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# WOLLONDILLY SHIRE & WILTON GROWTH AREA

## HOUSING MARKET ANALYSIS

GLN PLANNING (ON BEHALF OF WOLLONDILLY SHIRE COUNCIL)

OCTOBER 2018



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# EXECUTIVE SUMMARY

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## BACKGROUND AND PURPOSE

Wollondilly Shire is on the southern peri-urban fringe of metropolitan Sydney and is characterised by 17 towns and villages that feature natural and rural environments. The Shire is located approximately 40km southwest of Campbelltown CBD, 50km northwest of Wollongong CBD and 90km southwest of Sydney CBD. The future Western Sydney Airport is some 50km to the north.

Wollondilly Shire Council recognises the need to ensure growth occurs in appropriate locations supported by the necessary level of services and infrastructure. As such, GLN Planning are engaged by Council to assist with preparing s7.11 development contributions plans for the Wollondilly Shire and Wilton Growth Area. As part of this work, Council seeks to understand the type, scale, location and likely rate of residential development that will occur.

AEC Group (AEC) is engaged as sub-consultant to GLN Planning to carry out a Housing Market Analysis to inform preparation of the s7.11 development contributions plans.

The objectives of the Housing Market Analysis (the Study) are two-fold, to investigate:

- Housing supply and demand, and likely take-up of development across the Wollondilly Shire, and
- Potential development take-up in the Wilton Growth Area.

The analysis of patterns of supply and demand will assist Council understand the trends and drivers impacting housing markets and development in the Wollondilly LGA and the Wilton Growth Area, and ultimately assist with an understanding of the nature and take-up of market demand that will inform planning for local infrastructure to support anticipated future growth.

## STRATEGIC AND LOCAL CONTEXT

### Greater Sydney Region Plan and Western City District Plan

The Greater Sydney Region Plan identifies a housing supply target of 39,850 dwellings for the Western City District in the five years to 2021 and 184,500 dwellings in the 20 years to 2036. The Wilton Growth Area is envisaged to play a major role in delivering new housing over the medium to long term.

Building on the strategic aims and objectives of the Region Plan, the Western City District Plan identifies five major housing markets with roles in providing different housing responses. The South West and Greater Macarthur Growth Areas are two of these markets.

The District Plan outlines a five-year housing target of 1,550 new dwellings for Wollondilly Shire by 2021. The District Plan specifically supports the residential housing targets outlined in the *Wollondilly Growth Management Strategy 2011* and recognises the role of the Shire in providing new housing whilst retaining the rural qualities and values of the area.

### Wollondilly Growth Management Strategy (2011)

The Wollondilly Growth Management Strategy was prepared in conjunction with the Wollondilly LEP (2011). The Strategy established the future direction of housing across the Shire through a set of guiding principles which specify the distribution and quantum of new development.

A key principle was that future development be concentrated in existing centres. Development outside centres should be discouraged to avoid dispersal of economic and population growth, land fragmentation and unnecessary urban sprawl. While the Strategy identified areas for potential residential growth and adopted a housing target of 7,500 dwellings (to 2036), it did not undertake technical studies to assess environmental capacity for growth.

The market is observed to have responded well to the Strategy, with many of the planning proposals since received within the areas outlined in the Strategy's structure plans. There could be latent capacity still remaining across the Wollondilly Shire for further residential growth, however this would need to be subject to technical investigations.

## Wilton 2040

The Wilton Land Use and Infrastructure Implementation Plan (Wilton LUIIP) was recently placed on public exhibition. It indicates potential for around 15,000 dwellings, open space, schools and an array of employment opportunities of around 15,000 jobs in the Wilton Growth Area (Wilton GA).

The Wilton GA is comprised of five precincts: South East Wilton, North Wilton, Wilton Town Centre and West Wilton. Bingara Gorge was rezoned in 2005 and is mostly developed for low density housing.

The Wilton LUIIP envisages detached housing (medium sized lots averaging 400sqm-700sqm) to comprise the majority of homes, with medium density and apartments close to public transport, town/local centres and open space. At build-out, the Wilton LUIIP expects 20% of dwellings comprised of medium and higher density product.

## Population and Dwellings

With a population of just over 48,500 in 2016, the Wollondilly Shire grew at an average annual rate of 1.9% since 2006, with a slightly higher rate of growth (2.3%) recorded over the 2011-16 period. This level of growth is higher than the surrounding LGAs (Penrith, Wollongong, Campbelltown) with the exception of Camden LGA.

The Wollondilly Shire recorded just over 15,800 dwellings in 2016. Average annual growth of 1.9% (or 287 dwellings per annum) was observed over the 2011-16 period. A notable increase in medium density occurred over this period.

Demographic analysis indicates the key characteristics which drive demand for different housing typologies:

- The Wollondilly Shire comprises a strong mix of age cohorts with around 30% children and adolescents, 19% being young adults, middle aged adults comprise 27% and older adults representing 25%. Older adults have consistently become a larger proportion of the Wollondilly population over the decade to 2016.
- Families are the dominant household type within Wollondilly Shire, predominantly couples with children.
- Average household occupancy rates increased from 3.0 persons (2011) to 3.1 persons per dwelling (2016).
- The population is relatively stable with low levels of internal migration observed in the five years to 2016.
- The population is considered to have high levels of social advantage with low levels of housing stress observed.
- Residents are a mix of white collar workers (such as professionals, clerical and administration and managers) and blue collar workers (technicians and trade workers, machinery operators and drivers and labourers).
- Residents are heavily car based with the majority of residents reliant on private vehicles to commute to work.

These trends ultimately underpin demand for a variety of housing sizes across Wollondilly Shire.

## MARKET CONTEXT

Market preference for housing is progressively shifting in the Wollondilly Shire. As housing affordability drives demand for housing in Sydney's major greenfield release areas, strong competition from a range of buyer cohorts (First Home Buyers, upgraders, investors) continues to place upward pressure on prices. As a result, a greater proportion of buyers are widening their search for housing which is affordable such as those on the outskirts of metropolitan Sydney including regions such as the Central Coast, Wollondilly, Camden and Wollongong.

Whilst affordability issues have resulted in lot sizes in the South West Growth Area, the traditional role of the Wollondilly Shire as a peri-urban housing market has not diminished. Established families, older couples and semi-retirees continue to be attracted to the rural lifestyle. Many of these buyers have a greater price tolerance compared to younger buyers and accordingly can afford the higher prices attached to large lots.

That said, new housing estates in Wollondilly Shire also attract First Home Buyers and other price-sensitive owner occupiers who have been 'priced-out' from the neighbouring South-West markets (Liverpool, Campbelltown and Camden LGAs). Buyers trade longer commute times for savings on housing. For instance, a 450sqm lot could cost \$300,000-\$330,000 compared to \$420,000-\$450,000 for similar sized product in the South West Growth Area.

Accordingly, the Wollondilly Shire housing market is observed to have a multi-faceted role in response to an array of affordability and lifestyle preferences.



## WOLLONDILLY SHIRE

In order to project dwellings take-up across the Wollondilly Shire to 2036, regard is had to historical growth of dwellings and population, official projections (as available) and an assessment of capacity for future development.

### Historical Growth

On a Shire-wide basis, new private dwellings have been added on average nearly 290 per annum in 2011 to 2016. Suburbs such as Appin and Wilton experienced the highest rate of growth, (50 and 80 dwellings per annum respectively), reflective of activity in Appin Valley and Bingara Gorge over the period.

Household occupancy rates have generally risen across the Shire, from 3.0 persons per dwelling (2011) to 3.1 persons per dwelling (2016). This rise is not uniform across all suburbs. Relevantly, the high growth suburbs recorded increases in household occupancy rates over the 2011-16 period. These household occupancy rates affirm the Shire's demographic composition dominated by family households with children. Notably, the number of bedrooms and motor vehicles per dwelling are consistent with increasing occupancy rates.

### Official Population and Dwelling Projections

DPE's Demography Unit projects population growth based on demography assumptions, i.e. birth and death rates, household formation, migration, etc. These projections of population growth are divided by projected household occupancy rates to arrive at the number of dwellings impliedly required to accommodate the population projected.

Actual dwellings (census 2016) was lower than projections by 2,400 dwellings. Conversely, population (census 2016) exceeded DPE's projections by 392 residents, resulting in higher household occupancy rates than projected.

If DPE growth projections (population and implied dwellings) are re-based, i.e. re-set to the 2016 census count, a lower number of additional dwellings but higher resident population numbers result. Higher household occupancy rates (3.1 persons) than projected (2.7 persons) result.

Relevantly, official population and dwelling projections (as available) were carried out prior to release of 2016 census data. It is understood these projections are currently under review.

### Future Capacity

The *Wollondilly Growth Management Strategy (2011)* adopted a housing target of 7,500 dwellings to 2036. This is fewer than the dwellings in official dwelling projections (DPE and TPA). Despite the lower housing target, planning interventions would be required to facilitate higher residential densities to achieve the adopted target.

There are about 47,800 dwellings proposed across the Shire (development applications and planning proposals). A significant proportion of dwellings in the pipeline are progressed via planning proposals (~95%) and therefore it is conceivable that some will be found to be lacking in environmental capacity or strategic merit.

The planning proposals in Wilton Growth Area and Appin represent the majority of the Shire's pipeline. The Wilton Growth Area is expected to be delivered in the medium term whereas West Appin is a longer term proposition.

While the *Wollondilly Growth Management Strategy (2011)* identified areas for potential residential growth it did not undertake technical studies to assess environmental capacity for growth. We highlight the Study's discussions on growth capacity do not consider environmental capacity or urban capability of land proposed for development.

### Projections of Dwelling Take-up

Projections of dwelling take-up in the Wollondilly Shire identify an alternate growth path to official projections (as are currently available). This is due to:

- Progressed precinct planning in growth areas such as Wilton and Appin.
- Known development proposals (development applications and planning proposals). Some planning proposals are in the early stages of progress (technical investigations still to be completed) and it could be speculative to assume delivery in their current form. The exception to this approach is taken in Wilton and Appin where state-led strategic planning is progressed and delivery of large scale development is considered imminent.

Table ES.1 projects dwellings growth for the Shire which accounts for the above factors.

**Table ES.1: Alternate Projected Additional Dwellings Take-up, 2016-2036**

Ref.	Towns and Villages	2016 (census)	2016- 2021	2021- 2026	2026- 2031	2031- 2036	Total (2036)	Additional (2016-36)	Avg. Annual
1	Silverdale, Warragamba	1,571	252	189	213	241	2,466	895	45
2	The Oaks, Oakdale, Belimbla Park, Nattai	1,642	214	62	65	71	2,054	412	21
3	Brownlow Hill, Glenmore, Mount Hunter	351	0	0	0	0	352	1	0
4	Bargo, Pheasants Nest	1,740	7	18	22	26	1,812	72	4
5	Buxton, Couridjah	741	18	23	19	18	819	78	4
6	Picton	1,670	354	118	95	85	2,322	652	33
7	Tahmoor, Thirlmere, Yanderra	3,418	915	282	288	309	5,212	1,794	90
8	Appin	829	228	96	2,583	2,578	6,314	5,485	274
9	Wilton Growth Area (Wilton, Maldon)	936	1,520	3,150	3,030	2,760	11,396	10,460	523
10	Camden Park, Menangle	1,013	40	15	9	4	1081	68	3
11	Cawdor	137	4	4	3	4	152	15	1
12	Douglas Park, Razorback	772	8	19	24	28	851	79	4
13	Orangeville, Werombi, Theresa Park	812	0	1	1	1	814	2	0
14	Rest of Shire	177	49	36	20	14	296	119	6
	<b>Wollondilly Shire*</b>	<b>15,809</b>	<b>3,610</b>	<b>4,013</b>	<b>6,371</b>	<b>6,138</b>	<b>35,941</b>	<b>20,132</b>	<b>1,007</b>

Source: AEC

Allowing for precinct planning that is progressed across the growth areas and anticipated development activity, the alternate dwelling growth projections anticipate an additional 20,000 dwellings over the 2016-2036 period. The majority of growth is in the Greater Macarthur Growth Area - Wilton from 2020 and Appin from 2026.

### Population

Table ES.2 contains projections of new population corresponding to additional dwellings projected in Table ES.1.

**Table ES.2: Projected New Population, 2016-2036**

Towns and Villages	2016 (census)	2016- 2021	2021- 2026	2026- 2031	2031- 2036	Total (2036)	Additional (2016-36)	Avg. Annual
Silverdale, Warragamba	4,921	732	585	659	747	7,644	2,723	136
The Oaks, Oakdale, Belimbla Park, Nattai	5,013	556	186	195	212	6,161	1,148	57
Brownlow Hill, Glenmore, Mount Hunter	1,274	25	2	2	1	1,304	30	1
Bargo, Pheasants Nest	5,084	(18)	52	63	74	5,255	171	9
Buxton, Couridjah	2,331	22	-6	58	53	2,458	127	6
Picton	4,815	852	331	267	237	6,502	1,687	84
Tahmoor, Thirlmere, Yanderra	9,773	2,359	789	807	865	14,593	4,820	241
Appin	2,633	644	297	8,006	7,992	19,572	16,939	847
Wilton Growth Area (Wilton, Maldon)	3,104	4,264	8,889	8,787	9,144	34,188	31,084	1554
Camden Park, Menangle	3,386	89	50	28	14	3,568	182	9
Cawdor	437	1	12	10	13	472	35	2
Douglas Park, Razorback	2,444	(26)	60	73	86	2,637	193	10
Orangeville, Werombi, Theresa Park	2,711	50	3	2	2	27,69	58	3
Rest of Shire	593	152	118	66	48	978	385	19
<b>Wollondilly Shire*</b>	<b>48,519</b>	<b>9,703</b>	<b>11,366</b>	<b>19,023</b>	<b>19,488</b>	<b>108,100</b>	<b>59,581</b>	<b>2,979</b>

Source: AEC

Should the projected dwellings be delivered over the projection timeframes, the Wollondilly Shire population would more than double over the 20 years to 2036.

## WILTON GROWTH AREA

The Wilton Growth Area comprises approximately 2,480.2ha of land area. Four major landowners/developers including Walker Corporation, Governors Hill, Lend Lease and Bradcorp collectively control over 75% of the GA.

### Dwellings and Population

The take-up of dwellings is projected with reference to researched market evidence, lot production observed in comparable areas and the consolidation of interests. The Wilton LUIP expects sequencing of North Wilton, Wilton Town Centre and South East Wilton (from mid-2020) ahead of West Wilton (post-2025).

The following assumptions underpin the projections of dwelling take-up:

- Bingara Gorge continues delivery, slowing concurrent with the other precincts ramping-up from 2021.
- North Wilton, Wilton Town Centre and South East Wilton commence development in mid-2020, ramping up incrementally to peak production in 2026 onwards.
- Pursuant to relatively smaller number of dwellings and diversity of product in the Wilton Town Centre (40% low density, 40% medium density, 20% apartments), completion is expected to occur ahead of the other precincts.
- West Wilton commences in 2025 and peaks as development in the earlier precincts advance in delivery.
- Despite market demand, the reality of supply-side constraints limits how many dwellings are delivered each year. Across the GA, it is assumed lot production and dwelling take-up do not exceed 650-700 lots per annum.
- Services and other infrastructure will be constructed and forthcoming when required, and therefore not constrain lot production and delivery.

Table ES.3 projects dwellings take-up for the Wilton GA. They distinguish precincts where a more diverse product mix is envisaged, expecting swifter take-up compared to precincts where the product offer is more homogenous.

**Table ES.3: Projected New Dwellings Take-up, 2016 to Build-out**

Precinct (Residential Type)	Dwellings	2016- 2021	2021- 2026	2026- 2031	2031- 2036	2036- 2041	2041- 2046	2046- 2051
Bingara Gorge	1,800	850	400	50				
North Wilton	5,600	270	970	1,300	1,260	1,000	800	
Wilton Town Centre	1,600	200	860	490	50			
South East Wilton	3,600	200	900	820	950	730		
West Wilton	2,400		20	370	500	500	500	510
<b>Total</b>	<b>15,000</b>	<b>1,520</b>	<b>3,150</b>	<b>3,030</b>	<b>2,760</b>	<b>2,230</b>	<b>1,300</b>	<b>510</b>
<b>Cumulative Total</b>		<b>1,520</b>	<b>4,670</b>	<b>7,700</b>	<b>10,460</b>	<b>12,690</b>	<b>13,990</b>	<b>14,500*</b>
	Avg. Annual	304	630	606	552	446	260	102

\*note this excludes 500 dwellings already delivered in Bingara Gorge  
Source: DPE (2018), Elton

In the early stages of planning, projections of dwelling production and market take-up are necessarily generic. There will be volatility from year to year as market and economic factors influence market response to new product. Competitive supply elsewhere in the region, the availability of employment opportunities and completion of critical infrastructure will influence the overall desirability of the Wilton GA as a residential destination.

Future development at Menangle Park and Mount Gilead will likely compete within Wilton GA in the short-term. West Appin is likely to have less impact on short-term delivery given its longer-term nature and delivery horizon.

In line with trends in Greater Sydney and neighbouring LGAs, Wollondilly Shire recorded a ratio of 3.1 persons per dwelling in 2016 increased from 3.0 in 2011. In high growth suburbs, ratios increased over the period, for example, Appin - 3.1 persons (2011) to 3.2 persons (2016) and Wilton - 3.1 persons (2011) to 3.3 persons (2016).

Table ES.4 projects new population by applying average household occupancy ratios to new dwellings projected.

**Table ES.4: Projected New Population, 2016 to Build-out**

Precinct (Residential Type)	Population	2016- 2021	2021- 2026	2026- 2031	2031- 2036	2036- 2041	2041- 2046	2046- 2051
Bingara Gorge	3,960	2,610	1,200	150				
North Wilton	16,800	792	2,822	3,830	3,776	3,100	2,480	
Wilton Town Centre	4,288	560	2,372	1,246				
South East Wilton	10,800	570	2,590	2,432	2,945	2,263		
West Wilton	7,440		62	1,147	1,550	1,550	1,550	1,581
<b>Total</b>	<b>43,288</b>	<b>4,532</b>	<b>9,046</b>	<b>8,805</b>	<b>8,381</b>	<b>6,913</b>	<b>4,030</b>	<b>1,581</b>
<b>Cumulative Total</b>		<b>4,532</b>	<b>13,578</b>	<b>22,383</b>	<b>30,764</b>	<b>37,677</b>	<b>41,707</b>	<b>43,288</b>
	Avg. Annual	906	1,809	1,761	1,676	1,383	806	316
Avg. Household Occupancy Rates	3.0	3.0	2.9	2.9	3.0	3.1	3.1	3.1

Source: AEC

### Centre-based Employment and Other Employment

Table ES.5 projects the take-up of centre-based floorspace (and corresponding jobs) in the Wilton GA with reference to the LUIP and underpinning technical studies (Urbis, 2017).

