



Perth & Peel Development Outlook 2011/12: North-east Sub-regional Profile

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website: www.planning.wa.gov.au
email: corporate@planning.wa.gov.au

tel: 08 655 19000
fax: 08 655 19001
National Relay Service: 13 36 77
infoline: 1800 626 477

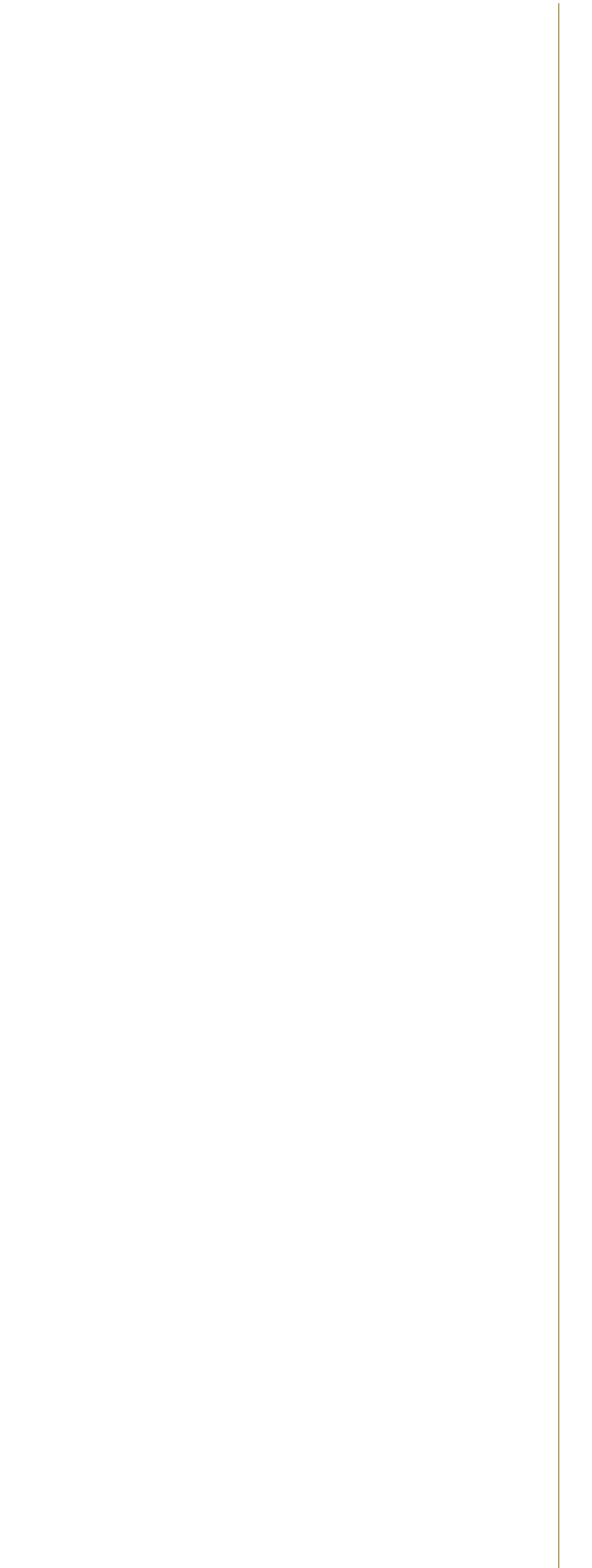
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1. North-east sub-region overview

The North-east sub-region consists of the City of Swan, the Shire of Mundaring and the Shire of Kalamunda. It is predominantly rural with only nine per cent of its total land zoned for urban purposes.

The rural character of the area is one of its greatest assets, with the scenic Perth Hills and Swan Valley appealing to visitors and prospective residents alike. While preserving these areas is critical to maintaining the character of the sub-region, it also shapes growth, restricting development in areas considered suitable for conservation. The resulting dispersal of development in the North-east sub-region has led to various complications with infrastructure supply.

The North-east sub-region contains the highest proportion of single, detached houses of any sub-region. It is developed at low densities with an average of nine dwellings per hectare of urban-zoned land (Table 1). Housing typology, a quieter lifestyle and affordable property have helped make the area popular with young families. This is particularly salient in Ellenbrook, where children under 10 years old constitute almost twice the proportion of the population as that of the wider Perth metropolitan area.

Midland is the strategic metropolitan centre of the North-east sub-region and acts as the primary service centre for the sub-region and parts of the Wheatbelt to the city's east. With a long

industrial tradition, Midland is the centre of major industrial areas, and manufacturing is still the most common source of employment in the sub-region. The Metropolitan Redevelopment Authority is working to rejuvenate older industrial areas to provide options for higher density housing around Midland city centre.

The North-east sub-region has experienced slow population growth over the last decade in comparison to the other outer sub-regions, despite significant development around Midland and Ellenbrook (Table 1).

The North-east sub-region has 2,730 hectares of vacant land zoned as urban or urban deferred under the Metropolitan Region Scheme (MRS) (Table 2). Urban development consumed an average of 135 hectares of gross urban land per year over the five years from 2003 to 2008 (which were 'boom' years for land development). Land consumed for urban development includes land needed for suburban feeder roads, neighbourhood parks, community or recreation facilities, local shops and petrol stations, as well as for new dwellings.

A significant area of land (780 hectares) in the sub-region zoned urban in the MRS is currently developed at very low densities. Some of this land may be further subdivided for future higher density urban development.

Table 1: Key urban statistics – historical

Local government authority	Suburban area (ha)	Commercial and light industrial area (ha)	2006 data		2011 data		Average annual population growth rate (2006 to 2011) (%)	Average frontal development density dwellings per zoned ha (1991–2008)
			Dwellings	Estimated resident population	Dwellings	Estimated resident population		
Kalamunda	2,300	170	19,239	51,850	21,152	56,462	1.8	8
Mundaring	1,300	110	13,134	36,628	13,836	38,448	1.5	5
Swan	3,500	440	34,947	97,446	41,469	114,179	3.6	10
Total	7,100	720	67,320	185,924	76,457	209,089	2.7	9

Sources: Western Australian Planning Commission, 2011, Urban Growth Monitor. Australian Bureau of Statistics, 2006 & 2011, Census of Population and Housing, Regional Population Growth, Australia, Cat. No. 3218.0.

Note: Land areas under 1,000 hectares are rounded to the nearest ten. Land areas over 1,000 hectares are rounded to the nearest 100. Dwelling figures include unoccupied dwellings.

Table 2: Key urban statistics – outlook

Local government authority	Undeveloped urban and urban deferred land area (ha)	Under-developed areas of urban zone (ha)	Average land consumption rate (ha per year) (2003–2010)	Forecast population growth 2011–2021 (median) (%)
Kalamunda	180	250	35	0.7
Mundaring	550	140	10	0.9
Swan	2,000	390	96	2.8
Total	2,700	780	141	n/a

Source: Western Australian Planning Commission, 2011, Urban Growth Monitor. Western Australian Planning Commission, 2012, Western Australia Tomorrow.

Note: Land areas under 1,000 hectares are rounded to the nearest ten. Land areas over 1,000 hectares are rounded to the nearest 100.

1.1 Key issues for planning and development

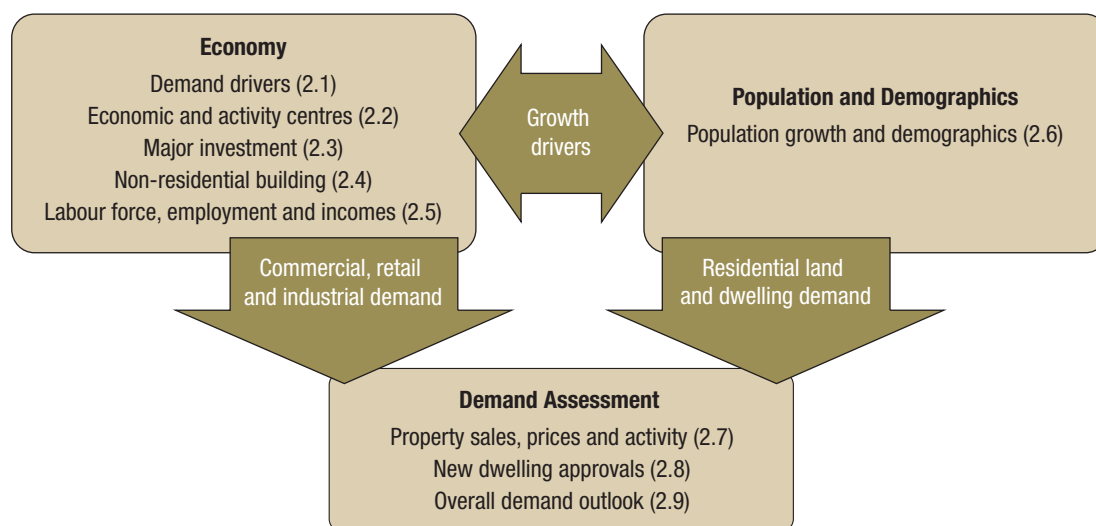
State and local government agencies have identified a number of key short and long-term planning and development issues in the North-east sub-region, which include:

- Resolution of the potential realignment of Midland rail freight line and outcomes of the enquiry-by-design by the City of Swan joint planning initiative would open up additional land for redevelopment.
- Preserving the character of the Swan Valley. The Swan Valley is a valuable agriculture and tourism district. This needs to be protected as a strategic regional asset while guiding compatible development within the sub-region. The Swan Valley – Future Direction Study has been undertaken and is with the minister for consideration.
- Criteria for rezoning of land to urban deferred and from urban deferred to urban need to be clear and transparent to address pressures in the sub-region to extend urbanisation.
- Time required for planning and development can impact on development costs and housing affordability.
- Current infrastructure supply regulations do not ensure an equal burden of cost. This allows some developers to 'piggyback', or access infrastructure provided by others without contributing an appropriate amount. A revision of the current infrastructure provision system may ensure a more equitable division of cost.
- Provision to ensure land banking does not occur following rezoning, by using time limits to development or a sliding scale of developer contribution schemes, land tax or other mechanisms.
- City of Swan population forecasts are not consistent with the Western Australian Planning Commission's (WAPC) Western Australia Tomorrow forecasts prepared in 2005, and indicate a higher growth forecast than that proposed by the State. There is a need to track actual population growth trends and reschedule land development and infrastructure timeframes if they vary significantly from expected growth figures.
- There is significant industrial land opportunity in the sub-region.
- Resolution of wastewater treatment and disposal is required prior to urban development.
- More housing choice is needed in locations close to employment opportunities.
- There is currently fragmented land ownership in future development areas, and this causes problems with coordinating development.
- Capacity of existing infrastructure and services is unknown, which makes it difficult to assess impacts of development in certain areas.
- Growth management and Directions 2031 and Beyond must identify triggers and improve measures to respond to changing circumstances and development rates.
- A well-informed infrastructure plan is needed to stage development within the sub-region.
- Developer contribution schemes promote an equitable, user-pays approach to infrastructure provision (outlined by State Planning Policy 3.6) at a local level. Complications may arise when projects of regional or national significance (e.g. the Perth–Darwin Highway) intersect with local developments.

2. Demand assessment

Economic conditions and population growth are inter-related and together, they create demand for land and dwellings. This section is structured as shown in Figure 1.

Figure 1: Demand assessment for land and dwellings



2.1 Demand drivers

Housing typology in the North-east sub-region is dominated by single, detached houses. At present, 91 per cent of dwellings are separate houses, the highest of the Perth or Peel sub-regions.

Demand is therefore driven by owner-occupiers (first home buyers and non-first home buyers), particularly young families, who constitute a high proportion of the sub-region's residents. While options for urban living are limited, the Metropolitan Redevelopment Authority is working to provide apartment living opportunities in the Midland strategic metropolitan centre.

The sub-region offers a range of lifestyle choices for home buyers, including suburban housing, semi-rural, rural and hills living. Close proximity and easy access to the Swan Valley, the State's oldest wine growing region, adds to the appeal of the area and offers employment opportunities in a handful of boutique industries.

Midland is the North-east sub-region's strategic metropolitan centre. It has a strong industrial tradition, and manufacturing remains the area's largest employment sector. Various public

purpose centres are also based in Midland, including the Landgate head office and the new Midland Health Campus (opening in the city centre in 2015).

2.2 Economic and activity centres

- Activity centres are areas of economic activity, and defined in a hierarchical framework under *State Planning Policy 4.2: Activity Centres for Perth and Peel*. This policy and *Directions 2031 and Beyond* identify Midland as a strategic metropolitan centre and Ellenbrook as a secondary centre.
- Midland city centre forms the nexus for commercial, community, retail, entertainment and residential activity. It is also the primary employment provider for the sub-region and a service centre for smaller towns in the Wheatbelt further inland.
- Ellenbrook is a centre of rapid growth and is likely to become a more significant centre for the sub-region. Although it was not established until 1994, Ellenbrook's population, as at January 2012, has reached more than 25,000.

- The sub-region has six existing industrial centres: Kewdale-Welshpool, Malaga, Midvale, South Guildford, Viveash and Hazelmere. Most of these are in close proximity to Midland. The sub-region has 1,430 hectares dedicated as industrial zoned land, representing 14 per cent of all industrial zoned land in the Perth metropolitan area.

2.3 Major investment

This section covers major projects in the North-east sub-region financed by government and the private sector. Such investment can stimulate demand for additional land and dwellings in the area. Projects for additional residential, industrial or commercial development are covered in later sections.

Major State Government investment

- \$102.4 million for the Mundaring Water Treatment Plant.
- \$63 million for Governor Stirling Senior High School redevelopment.
- \$35.5 million on an interchange for Roe Highway at Great Eastern Highway, and \$33.4 million on an interchange on Reid Highway at Alexander Drive. Road improvements increase accessibility within the sub-region and with other sub-regions.
- \$26.4 million for development of the Midland Health Campus.
- \$11.3 million to complete planning and preliminary development of the Midland Health Campus, and \$10.3 million on various development works through the Metropolitan Redevelopment Authority. Improvement works to a defined strategic metropolitan centre such as the Midland town centre can lead to an increased demand for land and housing within the immediate area and surrounding suburbs.

Major federal government investment

- \$200+ million for ongoing works on military installations, troop accommodation and associated utility infrastructure at Pearce airbase.

2.4 Non-residential building

Non-residential building includes commercial, retail, industrial and community facilities. This primarily represents investment (public and private) in activity centres and employment areas within the sub-region. Non-residential building can therefore gauge investor confidence in an area functioning as a vibrant or lucrative economic system rather than merely a place to live, with work and recreation pursued elsewhere.

The value of non-residential building in the North-east sub-region was over \$243 million in 2010/11, which represented approximately 13 per cent of the total value of non-residential building in the Perth and Peel regions for the period (Figure 2).

Figure 2 also shows the volatility of the construction sector over the past few years as the construction boom of 2007/08 was cut-short by the global financial crisis in 2008/09. Unlike other sub-regions, the non-residential construction cycle for the North-east sub-region has followed a distinctly dissimilar pattern to the rest of Perth and Peel.

2.5 Labour force, employment and incomes

2.5.1 Employment growth and unemployment

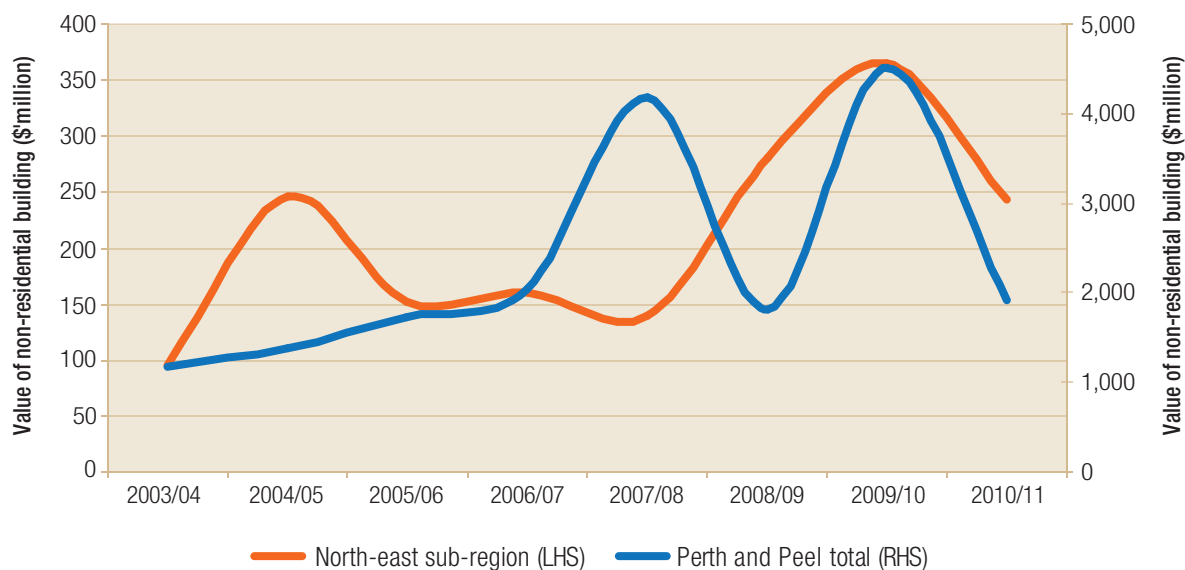
Key employment statistics for the North-east sub-region at March 2012¹

- The estimated labour force was 115,527, consisting of 109,756 employed and 5711 unemployed people (Figure 3).
- The unemployment rate for the sub-region was five per cent. In March 2011 the rate was 3.8 per cent (Figure 4).
- The unemployment rate in the City of Swan was 6.1 per cent (3627 people), compared with 4.2 per cent for the Perth metropolitan area. In March 2011, the rate was 4.6 per cent, or 2630 people.
- The unemployment rate in the Shire of Mundaring was 4.7 per cent with 1057 people unemployed. The unemployment rate was 3.6 per cent in March 2011 with 786 people unemployed.

