



Department of **Planning,
Lands and Heritage**



Western
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Commission

Wheatbelt Gingin

Regional Land Supply Assessment

February 2019



Gingin

Regional Land Supply Assessment



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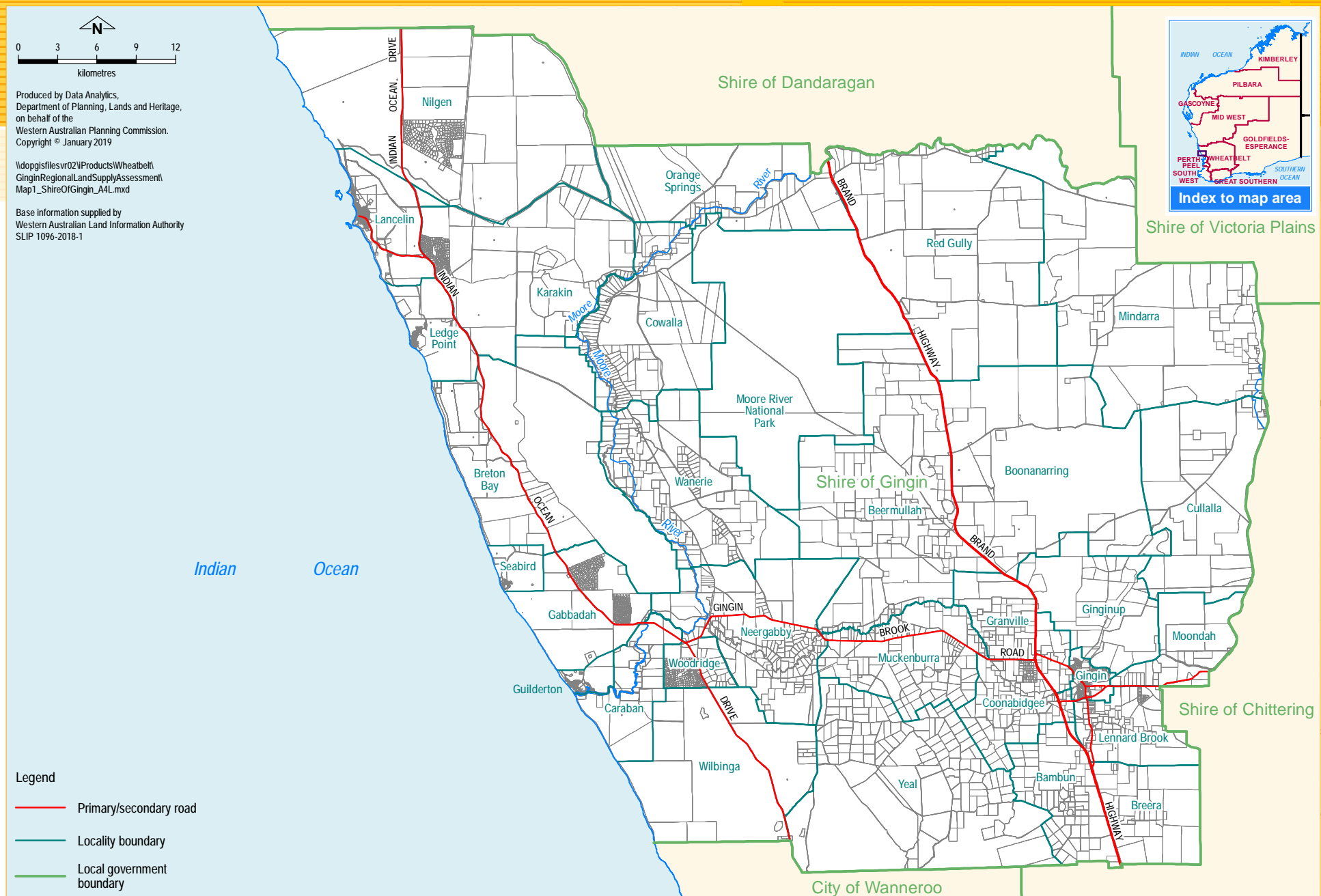
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1 Regional Land Supply Assessments and the Urban Development Program

Regional Land Supply Assessments are prepared as a component of the Western Australian Planning Commission's (WAPC) Urban Development Program (UDP), which tracks and models land supply as per the requirements outlined in the *Planning and Development Act 2005*. The WAPC is responsible for developing models to better understand land supply and development, promoting this understanding as part of the land-use planning and development process and better aligning the provision of infrastructure.

Regional Land Supply Assessments assess land for future residential, industrial and commercial uses, providing context for the land-use planning and infrastructure provision required to meet demand across selected regional centres. This report provides information on:

- demand drivers specific to the Shire of Gingin, including the major economic factors that influence employment and population growth, and therefore, the demand for land and housing
- zoned land supply for residential, industrial and commercial uses
- development constraints
- recent and future land development activity
- existing and required physical infrastructure.



Map 1: Shire of Gingin

2 Key points

Population

- The Shire of Gingin (the Shire) covers an area of 3,223 km² in Western Australia's Wheatbelt region. It is the Wheatbelt's third most populous local government area, with an estimated resident population (ERP) of 5,287 as at June 2017. This accounted for 7.1 per cent of the total ERP for the Wheatbelt at June 2017.
- The Shire's settlement pattern is characterised by four coastal towns (Guilderton, Lancelin, Ledge Point and Seabird) and the town of Gingin, the Shire's largest inland settlement.
- Large rural residential settlements exist in Nilgen (north-east of Lancelin), Karakin (south-east of Lancelin), Gabbadah (east of Seabird) and Woodridge (east of Guilderton).
- Over the decade to 2017, the Shire recorded an average annual population growth rate of 1.5 per cent. Comparatively, Western Australia and the Wheatbelt region recorded average annual population growth rates of 2.1 per cent and 0.5 per cent respectively.

Distribution, occupancy and future trends

- The *Shire of Gingin Local Planning Strategy* (2012) sets out a plan to concentrate growth in the Shire's existing settlements, including Gingin, Lancelin and Guilderton.
- Large future residential development areas are proposed in the localities of Lancelin (Lancelin South) and Caraban (Moore River South). Together, these areas are expected to provide for approximately 5,900 dwellings.
- The Shire's proximity to metropolitan Perth may also be a driver for population growth in the long-term.
- The latest *WA Tomorrow* population forecasts (published in 2015) project an average annual growth rate of 1.5 per cent (2011 to 2026) based on the median (Band C) forecast for the Shire.

- At the 2016 Census, the majority of the Shire's residents lived in the localities of Gingin (16 per cent), Lancelin (14 per cent), Gabbadah (13 per cent) and Woodridge (12 per cent).
- The Shire recorded a dwelling occupancy rate of 52.3 per cent. This is much lower than the dwelling occupancy rate recorded for Western Australia (86.7 per cent) and is likely due to a higher proportion of holiday homes.
- The majority of dwellings in the Shire were detached houses with four or more bedrooms. Approximately 66.6 per cent of dwellings in the Shire were occupied by one or two residents, which suggests a mismatch between the stock and occupancy rates.

Key findings

- A hypothetical temporal land supply well into the long-term future has been identified. This supply has the potential to support an additional population of approximately 13,800.
- Analysis using the Integrated Regional Information System (IRIS) database indicates that approximately 21 per cent of land zoned for residential purposes is developed. The largest areas of undeveloped and unrated residential land exist in Gingin and the proposed development areas in Lancelin (Lancelin South) and Caraban (Moore River South).
- The majority of subdivision activity within the Shire has occurred on land zoned for residential purposes. Over the decade to June 2018, 91 residential lots were created.
- There is potential for residential consolidation through subdivision in areas within the Gingin, Guilderton, Lancelin and Ledge Point townsites; however, some of these areas require construction of reticulated wastewater systems.
- Areas in the Lancelin, Ledge Point and Seabird townsites are the only areas connected to reticulated sewerage in the Shire. The lack of a reticulated sewerage system may limit the development potential of several areas within the Shire.

- Approximately 3,620 hectares of land is zoned for rural living purposes, of which 53 per cent is developed. The majority of undeveloped stocks of rural living land are across the localities of Gabbadah, Karakin and Nilgen.
- Given the current stock of undeveloped land zoned for rural living purposes, the local planning strategy outlines a strong rationale to limit the re-zoning of land for rural living purposes in the short to medium term (10-15 years).
- The majority of industrial land in the Shire is 'rural industry' zoned and contained within the Frogmore Rural Industrial Area. Covering approximately 180 hectares, the majority of the land is developed (83 per cent).
- Commercial activity in the Shire is centred on the Lancelin townsite. Those lots in the townsite which are zoned for commercial activity are already largely developed.
- The local planning strategy also identifies areas in the Gingin, Ledge Point, Guilderton and Seabird townsites as future commercial to address limited land zoned for commercial purposes in the Shire.

3 Population

The Shire of Gingin covers an area of 3,223 km² of Western Australia's Wheatbelt region.¹ The Shire's settlement pattern is characterised by four coastal towns (Guilderton, Lancelin, Ledge Point and Seabird) and the town of Gingin, the Shire's largest inland settlement. Of the Shire's four coastal settlements, Lancelin is the northernmost settlement, located 129 kilometres north of Perth. The town of Gingin is located 83 kilometres north

east of Perth. The Shire abuts the northern border of metropolitan Perth, with the Shire's southern border located approximately ten kilometres from Yanchep.

This report refers to population and other indicator data relating to the Shire of Gingin. Depending on the context and the source of data, different geographical extents are discussed. A list of the various geographical extents used to describe and compare the Shire and its surrounds is shown in Table 1.

Table 1: Local and geographical extents

Geography	Description	Population at the 2016 Census ²	Area (square kilometres)
Wheatbelt region	The Wheatbelt region is comprised of five sub-regions and 42 local government areas.	73,614 ³	155,256 ⁴
Central Coast sub-region	The Central Coast sub-region is comprised of the shires of Dandaragan and Gingin.	8,430 ⁵	9,935 ⁶
Local government area	The Shire of Gingin is the third most populous local government area in the Wheatbelt region.	5,217	3,223
Locality/suburb	There are 31 localities/suburbs in the Shire of Gingin.	-	-
Urban Centres and Localities (UCLs)*	UCLs are a geographical unit that statistically describe Australian population centres with populations exceeding 200 persons. Centres with a core urban population of 1,000 persons or more are considered to be Urban Centres. Smaller centres with populations of 200 to 999 persons are considered to be Localities. It is important to note that the geographic extent of a UCL may change as the urban build out expands. There are four UCLs in the Shire of Gingin (Gabbadah, Gingin, Lancelin and Woodridge Estate).	-	-
Statistical Area Level 1 (SA1)*	SA1s are built from whole Mesh Blocks. They have been designed as the smallest area of output for the Census of Population and Housing. There are 12 SA1s in the Shire of Gingin.	-	-
Mesh Block*	Mesh Blocks are the smallest geographical area defined by the Australian Bureau of Statistics. Mesh Blocks are the building blocks for the larger regions of the Australian Statistical Geography Standard (ASGS). There are 189 Mesh Blocks in the Shire of Gingin.	-	-

Note: "*" refers to Australian Bureau of Statistics (ABS) geographies

Source: Australian Bureau of Statistics (2016) *Australian Statistical Geography Standard (ASGS). Catalogue No. 1270.0.55.001*

¹ Shire of Gingin (2017) *About Us*. Available online at <http://www.gingin.wa.gov.au>. Access date: October 2017

² Persons count based on place of usual residence on Census night

³ Denotes the combined population for all local government areas within the Wheatbelt region at the 2016 Census

⁴ Wheatbelt Development Commission (2017) *The Wheatbelt*. Available online at <http://www.wheatbelt.wa.gov.au/our-region>. Access date: October 2017

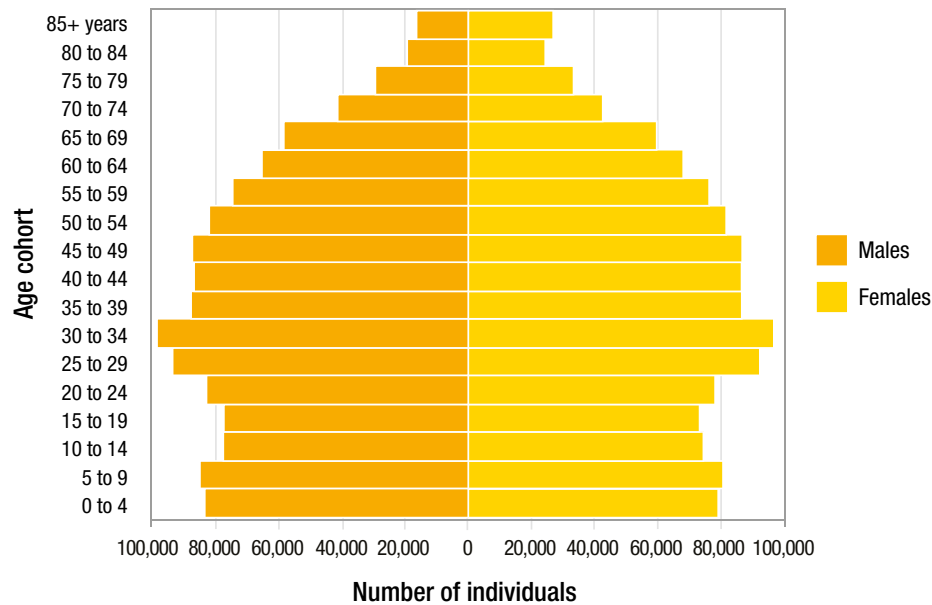
⁵ Denotes the combined population for the shires of Dandaragan and Gingin at the 2016 Census

⁶ Denotes the combined area for the shires of Dandaragan and Gingin

At the 2016 Census, the median age for the Shire's population was 47 years, which is considerably older than the median age for Western Australia (36 years) and the nation (38 years). There is a significant under-representation of persons aged 20 to 29 years in the Shire (9 per cent) compared to Western Australia (14 per cent). This is characteristic of many regional areas in Western Australia and can be attributed to young adults leaving the area to move to larger population centres for tertiary education or employment.

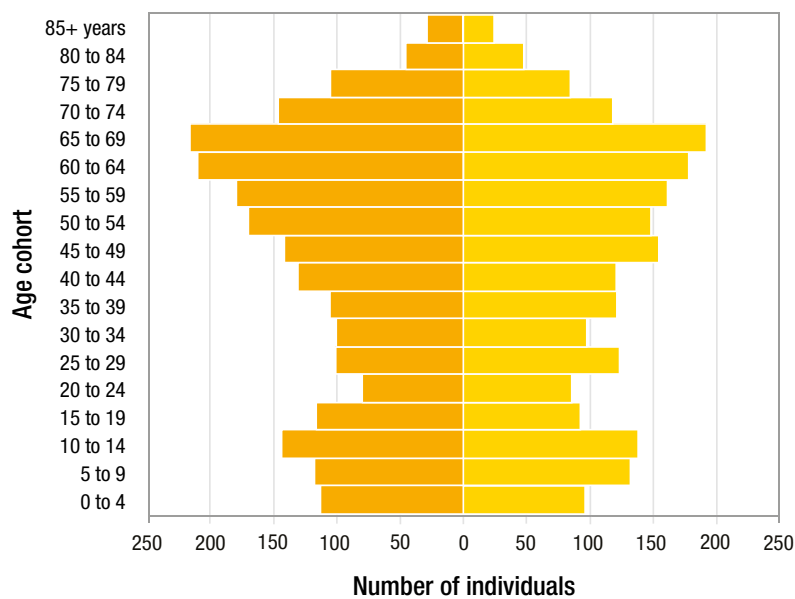
The Shire's demographic profile was relatively consistent across its localities in terms of having a higher proportion of older residents compared to young adults. In Guilderton, 41 per cent of residents were aged 65 or older, the highest proportion within a locality, followed by 35 per cent in Seabird. In comparison to the other localities, Gingin had the highest proportion of residents aged 0-14 (24 per cent) and 35-44 (14 per cent). It also had the lowest proportion of residents aged 65 or older (18 per cent). This indicates that it is likely to be the most popular locality for young families in the Shire. Although it has a lower proportion of its residents aged 65 or older, the actual number of residents within this age group is high in comparison to the other localities due to Gingin having a larger number of residents. The provision of housing diversity, aged care and health services is important in supporting this ageing population into the future.

Figure 1: Census 2016 Western Australia population profile

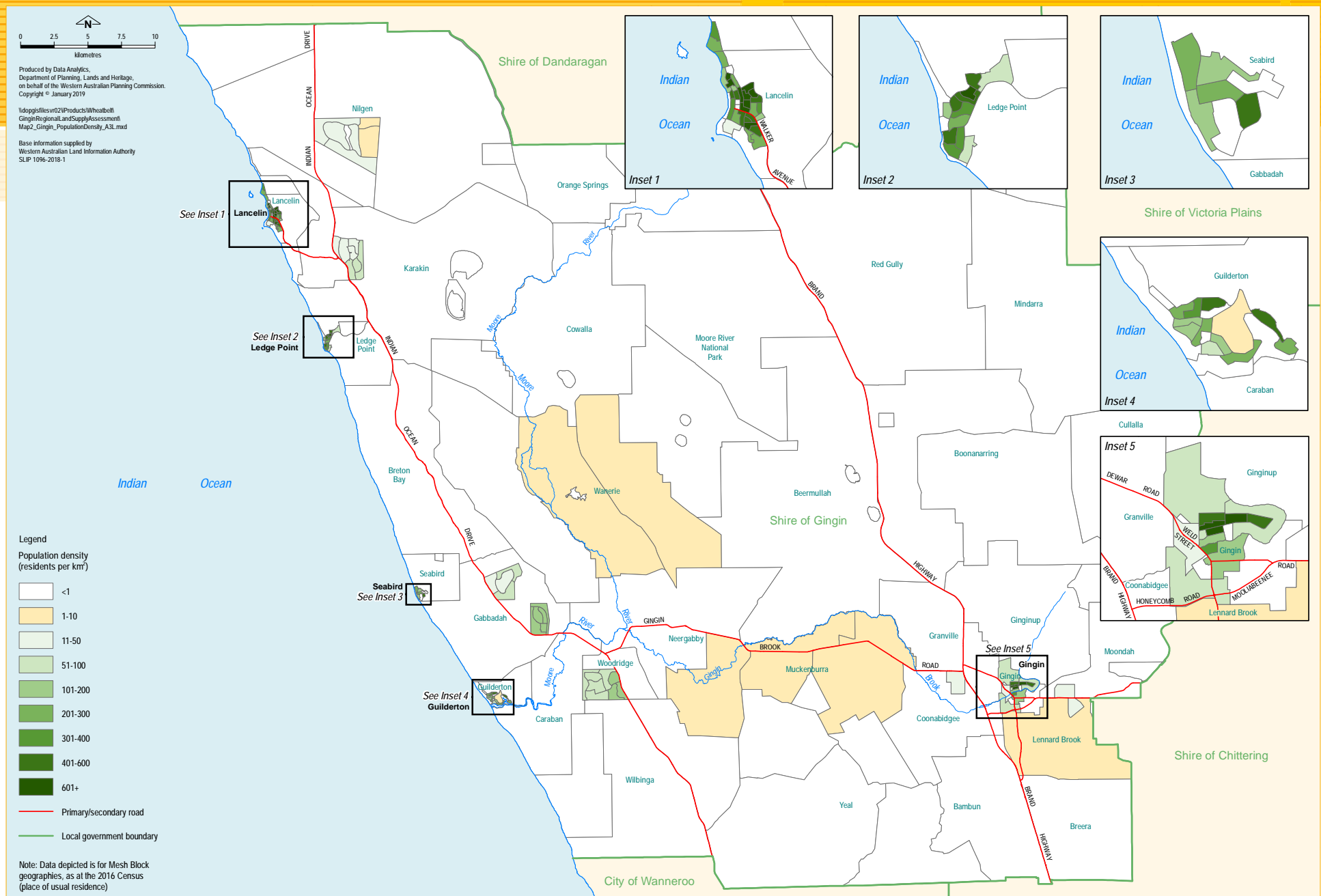


Source: Australian Bureau of Statistics (2017) *Census of Population and Housing: General Community Profile, Australia, 2016. Catalogue No. 2001.0*

Figure 2: Census 2016 Shire of Gingin population profile



Source: Australian Bureau of Statistics (2017) *Census of Population and Housing: General Community Profile, Australia, 2016. Catalogue No. 2001.0*



Map 2: Population density - 2016 Census (Mesh Block)

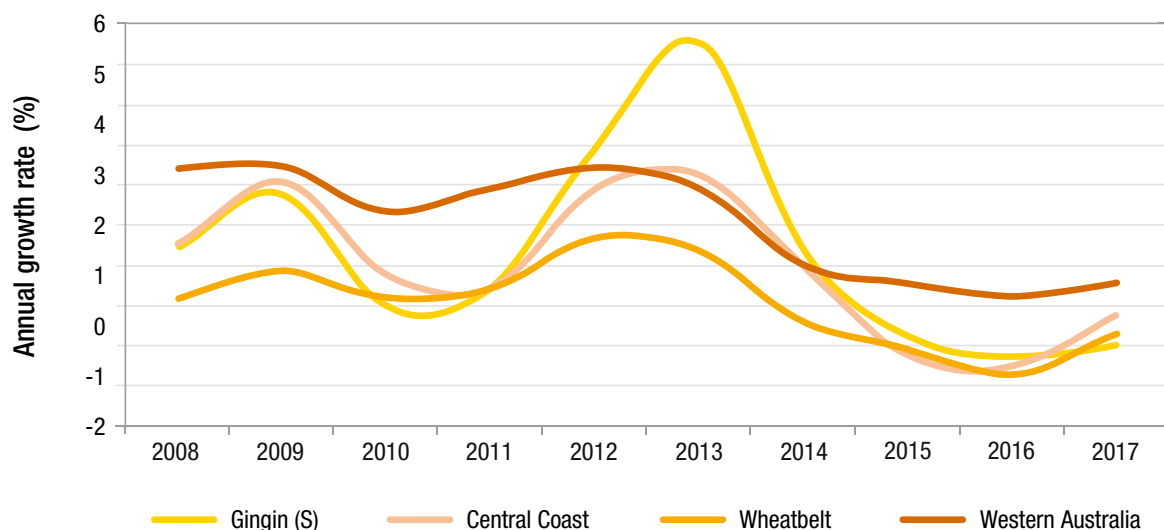
3.1 Population growth

The population data discussed in this section refer to the Australian Bureau of Statistics (ABS) estimated resident population (ERP). The ERP is the official estimate of the Australian population based on place of usual residence. Estimates of the resident population are calculated as at 30 June of each year for selected Australian Statistical Geography Standard (ASGS) geographies, including sub-state areas such as Statistical Areas Level 2 (SA2s) and Local Government Areas (LGAs).

