



Perth & Peel Development Outlook 2011/12: Central 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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Contents

1	Central sub-region overview	1		
1.1	Key issues for planning and development	3	3.6	Vacant lots
			3.6.1	Stock of developed lots available to the market
			3.6.2	Vacant lots with estate agents
			3.6.3	Lots not available to the market
			3.6.4	Stock of properties available
			3.6.5	Lots sold
2	Demand assessment	4	3.7	Building development
2.1	Demand drivers	4	3.7.1	Average value of new dwellings constructed
2.2	Economic and activity centres	4	3.7.2	Stock of dwellings available to the market
2.3	Major investment	5	3.7.3	Land consumption and density
2.4	Non-residential building	5	3.8	Infill development and redevelopment
2.5	Labour force, employment and incomes	6		
2.5.1	Employment growth and unemployment	6		
2.5.2	Employment self-sufficiency	8		
2.5.3	Wages and salaries	10		
2.6	Population growth and demographics	10		
2.7	Property sales, prices and activity	12	4	Industrial and commercial land demand and supply
2.7.1	Median house, unit and lot prices	12	4.1	Commercial development
2.7.2	Indices of median house, unit and lot prices	13	4.2	Industrial development
2.8	New dwelling approvals	14		
2.8.1	New dwelling approvals (houses only)	14		
2.8.2	New dwelling approvals (other than houses)	14		
2.9	Overall demand outlook	15		
3	Residential land supply	16	Table 1:	Inner and middle sectors
3.1	Overview	16	Table 2:	Key urban statistics – historical
3.1.1	Average dwelling yield	16	Table 3:	Key urban statistics – outlook
3.2	Urban expansion and investigation areas	18	Table 4:	Wage and salary earners
3.3	Planning and zoning	18	Table 5:	Intended dwelling development (survey responses)
3.3.1	Land being rezoned to urban or urban deferred	18	Table 6:	Intended developments requiring scheme amendments (survey responses)
3.3.2	Zoned land	18	Table 7:	Subdivision approvals – inner sector
3.3.3	Structure plans	19	Table 8:	Subdivision approvals – middle sector
3.3.4	Planning issues	19	Table 9:	Target market segments – inner sector (survey responses)
3.4	Subdivision	20	Table 10:	Target market segments – middle sector (survey responses)
3.4.1	Clearance of subdivision conditions	22	Table 11:	Land consumption for urban development and dwelling density
3.5	Development	22	Table 12:	Commercial subdivision approvals
3.5.1	Lots under construction	22	Table 13:	Major commercial projects
3.5.2	Short-term development issues 2010/11 to 2013/14	23	Table 14:	Industrial zoned land (Metropolitan Region Scheme) in the Central sub-region
3.5.3	Long-term development issues (2014/15 and beyond)	23	Table 15:	Industrial complexes in the Central sub-region
3.5.4	Environmental issues affecting development	26	Table 16:	Industrial subdivision approvals
3.5.5	Environmental issues (survey responses)	26		
3.5.6	Market segment of dwellings for development	28		
3.5.7	Market and site issues affecting development	29		

Figure 1: Demand assessment for land and dwellings	4	Figure 31: Major short-term development issues in the middle sector (survey responses)	24
Figure 2: Total value of non-residential building	6	Figure 32: Major long-term development issues in the inner sector (survey responses)	25
Figure 3: Labour force	7	Figure 33: Major long-term development issues in the middle sector (survey responses)	25
Figure 4: Unemployment rates	7	Figure 34: Developer's environmental and heritage issues in the inner sector (survey responses)	27
Figure 5: Inner sector resident labour force - place of work	8	Figure 35: Developer's environmental and heritage issues in the middle sector (survey responses)	27
Figure 6: Employees and jobs by industry in the inner sector	9	Figure 36: Market segment of dwellings for development 2010/11 to 2013/14 – inner sector (survey responses)	28
Figure 7: Middle sector resident labour force - place of work	9	Figure 37: Market segment of dwellings for development 2010/11 to 2013/14 – middle sector (survey responses)	28
Figure 8: Employees and job industry in the middle sector	10	Figure 38: Market and site issues affecting development – inner sector (survey responses)	29
Figure 9: Trend of average wage and salary incomes	11	Figure 39: Market and site issues affecting development – middle sector (survey responses)	30
Figure 10: Estimated resident population, 2001 to 2011	11	Figure 40: Residential lots on market (UDIA member developers)	31
Figure 11: Annual population growth, 2001/02 to 2010/11	11	Figure 41: Vacant lots listed for sale with real estate agents	31
Figure 12: Projected age profile (2006 and 2031)	12	Figure 42: Lots not on market (UDIA member developers)	32
Figure 13: Median house, unit and lot prices in the inner sector	13	Figure 43: Stock of vacant serviced lots	33
Figure 14: Median house, unit and lot prices in the middle sector	13	Figure 44: Lots sold (UDIA member developers)	33
Figure 15: Indices of median house, unit and lot prices in the inner sector	13	Figure 45: Average value of residential buildings	34
Figure 16: Indices of median house, unit and lot prices in the middle sector	13	Figure 46: Properties (excluding vacant lots) listed for sale with real estate agents	35
Figure 17: New house approvals (annualised monthly data)	14	Figure 47: Land consumption and density – Central sub-region	36
Figure 18: New other dwelling approvals (annualised monthly data)	15	Figure 48: Land consumption and density – inner sector	36
Figure 19: Dwelling yield from residential development projects – inner sector (survey responses)	16	Figure 49: Land consumption and density – middle sector	36
Figure 20: Dwelling yield from residential development projects – middle sector (survey responses)	16	Figure 50: Cumulative percentage of new dwellings relative to 2001 urban extent – inner sector	37
Figure 21: Average dwelling yield from residential development projects – inner sector (survey responses)	17	Figure 51: Cumulative percentage of new dwellings relative to 2001 urban extent – middle sector	37
Figure 22: Average dwelling yield from residential development projects – middle sector (survey responses)	17	Figure 52: Commercial subdivision approvals	38
Figure 23: Urban Growth Monitor land supply assessment	19	Figure 53: Industrial subdivision approvals	41
Figure 24: Developers' planning issues in the inner sector (survey responses)	20	Map 1: Infrastructure: Central sub-region	43
Figure 25: Developers' planning issues in the middle sector (survey responses)	20	Map 2: Employment nodes: Central sub-region	44
Figure 26: Residential subdivision approvals	21	Map 3: Journey to work: Perth metropolitan region and Peel sub-region	45
Figure 27: Progress to clear subdivision conditions – inner sector (survey responses)	22		
Figure 28: Progress to clear subdivision conditions – middle sector (survey responses)	22		
Figure 29: Lots under construction (UDIA member developers)	23		
Figure 30: Major short-term development issues in the inner sector (survey responses)	24		

1. Central sub-region overview

Proximity to employment opportunities, the Swan River, Perth's beaches and a cosmopolitan, urban lifestyle all contribute to high demand for property in the Central sub-region. Property prices and incomes in the inner sector (nearest to the central business district) are comfortably the highest in the Perth metropolitan area. The value of land in the sub-region has driven the development of a limited amount of higher density dwellings and this has resulted in a greater variety of housing typology than in the outer sub-regions. High property prices have also led to a lower proportion of young families in the Central sub-region, with young couples often unable to afford housing in the area.

A critical characteristic unique to the Central sub-region is that almost all of its available land has been developed. This increases demand on remaining undeveloped and 'under-developed' land in the sub-region. As a result, development decisions involving environmental or heritage conservation are numerous and at times highly contentious. *Directions 2031 and Beyond* has set a target for 37 per cent of future development in the Perth metropolitan area to be infill in the Central sub-region. Achieving that target, while maintaining the social and environmental integrity of the sub-region, will present a formidable challenge to planners and policy makers over the next 20 years.

The Central sub-region consists of 19 separate local government areas. For various analyses in this document, the sub-region is divided into 'inner' and 'middle' sectors (Table 1).

Table 1: Inner and middle sectors

Inner	Middle
City of Fremantle	City of Bayswater
City of Nedlands	City of Belmont
City of Perth	City of Canning
City of South Perth	City of Melville
City of Subiaco	City of Stirling
City of Vincent	Town of Bassendean
Shire of Peppermint Grove	
Town of Cambridge	
Town of Claremont	
Town of Cottesloe	
Town of East Fremantle	
Town of Mosman Park	
Town of Victoria Park	

The Central sub-region is the most populous area of the Perth metropolitan region. Due to the near total development of zoned land in the Central sub-region (Table 3), it has experienced the slowest rate of population growth of all sub-regions during the last five years (Table 2). Over the next 10 years, annual population growth is expected to slow to less than one per cent, as the creation of additional dwellings in the sub-region becomes increasingly dependent on urban consolidation.

Table 2: Key urban statistics – historical

Sector	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		
Inner sector	7,700	1,200	109,375	237,620	118,221	263,818	2.2	18
Middle sector	18,200	1,700	200,526	469,184	213,395	518,420	1.8	10
Total	25,900	2,900	309,901	706,804	331,616	782,238	1.9	12

Source: 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.

The Central sub-region only has small pockets of remaining undeveloped urban zoned land (Table 3). Consequently, the vast majority of new development in the sub-region will be infill and redevelopment.

Table 3: 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) (%)
Bassendean	20	0	1	0.5
Bayswater	80	10	1	0.6
Belmont	40	10	3	1.1
Cambridge	10	0	1	0.8
Canning	110	120	13	1.1
Claremont	10	0	0	0.2
Cottesloe	0	0	0	0.6
East Fremantle	0	0	0	0.9
Fremantle	50	10	3	1.1
Melville	10	40	3	0.2
Mosman Park	10	0	1	1.2
Nedlands	10	0	2	0.2
Peppermint Grove	0	0	0	0
Perth	0	0	1	6.0
South Perth	20	10	1	0.8
Stirling	40	20	23	1.0
Subiaco	10	0	3	1.2
Victoria Park	30	20	4	1.8
Vincent	0	0	1	1.0
Total	430	240	61	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

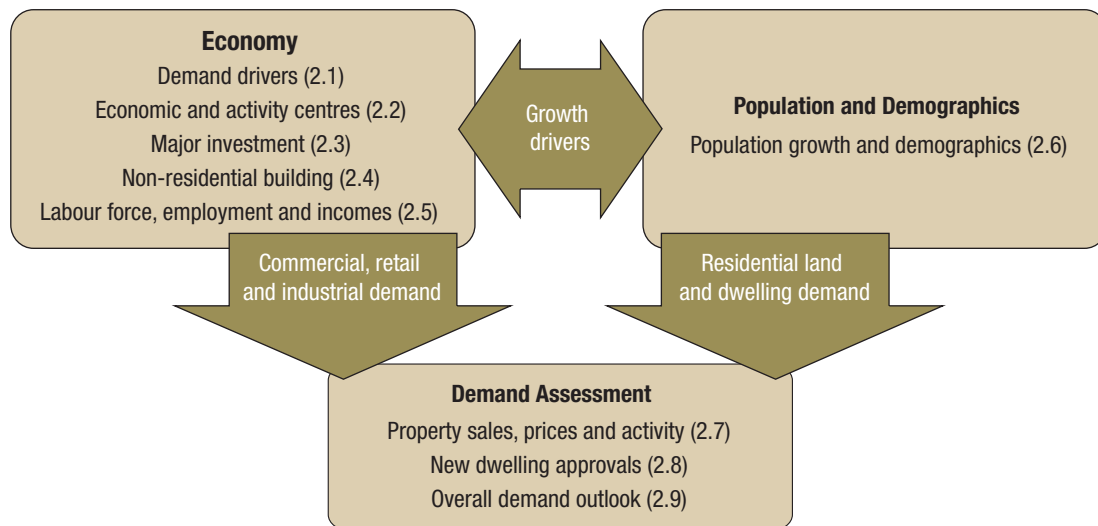
State and local government agencies have identified a number of key short and long-term planning and development issues in the Central sub-region, which include:

- *Directions 2031 and Beyond* sets a target for 47 per cent of future growth in Perth and Peel to be infill. It is planned that 37 per cent will be infill in the Central sub-region and 10 per cent will be infill development in established areas of the outer sub-regions.
- The sub-region is targeted to accommodate an extra 121,000 dwellings in the next 20 years to 2031. This will require targeted development sites to focus on more intensive land use, as well as policy initiatives to increase the rate of 'background' or natural infill.
- As Perth grows, there is an increasing emphasis on efficient infrastructure use and land prioritisation. The sub-region has a well-developed infrastructure network; however, it may need significant maintenance works and/or upgrades to service future growth.
- Demographic changes, particularly considering Perth's ageing population and changing family structure, mean future development will require greater diversity of dwelling stock.
- Infill from transit-oriented developments will need government focus in both planning effort and infrastructure investment.
- Effective management of infill, redevelopment and densification will need to address social and community attitudes that often limit the realisation of potential infill and redevelopment.
- Measuring capacity and utilisation of infrastructure is essential to ensure that planning decisions do not have unintended cost consequences.
- *Directions 2031 and Beyond* and metropolitan growth strategies have provided local government and development industry stakeholders with a solid development framework to guide future urban growth. As this work moves into the implementation phase, it will provide progressively more detailed guidance for planning and development.
- Transit-oriented developments often have significant local road network implications with major cumulative effect of multiple projects (e.g. Burswood, Perth Airport, Belmont Racecourse and Great Eastern Highway). There is generally an expectation that government will meet the cost of upgrading the road/public transport network.
- Infill can be problematic due to time taken to complete land assembly, community expectation and site uncertainty. This limits the potential market for the private sector and places greater emphasis on government to take a lead role.
- Local communities often oppose blanket higher densities rather than localised density increases. More clarity is needed to get a shared understanding across stakeholder groups.

2. Demand assessment

Economic conditions and population growth are inter-related; 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

Access to the city and other vibrant urban centres, employment opportunities and the opportunity for waterside living, contribute to high demand in the Central sub-region. These factors have resulted in the highest land prices in the Perth metropolitan area. There are very few opportunities for greenfield development in the sub-region, which means that vacant land and housing are highly sought after.

As the city expands and fuel prices continue to rise, commuting to the CBD from the urban fringe is becoming more costly and time consuming, increasing the appeal of a home in the central sub-region for many. *Directions 2031 and Beyond* has established a target for 37 per cent of future development in the Perth metropolitan area to be infill within the Central sub-region. This is likely to further increase demand on land in the sub-region as the potential number of dwellings per unit of area increases.

The Central sub-region also has a relatively wide variety of housing typology, with a higher proportion of grouped dwellings than the outer sub-regions. This contributes to the appeal of the sub-region for investors intending to buy and then lease

properties. This market sector is much greater in the Central sub-region than outer areas, which increases demand and raises prices. The sub-region's high prices often deter first home owners from buying in the sub-region and consequently they are under-represented in this area, particularly in the inner sector.

2.2 Economic and activity centres

- The capital city area (Perth, East Perth, West Perth and Northbridge) is the administrative, economic and social hub of the Perth metropolitan area. This area contains approximately 107,000 jobs, Parliament House, the central train and bus stations, as well as Perth's arts and entertainment precinct.
- Activity centres are areas of economic activity and are 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 Morley, Cannington, Fremantle and Stirling as strategic metropolitan centres within the Central sub-region.

- There are also eight secondary centres and five specialised centres, including the major university campuses and Perth International Airport.
- The five established regional industrial centres in the Central sub-region are Canning Vale, Osborne Park, Ashfield (Bayswater-Bassendean), O'Connor and Kewdale-Welshpool.

2.3 Major investment

This section covers major projects in the Central 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

- \$333.1 million for the Fiona Stanley Hospital. Establishment of the hospital could increase demand for land and housing in the surrounding areas subject to availability.
- \$160 million for ongoing construction of Perth Arena.
- \$106 million on upgrades and improvements to Fremantle Port.
- \$77.7 million for the Perth City Link. This will improve accessibility around the Perth CBD.
- \$60 million for the new Central Institute of Technology, Northbridge.
- \$56 million for Applecross Senior High School redevelopment.
- \$53.2 million for the Perth Waterfront Project.
- \$32 million for the Perth Police Complex.
- \$30 million for planning and early development of the new children's hospital and \$13.5 million on Sir Charles Gardiner Hospital Redevelopment Stage 1.

Major local government investment

- \$36 million for Performance Arts Precinct and Concert Hall redevelopment (City of Perth).
- \$34 million for Cannington recreation and aquatic centre and community facility (City of Cannington).
- \$27.5 million for Elder Street Car Park, Perth (City of Perth).
- \$16 million for Forrest Place streetscape redevelopment, Perth (City of Perth).

Major federal government investment

- \$20 million for the Square Kilometre Array computer facility project in Kensington. High performance computing facility designed for the project and other high end researchers in computational science.

2.4 Non-residential building

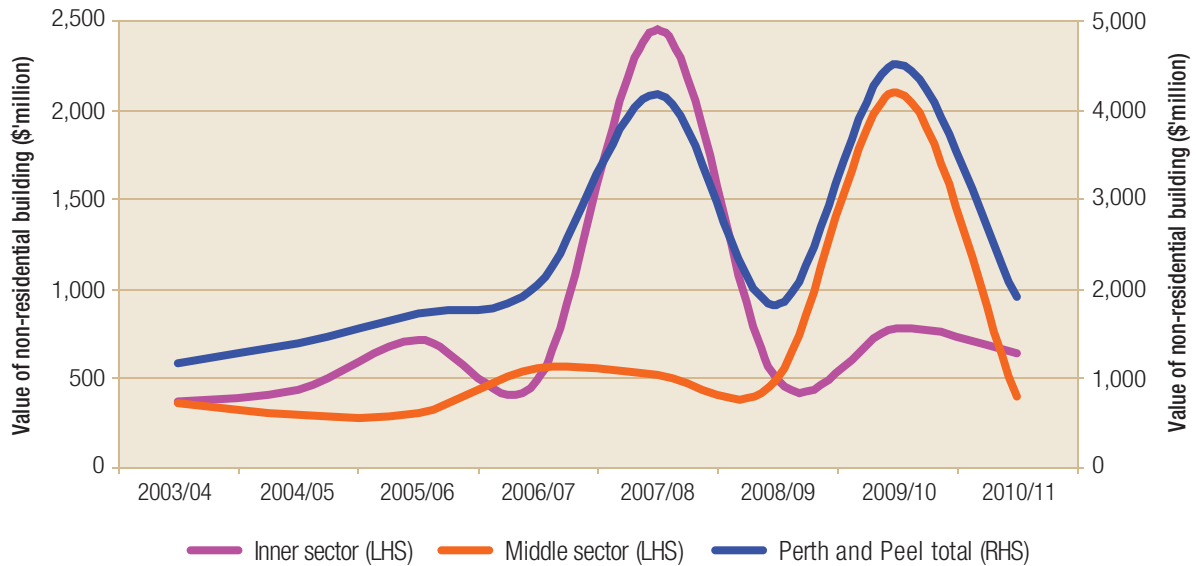
Non-residential building includes commercial, retail, industrial and community facilities. This primarily represents investment (public and private) in activity centres and employment areas within the sub-region. Non-residential building can therefore be used to gauge investor confidence in an area functioning 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 inner sector was over \$640 million in 2010/11, representing one-third of the total value of non-residential building in the Perth and Peel metropolitan area for the period. Most of this activity was in the City of Perth and the Town of Victoria Park.

Non-residential building in the middle sector represented 21 per cent of the total non-residential building in the Perth and Peel metropolitan area, at over \$395 million in 2010/11.

Figure 2 shows the dramatic non-residential construction booms over the past few years, interspersed with the global financial crisis led dip in 2008/09 and the more recent drop-off in construction to the end of June 2011.