**Table ES.5: Projected Centre-based Retail and Non-retail Floorspace & Employment, 2016 to Build-out**

Precinct		2016- 2021	2021- 2026	2026- 2031	2031- 2036	2036- 2041	2041- 2046	2046- 2051
<b>New Floorspace</b>	<b>(sqm)</b>							
Bingara Gorge	8,000*		8,000					
North Wilton	10,000	2,000	4,000	4,000				
Wilton Town Centre	42,000*	4,000	6,000	12,000	8,000	12,000		
South East Wilton	6,000			2,000	4,000			
West Wilton	4,000						4,000	
<b>Total</b>	<b>70,000</b>	<b>6,000</b>	<b>18,000</b>	<b>18,000</b>	<b>12,000</b>	<b>12,000</b>	<b>4,000</b>	
<b>Cumulative Total</b>		<b>6,000</b>	<b>24,000</b>	<b>42,000</b>	<b>54,000</b>	<b>66,000</b>	<b>70,000</b>	<b>70,000</b>
	Avg. Annual	1,200	3,600	3,600	2,400	2,400	800	
<b>New Employment</b>	<b>(Jobs<sup>^</sup>)</b>							
Bingara Gorge	500		500					
North Wilton	625	125	250	250				
Wilton Town Centre	2,625	250	375	750	500	750		
South East Wilton	375			125	250			
West Wilton	250						250	
<b>Total</b>	<b>4,375</b>	<b>375</b>	<b>1,125</b>	<b>1,125</b>	<b>750</b>	<b>750</b>	<b>250</b>	
<b>Cumulative Total</b>		<b>375</b>	<b>1,500</b>	<b>2,625</b>	<b>3,375</b>	<b>4,125</b>	<b>4,375</b>	<b>4,375</b>
	Avg. Annual	75	225	225	150	150	50	-

\*50,000sqm assumed across Wilton Town Centre (42,000sqm) and Bingara Gorge (8,000sqm)

<sup>^</sup>applying an average generic ratio of 16sqm per employee

Source: Urbis (2017), AEC

At a generic ratio of 16sqm/worker, at build-out the 70,000sqm of centre-based floorspace could accommodate 4,375 jobs. In reality though, delivery of retail and non-retail uses is lumpy. Critical mass of residents will be required before retailers can be viable. There are obvious limitations to the high-level projections, however for the purposes of anticipating employment growth that is linked to population growth the approach is considered appropriate.

Additional to centre-based retail and non-retail floorspace, the Analysis projects other population-driven employment activity of almost 9,500 jobs<sup>1</sup> at build-out.

<sup>1</sup> Excluding home-based employment



**Other Employment**

Industrial land consumption is projected to average 33ha per annum (875 workers), equivalent to a density of 26 employees per hectare. Industrial areas in inner and middle ring suburbs in Greater Sydney generally achieve 25 to 60 employees per hectare (industrial zones). At build-out, 7,000 employees in industrial uses are projected (Urbis, 2017).

Specialised health and education uses are planned for the Wilton Town Centre. Government investment policy will drive delivery of these facilities which are less readily inferred from market evidence. Projections of development take-up for institutional uses are beyond the scope of the brief.

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# 1. INTRODUCTION

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## 1.1 BACKGROUND

Wollondilly Shire is on the southern peri-urban fringe of metropolitan Sydney and is characterised by 17 towns and villages that feature natural and rural environments extending from Yanderra in the south to Warragamba in the north, the Nattai wilderness, Yerranderie and Burragorang Villay to the west and Appin and Menangle in the east. The Shire is located approximately 40km southwest of Campbelltown CBD, 50km northwest of Wollongong CBD and 90km southwest of Sydney CBD. The future Western Sydney Airport is some 50km to the north.

Similar to many parts of metropolitan Sydney, the Shire is under increasing pressure to develop Greenfield land. Wollondilly Shire Council (Council) recognise the need to ensure growth occurs in appropriate locations supported by the necessary level of services and infrastructure.

Council is preparing s7.11 development contributions plans for the Wollondilly Shire and the Wilton Growth Area. GLN Planning are engaged by Council to assist with preparing the development contributions plan. As part of this work, Council seeks to understand the type, scale, location and likely rate of development that will occur.

AEC Group (AEC) is engaged as sub-consultant to GLN Planning to carry out a Housing Market Analysis to inform preparation of the s7.11 development contributions plans.

## 1.2 PURPOSE AND APPROACH

The objectives of the Housing Market Analysis (the Study) are to investigate:

- Nature and patterns of housing supply and demand across the Shire:
  - Supply and demand of housing in the Shire and broader context of Western Sydney.
  - The drivers of housing demand and how they are likely to impact the nature of future demand in these areas, and consequently the adequacy of existing housing supply.
  - The nature and quantum of development that is ongoing and the drivers for that development activity.
  - Socio-demographic profile of the Shire and what characteristics specifically impact on housing choice and preference.
- Capacity and constraints to housing supply and if they are related to the current planning framework or more broadly due to market and economic factors, which are beyond the control of planning authorities.
- Likely take-up and rate of development across the Shire, also considering the implications of planned development at Wilton and the rest of the Greater Macarthur growth area.

The analysis of patterns of supply and demand will assist Council understand the trends and drivers impacting housing markets and development in the Wollondilly Shire.

The Study investigates Wilton Growth Area separately, considering the following:

- Likely demographic profile of future population.
- Potential development capacity and rate of take-up of residential and non-residential uses.
- Nature of market demand, including market preference and price points, lot sizes and dwelling typologies.

The outcomes of the Study will assist with an understanding of the nature and take-up of market demand that will inform planning for local infrastructure to support anticipated growth in the collective Study Area.

In order to fulfil the requirements of the brief, the following tasks are carried out:

- Review of background information and statutory planning framework, including previously completed housing studies, strategic policy documents applicable to the Study Area.
- Investigation of economic and market trends that influence future population and housing requirements.

- Review of socio-demographic data in the Wollondilly Shire to understand:
  - Historical growth profile of population and dwellings.
  - Socio-demographic characteristics of residents and if/how they may have changed over time.
  - Dwelling types and composition and if/how they may have changed over time.
  - Employment and incomes to ascertain households and their capacity to pay for housing.
- Investigation into market activity, specifically the nature of housing supply and development activity in the Shire and surrounding markets, including patterns of supply and demand, purchaser preferences and requirements, development pipeline and analysis of the competitive environment.
- Projections of dwellings take-up (in different growth scenarios) for the Shire and Wilton GA (including take-up of retail/commercial uses) having regard to:
  - Observed market requirements and shifts in preference.
  - Changes in households and socio-demographic profile.
  - Employment opportunities and expected growth.
  - Expectations of infrastructure investment.
  - Affordability of, and capacity of households to pay for housing.
  - Capacity of both Wilton GA and broader Wollondilly Shire to accommodate future growth.
- Discussion of likely implications the delivery of Wilton GA could have on the growth profile of the Shire.

### 1.3 STRUCTURE AND LIMITATIONS OF THE STUDY

The Study is structured in the following chapters:

- Chapter 2 provides a contextual overview of the Wollondilly Shire, including its context within the Greater Macarthur Growth Area, the applicable planning policy framework, socio-demographic characteristics and the implications of these factors for housing demand.
- Chapter 3 investigates economic and market trends which influence market demand for housing and development. Market activity is investigated including type of residential product, take-up and price points observed in the Wollondilly region. Development activity is also investigated by examining the level and nature of developer interest, site assembly and prices paid for development sites.
- Chapter 4 considers future growth expectations and their implications for dwelling take-up within the Wollondilly Shire, excluding the Wilton Growth Area.
- Chapter 5 considers future growth expectations and their implications for development take-up within the Wilton Growth Area.

#### **Limitations of the Study**

Projections of development take-up are predicated on assumptions regarding the availability of services and lead-in infrastructure. Where information is not available on the expected availability and timing of infrastructure provision, the Study assumes that infrastructure capacity will be available to accommodate market demand.

The progress and take-up of development is dependent on myriad factors, including whether development is a commercial proposition and if landowner objectives are aligned. In some instances even if development is permissible and feasible to undertake, it may not occur as landowner objectives do not align with development. It is not the intention of the Study to predict landowner objectives, rather to interpret market activity and identify the likelihood of development occurring based on market need and observations of competitive markets.

The Study projects take-up of non-residential development in the Wilton Growth Area based on earlier work commissioned by DPE. It is not intended to be a detailed Retail and Commercial Demand study.

## 2. STUDY AREA IN CONTEXT

### 2.1 LOCAL CONTEXT

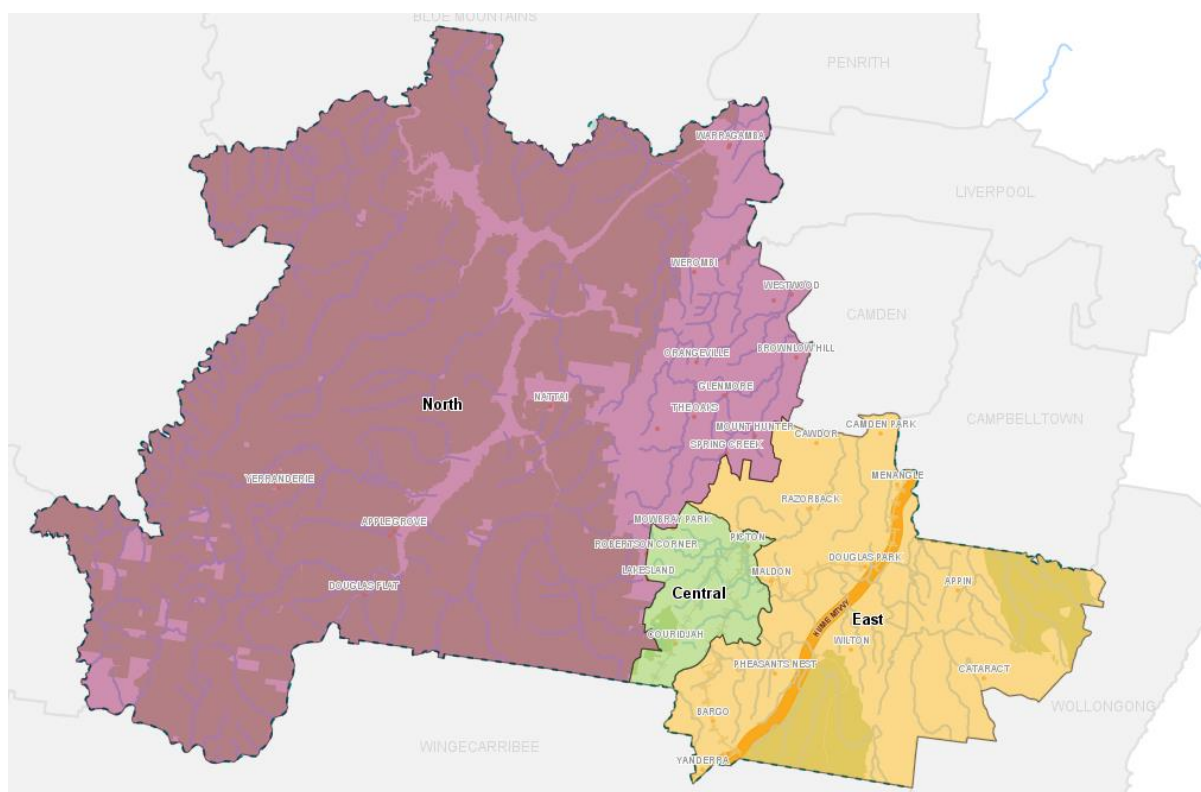
#### Wollondilly Shire LGA

The Wollondilly Shire LGA is located on the far western edge of the Greater Sydney Metropolitan Sydney, approximately 50km south-west of the Sydney CBD. The Wollondilly Shire is vast, comprising approximately 2,560sqkm and ranging from Yanderra and Bargo in the south, Appin and Dharawal National Park in the east, Warragamba in the north and the Blue Mountains National Park to the west. Neighbouring local government areas (LGAs) include Penrith, Camden, Campbelltown, Wollongong, in addition to regional neighbouring LGAs including Blue Mountains, Oberon and Wingecarribee.

The Wollondilly Shire is divided into three wards defined as the North Ward, Central Ward and East Ward. The North Ward primarily comprises the Blue Mountains National Park in addition to a number of larger centres including Warragamba, Silverdale, The Oaks, Belimbla Park and Oakville. The Central Ward includes the main centre of Picton in addition to a number of other local centres such as Tahmoor, Thirlmere and Buxton. The East Ward comprises the centres of Appin, Wilton, Bargo and Douglas Park.

Figure 2.1 depicts the boundaries Wollondilly local government area.

**Figure 2.1: Wollondilly Shire LGA, Location Map**



Source: WSC

The Wollondilly Shire is serviced by the Southern Highlands Rail Line (SHL) with stations located at Menangle, Douglas Park, Picton, Tahmoor and Bargo which provide linkages to metropolitan Sydney via Macarthur and Campbelltown. Services from the SHL are limited (compared to those on the Sydney Trains Network) with all city-bound services generally terminating at Macarthur or Campbelltown requiring interchange to the T8 South Line.

Road accessibility is strong with the Hume Highway intersecting the Shire providing good north-south linkages to Greater Sydney and the Southern Highlands. Arterial road linkages such as the Old Hume Highway and Picton Road provide sub-regional access to South-West Sydney and the Wollongong Shire.



The Greater Macarthur Growth Area traverses the T8 South Line from Glenfield in the north to Macarthur while also including new release areas including Menangle Park, Gilead, West Appin and Wilton. A large portion on lands within Wollondilly's East Ward form part of the Greater Macarthur Growth Area, primarily Wilton and West Appin.

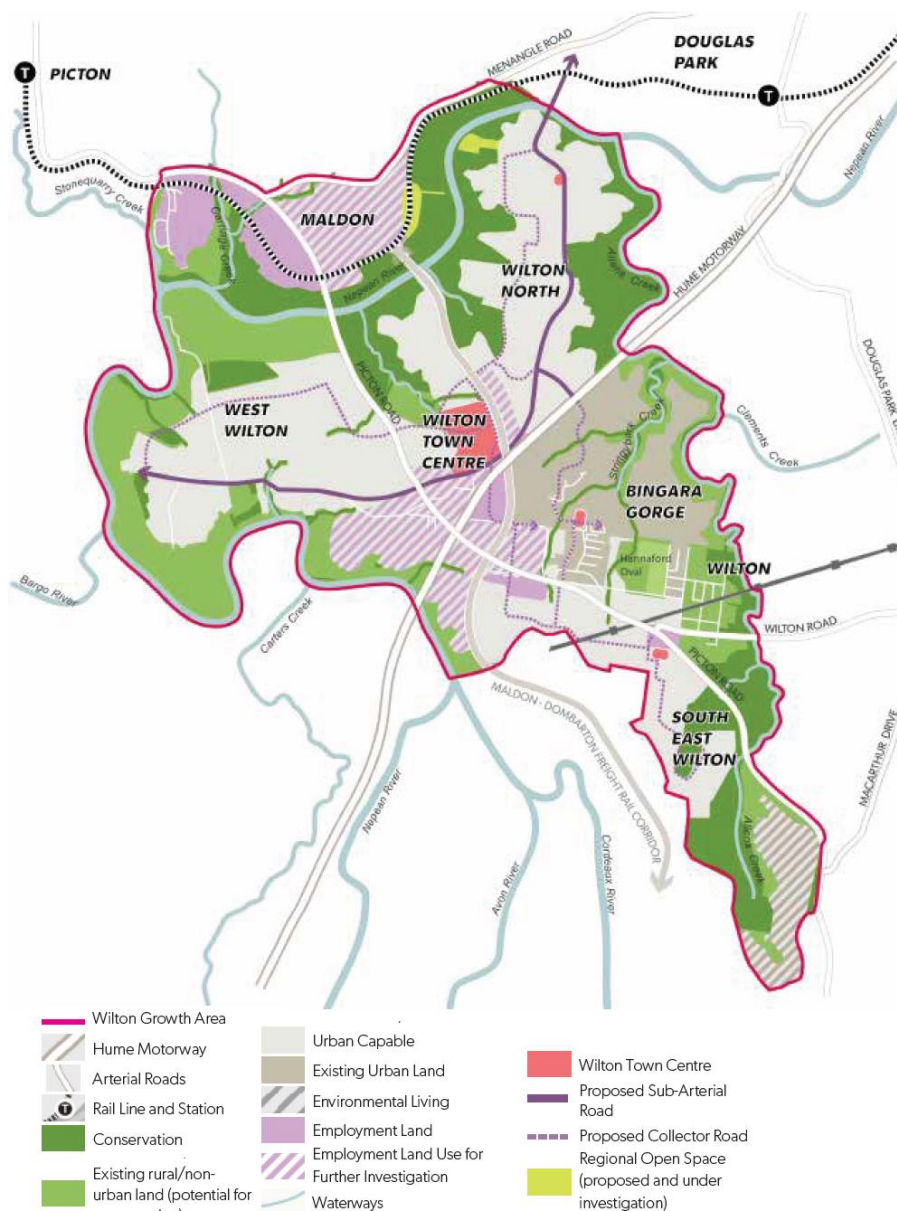
### Wilton Growth Area

The suburb of Wilton is located within the Wollondilly Shire East Ward directly south of Douglas Park. The area has been identified as Growth Area by DPE and forms part of the larger Greater Macarthur Growth Area as an area for additional housing and employment. The growth area is focused around the Hume Motorway and Picton Road intersection and comprises the existing village of Wilton in addition to new residential estate of Bingara Gorge.

The Wilton Growth Area comprises approximately 2,480.2ha of land area. The majority of the Wilton GA is controlled by four major landowners/developers including Walker Corporation, Governors Hill, Lend Lease and Bradcorp, who collectively own and/or control over 75% of the GA, principally focused in Wilton Town Centre, Wilton North, Bingara Gorge and South East Wilton. West Wilton is held in numerous landownerships.

The Wilton Growth Area structure plan area is detailed in Figure 2.2. Table 2.1 indicates land ownership in the GA.

**Figure 2.2: Wilton Growth Area Structure Plan Area Map**



Source: DPE (2018)

**Table 2.1: Land Ownership, Wilton Growth Area**

Landowner	Gross Area (ha)
Lend Lease	455.0
Bradcorp	872.4
Governors Hill	175.3
Walker Corporation	405.2
Other Landowners*	572.3
<b>Total</b>	<b>2,480.2</b>

\*A total of 113 private landowners, excluding the Bingara Gorge Estate and existing Wilton Village  
Source: Elton Consulting (2018)

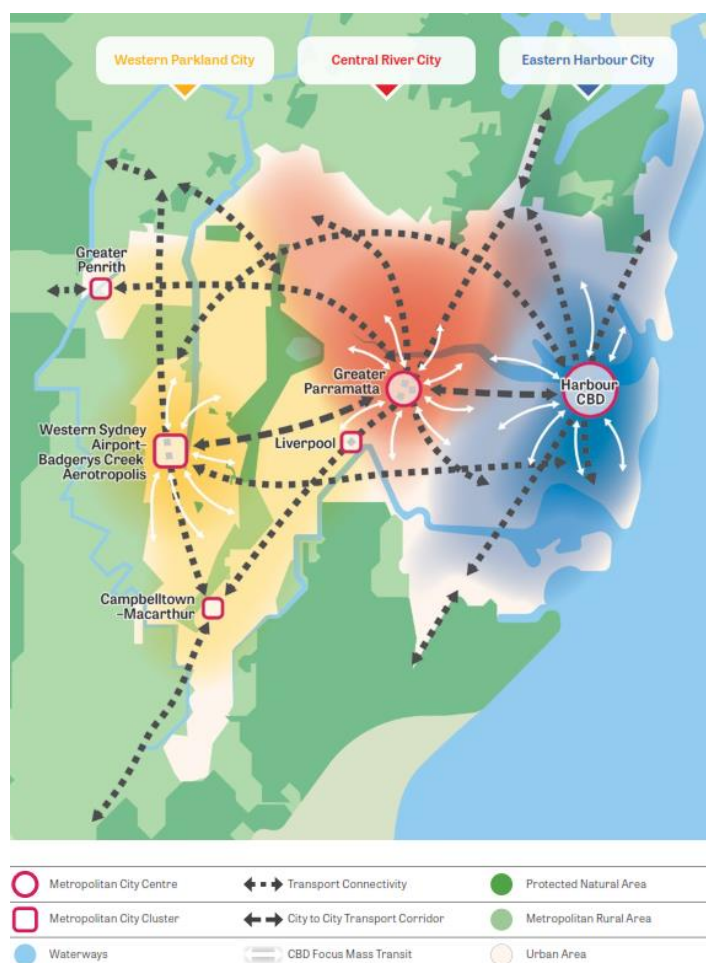
Wilton 2040 A Plan for the Wilton Growth Area (Land Use and Infrastructure Implementation Plan, LUIIP) was released by DPE in September 2018. The LUIIP notes the potential for Wilton GA to accommodate 15,000 new dwellings, 70,000sqm of retail and non-retail floorspace in centres and up to 15,000 local jobs upon completion.

