomas Road east of the Freeway to Kwinana City Centre is 8 minutes and to Cockburn Central 10 minutes. Other new areas to the north around Mandogalup are even closer to Cockburn Central.
- There is no evidence of significant current or future commercial spin-off from Western Trade Coast activities. Administration, back-office and development functions of major enterprises in the Western Trade Coast are either accommodated on-site or remotely. The Kwinana Centre is not particularly well served by public transport (i.e. it is not on a direct train route) and does not have the location, features or scale to support significant office / business activities.

The City owns two properties within the City Centre. These are well located to provide uses that will further the development of the City Centre. However, given the general uncertainties and progressive





nature of the general economic and development environment for the City, now is not the time to consider what their ultimate development form or land use might be. Specifically:

- The City is at only the beginning of a sharp increase in population. The specific requirements and demand that will flow from that are yet to become apparent;
- There are changes in prospect in the general economic environment, for example the future of Outer Harbour and the long term requirements of Defence, for which the outcome is as yet unknown and these have the potential to impact the City Centre;
- There are new demands emerging, particularly in quite rapid changes in the delivery of health services, that will provide opportunity for key sites in the City Centre, but these will not settle into specific projects for some time.

The City commissioned a report by KPMG on the then current prospects for its key sites in the City Centre in 2015.<sup>13</sup> KPMG assessed a series of potential development proposals for the subject sites, having regard to the location and nature of the sites, local planning guidance and objectives and current market conditions. The built form proposals tested for Lot 904 (multi-unit residential and commercial) were deemed to be consistent with planning objectives and in the case of the commercial scheme, may provide an opportunity for City of Kwinana to deliver an asset that can be retained to generate a recurring income stream. However, both of these schemes failed to generate any positive land value. As such, these options were deemed to be unviable in the current market.

A residential lot subdivision proposal for Lot 106 did generate a positive land value, but only at a level that was deemed to be below a reasonable expectations for a centrally located site of this nature. It is also noted that this use would not assist in meeting planning objectives for Kwinana City Centre. Therefore, pursuit of this option was not recommended by KPMG. The feasibility analysis undertaken therefore indicated that none of the proposals tested could be regarded as being viable in the current market.

The report noted that in the absence of a long term solution for the subject sites, short to medium term opportunities to activate the sites and generate revenue could be considered. Suggested short term uses include temporary commercial use on short leases, such as 'pop up' retail or food and beverage outlets, car wash or drive through coffee type operations.

The analysis and assumptions undertaken by KPMG has been reviewed for this report and it is considered that the conclusions remain valid. That is, no worthwhile long term uses for the sites are currently viable, but very short term uses might be appropriate.

It is important that any short term uses that are contemplated are ones that can be realistically unwound in the future and do not become de-facto long term uses. The analysis in this report indicates that there are many demand factors, related both to general population growth and to the economic conditions in

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<sup>13</sup> : KPMG, Feasibility and Property Strategy: Lot 904 Chisham Avenue and Lot 106 Robbos Way, Kwinana, City of Kwinana, Dec 2015





## 6. City Growth – Influencing Factors

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### 6.1. The Economy

Western Australia has world class operations in resources, energy, agriculture, health and medicine, specialised manufactures and is a substantial education exporter. These are leading economic drivers and complement the population driven sectors such as construction, retail and other household services. The Western Trade Coast is a key focal point for these operations and will continue to be one of the most important locations in the Western Australian economy.

For Perth and Peel the main growth opportunities for strategic employment and economic growth (i.e. jobs to support the anticipated population increase) can be found across a variety of sectors, but particularly in the areas of economic strength:

- Minerals and resources:
  - Supplies and servicing
  - Technology and research
  - Logistics
  - Administration
- Health: Technology and research
- Agri-business
  - Peri-urban projects
  - Specialist and niche products for Asian market
- Education: Education exports
- Tourism
- Specialist manufacture and fabrication.

Each of these sectors will have a different growth ‘driver’ and mix of development requirements. It is critical economic developers know and understand their role in creating an environment in which pro-active intervention supports entrepreneurship and emerging business opportunities along with research and development, commercialisation and the benefits of synergistic co-location.