¹ Department of Education, Employment and Workplace Relations (DEEWR), Small Area Labour Market data, March Quarter 2012.

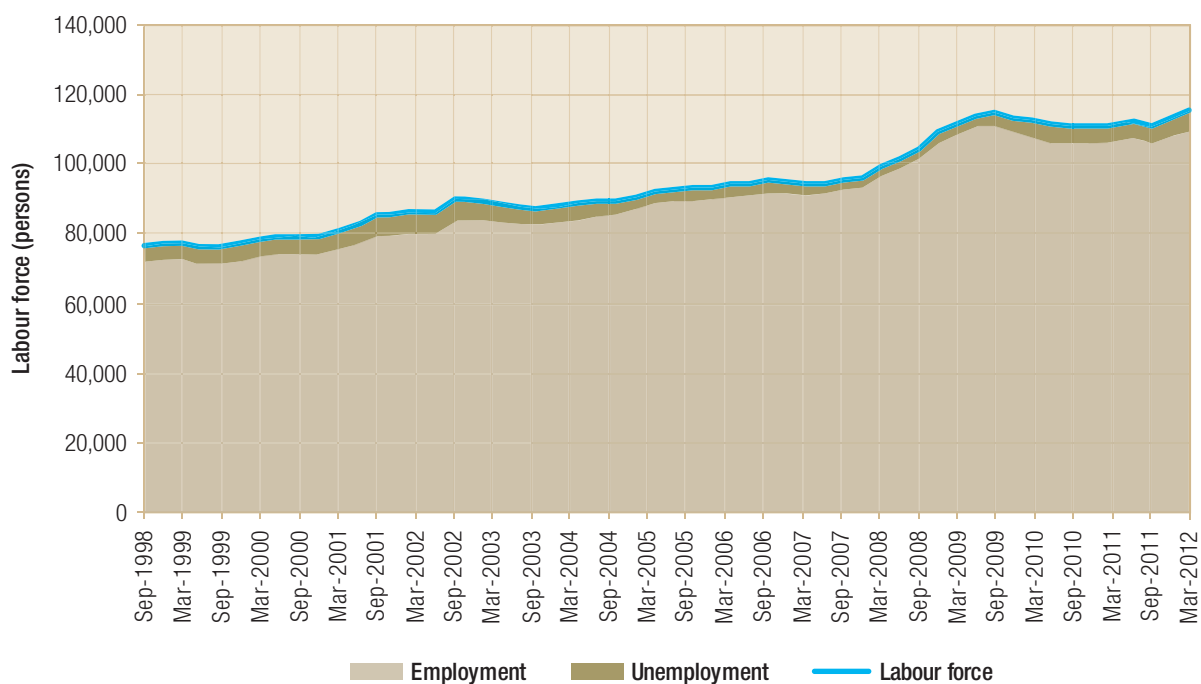
- The unemployment rate for the Shire of Kalamunda was 3.2 per cent with 1,087 people unemployed. This has increased from the March 2011 rate of 2.7 per cent with 862 people unemployed.

Figure 2: Total value of non-residential building



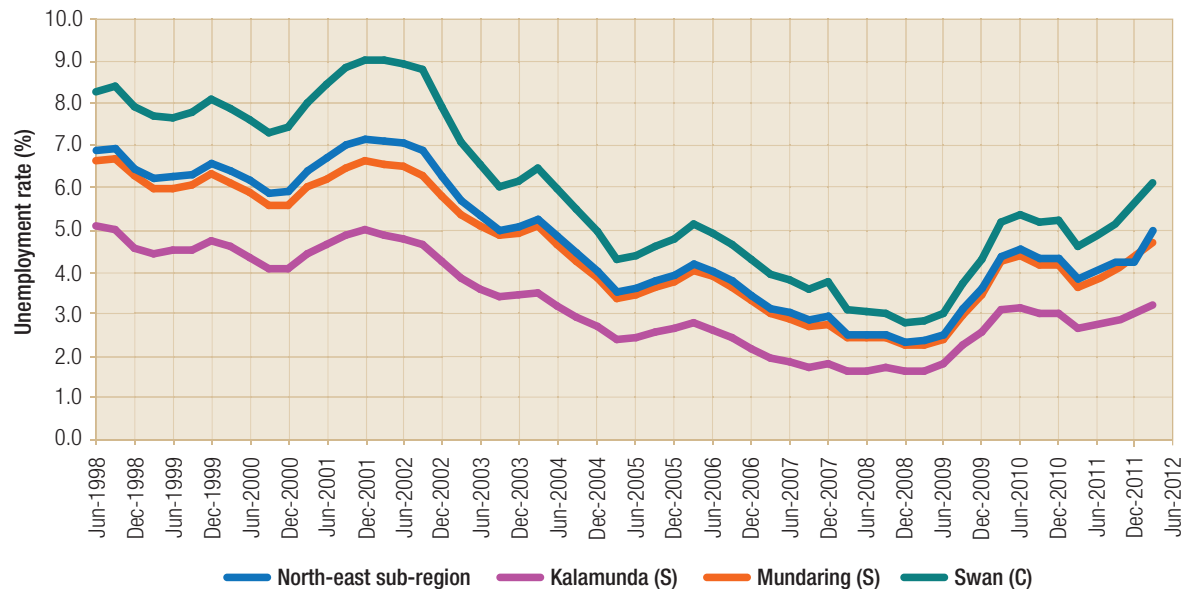
Source: Australian Bureau of Statistics, 2011, Building Approvals, Australia, Cat. No. 8731.0.

Figure 3: Labour force



Source: Department of Education, Employment and Workplace Relations, 2012, Small Area Labour Market data.

Figure 4: Unemployment rates



Source: Department of Education, Employment and Workplace Relations, 2012, Small Area Labour Market data.

2.5.2 Employment self-sufficiency and self-containment

One of the key objectives of *Directions 2031 and Beyond* is to improve the relationship between where people live and where they work, to reduce commuting time and cost, and the associated impact on transport systems and the environment.

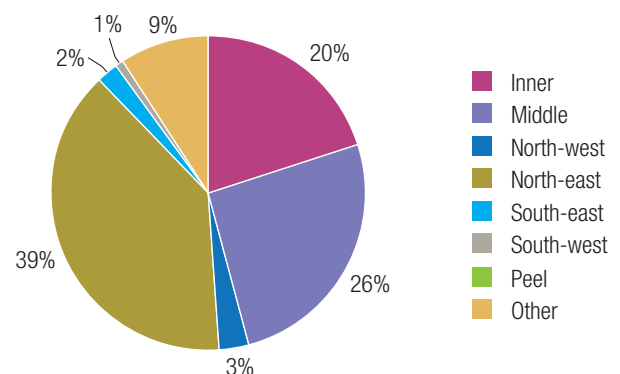
Employment self-sufficiency is a measure of the proportion of the resident workforce who could potentially find employment within their local area. It is expressed as a percentage of the number of jobs in a sub-region relative to the resident workforce of that sub-region.

The North-east sub-region has a reasonable level of employment self-sufficiency, at 69 per cent (69 jobs for every hundred resident workers). As at the 2006 Census the sub-region had a resident workforce of 90,000 employees (12 per cent of the total for the Perth and Peel metropolitan area) and 62,000 jobs (9 per cent of the total for the Perth and Peel metropolitan area).

Achieving the *Directions 2031 and Beyond* targets for employment self-sufficiency in the sub-region will require the creation of approximately 42,000 additional jobs by 2031.

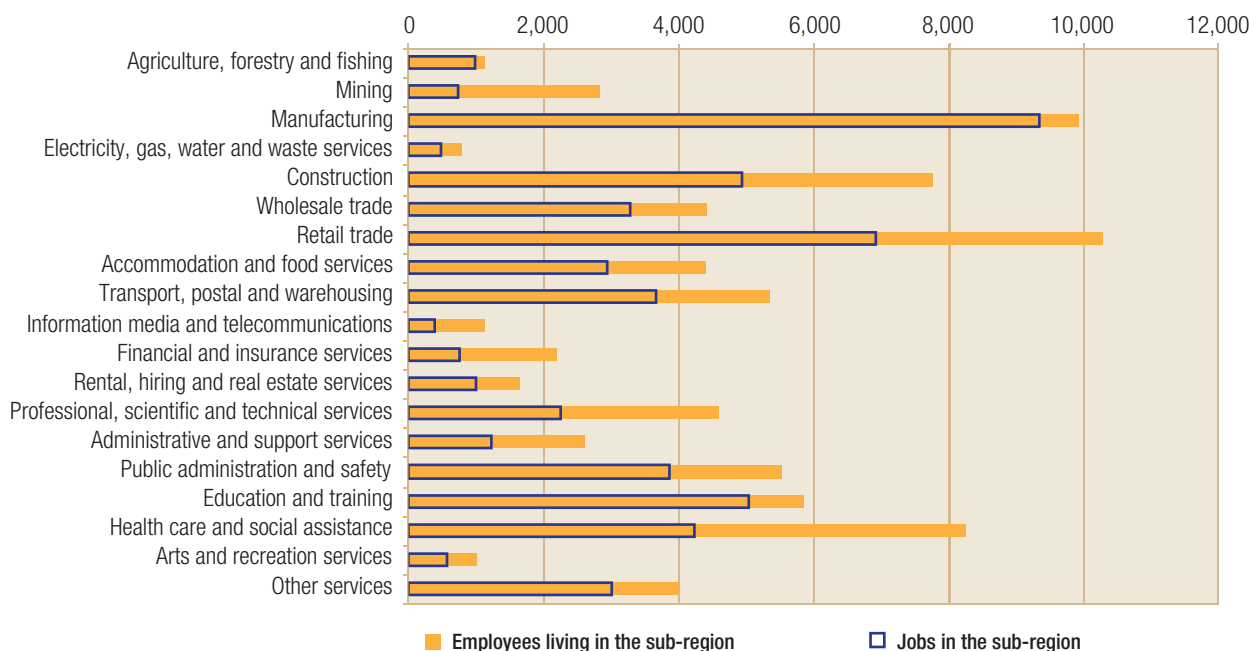
Employment self-containment is a measure of the proportion of a resident labour force that is employed in the local area. The North-east sub-region has a modest degree of employment self-containment with 39 per cent of the resident labour force employed within the sub-region (Figure 5).

Figure 5: North-east sub-region resident labour force - place of work



Source: Australian Bureau of Statistics, 2008, Census of Population and Housing 2006.

Figure 6: Employees and jobs by industry



Source: Australian Bureau of Statistics, Census of Population and Housing 2006.

Although there are numerous employment opportunities in the North-east sub-region, almost half of the resident labour force (46 per cent) commutes to the Central sub-region (Figure 5). The local government areas of Perth, Canning and Belmont host the most employees commuting from the North-east sub-region.

Most of the workers from other parts of the metropolitan area, who are employed in the North-east sub-region, come from the North-west sub-region and the middle sector of the central sub-region (mainly the cities of Stirling and Bayswater).

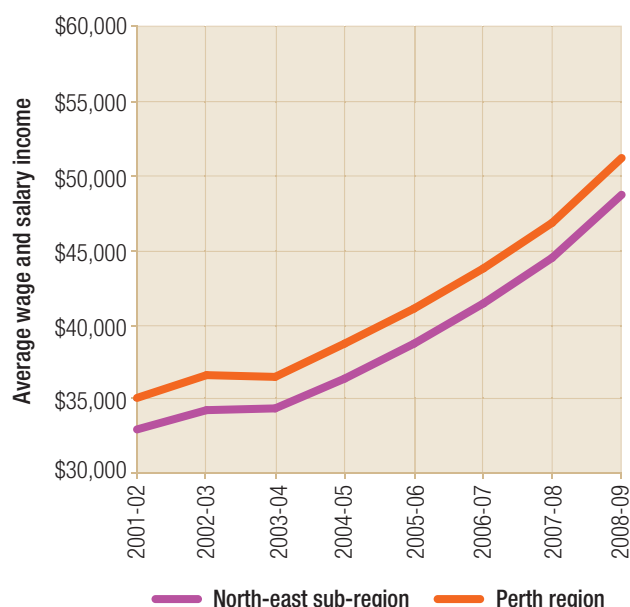
A high level of employment self-containment is dependent on a strong positive correlation between the skill sets of the local resident workforce and the types of employment opportunity within the sub-region. As illustrated in Figure 6 there is a shortage of employment opportunities relative to the resident labour force across all industry sectors. There is however a large number of manufacturing sector jobs and resident employees in the sub-region, which bolster the level of employment self-containment.

There are several major employment nodes in the North-east sub-region and consequently the area draws more commuters from the Central sub-region than any of the other outer sub-regions (Map 3). The most significant of these nodes include the industrial areas at Malaga and Kewdale and commercial, public purpose and industrial employment areas around Midland (Map 2).

2.5.3 Wages and salaries

Wage and salary earners in each local government in the North-east sub-region had an average income lower than that of the overall Perth metropolitan region in the 2008/09 financial year. Mundaring had the highest average income in the sub-region by a marginal amount over Kalamunda, and Swan the lowest. Although average incomes for residents of the sub-region are lower than for the broader metropolitan area, income growth between 2001/02 and 2008/09 was slightly higher (Table 3).

Figure 7: Trend of average wage and salary incomes



Source: Australian Bureau of Statistics, 2011, Wage and Salary Earner Statistics for Small Areas, Time Series, 2001/02, 2002/03 & 2003/04 to 2008/09, Cat. No. 5673.0.

The wage and salary income trend for the north-east sub-region is very similar to that for the Perth metropolitan region and after slow income growth from 2001/02 through to 2003/04, the annual growth accelerated throughout the past decade (Figure 7).

Median household incomes in new growth areas in the North-east sub-region are significantly higher (20 per cent) than median household income across all households in the sub-region. This suggests that the strong wage growth in the sub-region may be a consequence of more affluent people moving into the area, rather than an increase in wages for the existing residents.

2.6 Population growth and demographics

The North-east sub-region's estimated resident population reached 209,089 in June 2011, consisting of 114,179 residents in the City of Swan, 56,462 in the Shire of Kalamunda and 38,448 in the Shire of Mundaring (Table 1). All local government areas are growing in population, with Swan leading the growth of major new urban areas (Figure 8).

The annual rate of population growth shows a dramatic population increase in the City of Swan from 2004/05 to 2007/8; however, population in the municipality decreased dramatically in the 12 months to June 2010 (Figure 9). The Shire of Kalamunda experienced a larger than normal population growth rate in 2004/05, while the Shire of Mundaring experienced modest growth rates, from around 0.5 per cent to 2.0 per cent during the past decade.

Table 3: Wage and salary earners

Area	Median income 2008/09 (\$ p.a.)	Average income 2008/09 (\$ p.a.)	Average annual income growth 2001/02 to 2008/09
Shire of Kalamunda	42,412	49,714	5.8%
Shire of Mundaring	41,201	49,718	5.6%
City of Swan	41,977	47,753	5.8%
Perth metropolitan region	41,847	51,125	5.5%
Peel sub-region (Mandurah and Murray local govt. authorities)	38,554	49,268	5.5%
Western Australia	41,180	50,438	5.5%

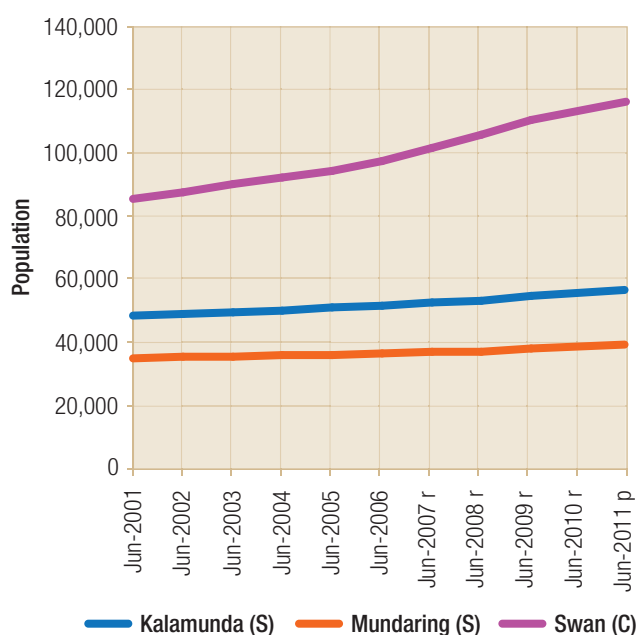
Source: Australian Bureau of Statistics, 2011, Wage and Salary Earner Statistics for Small Areas, Time Series, 2003/04 to 2007/08, Cat. No. 5673.0.

The sub-region had a very high proportion of residents under 25 as at 2006; however, this is expected to fall sharply by 2031 as the profile of the Perth metropolitan area, as whole, ages (Figure 10).

Key population and demographic statistics for the North-east sub-region

- There are a higher proportion of children in the sub-region aged under 14 years than across the Perth metropolitan area².
- The Shire of Mundaring has a higher proportion of adults aged 35–70 years, compared with the Shire of Kalamunda and the Perth metropolitan area³.
- There is a slightly lower proportion of residents aged 75 years and above than for the Perth metropolitan area⁴.