## 2.2 PLANNING CONTEXT

### 2.2.1 State Planning Policy

#### Greater Sydney Region Plan (2018)

The Greater Sydney Region Plan (the Region Plan, GSC, 2018a) seeks to accommodate the needs of Sydney's growing population into a metropolis of three cities: Western Parkland City, Central River City and Eastern Harbour City, building on a vision where most residents live within 30 minutes of their jobs, education and health facilities. The Study Area is located in greatest proximity to the new Western Parkland City.

**Figure 2.3: Greater Sydney Region Plan**

Source: GSC (2018a)

The Western Sydney Airport is the focus of the Western Parklands City; the City to comprise an 'aerotropolis' with an employment hub of knowledge-intensive jobs focused on transport and logistics, advanced manufacturing and health and education. As the only 'greenfield' city, the Western Parklands City is envisaged to be well-designed and provide new neighbourhoods with a high level of amenity and employment choice.

The Liveability Direction (Housing the City) aims to increase housing completions (by type) to support the rapidly growing population of Greater Sydney. The Region Plan identifies a need for an additional 725,000 homes across Greater Sydney by 2036 with development of housing targets and housing strategies are identified as key actions in order to secure the sustained, long-term delivery of new housing across Greater Sydney.

The Region Plan identifies where new housing is to be delivered based on the current infrastructure program and NSW Government's Priority Growth Area Program. The Western Parkland City is identified as playing a major role in accommodating new housing, accounting for circa 25% of the housing supply target to 2036.

**Table 2.2: Housing Targets, 2016-2036 (Greater Sydney Region Plan)**

District	2016-2021 Housing Supply Target	2016-2036 Housing Supply Target
Central City	53,500	207,500
Eastern City	46,550	157,500
Western City	39,850	184,500
North	25,950	92,000
South	23,250	83,500
<b>Greater Sydney</b>	<b>189,100</b>	<b>725,000</b>

Source: GSC (2018a)

The Wilton Growth Area and Greater Macarthur Growth Area are identified as playing a major role in delivering new housing over the medium to long-term.

### **Western City District Plan**

Building upon the strategic aims and objectives outlined in the Region Plan, the Western City District Plan (referred to as the 'District Plan') sets out a 20-year vision, priorities and actions for Greater Sydney's Western Parkland City, which includes the local government areas of Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly.

The District Plan identifies five major housing markets, namely Fairfield, Liverpool, South West (including the South West and Greater Macarthur Growth Areas), Penrith-Blue Mountains and North West. The District Plan recognises the different role each of these markets in providing different housing in response to varying levels of demand.

Whilst recognising market factors, the District Plan also considers local housing strategies in developing housing targets for each respective LGA. The District Plan specifically supports the residential housing targets outlined in the *Wollondilly Growth Management Strategy 2011* and recognises the role of the Shire in providing new housing whilst retaining the rural qualities and values of the area.

The District Plan outlines a five-year housing target of 1,550 new dwellings for Wollondilly Shire by 2021. This equates to just under 4% of the total five-year housing target for the Western City District.

**Table 2.3: Western City District Housing Supply Targets**

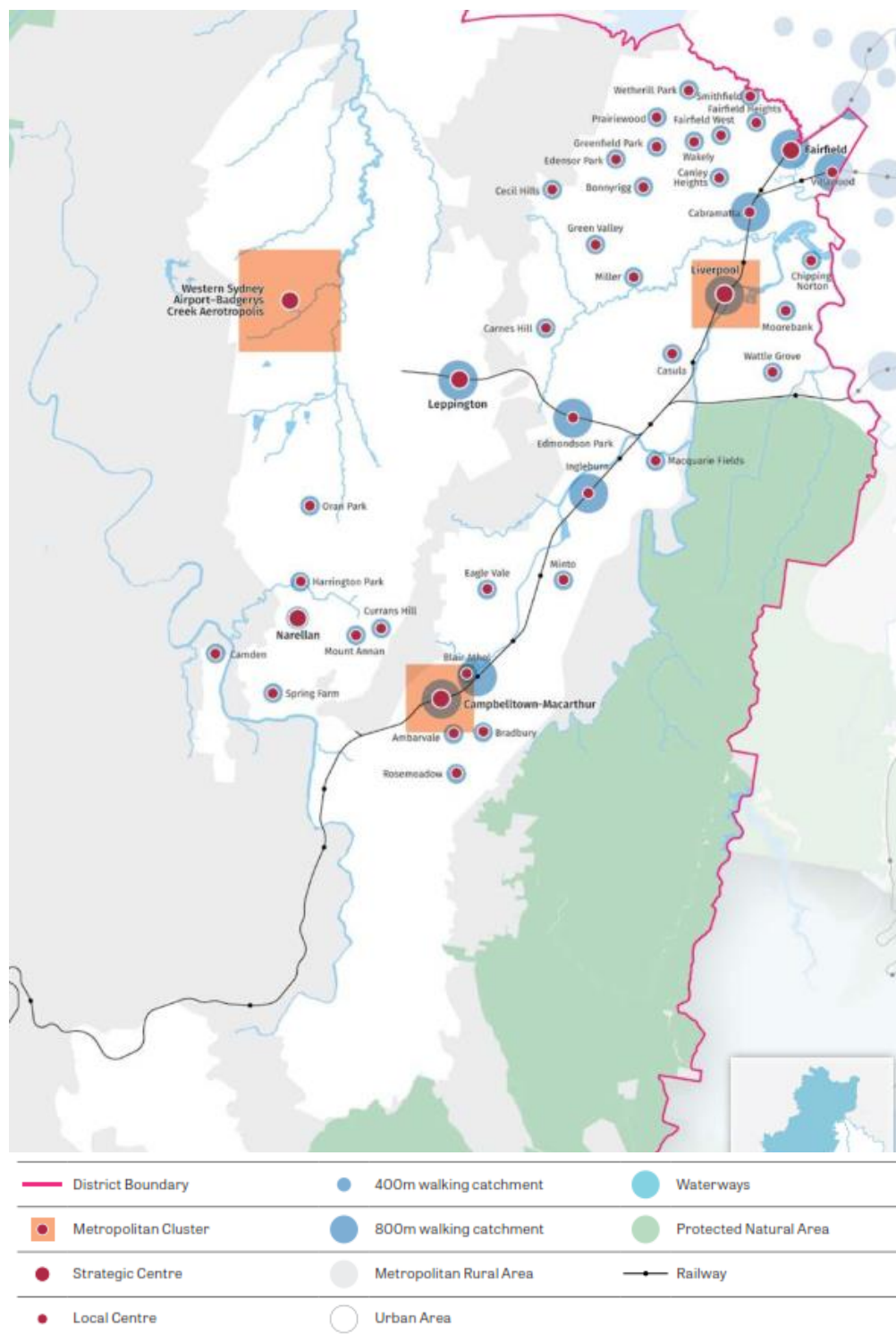
Local Government Area	2016-2021 Housing Supply Target
Blue Mountains	650
Camden	11,800
Campbelltown	6,800
Fairfield	3,050
Hawkesbury	1,150
Liverpool	8,250
Penrith	6,600
Wollondilly	1,550
<b>Western City</b>	<b>39,850</b>

Source: GSC (2018b)

A key action of the District Plan is for local councils to prepare housing strategies which outline how delivery of the five-year housing target will be achieved, in addition to a 6 to 10-year housing target. Housing strategies should also outline the capacity of local government areas to contribute to the long-term strategic housing target for District.

In addition to providing housing targets, the District Plan also outlines a centres hierarchy for the Western City; the hierarchy based on the role, function, size and catchment of each centre as well as future expected residential development and population. The Wollondilly Shire is identified as a metropolitan rural area in the District Plan with existing centres within the Shire not envisaged to play a regional role.

**Figure 2.4: Western City District (South), Centres Map**



Source: GSC (2018b)



### State Environmental Planning Policy (Sydney Growth Centres)

The Growth Centres SEPP is an environmental planning instrument that establishes the land use zoning and development controls for all the land within Sydney's Growth Centres.

Growth Centres (now referred to as Growth Areas) of direct relevance to the Wollondilly Shire include the Greater Macarthur Growth Area, South West Growth Area and Western Sydney Growth Area.

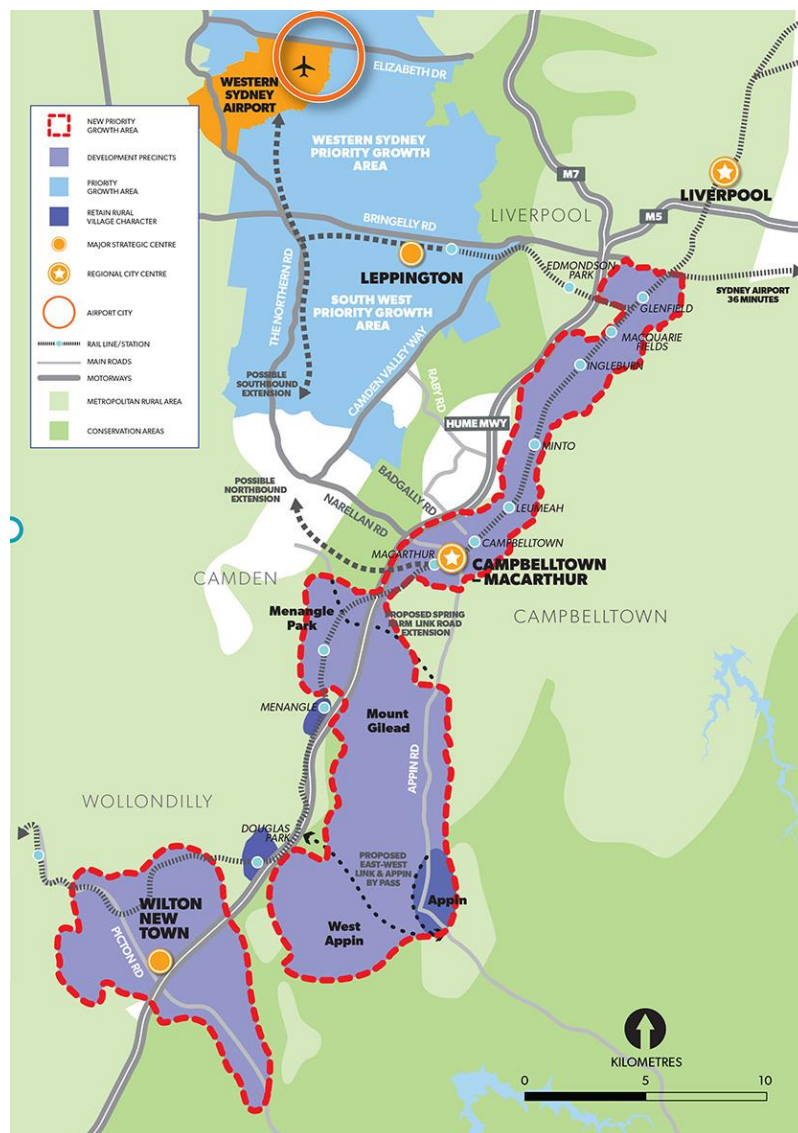
- **Greater Macarthur Growth Area (GM GA)**

The Greater Macarthur Growth Area was originally identified as comprising circa 17,600ha of rural land from Menangle Park in the north, Appin in the East, Wilton in the south and Maldon to the south-west.

The GM GA has subsequently been refined and combines greenfield areas with the Glenfield to Macarthur Urban Renewal Corridor. To date, Wilton is the only precinct recognised under the Growth Centres SEPP as a Growth Area however it is understood the entirety of the GM GA will be formally gazetted shortly. The Wilton GA is being progressed separately to the other greenfield precincts located within the GM GA.

The formal boundaries of the Greater Macarthur Growth Area are depicted in Figure 2.5.

**Figure 2.5: Greater Macarthur Growth Area**



Source: DPE

The greenfield release areas within the GM GA is poised to deliver a significant quantum of new dwellings to 2036 - 15,000 dwellings are proposed at Wilton Growth Area, 18,000 are proposed in West Appin; 1,500 are proposed in Mount Gilead and circa 3,400 are proposed in Menangle Park.



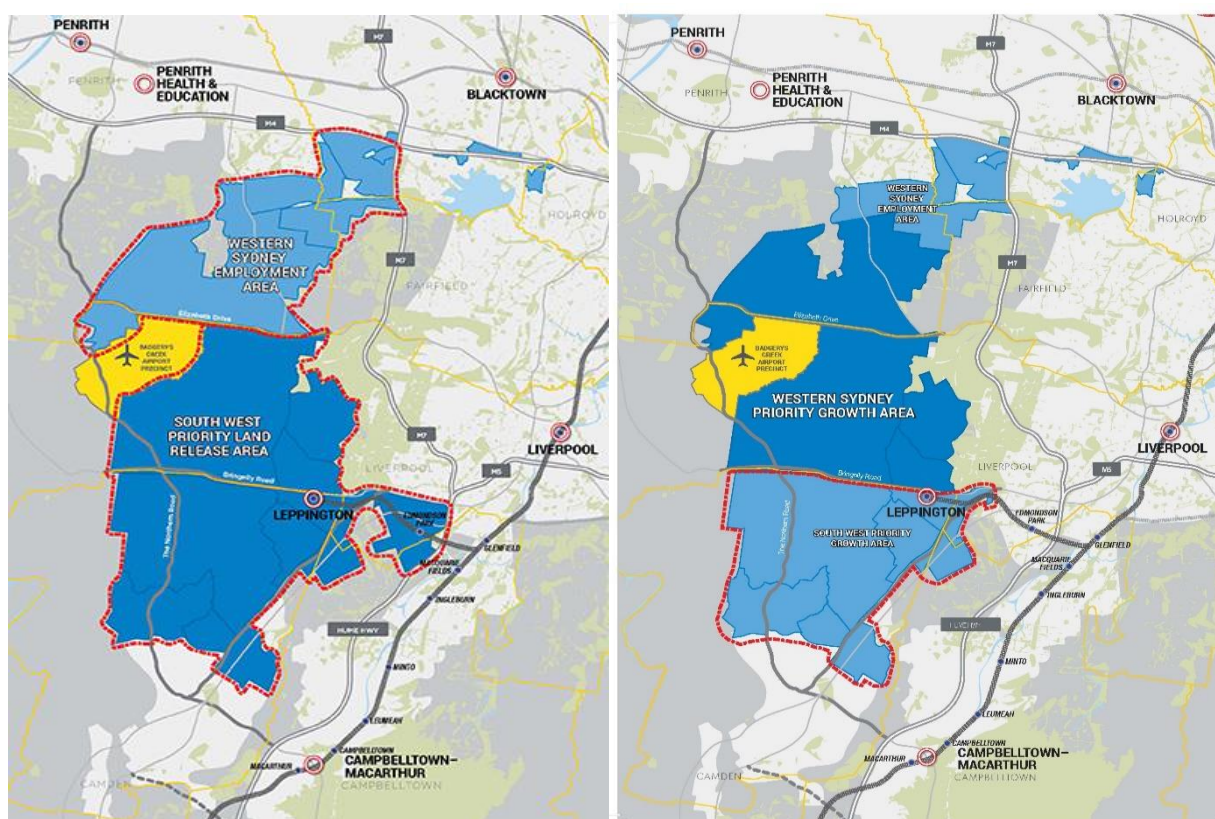
- **South West and Western Sydney Growth Areas**

Located directly north of the Wollondilly Shire, the former South West Growth Centre (SWGC) was approximately 17,000ha and straddled the local government areas of Liverpool, Camden and Campbelltown. The SWGC comprised 18 precincts, eight of which have been released and/or rezoned for urban development.

In line with formal commitment of Commonwealth funding for Western Sydney Airport, the former SWGC was realigned to form the Western Sydney and South West Growth Areas. The realignment has broadly resulted in precincts north of Bringelly Road becoming part of the Western Sydney Growth Area with the remaining precincts south of Bringelly Road forming part of South West Growth Area. Edmondson Park is understood to no longer fall within a Growth Area following rezoning of the precinct in 2008.

The South West Growth Area now comprises circa 10-13 precincts, with parts of Bringelly, Rossmore and Leppington North falling within the new boundaries however it is understood that detailed alignment of both Growth Areas is still under review.

**Figure 2.6: Boundary Realignment, SW GA and WS GA**



Source: DPE

### **State Environmental Planning Policy (Low Rise Medium Density Housing)**

The Low Rise Medium Density Housing SEPP (referred to as the Medium Density Housing SEPP) aims to streamline development of one and storey dual occupancies, manor houses and terraces via a fast-track complying development approval pathway. The Medium Density Housing SEPP seeks to increase the overall supply of more affordable, medium-density housing product as part of the NSW Governments' housing affordability initiatives.

Accompanying the Medium Density Housing SEPP is a Medium Density Design Guide which outlines the design and building requirements needed to ensure complying development approval. The Medium Density Housing SEPP does not apply to residential subdivisions.

The Medium Density Housing SEPP is intended to apply to all lands across NSW currently zoned for residential purposes (R1, R2, R3, R4 and R5) where medium-density housing is permitted under a Council's Local Environmental Plan (LEP). Minimum lot sizes under the applicable LEP apply; where no minimum lot size is denoted in the LEP, lot size requirements under the Medium Density Housing SEPP are applicable.

Under the *Wollondilly Local Environmental Plan 2011*, the Medium Density Housing SEPP would be partly applicable in existing R2 Low Density Residential zones (dual occupancies, manor houses, semi-detached dwellings) in addition to existing R3 Medium Density Residential zones.

The Low Rise Medium Density Housing Code commenced in July 2018. However, a number of local Councils are seeking to defer commencement of the Code in order to undertake revised housing studies and ensure medium-density development occurs in appropriate areas. The City of Ryde LGA and Canterbury-Bankstown LGA were recently granted a deferred commencement of the Code in order to undertake such studies. We understand that Wollondilly Council is currently seeking to restrict the application of the Low Rise Medium Density Housing Code to the Wilton Growth Area until completion of a review of Council housing policy.