Over the decade to June 2017, the Shire recorded an average annual population growth rate of 1.5 per cent, representing an average annual increase of 71 residents. This is lower than the average annual population growth rate recorded for Western Australia (2.1 per cent) but higher than the rates for the Wheatbelt region (0.5 per cent) and the Central Coast sub-region (1.2 per cent). The Shire accounted for 22 per cent of the Wheatbelt's total population growth over the 2007-2017 period.

Figure 3 depicts the ERP annual growth rate and shows that, for the most part, the Shire has recorded lower annual population growth rates than Western Australia. The exception to this is in 2013, when the Shire recorded a higher-than-average annual population growth rate of 5.6 per cent compared to 2.7 per cent for Western Australia. The anomaly is likely a result from the small sample size of the population. The Shire's proximity to Perth may, however, be a driver for population growth in the long-term.

Figure 3: Estimated resident population growth by year



Source: Australian Bureau of Statistics (2018) *Regional Population Growth, Australia, 2016-17*. Catalogue No. 3218.0

3.2 Population projections

WA *Tomorrow* forecasts, released in 2015, are prepared using 10,000 forecast permutations that emulate the variability in population change shown in historical data. Each permutation shows possible growth or decline in population, based on five variables (birth rate, death rate, net interstate migration, net intrastate migration and net overseas migration) that occur to varying degrees in each simulation.

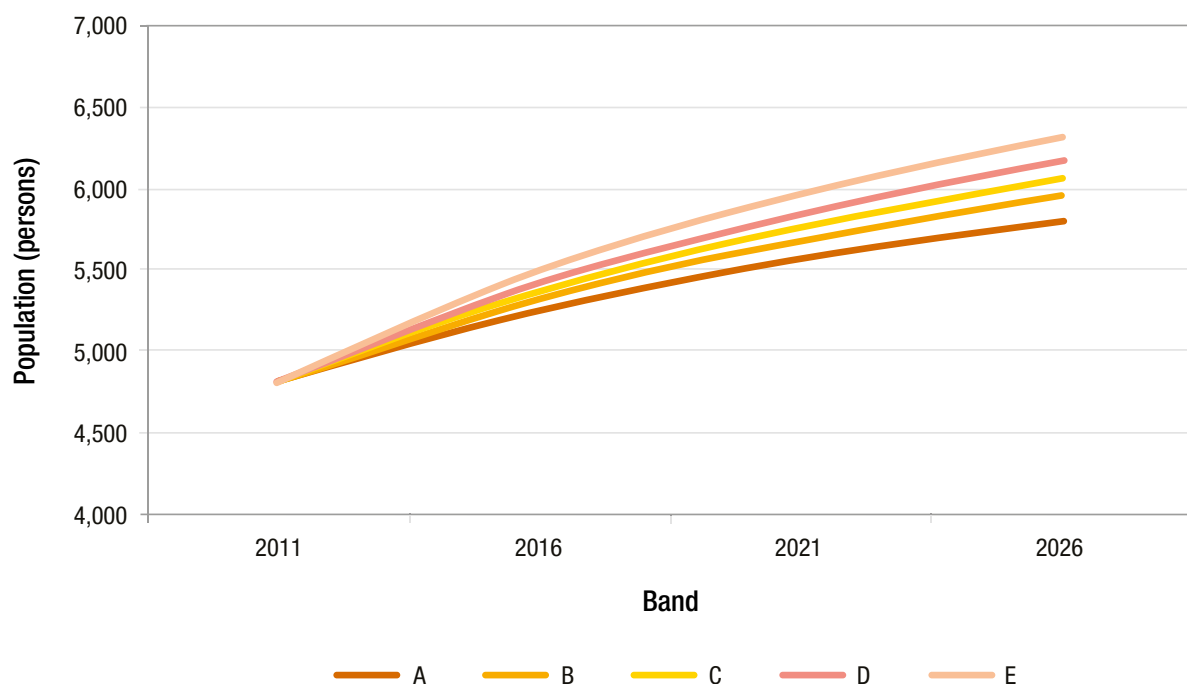
The range of WA *Tomorrow* forecasts are grouped into five 'bands', based on the projected rate of population change produced by each simulation. Each band includes one fifth of the permutations, with Band A representing the lowest quintile of projected population growth; Band C the median; and Band E the highest. The WA *Tomorrow* documents publish the median value of each quintile to give five forecasts for each SA2 and local government area in Western Australia.

A more detailed description of the methods and outputs of the WA *Tomorrow* research are available online at <http://www.planning.wa.gov.au/publications/6194.aspx>.

Figure 4 shows the WA *Tomorrow* forecasts for the Shire of Gingin for Bands A to E. The resulting projected population for the Shire under the median (Band C) forecast is 6,060 persons in 2026. Achieving this population from a 2011 baseline will require an average annual population increase of 83 persons, or an average annual growth rate of 1.5 per cent. In comparison, the highest (Band E) forecast is 6,320 persons by 2026. Achieving this population from a 2011 baseline will require a slightly higher average annual population increase of 100 persons, or an average annual growth rate of 1.8 per cent.

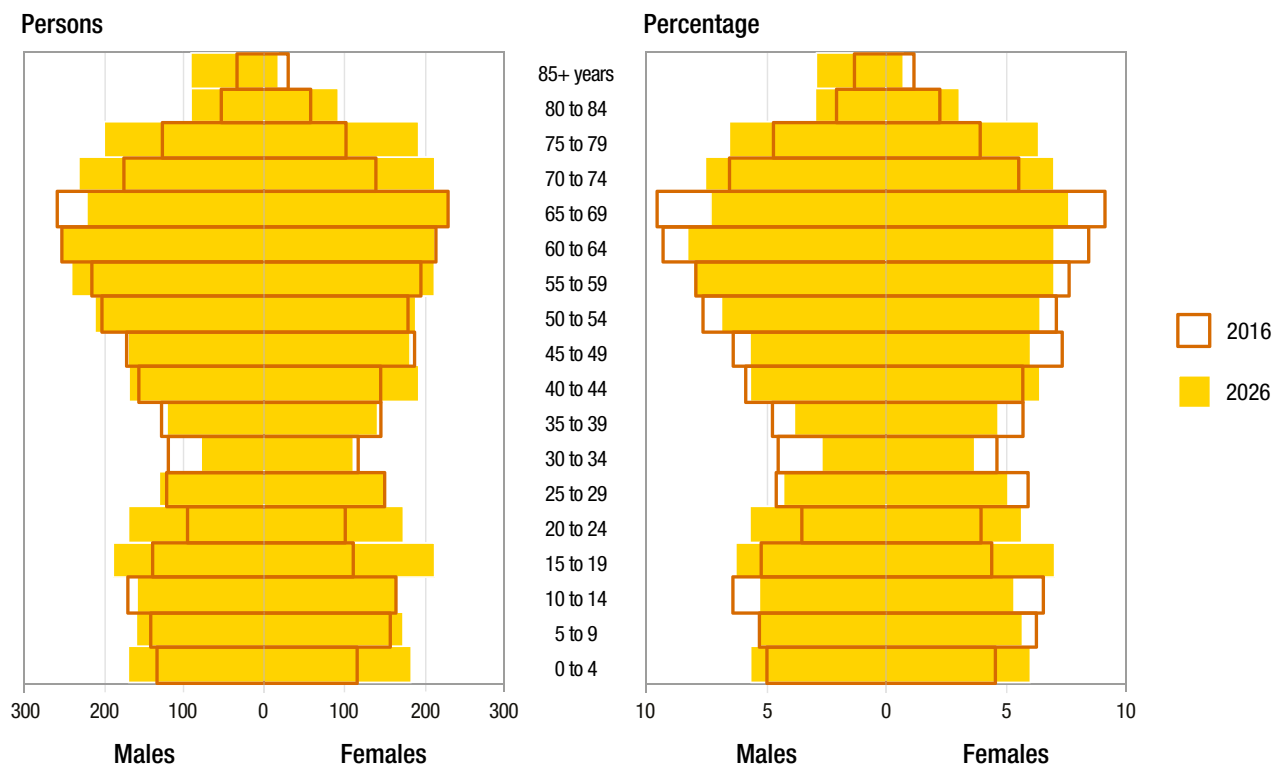
The demographic profile of the Shire is anticipated to change slightly by 2026. Figure 5 shows the population profile of the Shire at the 2016 Census and the WA *Tomorrow* median (Band C) forecast for the Shire's population at 2026.

Figure 4: Forecast population growth - Shire of Gingin



Source: Western Australian Planning Commission (2015) *Western Australia Tomorrow Population Report No. 10*

Figure 5: Shire of Gingin demographic profile 2016 and 2026 forecast (Band C)



Source: Western Australian Planning Commission (2015) *Western Australia Tomorrow Population Report No. 10* and Australian Bureau of Statistics (2017) *Census of Population and Housing, General Community Profile, Australia, 2016. Catalogue No. 2001.0*

For the Wheatbelt region, the *WA Tomorrow* median (Band C) forecast projects a population of 77,590 at 2026. This would require an average annual population growth rate of 0.4 per cent from 2011 to 2026, which is in line with the rate of growth over the past decade.

The *Wheatbelt Regional Investment Blueprint* (2015) aspires to a higher rate of population growth, envisaging a population of 180,000 by 2050. This would represent an average annual growth rate of 2.7 per cent from 2017 to 2050⁷. This is higher than the average annual growth rate of the highest (Band E) forecast from *WA Tomorrow* of one per cent from 2011 to 2026. Achieving this population outcome is contingent on the success of proposed local and regional economic development initiatives, including the delivery of key infrastructure, industry development and workforce attraction initiatives.

⁷ Based on the ERP for the Wheatbelt region at June 2017

4 Economy and employment

4.1 Economic demand drivers

Economic conditions and employment opportunities are fundamental drivers of population growth and demand for land and housing. Primary industries such as agriculture, fishing and basic raw materials have been the backbone of the Shire of Gingin's economy for a number of years, making significant contributions to the Shire's wealth, as well as employing a large proportion of the Shire's working population.

The Shire forms part of the Northern Agricultural Resource Management (NRM) Region which covers 7.5 million hectares of valuable agricultural land and environmental sites from Gingin in the south to Kalbarri in the north, east to Mullewa, Perenjori and Kalannie along the local government areas. The NRM is an important producer of food for local consumption and export, with the region's gross value of total agriculture in 2016/17 over \$2 billion⁸.

Agricultural production is significant in the Shire with key products produced including pork, chicken and eggs. Traditional broadacre grazing (sheep, cattle and some horses) and some cropping occurs in northern areas of the Shire, although there is an increasing trend toward diversified and more intensive agricultural land-uses such as horse studs, poultry farms, cattle feedlots and piggeries. Land areas adjacent to Lennard Brook and Moondah Brook, near the Gingin townsite, are predominantly being developed for orchards and vineyards. Commercial market gardens occupy large land areas east of Guilderton, while the Cowalla Road area is popular for large-scale horticulture (orchards, market gardens, olives, for example). Selective horticultural subdivisions have occurred in the Cowalla Road area, with the intent of creating a limited number of smaller properties for small scale intensive production.

The marine environment along the Gingin coast is an important nursery for many commercial and recreational fish species. Commercial fishing has historically been a major economic activity of the three coastal towns of Lancelin, Ledge Point and Seabird. These towns support a significant proportion of Western Australia's crayfishing industry.

The Shire's local planning strategy notes that there is increasing pressure for extractive industry development as the resource base lessens in the metropolitan area and the urban development front moves northwards. The availability of basic raw materials for extraction, particularly in areas adjacent to the coast, is enhanced by the containment of urban nodes and limitation on further rural residential development in proximity to the coastal margin.

Most of the industrial activities within the Shire service or relate to primary industries such as agriculture, fishing and basic raw material extraction. Throughout the Shire there are a range of rural related industries including tanneries, transport, abattoir, piggeries and poultry farms. Smaller service industries are developing in response to local demand within the industrial areas of Ledge Point, Lancelin and Gingin Rural Industrial Estate.

Increasing the diversity of industrial activity will contribute to growth in local employment opportunities and economic activity. Some opportunities could be pursued in terms of a State/ regional industrial facility capitalising on proximity to markets and coastal transport.

The continued use of rural land for production is paramount to the economic future of the Shire. As a peri-urban area which immediately abuts the northern boundary of the Perth metropolitan region, ensuring productive agricultural land is retained in the Shire while encouraging residential development is imperative. Although traditional agriculture and the State/ regionally recognised horticultural industry are the most substantial value commodities in the Shire's rural areas, there is also substantial potential for further diversification, processing and linking production to tourism in viticulture and horticulture. The future growth and viability of diversified agriculture in the Shire is dependent on numerous factors including water supply, market demand, competitiveness, innovation, diversity of produce, availability and cost of good agricultural land, freedom from conflict with other land-uses and sustainability.

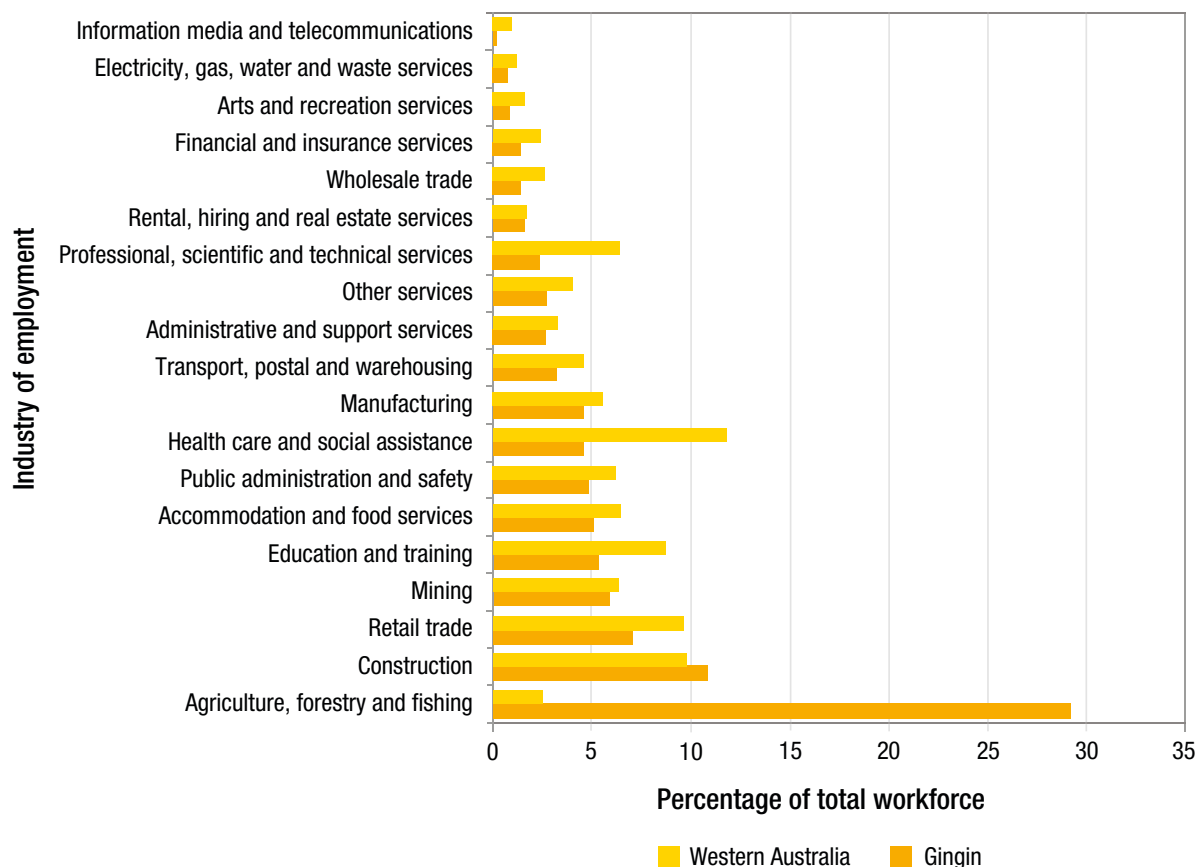
⁸ Australia Bureau of Statistics (2017) *Value of Agricultural Commodities Produced, Australia 2016-17*. Catalogue No. 7503.0

The Shire's local planning strategy identifies tourism as an emerging generator of investment and employment within the Shire. The Shire's coastal recreation opportunities, diverse rural environment and the Gravity Discovery Centre Observatory are the main attractions for tourists. The Shire's proximity to the Perth metropolitan region and access to major transport linkages presents an opportunity for growth of the tourism industry, through increasing the available options for accommodation and recreational activities. The Shire currently lacks a diverse range of short-term accommodation for tourists. Ensuring the continued appeal of Gingin to tourists will also involve ensuring that the Shire's landscape, rural character and lifestyle values are not compromised.

4.2 Industry of employment

Employment data for the Shire of Gingin reflects the importance of primary industries such as agriculture and fishing to the local economy, with the agriculture, forestry and fishing sector employing 29 per cent of the Shire's resident working population, compared to two per cent for Western Australia at the 2016 Census (Figure 6). The construction sector employed 11 per cent of the Shire's resident working population, which is similar to that of Western Australia as a whole.

Figure 6: Industry of employment - Shire of Gingin and Western Australia



Source: Australian Bureau of Statistics (2016) *Census of Population and Housing: Basic Community Profile. Catalogue No. 20010*

5 Residential land and housing

5.1 Overview

The main settlements across the Shire of Gingin are in the localities of Lancelin, Ledge Point, Seabird, Guilderton and Gingin for residential development and Nilgen, Karakin, Gabbadah and Woodridge for rural living. Areas in Lancelin and Caraban are proposed for future residential development.

At the 2016 Census, the majority of the Shire's residents lived in the localities of Gingin (16 per cent), Lancelin (14 per cent), Gabbadah (13 per cent) and Woodridge (12 per cent). The *Shire of Gingin Local Planning Strategy* sets out a plan to concentrate future growth around the existing settlements of Gingin, Lancelin and Guilderton.

Wheatbelt local government areas located adjacent to the coastline and/or in close proximity to the Perth metropolitan region are experiencing population growth due to an increase in lifestyle migration, such as sea change and/or tree change. Based on increasing recognition of liveability, the Shire, among others in the Wheatbelt, is likely to experience consistent population growth in the future.