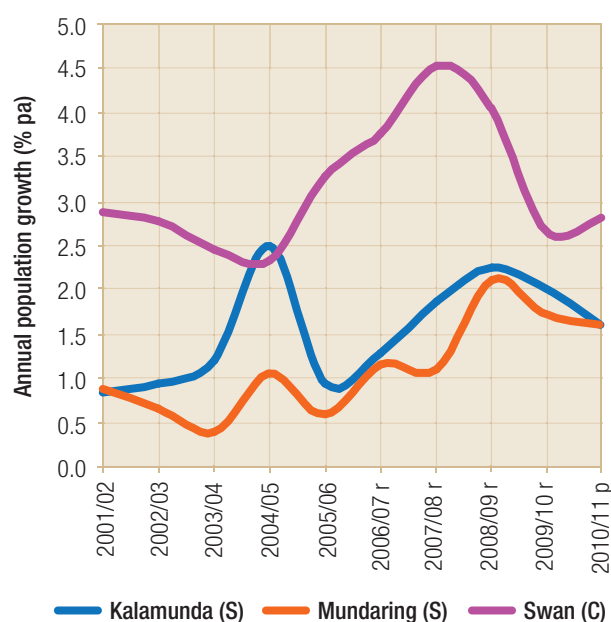
Figure 8: Estimated resident population, 2001 to 2011



Notes: r – revised, p – preliminary

Source: Australian Bureau of Statistics, 2012, Regional Population Growth, Australia, Cat. No. 3218.0.

Figure 9: Annual population growth, 2001/02 to 2010/11



Notes: r – revised, p – preliminary

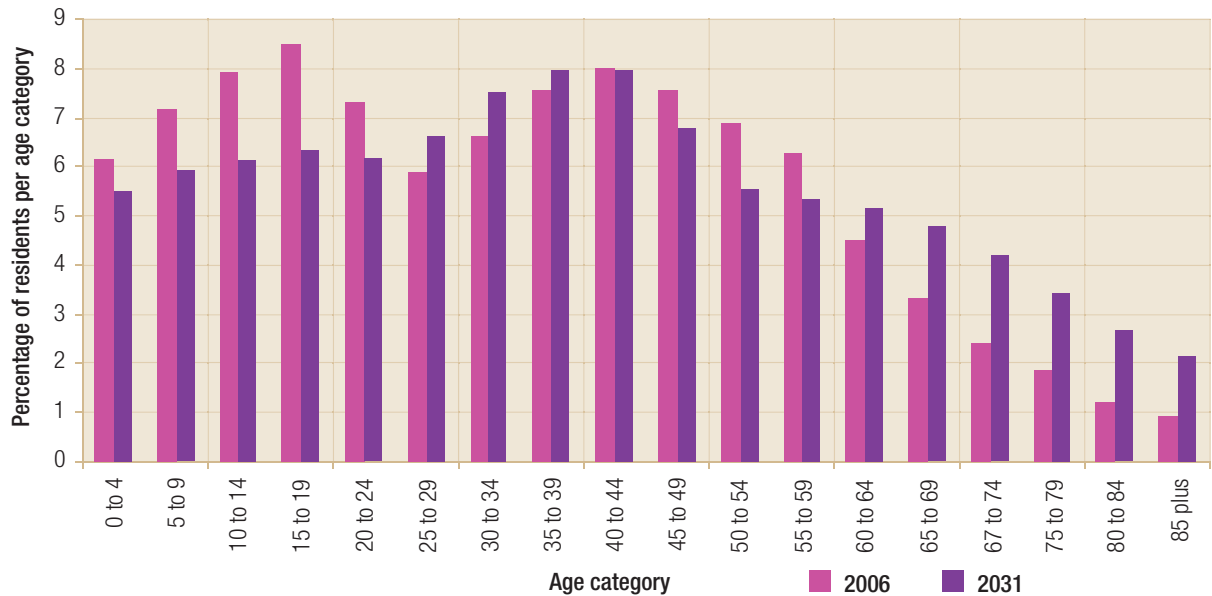
Source: Australian Bureau of Statistics, 2012, Regional Population Growth, Australia, Cat. No. 3218.0.

² Draft Outer Metropolitan Perth and Peel Sub-Regional Strategy

³ Draft Outer Metropolitan Perth and Peel Sub-Regional Strategy

⁴ Draft Outer Metropolitan Perth and Peel Sub-Regional Strategy

Figure 10: Projected age profile (2006 and 2031)



Source: Western Australian Planning Commission (2005), Western Australia Tomorrow.

2.7 Property sales, prices and activity

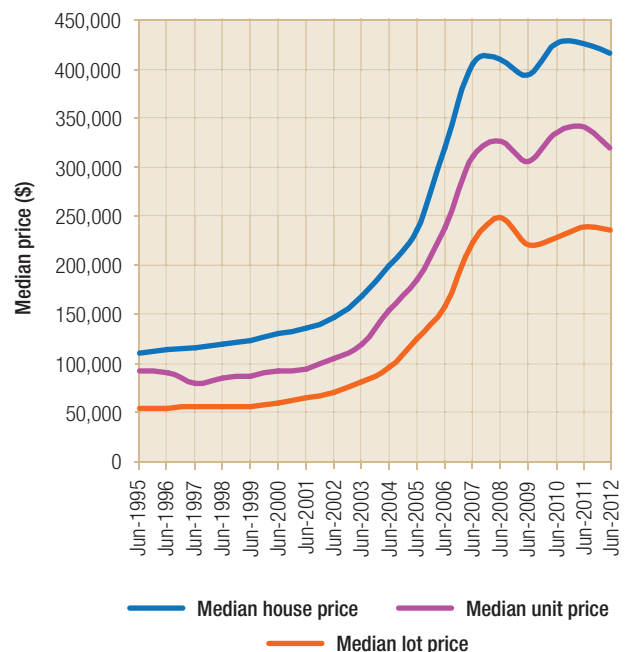
Long-term trends in sales activity and prices indicate demand for real estate and reflect the fundamentals of population growth, household formation, rising incomes and employment growth.

2.7.1 Median house, unit and lot prices

Over the past 17 years, the median house price in the North-east sub-region has increased from \$110,000 to \$425,000 (Figure 11). Over the same period, the median price of units increased from \$92,250 to \$317,000 (having peaked at \$326,250 in 2010) and the median price of lots increased from \$54,000 to \$236,000 (having peaked at \$248,000 in 2008).

These growth patterns are relatively consistent with general trends across Perth and Peel, with median house and unit prices increasing sharply during the mining boom and flattening after the onset of the global financial crisis.

Figure 11: Median house, unit and lot prices



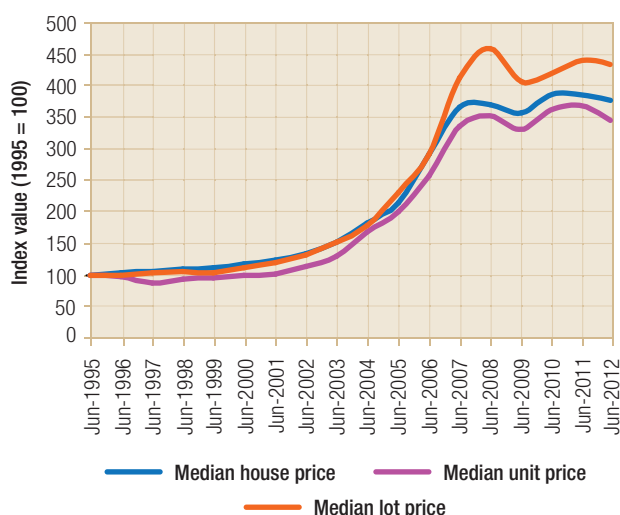
Source: Real Estate Institute of Western Australia.

2.7.2 Indices of median house, unit and lot prices

Indices of median price growth since 1995 (Figure 12) show that the median price of lots has increased more sharply than median prices for houses or units. It also highlights greater volatility in lot prices relative to house or unit prices since 2006.

Median lot prices increased sharply between 2006 and 2008 and easily outpaced houses and units. All three indexes showed a slight decline in the year between June 2011 and June 2012.

Figure 12: Indices of median house, unit and lot prices



Source: Department of Planning and Real Estate Institute of Western Australia.

2.8 New dwelling approvals

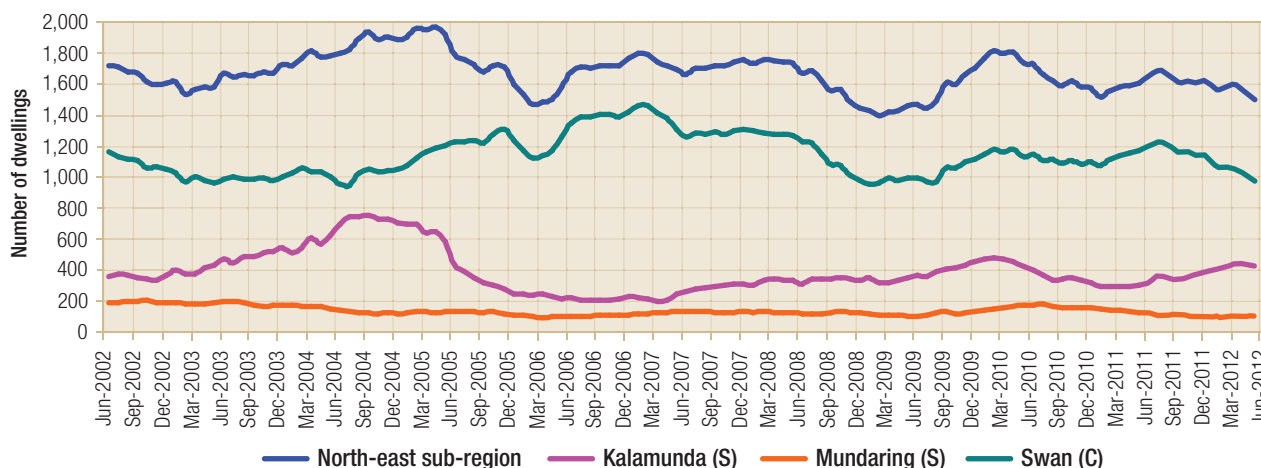
Dwelling approvals are a key demand indicator, representing either real demand from prospective owner-occupiers or investor confidence. As most dwelling approvals proceed to construction and eventually to completion, they also provide a leading indicator of short-term dwelling supply.

2.8.1 New dwelling approvals (houses only)

Approximately 1,700 new houses are approved for construction annually in the North-east sub-region. The number of approvals has varied between about 1,400 and 2,000 houses per year since 2002 (Figure 13).

The local governments of Kalamunda, Mundaring and Swan show markedly different trends in building approval activity. Mundaring had the least building approvals over the time period, with fairly consistent annual figures. Most of the new house approvals have been in the City of Swan, where approximately two thirds of all house approvals in the sub-region have been granted since 2002.

Figure 13: New house approvals (annualised monthly data)



Source: Australian Bureau of Statistics, 2012, Building Approvals, Australia, Cat. No 8731.0.

2.8.2 New dwelling approvals (other than houses)

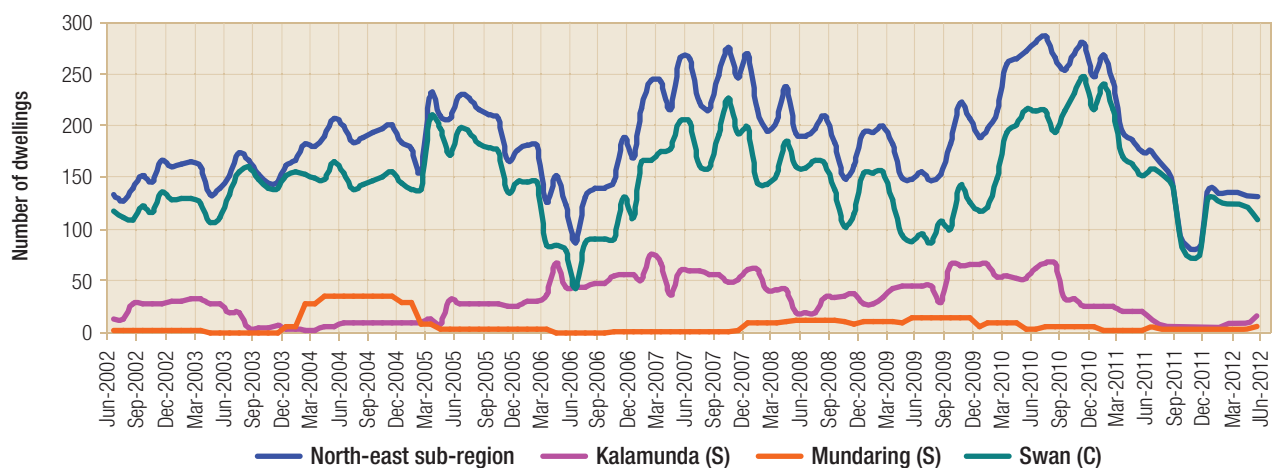
The statistics for dwelling approvals other than houses (e.g. flats, villas, and apartments) show a fairly erratic pattern due to low numbers of medium and higher density dwellings in the North-east sub-region (Figure 14).

The vast majority of other dwelling building approvals in the North-east sub-region are granted in the City of Swan. Like most of the metropolitan area there has been a noticeable decline in other dwelling building activity in the sub-region in the 18 months to May 2012.

2.9 Overall demand outlook

- Affordable housing and land in the North-east sub-region (compared to the Central sub-region) is likely to continue appealing to buyers, particularly young families. Rapid population growth in Ellenbrook attests to interest in affordable new developments in the area.
- Heritage conservation and regional branding have served to retain character and boost the profile of the Swan Valley, adding to the appeal of the area. It also offers opportunities for rural and semi rural living in the hills, making the sub-region appealing to people seeking a quieter lifestyle nearer Perth.
- Industrial development, with possible addition of an intermodal terminal, could generate more employment in the sub-region, leading to additional demand for land and housing.
- Continuing development of public purpose employment opportunities and population densification are likely to consolidate Midland as the main urban centre for eastern Perth, increasing demand in and around the Midland city centre.

Figure 14: New other dwelling approvals (annualised monthly data)



Source: Australian Bureau of Statistics, 2012, 8731.0 Building Approvals, Australia.

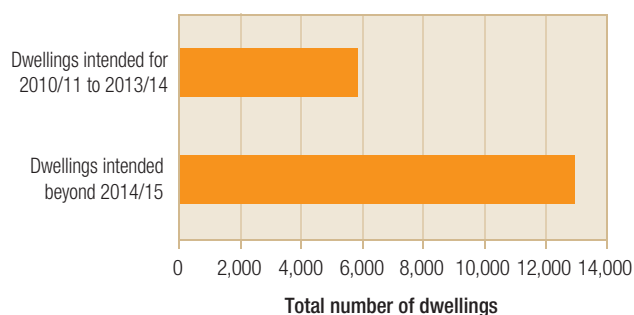
3. Residential land supply

3.1 Overview

The North-east sub-region has a relatively small stock of vacant land zoned for urban development. Much of the appeal of the sub-region lies in its rural character, which is seen as a great asset, to the sub-region and the city as a whole. Preserving this character has resulted in a limited supply of land for urbanisation, relative to other sub-regions. More than half of the North-east sub-region is zoned rural under the Metropolitan Region Scheme. The resulting fragmented pattern of development has caused infrastructure supply and planning approval constraints for developments in the sub-region.

The Residential Developers' Land and Dwellings Intentions Survey 2009/10 includes projects of five or more residential lots or dwellings. Survey respondents identified 46 projects in the North-east sub-region, expected to yield 5,882 dwellings (i.e. single lots plus group dwellings) in the four years from 2010/11 to 2013/14 (Figure 15). Another 12,939 dwellings were identified for development in the long-term (2014/15 and beyond).

Figure 15: Dwelling yield from residential development projects (survey responses)



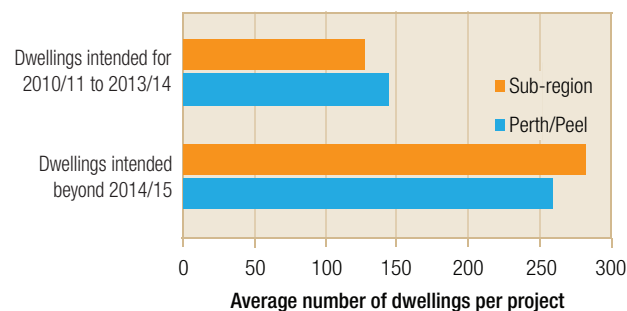
Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Developers' intentions for the region indicate future annual lot production could be higher than in the past, potentially reaching 1,600 lots by 2012/13 (Table 4). The actual development rate will depend on market response and the rate of lot pre-sales and settlements.

3.1.1 Average dwelling yield

An average residential development project in the North-east sub-region will yield 128 dwellings between 2010/11 to 2013/14 compared to the average across Perth and Peel of 144 dwellings per project. Long-term (2014/15 and beyond) the average dwelling yield per project is more than double the short-term average. This is primarily due to a number of large greenfield landholdings available for development in the longer-term (Figure 16).

Figure 16: Average dwelling yield from residential development projects (survey responses)



Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Table 4: Intended dwelling development (survey responses)

Local government	2011/12	2012/13	2013/14	2014/15 – 2018/19	2019/2020+	Unknown year
Kalamunda	32	25	0	12	0	1,273
Mundaring	112	149	100	285	0	1,330
Swan	1,362	1,403	1,202	4,315	1,469	10,799
North-east sub-region	1,506	1,577	1,302	4,612	1,469	13,402

Source: Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Note: Dwelling development 2010/11, 2011/12, 2012/13 and 2013/14 include single lot production only.