Economies and populations in developing nations in Australia’s main trade partners in Asia are growing rapidly. The continual growth of the middle-class across Asia is expected to present opportunities for Australia, specifically through an increase in demand for goods and services. To benefit from these opportunities, the area needs to explore a range of priorities, such as:

- ‘Governance’ – establish and grow industry collaboration structures to build the critical mass needed to break into global markets.



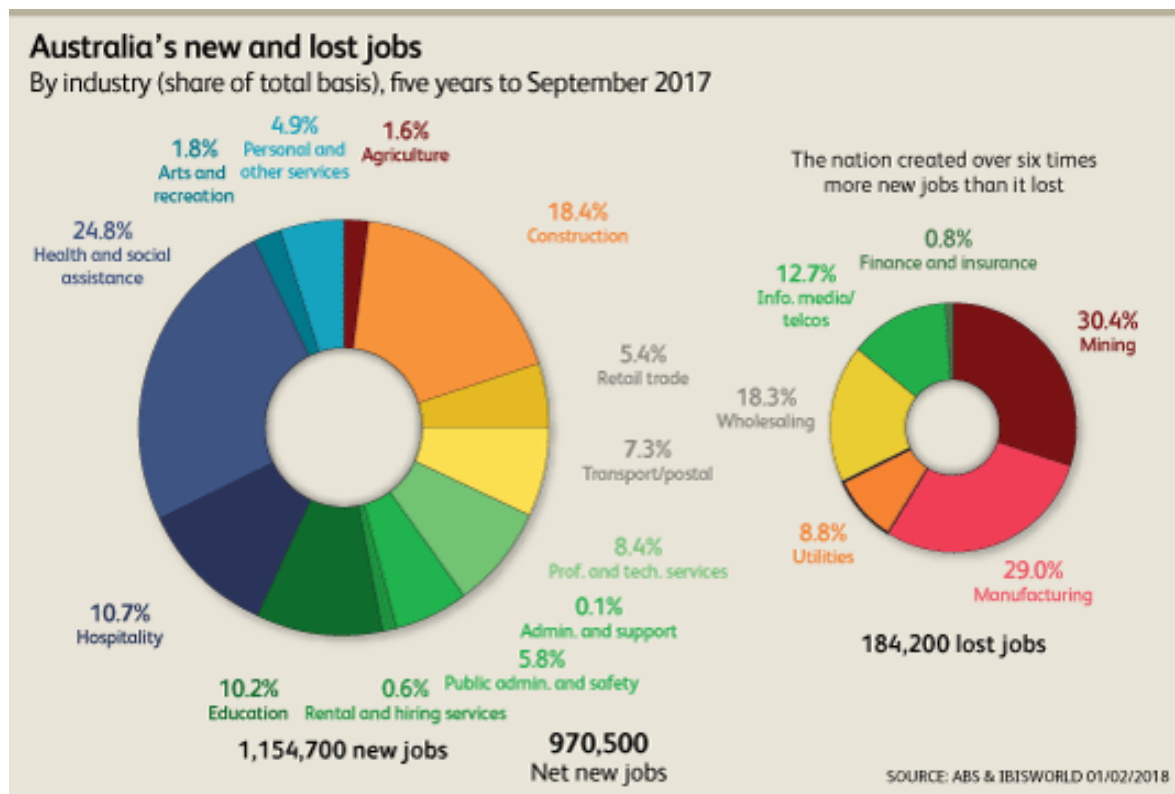
- 'Capability' – identify opportunities to build the capability of local businesses to ensure they have the capacity and skills to operate in this market.
- 'Relationships' – identify opportunities and develop strong relationships with strategic Asian markets where mutually beneficial outcomes can be achieved.
- 'Market Knowledge' – there is a need to develop a strong understanding around the current gaps and associated opportunities within these markets and what the key drivers are that influence relationships and business decision making.