Figure 2: Total value of non-residential building



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

2.5 Labour force, employment and incomes

2.5.1 Employment growth and unemployment

Key labour force statistics for the Central sub-region as at March 2012¹

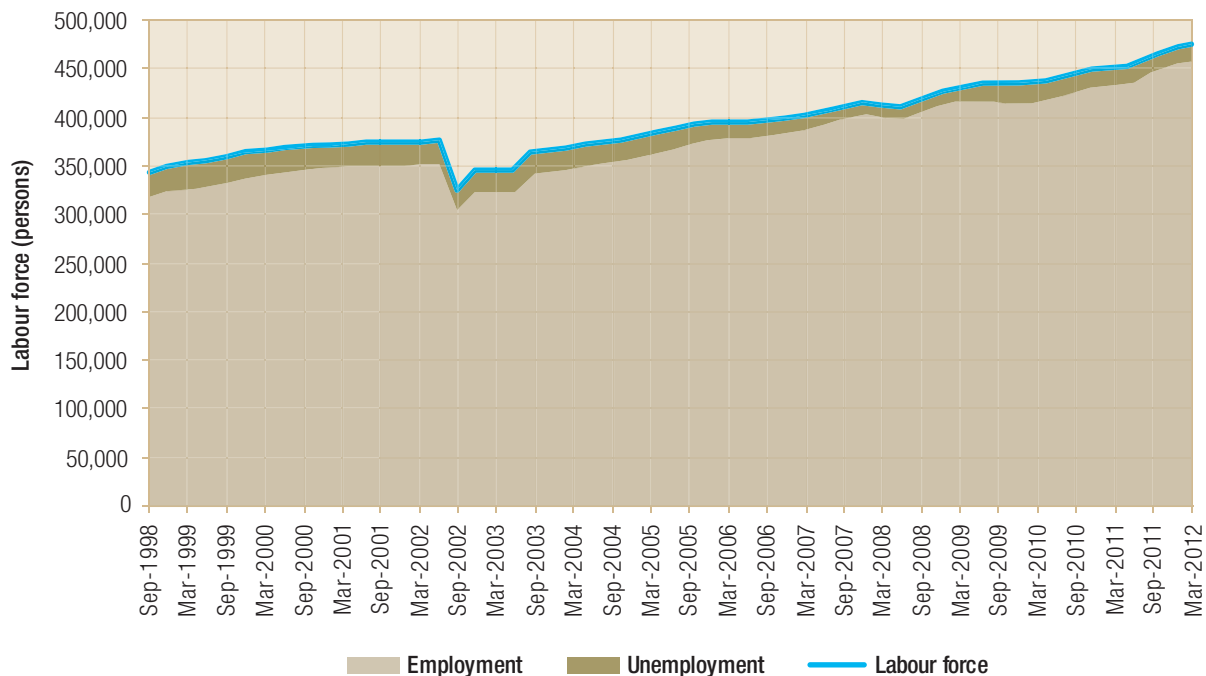
- Main employment industry is the service sector. This represents over 70 per cent of business, with the highest concentration located in the Perth, Stirling, Melville and Canning local government areas.
- Recent employment increase has mainly come from the non-market industry sector (e.g. public administration, education and health care). The most significant change occurred in the resource sector, particularly mining, with a 48 per cent increase in overall employment².
- Manufacturing is the only industry sector experiencing decline.

- The estimated resident labour force of 473,862 is made up of 456,969 employed and 16,893 unemployed people (Figure 3).
- Unemployment rate in the inner sector of the sub-region was 3.2 per cent or 5,007 people. In March 2011, the unemployment rate was 3.8 per cent or 5,823 people.
- Unemployment rate for the middle sector of the sub-region was 3.9 per cent, or 11,886 people. In March 2011, the rate was four per cent, or 11,892 people unemployed.
- Overall unemployment rate was 3.7 per cent for the Central sub-region compared with 3.9 per cent in March 2011 (Figure 4).

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

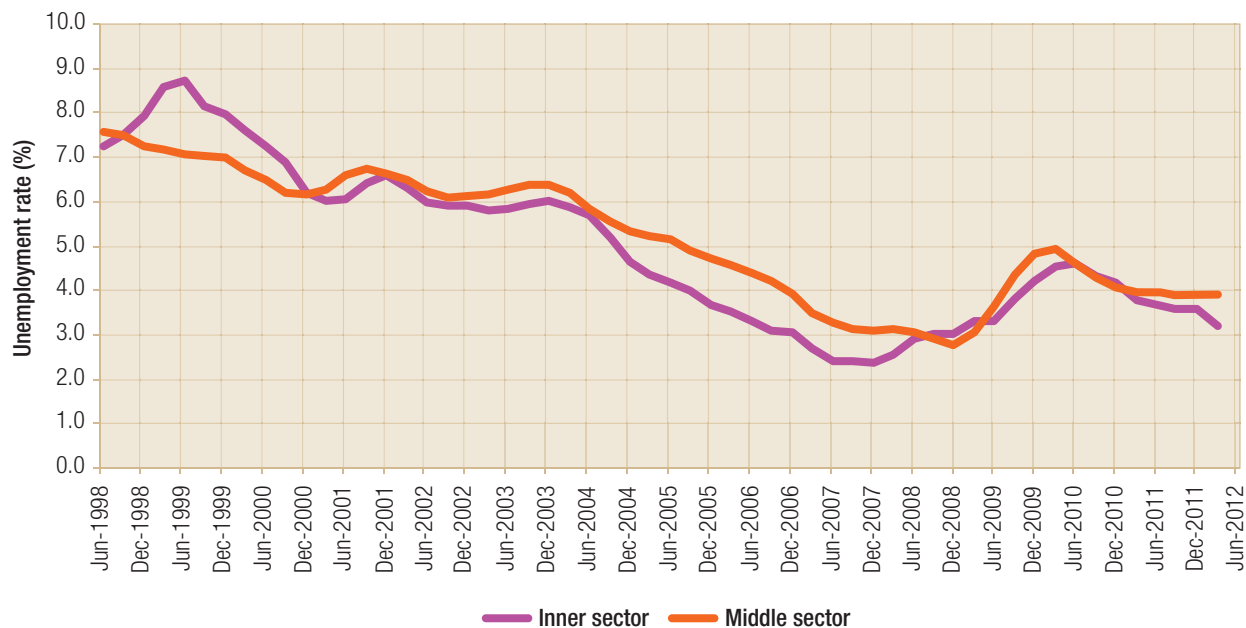
² Draft Central Metropolitan Perth Sub-Regional Strategy

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.

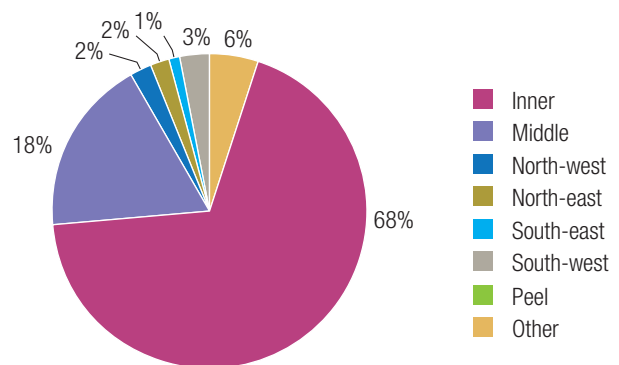
The inner sector of the Central sub-region has an extremely high level of employment self-sufficiency, at 226 per cent (226 jobs for every hundred workers). As at the 2006 census the sub-region had a resident workforce of 117,000 employees (15 per cent of the total for the Perth and Peel metropolitan area) and 264,000 jobs (37 per cent of the total for the Perth and Peel metropolitan area).

At 90 per cent (90 jobs per hundred residents), the middle sector of the Central sub-region also has a high level of employment self-sufficiency. Although this is much lower than the inner sector it is still comfortably higher than the employment self-sufficiency rates of the outer sub-regions.

Unlike the outer sub-regions, the objectives outlined in *Directions 2031 and Beyond* aim to reduce the level of employment self-sufficiency in the Central sub-region. The strategy to achieve this involves decentralising some jobs located in the Central sub-region to the outer sub-regions. However, given the anticipated population growth in the sub-region, achieving employment self-sufficiency targets will still require the creation of 147,000 new jobs within the Central sub-region by 2031.

Employment self-containment is a measure of the proportion of a resident labour force that is employed in the local area. The inner sector of the Central sub-region has a very high level of employment self-containment with 68 per cent of the resident labour force employed within the sector (Figure 5). Most residents who travel to other sub-regions for work are employed in the middle sector of the Central sub-region. The local government areas that host most employees from the inner sector, outside the Central sub-region, tend to be those with major industrial employment nodes such as Swan and Cockburn.

Figure 5: Inner sector resident labour force - place of work

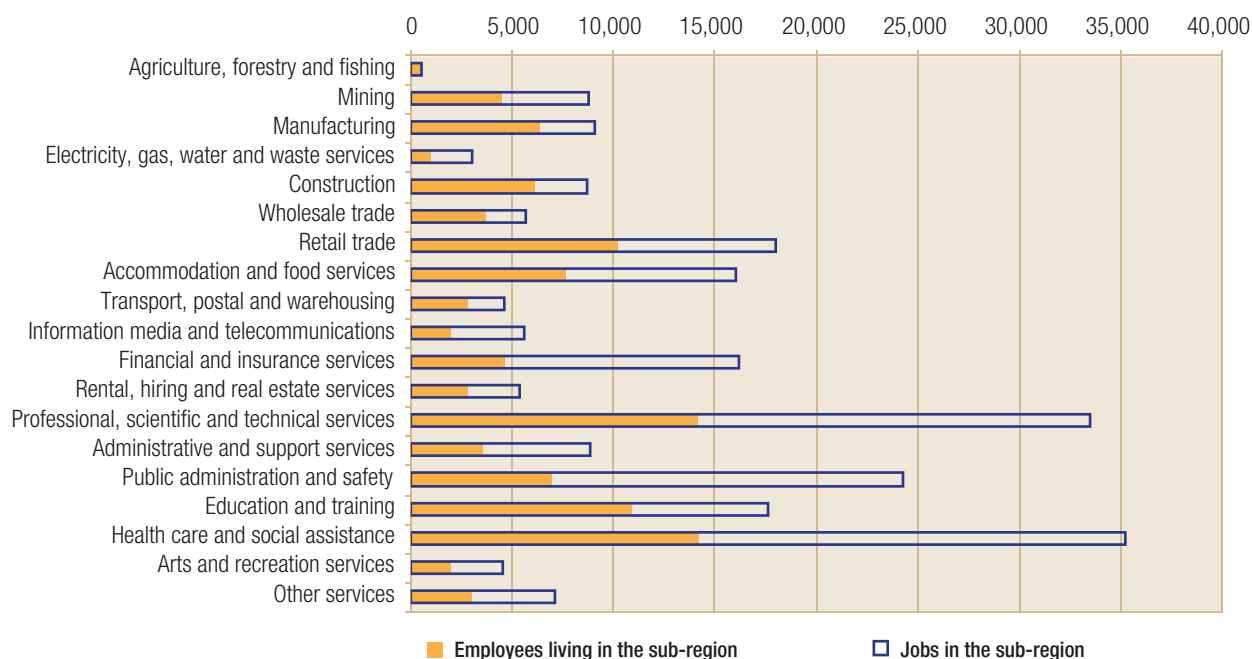


Source: Australian Bureau of Statistics, 2008, Census of Population and Housing 2006.

Many of Perth's major employment nodes lie within the inner sector (See Map 2) – 37 per cent of all 'fixed workplace' jobs in the Perth and Peel metropolitan area are located there. Consequently large numbers of residents from other parts of the city must travel to the inner sector to work in the CBD and other key employment locations such as tertiary hospitals and activity centres (Figure 6).

Like the inner sector, there is also a much higher concentration of employment in the middle sector than in the outer sub-regions. Approximately 29 per cent of all 'fixed workplace' jobs in the Perth and Peel metropolitan area are located there (See Map 3). Consequently, large numbers of residents from all of Perth's outer sub-regions and the inner sector commute to the middle sector for employment.

Figure 6: Employees and jobs by industry in the inner sector



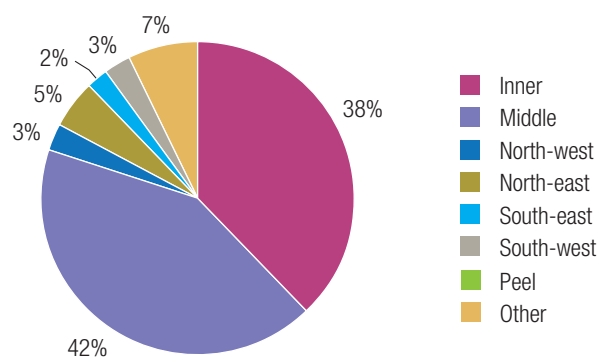
Source: Australian Bureau of Statistics, Census of Population and Housing 2006.

The middle sector has a significantly lower rate of employment containment than the inner sector with approximately 42 per cent of the sector's labour force employed within the sector (Figure 7).

Almost 90,000 middle sector residents work in the inner sector of the Central sub-region. Only 20 per cent of the middle sector's resident workforce work outside the Central sub-region. The local government area that hosts the most employees, who reside in the middle sector, outside the Central sub-region, is the City of Swan (See Map 3).

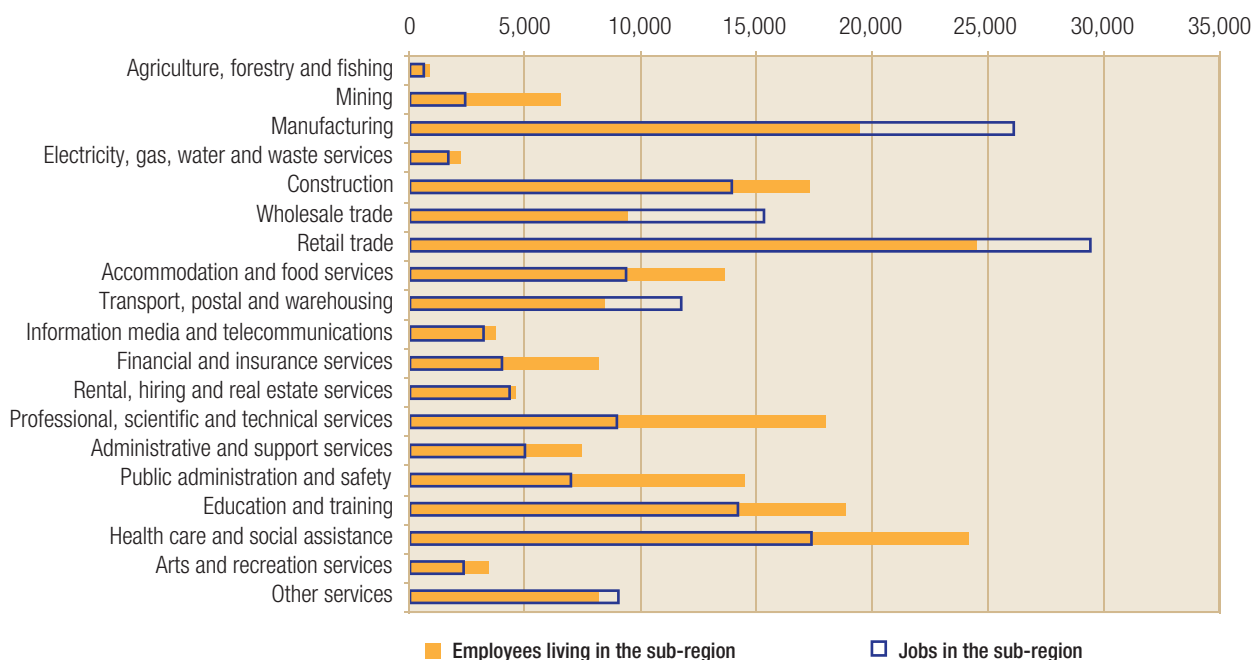
In the middle sector there are more employees than jobs in most industry categories, however, the two largest areas of employment; manufacturing and retail, have significant shortfalls of resident employees (Figure 8).

Figure 7: Middle sector resident labour force - place of work



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

Figure 8: Employees and job industry in the middle sector



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

Overall the Central sub-region has an employment self-containment rate of 81 per cent, which is significantly higher than any of the outer sub-regions. It is also noteworthy that over one third of Central sub-region workers who are not employed in the sub-region have a place of employment that falls into the 'other' category. Consequently only approximately 12 per cent of employees residing in the Central sub-region travel to 'fixed place' employment in the outer sub-regions.

2.5.3 Wages and salaries

The average income of residents in the inner sector was \$59,534 in 2008/09, which was significantly greater than the average for the Perth metropolitan region (Table 4). Average income for middle sector residents was significantly lower at \$50,740.

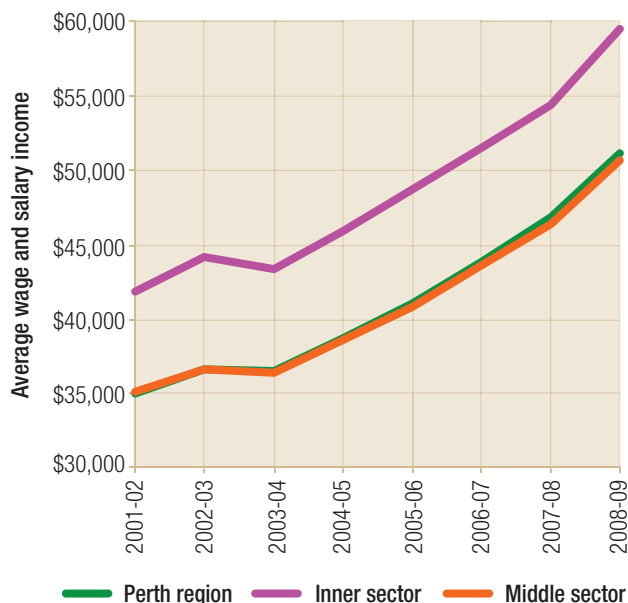
Income growth in the inner and middle sectors of the Central sub-region averaged 5.1 and 5.4 per cent per annum respectively between 2001/02 and 2008/09 (Table 4 and Figure 9). This income growth was lower than the Perth average over the same period.

Table 4: 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
Inner sector	n/a	59,534	5.1%
Middle sector	n/a	50,740	5.4%
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.

Figure 9: 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.

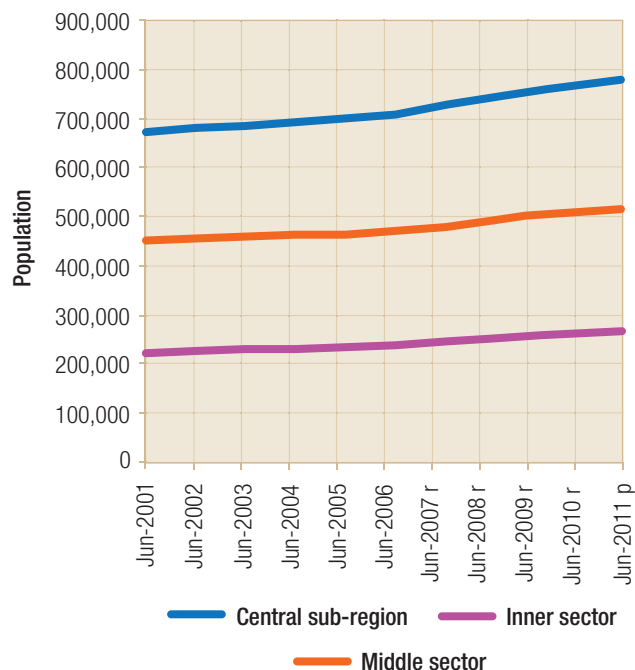
2.6 Population growth and demographics

The Central sub-region had an estimated resident population of 782,238 people in June 2011, consisting of 518,420 residents in the middle sector and 263,818 residents in the inner sector (Figure 10).

The Central sub-region's population boom from 2006/07 through to 2008/09 added an additional 46,944 residents in the three years to June 2009. More recent annual growth rates have eased considerably to be closer to the longer-term average of around 1.5 per cent (Figure 11).

The age profile of the sub-region is perhaps the most unique in Perth, with a larger proportion of young adults and fewer young families than the outer sub-regions (Figure 12). Toward 2031, the Central sub-region is predicted to retain a substantial proportion of young adults in comparison to the outer sub-regions; however, like the rest of the city, it is forecast to have a significantly older age profile in 20 years' time.