3.2 Urban expansion and investigation areas

The initial stage of urban growth often involves the identification of lands suitable for future development, in strategic Government planning policies.

The draft *Outer Metropolitan Perth and Peel Sub-regional Strategy* identifies 400 hectares of urban expansion areas (development anticipated by 2015) and 400 hectares of urban investigation areas (development anticipated by 2020) in the North-east sub-region. It is estimated that existing urban expansion and investigation areas in the sub-region, coupled with undeveloped zoned land, will yield between 42,000 and 55,000 dwellings.

The City of Swan is currently considering the draft *Bullsbrook Townsite and Rural Strategy* as a vision and land use management plan for the Bullsbrook region.

Investigations by landowners in Upper Swan and Gidgegannup have highlighted constraints relating to wastewater treatment, water supply, traffic and transport and employment. Areas for investigation in the Shire of Kalamunda include Forrestfield, High Wycombe, Helena Valley, Bushmead, and Maida Vale.

3.3 Planning and zoning

Once a parcel of land has been identified as a suitable growth area planning schemes and structure plans are created or altered to guide development. This promotes coordinated, appropriate development, with zoning and structure planning providing parameters for development within a prescribed area.

3.3.1 Land being rezoned to urban or urban deferred

The 'upzoning' of land to urban, under the relevant region scheme, represents a significant progression toward urban growth, as it removes the primary statutory constraint to an area's development. As at July 2011, one region scheme amendment was in progress in the North-east sub-region, affecting 14 hectares in Jane Brook (City of Swan).

The Residential Developers' Land and Dwellings Intentions Survey 2009/10 (DIS) identified that two projects needed region scheme amendments and two projects needed local scheme amendments (Table 5). The majority of projects proposed in the sub-region do not require rezoning before they can proceed.

Table 5: Intended developments requiring scheme amendments (survey responses)

	No. of projects	Dwellings affected 2010/11 to 2013/14	Dwellings affected 2014/15 and beyond
Region scheme amendment (rezoning) required	2	1,614	2,071
Local planning scheme amendment (rezoning) required	2	629	88
No scheme amendment (rezoning) required	43	3,818	10,818

Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Note: Some projects will require both a region and a local scheme amendment (rezoning).

3.3.2 Zoned land

The North-east sub-region contains 13,130 hectares of land zoned urban and 640 hectares zoned urban deferred under the *Metropolitan Region Scheme*. Of this, 3,630 hectares (26 per cent) is either undeveloped, or developed at very low density. This constitutes approximately 14 per cent of the total stock of available zoned land in the Perth and Peel metropolitan area.

Table 6 describes the make up of the undeveloped and under-developed land zoned for development in the North-east sub-region. 'Committed for other purposes' refers to land that is likely to be zoned for purposes other than residential, under local planning schemes.

Based on land consumption trends over the past 20 years (see section 3.7.3), existing stocks of zoned land are potentially sufficient to meet demand for approximately 29 years. As at December 31 2010, there were 4,360 green title and 220 strata lots with conditional approval in the non-urbanised areas of the North-east sub-region.

The *Urban Growth Monitor* (UGM) tracks and models zoned land supply and land consumed by development for the Perth metropolitan, Peel and Greater Bunbury regions. The assessment of land supply in the North-east sub-region from the UGM is

shown in Figure 17. The UGM breaks down the zoned land into tiers showing the number of hectares of land in each category. The full report from the *Urban Growth Monitor 2011* is available from the WAPC website www.planning.wa.gov.au.

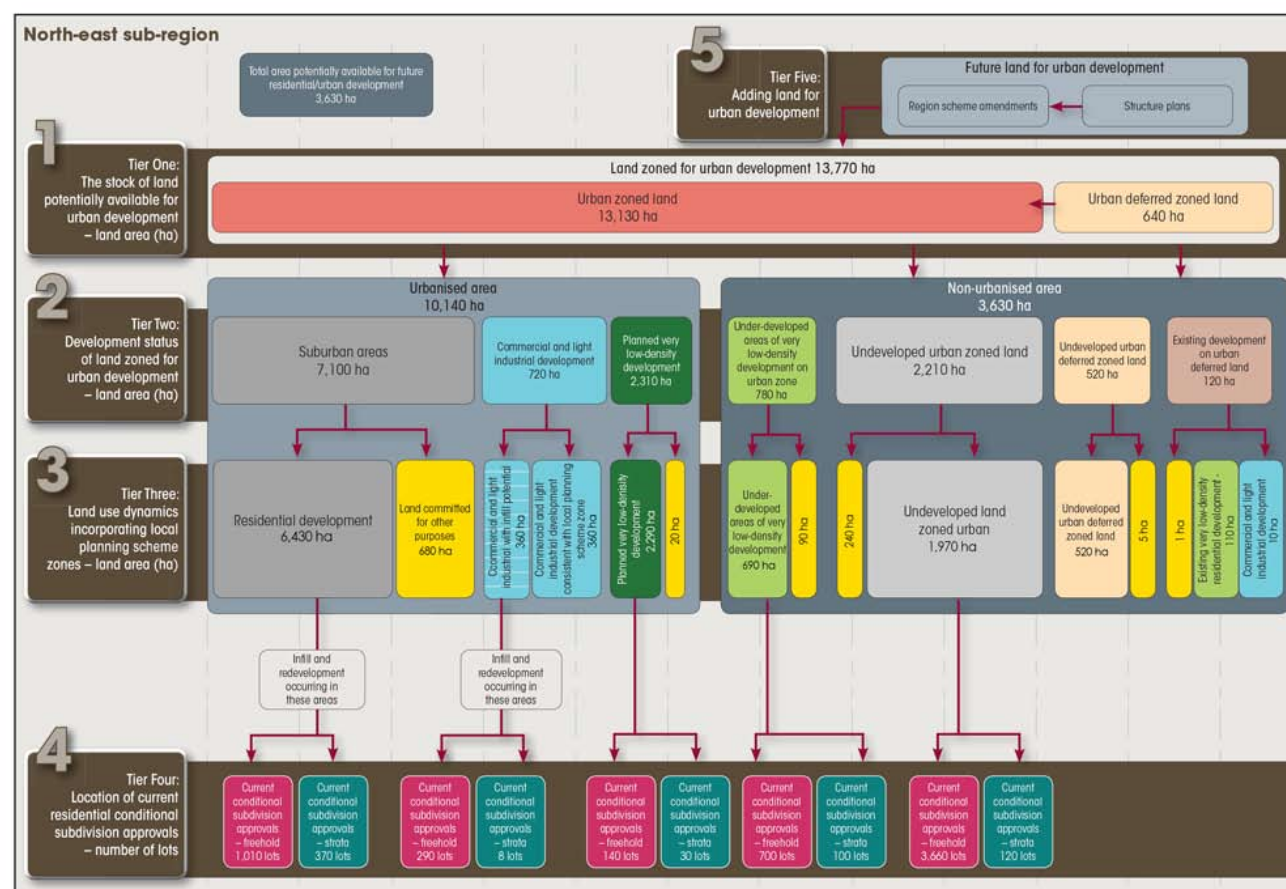
Table 6: Land available for future development

	Under developed areas of very low density development (ha)	Undeveloped urban zoned land (ha)	Undeveloped urban deferred zoned land (ha)	Existing development on urban deferred land (ha)	Total (ha)
Total	780	2,210	520	120	3,620
Committed for other purposes	90	240	10	0	340
Potentially available for development	690	1,970	520	120	3,300

Source: Western Australian Planning Commission (2011), Urban Growth Monitor.

Note: Numbers may not sum due to rounding.

Figure 17: Urban Growth Monitor land supply assessment



Source: Western Australian Planning Commission (2011), Urban Growth Monitor.

3.3.3 Structure plans

As at August 2012 there were 29 structure plans being considered for endorsement by the WAPC and 37 being considered for adoption by local government in the North-east sub-region.

The Swan Urban Growth Corridor Sub-regional Structure Plan covers a large area to the south and east of Whiteman Park and is expected to accommodate 33,000 residents in 12,500 dwellings.

The Hazelmere Enterprise Area Draft Structure Plan, prepared by the City of Swan, is another significant proposal being considered for endorsement by the WAPC. The plan aims to augment the sub-region's industrial capacity by developing a large tract of former farm land to the north east of Perth Airport.

Work is currently underway to establish a sub-region-wide structure plan to guide future planning and development. More detailed information on structure plan activity in the North-east sub-region is available through the Urban Development Program's District and Local level Planning Area maps and tables, available from the WAPC website at www.planning.wa.gov.au/udp.

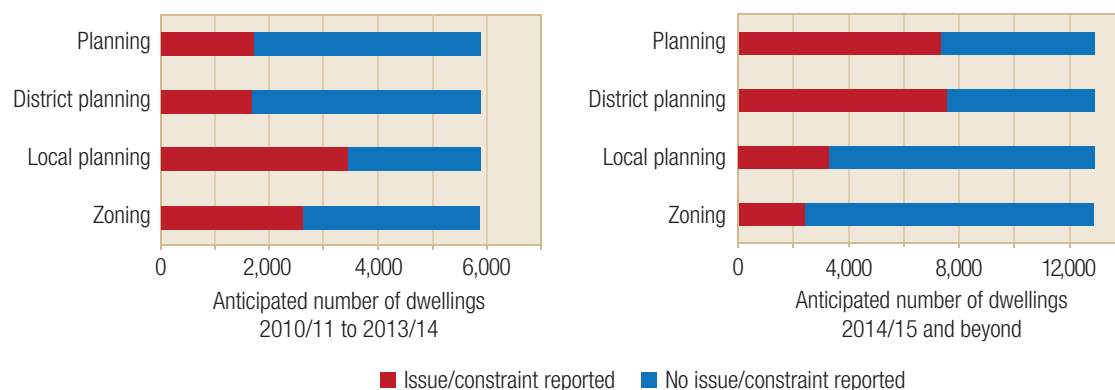
3.3.4 Planning issues

Developers have identified that local structure planning is a significant concern in the short-term and that general planning and district structure planning are concerns in the long-term (Figure 18). Planning issues affect delivery of more than half the intended dwelling sites in the short-term up to 2013/14.

Developers noted these were critical issues and that while planning issues for a few areas (affecting 975 dwellings) were expected to be resolved by the end of 2010/11, they indicated that the resolution timeframe for most of the development sites was uncertain.

Note that the term 'developers' refers to all developers including private, State or local government authorities.

Figure 18: Developers' planning issues (survey responses)



Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

3.4 Subdivision

The North-east sub-region experienced a limited degree of subdivision activity in the year to December 2011 with less than ten per cent of the residential subdivision applications in the Perth-Peel Metropolitan area. The majority of residential subdivision activity within the sub-region has been in the City of Swan, with more than 75 per cent of conditional approvals and over 80 per cent of final approvals in the 2011 calendar year (Table 7).

The rural character of the area has encourages special rural and special residential development in the North-east sub-region. Over the past ten years the City of Swan has been the site of more of this type of subdivision than any other metropolitan local

government authority. In the 2010/11 financial year however, special rural and special residential final approvals were evenly spread between the Swan, Kalamunda and Mundaring local government areas.

In the 12 months to December 2011 the North-east sub-region experienced less subdivision activity than any metropolitan sub-region apart from Peel. There is however, consistent residential subdivision activity in the sub-region, with over 60 per cent of conditionally approved lots progressing to final approval.

The stock of residential lots with conditional approval in the North-east sub-region has consistently increased over the time period, from 1,927 lots in December 2004 to more than 6,800 lots in December 2011 (Figure 19).

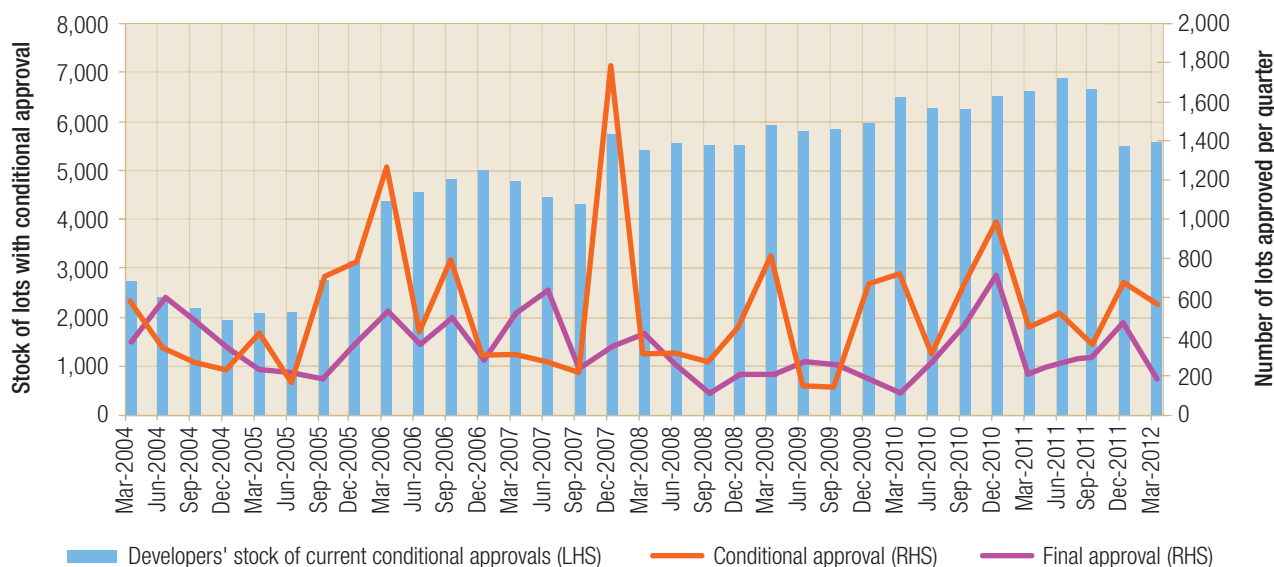
Table 7: Subdivision approvals

Land use	Applications received (1 Jan 2011 - 31 Dec 2011)	Applications pending (as at 31 Dec 2011)	Conditional approvals granted (1 Jan 2011 - 31 Dec 2011)	Current conditional approvals (as at 31 Dec 2011)	Active conditional approvals ¹ (as at 31 Jan 2012)	Final approvals (1 Jan 2011 - 31 Dec 2011)
	Proposed lots	Proposed lots	Proposed lots	Proposed lots	Proposed lots	Lots
Residential	2,921	1,555	2,026	5,492	982	1,252
Special residential and special rural	68	124	169	449	44	195

Source: Department of Planning (2012), Water Corporation (2012).

¹ Refers to conditionally approved lots where a servicing agreement (agreement to construct) has been signed between the Water Corporation and the developer. These are termed lots on non-cleared agreements. Data not available for 31 December 2011.

Figure 19: Residential subdivision approvals



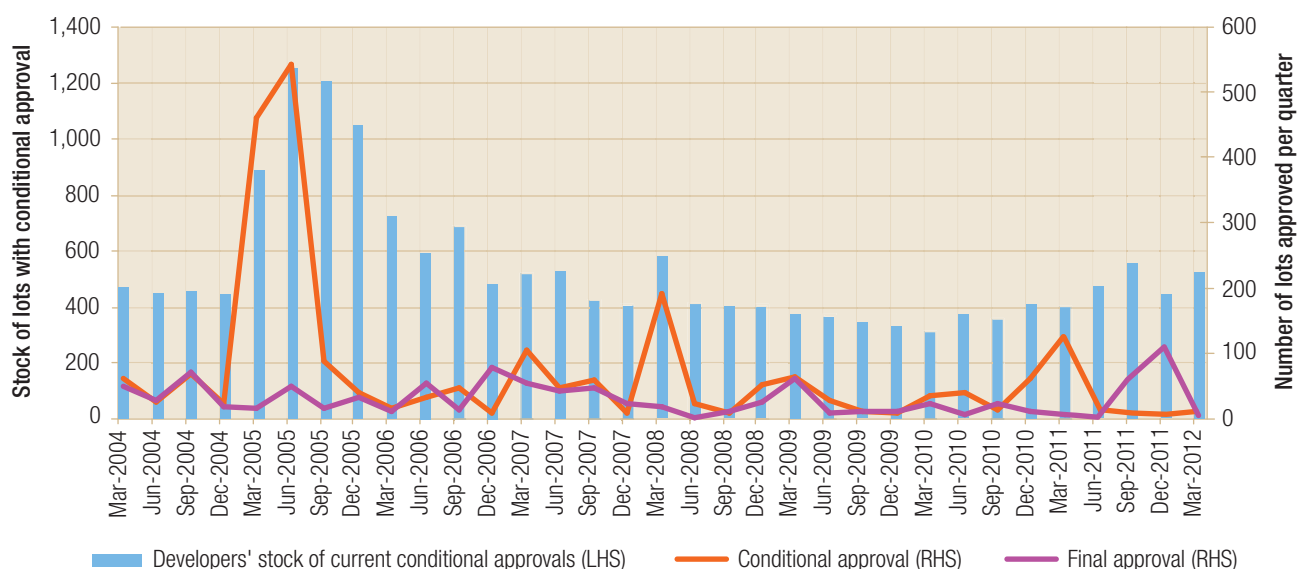
Source: Western Australian Planning Commission 2012, State Lot Activity.

The North-east sub-region has the highest number of conditional and final approvals for special rural and special residential developments between March 2004 and March 2012. This is largely a result of the volume of conditional approvals granted (more than double the number of any other sub-region), as only approximately 37 per cent of conditional approvals progressed to final approval. This poor conversion rate is mainly due to large numbers of conditional approvals granted in the March and June quarters of 2005 that were not finalised (Figure 20).