### **State Environmental Planning Policy (Exempt and Complying Development Codes) 2008**

Part 3C Greenfield Housing Code of the SEPP seeks to streamline housing delivery within new release across NSW by fast-tracking building approvals for complying development such as construction of one and two storey homes, home renovations and other ancillary development (including garages and swimming pools).

The Greenfield Housing Code provides distinct development and construction guidelines which must be adhered to (including housing types, floorspace ratios and setback controls) in order to secure approval. The Greenfield Housing Code does not apply to residential subdivisions.

The Greenfield Housing Code applies to a range of new release areas across NSW identified within the Greenfield Housing Code Area Map, including a number of new release areas across the Wollondilly Shire. These areas include:

- Silverdale (1-41 Marsh Road, Silverdale).
- Appin (12 Bulli Appin Road, Appin).
- Picton, Tahmoor and Thirlmere (Picton-Tahmoor-Thirlmere New Urban Precincts; 55-65 Bronzewing Street, Tahmoor).
- Wilton (Bingara Gorge Estate, Wilton).

The Greenfield Housing Code commenced in July 2018 with a three-year transitional period during which applicants can opt to use the new Code or the existing General Housing Code (up to 6 July 2021). This is to ensure a level of general flexibility during the transition period. As new greenfield areas are released and/or expanded, it is expected that the Greenfield Housing Code Area Map will be amended to ensure a consistent planning approval pathway across NSW.

## **2.2.2 Local Planning Policy**

### **Wollondilly Local Environment Plan 2011**

Land use and development in the Wollondilly Shire (notwithstanding the Growth Centres SEPP) is governed by the Wollondilly Local Environmental Plan (2011) and Wollondilly Development Control Plan (2016). These local policy documents set the strategic direction for development under various zones including residential zones R2 Low Density Residential, R3 Medium Density Residential and R5 Large Lot Residential in addition to business zones which permit residential uses.

A review of the local planning instruments and local policy relevant to the Study Area is provided below.

**Table 2.4: Land Use Zones and Objectives**

Zones	Objectives
<b>Residential Zones</b>	
R2 Low Density Residential	<ul style="list-style-type: none"> <li>• To provide for the housing needs of the community within a low density residential environment.</li> <li>• To enable other land uses that provide facilities or services to meet the day to day needs of residents.</li> </ul>

Zones	Objectives
R3 Medium Density Residential	<ul style="list-style-type: none"> <li>To provide for the housing needs of the community within a medium density residential environment.</li> <li>To provide a variety of housing types within a medium density residential environment.</li> <li>To enable other land uses that provide facilities or services to meet the day to day needs of residents.</li> <li>To encourage the provision of affordable housing</li> </ul>
R5 Large Lot Residential	<ul style="list-style-type: none"> <li>To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.</li> <li>To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.</li> <li>To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.</li> <li>To minimise conflict between land uses within this zone and land uses within adjoining zones.</li> </ul>
<b>Business Zones</b>	
B1 Neighbourhood Centre	<ul style="list-style-type: none"> <li>To provide a range of small-scale retail, business and community uses that serve the needs of people who live or work in the surrounding neighbourhood.</li> <li>To encourage development that does not impact on the viability of land within Zone B2 Local Centre.</li> <li>To support small-scale residential development in conjunction with retail, business and commercial uses in a manner that increases the vitality of the surrounding neighbourhood.</li> </ul>
B2 Local Centre	<ul style="list-style-type: none"> <li>To provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area.</li> <li>To encourage employment opportunities in accessible locations.</li> <li>To maximise public transport patronage and encourage walking and cycling.</li> <li>To provide for appropriate residential development in the form of shop top housing to support the vitality of the local area.</li> </ul>
B4 Mixed Use	<ul style="list-style-type: none"> <li>To provide a mixture of compatible land uses.</li> <li>To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.</li> <li>To encourage local employment by facilitating home-based business and employment opportunities.</li> </ul>
<b>Rural and Environmental Zones (of relevance)</b>	
RU2 Rural Landscape	<ul style="list-style-type: none"> <li>To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.</li> <li>To maintain the rural landscape character of the land.</li> <li>To provide for a range of compatible land uses, including extensive agriculture.</li> <li>To provide areas where the density of development is limited in order to maintain a separation between urban areas.</li> </ul>
RU4 Primary Production Small Lots	<ul style="list-style-type: none"> <li>To enable sustainable primary industry and other compatible land uses.</li> <li>To encourage and promote diversity and employment opportunities in relation to primary industry enterprises, particularly those that require smaller lots or that are more intensive in nature.</li> <li>To minimise conflict between land uses within this zone and land uses within adjoining zones.</li> <li>To provide areas within which the density of development is limited in order to maintain a separation between urban areas.</li> </ul>
E4 Environmental Living	<ul style="list-style-type: none"> <li>To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.</li> <li>To ensure that residential development does not have an adverse effect on those values.</li> <li>To provide for a limited range of rural land uses that do not have an adverse effect on surrounding land uses.</li> </ul>

Source: WLEP (2011)

Density across the Wollondilly Shire is primarily determined by minimum lot size controls (as opposed to floor space ratios) and maximum building heights. Minimum lot size controls within R2 and R3 zones generally varies from 450sqm to 975sqm with maximum building heights typically 9m. Distinctly smaller minimum lot size controls (250sqm) are observed within the Bingara Gorge Estate at Wilton. Minimum lot sizes in the R5 Large Lot Residential and E4 Environmental Management zones generally range from 1,500sqm to 4,000sqm.

The LEP additionally contains a number of principle development standards of relevance:

- Subdivision of land in rural zones (RU1-RU4) is prohibited if for the purposes of residential development.
- Subdivision of land zoned R2 or R3 that is not serviced by a reticulated sewerage scheme must not be less than 975sqm.
- Subdivision of land zoned R2 or R3 for the purposes of an attached dual occupancy must not be less than 800sqm; subdivision for a detached dual occupancy is to be no less than 975sqm.

### **Wollondilly Growth Management Strategy 2011**

The Wollondilly Growth Management Strategy (2011) (the Strategy) was prepared in conjunction with the making of the LEP (2011). The Strategy establishes the future direction of housing across the Wollondilly Shire through development of a set of guiding principles, specifies the distribution and quantum of new development and provides a thorough discussion on the future role of different development typologies.

The Strategy adopts 10 Key Policy Directions to guide the quantum and spatial distribution of new residential development across the Shire. Table 2.5 describes the 10 Key Policy Directions of the Wollondilly Growth Management Strategy (2011) applicable to residential development across the Shire.

**Table 2.5: Housing Policy Directions, Wollondilly Growth Management Strategy (2011)**

<b>Policy Directives</b>	
P5	Council is committed to the principle of appropriate growth for each of our towns and villages. Each of our settlements has differing characteristics and differing capacities to accommodate different levels and types of growth (due to locational attributes, infrastructure limitations, geophysical constraints, market forces etc).
P9	Dwelling densities, where possible and environmentally acceptable, should be higher in proximity to centres and lower on the edges of towns (on the "rural fringe").
P10	Council will focus on the majority of new housing being located within or immediately adjacent to its existing towns and villages.
P11	Council does not support major urban release within the Macarthur South area at this stage.
P12	Council considers that in order to achieve sound long-term orderly planning for the eventual development of Macarthur South an overall master plan is required.
P13	Council will not support further significant new housing releases in Macarthur South beyond those which have already been approved. Small scale residential development in and adjacent to the existing towns and villages within Macarthur South will be considered on its merits.
P17	Council will not support residential and employment lands growth unless increased infrastructure and servicing demands can be clearly demonstrated as being able to be delivered in a timely manner without imposing unsustainable burdens on Council or the Shire's existing and future community
P18	Council will encourage sustainable growth which supports our existing towns and villages, and makes the provision of services and infrastructure more efficient and viable – this means a greater emphasis on concentrating new housing in and around our existing population centres.
P19	Dispersed population growth will be discouraged in favour of growth in, or adjacent to, existing population centres.
P22	Council does not support incremental growth involving increased dwelling entitlements and/or rural lands fragmentation in dispersed rural areas. Council is however committed to maintaining, where possible and practicable, existing dwelling and subdivision entitlements in rural areas

Source: WSC (2011)

The key principle demonstrated in the policy directives is that future residential development should concentrate growth within the existing centres within the Shire. Development outside existing centres should be discouraged to avoid dispersal of economic and population growth, land fragmentation and unnecessary urban sprawl.

Based on the Key Principles outlined in Table 2.5, the Strategy adopts a series of housing targets for various centres across the Shire up to 2036. The housing targets comprise both development already planned in addition to additional dwellings required and focus on provision of development with the Shire's existing centres.

**Table 2.6: Housing Targets, Wollondilly Growth Management Strategy (2011)**

<b>Location</b>	<b>Planned Dwellings</b>	<b>Add. Dwellings Required</b>	<b>Total Dwelling Target</b>	<b>% of Total</b>
Warragamba/Silverdale	520	480	1,000	9.3%
The Oaks/Oakdale	100	250	350	3.3%
Picton/Tahmoor/Thirlmere	1,930	2,070	4,000	37.2%
Bargo	40	1,960	2,000	18.6%
Bridgewater/Camden	150	0	150	1.4%
Macarthur South (Bingara Gorge, North Appin, Menangle)	1,525	475	2,000	18.6%
Various	-	1,250	1,250	11.6%
<b>Total</b>	<b>4,265</b>	<b>6,485</b>	<b>10,750</b>	<b>100%</b>
<b>Adopted Housing Target</b>			<b>7,500</b>	

Source: WSC (2011)



As observed from Table 2.6, a total dwelling target of 10,750 is estimated to 2036. However, the Strategy adopts a more conservative dwelling target of 7,500 to account for market and planning risk which may limit the actual capacity of development.

The majority of dwellings envisaged in the Shire are located within major centres of Picton, Tahmoor and Thirlmere, accounting for over 37% of all dwellings. This is directly attributed to the capacity of these centres in supporting development given existing infrastructure, retail and social amenity. Bargo and Macarthur South are also poised to contribute significant volumes of new housing; approximately 18.6% per region. Other centres such as Warragamba/Silverdale, The Oaks/Oakdale and Bridgewater/Camden are expected to play lesser roles to 2036.

Locations denoted as 'various' are envisaged to comprise Shire-wide, infill development which would not require changes to existing planning controls. Importantly, the Strategy notes that any development proposed outside of these key locations would need to be considered against the Key Policy Directions and a separate Assessment Criteria outlined in the Strategy.

The Strategy also provides a detail discussion on the future role of different development typologies commonly observed across the Shire, in addition to those which will likely be required into the future as the local population expands. The characteristics, role and key requirements of each development type is detailed and analysed with respect to their specific benefits and disadvantages applicable to the Shire.

- **Rural-Residential**

The Strategy defines rural-residential development as housing located on large land parcels (>1ha) in rural settings and that is not generally used for productive commercial agriculture. Such development is commonly observed in R5 Large Lot Residential zones or Environmental zones and has been the most common form of development across the Shire.

The Strategy notes a series of advantages and disadvantages associated with rural-residential development. Benefits include providing the rural amenity which characterises the Shire and transition between denser, residential centres and rural, agricultural lands. The Strategy notes a number of key disadvantages, notably inefficiency in infrastructure provision, car dependency, population dispersal away from centres and housing that is unaffordable.

The Strategy notes the Shire has a sufficient volume of rural-residential housing and does not envisage this form of development playing a major role in the provision of new housing in the Shire to 2036.

- **Urban Development on the Town Edge**

The Strategy defines urban-fringe development as that occurring on the fringes of existing residential areas or centres with subdivision incorporating similar lot structure, densities and configurations. Such development is increasingly observed across the Shire, particularly in areas such as Tahmoor and Thirlmere.

A number of advantages and impediments associated with this form of development are outlined in the Strategy. Key advantages include focusing population and economic growth in existing centres, efficient infrastructure provision and provision of a range of housing types attractive to a variety of buyers. Key disadvantages outlined include loss of rural character, lack of design diversity and political resistance.

The Strategy indicates this form of residential development aligns with many of the Key Policy Directions and will provide a key component of future residential development in the Shire to 2036.

- **Medium-Density Housing**

Medium-density housing is defined in the Strategy as apartments, townhouses, villas and seniors living, in addition to forms of secondary housing and dual occupancies. Development of this typology has yet to emerge across the Shire in any significant quantum given current market dynamics (as will be discussed in Chapter 3).

The Strategy outlines advantages and disadvantages relating to medium-density in the Shire. Provision of affordable and diverse housing product, consolidation of population and economic growth in existing centres and economic use of land are cited as the key advantages. The prominent disadvantages noted include design standards, loss of rural character and poor public perceptions regarding overcrowding and traffic.

The Strategy envisages medium-density development will form an important part in delivering new housing across the Shire to 2036 despite poor existing market interest and take-up.



- **Self-Contained Masterplanned Estates**

Self-contained masterplanned estates are defined as major developments separate from existing centres which provide new infrastructure and facilities, effectively forming a new town centre. The Bingara Gorge Estate at Wilton is cited as the key local example of this development within the Shire.

A number of advantages and disadvantages are discussed in the Strategy with regard to separate masterplanned estates. Major benefits include provision of well-designed and serviced housing product (typically subject to a masterplan), provision of a range of housing typologies and ability to attract new middle to high income residents to the Shire. The disadvantages cited generally outweigh the advantages however and include dispersal of population and economic activity away from existing centres, high car dependency, expensive housing product and serve to instigate further urban sprawl.

The Strategy notes self-contained masterplanned estates should be limited to areas nearby or adjacent to existing centres to minimise population and economic dispersal and achieve the Key Policy Directions.

The culmination of the Strategy is the development of a series of Structure Plans which outline areas envisaged for future residential growth. The recommendations of these Structure Plans with regard to each respective area identified include:

- Future residential development at The Oaks should expand north of Timothy Lacey Lane along Silverdale Road, east along Glendiver Road and South along Montpelier Drive.
- In addition to the New Urban Precincts Planning Proposal, future development in Tahmoor and Thirlmere should extend south and west of Bronzewing Street and south of Greenacre Drive.
- Residential development in Warragamba and Silverdale should extend north of Waterhouse Drive along Silverdale Drive and link with the existing Silverdale Shopping Centre. Residential development could also extend south of St Heliers Road.
- Future residential development in Picton should be earmarked for areas west of Rumker Street and south of Bridge Street. Potential tourist accommodation is proposed east of Menangle Street.
- Residential development in Oakdale could expand both north and south of Burragorang Road.
- Future residential development in Menangle is generally limited to a small area north of Station Street given the lands surrounding the existing R2 zone are special heritage curtilage investigation areas.
- Development in Douglas Park is envisaged to occur directly west of Durham Street between Station Street and Nepean Street.
- Bargo is earmarked for future residential development further east of Remembrance Driveway.
- Future residential development in Appin is envisaged further west of Appin Road beyond the existing R2 zone.
- A Structure Plan for Wilton envisages future residential development north of the existing Bingara Gorge Estate. This Structure Plan has now been superseded by Wilton 2040 (Wilton Land Use and Infrastructure Implementation Plan) which is described further in Chapter 5.

The next section considers the socio-economic profile of the Wollondilly Shire.

## 2.3 SOCIO-ECONOMIC PROFILE

In order to understand the growth dynamics of an area, it is useful to consider both the current and historical socio-economic profile of residents within the Study Area (i.e. the Wollondilly Shire) and broader area. This is important as it provides insight into the current profile of residents and facilitates an understanding of how that profile might have evolved over time.

This section provides a snapshot of the socio-economic profile of the Wollondilly Shire in comparison to neighbouring LGAs including Camden, Campbelltown, Penrith and Wollongong.

### 2.3.1 Population and Households

#### Population

The Wollondilly Shire recorded a population of 48,519 in 2016, following average annual growth of 1.9% since 2006. This pace of growth is higher than the neighbouring LGAs of Campbelltown (0.9%), Penrith (1.3%) and Wollongong (1.0%), although much lower than that observed in Camden which recorded an average annual growth rate of 4.7% (ABS, 2017a). Table 2.7 summarises and compares historical population growth in Wollondilly.

**Table 2.7: Historical Population, 2006-2016**

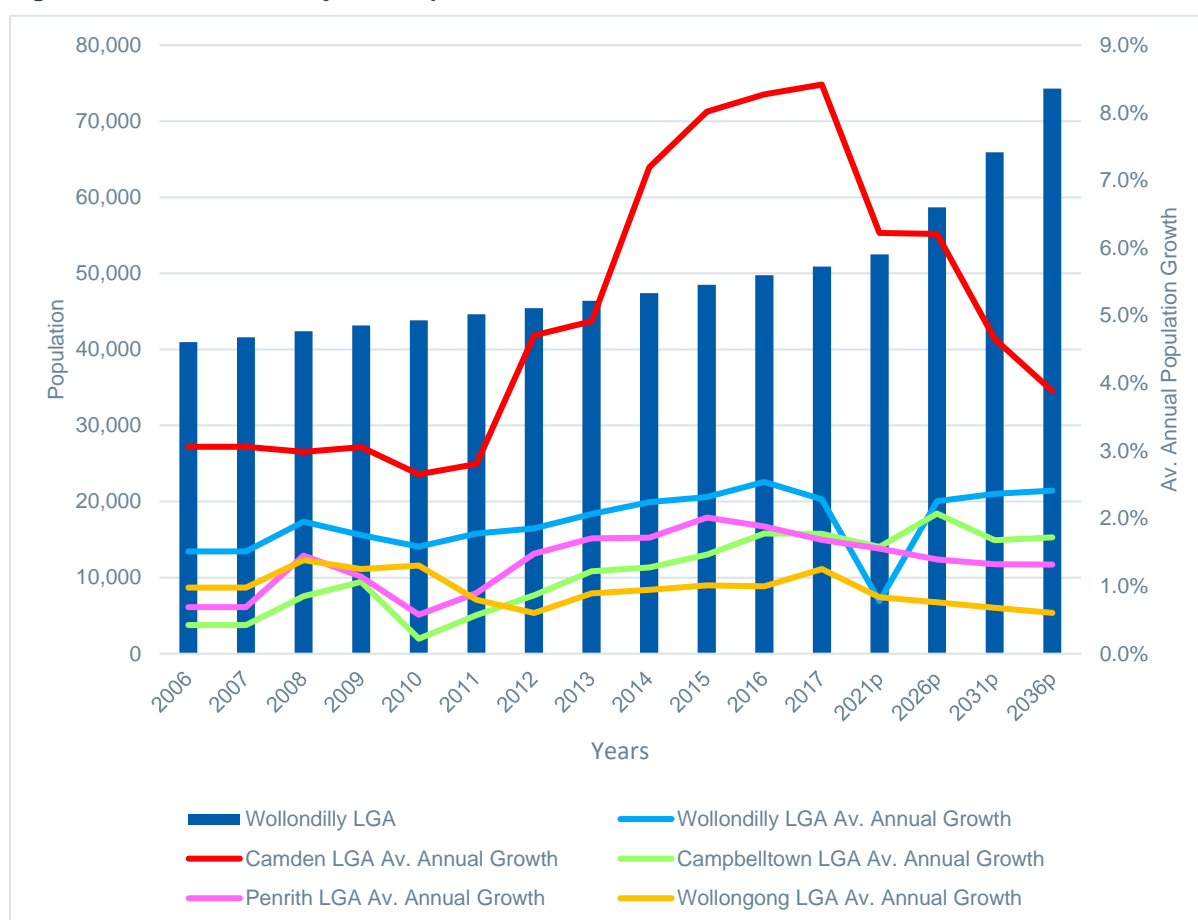
LGA	2006	2011	2016	Average Annual Growth		
				2006-11	2011-16	2006-16
Wollondilly	40,344	43,261	48,519	1.4%	2.3%	1.9%
Camden	49,645	56,719	78,218	2.7%	6.6%	4.7%
Campbelltown	143,075	145,969	157,006	0.4%	1.5%	0.9%
Penrith	172,141	178,465	196,066	0.7%	1.9%	1.3%
Wollongong	184,210	192,419	203,630	0.9%	1.1%	1.0%

Source: ABS (2017a,b)

Figure 2.7 depicts the historic and projected population growth of the Wollondilly Shire over the 2006-2036 period compared to that observed in the neighbouring LGAs.