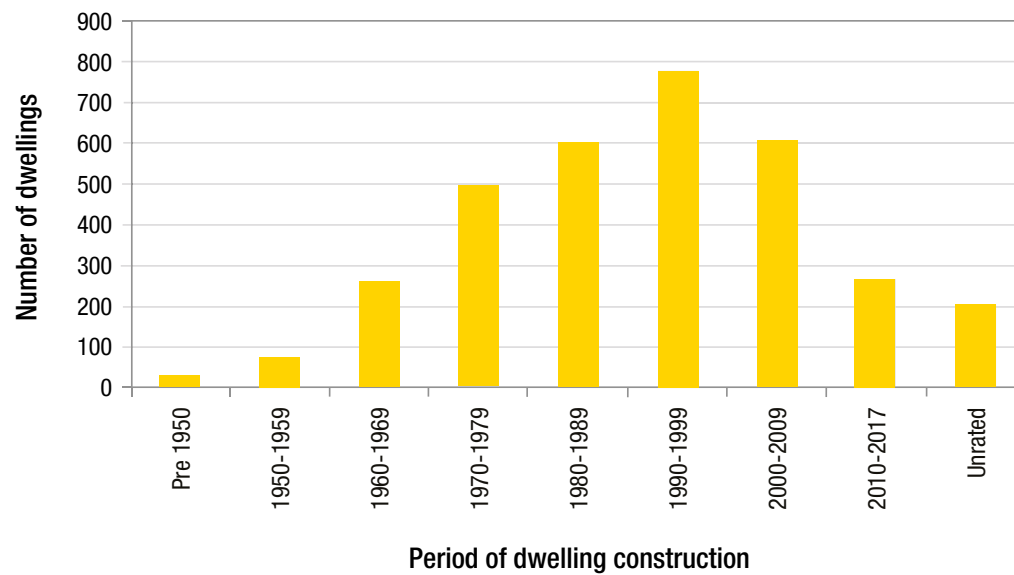
At the 2016 Census, a stock of 3,880 private dwellings was recorded in the Shire. Of these, 52.3 per cent were occupied, which is significantly lower compared to the dwelling occupancy rate recorded for Western Australia (86.7 per cent). Higher occupancy rates were recorded in localities set back from the coast, with Gabbadah, Gingin, Karakin, Nilgen and Woodridge recording occupancy rates of 71.5 per cent, 86.2 per cent, 66.7 per cent, 62.5 per cent and 82.3 per cent respectively. The majority of 'rural living' zoned land within the Shire is located in these localities. Lower occupancy rates were recorded in the coastal townsites, with Guilderton, Lancelin and Ledge Point recording occupancy rates of 17.4 per cent, 32.7 per cent and 21.7 per cent respectively. This is likely to be related to the large number of dwellings in these localities being used as holiday homes.

Almost half of the Shire's dwelling stock has been constructed since 1990 (Figure 7), with much of the older stock located in Lancelin and Guilderton (Map 3). Many of the newer dwellings are located in the localities of Gabbadah and Karakin, reflective of growth occurring in recently developed rural living areas.

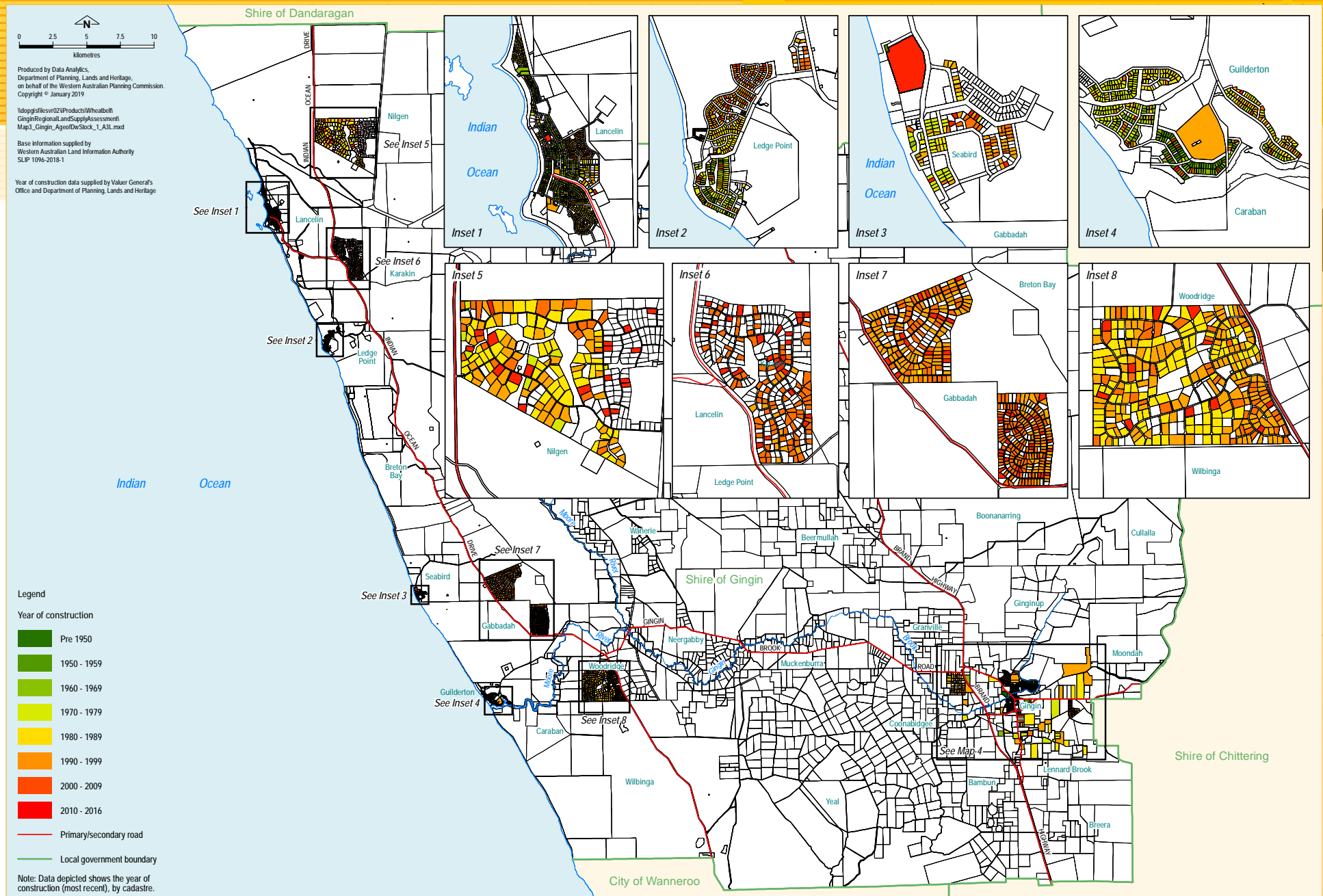
At the 2016 Census, the majority of dwellings in the Shire were detached houses (93.3 per cent, compared to 79.1 per cent for Western Australia) with four or more bedroom dwellings the most common. Across the main settlements in the Shire, Lancelin had the highest proportion of its dwellings recorded as semi-detached (nine per cent), whilst Ledge Point had the highest proportion of its dwellings recorded as flats or apartments (seven per cent). There is no semi-detached housing, flats or apartments in any other localities in the Shire aside from Gingin, with two per cent of its dwellings recorded as semi-detached.

Approximately 66.6 per cent of dwellings in the Shire were occupied by one or two residents, which suggests a mismatch between the stock and occupancy rates. Therefore, there may be opportunities for the development of more diverse housing products (for example, grouped housing) within the Shire's larger residential settlements. There are some examples of increased housing diversity that have been recently introduced in the Shire, such as a 12 hectare lot in the Gingin townsite being re-zoned from 'general rural' to 'special use' to provide for a lifestyle village (site GIN12 in the Development Outlook) and development approval for a lifestyle village south of the Gingin townsite (site GIN23).

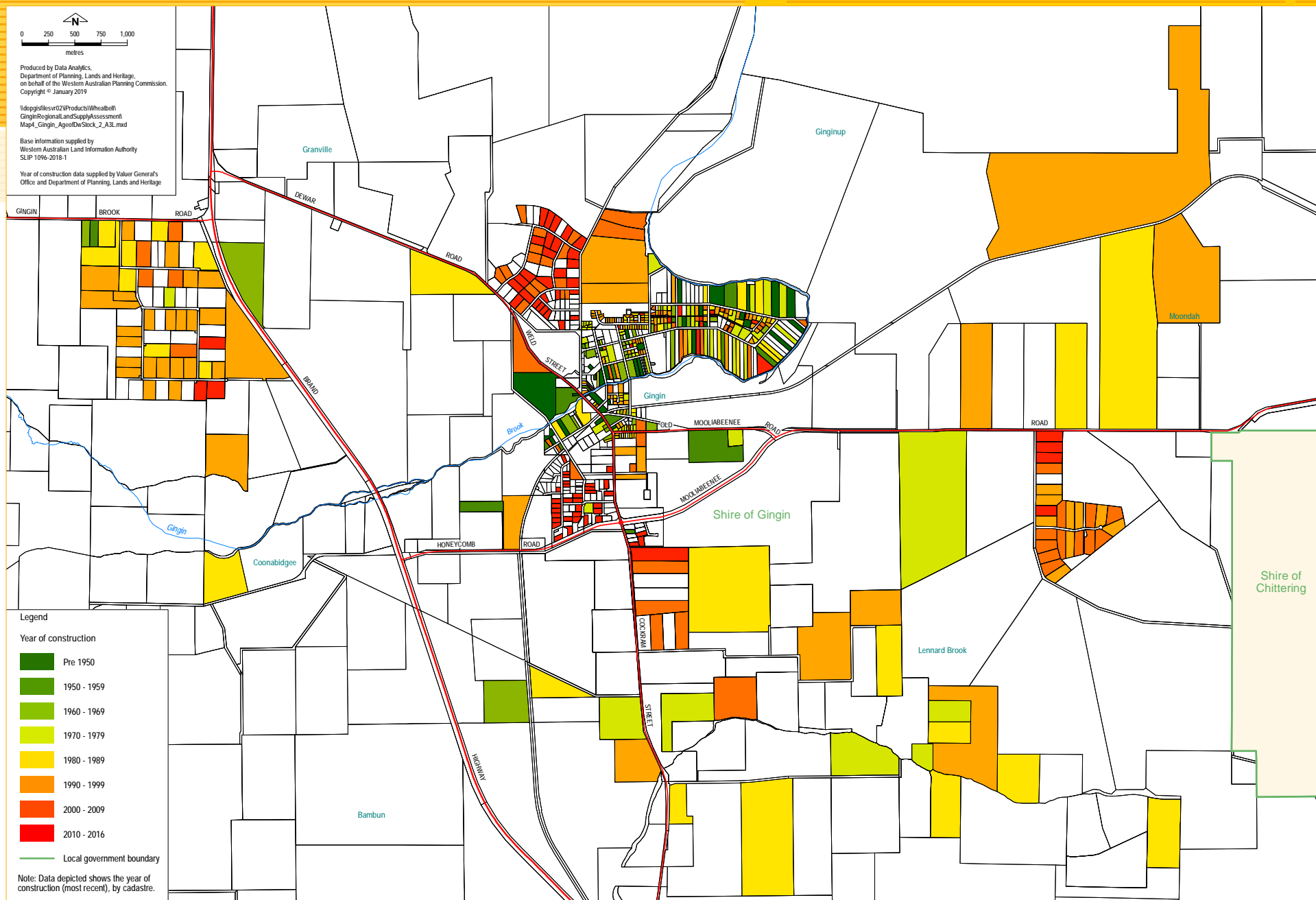
Figure 7: Age of dwelling stock - Shire of Gingin



Source: Department of Planning, Lands and Heritage (2018) *Integrated Regional Information System*



Map 3: Age of Dwelling Stock – 1 of 2



Map 4: Age of Dwelling Stock – 2 of 2

5.2 Land zoned for residential purposes

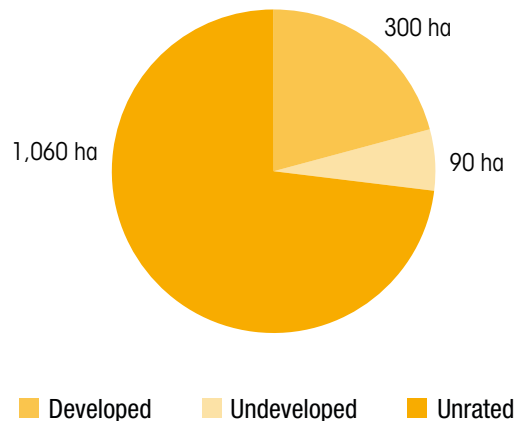
There are several land-uses zoned under the *Shire of Gingin Local Planning Scheme No.9* that permit residential development (rural living is discussed in section 6). Residential land-use zones included in this analysis are 'residential' and 'future development'.

Using the Integrated Regional Information System (IRIS) land supply model, major residential land-use zones are grouped together to provide a snapshot of existing residential land stocks. Appendix 2 provides a more in-depth description of the IRIS model and the methodology for its use.

IRIS modelling identified that as at December 2017, approximately 1,450 hectares of land in the Shire of Gingin was zoned for residential purposes. Approximately 300 hectares (21 per cent) of this stock was considered to be developed (contains property information). A further 90 hectares (six per cent) and 1,060 hectares (73 per cent) were considered to be undeveloped and unrated respectively (Figure 8). The most substantial stocks of undeveloped land were located in the locality of Gingin, with residential zoned land in the Guilderton, Lancelin, Seabird and Ledge Point settlements largely developed.

Lots identified as unrated are those that are zoned for development for the purpose of the specified primary land-use category for which no vacant land or premises valuation information has been captured in Landgate's property valuation database. Large parcels of land in Lancelin (Lancelin South) and Caraban (Moore River South) contribute to the majority of stocks of unrated land. These areas have been included in this report's development outlook analysis (sites GDN02 and LAN01).

Figure 8: Stock of land zoned for residential purposes - Shire of Gingin



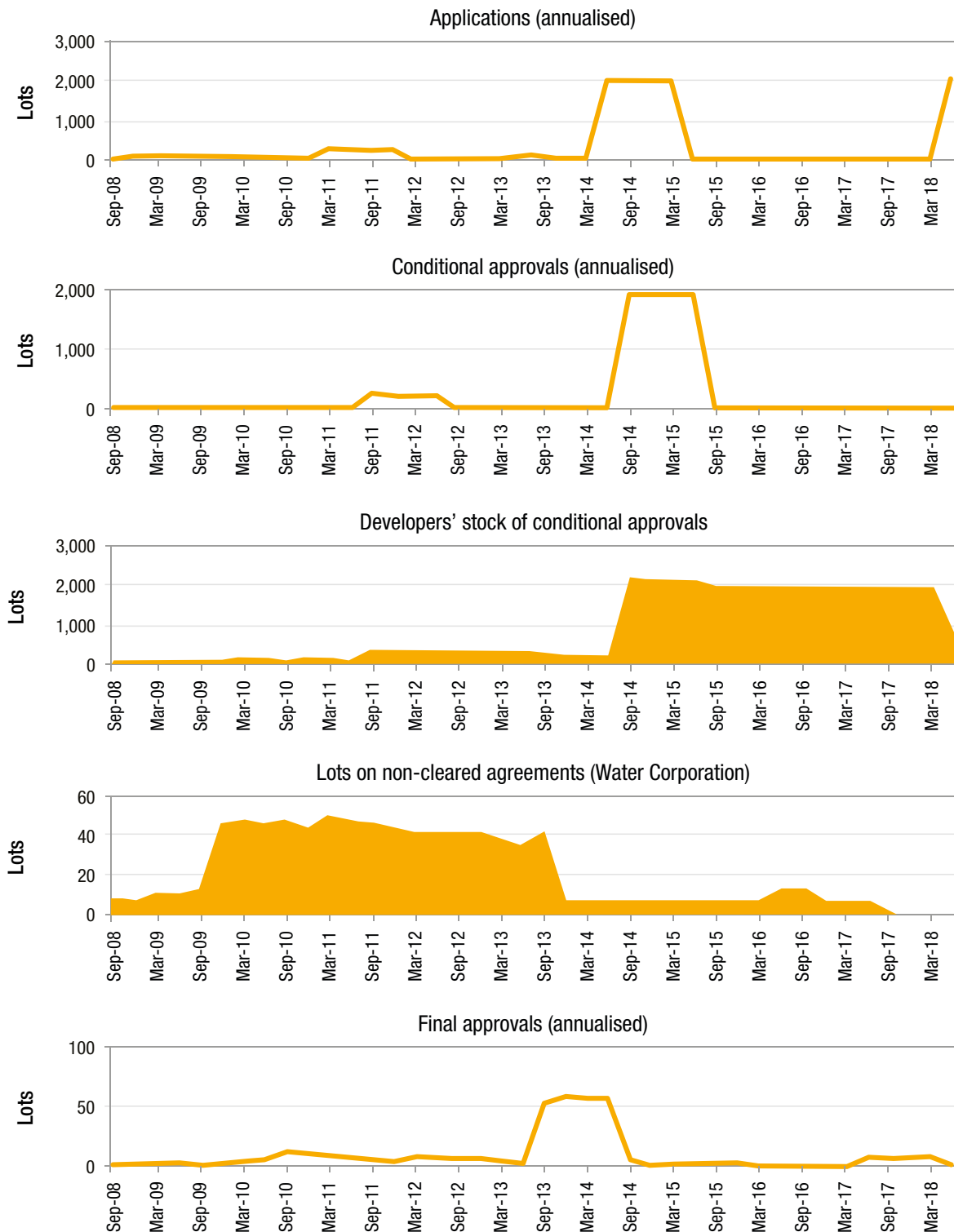
Source: Department of Planning, Lands and Heritage (2018) *Integrated Regional Information System*

5.3 Lot supply pipeline

Over the decade to June 2018, applications were lodged to create a total of 4,317 residential lots (average of 108 lots per quarter). During this period, 2,194 lots were granted conditional approval, with only 91 lots progressed to final approval. In the September 2014 quarter, a subdivision application was granted conditional approval to create 1,889 residential lots in the locality of Caraban to facilitate the development of an urban/tourist node at Moore River South. This led to a decade-high record in the number of lots with conditional approval in 2014 (1,891 lots). In the three years to June 2018, only seven lots have progressed to final approval.

The graph in Figure 9, titled 'Lots on non-cleared agreements' shows the stock of conditionally approved lots for which a service provision agreement has been signed by the developer and the Water Corporation. This indicator provides a measure of the number of lots which are likely to be developed in the short-term. At the end of the June 2018 quarter, there were no agreements to connect any new residential lots in the Shire.

Figure 9: Residential subdivision activity and lot supply pipeline



Source: Western Australian Planning Commission (2018) *State Lot Activity and Water Corporation* (2018).

Note: No data is available on lots on non-cleared agreements prior to 2008.

5.4 Dwelling approvals

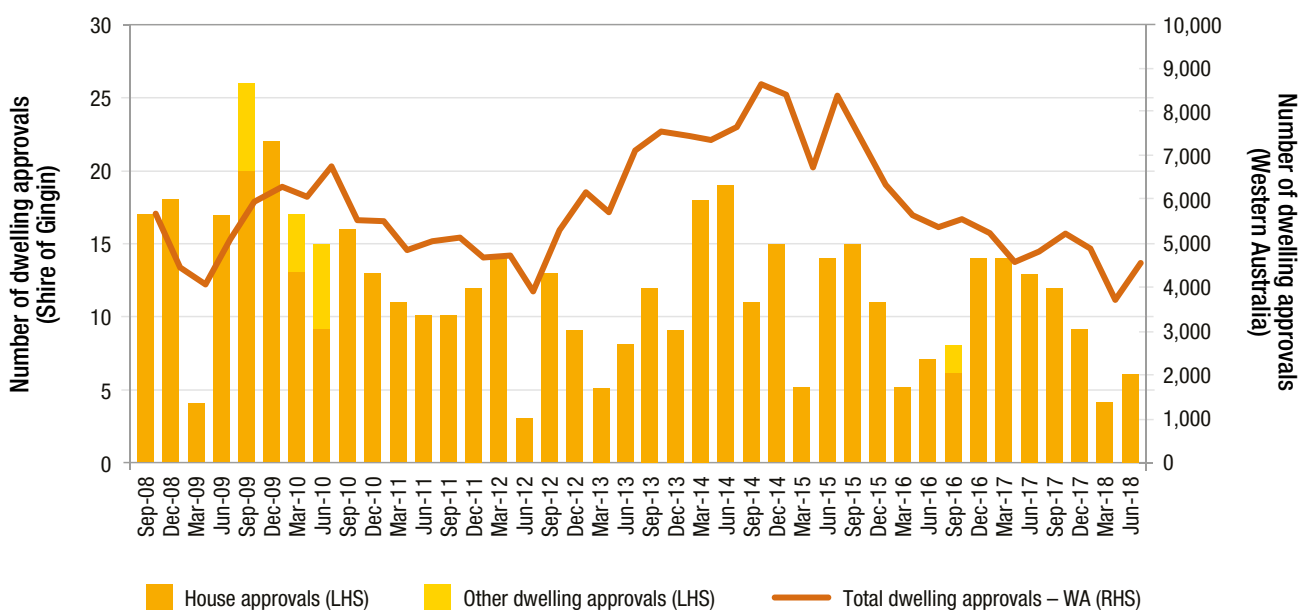
Dwelling approvals are a key demand indicator, representing either owner-occupier demand or investor confidence. As most dwelling approvals proceed to construction and eventually completion, they also provide a leading indicator of dwelling supply.