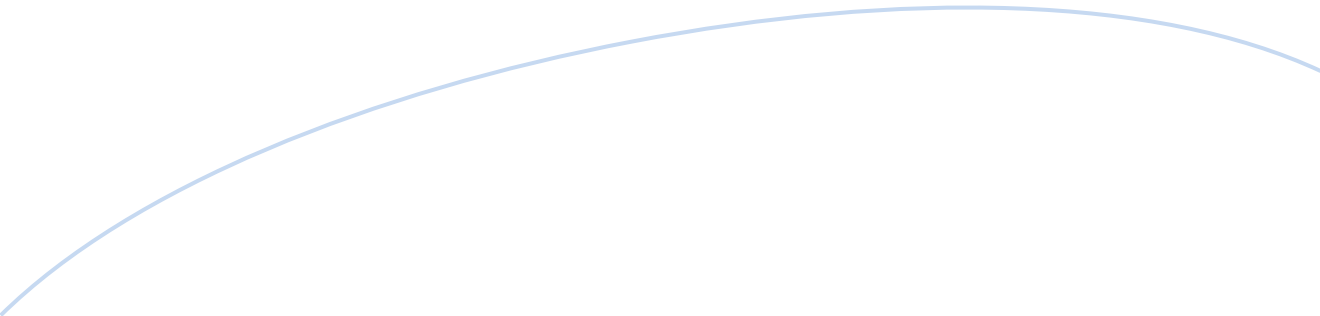
Global demand, in particular in the growing Asian market, is predicted to continue to generate opportunities for growth in the mining industry, agribusiness (in particular higher value food), international education, tourism and wealth management as well as global demand for energy.

In this environment, the role of the Western Trade Coast value-adding activities is critical to the health of the Western Australian economy.

## 6.2 The Changing Nature of Work

Work patterns are changing and with the increasing application of information technology, AI systems and automation, and will continue to change. The figure below shows the jobs gained and lost in Australia in the five years to 2017.





It shows that jobs were lost in the primary and secondary sectors (manufacturing and mining) but gained in tertiary and quaternary sectors, including:

- Health and social assistance
- Construction
- Hospitality
- Education
- Professional and Technical Services
- Transport /postal
- Retail
- Public admin and safety
- Personal and other services

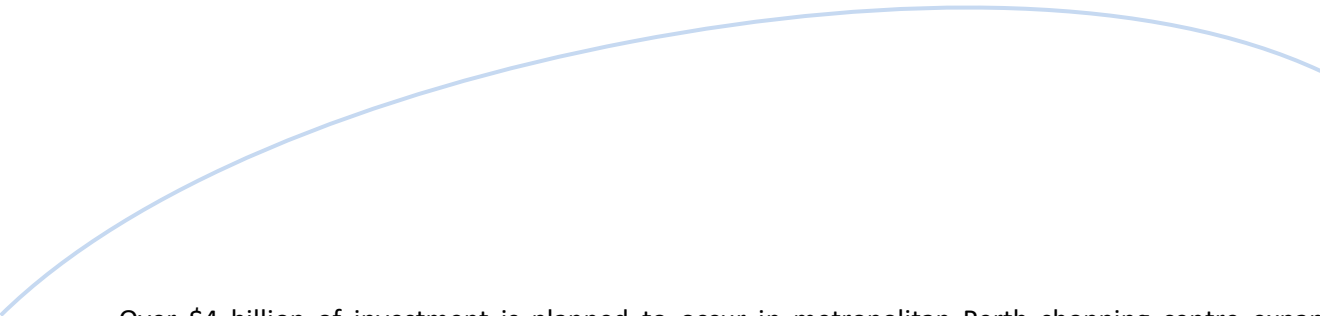
This shift will continue. The effect will be to further decrease the employment density in industrial estates and in broad-acre agricultural production, but to increase the importance of town centres as places where people congregate and interact on a personal basis. This is an important aspect of the economic future for the Kwinana City Centre and, importantly, for the Rockingham City Centre as the region's strategic metropolitan centre, where most of the higher level regional functions will most viably locate.

### **6.3 The Changing Nature of Retail**

Retailing is also changing. The rate of change has increased over recent years, and major centres must move quickly if they are to remain competitive. Some changes have occurred on the demand side, with the changing nature of shopping centre consumers and their behaviours. An ageing population is one aspect of this, generally spending less per head on retail goods as it ages, together with increasing pressures from other household expenditures (the costs of health, education, housing and transport are all increasing more rapidly than retail inflation) affect all shopping centres, particularly large centres. The increased use of technology, and particularly online shopping, has added further to these pressures.