Population growth in the Wollondilly Shire is projected to moderate in the short term, increasing by 0.8% on average per annum to 2021, before increasing to 2.4% per annum over the 2021-2036 period with an additional 24,527 residents expected by 2036. This rate of growth is observed to be higher than that projected in the neighbouring LGAs of Campbelltown, Penrith and Wollongong yet much lower than that projected for nearby Camden LGA.

**Figure 2.7: Historic and Projected Population Growth, 2006-2036**



Source: ABS (2018c, 2017a), DPE (2017)

Analysis of five-year age groups indicates that the Wollondilly Shire has a relatively evenly mixed population age group; children and adolescents (0-19 years) accounting for 29.5% of the population, young adults (20-34 years) accounting for 18.5%, middle-aged adults (35-54 years) comprising 27.2% and older adults (>55 years) accounting for 24.8% of the population.

**Table 2.8: Age Structure, 2016**

Age	Wollondilly LGA	Camden LGA	Campbelltown LGA	Penrith LGA	Wollongong LGA
<b>Children and Adolescents (0-19 years)</b>					
0-4	7.1%	8.7%	7.7%	7.7%	6.2%
5-9	7.8%	8.2%	7.5%	7.3%	6.3%
10-14	7.4%	7.4%	6.7%	6.4%	5.8%
15-19	7.1%	6.8%	6.8%	6.7%	6.5%
<b>Young Adults (20-34 years)</b>					
20-24	6.3%	6.5%	7.6%	7.5%	8.0%
25-29	6.0%	7.7%	7.5%	8.0%	6.9%
30-34	6.3%	8.0%	7.8%	7.9%	6.4%
<b>Middle-Aged Adults (35-54 years)</b>					
35-39	6.2%	7.4%	6.9%	7.1%	6.1%
40-44	7.3%	7.7%	6.4%	6.8%	6.6%
45-49	7.1%	6.5%	6.0%	6.3%	6.3%
50-54	6.6%	5.8%	6.3%	6.0%	6.5%
<b>Older Adults (&gt;55 years)</b>					
55-59	6.5%	4.9%	6.1%	6.0%	6.2%
60-64	5.6%	4.2%	5.3%	5.0%	5.4%
65-69	4.7%	3.7%	4.5%	4.3%	4.9%
70-74	3.2%	2.5%	2.9%	2.8%	4.0%
75-79	2.2%	1.7%	1.8%	1.8%	3.2%
80-84	1.4%	1.2%	1.1%	1.2%	2.4%
85 and over	1.3%	1.2%	1.0%	1.1%	2.4%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: ABS (2017a)

The average age in Wollondilly Shire is 36.6 years, compared to Camden LGA of 34.0 years, Campbelltown being 35.4 years, Penrith at 35.4 years and Wollongong at 39.2 years.

While the local population is dominated by children (29.5%) and middle-aged adults (27.2%), the proportion of older adults has progressively increased over the 2006-2016 period. In 2006, a total of 19.1% of residents were aged 55 years and over whereas almost 25% were recorded as 55 years and over in 2016. As a proportion of total residents, the other age groups have fallen over the 2006-2016 period; children and adolescents falling by 2.6%, young adults by 0.2% and middle-aged adults by 3.0%.

Whilst this ageing trend is generally observed across all the neighbouring LGAs, it is most keenly observed within the Wollondilly Shire. Table 2.9 analyses the change in age cohorts over the 2006-16 period.

**Table 2.9: Change in Age Cohorts, 2006-2016**

Age	Wollondilly LGA	Camden LGA	Campbelltown LGA	Penrith LGA	Wollongong LGA
Children and Adolescents (0-19 years)	-2.6%	-1.7%	-3.3%	-2.3%	-1.0%
Young Adults (20-34 years)	-0.2%	0.7%	0.6%	-0.2%	0.4%
Middle-Aged Adults (35-54 years)	-3.0%	-1.4%	-2.9%	-2.1%	-2.0%
Older Adults (>55 years)	5.7%	2.4%	5.6%	4.6%	2.7%

Source: ABS (2017a)

### **Country of Birth (Ancestry)**

The Wollondilly Shire is observed to comprise a significant proportion of Australian-born residents, accounting for over 87% of the total population. The Shire is observed to have a relatively low mix of other ethnic groups; the largest non-Australian born cohorts being from the United Kingdom and New Zealand. This is in contrast to other neighbouring LGAs where a higher proportion of non-Australian born residents are recorded.

**Table 2.10: Country of Birth, 2006-2016**

Country	2006	2011	2016
Australia	86.9%	87.0%	87.4%
United Kingdom, Channel Islands and Isle of Man(d)	5.8%	5.5%	4.9%
New Zealand	1.0%	1.1%	1.0%
Italy	0.5%	0.5%	0.5%
Germany	0.5%	0.5%	0.4%
Malta	0.5%	0.4%	0.4%
South Africa	0.2%	0.3%	0.3%
Ireland	0.3%	0.3%	0.3%
Netherlands	0.4%	0.3%	0.3%
China (excludes SARs and Taiwan)(c)	0.1%	0.2%	0.3%
Born Elsewhere	3.8%	3.9%	4.2%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: ABS (2017b)

### **Household Composition**

The Wollondilly Shire comprises a high proportion of family households (79.4%), followed by lone person households (14.6%). Household composition characteristics have remained relatively unchanged over the 2006-2016 period; with family households and lone person households declining marginally over the 10 years to 2016.

Current household composition within Wollondilly Shire is most comparable to neighbouring Camden LGA, who also share a high concentration of family households (81.6%) as at 2016. Household composition is more diverse in the other neighbouring LGAs; Campbelltown, Penrith and Wollongong comprising large numbers of lone person households (17.5%, 18.2% and 24.3%, respectively).

Table 2.11 illustrates household composition of the Wollondilly Shire over 2006-2016.

**Table 2.11: Household Composition, 2006-2016**

Household Type	2006	2011	2016
Family households	80.0%	79.8%	79.4%
Lone person households	15.0%	15.6%	14.6%
Group households	1.3%	1.6%	1.5%
Other households	3.7%	2.9%	4.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: ABS (2017b)

### **Family Composition**

Families with children are the dominant family cohort within the Wollondilly Shire, accounting for 54.5% of all family households. Couples without children were also a dominant family type, representing 32.5% of families followed by one parent families at 12.2%. Similar to household composition, little change has been observed in family composition characteristics across the Wollondilly Shire over the 2006-2016 period.

Table 2.12 illustrates the family composition characteristics of the Wollondilly Shire over the 2006-2016 period.

**Table 2.12: Family Composition, 2006-2016**

Household Type	2006	2011	2016
Couple family with no children	31.2%	31.9%	32.5%
Couple family with children	56.0%	53.8%	54.5%
One parent family	12.1%	13.4%	12.2%
Other family	0.8%	0.9%	0.8%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: ABS (2017b)

Families with no children are generally more commonly observed within the Wollondilly Shire compared to the neighbouring LGAs (with the exception of Wollongong LGA). Conversely, one parent family households are less commonly observed within the Wollondilly Shire compared to the neighbouring LGAs.

### **Population Stability**

Wollondilly Shire has strong levels of population stability; 92% of residents were living within the Shire one year prior to 2011 whilst 75% of residents were also living within the Shire five years prior to 2011. Nearby LGAs such as Campbelltown, Camden, Liverpool and Penrith are the primary sources of new residents into the Wollondilly Shire; 6% of residents lived in the Campbelltown LGA five years prior to 2011, 2% in Camden and 1% in both Penrith and Liverpool, respectively (ABS, 2012).

Similarly strong levels of population stability are observed in the neighbouring LGAs of Penrith and Wollongong with 83% and 87% of residents within those LGAs also residing therein five years prior to 2011, respectively. Camden is observed to have a higher proportion of new residents; only 66% of residents in 2011 lived within the Camden LGA five years prior to 2011. This is conceivably due to the number of new estates in Camden LGA which have been released over the five years to 2011.

### **Education Levels**

Education levels within the Wollondilly Shire are observed to be relatively modest; 58.0% of the population did not complete Year 12 which is higher than that observed in the neighbouring LGAs; 49.6% of residents did not complete in Camden LGA, 48.6% in Campbelltown, 53.2% in Penrith and 50.0% in Wollongong (ABS, 2017c). High school completion rates are observed to be increasing however, rising by 4.4% over the 2011-2016 period.

Post-secondary schooling education is also relatively modest; approximately 20.2% of the population holding a post-graduate degree or higher qualification (ABS, 2017d). This rate of education is lower than the neighbouring LGAs by between 0.8% (in the case of Penrith LGA) and 7.8% (in the case of Wollongong LGA). Residents with a certificate level of education (TAFE or equivalent) are high in the Wollondilly LGA, with around 26.1% of residents holding this form of education. This rate of education is much higher than those observed in the neighbouring LGAs.

Similar to school completion rates, the proportion of residents having completed some form of tertiary education has also risen over the 2011-2016 period, increasing by approximately 2.8% (ABS, 2012; ABS, 2017c). The number of residents with a certificate level of education has also risen over this time by circa 1.6%.

### **Household Income and Housing Costs**

Households within the Wollondilly Shire on average earn \$2,095 per week, which is marginally lower than the average weekly household income recorded in Camden LGA (\$2,208) but higher than that observed in Campbelltown (\$1,717), Penrith (\$1,897) and Wollongong (\$1,695).

Household incomes in the Wollondilly Shire are observed to have risen by approximately 4.8% per year over the 2011-16 period which is observed to be a higher rate than all the neighbouring LGAs, including Camden LGA which recorded an average annual increase of 3.6%.

Households within the Wollondilly Shire spend approximately 25.0% of their weekly income on mortgage repayments which is broadly in line with average repayment rates observed in the neighbouring LGAs (ABS, 2017b,c). For those households renting, approximately 17.2% of their weekly income is spent on rental payments; well below those observed in the neighbouring LGAs where between 19.2% and 20.0% of average weekly incomes is spent on rental payments.



**Table 2.13: Household Income v Housing Costs, 2011-2016**

	2011	2016
Median Weekly Household Income	\$1,658	\$2,095
Median Weekly Mortgage Repayment	\$560	\$566
Median Weekly Rent	\$267	\$361
% of Household Income spent on Mortgage	31.2%	25.0%
% of Household Income spent on Rent	16.1%	17.2%

Source: ABS (2017b,c)

### 2.3.2 Dwelling Type and Ownership

#### Dwellings Growth and Type

A total of 15,809 dwellings were recorded within the Wollondilly Shire as at Census 2016 with the overwhelming majority of these being separate detached housing (94%). A modest level of medium-density housing was identified (4.4%) whilst higher-density housing accounted for just 0.7% of all dwellings (ABS, 2017b).

Just over 1,400 new dwellings were added to Wollondilly Shire's housing stock over the 2011-16 period; equating to a 1.9% average annual growth rate over this period, or 287 dwellings per year. This is higher than that observed over during the 2006-11 period, where an additional 990 dwellings were added at an average annual growth rate of 1.4%, or 198 dwellings per year.

Of the approximately 1,400 new dwellings delivered over the 2011-16 period, separate detached houses accounted for just under 1,300 of these new dwellings. A substantial amount of medium-density housing was also delivered during this time period (258 dwellings) whereas the number of higher-density dwellings actually fell by circa 120 (ABS, 2017b).

Table 2.14 analyses the growth in dwelling types across Wollondilly Shire over the 2006-2016 period.

**Table 2.14: Dwelling Type, 2006-2016**

Dwelling Type*	2006		2011		2016		Growth (2011-2016)	
	No.	%	No.	%	No.	%	No.	%
Separate house	12,802	95.7%	13,571	94.4%	14,868	94.0%	1,297	9.6%
Semi-detached, row or terrace	307	2.3%	431	3.0%	689	4.4%	258	59.8%
Flat, unit, apt	151	1.1%	238	1.7%	118	0.7%	-120	-50.2%
Other	122	0.9%	132	0.9%	134	0.9%	2	1.9%
<b>Total</b>	<b>13,382</b>	<b>100.0%</b>	<b>14,372</b>	<b>100.0%</b>	<b>15,809</b>	<b>100.0%</b>	<b>1,437</b>	<b>10.0%</b>

\*due to data collection changes by ABS, semi-detached, row/terrace housing and flats/units/apartments are not directly comparable between census years

Source: ABS (2017b)

Compared to the surrounding LGAs, the Wollondilly Shire has a much higher composition of separate housing as a proportion of total dwellings. For instance, separate houses comprise 77.9% and 80.9% Campbelltown and Penrith LGAs, while only 68.7% of dwellings in the Wollongong LGA are separate houses. As is commonly seen in many of the beforementioned data points, the Camden LGA is the most comparable to the Wollondilly Shire; approximately 92.7% of all dwellings therein are observed to be separate houses.

#### Dwelling Ownership

The majority of residents within the Wollondilly Shire are owner-occupiers; 51.4% of residents own their home with a mortgage whilst 31.7% of residents own their home outright. Renters comprise a small component of the Wollondilly Shire with 15.7% of residents being renters.

Dwelling ownership trends have remained relatively unchanged over the 2006-2016 - residents who own their home outright marginally declined from 32.5% to 31.7%, whilst the number of residents who owned their dwelling with a mortgage increased from 50.8% to 51.4%. The proportion of those renting also marginally fell as a proportion of residents from 16.1% to 15.7%, although the total number of renters increased.

**Table 2.15: Dwelling Ownership, 2006-2016**

Dwelling Type	2006		2011		2016		Growth (2011-2016)	
	No.	%	No.	%	No.	%	No.	%
Fully owned	4,344	32.5%	4,546	31.6%	5,010	31.7%	464	10.2%
Owned with a mortgage	6,800	50.8%	7,296	50.8%	8,122	51.4%	826	11.3%
Renting	2,152	16.1%	2,413	16.8%	2,475	15.7%	62	2.6%
Other	87	0.6%	118	0.8%	202	1.3%	84	71.7%
<b>Total</b>	<b>13,382</b>	<b>100.0%</b>	<b>14,372</b>	<b>100.0%</b>	<b>15,809</b>	<b>100.0%</b>	<b>1,437</b>	<b>10.0%</b>

Source: (2017b)

Wollondilly Shire is observed to have the highest home ownership rates (fully owned and owned with a mortgage) at 83% compared to Camden recording 78%, Campbelltown at 65%, Penrith with 68% and Wollongong at 68%.

### Household Occupancy

Comparison of population and dwellings data indicates that there are approximately 3.1 persons per dwelling in the Wollondilly Shire (2016). Household occupancy is observed to have increased slightly over the 2006-2016 period with 3.0 residents per dwelling recorded in 2011 and 2006.

Table 2.16 compares household occupancy rates against the neighbouring LGAs over the 2006-2016 period.

**Table 2.16: Household Occupancy, 2006-2016**

LGA	2006	2011	2016
Wollondilly	3.01	3.01	3.07
Camden	3.06	3.08	3.13
Campbelltown	2.99	2.97	2.99
Penrith	2.92	2.90	2.92
Wollongong	2.58	2.59	2.62

Source: ABS (2017a,b)

As observed from Table 2.16, household occupancy in Wollondilly Shire is relatively high compared to the neighbouring LGAs with the exception of Camden with an occupancy rate of 3.13 persons per dwelling. Both Wollondilly and Camden experienced rises in the number of persons per dwelling over the 2006-2016 period.

## 2.4 POPULATION AND DWELLING CHARACTERISTICS BY SUBURB

This section details at a finer grain level the relevant characteristics of population and dwellings by suburb over the 2011-2016 period. Some boundary changes occurred during this period; the data is accordingly adjusted.

### Growth and Household Occupancy

The suburbs of Appin and Wilton recorded the strongest growth in population and new dwellings over 2011-2016. This is consistent with delivery of approximately 250 dwellings and 1,470 dwellings respectively during this period. Other suburbs that experienced notable growth include Camden Park, Pheasants Nest, Thirlmere and Werombi. A small number of suburbs recorded negative growth over the period, most notably at Maldon.

Household occupancy is generally observed to have risen or remained the same over the 2011-2016 period. In a small number of areas, the number of persons per dwelling fell. Though it is worth noting that small area data is not always reliable given the small sample sizes and variables introduced by the ABS for privacy reasons.

Table 2.17 summarises the growth in population and dwellings as well as changes in household occupancy ratios over the 2011-2016 period. The key observations include:

- Modest growth in many suburbs with the exception of Appin and Wilton experiencing significant growth, averaging circa 8% and 13% respective annual growth between 2011 and 2016.
- Household occupancy ratios (persons per dwelling) have generally increased in areas of significant growth:
  - Appin - 3.1 persons (2011) to 3.2 persons (2016).
  - Camden Park - 3.4 persons (2011) to 3.5 persons (2016).

- Picton - 2.9 persons (2011 and 2016).
- Tahmoor - 2.7 persons (2011) to 2.8 (2016).
- Wilton - 3.1 persons (2011) to 3.3 persons (2016).

A handful of suburbs recorded declines (e.g. Glenmore, Nattai, Yerranderie) however they are small in sample size and accordingly considered less reliable.

- Across the Wollondilly Shire, average annual population growth exceeded that of dwellings growth, contributing to a rising average household occupancy ratio (3.0 persons in 2011 to 3.1 persons in 2016).