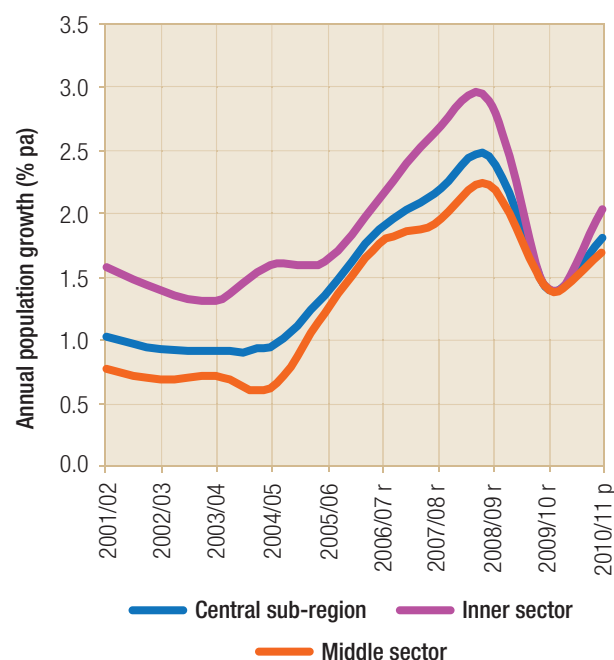
Figure 10: Estimated resident population, 2001 to 2011



Notes: r – revised, p – preliminary

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

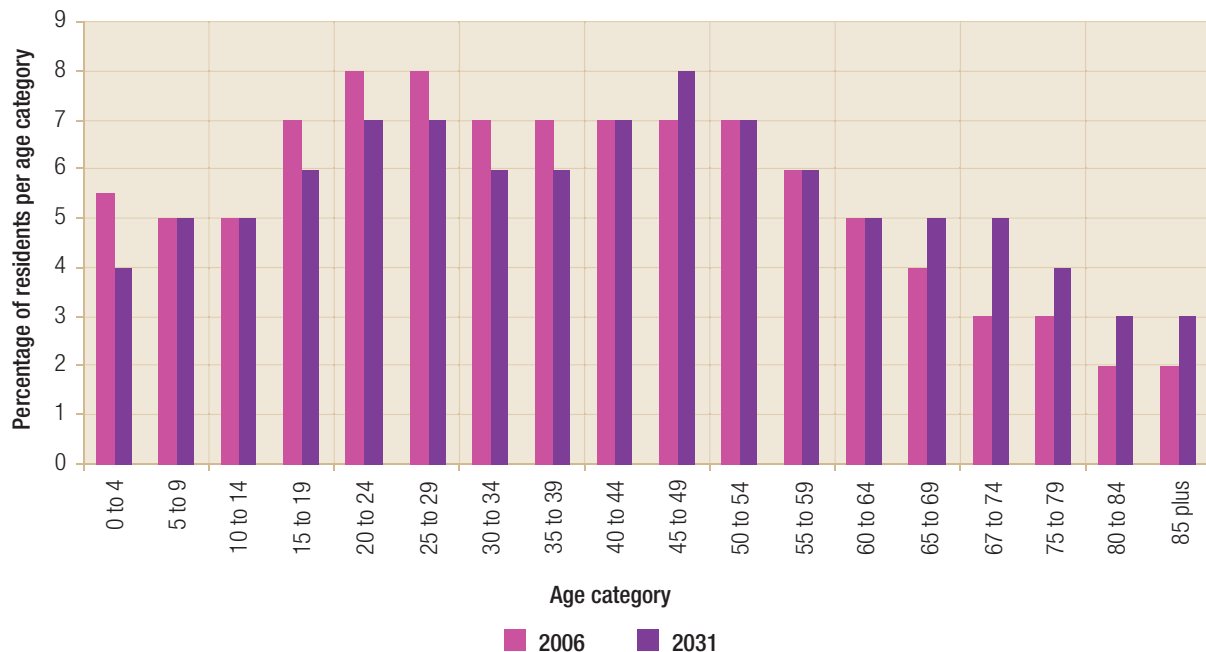
Figure 11: Annual population growth, 2001/02 to 2010/11



Notes: r – revised, p – preliminary

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

Figure 12: Projected age profile (2006 and 2031)



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

Key population and demographic statistics for the Central sub-region

- Population growth forecasts are lower than those of outer sub-regions due to affordability issues and land constraints.³
- The City of Perth has experienced sustained growth over recent years, recording an average annual growth rate of 9.1 per cent over the period 2001-11.
- Increasing demand for smaller households will require greater choice in housing size and type.
- Increased demographic diversity will drive changes in lifestyle, housing and community service needs. Social trends towards couples having children later in life, more people living alone and a greater proportion of older couples whose children have left home are increasing the number of households overall, and the number of smaller households.⁴

³ BIS Shrapnel – *The Outlook for Residential Land in Perth 2010-2015*

⁴ Central Metropolitan Perth Sub-Regional Strategy

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

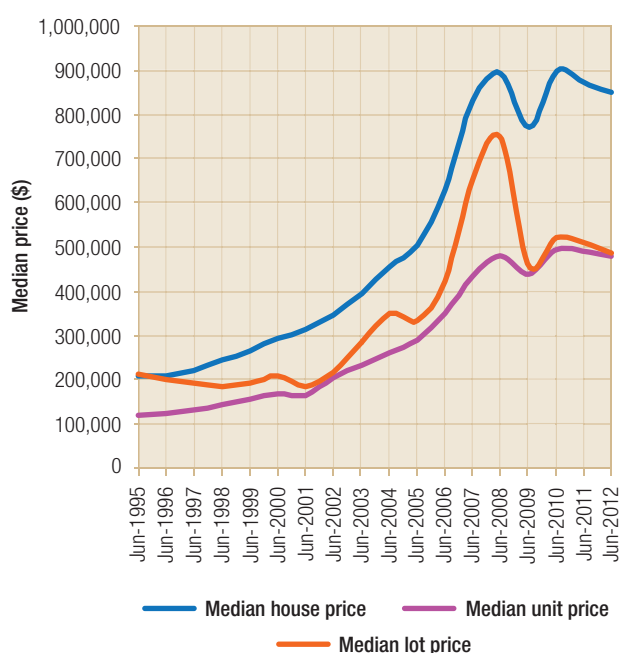
Median residential property prices in the inner sector are significantly higher than in the middle sector or the outer sub-regions.

Since 1995, the median house price in the inner sector increased from \$210,000 to \$850,000 (peaking at \$900,000 in 2010). During that period median unit prices increased from \$120,000 to \$480,000 (peaking at \$492,000 in 2010) and median lot prices increased from \$212,000 to \$485,450 (peaking at \$747,500 in 2008) (Figure 13).

Although median property prices in the middle sector are lower than the inner sector, they still tend to be higher than prices in the outer sub-regions.

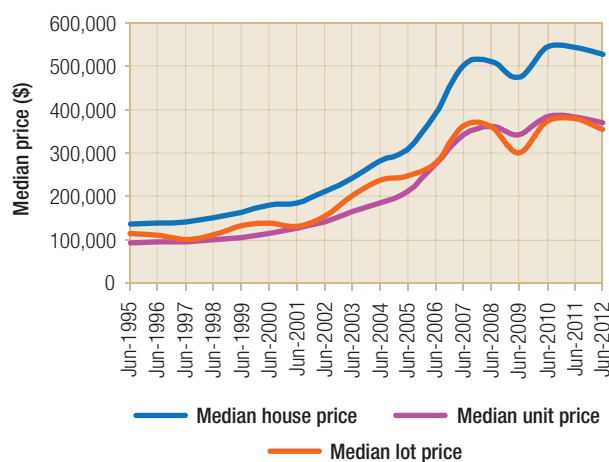
Since 1995, the median price of houses in the middle sector increased from \$135,000 to \$525,000 (peaking at \$540,000 in 2010). During that period median unit prices increased from \$93,000 to \$367,000 (peaking at \$380,000 in 2010) and median lot prices increased from \$114,000 to \$353,850 (peaking at \$377,500 in 2011) (Figure 14).

Figure 13: Median house, unit and lot prices in the inner sector



Source: Real Estate Institute of Western Australia.

Figure 14: Median house, unit and lot prices in the middle sector

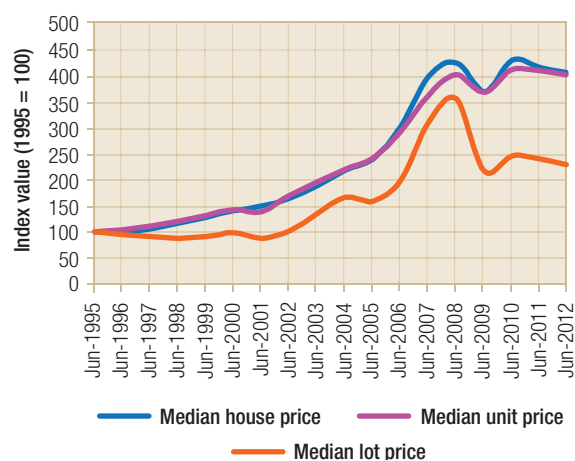


Source: Real Estate Institute of Western Australia.

2.7.2 Indices of median house, unit and lot prices

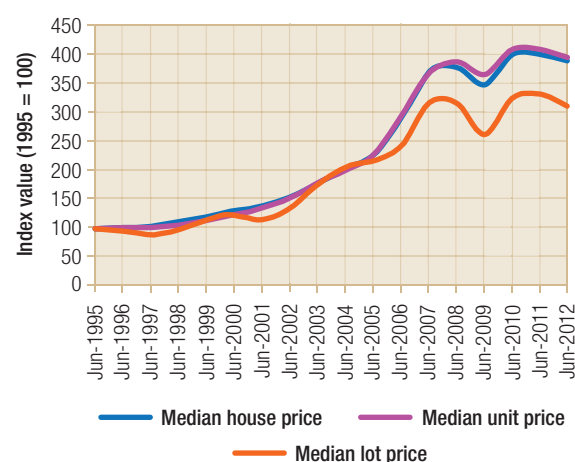
The Urban Growth Monitor 2011 (UGM) identified that the Central sub-region had just 430 hectares of undeveloped land zoned urban under the Metropolitan Region Scheme. Despite the low supply of remaining developable land in the sub-region, the lot price index has lagged significantly behind price indices of houses and units since 1995 (Figure 15, Figure 16).

Figure 15: Indices of median house, unit and lot prices in the inner sector



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

Figure 16: Indices of median house, unit and lot prices in the middle sector



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.

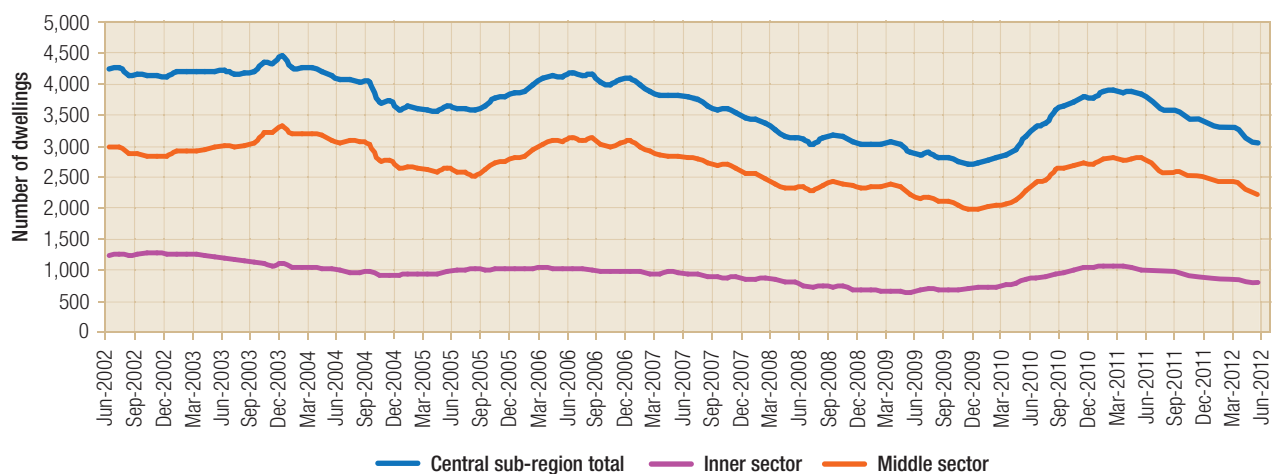
2.8.1 New dwelling approvals (houses only)

Figures for new house approvals in the Central sub-region indicate a general decline in house building activity from mid-2006 to the end of 2009. During 2010, building approvals increased, particularly in the middle sector, and activity has since returned to a level comparable to that experienced during the mining boom. In the year to June 2012 however, the number of building approvals has declined significantly.

2.8.2 New dwelling approvals (other than houses)

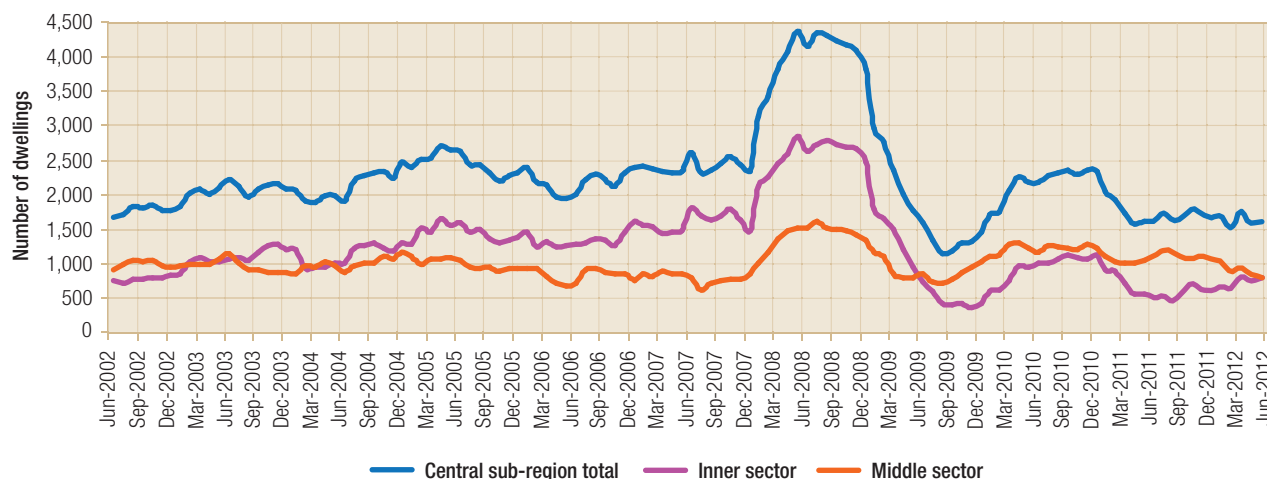
Development approval for other dwellings in the Central sub-region is far more volatile than approvals for single houses. Figure 18 shows a sharp increase in approvals for other dwellings during the housing boom, then a rapid decrease following the onset of the global financial crisis. Although other dwelling building activity has recovered to a degree, there are currently significantly fewer approvals granted for this type of dwelling than was the case before the global financial crisis.

Figure 17: New house approvals (annualised monthly data)



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

Figure 18: New other dwelling approvals (annualised monthly data)



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

2.9 Overall demand outlook

- The draft *Central Metropolitan Perth Sub-regional Growth Strategy* includes an estimate that the population of the Central sub-region could grow by approximately 29 per cent by 2031. This will lead to an increased demand for land and housing, and will require a change in the mix of dwelling typology, towards medium and high density.
- Immigration (both from interstate and overseas) will shape population growth in the Central sub-region as wealthy immigrants purchase dwellings or poorer migrants seek rental accommodation around the sub-region. The short-term outlook for immigration is moderate and depends largely on economic growth (particularly in the mining sector) and government policy.
- The Housing Industry Association has produced local government area estimates for underlying housing demand. The Association's demand scenario indicates an annual demand for about 6,000 new dwellings in the Central sub-region, including replacement of demolished houses, over the next decade.
- Perth's ageing population is increasingly seeking smaller, low maintenance dwellings with good access to leisure and health facilities. The Central sub-region has by far the most of this type of dwelling and interest from 'empty nesters' will continue to drive demand.
- The declining manufacturing industry in the Central sub-region will facilitate various redevelopment projects. The nature of these projects will play a key role in shaping levels and sources of demand.
- Projects like the Perth City Link and Elizabeth Quay will change the dynamic of central Perth, and proposed improvements to the central public transport network, will further enhance the liveability of the Central sub-region, reinforcing demand.
- The Central sub-region has little potential for further greenfield development, with the majority of residential activity taking place on infill and redevelopment sites.⁵
- Development on infill sites is usually confined to townhouse or apartment developments, while new house approvals are confined to large infill sites or land that has been freed up through demolitions.
- It is possible that future higher land prices in Perth may encourage more infill development in the Central sub-region and consequently result in higher levels of population growth.⁶

⁵ BIS Shrapnel – *The Outlook for Residential Land in Perth 2010–2015*

⁶ BIS Shrapnel – *The Outlook for Residential Land in Perth 2010–2015*

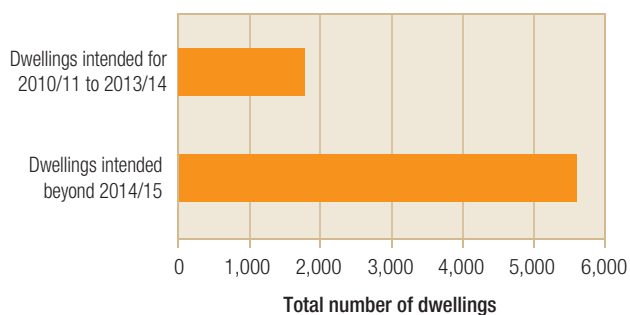
3. Residential land supply

3.1 Overview

Due to the limited amount of greenfield land in the Central sub-region, the supply of land and dwellings is largely dependent on infill and redevelopment projects. This type of development is often more costly and problematic than comparable greenfield projects. Despite declining lot production, subdivision activity and lot sales, building approvals for houses and the stock of vacant lots in the sub-region have not declined, which suggests that there has been significant amount of urban regeneration. However, the infill rate remains well below the *Directions 2031 and Beyond* target of 47 per cent.

The Residential Developers' Land and Dwelling Intentions Survey 2009/10 includes projects of five or more residential lots or dwellings. Respondents to the survey for the inner sector of the Central sub-region identified 28 development projects which are expected to yield a total of 1,783 dwellings (i.e. single lots plus group dwellings) in the four years from 2010/11 to 2013/14 (Figure 19). Another 5,586 dwellings were intended for development 2014/15 and beyond.

Figure 19: Dwelling yield from residential development projects – inner sector (survey responses)



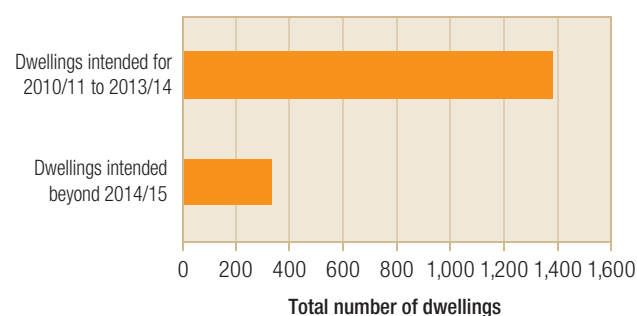
Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Notably, the survey only picks up a fraction of development in the inner sector as this tends to be more fragmented and smaller in scale than projects in the outer sub-regions, where greenfield development is more prevalent.

By contrast, responses from the middle sector identified a significantly smaller dwelling yield for long-term projects than that expected before 2013/14. Across the 21 projects identified in this part of the survey, developers estimated 1,382 dwellings would be constructed in the short-term (2010/11 to 2013/14) and 333 dwellings in 2014/15 or later (Figure 20).