Over the decade to June 2018, house approvals activity in the Shire peaked in the December 2009 quarter (22 house approvals). Since this quarter, house approvals have been subdued with an average of 11 house approvals per quarter (Figure 10).

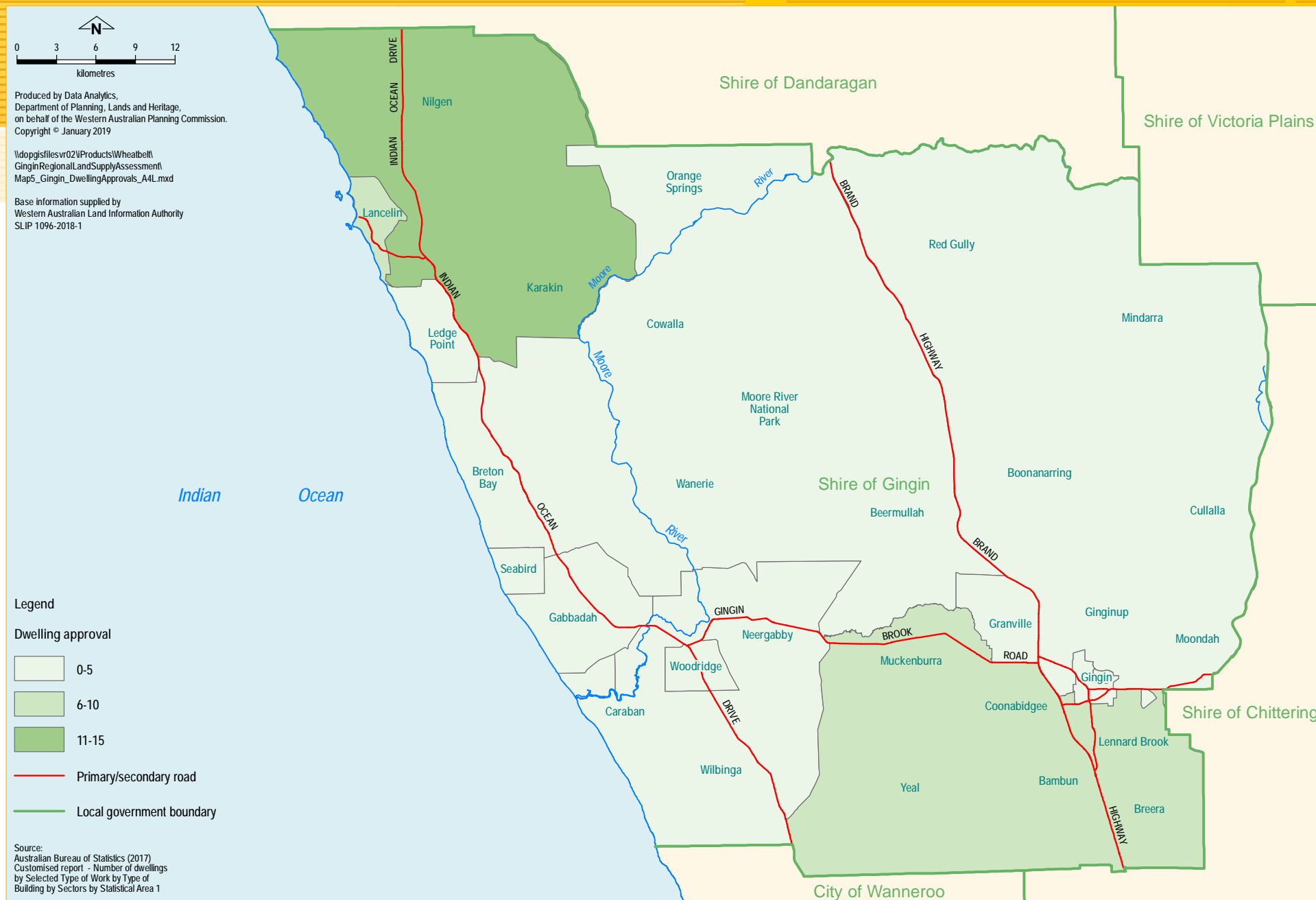
The total number of 'other' dwellings (see glossary for definition) approved for construction in the Shire was 18 for the decade to June 2018. The majority of these were granted approval in the September 2009 and June 2010 quarters (six 'other' dwellings approved).

Map 5 shows the spatial distribution of dwelling approvals in the Shire for 2016/17, based on the most recent ABS SA1 data. Areas with the greatest number of dwelling approvals during this time were in the localities of Nilgen and Karakin, which is again reflective of growth occurring in recently developed rural residential areas.

Figure 10: Dwelling approvals – Shire of Gingin



Source: Australian Bureau of Statistics (2018) *Building Approvals, Australia*. Catalogue No. 8731.0



Map 5: Dwelling approvals 2016/17 (SA1)

5.5 Development outlook

Table 3 and Maps 6 and 7 show possible development projects in the Shire of Gingin. Projects are included where intent has been demonstrated (by state or local government or the development industry) to develop the site at some point in the future. Projects are identified through a variety of means including:

- local planning scheme zonings and amendments
- developer intentions
- consultation with local stakeholders
- subdivision applications/approvals
- local government development applications/approvals
- structure planning
- strategic planning.

The majority of identified growth areas are located within the localities of Lancelin and Caraban, which account for 64 per cent and 29 per cent respectively, of the entire stock of proposed dwellings in identified areas (Table 2). Approximately 85 per cent of the dwelling yield anticipated for release in the short term is located in the locality of Caraban. This is due to a subdivision

application lodged in July 2018 to create 1,927 residential, commercial and tourism lots, to facilitate the development of an urban/tourist node at Moore River South (site GDN02). A similar subdivision application was granted conditional approval in 2014, but has since lapsed. The site is located approximately 9.5 kilometres north of the City of Wanneroo, with only the Wilbinga Nature Reserve situated between the site and Two Rocks.

The majority of growth in the medium to long term is expected to occur in Lancelin. This is primarily due to the Lancelin South development area (site LAN01). The proposed development will comprise of approximately 3,227 single lots, 46 grouped housing lots and incorporate other uses, including commercial, community facilities and public open space.

The *Shire of Gingin Local Planning Strategy* identifies Gabbadah, Gingin, Lancelin and Ledge Point as long-term settlement investigation areas. Areas in Gabbadah and Gingin have been identified as potential rural residential, whilst potential urban expansion has been identified in Gingin, Guilderton and Lancelin. The local planning strategy also aims to promote infill development around the existing townsites of Lancelin, Ledge Point and Gingin.

Table 2: Estimated dwelling yield from identified future development areas - Shire of Gingin

Locality	Short-term (0-5 years)	Medium-term (6-10 years)	Long-term (10+ years)	Total
Caraban	1,927	0	0	1,927
Coonabidgee	9	0	0	9
Cowalla	9	12	0	21
Gabbadah	0	0	0	0
Gingin	8	159	21	188
Ginginup	313	0	72	385
Granville	0	0	0	0
Lancelin	0	1,186	3,098	4,284
Ledge Point	0	0	6	6
Seabird	0	0	0	0
Total	2,266	1,357	3,197	6,820

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

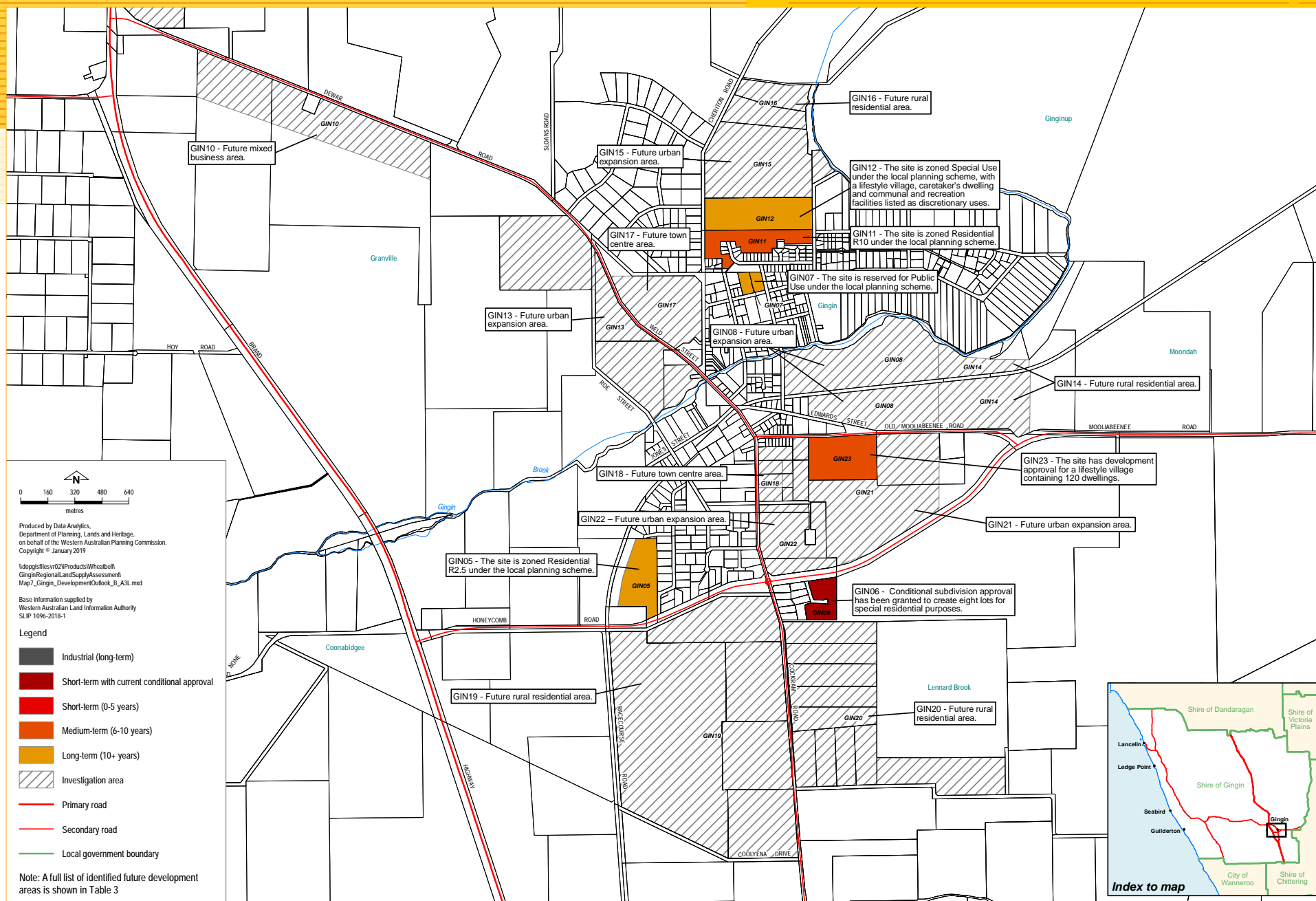


Table 3: Development outlook - project summaries

Identifier	Location	Suburb	Map number in this document	Existing tenure ¹	Purpose	Zoning/planning			Area/yield ²			Subdivision approvals ³		Anticipated dwelling release ⁴ (commencing late 2017)			Constraints ⁵			Comments
						Current zoning	Amendment required	Other planning under way	Area (ha)	Yield (lots)	Yield (units)	Approvals pending	Current approvals	Short-term (0-5 years)	Medium-term (6-10 years)	Long-term (10+ years)	Concern but resolution anticipated	Critical but resolution anticipated	Critical and resolution not definite	
GDN02	Lots 2424, 2802 & 2914	Caraban	Map 6	Moore River Co Pty Ltd	Residential, Town Centre, Tourist, Mixed Business	Future Development	No	Moore River South Local Structure Plan	592.4	1,927	1,927	1,927		1,927	0	0	E, S, W			This site is comprised of three lots zoned Future Development under the local planning scheme. A subdivision application has been lodged in July 2018 to create 1,453 residential R20 lots, 337 residential R40 lots, 126 light industry/mixed business lots, seven town centre lots and four tourism lots. A similar subdivision application was granted conditional approval in 2014, but has since lapsed.
GIN01	Lots 516, 5242 & 5498	Cowalla	Map 6	Terana Holdings Pty Ltd	Rural Smallholdings	General Rural - Coded 20	No	Millbank on Moore Local Structure Plan	253.1	12	12	0	0	0	12	0	E, MC, S			The site is comprised of three lots zoned General Rural-Coded under the local planning scheme. A structure plan prepared for the site identifies a total yield of 12 rural smallholdings lots. Conditional subdivision approval was granted in 2011 to create 12 rural smallholding lots; however, the approval was not progressed.
GIN02	Lots 81 & 83 Cheriton Rd	Ginginup	Map 6	Claymont Westcapital Pty Ltd	Rural Residential	Rural Living 1, Rural Living 2	No	N/A	533.7	313	313	0	313	313	0	72	E, MC, S			The site is comprised of two lots zoned Rural Living 1 and Rural Living 2 under the local planning scheme. Conditional subdivision approval has been granted on Lot 81 to create 313 lots for rural residential purposes. Conditional subdivision approval was granted in 2008 to create 72 rural residential lots on Lot 83; however, the approval was not progressed.
GIN03	Lot 2 Range Rd	Coonabidgee	Map 6	T & T Nominees Pty Ltd	Rural Living	Rural Living	No	N/A	124.5	9	9	0	9	9	0	0	E, S			The site is comprised of a lot zoned Rural Living under the local planning scheme. Conditional subdivision approval has been granted to create nine lots for rural residential purposes.
GIN05	Lot 112 Honeycomb Rd	Gingin	Map 7	C P Morrison & K J T Morrison	Residential	Residential	No	Gingin Townsite and Rural Surrounds Structure Plan, Honeycomb Farm Outline Development Plan	8.0	21	21	0	0	0	0	21	MC, S			The site is comprised of a lot zoned Residential R2.5 under the local planning scheme. Conditional subdivision approval was granted to create 21 lots for residential purposes; however, the approval was not progressed.
GIN06	Lot 9000 Mooliabeenee Rd	Gingin	Map 7	Grosvenor Equities Pty Ltd, K L Porter & Roy Weston Corporate Pty Ltd	Special Residential	Future Development	No	Gingin Townsite and Rural Surrounds Structure Plan, Honeycomb Farm Outline Development Plan	3.8	8	8	0	8	8	0	0	MC			The site is comprised of a lot zoned Future Development under the local planning scheme. Conditional subdivision approval has been granted to create eight lots for special residential purposes.
GIN07	Lots 60 & 61 Robinson St	Gingin	Map 7	Shire of Gingin	Aged Care Facility	Public Use	No	Gingin Townsite and Rural Surrounds Structure Plan	1.7	0	0	0	0	0	0	0	E, MC, S			The site is comprised of two lots reserved for Public Use under the local planning scheme. A structure plan prepared for the site identifies the lots for public purpose-aged care.
GIN08	Pt Lot 1 Brook St & Pt Lot 100 Old Mooliabeenee Rd	Gingin	Map 7	Jingle Holdings Pty Ltd	Possible Urban Expansion Area	General Rural	Yes	Gingin Townsite and Rural Surrounds Structure Plan	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of two lots zoned General Rural under the local planning scheme. A subdivision application was lodged in 2013 to create 14 lots for residential purposes and a balance lot for agricultural purposes; however, the application was refused. The local planning strategy identifies the site as potential urban subject to planning studies. A structure plan for the site identifies the site as urban expansion area.
GIN09	Lot 801 Orange Springs Road	Cowalla	Map 7	J B Matthews	General Rural - Coded 30	General Rural - Coded 30	No	N/A	264.6	9	9	9	0	9	0	0	E, MC			The site is comprised of a lot zoned General Rural - Coded 30 under the local planning scheme.
GIN10	Pt Lots 499 & 627 Dewar Rd	Granville	Map 7	Technicdraw Pty Ltd, D C MacPherson	Mixed Business	General Rural - Coded 30	Yes	Gingin Townsite and Rural Surrounds Structure Plan	33.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of two lots zoned General Rural - Coded 30 under the local planning scheme. The local planning strategy identifies the site as mixed business.
GIN11	Lot 7 Strathalbyn Way	Gingin	Map 7	P R Phee & T Asmutaitis	Residential	Residential	No	Gingin Townsite and Rural Surrounds Structure Plan	7.4	39	39	0	0	0	39	0	MC, PW, S, W			The site is comprised of a lot zoned Residential R10 under the local planning scheme. Conditional approval was granted to create 39 lots for residential purposes and public open space; however, the approval was not progressed.
GIN12	Lot 105 Cheriton Road	Gingin	Map 7	A W Edgar	Lifestyle Village	Special Use	No	Gingin Townsite and Rural Surrounds Structure Plan	12.1	0	0	0	0	0	0	0	MC, S, W			The site is comprised of a lot zoned Special Use under the local planning scheme, with a lifestyle village, caretaker's dwelling and communal and recreation facilities listed as discretionary uses. The site is partly within Public Drinking Water Source Special Control Area.
GIN13	Lots 101, 102 & 104 Roe Street, Lot 2 Weld Street	Gingin	Map 7	Technicdraw Pty Ltd, L K Day & R H Day, J Farrell, Perth Diocesan Trustees	Possible Urban Expansion Area	General Rural - Coded 30, General Rural	Yes	Gingin Townsite and Rural Surrounds Structure Plan	54.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of a lot zoned General Rural-Coded 30 and three lots zoned General Rural under the local planning scheme. The local planning strategy identifies the site as potential urban subject to planning studies. A structure plan prepared for the site also identifies the site as urban expansion area.
GIN14	Pt Lot 1 Brook St & Pt Lot 100 Old Mooliabeenee Rd	Gingin	Map 7	Jingle Holdings Pty Ltd	Rural Residential	General Rural	Yes	Gingin Townsite and Rural Surrounds Structure Plan	22.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of a lot zoned General Rural under the local planning scheme. The local planning strategy identifies the site as rural residential. A structure plan for the site also designates the site as potential expansion to rural living areas.
GIN15	Lot 106 Cheriton Road & Lot 70 Edgar Street	Gingin	Map 7	Fairlands Farm Pty Ltd, B G Lucas & R E Bowtell	Potential Urban Expansion Area	General Rural	Yes	Gingin Townsite and Rural Surrounds Structure Plan	27.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of two lots zoned General Rural under the local planning scheme. The local planning strategy identifies the site as potential urban subject to planning studies.