**Table 2.17: Population and Dwellings Growth & Household Occupancy, 2011-2016**

Suburb	Population			Occupied Private Dwellings			Household Occupancy	
	2011	2016	Avg. Ann	2011	2016	Avg. Ann	2011	2016
Appin	1,803	2,633	7.9%	580	829	7.4%	3.1	3.2
Bargo	4,131	4,393	1.2%	1,447	1,530	1.1%	2.9	2.9
Belimbla Park	546	583	1.3%	177	174	-0.3%	3.1	3.4
Brownlow Hill	363	422	3.1%	110	96	-2.7%	3.3	4.4
Buxton	1,876	2,027	1.6%	620	651	1.0%	3.0	3.1
Camden Park	1,825	2,240	4.2%	542	646	3.6%	3.4	3.5
Cawdor	397	437	1.9%	132	137	0.7%	3.0	3.2
Couridjah	276	304	2.0%	102	90	-2.5%	2.7	3.4
Douglas Park	1,315	1,360	0.7%	420	448	1.3%	3.1	3.0
Glenmore	128	119	-1.4%	40	41	0.5%	3.2	2.9
Lakesland	406	434	1.3%	126	135	1.4%	3.2	3.2
Maldon	49	19	-17.3%	16	4	-24.2%	3.1	4.8
Menangle	1,011	1,146	2.5%	330	367	2.1%	3.1	3.1
Mount Hunter	678	733	1.6%	213	214	0.1%	3.2	3.4
Mowbray Park	81	93	2.8%	28	28	0.0%	2.9	3.3
Nattai	59	64	1.6%	20	31	9.2%	3.0	2.1
Oakdale	1,856	1,842	-0.2%	627	612	-0.5%	3.0	3.0
Orangeville	1,101	1,249	2.6%	335	368	1.9%	3.3	3.4
Pheasants Nest	593	691	3.1%	187	210	2.3%	3.2	3.3
Picton	4,513	4,815	1.3%	1,557	1,670	1.4%	2.9	2.9
Razorback	962	1,084	2.4%	299	324	1.6%	3.2	3.3
Silverdale	3,537	3,680	0.8%	1,028	1,093	1.2%	3.4	3.4
Tahmoor	4,582	5,068	2.0%	1,692	1,816	1.4%	2.7	2.8
Theresa Park	548	535	-0.5%	168	170	0.2%	3.3	3.1
The Oaks	2,442	2,524	0.7%	792	825	0.8%	3.1	3.1
Thirlmere	3,632	4,043	2.2%	1,227	1,383	2.4%	3.0	2.9
Warragamba	1,235	1,241	0.1%	476	478	0.1%	2.6	2.6
Werombi	841	927	2.0%	246	274	2.2%	3.4	3.4
Wilton	1,666	3,085	13.1%	537	932	11.7%	3.1	3.3
Yanderra	683	662	-0.6%	221	219	-0.2%	3.1	3.0
Yerranderie	6	6	0.0%	1	3	24.6%	3.8	2.0
<b>Wollondilly Shire</b>	<b>43,261</b>	<b>48,519</b>	<b>2.3%</b>	<b>14,372</b>	<b>15,809</b>	<b>1.9%</b>	<b>3.0</b>	<b>3.1</b>

Source: (2017b)

### Dwelling Type

Table 2.18 outlines the composition of dwellings by suburb. We are aware that between 2011 and 2016, the ABS method of data collection changed, making direct comparison between semi-detached/row housing and flats/units/apartments difficult. Nevertheless, we make the following key observations:

- Detached/separate houses are overwhelmingly prevalent in the Shire, in some suburbs at 100%.
- Odd observations result as a result method changes to data collection in 2016, e.g. Razorback recording 100% detached dwellings in 2016 and 80% in 2011 (with almost 20% recorded as flats/units).
- As an overall, dwellings in the Shire are dominated by detached housing stock (in the order of 94% of total).

**Table 2.18: Dwelling Type\*, 2011-2016**

Suburb	Separate		Semi-detached		Flats/Units		Other	
	2011	2016	2011	2016	2011	2016	2011	2016
Appin	82.1%	96.6%	0.0%	1.4%	17.9%	0.6%	0.0%	1.5%
Bargo	88.7%	87.3%	8.4%	9.7%	0.4%	0.0%	2.6%	3.0%
Belimbla Park	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Brownlow Hill	96.6%	100.0%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Buxton	99.6%	99.5%	0.4%	0.5%	0.0%	0.0%	0.0%	0.0%
Camden Park	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cawdor	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Couridjah	97.1%	93.5%	0.0%	6.5%	0.0%	0.0%	2.9%	0.0%
Douglas Park	95.8%	96.6%	3.5%	1.4%	0.0%	2.1%	0.6%	0.0%
Glenmore	80.4%	82.5%	1.0%	17.5%	18.6%	0.0%	0.0%	0.0%
Lakesland	100.0%	97.8%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%
Maldon	99.5%	100.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Menangle	85.6%	72.7%	14.3%	27.3%	0.0%	0.0%	0.1%	0.0%
Mount Hunter	98.8%	100.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Mowbray Park	93.2%	100.0%	5.6%	0.0%	0.0%	0.0%	1.2%	0.0%
Nattai	95.3%	100.0%	0.0%	0.0%	0.0%	0.0%	4.7%	0.0%
Oakdale	95.3%	94.8%	0.0%	0.7%	0.0%	0.0%	4.7%	4.6%
Orangeville	97.9%	99.2%	1.2%	0.0%	0.0%	0.0%	0.9%	0.8%
Pheasants Nest	100.0%	98.5%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%
Picton	93.1%	89.1%	5.6%	6.6%	0.2%	4.3%	1.2%	0.0%
Razorback	80.2%	100.0%	0.0%	0.0%	19.8%	0.0%	0.0%	0.0%
Silverdale	100.0%	99.7%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%
Tahmoor	94.5%	95.1%	5.5%	4.6%	0.0%	0.2%	0.0%	0.2%
Theresa Park	98.2%	100.0%	0.0%	0.0%	1.8%	0.0%	0.0%	0.0%
The Oaks	97.0%	97.3%	1.8%	1.7%	0.0%	1.0%	1.2%	0.0%
Thirlmere	97.3%	86.2%	1.6%	12.4%	0.7%	0.2%	0.4%	1.2%
Warragamba	97.6%	97.7%	1.7%	2.3%	0.7%	0.0%	0.0%	0.0%
Werombi	98.7%	98.9%	0.0%	0.0%	0.0%	0.0%	1.3%	1.1%
Wilton	99.5%	100.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Yanderra	96.8%	100.0%	1.8%	0.0%	0.0%	0.0%	1.4%	0.0%
Yerranderie	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Wollondilly Shire</b>	<b>94.4%</b>	<b>94.0%</b>	<b>3.0%</b>	<b>4.4%</b>	<b>1.7%</b>	<b>0.7%</b>	<b>0.9%</b>	<b>0.9%</b>

\*due to data collection changes by ABS, semi-detached, row/terrace housing and flats/units/apartments are not directly comparable between census years  
Source: ABS (2017b)

### **Number of Bedrooms and Motor Vehicles**

Table 2.19 outlines the number of bedrooms and motor vehicles per dwelling by suburb. This is a useful cross-check against the observations in Table 2.17, in particular the average number of persons per dwelling observed.

Similar to average household occupancy ratios, the number of bedrooms and motor vehicles per dwelling has generally increased in areas of significant growth (e.g. Appin, Camden Park, Picton, Tahmoor, Wilton). This affirms the observation that dwelling size is commensurate with increases in households size.

**Table 2.19: Number of Bedrooms and Motor Vehicles, 2011-2016**

Suburb	Number of Bedrooms		Motor Vehicles	
	2011	2016	2011	2016
Appin	3.6	3.8	2.2	2.3
Bargo	3.4	3.4	2.0	2.2
Belimbla Park	3.8	3.8	2.5	2.7
Brownlow Hill	3.8	3.7	2.5	2.6
Buxton	3.4	3.5	2.1	2.3
Camden Park	4.1	4.2	2.2	2.5
Cawdor	3.8	3.9	2.4	2.6
Couridjah	3.4	3.8	2.1	2.5
Douglas Park	3.6	3.7	2.3	2.4
Glenmore	3.7	3.8	2.4	2.5
Lakesland	3.7	3.8	2.4	2.6
Maldon	3.7	3.4	2.3	n/a
Menangle	3.4	3.4	2.0	2.2
Mount Hunter	3.7	3.8	2.4	2.6
Mowbray Park	3.5	3.7	2.0	3.1
Nattai	3.5	3.0	2.2	1.9
Oakdale	3.5	3.5	2.2	2.4
Orangeville	3.9	4.0	2.5	2.7
Pheasants Nest	3.5	3.9	2.3	2.7
Picton	3.5	3.5	2.0	2.1
Razorback	3.9	4.1	2.5	2.8
Silverdale	3.9	3.9	2.4	2.6
Tahmoor	3.3	3.4	1.7	1.9
Theresa Park	3.7	4.0	2.4	2.7
The Oaks	3.5	3.6	2.2	2.4
Thirlmere	3.4	3.4	2.1	2.1
Warragamba	3.0	3.0	1.7	1.8
Werombi	3.8	3.9	2.5	2.7
Wilton	3.7	3.9	2.3	2.4
Yanderra	3.4	3.4	2.1	2.3
Yerranderie	2.0	n/a	1.5	1.0
<b>Wollondilly Shire</b>	<b>3.5</b>	<b>3.6</b>	<b>2.1</b>	<b>2.3</b>

Source: ABS (2017b)

**Household Income and Housing Costs**

**Table 2.20** compares household incomes and housing costs by suburb across the Shire.

From the perspective of proportion of household incomes spent on mortgage cost, housing affordability has overall improved in the Shire. In 2011 approximately 31% of household income was spent on mortgage cost whereas in 2016 the proportion reduced to 25%.

The improving affordability levels are primarily driven by household affluence levels. Household income levels can be observed to have risen notably over the 2011-2016 period. In a high growth suburb, the rise in household incomes averaged more than 8% per annum over the period.

**Table 2.20: Household Income v Housing Costs, 2011-2016**

Suburb	Median Weekly H/H Income		Median Weekly Mortgage		Median Weekly Rent		% H/H Income on Mortgage		% H/H Income on Rent	
	2011	2016	2011	2016	2011	2016	2011	2016	2011	2016
Appin	\$1,738	\$2,266	\$2,132	\$2,323	\$248	\$410	28.3%	23.7%	14.3%	18.1%
Bargo	\$1,494	\$1,747	\$2,153	\$2,161	\$274	\$360	33.3%	28.5%	18.3%	20.6%
Belimbla Park	\$1,919	\$2,111	\$2,311	\$2,149	\$431	\$350	27.8%	23.5%	22.5%	16.6%



Suburb	Median Weekly H/H Income		Median Weekly Mortgage		Median Weekly Rent		% H/H Income on Mortgage		% H/H Income on Rent	
	2011	2016	2011	2016	2011	2016	2011	2016	2011	2016
Brownlow Hill	\$1,870	\$2,619	\$3,817	\$2,896	\$364	\$362	47.1%	25.5%	19.5%	13.8%
Buxton	\$1,553	\$1,949	\$2,025	\$2,001	\$248	\$327	30.1%	23.7%	16.0%	16.8%
Camden Park	\$2,333	\$3,014	\$2,957	\$2,580	\$600	\$617	29.2%	19.8%	25.7%	20.5%
Cawdor	\$1,715	\$2,300	\$2,638	\$2,861	\$264	\$232	35.5%	28.7%	15.4%	10.1%
Couridjah	\$1,596	\$2,310	\$2,103	\$2,130	\$78	\$237	30.4%	21.3%	4.9%	10.3%
Douglas Park	\$1,825	\$2,139	\$2,315	\$2,320	\$246	\$411	29.3%	25.0%	13.5%	19.2%
Glenmore	\$1,900	\$1,827	\$2,530	\$3,300	\$225	\$296	30.7%	41.7%	11.8%	16.2%
Lakesland	\$1,949	\$2,333	\$2,561	\$2,661	\$500	\$500	30.3%	26.3%	25.6%	21.4%
Maldon	-	-	-	-	-	-	-	-	-	-
Menangle	\$1,659	\$2,107	\$2,365	\$2,480	\$212	\$227	32.9%	27.2%	12.8%	10.8%
Mount Hunter	\$1,806	\$2,372	\$2,530	\$2,405	\$225	\$337	32.3%	23.4%	12.4%	14.2%
Mowbray Park	\$550	\$4,000	-	-	\$265	-	-	-	48.2%	-
Nattai	\$1,668	\$1,487	\$2,257	\$1,307	\$254	-	31.2%	20.3%	15.2%	-
Oakdale	\$1,534	\$1,963	\$2,257	\$2,063	\$254	\$360	33.9%	24.2%	16.6%	18.3%
Orangeville	\$1,940	\$2,596	\$2,733	\$2,794	\$117	\$228	32.5%	24.8%	6.0%	8.8%
Pheasants Nest	\$1,533	\$2,278	\$2,397	\$2,443	\$427	\$528	36.1%	24.8%	27.9%	23.2%
Picton	\$1,616	\$2,110	\$2,326	\$2,290	\$265	\$335	33.2%	25.1%	16.4%	15.9%
Razorback	\$1,994	\$2,702	\$2,924	\$2,673	\$365	\$491	33.8%	22.8%	18.3%	18.2%
Silverdale	\$1,856	\$2,430	\$2,387	\$2,404	\$360	\$419	29.7%	22.8%	19.4%	17.2%
Tahmoor	\$1,341	\$1,674	\$1,985	\$1,982	\$269	\$354	34.2%	27.3%	20.1%	21.2%
Theresa Park	\$2,067	\$2,649	\$3,094	\$2,632	\$59	-	34.5%	22.9%	2.8%	-
The Oaks	\$1,724	\$2,021	\$2,179	\$2,077	\$275	\$292	29.2%	23.7%	15.9%	14.5%
Thirlmere	\$1,518	\$1,781	\$2,053	\$2,070	\$254	\$355	31.2%	26.8%	16.7%	19.9%
Warragamba	\$1,279	\$1,500	\$1,731	\$1,635	\$268	\$318	31.2%	25.2%	21.0%	21.2%
Werombi	\$1,830	\$2,307	\$2,975	\$2,921	\$388	\$345	37.5%	29.2%	21.2%	14.9%
Wilton	\$1,764	\$2,603	\$2,362	\$2,551	\$298	\$548	30.9%	22.6%	16.9%	21.0%
Yanderra	\$1,176	\$2,093	\$1,938	\$1,985	\$181	\$342	38.0%	21.9%	15.4%	16.3%
Yerranderie	-	-	-	-	-	-	-	-	-	-
<b>Wollondilly Shire</b>	<b>\$1,658</b>	<b>\$2,095</b>	<b>\$2,239</b>	<b>\$2,266</b>	<b>\$267</b>	<b>\$361</b>	<b>31.2%</b>	<b>25.0%</b>	<b>16.1%</b>	<b>17.2%</b>

Source: ABS (2017b,c)

## 2.5 EMPLOYMENT CHARACTERISTICS

In order to obtain a holistic understanding of the nature of employment within the Wollondilly Shire, analysis of both Wollondilly workers and residents is undertaken.

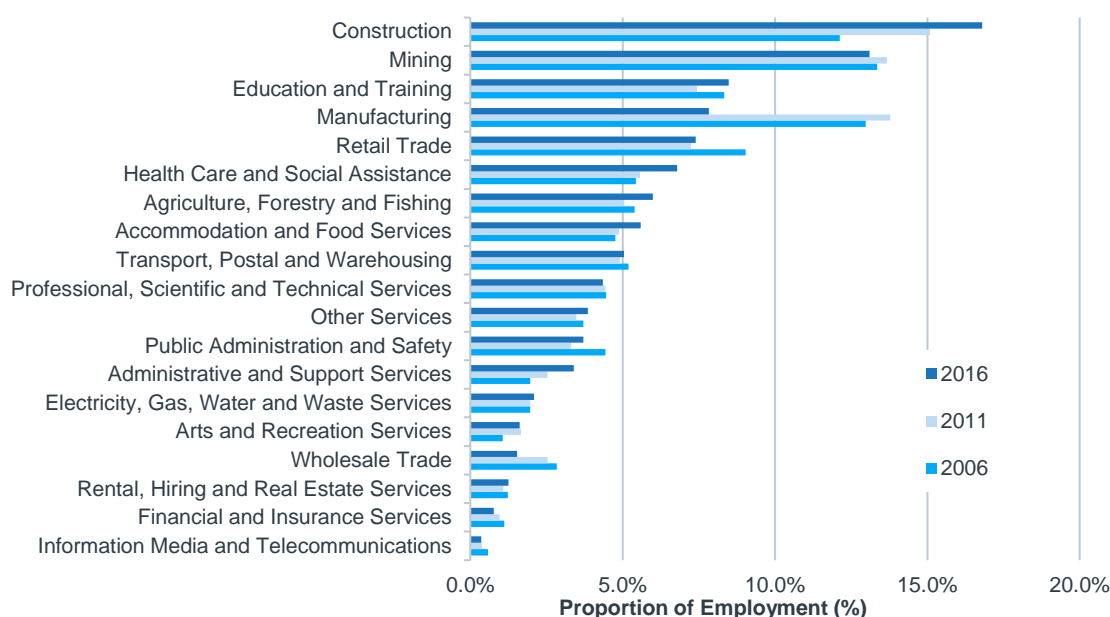
### 2.5.1 Shire Workers

The Wollondilly Shire (through its various centres and employment areas) employed just under 12,000 workers in 2016 (ABS, 2017d). The major employing industries include construction (16.8%), mining (13.1%), education and training (8.5%) and manufacturing (7.8%).

Strong growth has been observed in a number of industries over the 2006-16 period; construction workers increasing by 825 workers (70.4%), followed by health care and social assistance (282 workers; 53.6%), mining (267 workers; 20.6%) and administrative and support services (214 workers; 112.7%). All major industries have generally recorded good growth over 2006-16 period albeit major declines observed in the manufacturing sector (-324 workers; -25.8%) and wholesale trade (-92 workers; -33.4%).

Overall, the local Wollondilly Shire workforce has expanded by just over 2,200 workers over the 2006-16 period with the majority of this growth delivered by the construction, health care and social assistance and mining industries.

Figure 2.8 illustrates how the various industries within Wollondilly Shire have changed over the 2006-2016 period.

**Figure 2.8: Employment by Industry (Place of Work), 2006-2016**

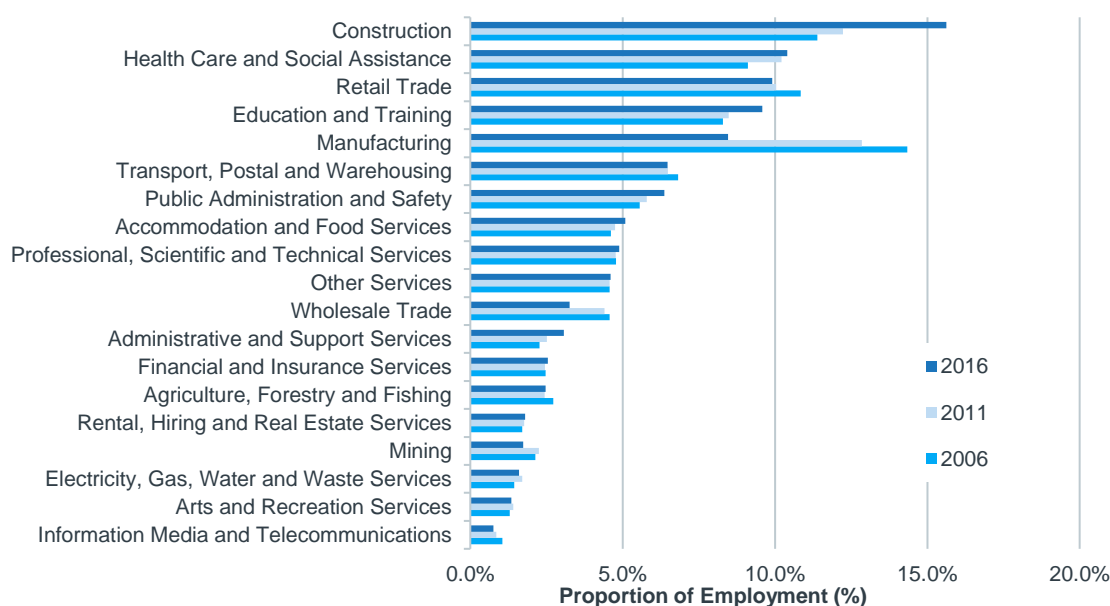
Source: ABS (2017c; 2012, 2007)

## 2.5.2 Shire Residents

### Employment by Industry

In 2016, just over 24,000 working residents lived in the Wollondilly Shire (ABS, 2017d). Residents work in various industries with the major employing industries being construction (3,755 workers; 15.6%), health care and social assistance (2,500 workers; 10.4%), retail trade (2,383 workers; 9.9%), education and training (2,303 workers; 9.6%) and manufacturing (2,034 workers; 8.5%). This largely aligns with the major employing industries of the Wollondilly Shire.