3.4.1 Clearance of subdivision conditions

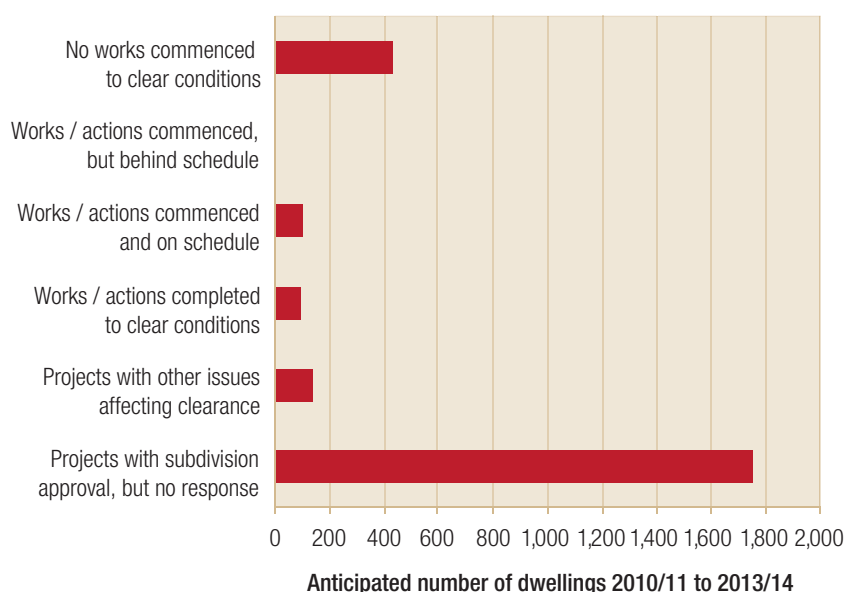
Respondents in the Developers' Intentions Survey assessed progress of their projects according to the ease or difficulty in meeting subdivision conditions (Figure 21). Developers had most difficulty meeting conditions set by the WAPC, local government and Water Corporation. No developers reported delay issues with consultants, civil contractors or shortage of materials.

Figure 20: Special residential and special rural subdivision approvals



Source: Western Australian Planning Commission 2012, State Lot Activity.

Figure 21: Progress to clear subdivision conditions (survey responses)



Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

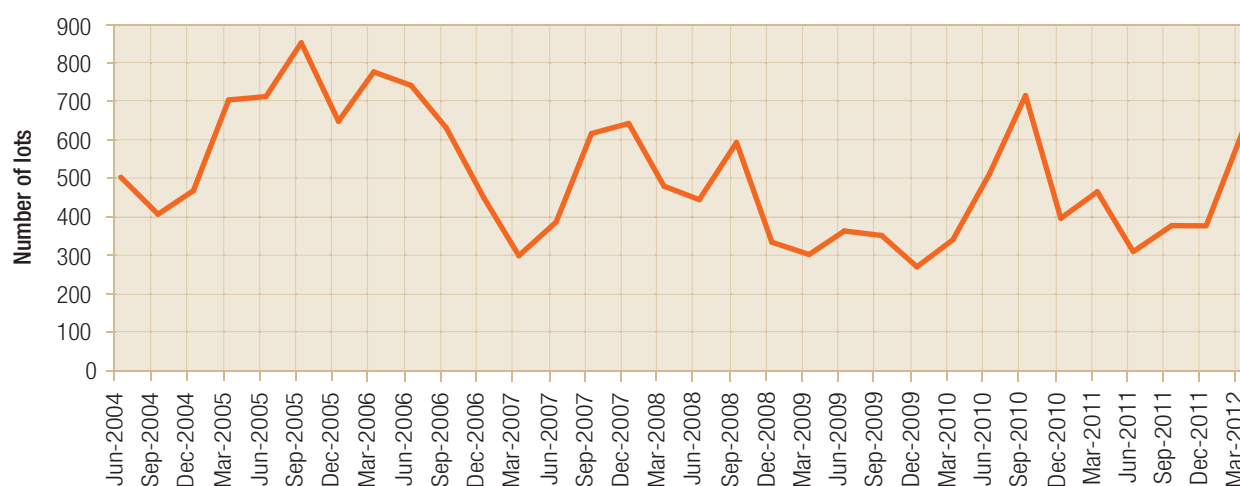
3.5 Development

Once approval has been granted to develop a piece of land for residential purposes, a significant amount of land and infrastructure development is still required to prepare each lot for sale.

3.5.1 Lots under construction

Figure 22 illustrates the number of lots under construction in the North-east sub-region from analysis by the Urban Development Institute of Australia (UDIA). It is expected that these lots will be released to the market within a year. Since the June 2011 quarter, all lots under construction in the sub-region were in the City of Swan.

Figure 22: Lots under construction (UDIA member developers)



Source: Urban Development Institute of Australia, 2012, Urban Development Index.

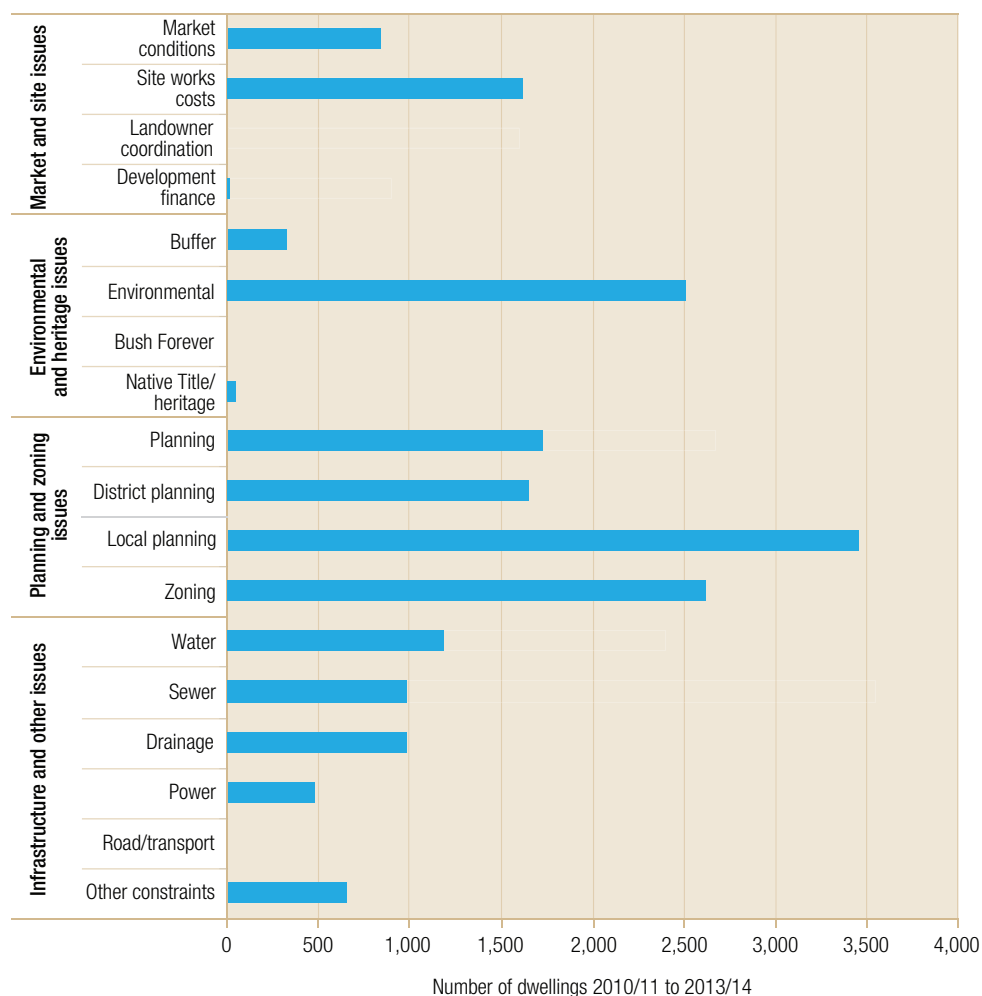
3.5.2 Short-term development issues 2010/11 to 2013/14

Major issues with the development of additional dwelling sites as identified by land developers are shown in Figure 23, which indicates that planning and zoning issues affect a greater number of future dwellings in the sub-region than other development issues. Local planning issues affect the development of 3,500 dwellings while zoning issues affect over 2,600 dwellings.

While market conditions and site work cost issues are a concern to developers in the sub-region, these are comparatively low relative to other sub-regions.

Infrastructure issues, particularly hydraulic services, affect a significant number of dwellings intended for development in the next four years.

Figure 23: Major short-term development issues (survey responses)



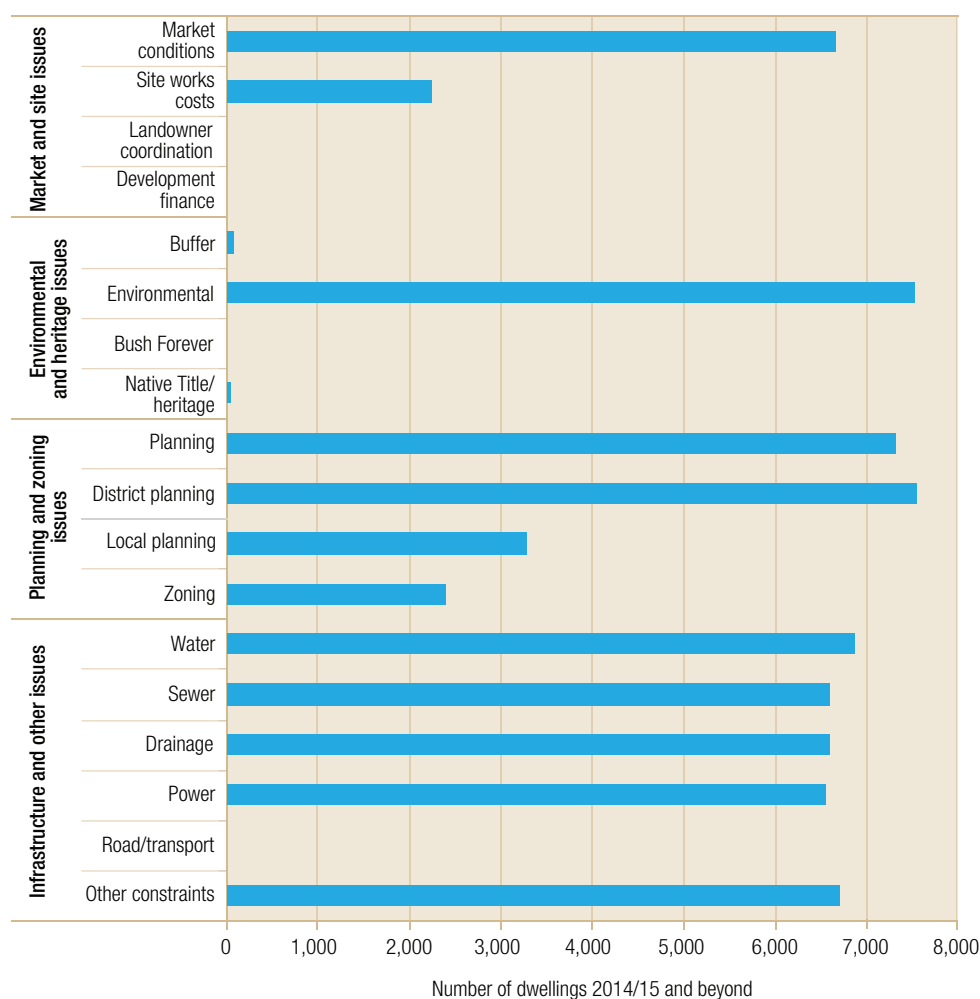
Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

3.5.3 Long-term development issues (2014/15 and beyond)

Constraints for long-term release of dwelling sites to the market are dominated by planning and infrastructure servicing issues. Developers identified district planning as affecting nearly 7,600 dwellings (Figure 24). The need for hydraulic services affects the release of 6,600 dwelling sites.

Market conditions are also a significant concern in the long-term (2014/15 and beyond) and were identified as affecting 6,700 dwelling sites.

Figure 24: Major long-term development issues (survey responses)



Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

3.5.4 Environmental issues affecting development

Significant environmental issues affecting development in the North-east sub-region include:

- urban water management challenges including:
 - flood management;
 - recharge; and
 - flows.
- protection of water source mounds and priority water management areas;
- wetland management including buffers, with many not allocated or properly managed;
- development pressure for decentralised water supply or sewerage solutions;
- contaminated sites from legacy land uses (e.g. market gardens, industry);
- buffer areas restricting development (e.g. poultry farm and mushroom farm buffers);
- the protection of remnant vegetation with due regard for the extreme bush fire risk present throughout much of the sub-region;
- protection of habitats for threatened species (e.g. Carnaby's Black Cockatoo, tortoises, bandicoots);
- offsets and subsequent management of offset land;
- dust and noise from extractive industry, railway extensions or road network expansion;
- lack of strategic assessment of fire risk management in urban development areas – development is now encroaching on high fire risk areas;
- need for mapping and mitigation of land use risks; and
- contamination of industrial lands.

Government environmental management priorities for the sub-region include:

- intergovernmental agreement for environment protection matters;
- working with Department of Water to get better urban water outcomes at a regional level;
- planning and managing fragmented land ownership and associated developer contribution schemes required to coordinate development;
- completing investigative preliminary work for contaminated sites;
- addressing noise issues for rural residents of east of Henley Brook Avenue;
- conservation of Crumpet Creek and nearby lands;
- rehabilitation of river foreshore
- provision of riverside and urban parks and high amenity street environments; and
- managing wetlands, creek lines and 'Bush Forever' sites.

Other issues raised by government authorities include:

- managing developer requests for decentralised sewerage treatment plants (e.g. Gidgegannup). Stand-alone systems lack the redundancy capacity an integrated scheme provides. This increases risk and adds complexity and impediments to change;
- timing of future growth areas must be identified with reference to land ownership in order to identify and agree the priorities for the future;
- government strategies and policies may compete if they are not strategically integrated; for example, policies to protect and expand treed areas may clash if housing is put into the same area with associated fire risk;
- groundwater monitoring and other studies must inform long land release lead times;

- water is not available to irrigate playing fields and the required 10 per cent public open space;
- there is a need for early developer contribution scheme management to ensure infrastructure is provided in a timely way, and that State, local or other funding is properly managed. Such management requires technical specifications, audit programs and fallback procedures;
- protection of raw materials for fill and other uses is essential. Encroachment on hard rock and clay raw material sources is already occurring at Bullsbrook. These are critical building materials that must be protected with major associated capital investment. State Planning Policy 2.4 protects these sites, but they must also be protected where there is a supply need, or where no other viable source or alternatives are available.
- The North-east sub-region also contains sand, bauxite and titanium zircon (mapping available from Department of Mines and Petroleum) with appropriate buffers and protection measures required to access these materials and develop the land; and

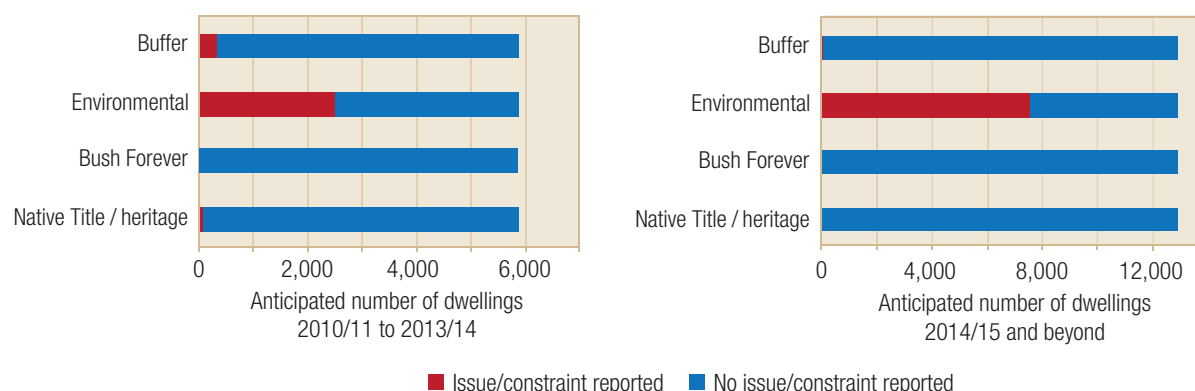
- sub-regional and implementation strategies supporting *Directions 2031 and Beyond* need to cover planning, funding, political, environmental, employment and other dimensions as part of an integrated urban growth and infrastructure plan with assigned accountability. The WAPC should lead and coordinate other key decision-makers.

3.5.5 Environmental issues (survey responses)

Developers Intentions' Survey respondents identified 12 projects with environmental issues constraining development of around 2,500 dwellings in the short-term (2010/11 to 2013/14), and 7,500 dwellings in the long-term (2014/15 and beyond). Figure 25 shows that this represents a significant proportion of dwelling sites intended for development in both the short and long-term.

Most environmental concerns raised by developers in the sub-region were site-specific. Issues raised included one project constrained by a mushroom farm buffer and another put on hold, pending a review of airport noise impacts.