Table 3: Development outlook - project summaries

Identifier	Location	Suburb	Map number in this document	Existing tenure ¹	Purpose	Zoning/planning			Area/yield ²			Subdivision approvals ³		Anticipated dwelling release ⁴ (commencing late 2017)			Constraints ⁵			Comments
						Current zoning	Amendment required	Other planning under way	Area (ha)	Yield (lots)	Yield (units)	Approvals pending	Current approvals	Short-term (0-5 years)	Medium-term (6-10 years)	Long-term (10+ years)	Concern but resolution anticipated	Critical but resolution anticipated	Critical and resolution not definite	
GIN16	Lots 104 & 107 Cheriton Road	Gingin	Map 7	D Millar & M A Millar	Rural Residential	Rural Living	No	Gingin Townsite and Rural Surrounds Structure Plan	11.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of a lot zoned Rural Living under the local planning scheme. The local planning strategy identifies the site as rural residential with lot sizes suited to 2000 square metres to one hectare subject to site considerations.
GIN17	Pt Lot 601 Brockman St	Gingin	Map 7	G A Gifford	Town centre	Residential	Yes	Outline Development Plan Lot 601 Brockman Street, Gingin	16.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of a lot zoned Residential under the local planning scheme. The local planning strategy identifies the site as town centre.
GIN18	Pt Lot 48 Weld St & Pt Lot 11 Weld St	Gingin	Map 7	P A Harris, Holmfield Pty Ltd	Town centre	General Rural	Yes	N/A	2.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of two lots zoned General Rural under the local planning scheme. The local planning strategy identifies the site as town centre.
GIN19	Lots 201, 469, 541, 542 & 543 Cockram Rd	Lennard Brook	Map 7	Numerous landowners	Rural Residential	General Rural - Coded 30	Yes	N/A	138.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of five lots zoned General Rural-Coded 30 under the local planning scheme. The local planning strategy identifies the site as rural residential.
GIN20	Lots 56, 57, 58, 59, 61, 62, 63, 64, 65 Cockram Road Lennard Brook & Lot 2335 Ashby Road	Lennard Brook	Map 7	Numerous landowners	Rural Residential	Rural Living, General Rural - Coded 30	Yes	N/A	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of nine lots zoned Rural Living and one lot zoned General Rural-Code 30 under the local planning scheme. The local planning strategy identifies the site as rural residential.
GIN21	Pt Lot 11, Lot 47 & Pt Lot 48 Weld Street, Lot 12 Quin Street & Lot 11, Pt Lot 101 & Pt Lot 426 Old Mooliabeenee Road	Gingin	Map 7	Numerous landowners	Possible Urban Expansion Area	General Rural	Yes	N/A	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of seven lots zoned General Rural under the local planning scheme. The local planning strategy identifies the site as potential urban subject to planning studies. A structure plan for the site identifies the site as urban expansion area.
GIN22	Lot 52 Quin Street, Lots 505 & 9000 Cockram Road	Gingin	Map 7	Numerous landowners	Possible Urban Expansion Area	Future Development	Yes	N/A	15.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of three lots zoned Future Development under the local planning scheme. The local planning strategy identifies the site as urban expansion area.
GIN23	Lot 11 Old Mooliabeenee Rd	Gingin	Map 7	Sanvidel Pty Ltd	Lifestyle Village	General Rural	No	N/A	10.5	1	120	0	0	0	120	0	P,PW,S,W, MC			The site is comprised of a lot zoned General Rural under the local planning scheme. The site has development approval for a Lifestyle Village containing 120 dwellings.
GIN24	Lot 1021 Gingin Brook Rd & Lot 1022 Indian Ocean Dr	Woodridge	Map 6	C A Dewar & L W Dewar	Special Use - Roadhouse and Storage Facility	General Rural - Coded 30	Yes	N/A	71.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of two lots zoned General Rural under the local planning scheme. The site is proposed to be rezoned from General Rural to Special Use - Roadhouse and Storage Facility.
LAN01	Lot 9001 Lancelin Road & Lot 1 Old Ledge Point Road	Lancelin	Map 6	J B Matthews	Residential	Future Development	No	Lancelin South Structure Plan, Lancelin South (Stage One) Structure Plan, Lancelin South (Stage Two) Structure Plan	471.5	3,273	3,998	0	0	0	1,000	2,998	E, P, PW, S, W	MC		The site is comprised of two lots zoned Future Development under the local planning scheme. Conditional subdivision approval was granted to create 207 lots for residential purposes as part of Stage One of the development; however, final approval was granted to create 51 lots for residential purposes. Conditional approval for the remaining 156 lots was not progressed. A structure plan for the site identifies a total lot yield of 3,273 and a total dwelling yield of 3,998.
LAN04	Lots 844 & 846 Casserley Way	Lancelin	Map 6	State of WA	Residential	Residential	No	Lancelin to Ledge Point Structure Plan	6.6	83	83	0	0	0	83	0	E, P, PW, S, W	MC		The site is comprised of two lots zoned Residential R20 under the local planning scheme. A structure plan for the site identifies a total yield of 83 residential lots.
LAN05	Lots 4 & 5 Gingin Rd, Lots 6 & 191 Miragliotta St	Lancelin	Map 6	Goodoil Investments Pty Ltd	Residential, Holiday Accommodation	Residential	No	Lots 4 & 5 Gingin Road, Lots 6 & 191 Miragliotta Street Lancelin - Local Structure Plan	1.3	29	29	0	0	0	29	0	E, P	MC		The site is comprised of four lots zoned Residential R40 and holiday accommodation, shop, restaurant and office as additional uses under the local planning scheme. A structure plan prepared for the site identifies a total yield of 29 lots.
LAN06	Lot 1023 Hopkins St	Lancelin	Map 6	Shire of Gingin	Tourism	Tourism	No	N/A	1.0	0	0	0	0	0	0	0	E, MC			The site is comprised of a lot zoned Tourism under the local planning scheme.
LAN07	Lot 9003 Ocean Farm Drive	Lancelin	Map 6	N J Duckworth	Rural Living 2	Rural Living 2	No	N/A	185.8	74	74	0	0	0	74	0		E, MC		The site is comprised of a lot zoned Rural Living under the local planning scheme. Conditional subdivision approval was granted to create 74 lots for rural residential purposes; however, the subdivision was not progressed.
LAN08	Lots 500 & 501 Bootoo Street, Lot 502 Cockram Street	Lancelin	Map 6	State of WA	Residential	Parks and Recreation, Public Use	Yes	Lancelin to Ledge Point Structure Plan	43.2	100	100	0	0	0	0	100		MC	E, S, H, Z	The site is comprised of one lot zoned Parks and Recreation, one lot zoned Public Use and one lot zoned Parks and Recreation and Public Use. A structure plan for the site identifies a total yield of 100 to 150 residential lots.
LAN09	Lots 510, 3203 & 10470 Old Ledge Point Road	Lancelin	Map 6	Numerous landowners	Tourism	General Rural	Yes	Lancelin to Ledge Point Structure Plan	34.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of three lots zoned General Rural under the local planning scheme. The local planning strategy identifies the site as a tourist node and a structure plan for the site identifies the site as a possible urban expansion area.

Table 3: Development outlook - project summaries

Identifier	Location	Suburb	Map number in this document	Existing tenure ¹	Purpose	Zoning/planning			Area/yard ²			Subdivision approvals ³		Anticipated dwelling release ⁴ (commencing late 2017)			Constraints ⁵			Comments
						Current zoning	Amendment required	Other planning under way	Area (ha)	Yield (lots)	Yield (units)	Approvals pending	Current approvals	Short-term (0-5 years)	Medium-term (6-10 years)	Long-term (10+ years)	Concern but resolution anticipated	Critical but resolution anticipated	Critical and resolution not definite	
LAN10	Lots 31 & 762 Hopkins Street	Lancelin	Map 6	State of WA	Tourism	Tourism	No	Lancelin to Ledge Point Structure Plan	7.9	0	0	0	0	0	0	0	E, MC			The site is comprised of two lots zoned Tourism under the local planning scheme.
LAN11	Lot 431 Hopkins Street	Lancelin	Map 6	State of WA	Possible Urban Expansion Area	Tourism	No	Lancelin to Ledge Point Structure Plan	1.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of a lot zoned Tourism under the local planning scheme. A structure plan prepared for the site identified the site as a possible urban expansion area.
LAN12	Lot 1022 Hopkins Street	Lancelin	Map 6	State of WA	Tourism	Tourism	No	Lancelin to Ledge Point Structure Plan	3.0	0	0	0	0	0	0	0	E, MC			The site is comprised of a lot zoned Tourism under the local planning scheme.
LAN13	Lot 75 Hinchcliffe Road	Lancelin	Map 6	John Regan Investment Co Pty Ltd & Telgold Nominees Pty Ltd	Tourism	Tourism	No	Lancelin to Ledge Point Structure Plan	0.8	0	0	0	0	0	0	0	E, MC			The site is comprised of a lot zoned Tourism under the local planning scheme.
LAN14	Lot 1040 Kendall Road	Lancelin	Map 6	State of WA	Mixed Business	Mixed Business	No	Lancelin to Ledge Point Structure Plan	1.9	0	0	0	0	-	-	-	E, MC, P			The site is comprised of a lot zoned Mixed Business under the local planning scheme.
LP01	Lot 740 Dewar Way	Ledge Point	Map 6	J G Kennedy	Residential	Residential	No	Lancelin to Ledge Point Structure Plan	0.3	6	6	0	0	0	0	6	MC			The site is comprised of a lot zoned Residential R20 under the local planning scheme.
LP02	Lots 1 & 2 Robertson Road	Ledge Point	Map 6	Shire of Gingin	Town centre	Town centre	No	Lancelin to Ledge Point Structure Plan	1.2	0	0	0	0	-	-	-	MC			The site is comprised of two lots zoned Town Centre under the local planning scheme.
LP03	Pt Lot 746 Robertson Road	Ledge Point	Map 6	State of WA	Tourism	Tourism	No	N/A	2.1	0	0	0	0	0	0	0	E, MC			The site is comprised of a lot zoned Tourism under the local planning scheme.
LP04	Pt Lot 503 Ledge Point Road	Ledge Point	Map 6	State of WA	Possible Urban Expansion Area	Parks and Recreation	Yes	Lancelin to Ledge Point Structure Plan	18.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of a lot zoned Parks and Recreation under the local planning scheme. A structure plan prepared for the site identifies the site as a potential urban expansion area.
LP05	Lot 746 McCormick Parade	Ledge Point	Map 6	State of WA	Possible Urban Expansion Area	General Rural, Parks and Recreation	Yes	Lancelin to Ledge Point Structure Plan	106.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of a lot zoned General Rural and Parks and Recreation under the local planning scheme. The local planning strategy identifies the site as future urban.
LP06	Lots 613 & 746 McCormick Parade	Ledge Point	Map 6	State of WA	Mixed Business	Mixed Business	No	Lancelin to Ledge Point Structure Plan	4.6	18	18	0	0	-	-	-	E	MC		The site is comprised of two lots zoned Mixed Business under the local planning scheme. Conditional subdivision approval was granted to create 18 industrial/mixed business lots; however, the approval was not progressed.
SEA01	Lot 76 McCormick St	Seabird	Map 6	A M Sangalli	Tourism	Tourism	No	N/A	1.4	0	0	0	0	0	0	0	MC			The site is comprised of a lot zoned Tourism under the local planning scheme.
SEA02	Lot 6057 Indian Ocean Dr	Gabbadah	Map 6	Marinko Nominees Pty Ltd	Community Service Node	Special Use	No	N/A	11.6	0	0	0	0	-	-	-	E, MC, P, PW, S, W			The site is comprised of a lot zoned Special Use-Community service node under the local planning scheme.
SEA03	Pt Lot 78 Edwards Street	Seabird	Map 6	State of WA	Town Centre	Town Centre	No	N/A	1.2	0	0	0	0	-	-	-	E, MC, P			The site is comprised of a lot zoned Town Centre under the local planning scheme.
SEA04	Lots 1551 & 5712 Sandalwood Road & Lot 3 Indian Ocean Drive	Gabbadah	Map 6	North East Equity Pty Ltd & Marinko Nominees Pty Ltd	Rural Residential	General Rural	Yes	N/A	906.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of a lot zoned General Rural under the local planning scheme. The local planning strategy identifies the site as potential rural residential.
SEA05	Lot 2 Seabird Rd	Breton Bay	Map 6	Golden Beach WA Pty Ltd	Tourism	Tourism	No	N/A	363.3	0	0	0	0	0	0	0	E, MC, P, PW, S, W			The site is comprised of a lot zoned Tourism under the local planning scheme. The site was recently re-zoned from General Rural to facilitate the development of a mix of low key and high end tourist accommodation.
I172	Lot 1 and Pt Lot 2 Brand Hwy	Granville	Map 6	Westralian Sands Pty Ltd, D W Kitson, P J Kitson, W Kitson, Ross & Margaret Moir Superannuation Fund Pty Ltd, H C Winch & I S Winch	General Industry	General Rural	Yes	Gingin Townsite and Rural Surrounds Structure Plan	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	The site is comprised of two lots zoned General Rural under the local planning scheme. Lot 1 has an additional use of service station and caravan park. The local planning strategy identifies the site as future general industry.
I173	Lot 9000 Lancelin Road	Lancelin	Map 6	J B Matthews	Industrial, Mixed Business	Future Development	No	Lancelin South Structure Plan, Lancelin South (Stage One) Structure Plan	56.8	122	122	0	0	-	-	-	E, P, PW, S, W	MC		The site is comprised of a lot zoned Future Development under the local planning scheme. Conditional subdivision approval was granted to create 24 lots for industrial/mixed business purposes; however, the approval was not progressed. A structure plan prepared for the site identified a total yield of 122 industrial/mixed business lots.

Table 3: Development outlook - project summaries

Identifier	Location	Suburb	Map number in this document	Existing tenure ¹	Purpose	Zoning/planning			Area/yield ²			Subdivision approvals ³		Anticipated dwelling release ⁴ (commencing late 2017)			Constraints ⁵			Comments
						Current zoning	Amendment required	Other planning under way	Area (ha)	Yield (lots)	Yield (units)	Approvals pending	Current approvals	Short-term (0-5 years)	Medium-term (6-10 years)	Long-term (10+ years)	Concern but resolution anticipated	Critical but resolution anticipated	Critical and resolution not definite	
I174	Lot 435 Walker Avenue	Lancelin	Map 6	A Scaddan & R K Scaddan	Industrial, Mixed Business	Special Use	No	Lot 435 Walker Avenue, Lancelin - Structure Plan	4.5	19	19	0	0	-	-	-	E, MC, W			The site is comprised of a lot zoned Special Use under the local planning scheme, allowing for a composite area consisting of mixed business and industrial uses. Conditional subdivision approval was granted to create 19 lots for industrial/mixed business purposes; however, the approval was not progressed. A structure plan prepared for the site identified a total yield of 19 industrial/mixed business lots.

1 Organisation or individual/s.

2 In some cases the yield for the project is indicative only. Final lot/dwelling yields will be determined by further detailed planning.

3 Refers to the number of lots/units with current subdivision or strata approval, and the number of lots/units for which a subdivision/strata application has been lodged but which is yet to be determined (pending). Does not include local government development approvals.

4 Estimate only. In most cases the precise timing of lot release is uncertain. This could be for reasons such as market conditions, demand/supply of services or a requirement to resolve issues and constraints.

5 Constraints and issues codes: drainage (D), environmental (E), heritage (H), land assembly (L), market conditions (MC), planning (P), power (Pw), sewer (S), water (W), topography and geology (TG), mining lease (M), zoning (Z) and transport (T).

5.6 Vacant lots

Data from Landgate's property valuation database show that there is a substantial stock of vacant lots on land zoned for residential and rural living purposes in the Shire of Gingin. As at December 2017, 648 vacant lots were identified on land zoned for residential and rural living purposes, accounting for 17 per cent of the total stock of existing residential and rural living lots. This is higher than the percentage of vacant lots recorded for metropolitan Perth (5.1 per cent), but comparable with the Wheatbelt region (17.7 per cent).

Table 4 shows the stock of vacant lots on land zoned for residential and rural living purposes in the Shire. The distribution of vacant lots in the Shire's main settlements is shown on Map 8.

Table 4: Stock of vacant lots – Shire of Gingin

Suburb	Number of vacant lots	
	Residential	Rural living
Gabbadah	0	98
Gingin	81	13
Guilderton	17	0
Karakin	0	180
Lancelin	30	0
Ledge Point	37	0
Moondah	0	1
Nilgen	0	125
Seabird	0	0
Woodridge	0	43
Total	188	460

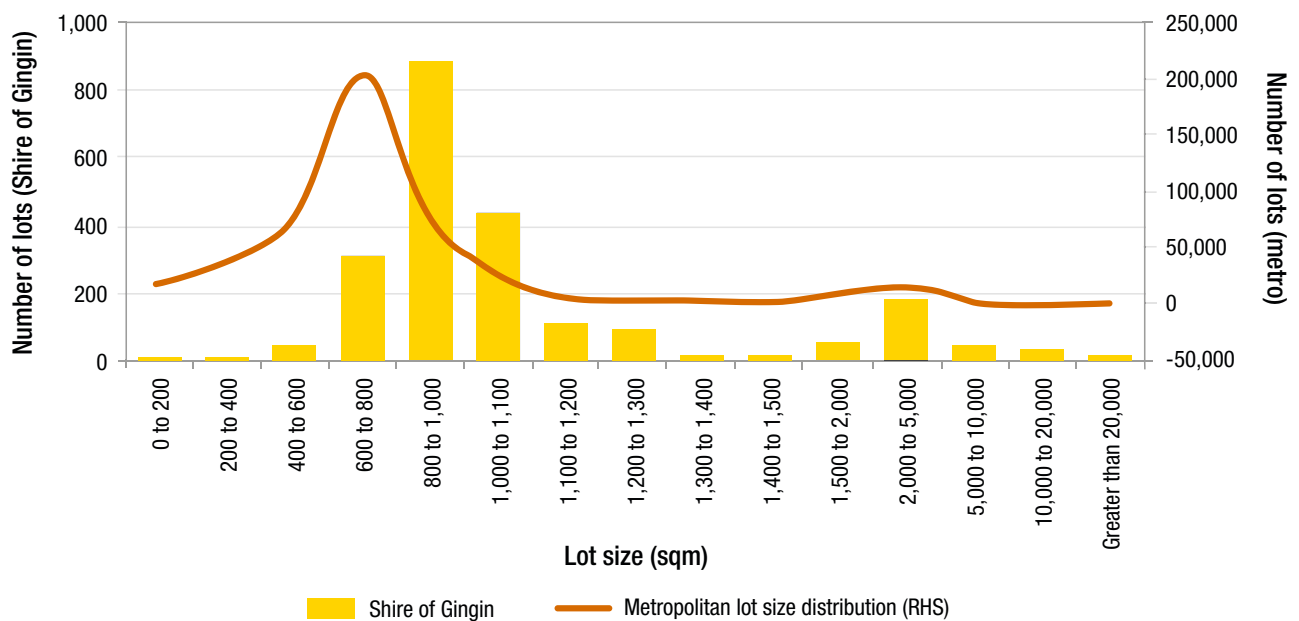
Source: Landgate (2018) and Department of Planning, Lands and Heritage (2018).

Note: Data includes lots on land zoned for residential and rural living purposes. Data shown in Table 4 has been filtered to exclude lots already included as part of development outlook projects.

5.7 Lot size distribution

Existing residential lots in the Shire are typically larger than lots in the Perth metropolitan area (Figure 11). Only 3 per cent of lots in residential areas are smaller than 600m² in area in the Shire, in comparison to 28 per cent in metropolitan Perth. This is perhaps unsurprising given that there is generally less development pressure in smaller towns. The most common lot sizes in the Shire are 800 to 900 square metres (25 per cent), followed by 1,000 to 1,100 square metres (19 per cent).

Figure 11: Residential lot size distribution - Shire of Gingin and Perth metropolitan area



Source: Valuer-General's Office (2018)

5.8 Urban consolidation and infill

The Department of Planning, Lands and Heritage's Integrated Land Information Database (ILID) compares density outcomes with those set out by the R-Codes under local planning schemes. Appendix 1 provides a more in-depth description of the ILID model and the methodology for its use. Using the ILID model, the latent development capacity of residential land stocks can be measured based on existing lot sizes and R-Code zonings.

The ILID model outputs for residential land in the Shire of Gingin are shown in Table 5. The table shows ILID outputs for all areas with an R-Code within the Shire.

The 'lot potential' columns in Table 5 show the number of lots that could theoretically be produced by adding to the stock of residential lots through subdivision, as permissible under the R-Codes set out in the local planning scheme. Where there is a split code (for example R10/30) the potential is shown for both the high and low codes.

Data from the ILID model indicates that there is theoretically potential for approximately 1,651 additional lots in the Shire if the existing zoned area was developed to its maximum density.

It must be noted that retrospectively fulfilling the maximum lot potential would be essentially unachievable due to the scale of redevelopment required. However, the actual number of dwellings is substantially smaller than the maximum theoretical yield, suggesting that infill development may be possible across the Shire.