Overall, the Wollondilly Shire expanded by just under 4,600 working residents over the 2006-16 period with the majority of the growth in working residents delivered by the construction, health care and social assistance, education and training and public administration and safety industries.

**Figure 2.9: Employment by Industry (Place of Usual Residence), 2006-2016**

Source: ABS (2017c; 2012, 2007)

The following observations are made with regard to the main industries which employ Wollondilly residents:

- The five main industries residents work in are construction, health care and social assistance, retail trade, education and training and manufacturing, which employ 54.0% of all residents.
- Growth in employment has been fuelled by the construction industry which have each expanded considerably over the 2006-2016 period and account for a third of all new employment generated over the 2006-16 period.
- Health care and social assistance and education and training have also provided a significant bulk of new employment opportunities for residents within Wollondilly Shire; both industries accounting for almost a third of new employment for residents over the 2006-16 period.
- Despite the high proportion of mining workers who *work* within the Wollondilly Shire, mining is not a major employer with only 418 workers (1.7%) being in 2016.
- Strong declines in manufacturing workers has been observed over the 2006-16 period with a loss of 754 workers (-16.4%) during this period.

### **Employment by Occupation**

Table 2.9 shows the occupations of residents within the Wollondilly Shire. The most dominant occupation within the Wollondilly Shire as 2016 is observed to be technicians and trades workers, accounting for 18.6% of all residents within the Shire. Professionals, clerical and administrative workers and managers are also represented, accounting for 15.2%, 15.1% and 12.9% of all residents, respectively.

Over the five years to 2016, the largest increase in occupation type is observed to be technicians and trades workers with an additional 494 resident workers (12.4%), closely followed by community and professional service workers (486 workers; 24.2% increase) and managers (422 workers; 15.8% increase). No occupation types have recorded falls over the 2011-2016 period.

Overall, residents within the Wollondilly Shire are a relatively strong mix of white collar workers (such as professionals, clerical and administration and managers) and blue collar workers (technicians and trade workers, machinery operators and drivers and labourers), accounting for 43.2% and 37.8% of all residents occupations, respectively.

**Table 2.21: Employment by Occupation (Place of Usual Residence), 2011-2016 (1-Digit ANZSIC)**

Occupation	2011		2016		Change (2011-2016)	
	No.	%	No.	%	No.	%
Managers	2,670	12.5%	3,092	12.9%	422	15.8%
Professionals	3,328	15.6%	3,645	15.2%	317	9.5%
Technicians and Trade Workers	3,974	18.6%	4,468	18.6%	494	12.4%
Community and Personal Service Workers	2,011	9.4%	2,497	10.4%	486	24.2%
Clerical and Administration Workers	3,318	15.6%	3,621	15.1%	303	9.1%
Sales Workers	1,797	8.4%	2,095	8.7%	299	16.6%
Machinery Operators and Drivers	2,144	10.1%	2,326	9.7%	182	8.5%
Labourers	2,074	9.7%	2,294	9.5%	220	10.6%
<b>Total Employed</b>	<b>21,315</b>	<b>100.0%</b>	<b>24,038</b>	<b>100.0%</b>	<b>2,723</b>	<b>12.8%</b>

Source: ABS (2017c; 2012, 2007)

### **Labour Force and Unemployment**

Just over 26,500 residents within Wollondilly Shire were recorded in the labour force as at 2016 (labour force comprising those employed and those unemployed looking for work). The unemployment rate recorded in 2016 was 4.0%. This is lower than the unemployment rates recorded in the neighbouring LGAs as well as Greater Sydney (6.0%).

Table 2.22 analyses the labour force and unemployment levels recorded at 2016 for the Wollondilly Shire and compares against the neighbouring LGAs.

**Table 2.22: Labour Force and Unemployment, 2016**

LGA/Area	Employed			Unemployed	Not in Labour Force	Unemployment Rate
	Full-time	Part-time	Away from Work			
Wollondilly	16,540	7,534	1,415	1,062	11,284	4.0%
Camden	28,259	11,467	2,278	1,811	15,704	4.1%
Campbelltown	48,664	20,738	3,795	6,245	43,709	7.9%
Penrith	68,131	27,350	5,126	6,092	48,078	5.7%
Wollongong	55,390	32,807	5,018	7,135	66,728	7.1%

Source: ABS (2017c)

### 2.5.3 Journey to Work

Analysis of how residents and employees within Wollondilly Shire travel to and from work, and where they go to work or come from, is undertaken by Bureau of Transport Statistics (BTS, 2014). The most recent analysis available is based on 2011 data; 2016 data is yet to be released.

In 2011, *workers* within the Wollondilly Shire overwhelmingly originated from the Wollondilly Shire, accounting for 60% of workers. The surrounding LGAs of Wollongong, Camden and Campbelltown are also major contributors of workers, accounting for 10.2%, 7.2% and 6.1% of workers within the Wollondilly Shire.

**Table 2.23: Origin of Wollondilly Workers, 2011**

LGA	Workers	% of Workers
Wollondilly	6,758	59.9%
Wollongong	1,150	10.2%
Camden	807	7.2%
Campbelltown	687	6.1%
Wingecarribee	449	4.0%
Shellharbour	271	2.4%
Penrith	236	2.1%
Liverpool	152	1.4%
Kiama	72	0.6%
Fairfield	63	0.6%
Rest of NSW	586	5.2%
From outside NSW	42	0.4%
Total	11,275	100.0%

Source: BTS (2014)

The primary mode of travel workers within the Wollondilly Shire relied upon to commute to and from work was private vehicles, with 69.6% of all workers reliant upon private cars. Car-sharing is also a major mode of travel, whilst under 1% of workers relied upon public transport such as train or bus.

**Table 2.24: Mode of Travel (Wollondilly Workers), 2011**

Transport Mode	Wollondilly Shire
Bus	0.2%
Ferry/Tram	0.1%
Mode not stated	2.0%
Other mode	0.9%
Train	0.6%
Vehicle driver	69.6%
Vehicle passenger	5.0%
Walked only	2.9%
Worked at Home or Did not go to Work	18.8%
<b>Total</b>	<b>100.0%</b>

Source: BTS (2014)

Journey to work data indicates that *residents* within the Wollondilly Shire will also typically work within the Shire; just under 30% of all working residents worked within the Wollondilly Shire. The other neighbouring LGAs are also major employment destinations with Camden, Campbelltown, Liverpool and Penrith accounting for 13.1%, 13.0%, 5.7% and 4.2% of resident's primary place of work. Interestingly, the Sydney LGA is also a major destination of employment, accounting for 3.4% of residents' primary place of work.

**Table 2.25: Movement to Work (Origin), 2011**

LGA	Workers	% of Residents
Wollondilly	6,758	29.5%
Camden	3,011	13.1%
Campbelltown	2,975	13.0%
Liverpool	1,303	5.7%
Wingecarribee	999	4.4%
Penrith	959	4.2%
Sydney	772	3.4%
Blacktown	633	2.8%
Fairfield	578	2.5%
Wollongong	500	2.2%
Rest of NSW	4,316	18.8%
From outside NSW	0	0.0%
Unknown	142	0.6%
<b>Total</b>	<b>22,945</b>	<b>100.0%</b>

Source: BTS (2014)

The primary method of travel residents within Wollondilly Shire relied upon to commute to and from work was private vehicles, with 72.5% of all workers reliant upon private cars. A significant portion of residents within the Wollondilly Shire are observed to either work from home or do not work; this group accounting for 15.0% of all residents. Public transport comprises a small portion of all travel modes; 3.7% of residents reliant upon the train whilst 0.5% rely upon the bus.

**Table 2.26: Mode of Travel (Origin)**

Transport Mode	Wollondilly Shire
Bus	0.5%
Ferry/Tram	0.0%
Mode not stated	1.9%
Other mode	0.6%
Train	3.7%
Vehicle driver	72.5%
Vehicle passenger	4.2%
Walked only	1.6%
Worked at Home or Did not go to Work	15.0%
<b>Total</b>	<b>100.0%</b>

Source: BTS (2014)



## 2.6 IMPLICATIONS FOR HOUSING DEMAND

A series of key strategic planning policies in conjunction with the existing and changing socio-economic profile of local residents shapes the role Wollondilly Shire will play in accommodating housing demand to 2036. The following key factors and considerations are relevant:

- Beyond the greenfield areas outlined in the Greater Macarthur Growth Area, the Wollondilly Shire is not envisaged to play a major role in accommodating future housing demand in metropolitan Sydney; it is designated as a metropolitan rural area with a housing target of 1,550 dwellings to 2021 (GSC, 2018a).
- According to DPE's projections, population growth in the Wollondilly Shire is projected to moderate in the short term, increasing by 0.8% on average per annum to 2021, before increasing to 2.4% per annum over the 2021-2036 period with an additional 24,527 residents expected by 2036.
- The Wollondilly Shire comprises a varied mix of age cohorts with the overwhelming majority of family households having children of school age.
- The Wollondilly Shire is relatively affluent, scoring a high level of social-advantage in 2016 and is currently observed to exhibit relatively low levels of housing stress.
- Residents within the Wollondilly Shire are a relatively strong mix of white collar workers (such as professionals, clerical and administration workers and managers) and blue collar workers (technicians and trade workers, machinery operators and drivers and labourers)
- In 2011, 60% of workers who worked in the Wollondilly Shire were also residents of Wollondilly, followed by workers who lived in the Wollongong, Camden and Campbelltown LGAs.
- Residents are heavily car based (almost 70%) with the majority of residents reliant on private vehicles to commute to and from work.

At a small area (suburb level), the following observations are of note:

- There has been significant growth in key suburbs such as Appin and Wilton, with the rate of population growth generally greater than that of dwellings over the 2011-2016 period.
- Overall, higher household occupancy ratios are observed across the Shire, particularly driven by those suburbs that experienced high growth, with Appin and Wilton notably recording 3.2 and 3.3 persons per dwelling respectively in 2016 (both increased from 3.1 persons per dwelling in 2011).
- On average, there were 3.0 persons per dwelling in the Shire in 2011, increasing to 3.1 persons in 2016.
- The number of bedrooms and motor vehicles per dwelling affirms the trend of growing household occupancy ratios. On average there were 3.5 bedrooms and 2.1 motor vehicles per dwelling in the Shire in 2011, increasing to 3.6 bedrooms and 2.3 motor vehicles in 2016.
- Households in most suburbs are observed to be more affluent over the 2011-2016 period, thereby resulting in improved housing affordability relative to mortgage costs.

The next Chapter considers the economic and market factors that influence activity in the Wollondilly housing market.

## 3. ECONOMIC AND MARKET CONTEXT

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This chapter investigates market dynamics influencing the supply and demand of residential property within the Wollondilly Shire and surrounds.

### 3.1 TRENDS AND DRIVERS OF DEMAND

A range of trends and drivers influence demand for residential housing. Many of these factors are broad, macroeconomic influences; general market conditions, population and wage growth and monetary policy impact all property markets. Other influences are more market or location specific, referred to as microeconomic trends.

This section briefly discusses the macro and micro trends observed to be influencing demand for housing across both metropolitan Sydney and within the Wollondilly Shire.

#### 3.1.1 Macroeconomic Trends

##### **Population Growth**

Demand for housing is fundamentally driven by population growth. Population growth within NSW has been significant over the 2006-2016 period with just under 1 million new residents recorded over this period to a total population of 7.7 million, indicative of a 14.8% increase (ABS, 2017a). Greater Sydney has accommodated the vast majority of this growth, currently recording a population of just over 5 million residents, reflective of an 18.2% increase (ABS, 2017a).

Population growth across Greater Sydney is forecasted to continue over the coming 25 years, with an additional 1.7 million forecasted by 2036, increasing to 3.2 million residents by 2056 (Greater Sydney Commission, 2018a). This has obvious repercussions for Greater Sydney's housing market.

##### **General Market Conditions**

Metropolitan Sydney's housing market has continued to cool in most regions over the past 6-9 months. Auction clearance rates across Sydney were recorded at 52.3% in May 2018, down from 71.9% recorded 12 months prior in May 2017 (CoreLogic RP Data, 2018). In conjunction with falling auction clearance rates, median house values across metropolitan Sydney have fallen by 4.2% over the 12 months to May 2018. This is in line with Australia's combined national cities median house price falling 0.4% in the same period for the first time in six years.

With softening market conditions, purchasers are acting more prudently with many preferring to negotiate via private treaty rather than participate at public auctions. Most agents across metropolitan Sydney highlight vendors are struggling to accept the new conditions and setting reserve prices based on market conditions more readily observed during the 2016-17 period.

We note general market sentiment plays a fundamental role in the health of residential property markets. The state of metropolitan Sydney's housing market has been subject to intense media speculation over the past 12 months, with widespread commentary regarding a potential downturn in prices likely also feeding into the above described conditions.

##### **Wage Growth**

Wage growth within Australia has been sluggish for several years with little real wage growth (i.e. net of inflation) observed since 2013. Recent data from the ABS indicates national wage growth (seasonally adjusted) rose by 2.1% over the 12 months to March 2018, slightly above previous quarter results (ABS, 2018a). This was largely driven by the recent 3.3% increase in national minimum wage rates commencing in July 2017 as opposed to any meaningful wage inflation.

An economic consensus regarding the future outlook for wage growth in coming years is that wage growth will remain relatively flat in the short-term after which the spare capacity within the labour market will deliver some modest wage growth in the medium term (Business Insider, 2017).

### **Monetary Policy and Lending Restrictions**

The Reserve Bank of Australia (RBA) held the cash rate at 1.5% in June 2018, the 21<sup>st</sup> consecutive month of no change since a 25 basis point cut in August 2016. Low inflation and subdued private investment is providing little scope to raise interest rates in the short-term.

The impact of the Australian Prudential Regulatory Authority's (APRA) macro-prudential measures in restricting investor and interest-only lending has trickled through as investor lending contracted markedly (-10.1%) over the 2017 calendar year. Modest falls in home loans to investors were recorded in March 2018 (-0.3%) whilst lending to owner occupiers increased marginally by 0.2% (ABS, 2018b). Market intelligence gathered indicates investor interest has fallen significantly across many residential markets in metropolitan Sydney.

The ongoing Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry has the potential to further exacerbate current conditions as banks further tighten lending standards amidst the high level of public scrutiny around poor lending practices.

Additionally, recent moves by APRA to increase pre-sale requirements prior to issuing construction finance are also driving shifts in the development sector. Developers now face longer pre-sale periods before commencing construction works. This has repercussions for developers' holding costs and ability to lock in building agreements.

#### **3.1.2 Microeconomic Trends**

### **Housing Affordability**

Australia's east coast housing boom over 2012-2017 resulted in extraordinary price growth across essentially all regions throughout metropolitan Sydney. Coinciding with stagnant wage growth, the housing boom has resulted in many buyers being priced out of many housing markets, particularly first home buyers. Consequently, many buyers have been forced to compromise and purchase housing in less desirable locations and/or smaller product. Owing to demand for more affordable housing, developers across Sydney's North West and South West release areas are increasingly offering smaller lots in new land subdivisions. Apartment development is also a direct response to affordability pressures in many markets across metropolitan Sydney.

Whilst smaller lots are being observed throughout the Wollondilly Shire to accommodate price-conscious buyers, larger lots compared to other nearby regions (South West Growth Area) are more readily supplied. This is in response to a niche market demand from buyers seeking larger lots which are no longer being provided in significant numbers in other release areas across Sydney.

### **Lifestyle Changes**

Demand for housing is increasingly being shaped by changing lifestyle preferences. In many ways, demand for residential housing in new land release areas is driven by two distinct market groups; new market entrants looking for smaller, affordable product compared to established buyers who have a greater price tolerance and often opt for large allotments. In peri-rural areas such as the Wollondilly Shire, this latter group is often comprised of 'tree changers'; older, established families or retirees relocating from urban areas to enjoy the lifestyle benefits afforded to rural locations.

## **3.2 MARKET ACTIVITY**

This section contains a summary of general market activity observed across the Shire based on primary research including informal discussions with local marketing agents and development managers in addition to industry databases. Buyer profile, pricing and market preferences provide insight into the drivers of demand for residential product across the Shire.

### **3.2.1 Existing Residential Stock**

Residential markets across Sydney have flattened over the 12 months to Q1 2018 as tighter lending conditions, falling market confidence and lower sales volumes have contracted the buyer pool whilst allowing purchasers to become more selective.

### **Appin**

Appin is a distinctly two-tier residential market characterised by recently completed detached dwellings at the Appin Valley Estate (Walker Corporation) in the north of Nixon Road with older stock observed south along Appin Road. Residential development is heavily clustered on either side of Appin Road with vacant rural land and farmsteads observed throughout the remainder of the suburb.

Recent resales of recently constructed housing within the Appin Valley Estate are achieving strong sale prices; four bedroom houses achieving sales from \$750,000 to \$875,000 whilst larger five bedroom houses are securing prices circa \$900,000-\$930,000. Sale prices achieved for similar sized housing outside the Appin Valley Estate are expectedly lower (often \$100,000 to \$150,000 less).

The Appin market does not feature large concentrations of medium-density type product (townhouses, villas) whilst no higher-density product (apartments) have been identified.

### **Bargo and Buxton**

The Bargo housing market is clustered around the Bargo train station with the majority of existing housing located west of Old Hume Highway. Residential lot sizes are predominantly 1,000sqm-2,000sqm with housing typically brick-veneered Post-war style.

Older style, single storey housing typically achieves \$500,000 to \$650,000 while modern (<10 years) single storey houses can achieve up to \$850,000. Large lots (>3,000sqm) expectedly achieve high prices, often over \$1,000,000. Many of these properties include secondary dwellings (granny flats) and are well-desired given their capacity as a dual income investment.

Bargo also includes a number of medium-density aged care villas which are relatively well-received; three bedroom villas have achieved circa \$350,000 in recent times. No higher-density product is observed within the local market.

Located south-west of Tahmoor, Buxton is a small housing market clustering to the east of West Parade with lots generally ranging from 550sqm to 900sqm. Housing is generally modern, single storey and brick fronted interspersed with Post-War weatherboard cottages. Larger rural housing is observed to the west of West Parade on lots ranging >1ha. Typical housing on 500sqm-800sqm blocks generally ranges from \$450,000 to \$600,000 depending on age, condition and number of bedrooms.

### **Belimbla Park and Douglas Park**

Located between Oakdale and The Oaks, Belimbla Park is a predominantly rural-housing market with most dwellings located on rural acreages from 1ha to 3ha. Many houses are large and/or modern and command strong sale prices, ranging from \$700,000 to \$1,500,000. Few sales have been recorded in recent times; the most recent sale being in Q4 2017.