Figure 25: Developer's environmental and heritage issues (survey responses)



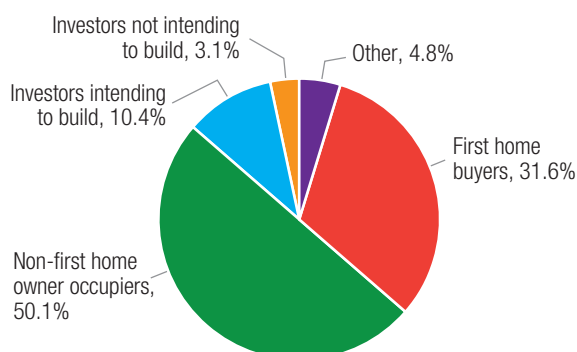
Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

3.5.6 Market segment of dwellings for development

Developers of 26 projects in the North-east sub-region yielding 2,998 dwellings in the short-term (2010/11 to 2013/14) and 2,583 dwellings in the long-term, provided information on their expected target market segments (Figure 26) as part of the Developers' Intentions Survey.

These land developments are mainly targeted at non-first home owner-occupiers (50.1 per cent), first-home buyers (31.6 per cent) and investors intending to build (10.4 per cent). Investors not intending to build include speculators who intend reselling the lots at higher price; very few developers target this market segment. The 'other' category includes aged-care developments.

Figure 26: Market segment of dwellings for development 2010/11 to 2013/14 (survey responses)



Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Note: 'Other' includes aged-care facilities.

3.5.7 Market and site issues affecting development

Developers expressed concerns about market conditions in regard to 10 development projects yielding 841 dwellings from 2010/11 to 2013/14, and 6,667 dwellings in the long-term (2014/15 and beyond) (Figure 27).

Developers identified eight projects where site works costs were a constraint. In total, these projects were anticipated to yield 1,621 dwellings from 2010/11 to 2013/14 and another 2,227 dwellings in the long-term (2014/15 and beyond).

Landowner coordination constraints were reported as affecting one project.

While five developments identified development finance as a constraint, these were all small projects with a total yield of only 23 dwellings from 2010/11 to 2013/14 and 15 dwellings in the long-term.

Table 8: Target market segments (survey responses)

	First home buyers	Non-first home owner occupiers	Investors intending to build	Investors not intending to build	Other
Dwellings 2010/11 to 2013/14	944	1,497	311	93	144
Dwellings 2014/15 and beyond	1,113	941	181	145	203

Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Notes: 'Other' includes aged-care facilities.

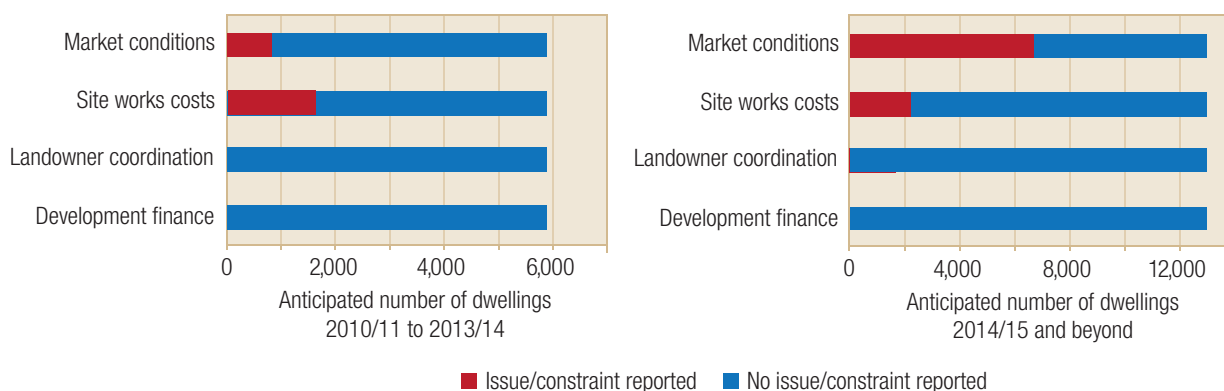
3.6 Vacant lots

It is once vacant lots are created and serviced, that land generally becomes available to the public. Most new homes in Western Australia are sold as vacant lots, on which the purchaser will select a construction company to build a new dwelling. Consequently the availability of vacant lots is perhaps the most important indicator of short-term dwelling supply.

3.6.1 Stock of developed lots available to the market

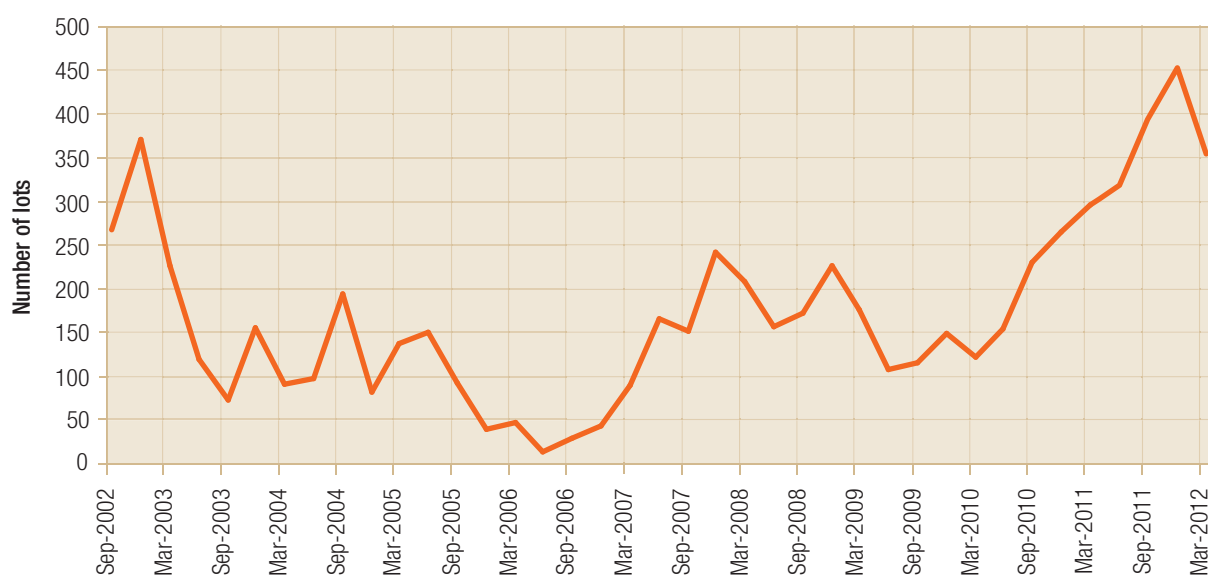
Time-series quarterly data for the number of lots on the market is shown in Figure 28. The graph suggests there is generally an adequate supply of lots to support demand. Figure 28 also shows the very low number of lots on the market in June 2006, which caused public concern during a time of particularly high demand for residential land.

Figure 27: Market and site issues affecting development (survey responses)



Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Figure 28: Residential lots on market (UDIA member developers)



Source: Urban Development Institute of Australia, 2012, Urban Development Index.

3.6.2 Vacant lots with estate agents

Major land developers do not generally list their lots with real estate agents but sell them direct to the public. Lots listed with licensed agents therefore provide an additional stock of serviced lots available to the public. The Real Estate Institute of Western Australia (REIWA) has tracked the listings of vacant lots listed for sale since March 2008 (Figure 29).

REIWA data show that stock of lots listed for sale in the North-east sub-region has increased significantly since the beginning of 2010, giving buyers a greater choice of lots to purchase.

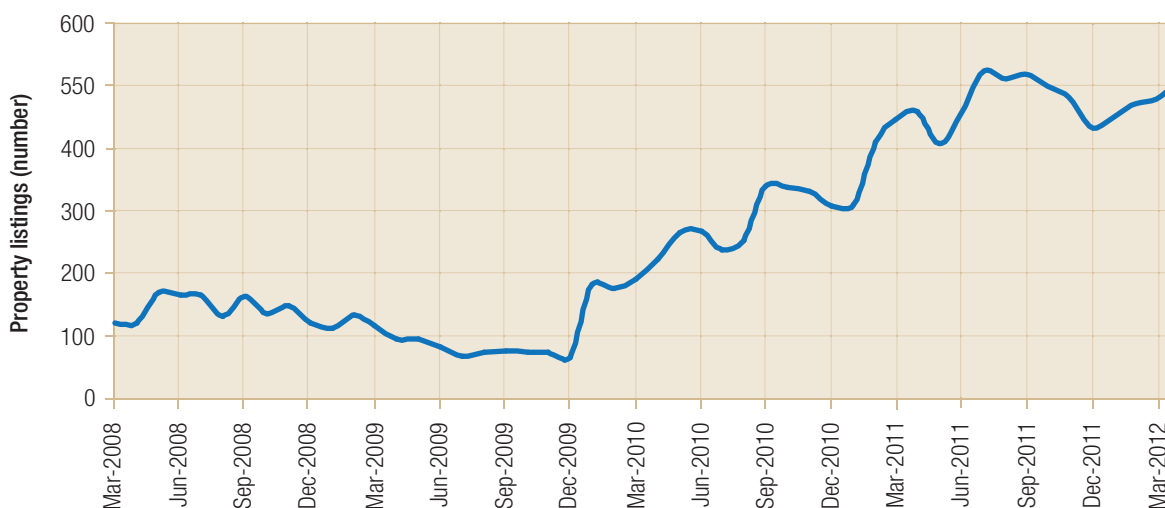
3.6.3 Lots not available to the market

The Urban Development Institute of Australia also collects information from developers on lots that have reached practical completion but not available for sale. This may be due to reasons such as:

- clearance delays (on subdivision conditions);
- issue of title; and
- marketing issues.

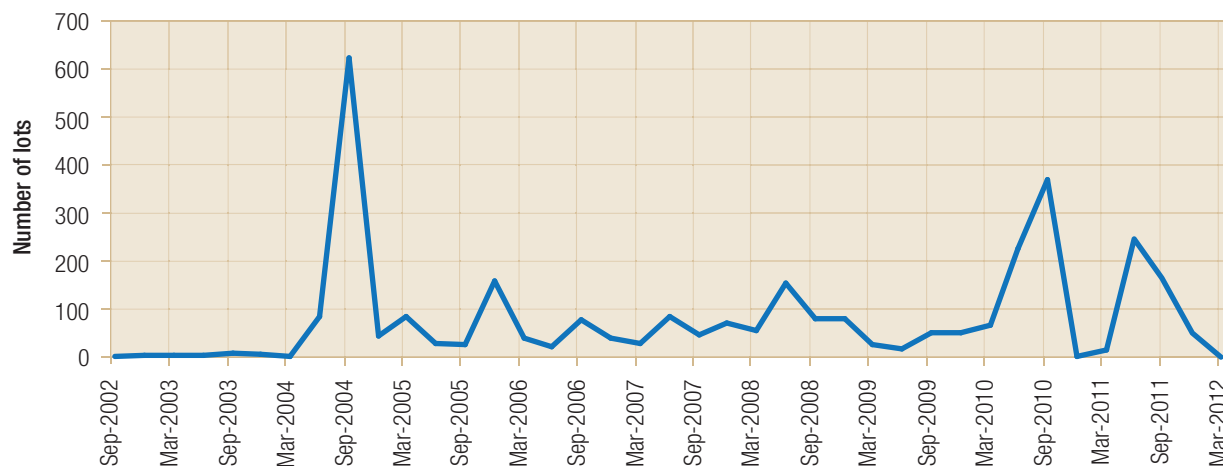
Figure 30 indicates that a relatively small number of lots are withheld from sale once completed in the North-east sub-region. Sharp peaks in 2004 and 2010 represent short-term issues that

Figure 29: Vacant lots listed for sale with real estate agents



Source: Real Estate Institute of Western Australia.

Figure 30: Lots not on market (UDIA members developers)



Source: Urban Development Institute of Australia, 2012, Urban Development Index.

have delayed projects but which are generally resolved fairly quickly, avoiding lengthy delays.

3.6.4 Stock of properties available

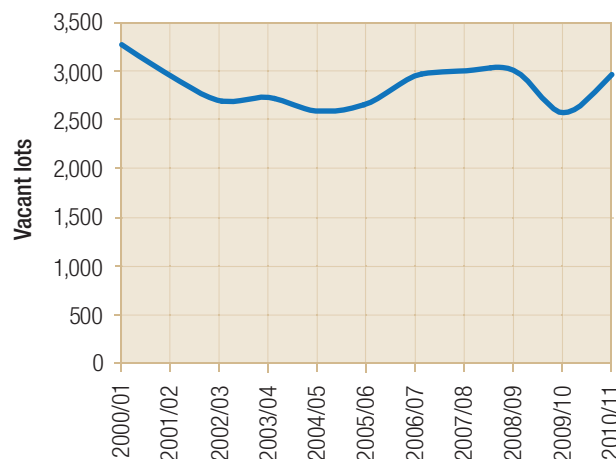
In addition to vacant lots available for sale or recently created, there is generally a stock of vacant lots in urban areas that are latent for some reason. The Water Corporation tracks the number of vacant lots with water services. As at June 2011 there were 2,970 vacant, serviced lots in the North-east sub-region, which constitutes approximately nine per cent of the total for the Perth and Peel metropolitan area. This is the smallest stock of serviced lots in any sub-region, despite experiencing the largest stock increase from 2009/10 to 2010/11, (Figure 31).

3.6.5 Lots sold

The number of lots sold by major land developers who are members of the UDIA (including lots presold prior to development or issue of titles) is indicated in Figure 32. The sales peak in mid-2006 indicates a shortage of developed lots available to the market at a time of high demand due to a resource-led economic and population boom. More recently, the trend in the sub-region has been toward sales of between 200 and 500 lots per quarter, which is comparable to pre-2006 levels.

Lots sold by smaller developers (comprising less than half of the total land development market) have not been shown in the Urban Development Index.

Figure 31: Stock of vacant serviced lots

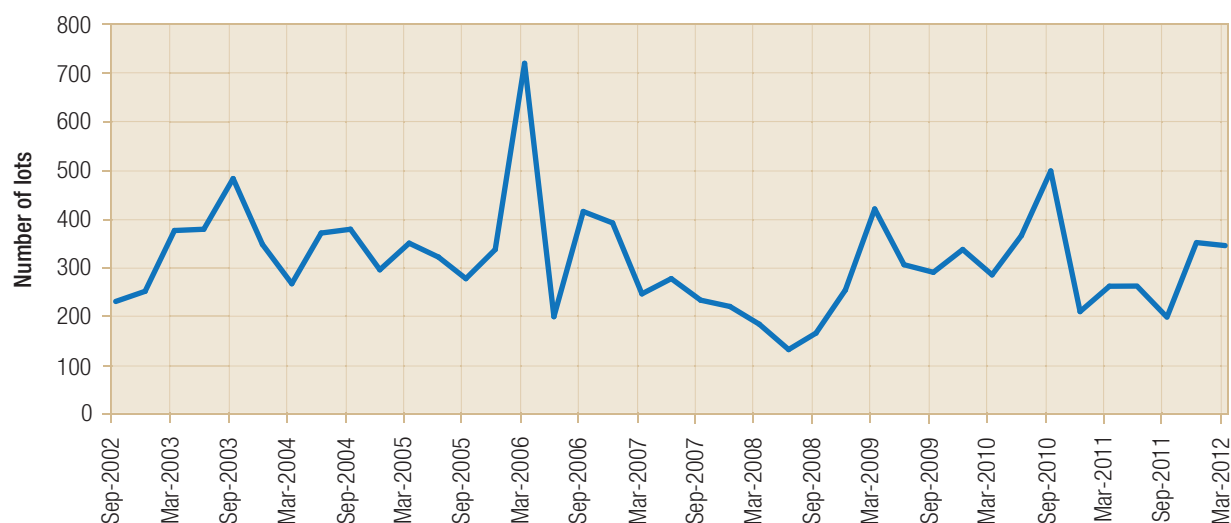


Source: Water Corporation, 2012.

3.7 Building development

The economic value of residential lots, even when serviced with infrastructure, is not actually realised until they are improved with buildings. Dwelling construction marks the final phase of the residential development process, enabling land to be used for its proposed purpose. Building approval is generally granted at the local government level and is discussed in section 2.8, as it is also a leading indicator of demand.

Figure 32: Lots sold (UDIA members developers)



Source: Urban Development Institute of Australia, 2012, Urban Development Index.

3.7.1 Average value of new dwellings constructed

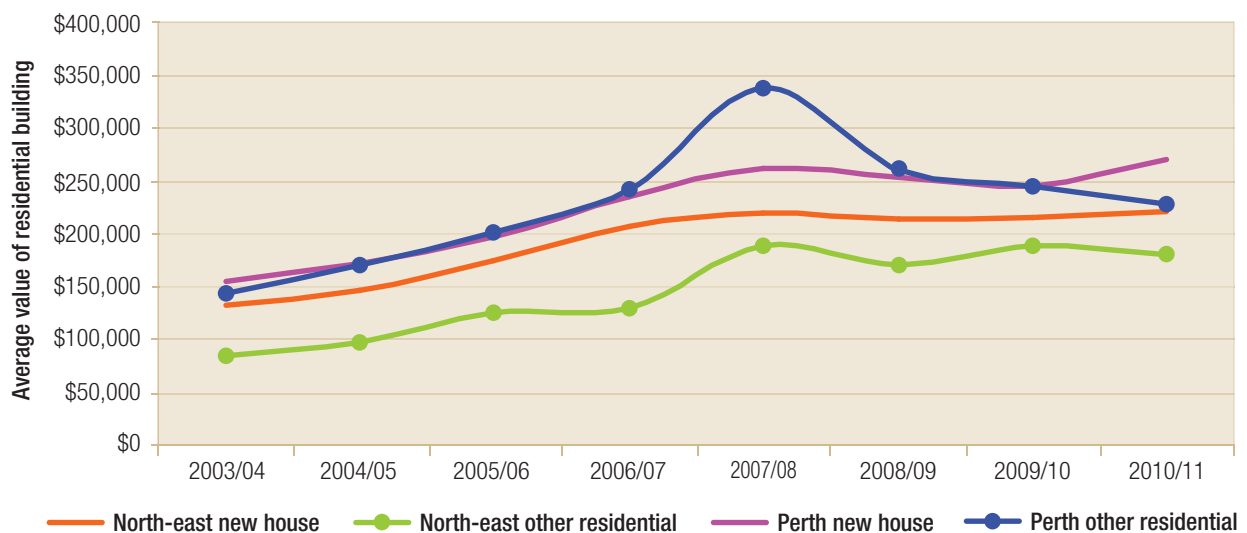
The trend in the average value of new houses and new other residential dwellings is a good indicator of the investment by individuals and building developers respectively. Figure 33 shows the trend since 2003/04 for the north-east sub-region compared to the Perth metropolitan region.