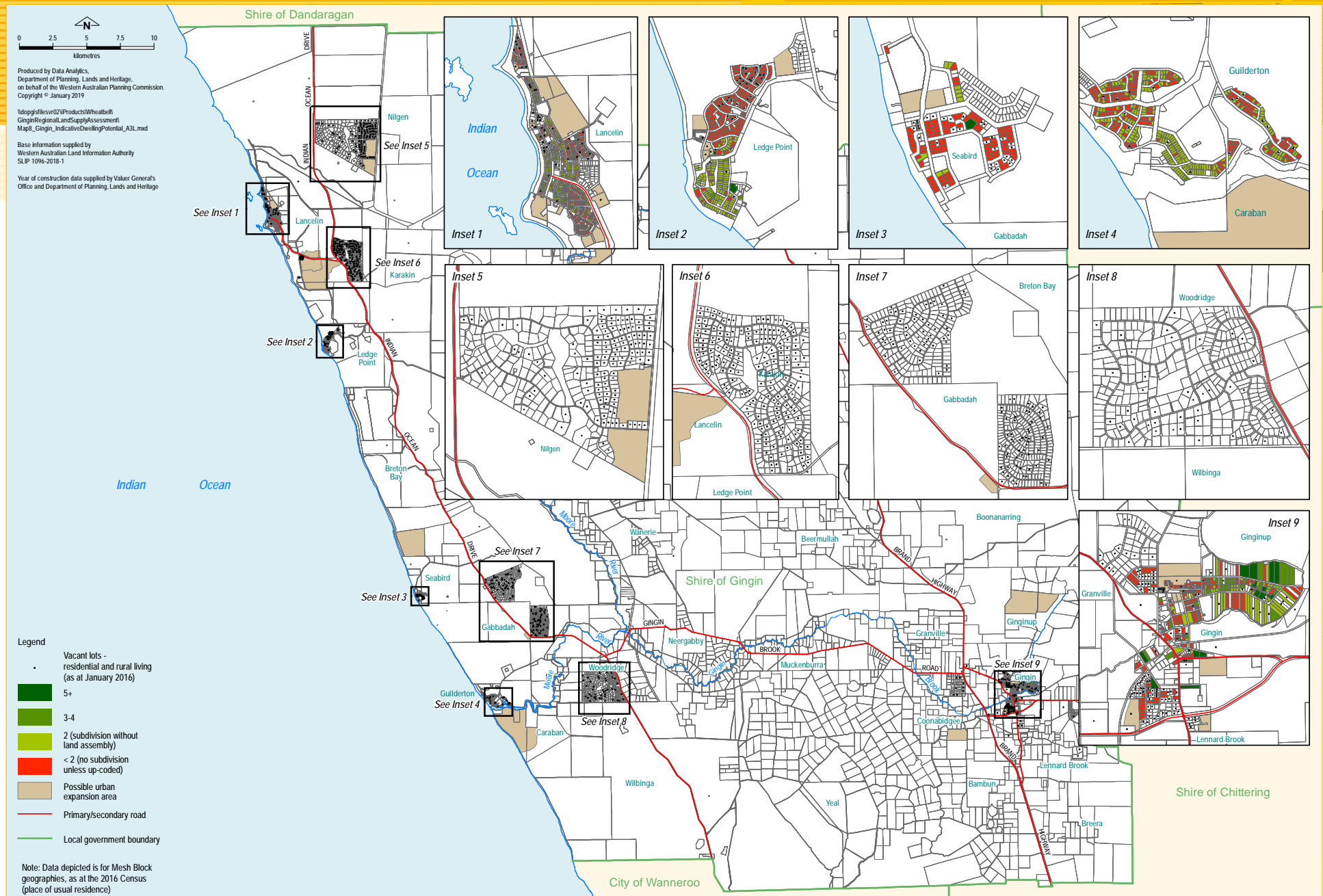
The spatial distribution of lots with additional dwelling potential is also shown on Map 8 which shows potential for residential consolidation through subdivision in areas within the Gingin, Guilderton, Lancelin and Ledge Point townships; generally where the Shire's stocks of older dwellings are located. However, some of these areas require construction of reticulated wastewater systems before residential consolidation can occur. There is limited potential for residential consolidation through subdivision within the Seabird township and areas where the Shire's stocks of newer dwellings are located.

It must be noted that data depicted on Map 8 is indicative only and should not be used to guide development potential on a site-by-site basis. The model does not take into account factors such as heritage, environmental and/or infrastructure constraints or other provisions of the local planning scheme, which may mean that the additional potential shown on Map 8 cannot be fully realised.

Table 5: Integrated land information database outputs - Shire of Gingin

R-Code	Number of lots	Number of residential dwellings	Lot potential (low)	Lot potential (high)
R10	135	107	145	145
R10/30	1	0	130	433
R12.5	2	4	4	4
R12.5/20	1,328	1,283	1,226	2,156
R15	473	432	469	469
R2	84	57	122	122
R2.5	55	28	67	67
R20	8	11	130	130
R35	6	5	27	27
R40	4	0	59	59
R5	51	25	76	76
R5/10	88	81	80	198
Grand Total	2,235	2,033	2,535	3,886

Source: Department of Planning, Lands and Heritage (2018) *Integrated Land Information System*



Map 8: Vacant lots and Indicative dwelling potential (high)

5.9 Adequacy of supply

Analysis on the adequacy of supply in the Shire of Gingin is predicated upon an average household size of 2.4 persons per dwelling, and that existing rates of dwelling occupancy (at the 2016 Census) will be maintained.

The median (Band C) WA Tomorrow population forecast for the Shire shows an average population increase of 83 residents per annum between 2011 and 2026. Population growth of this nature will require the construction of an additional 66 dwellings per annum (based on an average household size of 2.4 persons per dwelling and an occupancy rate of 52.3 per cent) in order to accommodate growth. It must be noted that the occupancy rate carried forward is quite low, resulting in estimations of a hypothetical temporal land supply to be rather conservative.

Under this growth scenario, there are sufficient stocks of residential and rural living land identified to meet population growth into the long term (Table 6). A hypothetical temporal land supply of 103 years (113 years if the stock of vacant lots is included in the supply capacity) has been identified. This supply has the capacity to support an additional population

of approximately 13,800. The proposed development areas at Lancelin South (site LAN01) and Moore River South (site GDN02) contribute significantly to the supply capacity, with 88 per cent of the identified dwelling yield from these sites combined.

In addition to the identified dwelling yield shown in Table 2 (section 5.5), the development outlook analysis (section 5.5; Table 3 and Maps 6 and 7) also identifies a number of investigation areas. Dwelling yields are not identified for investigation areas as further assessment is required to determine the suitability of the sites for residential land-use. Once substantial planning has been undertaken for investigation areas, and if such areas have been determined as suitable for residential land-use, the temporal land supply may be extended.

Table 6: Adequacy of supply – Shire of Gingin

Timeframe	Estimated dwelling requirement	Identified dwelling yield
2016 - 2021	379	2,266
2021 - 2026	240	1,357
2026 - 2031	331	1,599
2031 - 2036	331	1,599
Total	1,282	6,820
Stock of vacant lots	648	

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

6 Rural living

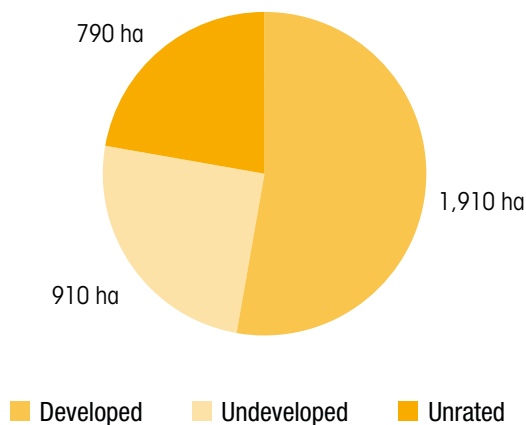
Within the Shire of Gingin, land zoned for rural living purposes covers approximately 3,620 hectares. The Shire's stocks of rural living land are located across the localities of Gabbadah, Gingin, Ginginup, Karakin, Lennard Brook, Nilgen and Woodridge.

Using the IRIS land supply model, areas of land zoned for rural living purposes are assessed to provide a snapshot of rural living stocks as at December 2017. Land zoned 'rural living' is included in this analysis. Approximately 1,910 hectares (53 per cent) of this stock was considered to be developed. A further 910 hectares (25 per cent) and 790 hectares (22 per cent) were considered to be undeveloped and unrated respectively (Figure 12). The majority of undeveloped stocks of rural living land are across the localities of Gabbadah, Karakin and Nilgen.

Figure 13 depicts data for rural living subdivision activity over the decade to June 2018. During this period, applications were lodged to create a total of 672 rural living lots, with 608 lots granted conditional approval. There were peak periods of conditional subdivision approvals in 2008, 2012 and 2017. In the ten years to June 2018, 25 lots granted conditional approval have progressed to final approval.

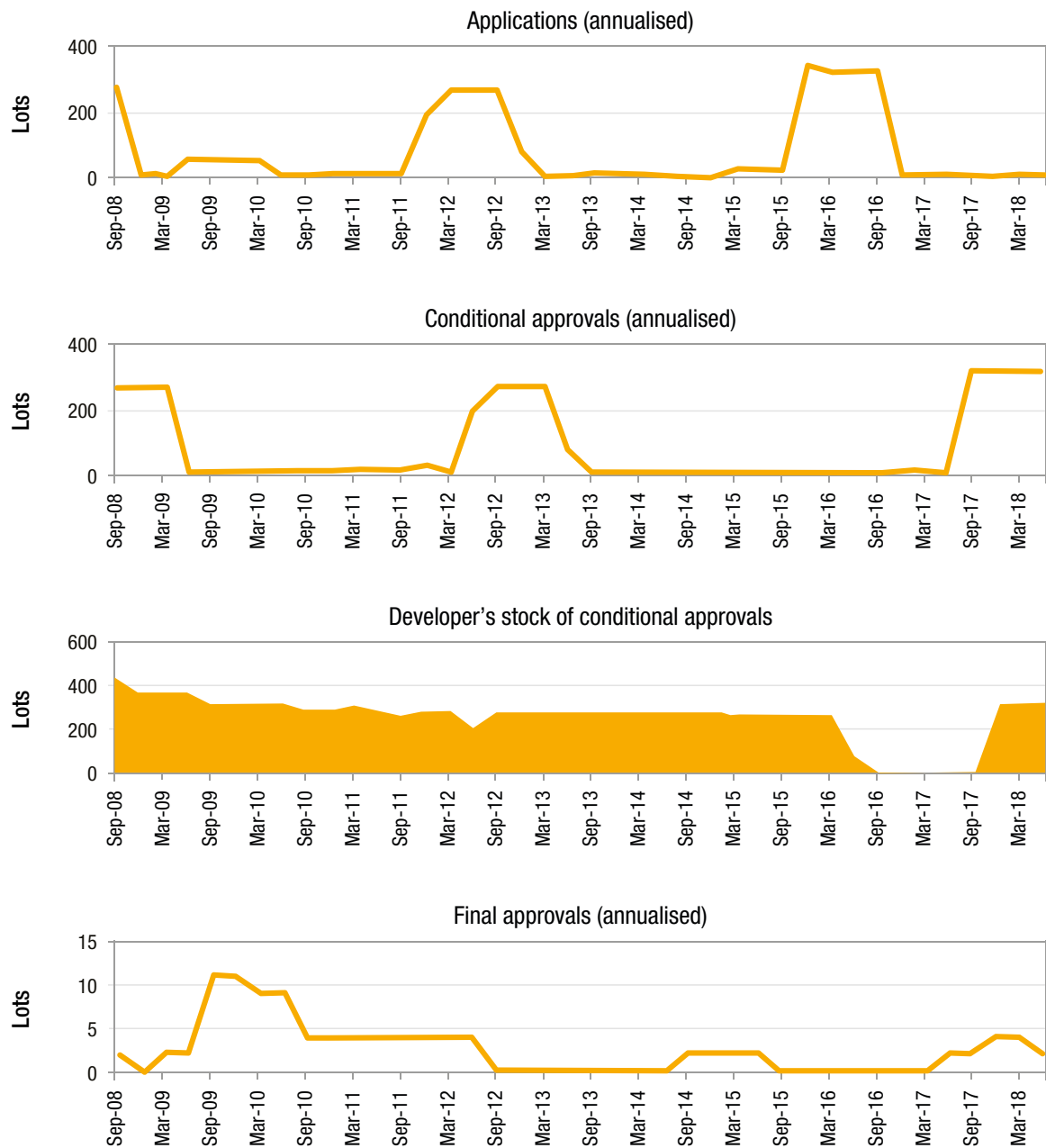
The *Shire of Gingin Local Planning Strategy* has identified areas for potential rural living in the Gingin townsite and between the Redfield Park and Sovereign Hill estates in Gabbadah. The local planning strategy also establishes a policy position to limit expansion of rural living development to existing areas in the Shire and those identified on the local planning strategy map.

Figure 12: Stock of land zoned for rural living purposes - Shire of Gingin



Source: Department of Planning, Lands and Heritage (2018) *Integrated Regional Information System*

Figure 13: Rural living subdivision activity and lot supply pipeline



Source: Western Australian Planning Commission (2018) *State Lot Activity*

7 Industrial

Land zoned for industrial purposes in the Shire of Gingin covers approximately 205 hectares. The Shire's stocks of industrial land are located in the localities of Coonabidgee, Gingin, Lancelin and Ledge Point.

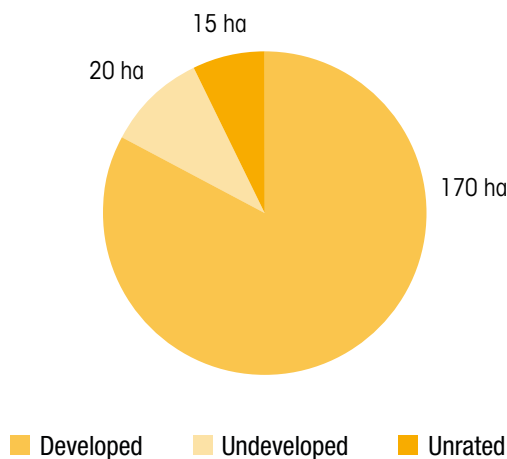
Using the IRIS land supply model, areas of land zoned for industrial purposes are assessed to provide a snapshot of the stock of industrial land within the Shire as at December 2017. Land zoned 'rural industry' and 'mixed business' are included in this analysis.

IRIS analysis identified 159 lots (205 hectares) on land zoned for industrial purposes in the Shire of Gingin. Most of this stock (170 hectares or 83 per cent) was considered to be developed. A further 20 hectares (10 per cent) and 15 hectares (seven per cent) were considered to be undeveloped and unrated respectively

(Figure 14). In addition to industrial zoned land, IRIS analysis identified 6 lots (130 hectares) on land reserved for basic raw materials.

The Lancelin South Structure Plan identifies a 56 hectare lot zoned 'future development' in Lancelin with a yield of approximately 122 industrial/mixed business lots (site IND202). The Moore River South development (GDN02) in Caraban also proposes 126 light industry/mixed business lots (approximately 23 hectares). If these lots are created, they will contribute significantly to the undeveloped stock of land zoned for industrial purposes in the Shire.

Figure 14: Stock of land zoned for industrial purposes - Shire of Gingin



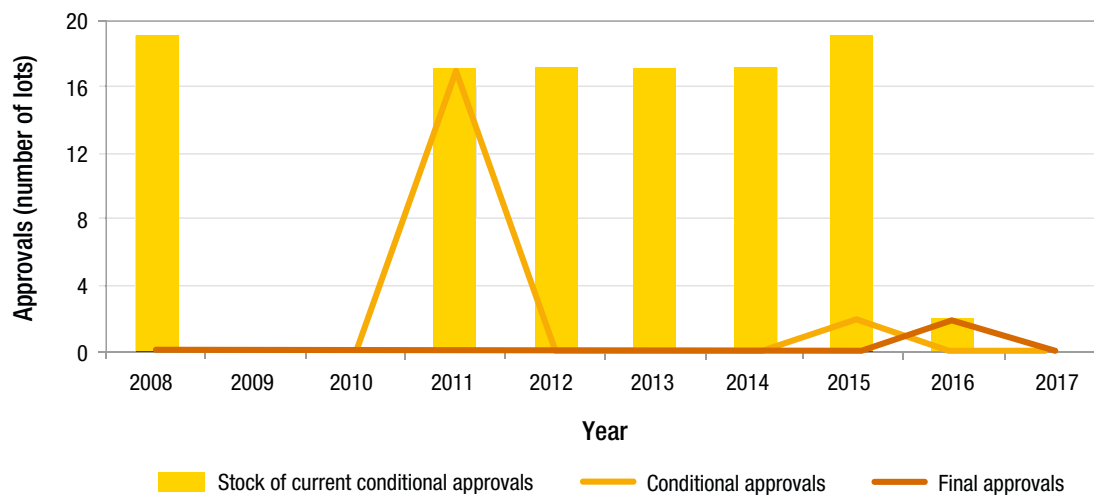
Source: Department of Planning, Lands and Heritage (2018) *Integrated Regional Information System*

Figure 15 shows industrial subdivision activity in the Shire from 2008 to 2017. Over the decade to December 2017, there was a peak of 17 lots granted for conditional subdivision approval in 2011, from a single subdivision application in Ledge Point. However, only two lots have progressed to final approval during this period. In the March 2018 and June 2018 quarters, there were no applications lodged or lots granted conditional or final approval.

Most of the industrial activities within the Shire either service or relate to primary industries such as agriculture, fishing and basic raw material extraction. The majority of the Shire's industrial land is zoned 'rural industry' zoned land in the Frogmore Rural Industrial area in Coonabidgee, which is located in close proximity to the Gingin townsite.

There has been limited land development in the Shire for industrial areas in recent years, with the Shire lacking general 'industry' zoned land. Due to this limited development, the stocks of industrial land available are now nearing capacity. Smaller service industries are being developed on an ad-hoc basis in response to local demand. The *Shire of Gingin Local Planning Strategy* identifies an opportunity to increase the diversity of industrial activity within the Shire and to expand industrial areas closer to other major townsites such as Ledge Point, Guilderton and Seabird.

Figure 15: Industrial subdivision activity - Shire of Gingin (2008-2017)



Source: Western Australian Planning Commission (2018) *State Lot Activity*

8 Commercial

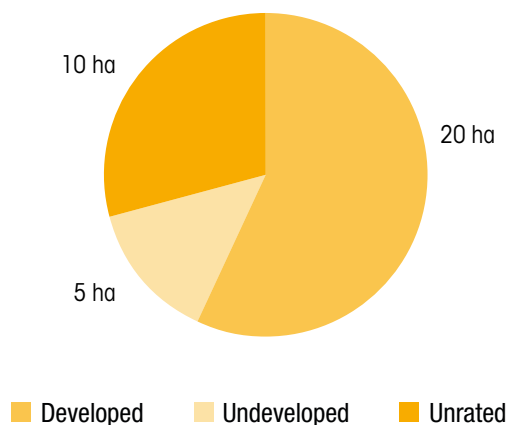
Within the Shire of Gingin, land zoned for commercial purposes covers approximately 35 hectares. The main stocks of the commercial land in the Shire are located in the localities of Gingin, Lancelin and Ledge Point.

Using the IRIS land supply model, areas of land zoned for commercial purposes are assessed to provide a snapshot of the stock of commercial land within the Shire as at December 2017. Land zoned 'town centre' and 'tourism' are included in this analysis.

IRIS analysis identified 138 lots (35 hectares) of land zoned for commercial purposes in the Shire of Gingin. Approximately 20 hectares (57 per cent) of this stock was considered to be developed. A further five hectares (14 per cent) and 10 hectares (29 per cent) were considered to be undeveloped and unrated respectively (Figure 16).

The majority of stocks of land zoned for commercial purposes are located in Lancelin. There are small pockets of undeveloped land located in Lancelin and Ledge Point; however, land zoned for commercial purposes in these two settlements, as well as in Gingin and Seabird, is largely developed. There is approximately 1.8 hectares of land zoned for commercial purposes in the Guilderton townsite, of which 92 per cent is considered to be unrated.