On-line shopping now accounts for large proportions of discretionary expenditure in some expenditure categories and continues to expand. The result is that centres are needing to provide an increasing range of reasons to visit. As centres become destinations, supermarkets as the traditional anchors are becoming less important. For large centres scale and diversity is increasingly important, with high level and sophisticated offerings across a range of areas, including food, leisure and entertainment. This applies to the Kwinana City Centre.

The rapidly increasing interest in Australia from a wide range of international retailers, a number of which have already entered Perth but with many more still to come, is one important driver of increased floorspace needs. These major retailers will only locate at demonstrably successful, major suburban centres, or in CBD locations. In Perth, there is some activity at most of the major centres, with current projects including major works at Lakeside Joondalup, Garden City Booragoon, Cannington and Karrinyup.



Over \$4 billion of investment is planned to occur in metropolitan Perth shopping centre expansions between 2015 and 2020. In addition to new Department Stores and international retail over 1,000 new speciality stores are planned. Many centres are adding additional uses such as childcare, public meeting spaces, cinemas and dining precincts. The incorporation of high density residential development is now routine and the inclusion and specified delivery of this is a key component of Development Approvals by DAPs and LGAs.

This is the competitive environment for the Kwinana City Centre.



## 7. Key Considerations

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There are several considerations in determining the implications for land use planning of Kwinana's economic environment.

### 7.1 Industrial Land

#### 7.1.1 Supply

3. There is limited supply of buffer-protected heavy industrial land in the Kwinana Complex. This supply is under pressure from uses which do not require the buffer protection, most particularly freight and logistics and office / business uses.
4. There is limited supply of light and general industrial land in the South Metro and Peel region generally.

#### 7.1.2 Demand

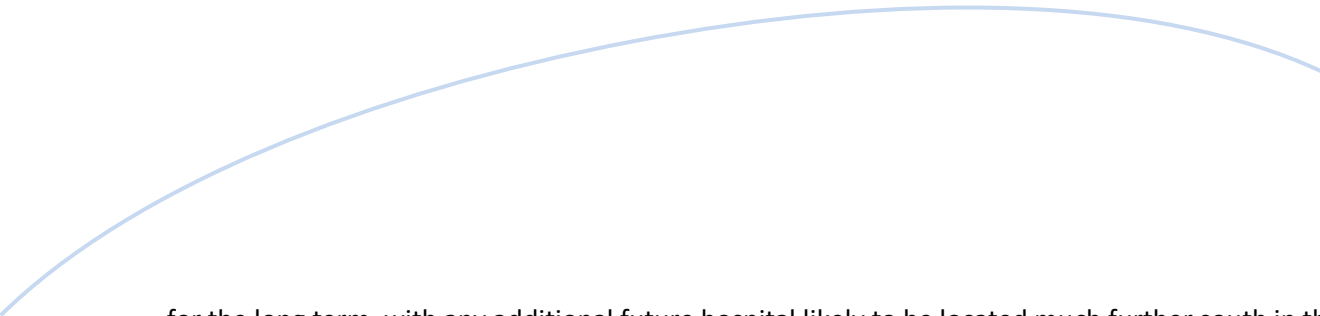
For **Heavy and Strategic industrial land**, some demand can be identified, for example, in existing growth sectors. However, many viable future projects may not yet be apparent but their likelihood needs to be allowed for in planning. The recent lithium 'boom' indicates that opportunities can come up very quickly (i.e. within a 5 – 10 year time frame). It was the availability of sites and the particular advantages of WTC that made the Kwinana location viable.

For **Light and General industrial land**, demand will continue from general population growth plus special uses associated with Outer Harbour activities. For example, if motor vehicle import unloading transfers from Fremantle to Outer Harbour, each major vehicle importer will consider relocating their wholesale new vehicle preparation, storage and warehousing and associated activities (e.g. parts processing, staff and dealer training and development) to be nearer the port. Each distributor would have a land requirement of around 12 – 15 ha for these purposes. These should be on light industrial (not heavy industrial) zoned land.