The Developers' Intentions Survey results identified a number of areas where subdivision is intended in the Central sub-region (Table 5) – however, this only picks up larger subdivision areas, whereas most subdivision in the Central sub-region is generally less than 10 lots.

Figure 20: Dwelling yield from residential development projects – middle sector (survey responses)



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

3.1.1 Average dwelling yield

An average residential development project in the inner sector will yield 64 dwellings in 2010/11 to 2013/14, compared to the average across Perth and Peel of 144 dwellings per project. The average dwelling yield for inner sector projects anticipated for development in 2014/15 or later is significantly higher, at 200 dwellings per project (Figure 21). This reflects a number of medium and high density projects that are expected to be developed in 2014/15 or later.

The average size of projects in the middle sector identified in the survey was 66 dwellings per project in the short-term (2010/11 to 2013/14) and just 16 dwellings per projects developed 2014/15 or later (Figure 22).

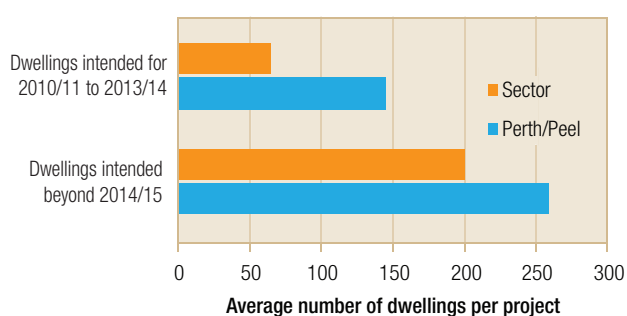
While a low number of responses to the Residential Developers' Land and Dwellings Intentions Survey 2009/10 in this sub-region are one reason for this anomaly, it does suggest that development projects are typically smaller in the Central sub-region.

Table 5: Intended dwelling development (survey responses)

Local government	2011/12	2012/13	2013/14	2014/15 – 2018/19	2019/2020+	Unknown year
Bassendean	0	0	0	0	0	12
Bayswater	0	0	0	0	0	211
Belmont	0	0	0	49	0	160
Canning	1	1	2	0	0	246
Melville	0	0	0	0	0	614
Stirling	116	40	0	0	0	644
Middle sector total	117	41	2	49	0	1,897
Cambridge	80	0	0	0	0	37
Claremont	0	0	0	0	0	575
Cottesloe	0	0	0	0	0	0
East Fremantle	0	0	0	0	0	0
Fremantle	0	42	0	64	0	353
Mosman Park	0	43	7	0	0	0
Nedlands	0	0	0	0	0	0
Peppermint Grove	0	0	0	0	0	0
Perth	0	0	0	316	0	7,075
South Perth	60	60	0	0	0	118
Subiaco	0	0	0	0	0	444
Victoria Park	24	6	0	0	0	193
Vincent	0	0	0	0	0	283
Inner sector total	164	151	7	380	0	9,078
Central sub-region total	281	192	9	429	0	10,975

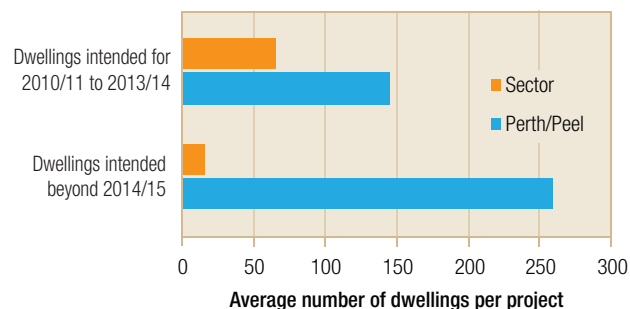
Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10.

Figure 21: Average dwelling yield from residential development projects – inner sector (survey responses)



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

Figure 22: Average dwelling yield from residential development projects – middle sector (survey responses)



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

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 shortage of greenfield land in the Central sub-region means that growth is heavily reliant on redevelopment and urban consolidation. As part of the Housing Targets Development Program, the Department of Planning has consulted with local governments and state development agencies to identify planned urban growth areas. These areas should relate to development nodes such as activity centres, transit oriented development sites and urban corridors; as well as major private sector and State-led development initiatives, and local government development areas.

The draft *Central Metropolitan Perth Sub-regional Strategy* identifies 59 major targeted growth areas (each yielding 400 dwellings or more) in the sub-region that are expected to yield approximately 71,000 dwellings by 2031. It is anticipated that smaller growth areas will yield approximately 14,000 dwellings and small scale incremental development will yield 40,000 dwellings in the sub-region by 2031.

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, there were four region scheme amendments in progress in the Central sub-region affecting 11 hectares.

Of the projects identified in the Residential Developers' Land and Dwellings Intentions Survey 2009/10, only one project required amendments to both the Metropolitan Region Scheme (MRS) and the local planning scheme – the Perth Waterfront Project (Table 6).

Table 6: Intended developments requiring scheme amendments (survey responses)

	No. of projects	Dwellings affected 2010/11 to 2013/14	Dwellings affected 2013/15 and beyond
Region scheme amendment (rezoning) required	1	—	1,684
Local planning scheme amendment (rezoning) required	1	—	1,684
No scheme amendment (rezoning) required	48	3,165	4,235

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).

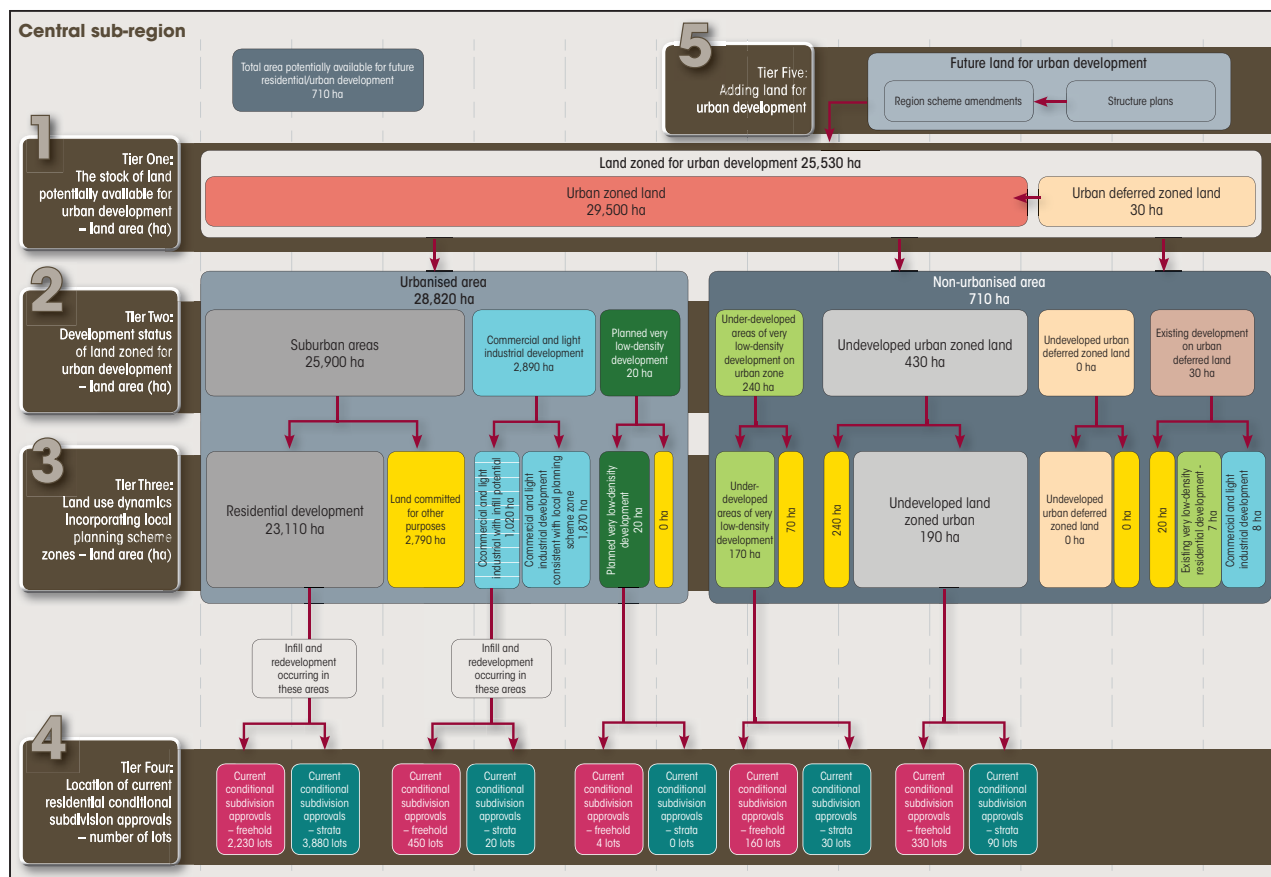
3.3.2 Zoned land

The Central sub-region contains 29,500 hectares of land zoned urban and 1,950 hectares zoned urban deferred under the *Metropolitan Region Scheme*. Of this, 710 hectares (2 per cent) is either undeveloped, or developed at very low density. This constitutes approximately 3 per cent of the total stock of available zoned land in the Perth and Peel metropolitan area.

Future development will therefore need to optimise infill and redevelopment opportunities to increase density, enabling significant population growth in the Central sub-region.

The *Urban Growth Monitor 2011* (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 Central sub-region from the UGM is shown in Figure 23. 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.

Figure 23: 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 nine structure plans being considered for endorsement by the WAPC and 26 being considered for adoption by local government in the Central sub-region.

The Central sub-region contains a high proportion of strategic planning projects in comparison to the other metropolitan sub-regions. This is primarily due to the highly fragmented land ownership of the sub-region, which generally prohibits the private sector from owning sufficiently large tracts of land to warrant structure planning. Strategic projects in the sub-region are therefore often Government-driven redevelopment or infill projects such as transit-oriented developments, development

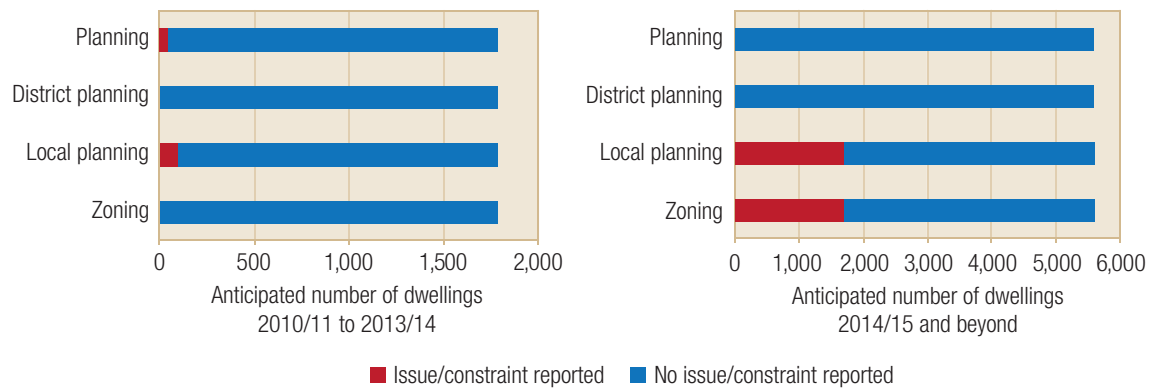
precincts, activity centres, master plans and urban corridors. These projects typically deliver mixed land uses and increases in dwelling density, and may reflect changes towards housing diversity and affordability.

More detailed information on structure plan activity in the Central 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

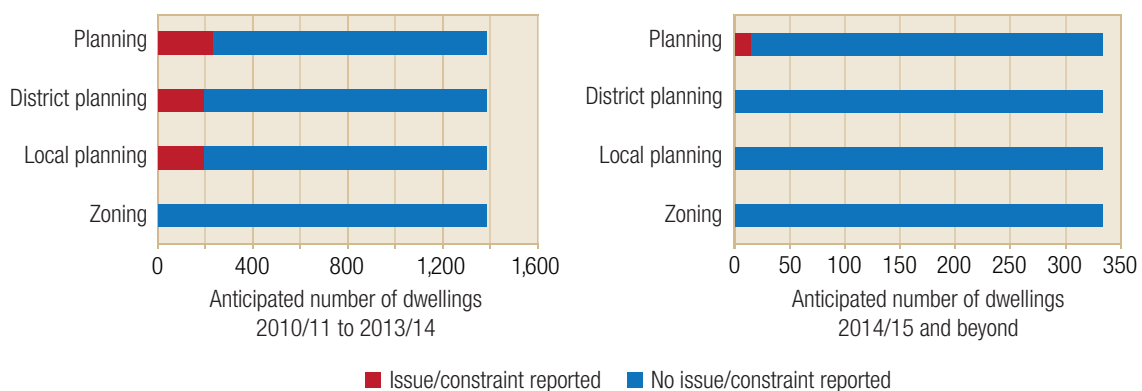
Responses to the Residential Developers' Land and Dwellings Intentions Survey 2009/10 indicated that planning and structure planning issues are not major development constraints in the inner or middle sectors (Figure 24 and Figure 25).

Figure 24: Developers' planning issues in the inner sector (survey responses)



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

Figure 25: Developers' planning issues in the middle sector (survey responses)



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

3.4 Subdivision

The inner sector has a relatively small share of the total residential subdivision approvals in Perth (Table 7). This is due primarily to the nature of development in the inner sector, much of which is built strata development. Dwelling yields for this type of development are not captured by the Western Australian Planning Commission's subdivision process which provides data on lots rather than dwelling units.

Lot activity in the middle sector is characterised by numerous, small subdivisions (often 'battleaxe' subdivisions) which constituted approximately 16 per cent of the final approvals in the Perth-Peel metropolitan area from January to December 2011 (Table 8).

The Central sub-region's residential lot balance is approximately 8,000 lots on average, peaking in June 2007 at 9,207 lots (Figure 26). The sub-region has a high conversion rate for conditionally approved lots progressing to final approval (approximately 70 per cent), and has less erratic quarterly numbers for conditional and final approvals than outer sub-regions. This is largely a result of the difference in project type between the Central and outer sub-regions. In outer sub-regions large numbers of approvals are granted as large greenfield sites become available for development. In the Central sub-region, smaller and more numerous projects are approved, which means that peaks and troughs in approval activity are less salient.

Table 7: Subdivision approvals – inner sector

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	792	180	717	1,754	585	632

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.

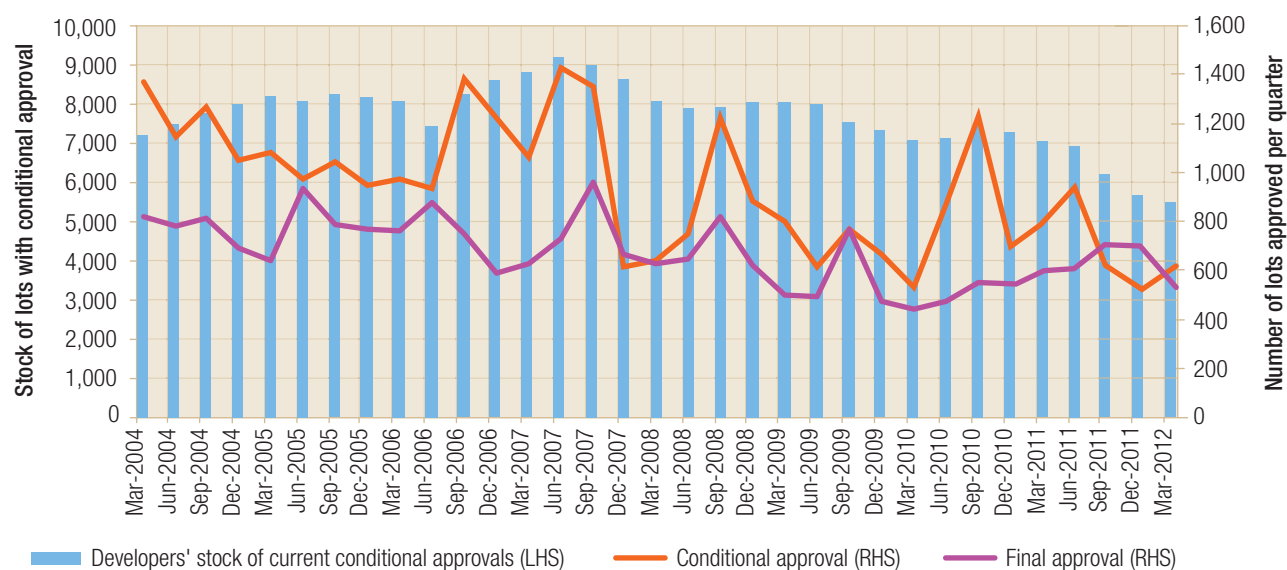
Table 8: Subdivision approvals – middle sector

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	2,300	706	2,150	3,978	1,542	1,991

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 26: Residential subdivision approvals

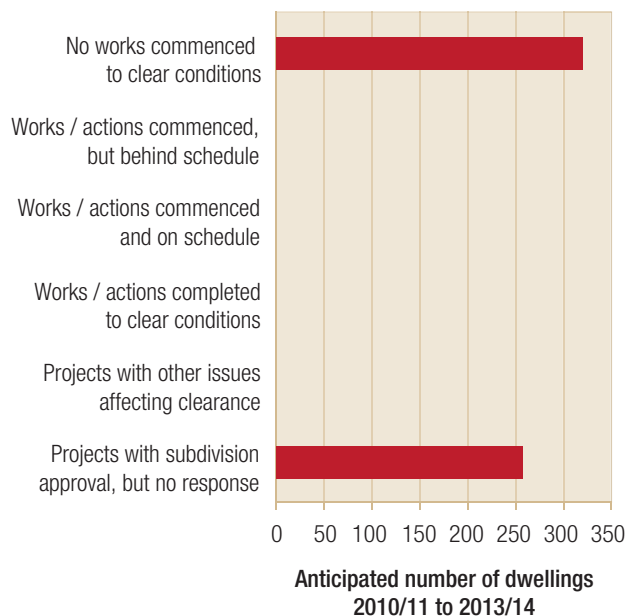


Source: Western Australian Planning Commission 2012, State Lot Activity.

3.4.1 Clearance of subdivision conditions

Respondents in the Developers' Intentions Survey 2009/10 assessed progress of their projects with regard to headway in obtaining clearances to subdivision conditions (Figure 27 and Figure 28). Responses concerning projects in the Central sub-region picked up few projects in this phase of development and consequently, dwelling yields for those projects are very low.

Figure 27: Progress to clear subdivision conditions – inner sector (survey responses)



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

3.5 Development

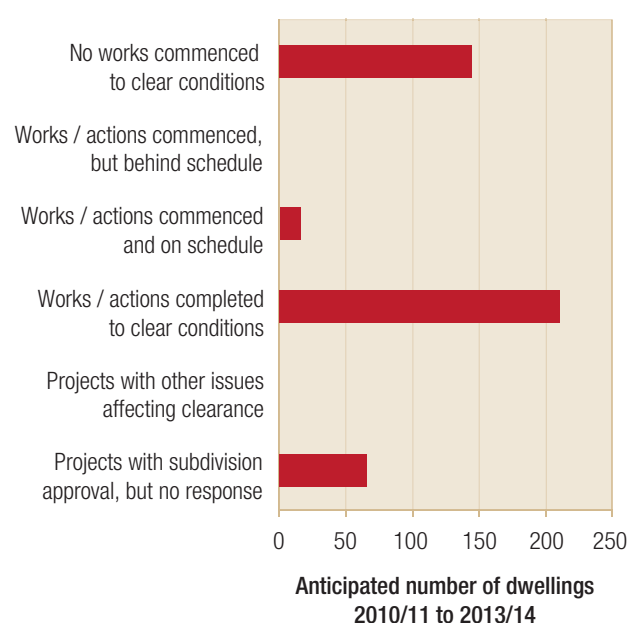
Once approval has been granted to develop a piece of land for residential purposes, a significant amount of land and infrastructure development is still required to prepare each lot for sale.

3.5.1 Lots under construction

Figure 29 shows the number of lots under construction in the Central 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 12 months. The graph suggests a decline in activity around the time of the global financial crisis followed by a brief recovery in the middle sector and more recently another decline.