Figure 16: Stock of land zoned for commercial purposes - Shire of Gingin



Source: Department of Planning, Lands and Heritage (2018) *Integrated Regional Information System*

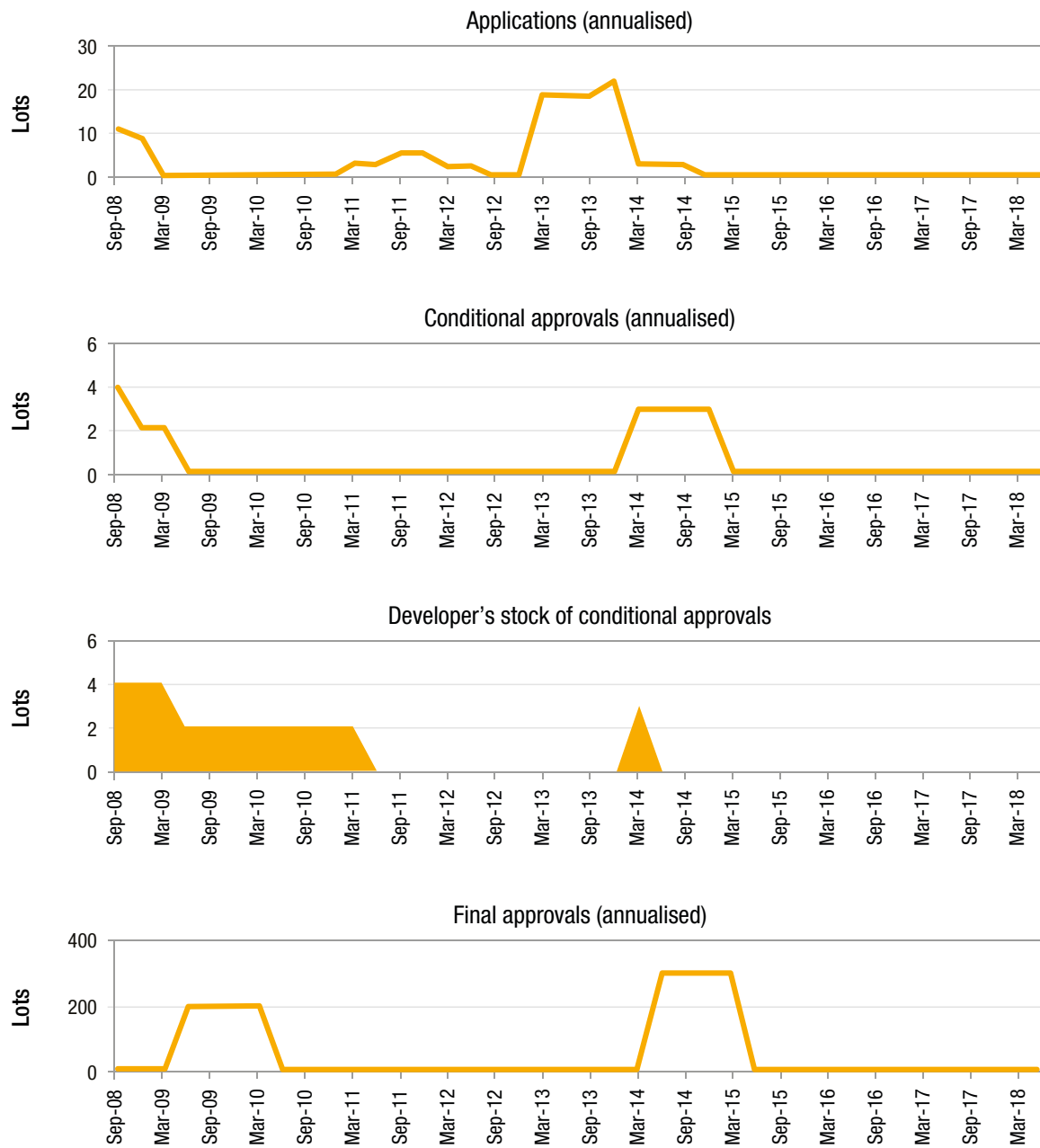
The Lancelin South development area (site LAN01) has identified 0.3 hectares of land for future commercial use. The Moore River South development in Caraban (site GDN02), which was granted conditional subdivision approval in 2014, proposes 11 lots (approximately 42 hectares) for commercial purposes. Both of these sites are currently zoned 'future development'. If these lots are created, they will contribute significantly to the undeveloped stock of land zoned for commercial purposes in the Shire. A 363 hectare site in Breton Bay was also recently zoned from 'general rural' to 'tourism' to facilitate the development of a mix of low to high-end tourist accommodation.

Figure 17 shows the commercial subdivision activity in the Shire over the decade to December 2017. During this period, a total of three lots were granted conditional approval with five lots progressed to final approval.

The Shire currently has limited commercial zoned land. The *Shire of Gingin Local Planning Strategy* identifies the need to expand commercial activity in the Gingin, Ledge Point, Guilderton and Seabird townsites, as well as limited opportunities for expansion in Lancelin. The local planning strategy notes that there is a need for consolidation and creation of focal points of commercial activity within the Shire's townsites.

Investigation areas identified as land for potential commercial purposes have been incorporated into this report's development outlook analysis (Section 5.5). This includes a 34 hectare lot in Lancelin identified as potential 'tourism' (site LAN09) and two lots totalling 18 hectares in Gingin identified as potential 'town centre' (sites GIN17 and GIN18).

Figure 17: Commercial subdivision activity and lot supply pipeline



Source: Western Australian Planning Commission (2018) *State Lot Activity*

9 Service infrastructure

The following section outlines the broad infrastructure capacity for the Shire of Gingin and identifies upgrades that may be required to facilitate future residential, industrial and commercial growth in the Shire.

9.1 Water

Independent groundwater sources are the main source of drinking water supply for the townsites in the Shire of Gingin and most schemes are under the responsibility of the Water Corporation. Due to the geography and dispersed settlement pattern in the Shire, the water schemes are isolated and standalone and not part of the Perth Metropolitan Integrated Water Supply Scheme.

Water schemes managed by Water Corporation include:

- Gingin
- Guilderton
- Lancelin
- Ledge Point
- Nilgen
- Seabird
- Seaview Park
- Sovereign Hill
- Woodridge

Minor headwork upgrades will be undertaken to the Water Corporation operated schemes as required, to meet forecast increase in source demand.

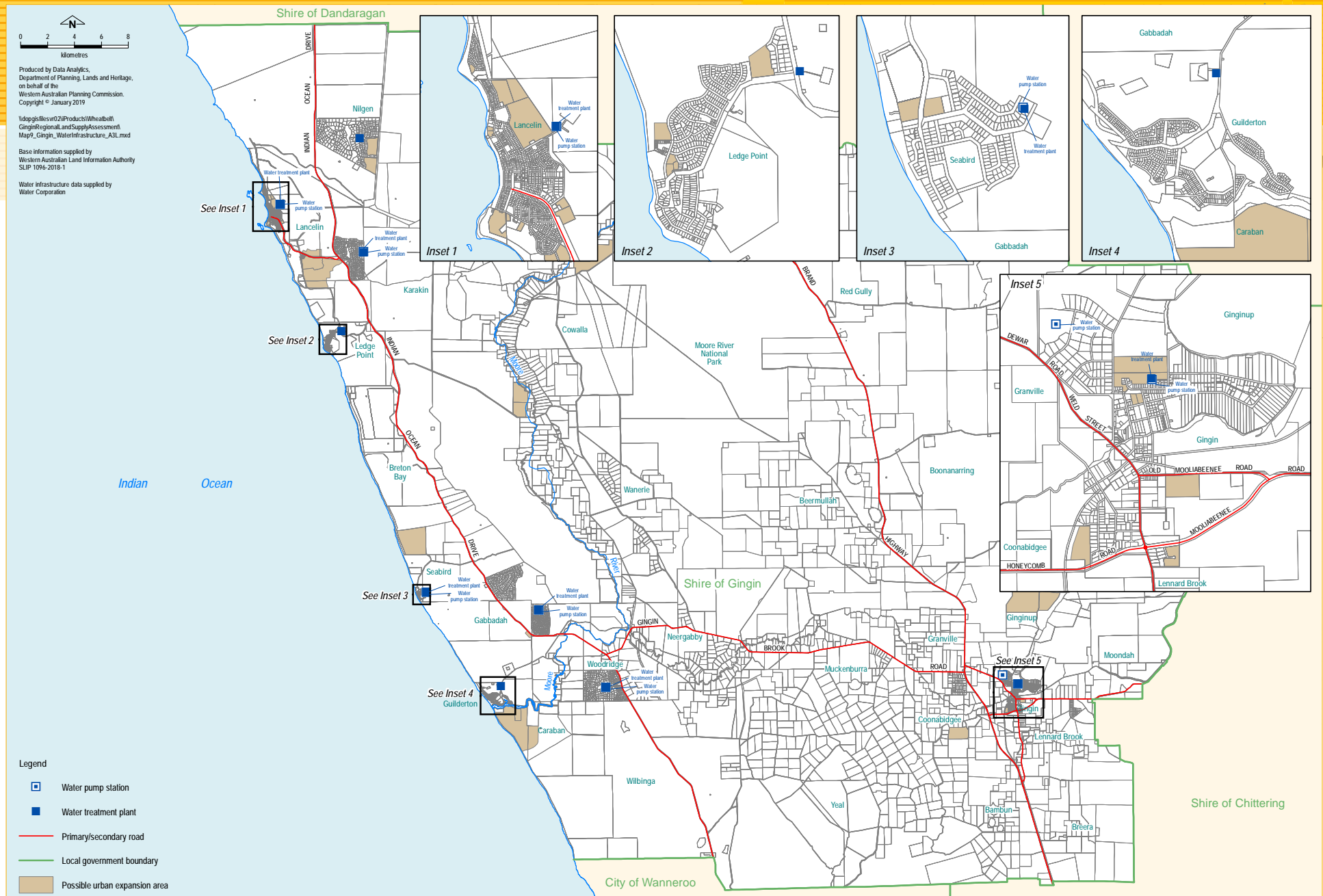
The Lancelin South urban development area (site LAN01) is served by a privately operated scheme and the proposed Moore River South development area (site GDN02) will similarly be served by a private scheme when the development commences. The tourism development in Breton Bay (site SEA05) will also require potable water supply, with options including obtaining an additional water allocation from the Leederville aquifer through water trading or engaging a private water supply service provider.

The preferred approach will be formulated during the structure planning phase.

Water resource availability within the Shire is highly constrained. Groundwater levels and stream flows in the Shire are declining as a result of reduced rainfall and growing land-use pressures in the Gingin catchment. The drying climate has placed increased pressure on surface water and groundwater resources, particularly in the upper reaches of the catchment where Gingin Brook and Lennard Brook receive water from the underlying Surficial, Mirrabooka and Leederville-Parmelia groundwater aquifers. Reduced recharge to these aquifers and high levels of groundwater use, together with surface water use, are causing summer base-flows in the Gingin and Lennard Brooks to decline to levels that may jeopardise water entitlements and water dependent ecosystems.

There are a few areas identified as investigation areas in this report's development outlook analysis (section 5.5) which are not covered by current Water Corporation infrastructure planning. In addition, groundwater availability is nearing or at full allocation across the Shire. Water trading may be an option for water availability. There is water currently available in the Surficial and Fractured Rock aquifers; however, the quality and yield is highly variable and would therefore require on-site investigations to determine viability as a potable and non-potable water source. Therefore, it is likely that alternative water sources and viable supply solutions for the Shire will need to be investigated, given the Shire's anticipated population growth and the need to accommodate most of this growth in areas connected to essential infrastructure and services.

The existing water supply infrastructure in the Shire of Gingin is shown on Map 9.



Map 9: Water infrastructure

9.2 Wastewater

The Water Corporation operates wastewater treatment plants (WWTPs) in Lancelin and Ledge Point. These treatment plants service the sewerage parts of Lancelin and Ledge Point. Treated effluent from the WWTPs is discharged from the plant into local infiltration basins.

There is a small area of Seabird townsite that is serviced by reticulated sewerage. There is no WWTP in Seabird, and wastewater is stored in the Seabird sewerage system and then tankered to the Lancelin WWTP. The Water Corporation does not have any plans or capital funding to extend the Seabird sewerage scheme beyond the current sewer catchment.

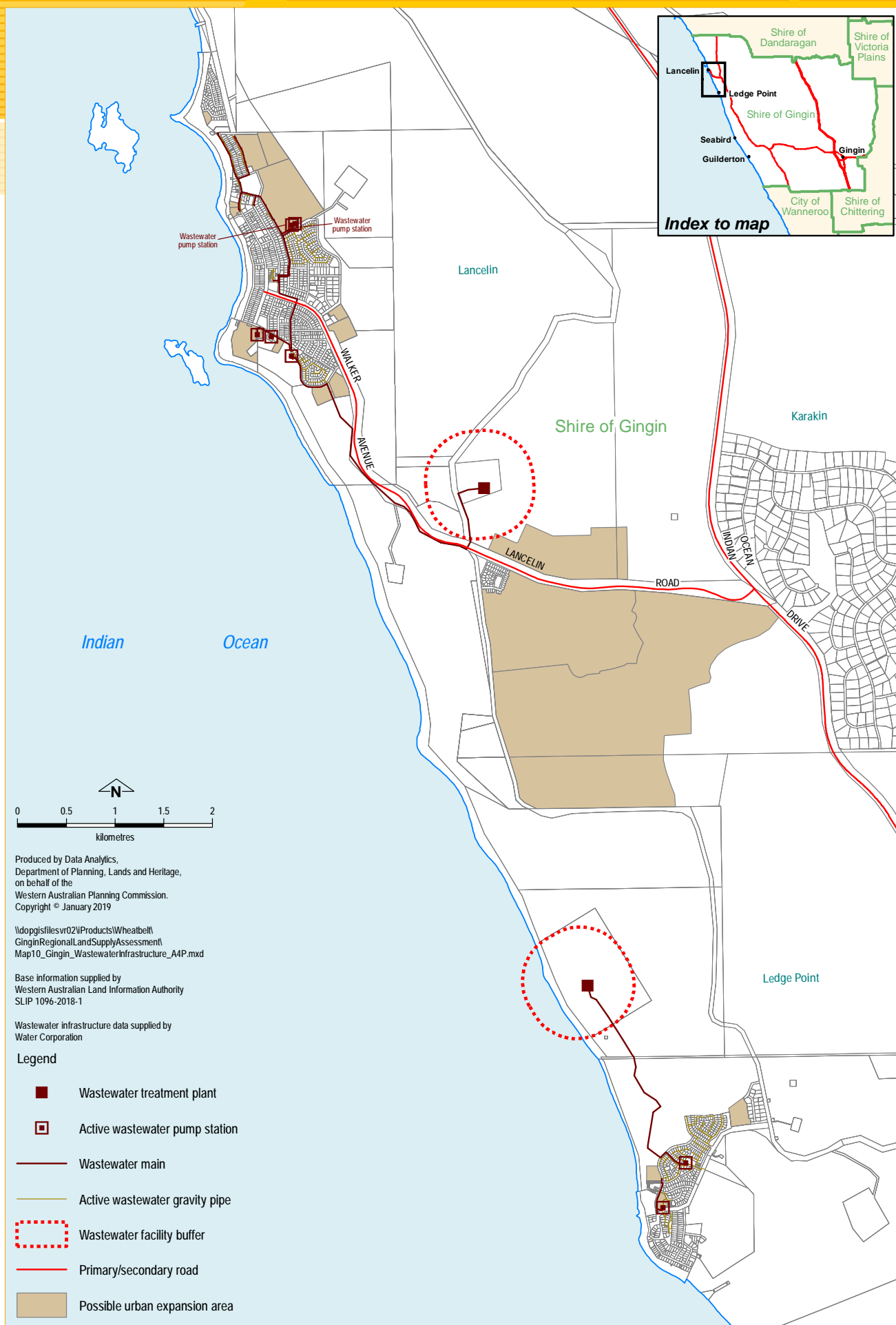
The Water Corporation's long term wastewater service planning for these three schemes provides for some growth within the existing sewer catchments. The timing for any increased capacity will be determined by the Water Corporation and will be dependent on additional demand created by further infill of the towns.

Wastewater from the Lancelin South development area (site LAN01) is currently tankered by the developer to the Water Corporation's Lancelin WWTP. Lancelin South will remain a privately operated scheme. The proposed Moore River South development (site GDN02) will also be serviced by a privately operated wastewater scheme when the development commences.

Other residential or rural living settlements in the Shire are currently not connected to reticulated sewerage. The draft Government Sewerage Policy recommends new lots and development to be connected to reticulated sewerage unless exempt under particular circumstances under the policy. Where this is the case, the policy provides for the consideration of on-site sewage disposal on the condition that it does not compromise public health or the environment and where minimum site requirements can be met.

The lack of a reticulated sewerage system limits the capacity for increased residential density in regional towns. This affects non-sewered settlements, including the Gingin townsite which is identified by the draft Government Sewerage Policy as a sewage

sensitive area due to its proximity to the Gingin Brook. There may also be a need to investigate fit-for-purpose wastewater disposal systems to accommodate future growth of the Shire.



Map 10: Wastewater infrastructure

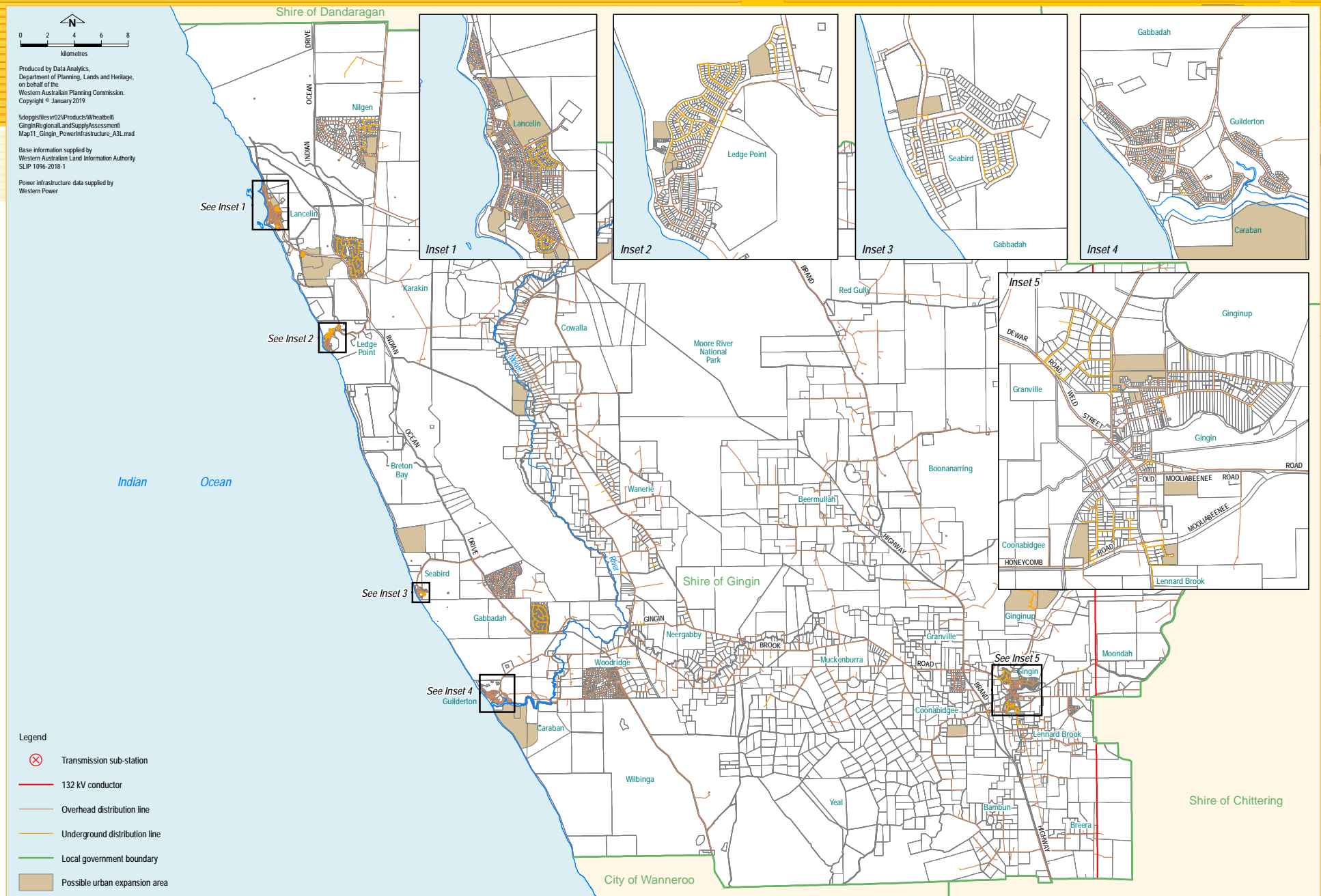
9.3 Energy

Western Power manages energy supply to the Shire of Gingin. The Shire is covered by the North Country load area of the Western Power network, which extends from Pinjar and Muchea at the northern edge of the Neerabup terminal load area to Kalbarri at the northern extremity of the network. Electricity in the Shire is serviced by 132kV transmission lines which extend from the Regans and Muchea substations.