### 7.2 Health Services

An expanding population will mean increased demand for health services. However, the delivery of these services is changing rapidly and this has some implications for land use in Kwinana. In brief:

- There is a significant trend towards home delivery of services and more day surgery with reduced emphasis on big hospitals, except for acute needs and specialist services.
- Rockingham Hospital is a reasonable distance from Fiona Stanley Hospital (FSH) and has some capacity to expand. Rockingham will deliver increased day surgery and specialist services and this will be the acute and specialist hospital for Kwinana. It is likely to be the primary regional health campus



for the long term, with any additional future hospital likely to be located much further south in the Peel area. The time frame for this is long.

- The physical focus of health services in Kwinana is might be a community-focussed health services centre that might include expanded GP services, tele-connected to specialists with visiting services to patients' homes. This might locate in the City Centre.
- The need for nursing homes for the very frail aged will continue to grow. The population growth of people aged over 85 in the City indicates the need for two to three additional nursing homes by 2036.

### **7.3 Movement Economy**

The City's location on the Kwinana Freeway provides opportunity for very large format retail outlets that have a metropolitan wide catchment; its location on the main east-west freight routes to the Outer Harbour provides freight and logistics and servicing opportunities. Properties around the off ramps to the Freeway, particularly at Thomas Road with its proximity to the Kwinana rail station, are well placed to take advantage of this exposure. A significant potential benefit is that retail employment opportunities offer the best option to make inroads into unemployment in younger age groups which is well above average in Kwinana.

### **7.4 Office / Business uses in Industrial Land**

In the Western Trade Cost over 50% of all employment is now in office/ business activities. While some is directly associated with nearby or adjacent industrial land uses, much of it does not and could be located elsewhere. There are several problems with this scale of office use on industrial land:

- In the case of the WTC it takes up scarce land that could be used for purposes that require the heavy industrial / strategic industry zoning;
- The land is not well served by public transport for worker access;
- It has limited facilities for worker amenity;
- It is within the Kwinana air buffer – the potential hazards of long term exposure to low air quality within the buffer area is one reason why residential land use is now prohibited and this could equally apply to workers.

The growth in this land use demonstrates the need – the task of the planning system is to find a nearby alternative.



## 8. Land Use and Strategic Implications

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The most significant economic driver for Kwinana, and the employment site for many of its residents, is its current and potential future industrial estates, including the buffer-protected strategic and heavy industrial land in the Kwinana complex and also the adjacent light and general industrial land, which accommodates many spin-off activities and also those activities that find advantage in the Kwinana location but do not need heavy industrial land capability and zoning. These must be regarded as a scarce resource and managed accordingly.

Employment land supply and currently planned future provision is well behind future employment demand, with prospects of declining rates of employment self-sufficiency and self-containment unless all measures are taken to maximise the amount of employment land in the City and to ensure its highest value use. It may be until a firm decision on the outer harbour and this provides current uncertainty. Many land development projects in the Western Trade Coast are on-hold until the future of Outer Harbour is determined. However, this is not the whole story: there are many industry developments now underway, particularly in defence support and defence industries and in new energy metals, that have their own dynamic and time scale independent of the Outer Harbour.

Time frames for much of this are long: significant defence expansion and outer harbour operations are unlikely before 2031, at best.

For employment provision for Kwinana residents a regional view is key: the future of Rockingham City Centre and of Henderson is important to Kwinana residents. Almost as many Kwinana residents work in each of the Cities of Rockingham and Cockburn as in the City of Kwinana.