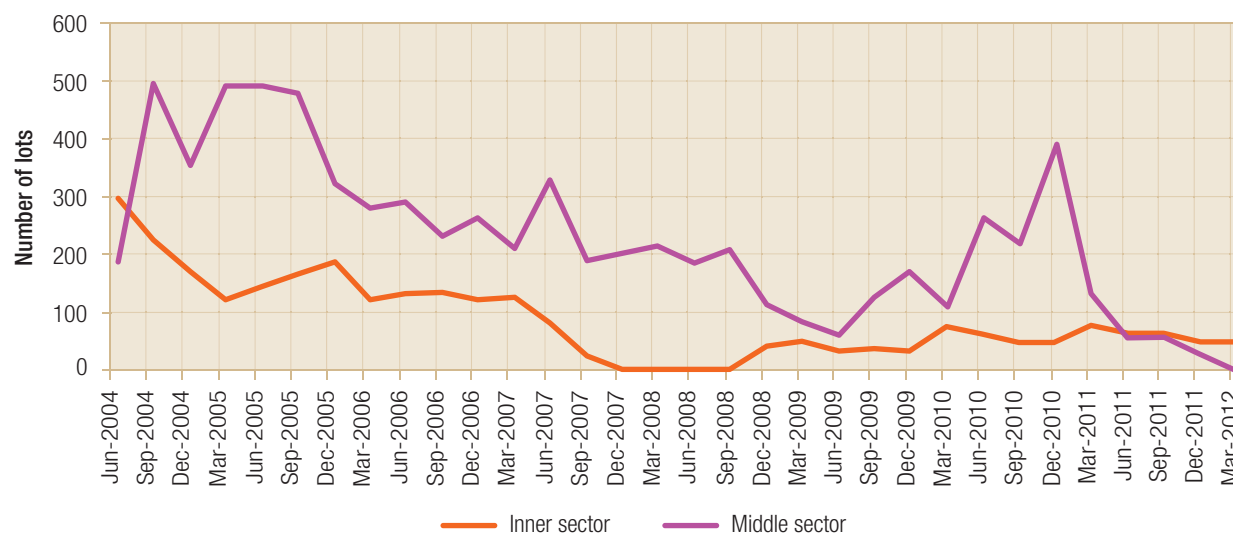
Note: The UDIA's development index is a survey of private and government developers who mainly develop broad-hectare land holdings. Therefore the UDIA does not necessarily reflect the broader lot development trends prevalent in the Central sub-region where projects are generally higher density or smaller scale.

Figure 28: Progress to clear subdivision conditions – middle sector (survey responses)



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

Figure 29: 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 identified by land developers are shown in Figure 30. Developers noted that the major issues affecting the development of sites in the inner sector were uncertain market conditions and environmental constraints. These environmental constraints included concerns about conditions by the Environmental Protection Authority, and another specific project concerning proximity to nearby fuel tanks.

Major issues with the development of additional dwelling sites, as identified by land developers, are shown in Figure 31. Residential Developers' Land and Dwellings Intentions Survey 2009/10 respondents identified market and site issues as major development constraints in the middle sector. Development finance was also a factor that may be related to smaller-scale developments in the sector as many of the developers, normally active in these areas, require bank finance to undertake developments (Figure 31). Like the inner sector, site contamination affects a number of projects in the middle sector, which are identified under the general heading 'environmental' issues.

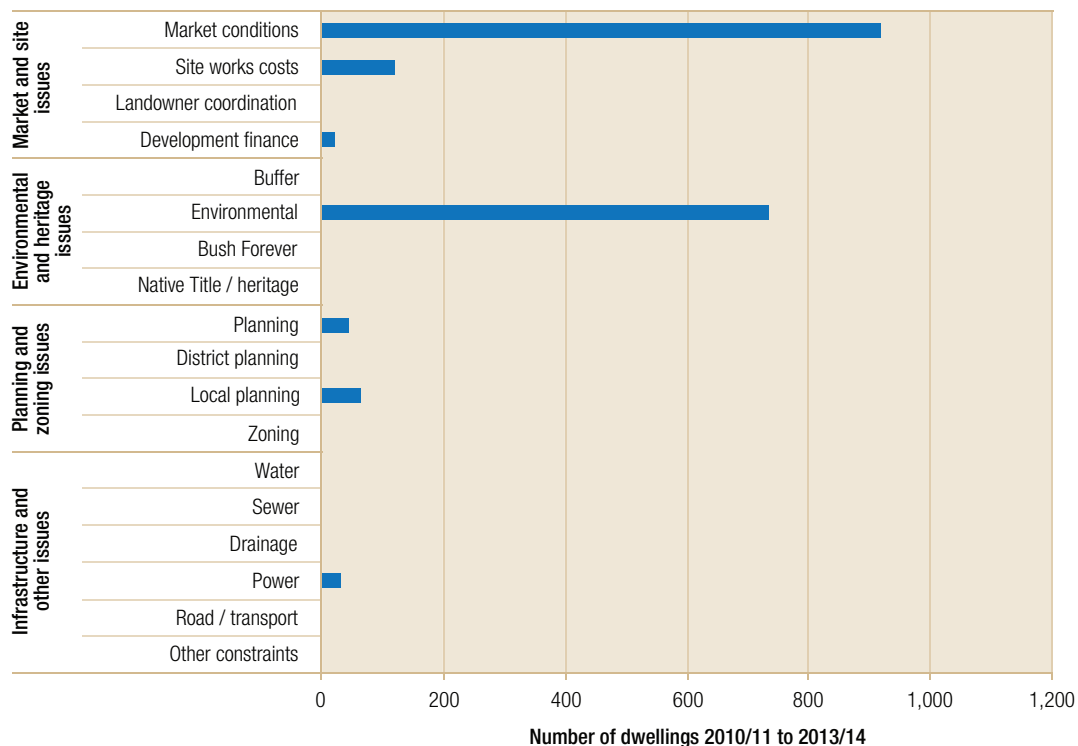
3.5.3 Long-term development issues (2014/15 and beyond)

The major issues with the development of additional dwelling sites as identified by land developers are shown in Figure 32. Issues affecting development of inner sector projects in 2014/15 or later are more varied than the short-term issues. In particular, market and site issues are major factors. Environmental issues are also a factor, and these are generally related to contaminated sites that require remediation prior to development.

Local planning and zoning changes are also required to unlock inner sector developments in 2014/15 or later.

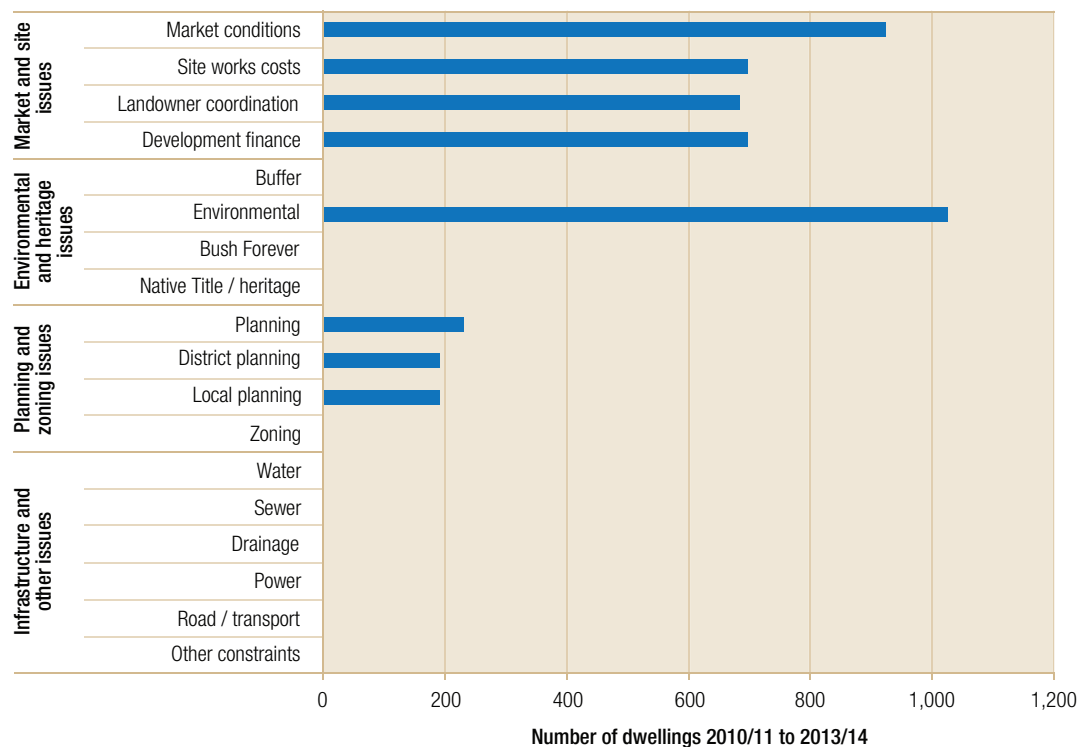
Property developers reported significantly fewer long-term development issues in the middle sector than the inner sector. This disparity is most likely explained by the difference in intended long-term dwelling yields between the middle (333 dwellings) and inner sector (5,586 dwellings). The major issues reported to affect projects in the middle sector include uncertain market conditions, environmental issues and other unspecified issues.

Figure 30: Major short-term development issues in the inner sector (survey responses)



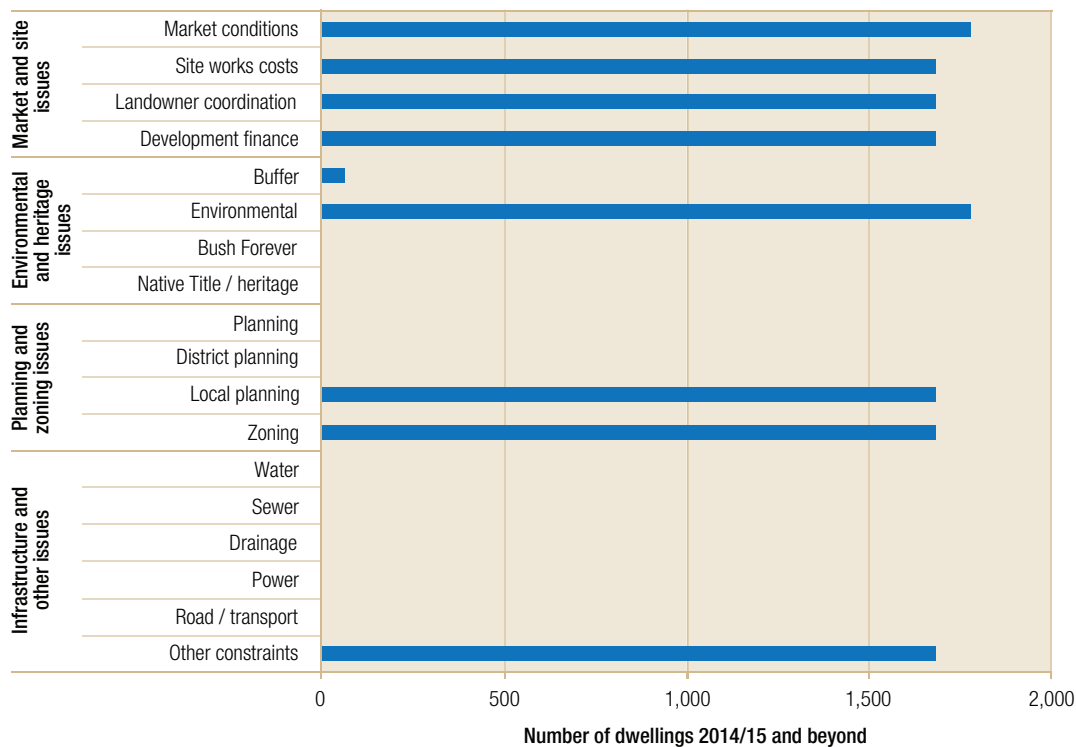
Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Figure 31: Major short-term development issues in the middle sector (survey responses)



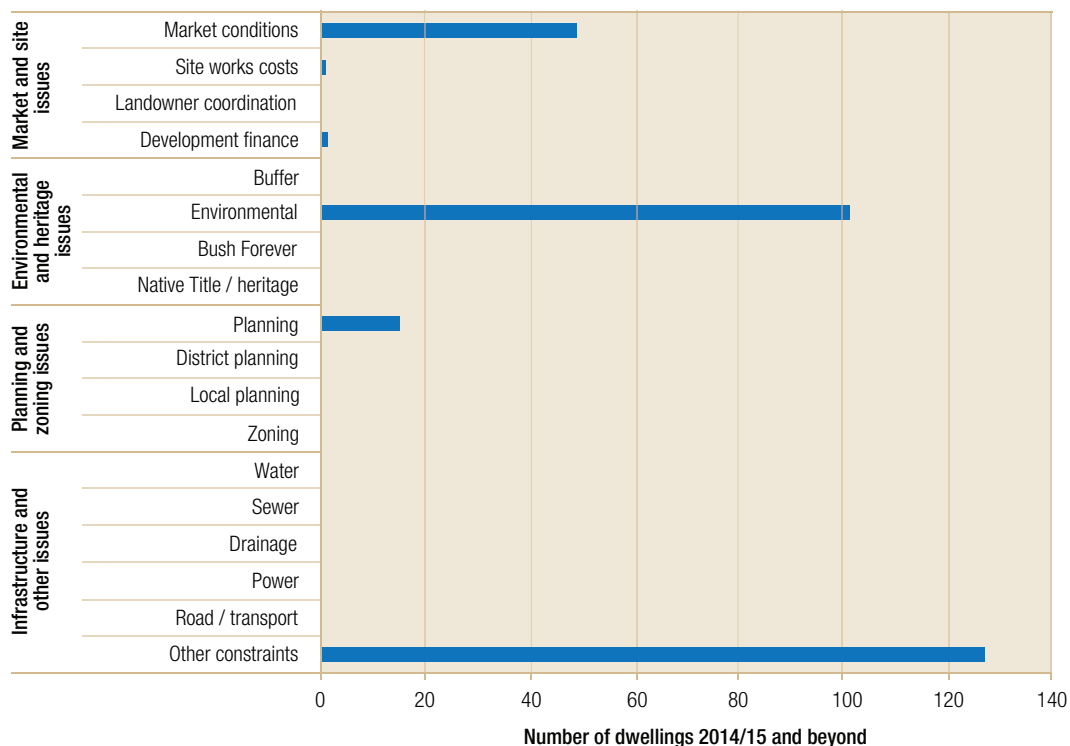
Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Figure 32: Major long-term development issues in the inner sector (survey responses)



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

Figure 33: Major long-term development issues in the middle sector (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 Central sub-region include:

- Contaminated sites management and remediation – a site history of previous land uses is not always well known or recorded, meaning that there are unknown or unrecorded contaminated sites in the Central sub-region. Closing this information gap would require a program to investigate the land use history and if necessary, test sites for potential contamination. Improved interagency information sharing may help in this regard, enabling a less complex transition, to some useful purpose such as public open space. Currently, developers need to identify these issues as part of their due diligence, or risk considerably higher development costs for remediation.
- Urban water management may require a risk-based approach – particularly applicable to the Central sub-region, given the concentration of development around the Swan and Canning Rivers.
- Local vegetation retention – as urban densities increase in the Central sub-region, the environmental and social value of local vegetation also increases. This makes sites with significant remnant vegetation difficult (if not impossible) to develop.
- Coastal and river setbacks and management – pressures for public access, activity centres and development at river and coastal nodes will increase, requiring strategic assessments of the impacts on river systems. Sea-level rise is also a critical factor in determining appropriate setbacks.
- Noise management – the Central sub-region is the hub for rail, freeway and major arterial roads which all have noise impacts on surrounding developments. Increasing urban densities and mixed use activity centres also need appropriate noise management through planning and development.

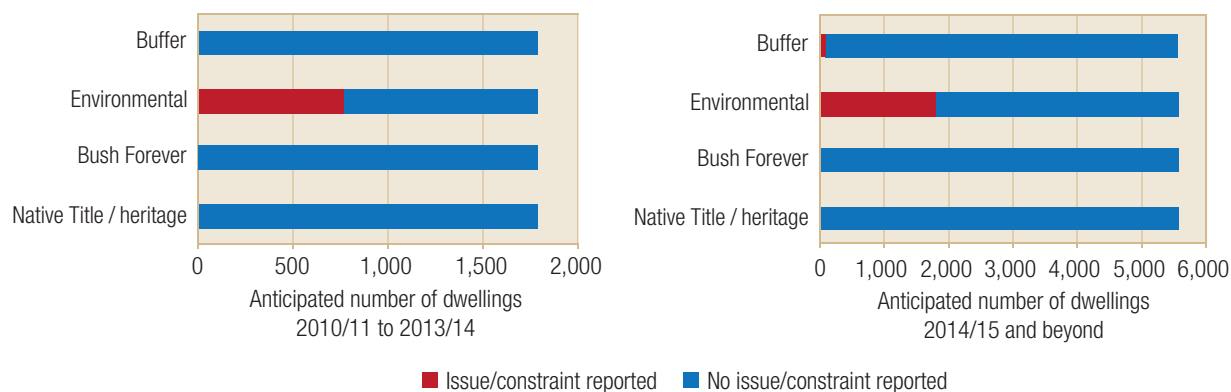
- Public open space – some local governments are reviewing their stock of public open space to identify potential new land supply. Demand for developable land often conflicts with the need to retain public open spaces, which help retain social amenity, as urban densities increase.
- Communicating the time required to get necessary clearances and schedule project development accordingly.

3.5.5 Environmental issues (survey responses)

Respondents to the Residential Developers' Land and Dwellings Intentions Survey 2009/10 indicated a number of sites with environmental issues affecting development in both inner and middle sectors (Figure 34 and Figure 35). Developers expressed concern over difficulties in determining the Office of the Environment Protection Authority assessment level and stated that meeting environmental conditions had, in some cases, taken more than three years.

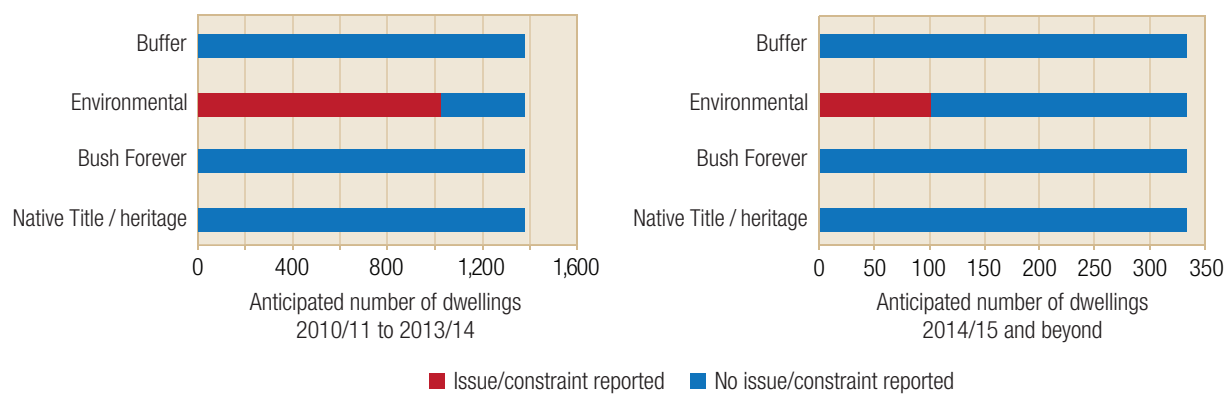
Developers' citing environmental issues as constraints to developments in the middle sector indicated that the remediation of contaminated sites and classifications applied by the Department of Environment and Conservation were the most prominent causes of concern (Figure 35).