Figure 33 shows that after a period of significant increase to the price of the average dwelling constructed in the north-east sub-region between 2003/04 and 2007/08, the average construction price has levelled off for both new houses and new other residential dwellings.

3.7.2 Stock of dwellings available to the market

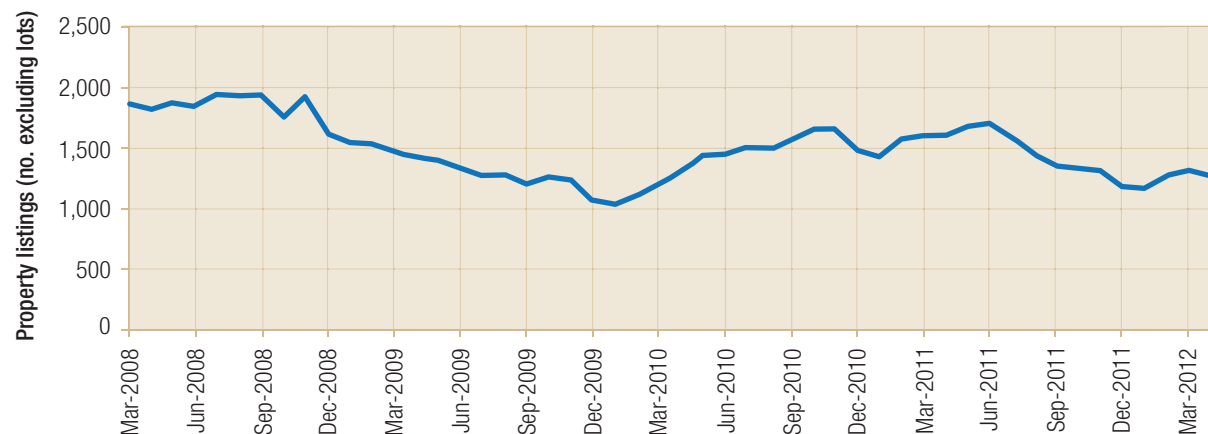
Figure 34 illustrates a decline in property listings in the North-east sub-region shortly after the onset of the global financial crisis. Listings reached a low in early 2010, at just over 1,000 lots representing a sellers' market; however, numbers have since steadily increased.

Figure 33: Average value of residential building



Source: Australian Bureau of Statistics, 2011, Building Approvals, Australia, Cat. No 8731.0.

Figure 34: Properties (excluding vacant lots) listed for sale with real estate agents



Source: Real Estate Institute of Western Australia.

3.7.3 Land consumption and density

Between 1991 and 2008, an average of 125 hectares of land per year has been consumed by urban development in the North-east sub-region; however, consumption in recent years has been much higher, indicating an acceleration of development activity (Table 9 and Figure 35).

If this trend continues for the next 30 years, 3,750 hectares of land will be required to meet demand, requiring an additional 450 hectares to be zoned for development by 2041.

Table 9: Land consumption for urban development and dwelling density (frontal areas)

Land consumption	Hectares per year
18 year average (1991-2008)	125
5 year average (2004-2008)	134
2 year average (2007-2008)	146

Dwelling density	Dwellings per zoned hectare
Average 1991-2008	9.14
Minimum over period	6.82
Maximum over period	10.58

Source: Western Australian Planning Commission (2011), Urban Growth Monitor (unpublished data).

3.8 Infill development and redevelopment

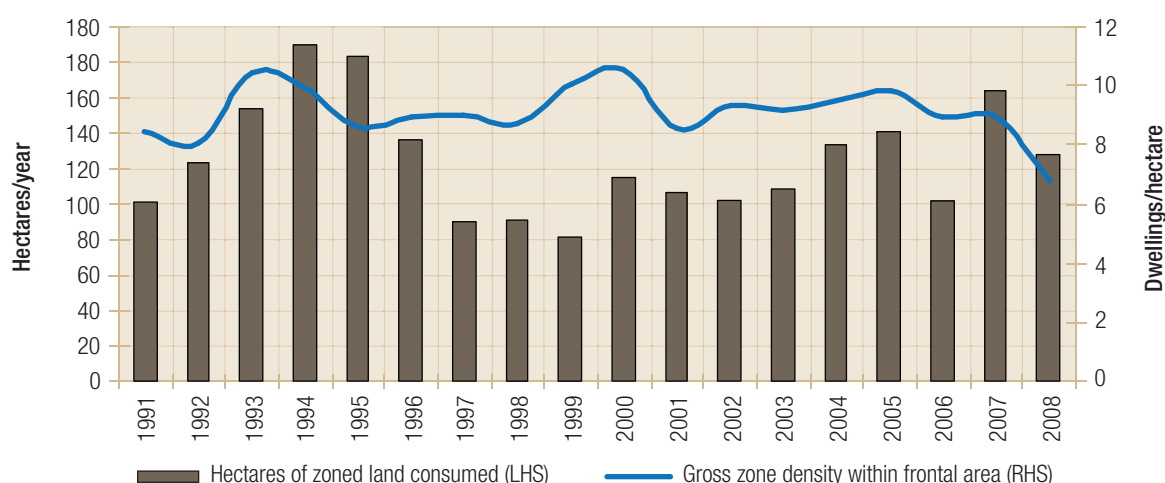
The Midland Redevelopment Authority has been active since January 2000 (now part of the Metropolitan Redevelopment Authority). Its role is to revitalise the Midland town centre by attracting investment, remediating contaminated sites and renewing industrial land for urban and public purposes.

The Authority focuses on delivering sites and attracting investment to service the broader North-east sub-region (rather than delivering housing sites). Examples of its developments are:

- Western Australia's largest Police complex;
- the 326-bed Midland Health Campus (for completion in 2015);
- a bulky goods shopping centre; and
- remediation of the heritage Railway Workshops for use by creative industries, education providers and residential developments.

In June 2010, the Authority took control of the former Midland Livestock Saleyards and is master-planning redevelopment of the site as Midland Enterprise Park.

Figure 35: Land consumption and density

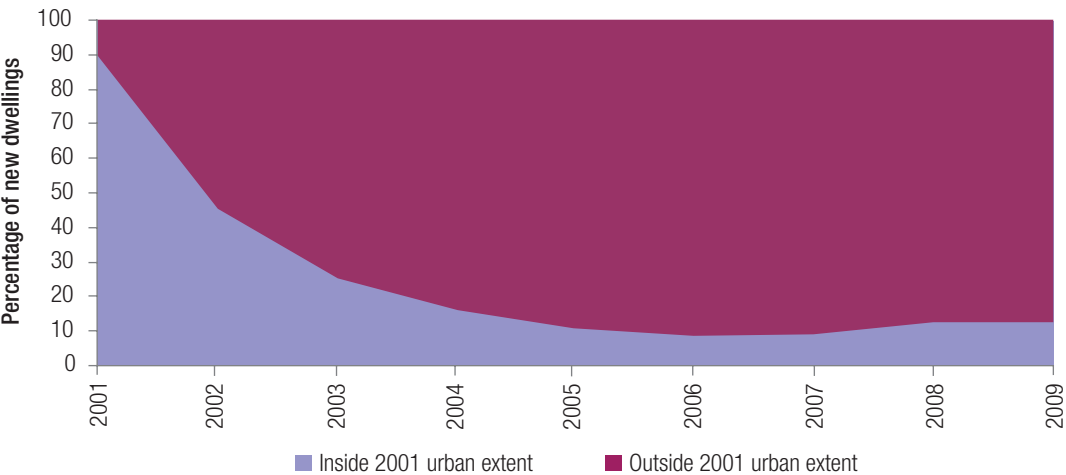


Source: Western Australian Planning Commission (2011), Urban Growth Monitor (unpublished data).

Figure 36 shows the proportion of new dwellings constructed within the urban extent of the sub-region as at 2001. It shows that the number of dwellings constructed inside the 2001 urban extent decreased sharply for 3-4 years after 2001; suggesting that frontal development is the prevailing pattern of urban growth in the sub-region.

The rate of infill development reached a low of 9.5 per cent in 2007 and then increased slightly, as homes in the area began to age and were replaced. In all outer sub-regions, the rate of infill development stabilises at between 10 and 20 per cent, demonstrating that even in established suburbs there is a continual process of renewal.

Figure 36: Cumulative percentage of new dwellings relative to 2001 urban extent



Source: Department of Planning (unpublished data).

4 Industrial and commercial land demand and supply

4.1 Commercial development

Table 10 provides statistics for commercial subdivision approvals in the North-east sub-region for 2011. The table illustrates the limited degree of commercial development in the sub-region with few applications received. All conditional and final approvals granted in the 2011 calendar year were in the City of Swan.

The trend of conditional and final approvals over the past eight years in the North-east sub-region is illustrated in Figure 37. The sub-region has experienced very limited commercial subdivision activity relative to other parts of Perth, with just six lots

progressing to final approval in the twelve months to December 2011 and a stock of only 41 conditionally approved lots (as at December 2011).

Analysis of development applications and approvals for commercial developments suggests that the North-east sub-region attracts limited interest from investors in commercial sector construction projects. The estimated total value of commercial sector construction in the North-east sub-region constitutes approximately five per cent of the total for this type of development in the Perth and Peel metropolitan region.

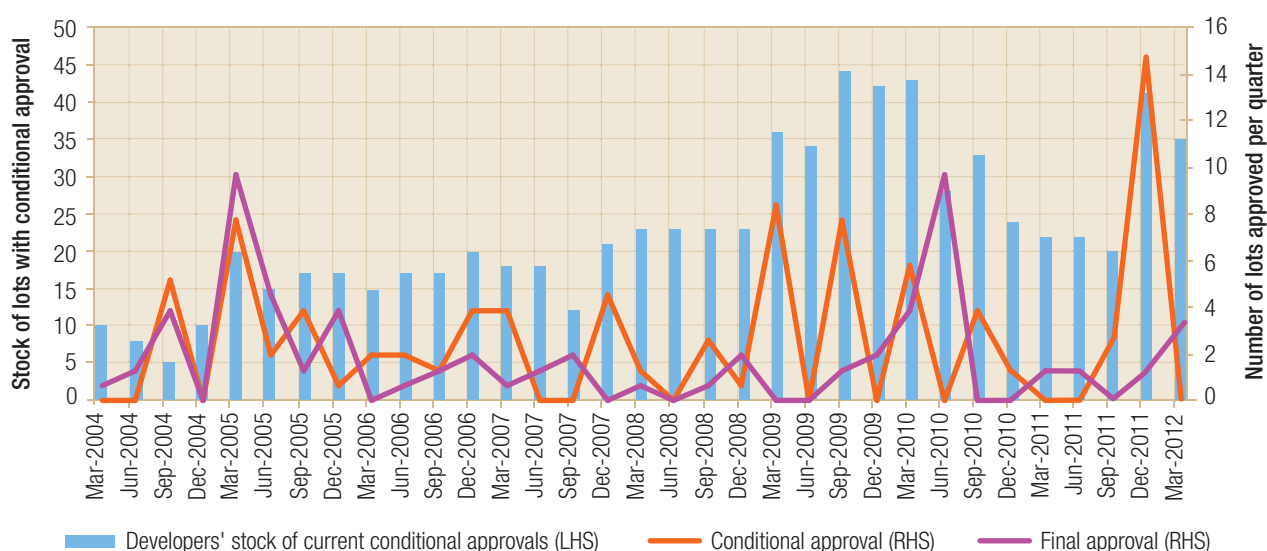
Table 10: Commercial subdivision approvals

Local government authority	Applications received (1 Jan 2011 - 31 Dec 2011)	Applications pending (as at 31 Dec 2011)	Conditional approvals granted (1 Jan 2011 - 31 Dec 2011)	Current conditional approvals (as at 31 Dec 2011)	Active conditional approvals ¹ (as at 31 Jan 2012)	Final approvals (1 Jan 2011 - 31 Dec 2011)
	Proposed lots	Proposed lots	Proposed lots	Proposed lots	Proposed lots	Lots
Kalamunda	4	0	4	6	0	0
Mundaring	0	0	0	0	0	0
Swan	15	7	23	35	9	6
North-east sub-region	19	7	27	41	9	6

Source: Department of Planning (2012), Water Corporation (2012).

¹ Refers to conditionally approved lots where a servicing agreement (agreement to construct) has been signed between the Water Corporation and the developer. These are termed lots on non-cleared agreements. Data not available for 31 December 2011.

Figure 37: Commercial subdivision approvals



Source: Western Australian Planning Commission 2012, State Lot Activity.

The area drawing the most investment in commercial construction is Ellenbrook, largely driven by the State Government. High Wycombe, Caversham and Midvale attracted strong commercial interest from the private sector (Map 1). Brigadoon, Swan, Viveash and Wattle Grove attracted significant investment from residential and infrastructure sectors but little investment in commercial sector construction projects.

Table 11: Major commercial projects

Project	Suburb	Description	Completion
Beach Road commercial development	Malaga	Commercial development	2008
Kalamunda Road shopping centre	High Wycombe	Construction of a shopping centre including supermarkets, tavern and other stores	2008
Ellenbrook regional shopping centre (stage 2)	Ellenbrook	Shopping centre with supermarket, department store and 60 specialty shops	2011
Sandalford Homestead mixed use development	Caversham	Project to include a brewery, restaurant and art studio	2013
Midland shopping centre	Midland	Shopping centre expansion	2014

Source: Department of Planning analysis (data not verified).

4.2 Industrial development

Table 12 provides a breakdown of industrial zoned land in the Metropolitan Region Scheme for the three local government authorities in the North-east sub-region.

A small portion of the Kewdale-Welshpool strategic industrial centre is located in the North-east sub-region. Kewdale-Welshpool and the Perth Airport specialised centre (immediately adjacent to the sub-region), provide a significant employment hub for residents of the North-east sub-region. The Forrestfield and Hazelmere industrial areas are also located in the sub-region.

The Bullsbrook South site has been identified as having potential for an intermodal transport facility. Such a facility would strengthen and support industrial activity, and act as a staging point for containers moving by rail to and from seaports.

The existing narrow gauge rail network from Geraldton–Mullewa to Perth, which services the Mid West and north-western Wheatbelt regions further emphasises the need for an intermodal facility in the sub-region. Investigations into planning and construction are continuing.

Table 12: Industrial zoned land (Metropolitan Region Scheme) in the North-east sub-region

Industrial zoned land (ha) as at July 2012	Local government authority	Industrial zoned land (ha) as at July 2012	Percentage of sub-region total
1,436.3	Kalamunda	315.2	21.9
	Mundaring	99.3	6.9
	Swan	1,021.8	71.2

Source: Department of Planning internal database (2012).

Table 13 provides a breakdown of vacant and developed land for industrial complexes in the North-east sub-region, as reported in the Department of Planning's 2008 Land Use and Employment Survey. Note that survey complexes are identified based on the zoning of the land at the time of the survey, however activities occurring on inappropriately zoned land may also be included if discovered during the data collection process.

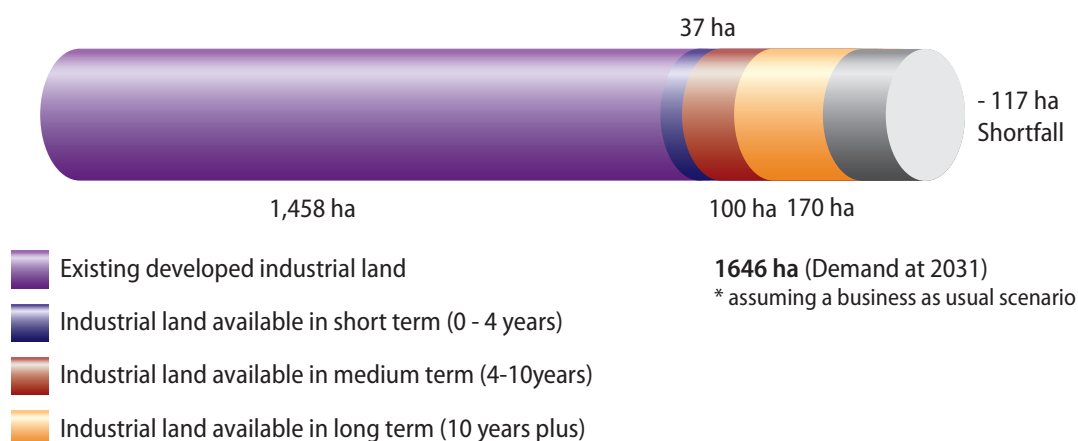
Table 13: Industrial complexes in the North-east sub-region

Complex	Developed (ha)	Vacant (ha)	Total (ha)	Percentage vacant
Bellevue - North	1.5	6.5	8	81.2
Forrestfield	214	64	278	23.0
Hazelmere	88	33	121	27.3
Hazelmere - South	58	117	175	66.9
Malaga	309	126	435	29.0
Midland	13	15	28	53.6
Midvale	51	19	70	27.1
Mundaring	6	5	11	45.5
South Guildford	51	10	61	16.4
Viveash	81	3	84	3.6
Welshpool - East	306	51	357	14.3
Total	1178.5	449.5	1628	27.7

Source: Department of Planning internal database – Land use survey preliminary statistics (2010).