Western Power's Network Capacity Mapping Tool shows a fairly constrained supply at 2017 for the mid-section of the Shire, which includes localities such as Seabird and Gabbadah, at 5-10 megavolt amperes (MVA). For the northern parts of the Shire, the supply capacity is less constrained at 10-15 MVA. Supply is the least constrained around the Gingin and Guilderton townsites at 25-30 MVA.

There are two wind energy facilities located in the localities of Karakin and Mimegarra. They are both operated by Blair Fox, an independent electricity company. The facility is connected to the South West Interconnected System electrical grid. There is also current development approval for a proposed wind energy facility in Nilgen.

The *Wheatbelt Regional Planning and Infrastructure Framework* states that there is potential to establish other alternative energy initiatives, particularly in coastal areas where energy demand is increasing.



Map 11: Power infrastructure

9.4 Transport

The Shire of Gingin is served by a primary and regional distributor road network consisting of Brand Highway, Indian Ocean Drive, Gingin Brook Road, Mooliabeenee Road and Orange Springs Road. Indian Ocean Drive provides connections to the coastal townsites such as Guilderton, Seabird, Ledge Point and Lancelin. It is a principal coastal tourist route linking the Perth metropolitan area with the Pinnacles in Cervantes and Jurien Bay Marine Park. Brand Highway provides access to the Gingin and Muchea townsites and the Perth metropolitan region to the south and Eneabba, Dongara/Port Denison and Geraldton to the north. Gingin Brook Road and K.W. Road, Sappers Road and Orange Springs Road provide east-west connections between Indian Ocean Drive and Brand Highway.

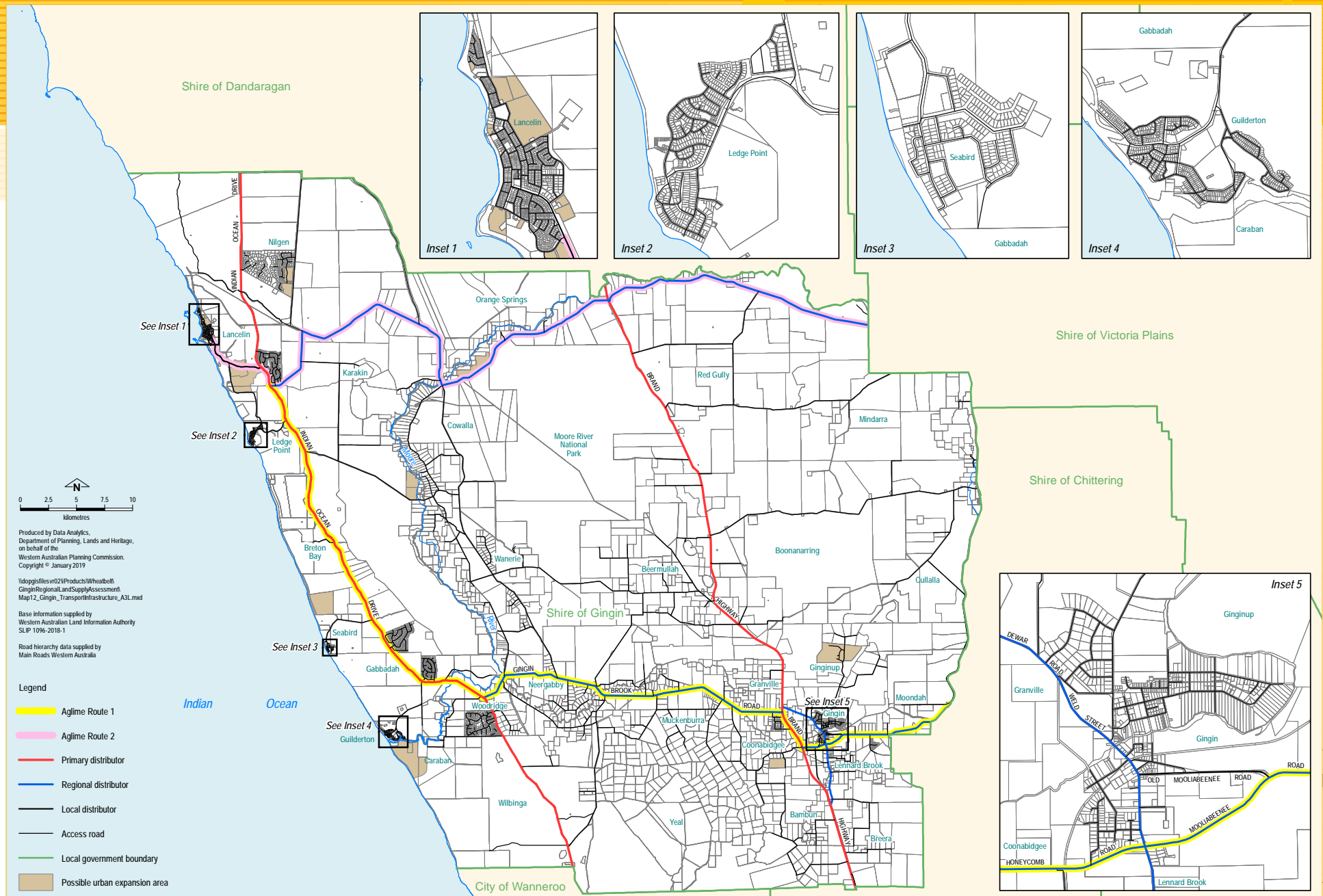
The Lancelin to Cervantes section of Indian Ocean Drive officially opened in 2010. The road was constructed to provide a scenic alternative route away from heavy vehicle traffic on Brand Highway. New passing lanes and road widening on Indian Ocean Drive between Lancelin and the City of Wanneroo local government area (LGA) boundary are under construction to improve road safety and efficiency, with construction expected to be completed by December 2018.

Further planning work is being considered to identify future road upgrades and the road networks between Main Roads Western Australia, the Shire and the City of Wanneroo. The Mitchell Freeway future extension is planned to connect to Indian Ocean Drive within the Shire, providing reduced travel times between the Shire and Perth northern metropolitan areas. Currently, there is a concept which shows the freeway intersecting slightly north of the City of Wanneroo LGA boundary; however, this may be subject to change.

The NorthLink WA project will provide a transport link between Morley and Muchea. The aim of the project is to reduce travel times and congestion and provide significant productivity benefits to the economy, industry, motorists and local communities. Although the project is not located within the Shire, it will provide improved access to Brand Highway which is one of the main transport routes through the local government area.

Within the Shire, there are two agricultural lime sands (aglime) routes as shown in the *Roads 2030: Regional Strategies for Significant Local Government Roads - Wheatbelt North*. Both Aglime Route 1 and 2 are classified as a Restricted Access Vehicle Network 4, allowing for heavy vehicles up to 27.5 metres in length to cart aglime material. Aglime Route 1 is from the Lancelin Townsite, Lancelin Road, Indian Ocean Drive, Gingin Brook Road, Brand Highway, Honeycomb Road and Mooliabeenee Road heading further east towards the Wheatbelt. Aglime Route 2 is from K.W. Road, Sappers Road, Orange Springs Road, Brand Highway and Mogumber Road West heading further east towards the Wheatbelt.

There are two TransWA bus routes which travel through the Shire and connect Perth and Geraldton. There is a route along Indian Ocean Drive which stops at Lancelin and has two services on the weekend and a route along Brand Highway which stops at the Gingin townsite and has a service six days of the week.



Map 12: Transport infrastructure

9.5 Coastal

The Shire is popular for recreation boating, but does not have any formal boat launching facilities on the ocean shoreline. Boats are currently launched over the beach at a number of locations. The provision of coastal facilities to service existing residents and visitors is an ongoing issue in the Shire, primarily due to a lack of funding. In 2015, the Shire engaged a specialist coastal and port engineers to carry out a study to identify a safe site for ocean boat launching within the local government area. The study recommended that boat launching facilities in Lancelin and Ledge Point be progressed to preliminary design.

In recent years, the Seabird townsite has experienced coastal erosion due to various storm events. In 2014, the Shire's Council resolved to authorise expenditure for the implementation of sand nourishment to protect a section of coastline adjacent to Turner Street where a number of properties are facing immediate risk of coastal erosion. The sand nourishment implemented by the Shire provided for temporary relief. However in 2015, the nourishment works had been washed away.

In 2016, a 500 metre seawall was constructed to provide medium-term relief, expected to last between five to 10 years, to protect up to 15 properties on Turner Street. The seawall was not proposed to provide relief to the ongoing erosion experienced along the greater Seabird foreshore.

The Shire is currently in the process of developing a Coastal Hazard Risk Management and Adaption Plan to identify long-term solutions to coastal erosion in the local government area. The Coastal Hazard Risk Management and Adaption Plan identifies residential properties in Seabird South to be highly vulnerable to coastal processes and properties at Ledge Point South and Ledge Point North to be highly vulnerable to coastal processes by 2030 and 2070 respectively. Residential properties at Lancelin are considered to be highly vulnerable to coastal process by 2070 for those properties south of the jetty and by 2110 for those properties further north.

Glossary

Building approvals

A **house** is a detached building primarily used for long-term residential purposes. It consists of one dwelling unit. For instance, detached 'granny flats' and detached dwelling units (for example, caretaker's residences) associated with a non-residential building are defined as houses. Also includes 'cottages', 'bungalows' and rectories.

Other dwellings include all dwellings other than houses. They can be created by: the creation of new other residential buildings (for example, flats); additions/alteration work to an existing residential building; either new or alteration/addition work on a non-residential building; conversion of a non-residential building to a residential one, creating more than one dwelling unit.

Population

Estimated resident population (ERP) - The official estimate of the Australian population based on place of usual residence. Estimates of the resident population are calculated as at 30 June of each year for selected Australian Statistical Geography Standard (ASGS) geographies, including sub-state areas such as Statistical Areas Level 2 (SA2s) and Local Government Areas (LGAs).

Estimates of the resident population for Census years (that is, 2011 and 2016) are based on Census counts of usual residence (excluding short-term overseas visitors in Australia), with an allowance for Census net undercount and Australian residents temporarily overseas at the time of the Census.

Sub-state population estimates for non-Census years were previously updated using data inputs from a variety of sources, such as dwelling approvals, Medicare and Australian Electoral Commission enrolments. In 2017, the ABS adopted a new, component-based method to estimate resident population at the sub-state level. Estimates of the resident population for 30 June 2017 and onward will be calculated by adding natural increase (births minus deaths), net internal migration and net overseas migration to the base population. This method is consistent with that used to calculate ERP at national and state/territory level, and will provide a greater understanding of why population has changed.

ERPs are the official population figures for Australia. They are widely used as a basis for Government decision-making, including the allocation of federal government funding to local government authorities, and assist in decisions regarding development, infrastructure and policy formulation, monitoring and reporting.

Geography

The **Wheatbelt region** is one of the nine regions of Western Australia, as defined by the *Regional Development Commissions Act 1993*. The region is comprised of 42 local government areas, including the Shire of Gingin.

The **Central Coast sub-region** is one of the five sub-regions of the Wheatbelt region. The sub-region is comprised of two local government areas, including the shires of Dandaragan and Gingin.

Significant Urban Areas (SUAs) represent concentrations of urban development with populations of 10,000 people or more using whole Statistical Area Level 2 (SA2s). They do not necessarily represent a single Urban Centre, as they can represent a cluster of related Urban Centres with a core urban population over 10,000. They can also include related peri-urban and satellite development and the area into which the urban development is likely to expand.

Statistical Areas Level 1 (SA1s) has been designed as the smallest unit for the release of Census data. SA1s generally have a population of 200 to 800 persons, and an average population of about 400 persons. They are built from whole Mesh Blocks and there are approximately 55,000 SA1s covering the whole of Australia.

Statistical Areas Level 2 (SA2s) are a general-purpose medium sized area built from whole SA1s. Their aim is to represent a community that interacts together socially and economically. SA2s generally have a population range of 3,000 to 25,000 persons, and have an average population of about 10,000 persons. The SA2 is the lowest level of the ASGS structure for which Estimated Resident Population (ERP), Health and Vitals and other non-Census ABS data are generally available. There are 2,196 SA2s covering the whole of Australia.

Statistical Areas Level 3 (SA3s) provides a standardised regional breakup of Australia. The aim of SA3s is to create a standard framework for the analysis of ABS data at the regional level through clustering groups of SA2s that have similar regional characteristics. SA3s are built from whole SA2s and in general have populations between 30,000 and 130,000 persons. They are often the functional areas of regional cities and large urban transport and service hubs.

Mesh Blocks are the smallest geographic region in the Australian Statistical Geography Standard (ASGS), and the smallest geographical unit for which Census data are available. Most residential Mesh Blocks contain approximately 30 to 60 dwellings. Mesh Blocks have been designed to be small enough to aggregate accurately to a wide range of spatial units and thus enable a ready comparison of statistics between geographical areas, and large enough to protect against accidental disclosure. Due to the small size of Mesh Blocks, data are confidentialised and are only released for Basic Person Counts and Dwelling Counts.

Subdivision approvals

Conditional approval is granted by the Western Australian Planning Commission (WAPC) for subdivision to begin subject to certain conditions being met. The approval is preceded by an assessment of the proposed subdivision plan by statutory referral agencies, including servicing authorities. On receipt of conditional approval, the proponent may commence subdivision development in accordance with the conditions of approval. A conditional approval remains valid for three years where five lots or less are approved and for four years where six lots or more are approved.

Current valid conditional approvals refer to those conditional approvals that are still valid but have not yet been issued with final approval. In general, these are approvals for which construction/servicing has not yet commenced or is currently under way (see active conditional approvals).

Active conditional approvals refer 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.

Inactive conditional approvals are where conditional approval has been granted and the approval is still valid, but where a servicing agreement (agreement to construct) has not been signed between the Water Corporation and the developer.

Lapsed conditional approvals are those where the approval has expired and the conditions have not been met.

Final approval is the WAPC endorsement of the proponent's submitted plan/diagram(s) of survey describing the now complete subdivision; constructed in accordance with the conditions set down in the conditional approval. Final approvals are then registered with the Office of Titles where certificates of titles for the newly created lots can be issued.

Developers lodged application – subdivision application and its accompanying lots received by the WAPC for subdivision approval.

Application under assessment – is the number of applications and accompanying lots awaiting decision for subdivision. Statistics include deferred applications.

Planning

Local planning schemes are detailed planning schemes developed by local governments to identify the range of permitted land-uses within specified locations. Within the Metropolitan, Peel and Greater Bunbury Region Schemes areas, local planning schemes must be consistent with the provisions identified within the relevant region scheme.

Local planning strategies contain the strategic plan and policy context of a local planning scheme. The strategy sets out the general aims, intentions and desired outcomes for long-term growth and change, having regard to social, economic and environmental factors. An assessment of the capacity of infrastructure such as water, sewerage, electricity and roads is also usually considered in a local planning strategy. Residential densities and commercial centres may also be identified.

A **scheme amendment** is any amendment to a local planning scheme as set out within Part 5 of the *Planning and Development (Local Planning Schemes) Regulations 2015*. The amendment process requires proposed amendments to be advertised for wider community and government comment. The amendment process is regulated by the *Planning and Development Act 2005*, allowing for extensive community consultation to review the proposal before a final decision is made.

Structure plan refers to a document including spatial plans that details the proposed layout of a future development area. The preparation of a structure plan is one of the first steps in progressing proposals for the development of new areas. In addition to illustrating details such as road configuration and the location of retail and community facilities such as shops, schools and public open space, a structure plan can also show details such as housing density, land-use classifications and buffer zones. Structure plans highlight opportunities and constraints in an area, and can provide the basis for amendments to local planning schemes. Structure plans can generally be categorised as region, district or local structure plans.

Temporal land supply is an estimate of the number of years it will take to completely consume land that is currently zoned for urban development. Temporal land supply can vary based on different development scenarios, particularly where different rates of density and infill are applied.

Underlying housing demand refers to the need for additional dwellings that will satisfy the requirements of a population (and population growth), irrespective of the demand actually expressed by the market.

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Appendix 1

Integrated Land Information Database (ILID)

ILID 2015 – Background:

The Integrated Land Information Database (ILID) is a net land-use assessment and capability model that is generated at a cadastral level for the whole of Western Australia. The database can be used to identify the current range of land-uses within a number of predefined boundaries. It can also model future capability based on what is known about the current (or proposed) planning policies and statutory instruments.

The model is produced within a Geographic Information System by overlaying a variety of layers to compute the coincidence of two or more parameters. For example, if a dataset containing the locations of school sites is overlayed with another dataset that shows the areas that are within two kilometres of the coast, it is possible to generate a single dataset with schools that are within two kilometres of the coast. This process can be repeated with a variety of datasets in endless combinations to help with multi-criteria decision analysis through the process of elimination.

The ILID works by linking the spatial extent of many different input layers with all the unique cadastral identifiers that exists at a particular point in time. The result of this overlay process creates many versions of the cadastre attributed with discrete pieces of information i.e. cadastre version of the local planning scheme zones, region schemes, R-Codes and so on. The 'integrated' component of the database means that once all of the individual inputs have been identified, they can all be joined together using a tabular join through the common PIN number field across all datasets.

For this document, the ILID has been used to identify the lot potential and additional dwelling potential of all residential lots (with an R-Code identified in the Shire of Gingin Local Planning Scheme No.9) in the Shire of Gingin. Vacant lots were not included in this analysis.

ILID analysis in this document includes three key inputs: lot size, R-Code value and dwelling count/location. Constraints to subdivision such as heritage, infrastructure supply and environment are not variables included in this analysis, and as such, a significant proportion of the development potential may not be realised.

Definitions:

Lot potential is used to determine how many potential lots the R-Code intends to yield as a maximum. For example, a lot that has an R-Code of R20 has a planned density of a single 450 square metre lot. Or a 900 square metre lot has the potential to create two 450 square metre lots. In any case the lot potential can only be calculated if there is an existing R-Code present.

Net dwellings, also known as additional dwelling potential, identifies the extra amount of dwellings a single lot can add on (disregarding the location of the current dwelling footprint and has a hundred percent take-up rate). This is determined by the size of the lot and the current lot potential based on the R-Code planning and any existing dwellings.

Appendix 2

Integrated Regional Information System (IRIS)

The sections of this report discussing the development status of land zoned for residential, rural living, industrial and commercial purposes draw heavily on the tiered land supply assessment model; the central output of the Integrated Regional Information System (IRIS). The model is a geographic information system (GIS)-based tool used to assess key measures of land-use dynamics across Western Australia.

The IRIS model groups zones under all local planning schemes into primary, secondary and tertiary categories. This grouping of local planning scheme zones forms the zone 'catchment' for each category.

Tier one of the IRIS model groups local planning scheme zones into primary categories for analysis. The table below shows the groupings of the *Shire of Gingin Local Planning Scheme No.9*.

Primary category (IRIS analysis)	Local planning scheme category
Residential	<ul style="list-style-type: none"> • Residential • Future Development
Rural living	<ul style="list-style-type: none"> • Rural Living
Industrial	<ul style="list-style-type: none"> • Industry • Rural Industry • Mixed Business
Commercial	<ul style="list-style-type: none"> • Town Centre • Tourism

Tier two of the IRIS model addresses the development status of each lot within the specified primary land-use category. Each cadastre (lot) within each primary land-use category is attributed one of three values (developed, undeveloped or unrated), based on information from Landgate's property valuation database.

Developed refers to lots that are zoned for development for the purposes of the specified primary land-use category for which premises information is captured in Landgate's property valuation database.

Undeveloped refers to lots that are zoned for development for the purposes of the specified primary land-use category that are recorded as vacant in Landgate's property valuation database.

Unrated refers to lots that are zoned for development for the purpose of the specified primary land-use category for which no vacant land or premises valuation information has been captured in Landgate's property valuation database. This may include State or local government owned lots or premises exempt from rates, Crown allotments, common property within lots on survey, newly created lots on survey, land otherwise exempt from rates and some public roads which are zoned for the primary land-use under the local planning scheme.

Tier three of the IRIS model refers to the nature of development by assessing the premises type against the land-use as indicated by the local planning scheme. Tier three of the IRIS model has not been included in analysis for this report as sites with identified development potential are described in Table 3 and Maps 6 and 7 of this document.