Figure 34: Developer's environmental and heritage issues in the inner sector (survey responses)



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

Figure 35: Developer's environmental and heritage issues in the middle sector (survey responses)



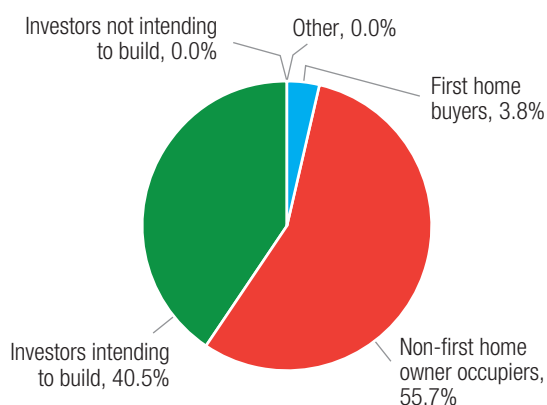
Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

3.5.6 Market segment of dwellings for development

Developers of 28 projects in the inner sector, yielding 1,051 dwellings in the short-term (2010/11 to 2013/14) and 31 dwellings in the long-term (2014/15 and beyond), provided information on their expected target market segments (Table 9) as part of the Residential Developers' Land and Dwelling Intentions Survey 2009/10.

Developments in the inner sector of the Central sub-region are targeted at non-first home owner occupiers (55.7 per cent of all dwellings), investors intending to build (40.5 per cent) and a very small proportion of first-home buyers (3.8 per cent) (Figure 36 and Table 9).

Figure 36: Market segment of dwellings for development 2010/11 to 2013/14 – inner sector (survey responses)

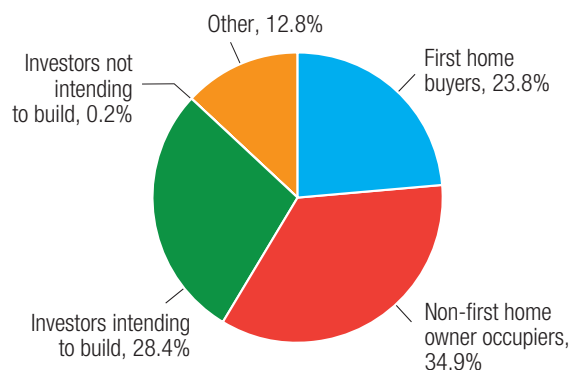


Source: Department of Planning, Residential Developers' Land and Dwellings Intentions Survey 2009/10 (unpublished data).

Developers of 13 projects in the middle sector, yielding 1,069 dwellings in the short-term (2010/11 to 2013/14) and 138 dwellings in the long-term (2014/15 and beyond), provided information on their expected target market segments (Table 10) as part of the Residential Developers' Land and Dwelling Intentions Survey 2009/10.

Developments in the middle sector of the Central sub-region are targeted at non-first home owner occupiers (34.9 per cent of all dwellings), investors intending to build (28.4 per cent), first-home buyers (23.8 per cent) and other buyers (12.8 per cent). Note that the 'other' category includes aged-care facilities (Figure 37 and Table 10).

Figure 37: Market segment of dwellings for development 2010/11 to 2013/14 – middle sector (survey responses)



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

Table 9: Target market segments – inner sector (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	40	585	426	–	–
Dwellings 2014/15 and beyond	–	23	8	–	–

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

Notes: 'Other' includes aged-care facilities.

Table 10: Target market segments – middle sector (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	254	373	304	2	136
Dwellings 2014/15 and beyond	90	28	19	1	–

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

Notes: 'Other' includes aged-care facilities.

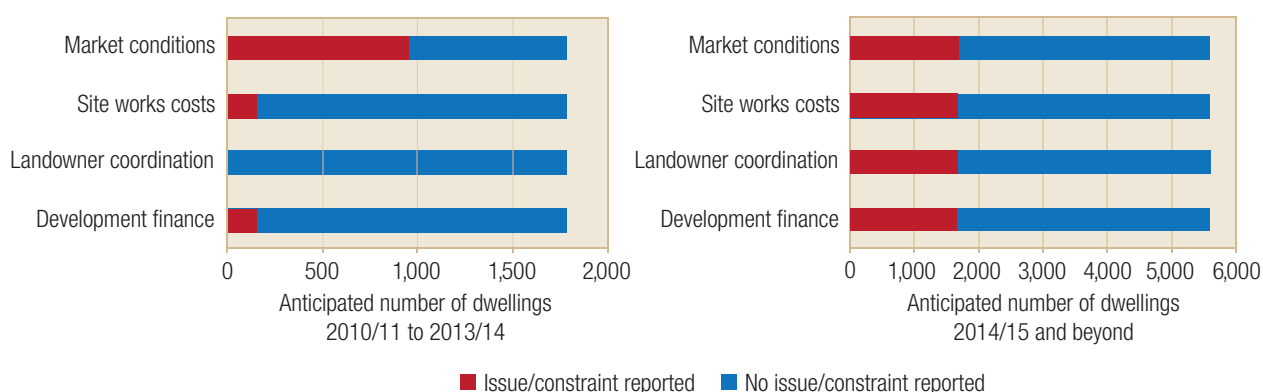
3.5.7 Market and site issues affecting development

Developers of eight projects in the inner sector expressed concern over the market outlook, affecting 954 dwellings in the short-term (2010/11 to 2013/14), and another 1,778 dwellings from 2014/15 onward. Generally, these issues were anticipated to extend into late 2011, and possibly beyond.

A number of developments had issues with site works costs, landowner coordination and development finance, which particularly affected projects expected to yield dwellings in 2014/15 or later (Figure 38).

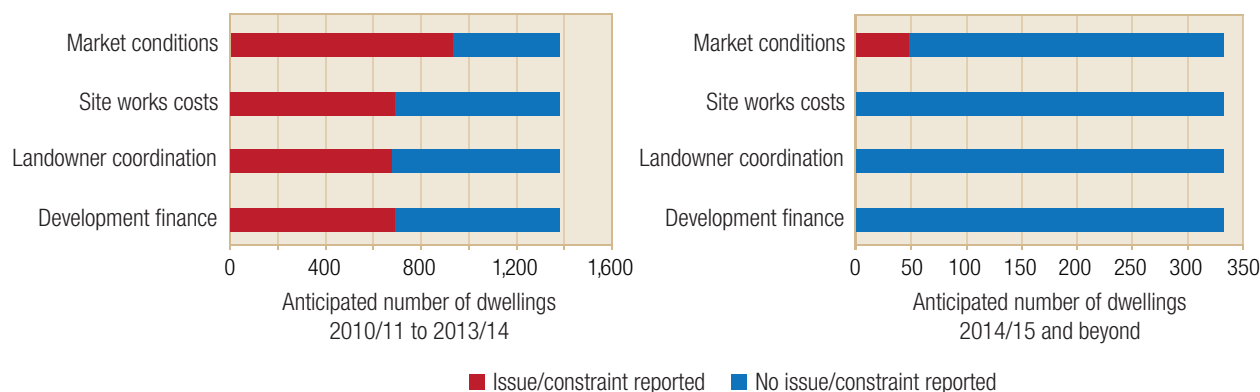
In contrast, development constraints affecting projects in the middle sector were more apparent in short-term projects expecting to produce dwellings before 2013/14. Market conditions were of most concern to Residential Developers' Land and Dwellings Intentions Survey 2009/10 respondents regarding projects expected to yield dwellings in 2014/15 or later (Figure 39).

Figure 38: Market and site issues affecting development – inner sector (survey responses)



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

Figure 39: Market and site issues affecting development – middle sector (survey responses)



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

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

The Urban Development Institute of Australia's (UDIA) time-series quarterly data for the number of lots on the market is shown in Figure 40, indicating that UDIA member developers currently have a very low supply of lots in the Central sub-region.

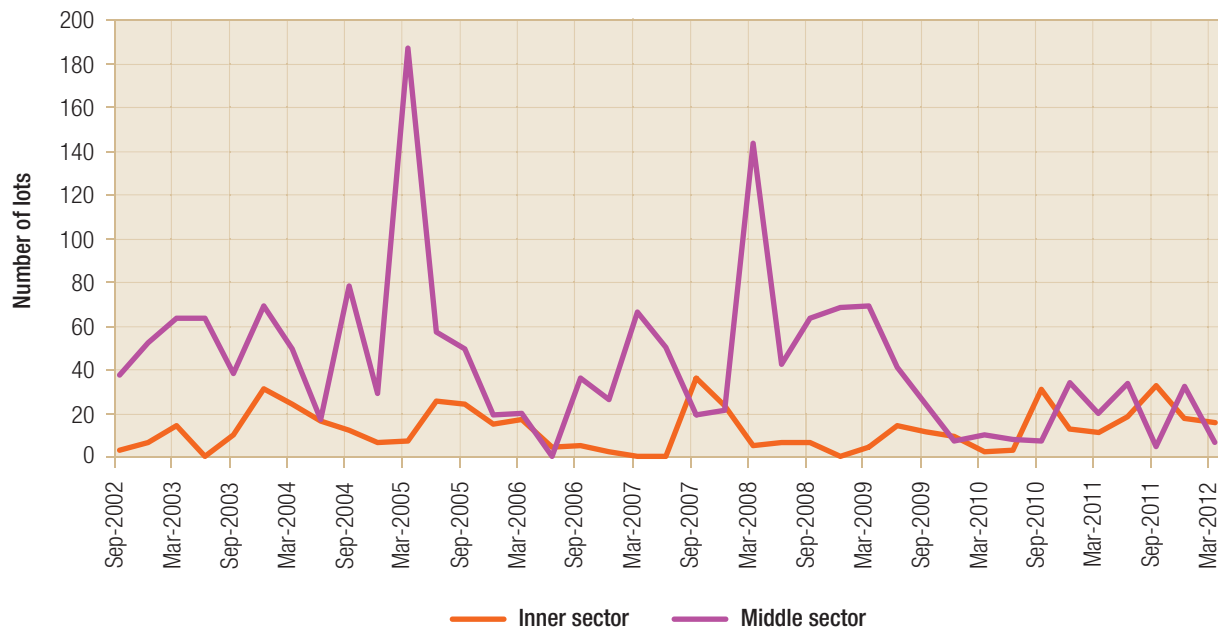
Note: The UDIA's development index is a survey of private and government developers who mainly develop broad-hectare land holdings. Therefore the index does not necessarily reflect the broader lot development trends prevalent in the Central sub-region, where projects are generally higher density or smaller scale.

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 real estate agents therefore provide an additional stock of developed 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 41).

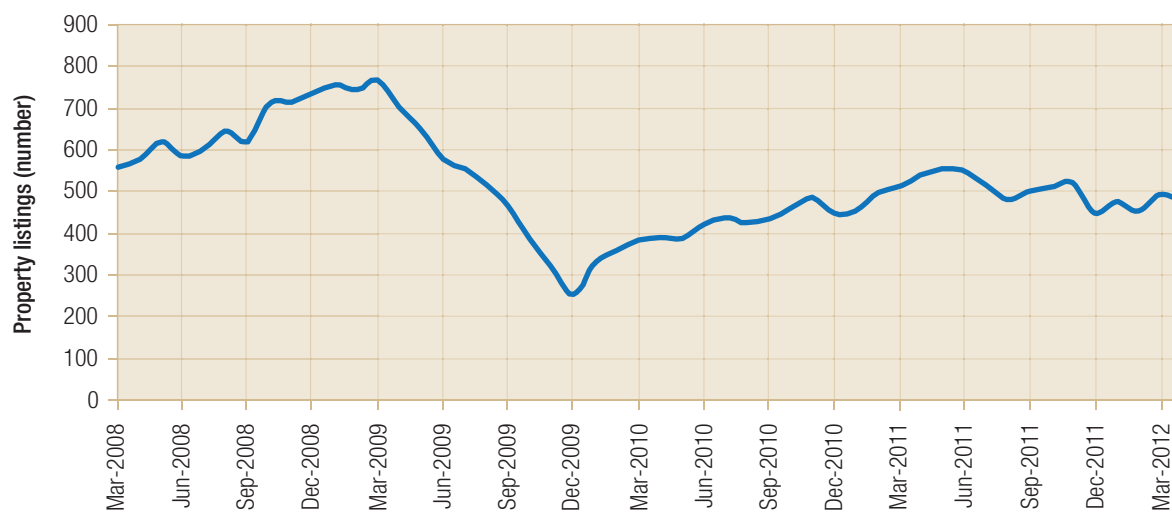
REIWA data show the stock of lots listed for sale steadily rose until the global financial crisis, when the number of listed lots began to fall – declining over a nine month period. Vacant lot listings in the Central sub-region reached a low in early 2010 and although they have since increased and stabilised, have not returned to the high level experienced during the housing boom.

Figure 40: Residential lots on market (UDIA member developers)



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

Figure 41: Vacant lots listed for sale with real estate agents



Source: Real Estate Institute of Western Australia.

3.6.3 Lots not available to the market

The Urban Development Institute of Australia also collects information from developers on the number of lots that have reached practical completion that are not being made available for sale for various reasons, including:

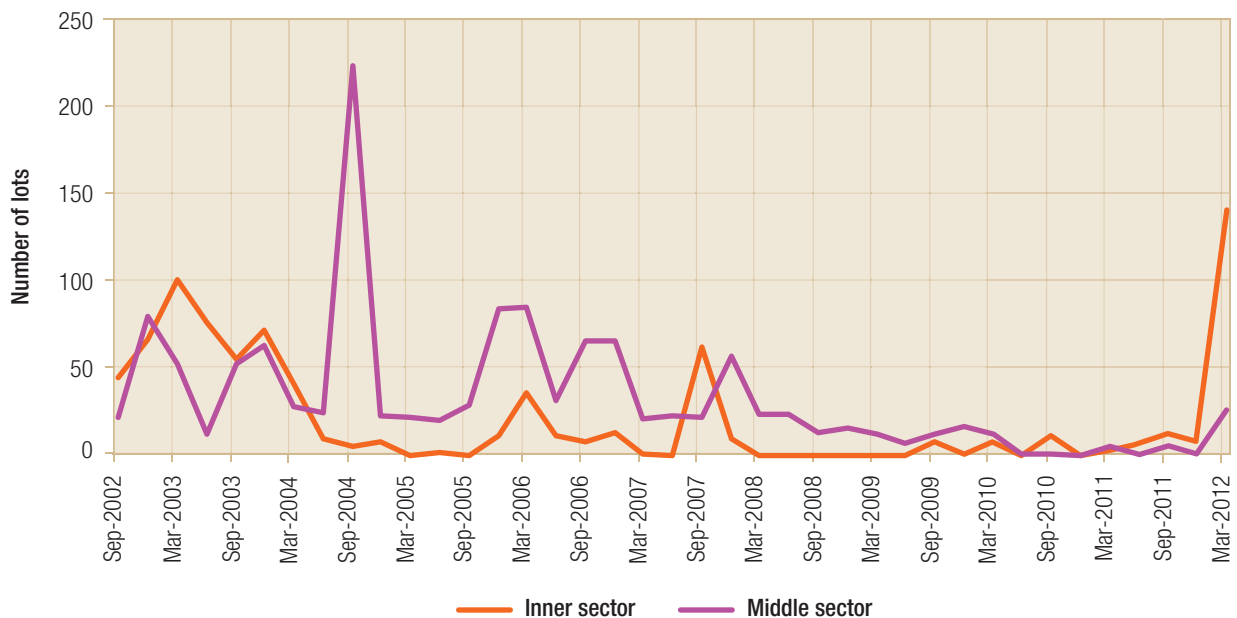
- clearance delays (on subdivision conditions);
- issue of title; and
- marketing issues.

Figure 42 indicates that a few projects with large numbers of dwellings have been prevented from reaching the market immediately, but that the issues were generally resolved quickly, preventing excessive delays.

3.6.4 Stock of properties available

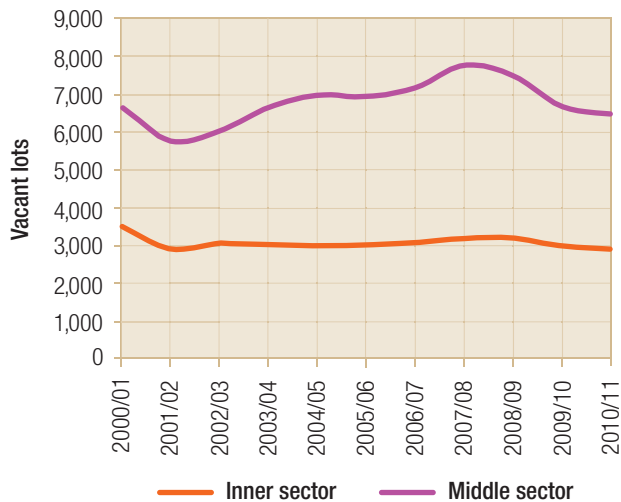
In addition to vacant lots available for sale or recently created, there is generally a stock of vacant lots in urban areas that are latent for some reason. The Water Corporation tracks the number of vacant lots connected to the water mains. As at June 2011 there were 9,596 vacant, serviced lots in the Central sub-region, which constitutes approximately 29 per cent of the total for the Perth and Peel metropolitan area. Figure 43 shows that the stock of vacant serviced lots in the inner sector remained stable throughout the time series. The stock of serviced lots in the middle sector reached a high of 7,741 in 2007/08 but declined by almost 1,300 lots in the three years to 2010/11.

Figure 42: Lots not on market (UDIA member developers)



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

Figure 43: Stock of vacant serviced lots

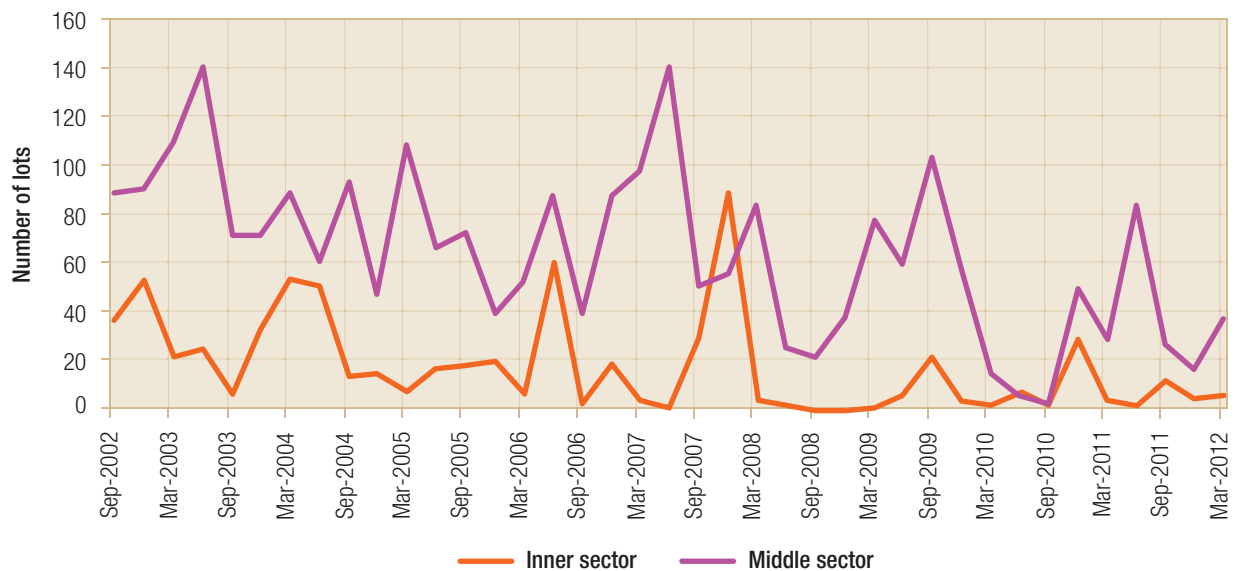


Source: Water Corporation, 2012.

3.6.5 Lots sold

The number of lots sold by UDIA members (including lots presold prior to development or issue of titles) is indicated in Figure 44. Lot sales are typically volatile due to the infrequent release of large subdivisions in the Central sub-region. After a comparatively high number of sales during 2009, few lots were sold during 2010. Low lot numbers and seeming volatility indicated in Figure 44 are largely a result of limited participation of UDIA member developers in Central sub-region projects.

Figure 44: Lots sold (UDIA member developers)



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

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 also a leading indicator of demand.