Industrial land supply in this sub-region to 2031 is represented in Figure 38. This is based on a forecast model prepared in 2010 as part of the *Economic and Employment Lands Strategy: non-heavy industrial report*.

Figure 38: Current industrial zoned land supply: North-east sub-region



Source: Economic and Employment Lands Strategy: non-heavy industrial, Perth metropolitan and Peel regions, Department of Planning (2012).

Based on a forecast demand for the North-east sub-region of 1,646 hectares by 2031, and based on existing data on available supply in the pipeline, the sub-region will encounter a deficit of 117 hectares if no additional land is released to the market by 2031. Note that this excludes any of the 37 potential sites identified in the Economic and Employment Lands Strategy: non-heavy industrial report.

Table 14 provides statistics for industrial subdivision approvals in the North-east sub-region for 2011.

The trend of conditional and final approvals in the sub-region is illustrated in Figure 39. The North-east sub-region has had a significant stock of conditionally approved lots since 2004 and more conditional approvals in the 12 months to March 2012 than any other sub-region. This was largely a consequence of a large industrial subdivision gaining conditional approval in Malaga in the June quarter of 2011.

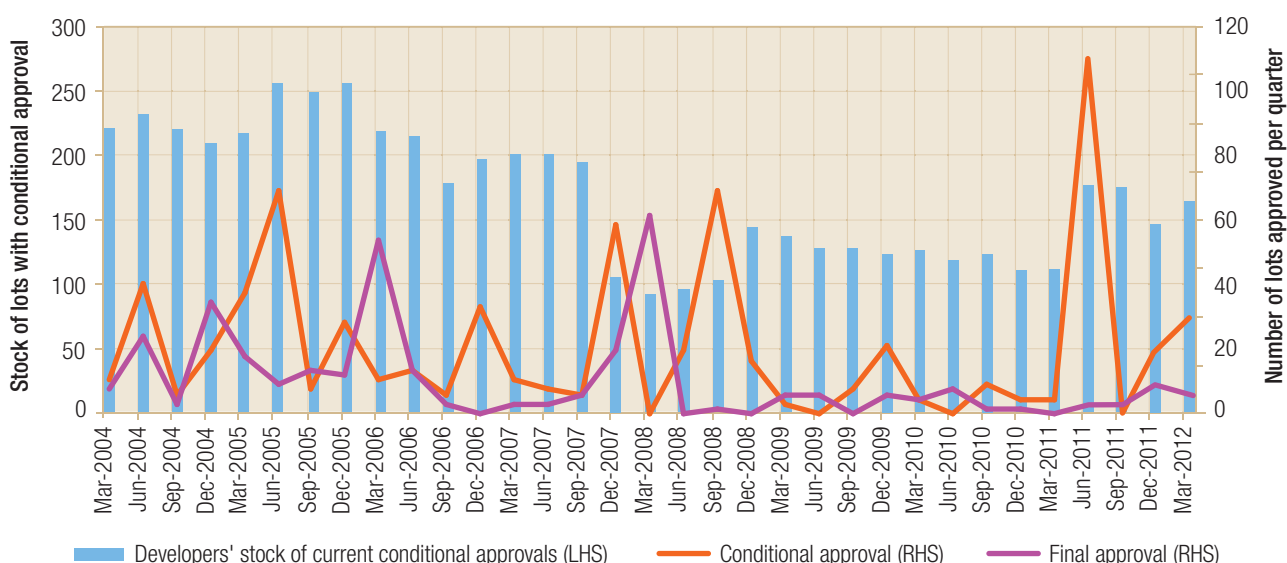
Table 14: Industrial subdivision approvals

Local government authority	Applications received (1 Jan 2011 - 31 Dec 2011)	Applications pending (as at 31 Dec 2011)	Conditional approvals granted (1 Jan 2011 - 31 Dec 2011)	Current conditional approvals (as at 31 Dec 2011)	Active conditional approvals ¹ (as at 31 Jan 2012)	Final approvals (1 Jan 2011 - 31 Dec 2011)
	Proposed lots	Proposed lots	Proposed lots	Proposed lots	Proposed lots	Lots
Kalamunda	11	11	10	44	26	0
Mundaring	0	0	5	5	0	0
Swan	19	14	74	98	25	10
North-east sub-region	30	25	89	147	51	10

Source: Department of Planning (2012), Water Corporation (2012).

¹ Refers to conditionally approved lots where a servicing agreement (agreement to construct) has been signed between the Water Corporation and the developer. These are termed lots on non-cleared agreements. Data not available for 31 December 2011.

Figure 39: Industrial subdivision approvals



Source: Western Australian Planning Commission 2012, State Lot Activity.

Information from development applications and approvals indicates that the North-east sub-region draws a modest level of investment in industrial sector construction projects relative to other sub-regions. The estimated value of recent planned construction projects in the sub-region constitutes approximately eight percent of the total for this type of project across the metropolitan area.

There are several areas of significant industrial construction activity in the North-east sub-region. Interest in this type of development from the private sector has been strong in High Wycombe, Forrestfield, Hazelmere and Malaga (Map 1).

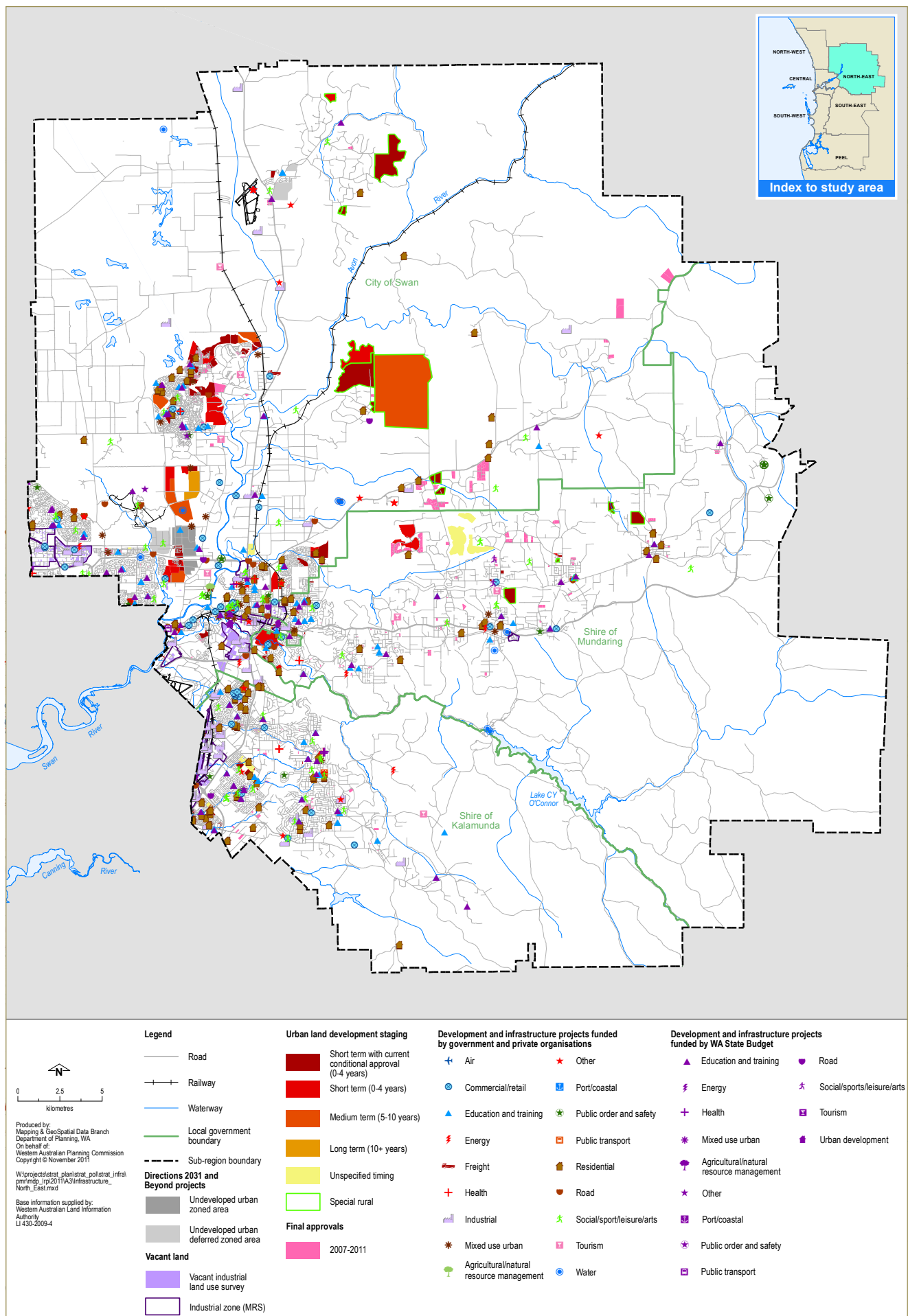
Major industrial structure plans planned include:

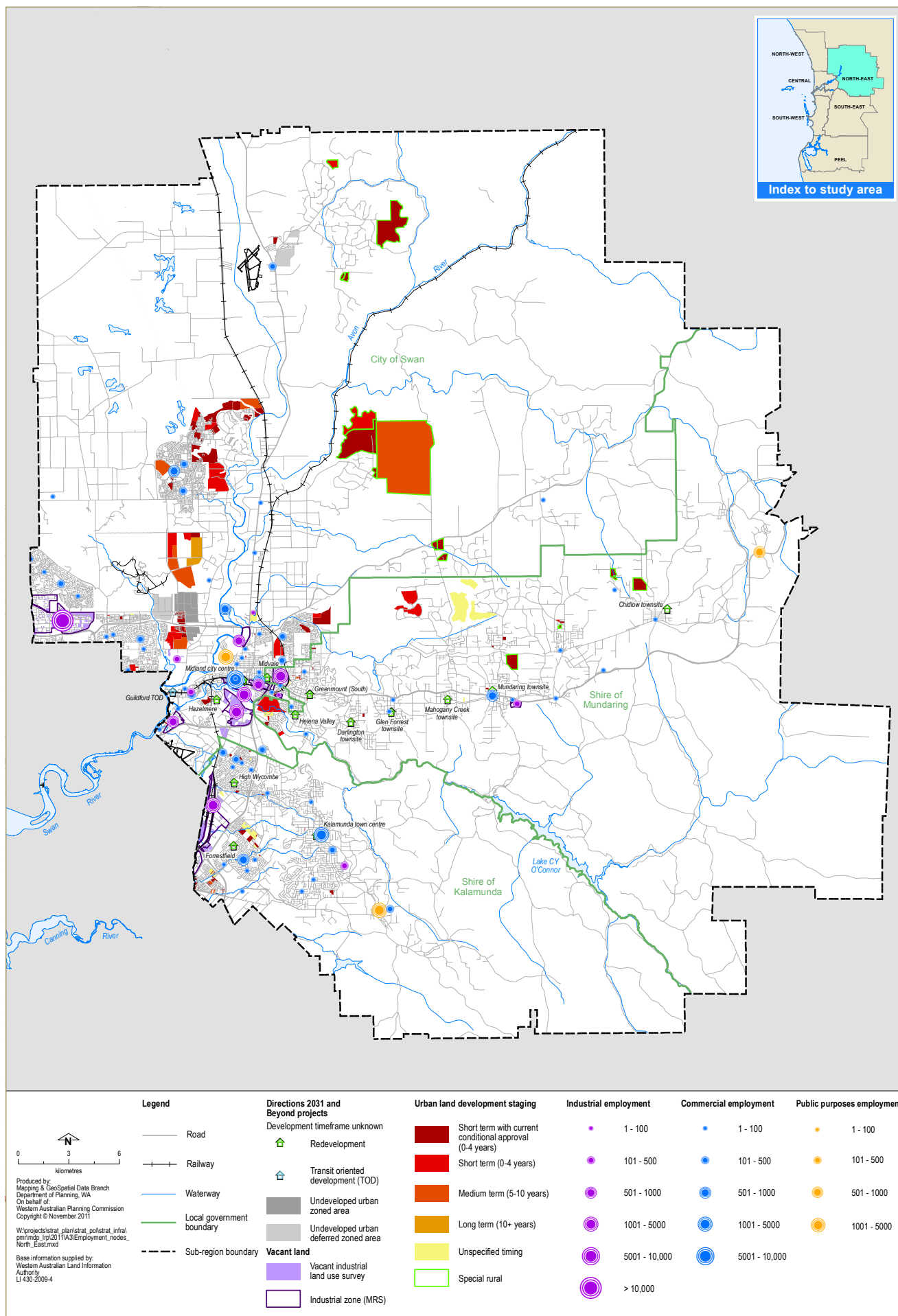
- Kewdale-Hazelmere Integrated Masterplan; and
- Hazelmere Enterprise Area Draft Structure Plan.

Major industrial projects of the North-east sub-region include:⁵

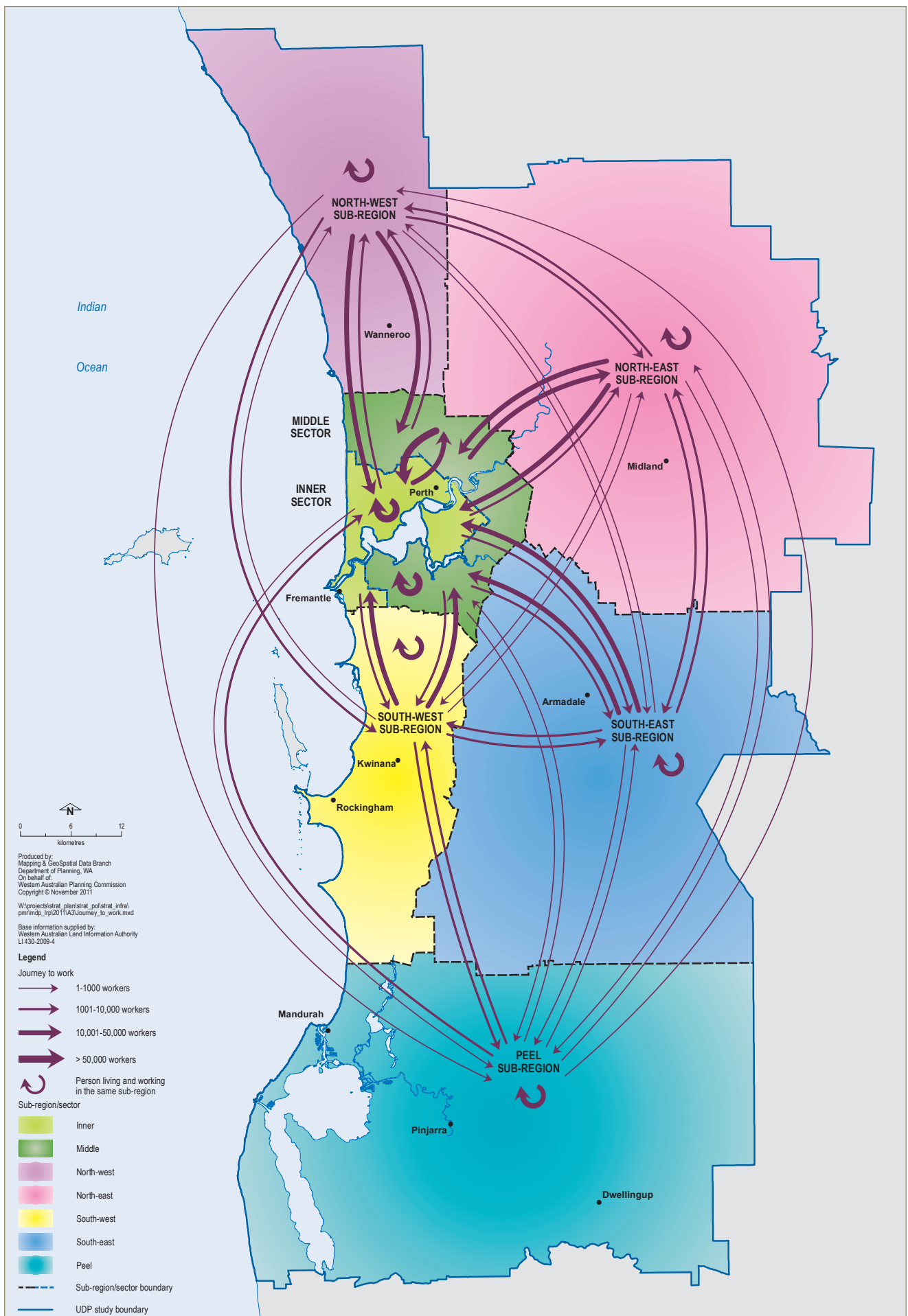
- Development of Forrestfield industrial area;
- Lakes Road industrial complex (Hazelmere);
- Stockyards industrial estate (Hazelmere);
- Clayton Street transport depot (Bellevue);
- Great Northern Highway transport depot (Bullsbrook); and
- Midland Brick concrete masonry plant (Middle Swan).

⁵ Department of Planning analysis.





Map 2: Employment nodes - North-east sub-region



Map 3: Journey to work - Perth metropolitan region and Peel sub-region