The broad implications of this analysis for City planning are:

- Industrial land and infrastructure must be project ready - that is, available for major projects when they occur. Further supply of strategic industrial land is required and further areas of new light and general industrial land must be preserved, even for long term time frames.
- Industrial land must be protected from encroachment and inappropriate use. For heavy and strategic sites in the Kwinana Complex, this means discouragement of uses which do not contribute to the network in the complex and which do not require the operational protection afforded by the buffer uses around the complex. This particularly includes activities which are which are large land users but small employers, such as storage, freight and logistics, and large employment uses which could be located elsewhere, such as office / business uses. It also requires strict protection of the buffer from residential encroachment. This also applies to light and general industrial land generally.
- A corollary to this is that is critical that the specific form of any Outer Harbour works is carefully considered to ensure the highest and best long term use of scarce strategic industrial land is preserved. This means investigating whether an intermodal facility at Latitude 32 is the best outcome for the economy of the City of Kwinana.

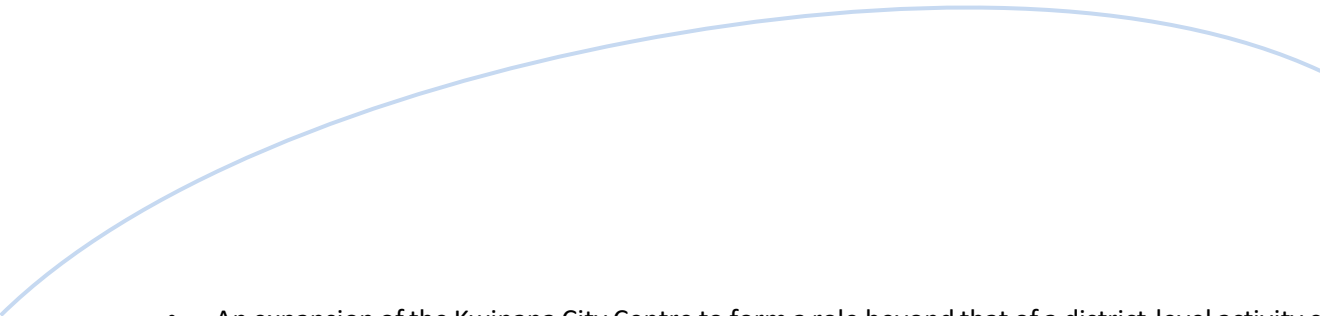
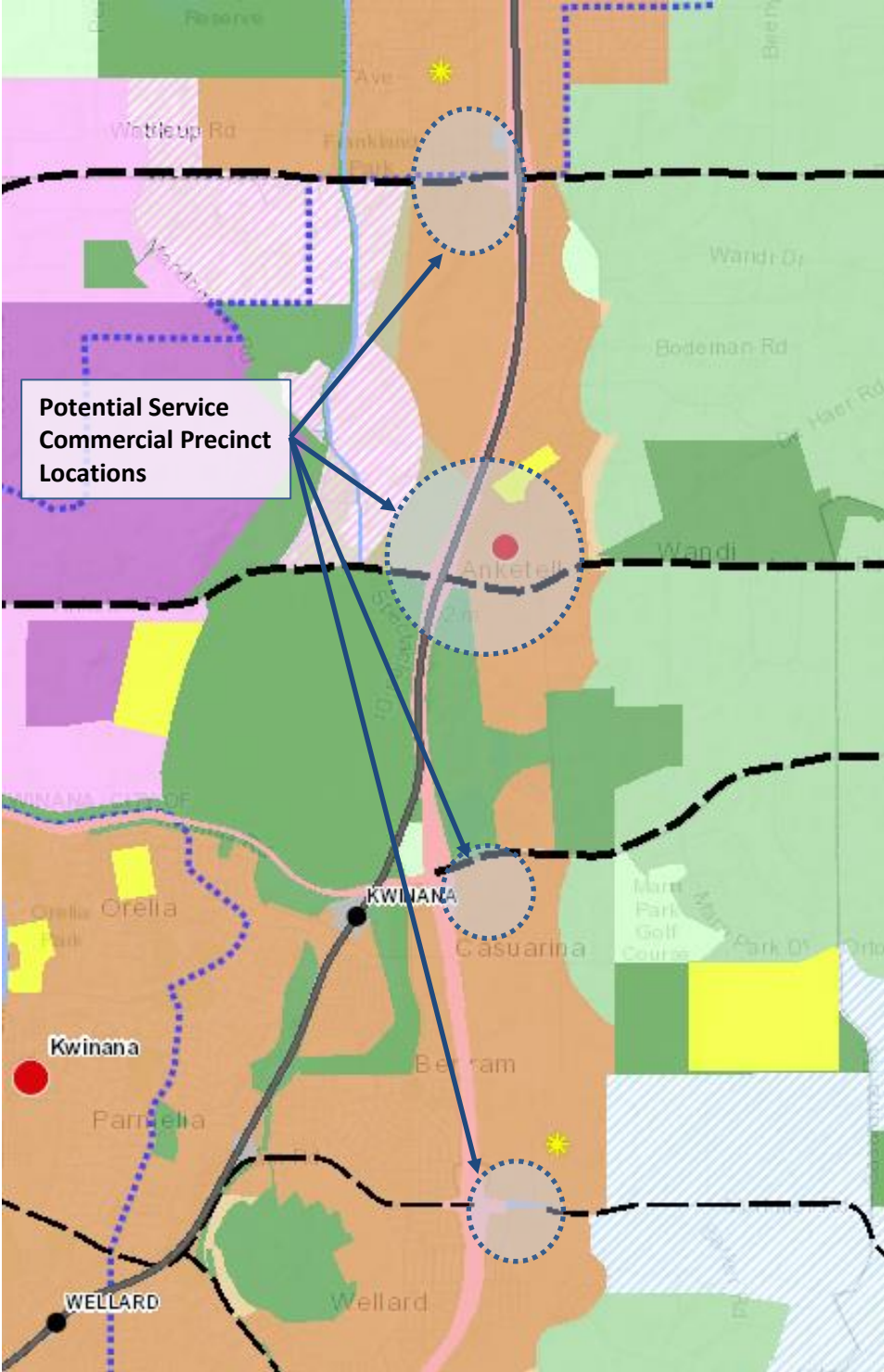
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- An expansion of the Kwinana City Centre to form a role beyond that of a district-level activity centre is very unlikely. As the key activity centre with a catchment area with quite rapid population growth, its form will evolve over time and current planning and land use can allow for that. This extended development time frame has an overlay of the uncertainty of the Outer Harbour decision and the uncertain consequent impacts of this decision overall.
  - The City needs to ensure that available land in the City Centre is managed in a way that allows full advantage to be taken of evolving opportunities. Health services is one such opportunity where the best form of delivery will only become apparent in the medium term as the population grows to its longer term size and the service delivery models