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 45 shows the trend since 2003/04 for the inner and middle sectors of the central sub-region compared to the Perth metropolitan region.

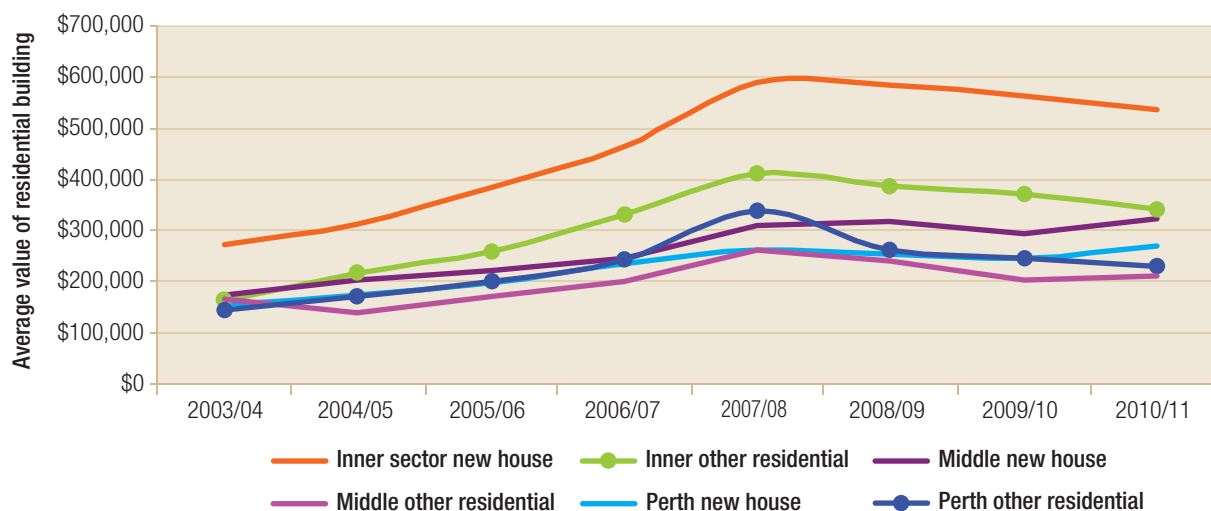
The construction of premium new houses, and to a lesser degree other residential dwellings in the inner sector showed a very strong growth between 2003/04 and 2007/08, with the average new dwelling approximately doubling in construction cost. Since then the value of the average new dwelling in the inner sector has eased each year.

The trend for new dwellings in the middle sector has been relatively flat in comparison and much closer to the overall average for the Perth metropolitan region.

3.7.2 Stock of dwellings available to the market

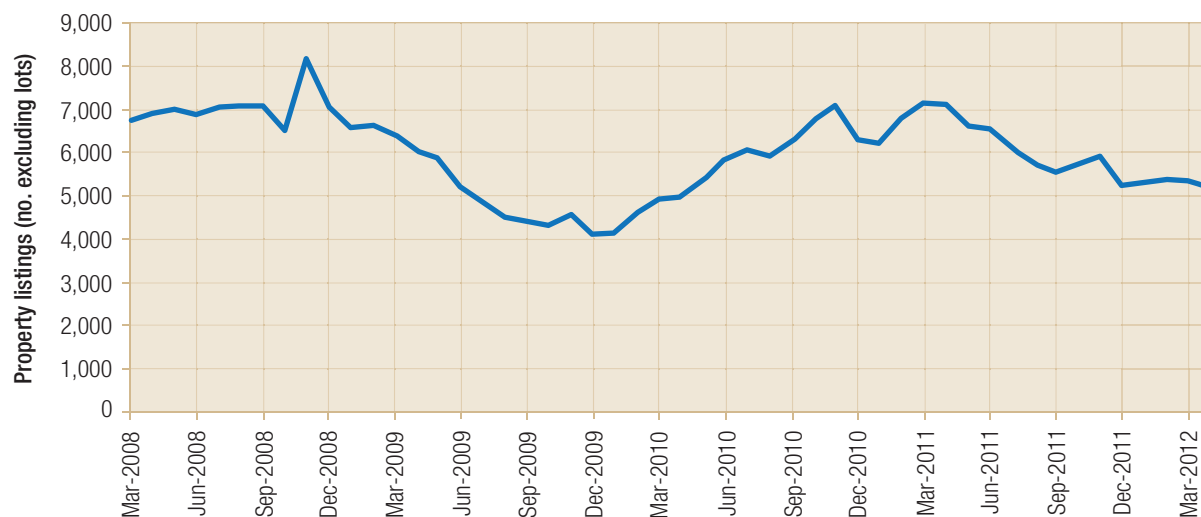
Figure 46 illustrates the decline in property listings in the Central sub-region after the onset of the global financial crisis. Listings reached a low in early 2010 at just over 4,000 lots representing a sellers' market. Since then, listings returned to similar levels to those experienced in 2008 before declining consistently in the 12 months to March 2012.

Figure 45: Average value of residential building



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

Figure 46: Properties (excluding vacant lots) listed for sale with real estate agents



Source: Real Estate Institute of Western Australia.

Table 11: Land consumption for urban development and dwelling density

Land consumption	Inner sector	Middle sector	Total Central sub-region
Hectares per year			
18 year average (1991-2008)	30	81	111
5 year average (2004-2008)	17	43	60
2 year average (2007-2008)	17	38	55

Dwelling density (Frontal development)	Inner sector	Middle sector	Total Central sub-region
Dwellings per zoned hectare			
Average 1991-2008	18.18	10.37	12.46
Minimum over period	11.34	5.54	7.60
Maximum over period	44.58	15.43	20.96

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

3.7.3 Land consumption and density

Between 1991 and 2008, new dwelling development (dwelling completions) on average have consumed 111 hectares of land each year (Table 11, Figures 47, 48 and 49). Now only 440 hectares of zoned land remains undeveloped in the Central sub-region, of which 310 hectares is committed to non-residential use. Future development will therefore need to optimise infill and redevelopment opportunities to increase density, enabling significant population growth in the Central sub-region.

Figure 47: Land consumption and density – Central sub-region

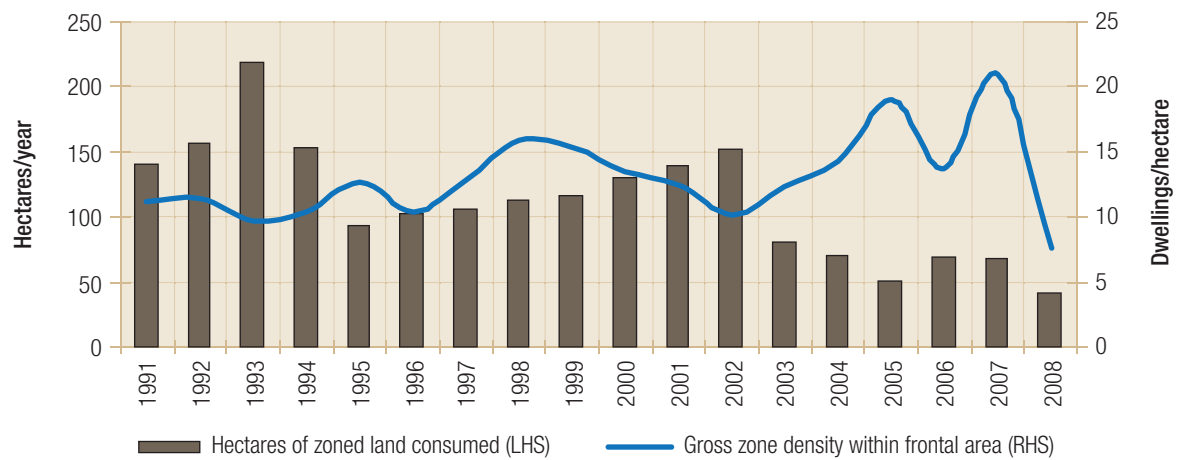


Figure 48: Land consumption and density – inner sector

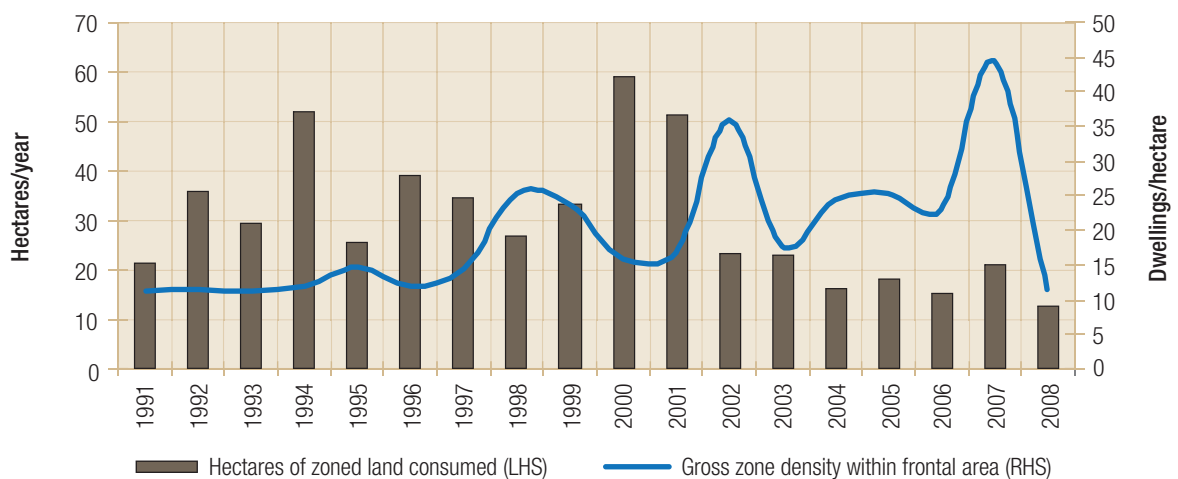
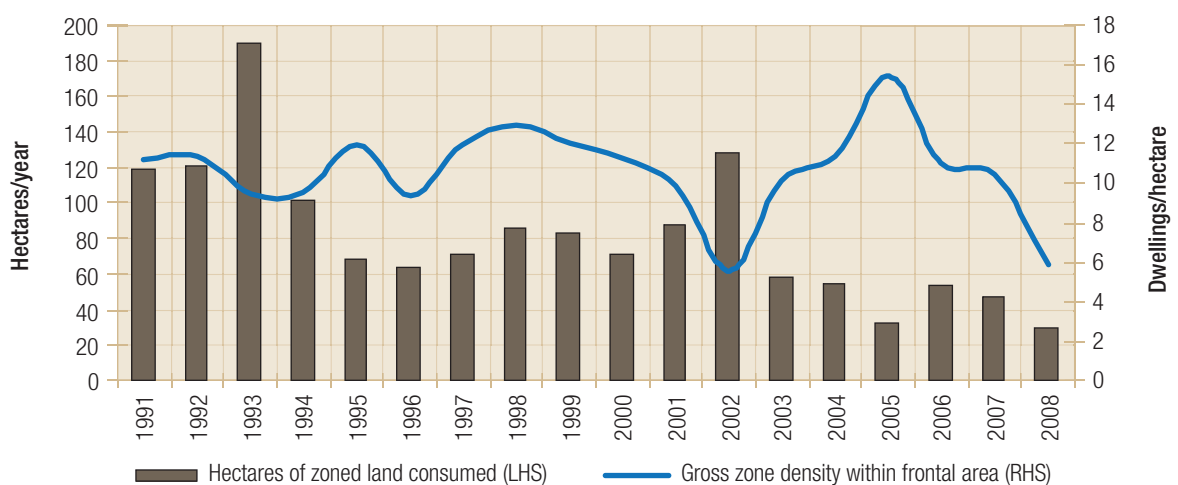


Figure 49: Land consumption and density – middle sector



Source (Figures 26, 27, 28): Western Australian Planning Commission (2011), Urban Growth Monitor (unpublished data).

3.8 Infill development and redevelopment

Directions 2031 and Beyond has set a target for 37 per cent of development in the Perth metropolitan area to be infill in the Central sub-region. Given the highly developed nature of the sub-region, essentially all development is infill. Achieving this target will require a significant change to existing patterns of development.

The most suitable sites to accommodate such development are likely to be those located in places with existing high levels of amenity, suitable zonings and densities, receptive communities and those areas which have the potential for financial return to attract private investors. The draft *Central Metropolitan Perth Sub-regional Strategy* identifies 59 key growth areas within the sub-region that are expected to yield between 102,000 and 142,000 dwellings by 2031.

In addition to planned growth areas, the Central sub-region will also accommodate small-scale incremental development across all local government areas. In total, this growth is expected to be in the order of 40,000 dwellings to 2031.

Figure 50 and Figure 51 show the proportion of new dwellings constructed in the urban extent of the inner and middle sectors as at 2001. Given the highly developed nature of the Central sub-region, level of development 'outside' the 2001 urban extent is closely linked to availability of development sites located within the sub-region, but which fall outside the 2001 urban extent. Although the vast majority of dwellings constructed in the sub-region are within the 2001 urban extent, there is an increase in 'outside' projects after 2001, as the remaining pockets of vacant land were developed.

Figure 50: Cumulative percentage of new dwellings relative to 2001 urban extent – inner sector

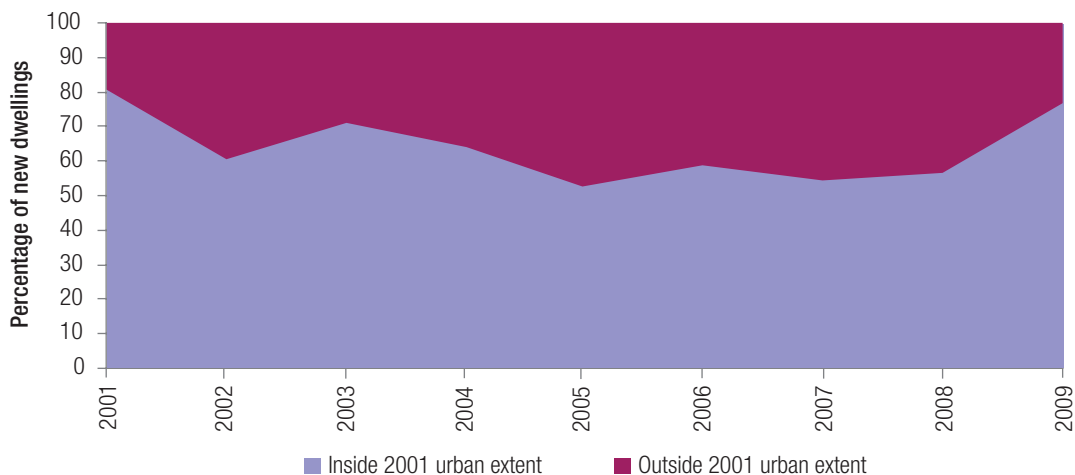
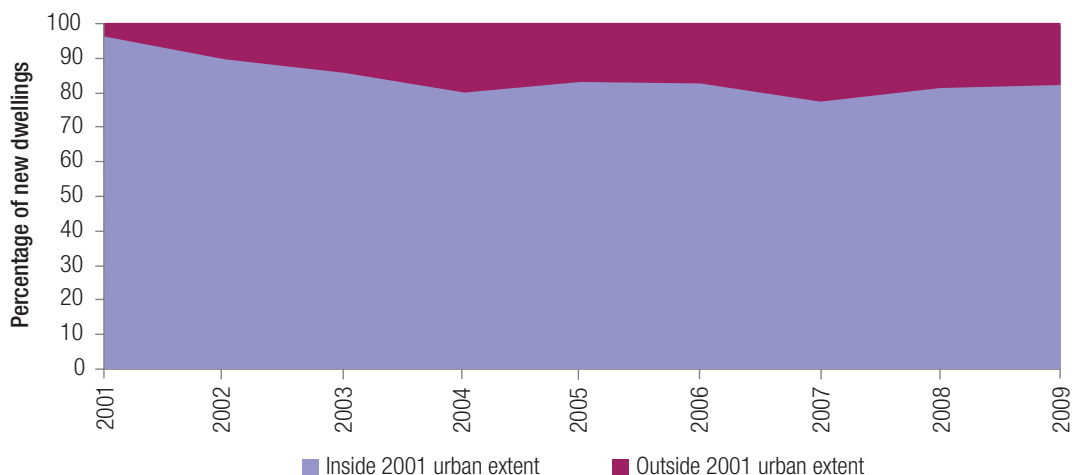


Figure 51: Cumulative percentage of new dwellings relative to 2001 urban extent – middle sector



Source: Department of Planning (unpublished data).

4 Industrial and commercial land demand and supply

4.1 Commercial development

Table 12 provides statistics for commercial subdivision approvals in the Central sub-region for 2011. The Central sub-region contains many of Perth's major commercial centres and during the 12 months to December 2011, 47 per cent of final approvals for commercial lots in the Perth and Peel metropolitan area were in the Central sub-region.

Since March 2004, the Central sub-region has had the highest levels of commercial subdivision activity in Western Australia. Although the South-west sub-region currently has a greater stock of conditionally approved commercial lots, there has been a high level of commercial subdivision activity in the sub-region in the 12 months to December 2011. During that time more than half of the conditional approvals granted for commercial lots in the metropolitan area were in the Central sub-region (Figure 52).

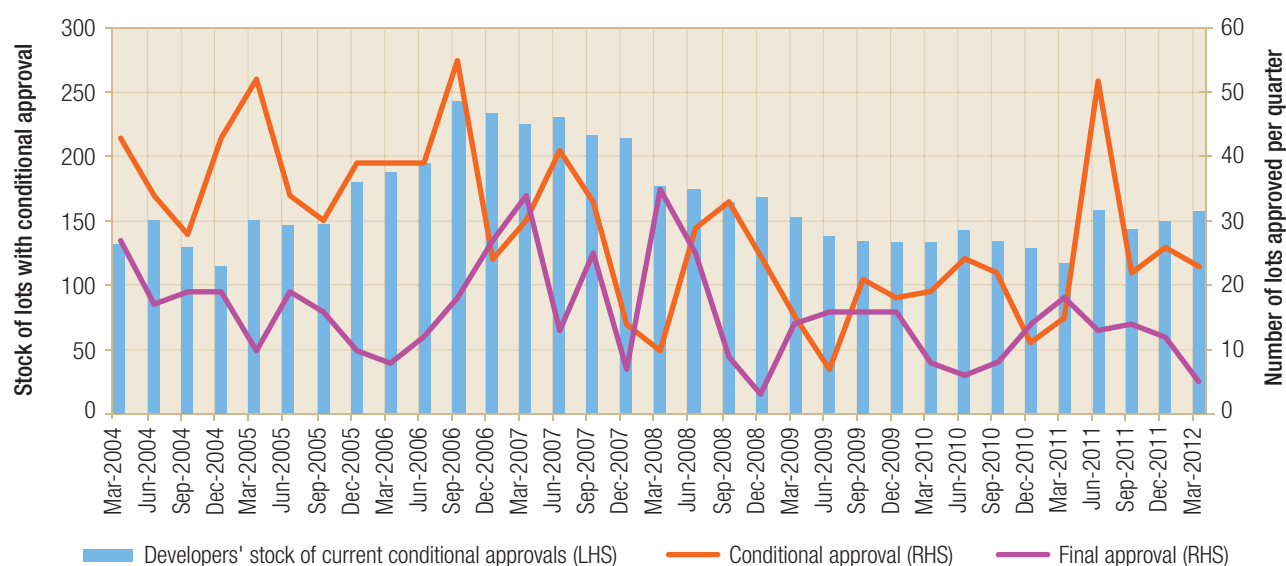
Table 12: Commercial subdivision approvals

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
Inner Sector	52	33	24	17	6	31
Middle Sector	53	49	91	133	88	26
Central sub-region	105	82	115	150	94	57

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 52: Commercial subdivision approvals



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

The Central sub-region is the main hub for commercial activity in the Perth and Peel metropolitan area. The estimated total value of commercial sector construction in the Central sub-region constitutes approximately 81 percent of the total for this type of development in the Perth and Peel metropolitan region.

Analysis of development applications and approvals for commercial developments suggests that the areas drawing most interest from investors in the inner sector include Perth, Burswood, Nedlands, Subiaco and Karawara. In the middle sector there are several key commercial areas attracting investment including Osborne Park, Morley, Parkwood, Cannington, Innaloo and Karrinyup (See Map 1 – infrastructure and development). There are also several suburbs in this sub-region with significant investment in residential and infrastructure projects but little investment in the commercial sector. The most prominent of these include Ashfield, Balga, Bassendean, East Cannington, Joondanna, Lynwood, Murdoch, Nollamara and Westminster.

Table 13 provides a list of selected major commercial sector construction projects of the Central sub-region.

Table 13: Major commercial projects

Project	Location	Description	Completion
Stockland Riverton Shopping Centre	Parkwood	Shopping centre expansion	2009
Claremont Quarter (stage 2)	Claremont	Second stage of the Claremont Quarter adds 15,500 m ² of retail space to the centre	2011
One40william	Perth	Office development includes 6,500 m ² of retail space	2011
Coventry Square Markets	Morley	20,000 m ² market space	2012
Raine Square	Perth	Office development will include 3 levels of retail space	2012
City Square (stage two)	Perth	17 level office tower providing 30,800 sq meters of office space	2015
999 West Hay	Perth	10,800m ² office development	2014
Kings Square, Wellington Street	Perth	20,000m ² office development	2014
Crown Towers Hotel and Casino expansion (not yet approved)	Burswood	500 room hotel plus casino complex expansion	2016

Source: Business News 04/11/2010, Department of Planning analysis (data not verified).

4.2 Industrial development

Table 14 provides a breakdown of industrial zoned land in the *Metropolitan Region Scheme* (MRS) for each of the local government authorities in the Central sub-region:

Table 14: Industrial zoned land (Metropolitan Region Scheme) in the Central sub-region

Sector	Local government authority	Industrial zoned land (ha) as at July 2012	Percentage of sub-region total
Inner	Cambridge	0	0
	Claremont	0	0
	Cottesloe	0	0
	East Fremantle	0	0
	Fremantle	197.9	6.6
	Mosman Park	1.8	0.1
	Nedlands	0	0
	Peppermint Grove	0	0
	Perth	0.5	0
	South Perth	0	0
	Subiaco	10.6	0.4
	Victoria Park	67.0	2.2
	Vincent	0	0
Middle	Bassendean	144.9	4.8
	Bayswater	207.8	7.0
	Belmont	408.7	13.7
	Canning	1,387.4	46.5
	Melville	88.1	3.0
	Stirling	467.3	15.7
Central sub-region		2,982.0	100.0

Source: Department of Planning internal database (2012).

Table 14 illustrates that Canning provides the most industrial zoned land under the MRS (46.17 per cent) in the sub-region; with eight local government authorities in the sub-region not having any industrial zoned land.

Industrial zones in the Central sub-region provide the highest number of jobs (95,000) outside of the Perth and West Perth business districts. Industrial centres are focussed on providing a range of commercial and industrial products and services to the metropolitan region and its hinterland. Table 15 provides a further breakdown of vacant and developed land for industrial complexes in the Central 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 15: Industrial complexes in the Central sub-region

Complex	Developed (ha)	Vacant (ha)	Total (ha)	Percentage of vacant land
Balcatta	166	18	184	9.8
Bassendean	115	72	187	38.5
Bayswater	100	13	113	11.5
Belmont	68	14	82	17.1
Canning Vale	454	102	556	18.3
East Perth	0	9	9	100.0
Jolimont	3	5	8	62.5
Kewdale	242	29	271	10.7
Myaree	48	3	51	5.9
North Fremantle	1	1	2	50.0
O'Connor	130	17	147	11.6
Osborne Park	202	13	215	6.0
Port Beach	25	5	30	16.7
West Perth	6.5	0.5	7	7.1
Welshpool - East	306	51	357	14.3
Welshpool - West	308	50	358	14.0
Total	2,174.5	402.5	2,577	15.6

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

Industrial land issues in the Central sub-region identified in the Perth and Peel Industrial Land Strategy (EELS)

- Erosion of industrial land within inner metropolitan sites at the expense of higher order uses without due consideration of the regional implications.
- Encroachment of residential and commercial land uses in and around industrial areas because of the perceived higher land values of commercial and residential land uses.
- The need to protect existing key strategically located industrial facilities (ie. concrete batching plants).

Table 16 provides statistics for industrial subdivision approvals in the Central sub-region for the year to June 2011.

Future industrial growth is limited for the Central sub-region, as most sites are nearing capacity. Most future demand will have to be met by other sub-regions within Perth and Peel or through an intensification of land uses in the sub-region for industrial purposes. The industrial lot balance has decreased over the last six years, reflecting rapid development of industrial areas outside the sub-region (e.g. Malaga) in the first half of last decade (Figure 53).

Major industrial structure plans in the Central sub-region include the Kewdale-Hazelmere Integrated Masterplan.

Analysis of development applications and approvals for industrial developments indicates that the Central sub-region is continuing to draw a large amount of investment in industrial sector construction. The estimated total value of industrial sector construction projects in the Central sub-region constitutes approximately 18 per cent of the total for this type of project across the metropolitan area. With little scope for new projects in the inner sector of the sub-region however, the vast majority of industrial developments occur toward the sub-region's fringe.

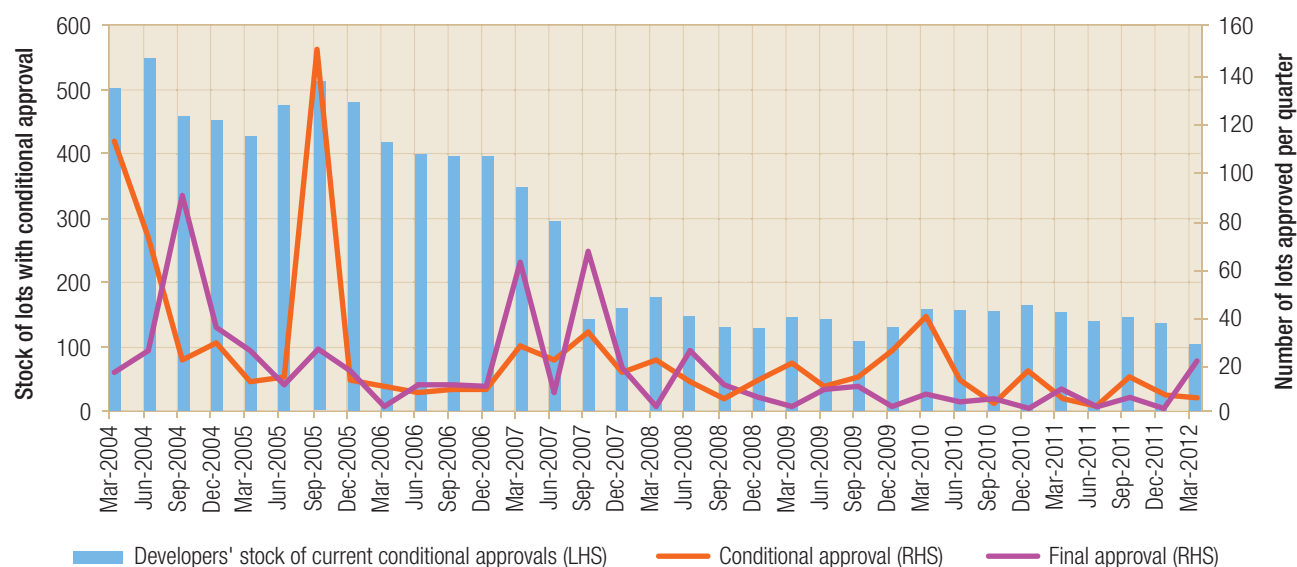
Table 16: Industrial subdivision approvals

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
Inner Sector	10	8	5	5	5	2
Middle Sector	33	10	22	135	30	15
Central sub-region	43	18	27	140	35	17

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 53: Industrial subdivision approvals



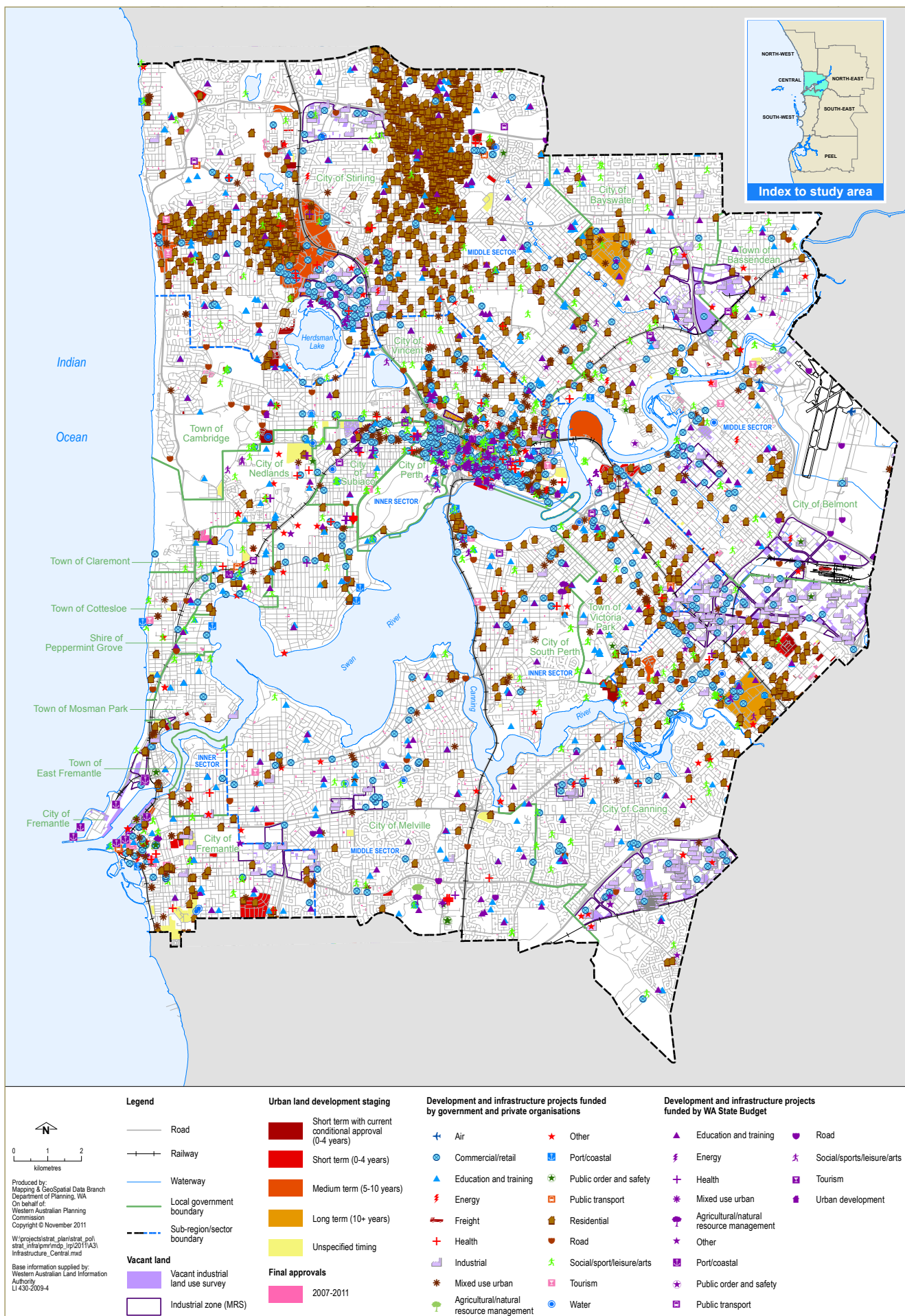
Source: Western Australian Planning Commission 2012, State Lot Activity.

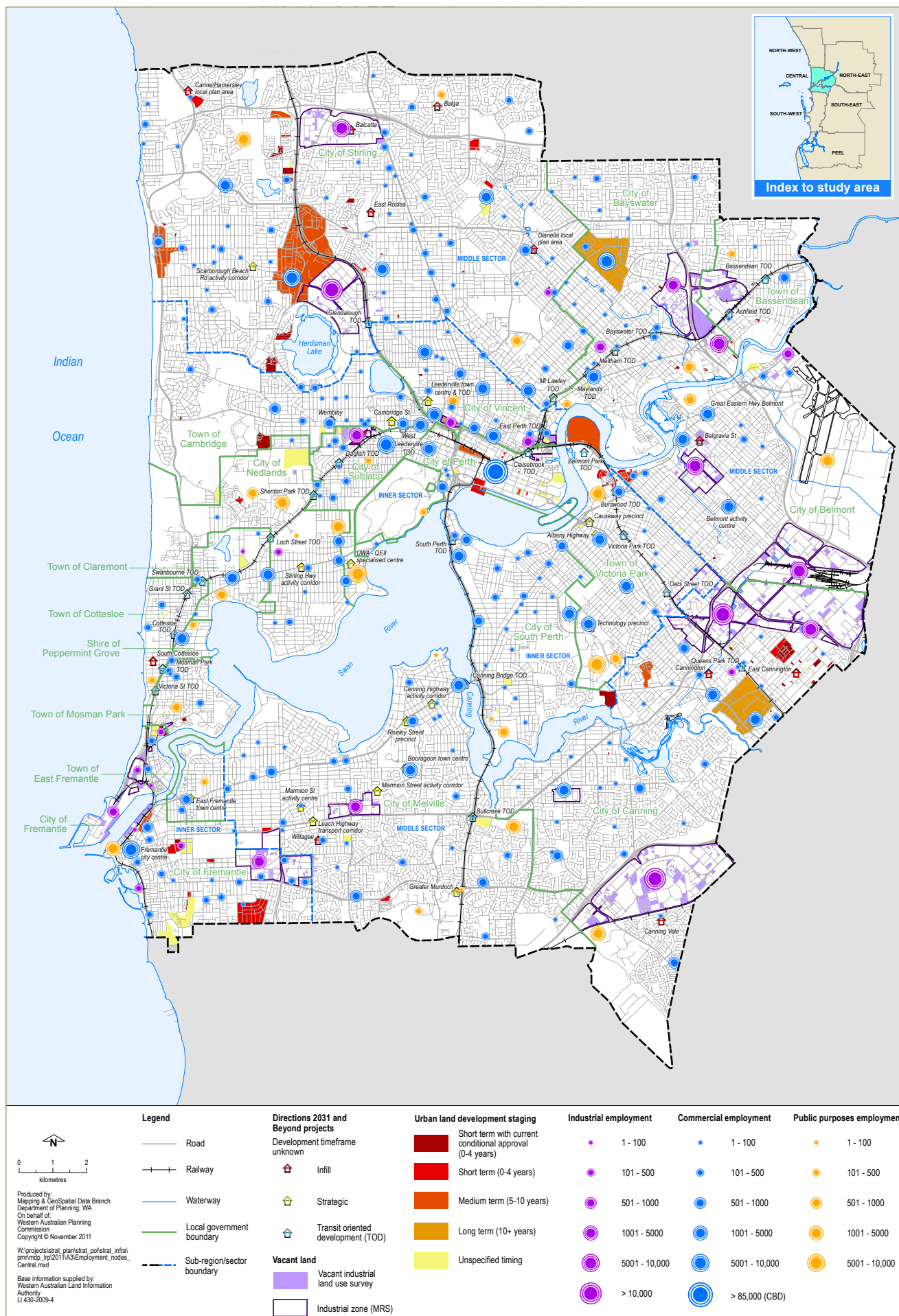
While there is some centralised development in traditional industrial centres like Fremantle and Victoria Park, the sub-region currently draws most investment for industrial sector construction projects in areas further east. There are large numbers of industrial construction projects in Canning Vale and Welshpool. There is also significant industrial construction activity in Balcatta, Bayswater and Osborne Park (See Map 1 – infrastructure and development).

Major industrial projects of the Central sub-region include:⁷

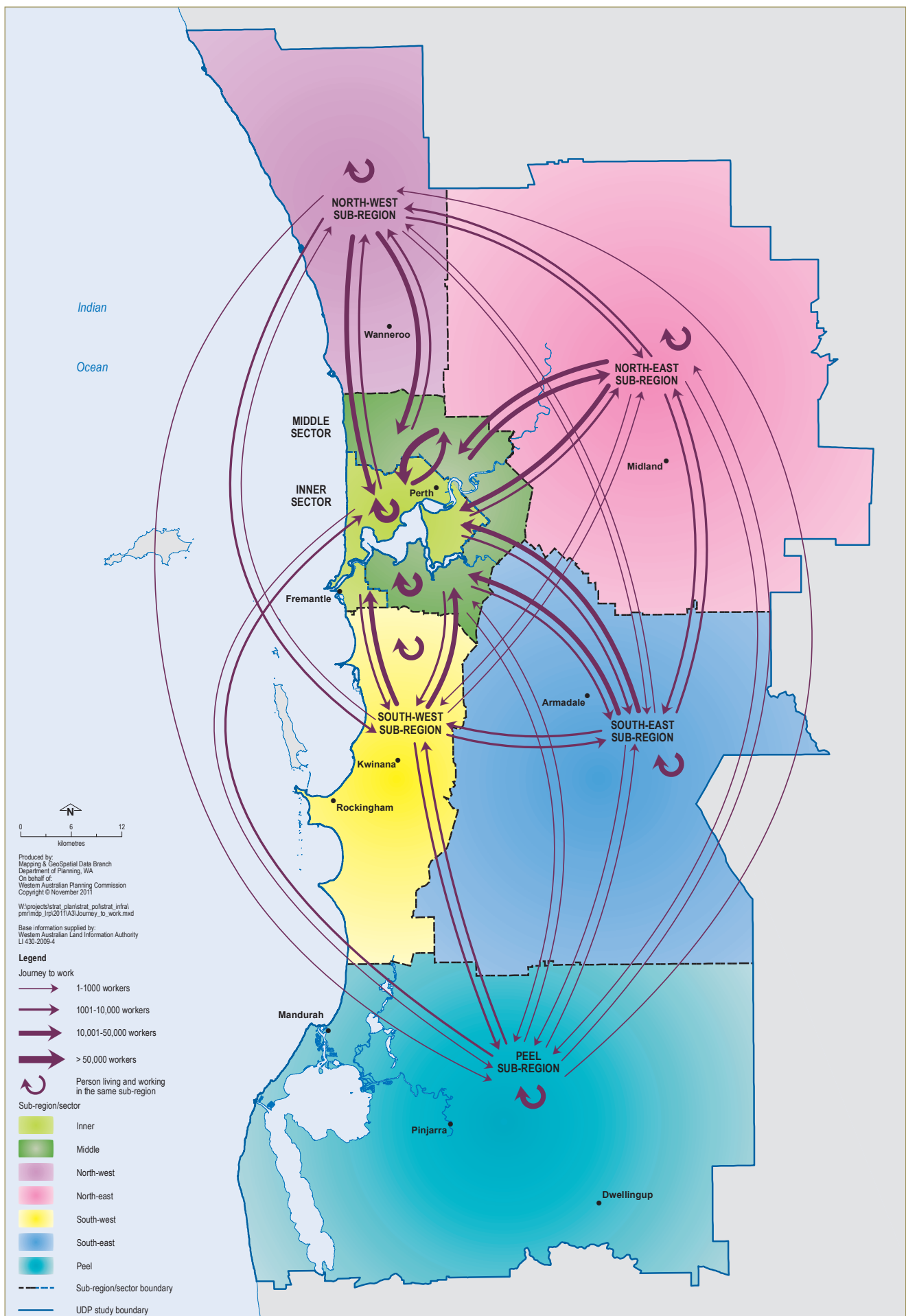
- Bannister Road warehouse development (Canning Vale)
- Dowd Street warehouse development (Welshpool)
- Gauge Circuit Factory (Canning Vale)
- Parkland Road industrial building (Osborne Park)
- Linfox Australia warehouse development (Perth Airport).

⁷ Department of Planning analysis





Map 2: Employment nodes - Central sub-region



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