themselves mature. The City holds several properties in key locations in the City Centre and they will at some time in the future be very suitable sites as the focal point for the delivery of some of these services. There are few, if any, currently viable and suitable long term uses for these sites and they should be preserved for future use in a form so that they can be easily accessed when these long term uses become available. Short term uses that can be easily dismantled may be appropriate for those site, but uses that might be hard to reverse in the future (e.g. community open space / local parks or car parking) are not appropriate for these sites.
  - There is future opportunity for Kwinana as a residential and service location for personnel involved with the defence assets maintenance phase at Henderson. The residential amenity of Kwinana overall will then become important. This will include:
    - A range of housing choice including housing suitable for people on short term rotation or secondment; and
    - The services available in activity centres, particularly the Kwinana City Centre.
  - There is an opportunity to capitalise on the access and location advantages of Freeway exposure at sites around the off-ramps at Thomas Road (in particular), Rowley Road, Anketell Road and Mortimer Road. Uses for these sites would fit into a broad service commercial category and might include very large format retail uses, for example, Ikea and direct factory outlets (DFO). These are large employers which otherwise would not locate in the City. Their presence would have no, or minimal effect on existing activity centres, including the City Centre itself. (See Fig 8.1)
  - There is an opportunity for an office precinct to develop at the Thomas Road / Freeway intersection and around the Kwinana train station. Sites here have easy access to the Western Trade Coast and could service activities there. (See Fig 8.2) The objective would be to draw office and business uses away from the Western Trade Coast. This would have two main purposes:
    - Freeing up sites in industrial areas for industrial uses; and
    - Providing employment at sites much better served by public transport than the WTC.

Fig 8.1: Potential Service Commercial Precincts Locations





**Fig 8.2: Freeway / Thomas Road Intersection**