Located directly north of Wilton, Douglas Park is a small housing market clustered around the Douglas Park train station. Housing is generally single storey, Post-War brick veneered situated on large blocks ranging from 1,500sqm to 2,000sqm. Housing on 1,500sqm blocks generally commands sale prices circa \$700,000-\$800,000, whereas large rural housing on bigger blocks has achieved sale prices ~\$1.5m in recent times. A small number of medium-density duplexes proximate to the train station have sold in recent times; two bedroom duplexes achieving circa \$435,000 whereas three bedroom product has transacted up to \$480,000.

### **Oakdale and The Oaks**

Oakdale is a relatively small market with housing primarily clustered along Burragorang Road with the majority of the suburb rural farming land. The Oaks is comparatively a much larger market with a range of housing styles ranging from Post-War brick and weatherboard clad cottages, more modern brick veneered housing and recently completed housing estates.

Demand in Oakdale has remained steady albeit with a fall in sales volumes observed over the Q1 2017- Q1 2018 period (27 sales in 2017-18 compared to 38 sales in 2016-17). A review of recent sales indicates three bedroom housing is transacting for circa \$550,000 to \$750,000 depending on lot size and extent of recent refurbishments. Four bedroom houses tend to range from \$650,000 to \$800,000 although the recent sale of 16 Moore Road for \$880,000 reflects the premium the market is willing to pay for extensively refurbished, large housing.

Interestingly, a number of two bedroom cottages have sold in recent times ranging from \$390,000 to \$440,000. Interest in such product has been strong from both the First Home Buyer and investor cohort as an affordable entry level product.

The Oaks has continued to experience strong demand for established housing product over the 12 months to Q1 2018 with only a slight fall in sales volumes compared to 2016-17. Analysis of recent sales indicates three bedroom houses typically range from \$650,000 to \$700,000 whilst slightly higher prices are paid where additional improvements or refurbishments have been undertaken. Large four bedroom houses are observed to generally range from \$675,000 to \$800,000.

Recently constructed five bedroom housing have achieved significant prices records over the past 12 months, with prices ranging from \$900,000 to \$950,000.

### **Silverdale and Warragamba**

The Silverdale market has experienced significant levels of demand for housing in recent times and is amongst the most desirable markets within the Wollondilly Shire. Housing is predominantly modern (post 1990) with a number of recently constructed estates observed whilst large, modern houses on rural blocks (>4,000sqm) are interspersed throughout the suburb.

Housing on the comparatively smaller blocks (1,000sqm) typically ranges from \$625,000 to \$870,000 depending on age, number of bedrooms and land size. The larger rural housing attracts significantly higher prices given land size and building quality; recent sales indicating prices of circa \$950,000 to \$1,350,000 whilst higher prices are not uncommon, e.g. 29 Manna Way sold for \$1.9m in February 2018.

Despite their proximity, the Warragamba housing market has been relatively flat over the course of 2017-18 as demand has remained soft whilst sale volumes have dropped (23 sales in 2017-18 compared to 32 in 2016-17). Housing within Warragamba is relatively distinct compared to other markets within the Wollondilly Shire, characterised by Post-War workmans' weatherboard cottages on relatively small allotments of 450sqm to 500sqm.

Recent sales activity is reflective of modest demand for housing within the suburb; two bedroom cottages typically transact between \$350,000 and \$450,000, three bedroom cottages range from \$400,000 to \$600,000 whilst four bedroom houses attract prices between \$600,000 and \$680,000.

### **Picton, Tahmoor and Thirlmere**

Picton is the most established housing market within the Wollondilly Shire with steady demand observed the 12 months to Q1 2018 with no significant falls in sales volumes observed over this period. Established housing is primarily clustered around the Picton train station and the Argyle Street retail strip with newer housing estates observed in the northernmost end of the town centre.

Housing lots across the town centre are relatively large and typically range from 900sqm to 1,200sqm; larger rural properties (>4,000sqm) observed on the periphery of the urban centre. A greater variety of housing typologies is also observed across Picton with a number of duplexes, villas and shop top apartments observed in addition to traditional detached housing.

Analysis of recent sales suggests smaller two bedroom cottages are tending to range from \$500,000 to \$700,000 whilst larger three bedroom houses attract prices circa \$550,000 to \$750,000. Larger, five bedroom houses achieve distinctly higher price points, particularly for modern rural estates, with prices ranging from \$800,000 to \$1,200,000. Medium density product (villas) and unit sales have been limited in recent times however two bedroom villas typically range from \$350,000 to \$500,000 whereas two bedroom units range from \$350,000 to \$425,000.

Similar to Picton, Tahmoor is one of the major residential markets within the Wollondilly Shire benefitting from a train station, large retail centre and direct access to the Old Hume Highway. Demand for established housing has remained buoyant over the 12 months to Q1 2018 with interest being driven by completion of a number of new residential estates. Sales volumes strengthened over the 12 months to Q1 2018, rising from 105 sales in 2016-17 to 120 sales during 2017-18.

Established residential housing generally ranges from \$500,000 to \$750,000; three bedroom housing circa \$500,000 to \$625,000 with larger four bedroom houses typically achieving sale prices from \$600,000 to \$750,000.



Large residences on rural lots (>4,000sqm) expectedly achieve distinctly higher sale prices, ranging from \$900,000 to \$925,000. A small number of strata titled duplexes are also dispersed throughout the suburb providing a more affordable option with recent sales indicative of prices from \$380,000 to \$450,000.

Thirlmere has historically been amongst the strongest housing markets within the Wollondilly Shire with this trend continuing over the 12 months to Q1 2018. Similar in terms of both location and size to neighbouring Tahmoor, demand for housing within Thirlmere has remained strong with sale volumes remaining relatively constant over the 2016-18 period.

Established three bedroom houses are observed to be transacting for \$500,000 to \$750,000 whilst four bedroom housing generally ranges from \$600,000 to \$800,000. A small number of two bedroom villas are also observed to be interspersed throughout the suburb with recent sales evidence indicating sale prices of circa \$450,000.

### **Wilton**

The Wilton housing market is dominated by the recently completed Bingara Gorge Estate (Lend Lease) located off Picton Road. Initially approved for residential development in 2005, the estate was released to market in 2009 with approval for 1,165 lots ranging from 400sqm to 4,000sqm with the vast majority being 700sqm and 2,000sqm. It is understood approximately 500 dwellings have been constructed to date. Whilst detached houses are the most common housing typology in the estate, medium density townhouses are clustered around the town centre.

As a masterplanned estate centred around a new town centre, primary school and golf course, prices paid for housing within Bingara Gorge are observed to be at a premium compared to the other established markets. Four bedroom houses on small lots (450sqm-500sqm) are transacting for circa \$675,000-\$700,000 whilst four bedroom houses on larger lots (700sqm-1,000sqm) achieving prices from \$850,000 to \$1,000,000. Houses on larger lots (1,100sqm-2,000sqm) are observed to be achieving sale prices up to \$1,400,000.

Few townhouses within the estate have been re-released to market however the sale of 3 White Street (four bedroom, two storey) for \$670,000 in November 2017 is indicative of market demand for such product.

Outside Bingara Gorge, older housing is observed directly east of Hannaford Oval. Pricing for similar sized product is distinctly lower than in Bingara Gorge. For instance, 36B Almond Street (928sqm site area; three bedroom) sold in September 2017 for \$635,000 whereas similar stock in Bingara Gorge would likely achieve >\$850,000.

### **Summary of Existing Residential Stock**

Median sale prices are useful indicators of general market conditions and consumer sentiment, particularly over large periods of time where key trends are more easily observed. A review of median house price data (Residex, 2018) for the key housing markets within the Wollondilly Shire reflects a clear hierarchy of house values, summarised below in Table 3.1.

**Table 3.1: Median House Prices, Wollondilly Shire**

Suburb	Median Sale Prices			Average Annual Growth		
	2009	2013	2018	2009-2013	2013-2018	2009-2018
Wilton	\$406,000	\$465,000	\$894,000	2.3%	16.1%	8.4%
Silverdale	\$335,000	\$404,000	\$822,000	3.5%	11.8%	6.4%
Appin	\$273,000	\$343,000	\$773,000	2.8%	10.2%	6.7%
Douglas Park	\$405,000	\$441,000	\$758,000	1.7%	11.4%	6.5%
Picton	\$352,000	\$365,000	\$744,000	1.4%	12.4%	6.6%
The Oaks	\$394,000	\$423,000	\$729,000	3.0%	11.9%	7.2%
Bargo	\$442,000	\$526,000	\$692,000	3.8%	12.6%	7.5%
Belimbla Park	\$285,000	\$356,000	\$685,000	4.5%	16.6%	9.2%
Thirlmere	\$301,000	\$339,000	\$669,000	2.9%	11.7%	7.1%
Tahmoor	\$365,000	\$424,000	\$614,000	2.4%	12.7%	7.4%
Oakdale	\$337,000	\$388,000	\$602,000	0.7%	11.1%	5.5%
Buxton	\$269,000	\$295,000	\$579,000	4.7%	12.1%	7.8%
Warragamba	\$399,000	\$446,000	\$500,000	1.9%	12.4%	6.4%

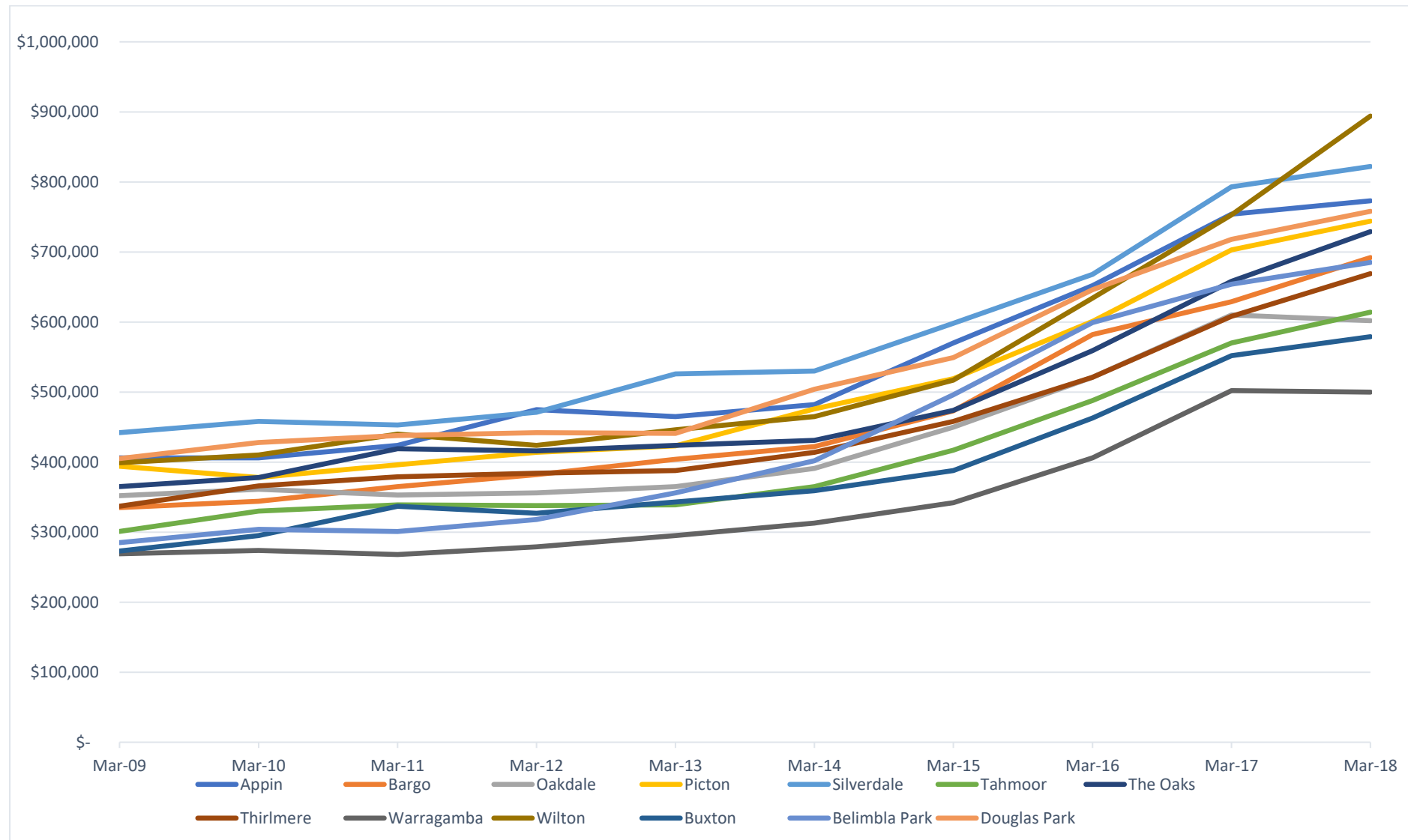
Source: Residex (2018)

A number of distinct trends can be drawn from Table 3.1:

- Median house price growth was relatively flat over the 2009-2013 period with modest average annual growth recorded across all markets. In contrast, sharp price growth has been observed over the 2013-2018 period, most markedly in Belimbla Park and Wilton where an annual average median growth rate of 16.6% and 16.1% has been recorded, respectively.
- Following significant growth over 2013-2018, Wilton currently commands the highest median house price of just under \$900,000, higher than the second highest ranked suburb of Silverdale by a considerable margin. This is undoubtedly driven by the growth and development of the Bingara Gorge Estate within Wilton.
- The suburbs of Appin, Picton, Douglas Park and Silverdale have consistently been amongst the most expensive housing markets within the Shire with Silverdale only recently being surpassed by Wilton over the past five years.
- Warragamba remains the most affordable housing market in the Wollondilly Shire with strong house price growth in other markets over the 2009 to 2018 period exacerbating the difference in median house prices.

Median price growth across the various sub-markets within the Wollondilly Shire is illustrated below in Figure 3.1.

**Figure 3.1: Median House Prices (2009-2018), Wollondilly Shire**



Source: Residex (2018)

### 3.2.2 New Residential Subdivisions

A number of new residential subdivisions are being marketed for sale across the Wollondilly Shire. The overwhelmingly majority of activity is observed in Thirlmere and Tahmoor where a total of 10 new estates are currently marketing new residential lots. Other areas of current and recent activity include Bargo, Picton, The Oaks, Oakdale and Silverdale.

Anecdotal evidence from sales agents and developers is indicative of healthy demand for new residential lots, typified by healthy take-up rates in most estates (3-10 sales per month) although some estates have benefited from significant interest and marked take-up rates. For instance, the 167- lot at 95 Great Southern Road, Bargo (Coomeroo Estate) has recorded 15-18 sales per month since marketing commenced in November 2017. Although released much earlier in December 2016, the 60 lot subdivision known as Montpelier Grove at The Oaks (780-790 Montpelier Grove) sold 80% of all lots on the initial launch day, with the remainder sold by end of January 2017.

Newly subdivided residential lots (450sqm to 1,000sqm) generally range from \$300,000 to \$550,000 with most prices falling between \$550/sqm of site area and \$750/sqm of site area. Slightly higher prices are observed in Picton, where new 700sqm lots have achieved prices just under \$600,000 (~\$850/sqm of site area).

Table 3.2 summarises sales activity observed at new land estates currently or just recently completed marketing.

**Table 3.2: Sales Activity, New Residential Subdivisions**

Estate	No. Lots	Sold (%)	Lot Sizes		Sale Prices		Analysis (\$/sqm site area)
Bargo							
Coomeroo Estate	167	80%	700	5,000	\$395,000	\$608,000	\$120/sqm-\$565/sqm
Avon Grove Estate	30	100%	717	5,872	\$350,000	\$650,000	\$110/sqm-\$490/sqm
Tahmoor							
Bronzewing Park	29	85%	470	774	\$335,000	\$350,000	\$450/sqm-\$715/sqm
55 Tahmoor Road	47	90%	451	727	\$300,000	\$365,000	\$500/sqm-\$665/sqm
River Estate <sup>1</sup>	31	0%	500	700	\$319,000	\$360,000	\$515/sqm-\$640/sqm
The Acres	125	48%	4,046	12,140	\$680,000	\$1,000,000	\$80/sqm-\$170/sqm
Thirlmere							
Brundah Crest Estate	25	65%	466	649	\$337,500	\$425,500	\$700/sqm-\$725/sqm
Marion Estate	64	96%	450	1,103	\$335,000	\$415,000	\$375/sqm-\$745/sqm
East View Estate	30	85%	450	699	\$325,000	\$415,000	\$600/sqm-\$725/sqm
Giselle Estate	30	80%	450	1,334	\$335,000	\$600,000	\$450/sqm-\$745/sqm
Belbrae Estate	42	N/A	451	525	\$320,000	\$345,000	\$650/sqm-\$710/sqm
Thirlmere Heights	66	65%	450	864	\$335,000	\$355,000	\$410/sqm-\$745/sqm
Picton							
Vault Hill	25	44%	700	89,031	\$589,000	\$2,500,000	\$30/sqm-\$840/sqm
The Oaks							
Montpelier Grove	60	100%	975	1,359	\$390,000	\$450,000	\$330/sqm-\$400/sqm
Silverdale							
The Cascades	180	97%	700	1,025	\$465,000	\$545,000	\$530/sqm-\$665/sqm

<sup>1</sup> Asking prices  
Source: AEC

The only new land subdivisions completed in Wilton and Appin in recent times include Bingara Gorge (Lend Lease) and Appin Valley (Walker Corporation). The most recent release at the Bingara Gorge is understood to have been in December 2015 which included 400sqm lots priced at \$350,000 (\$875/sqm) with larger lots (600sqm-700sqm) generally ranging from \$400,000 to \$500,000 (\$665/sqm to \$715/sqm).

The Appin Valley Estate was released much earlier in 2013 with all 336 lots offered to market sold by early 2014, reflecting a take-up rate of 28 sales per month. Prices are understood to have ranged from \$230,000 for 400sqm lots (\$575/sqm), \$280,000 for 700sqm lots (\$400/sqm) and upwards of \$300,000 for lots above 800sqm.

### 3.2.3 Local Buyer Characteristics

Anecdotal evidence from local marketing agents and developers indicates demand for new housing estates is being driven by a mix of buyers including domestic investors, first home buyers, established families and older couples and retirees. A mix of both locals who have grown up in the Wollondilly Shire, people relocating from other South-Western LGAs (Camden, Campbelltown and Liverpool) and from other regions (metro Sydney and Wollongong) is observed.

The **First Home Buyer** cohort is fundamentally driven by affordability with many relocating from other South West Sydney regions as price increases in other land release areas (Austral, Oran Park, Leppington) are forcing compromise on location. These buyers are typically opting for smaller lot sizes (450sqm-700sqm) to minimise total land and build costs below \$800,000. These buyers will often work locally or within the South West however some estates with good access to arterial roads will attract buyers working within metropolitan Sydney.

**Upgraders** are amongst the most active across the new estates observed, many relocating from nearby areas such as Narellan and Camden to avoid increasing congestion within those areas as development continues to expand. Many of these buyers are established families who may have owned one or two houses previously and are familiar with the South West area, many working nearby. These buyers are less price sensitive and often look for larger lots (800sqm-2,000sqm) given their relative affordability compared to other nearby markets where they are more expensive are less readily provided.

**Investors** remain an active buyer cohort, many being builders who work locally and are seeking to undertake construction themselves after which they may resell the property for a profit. These buyers will often target smaller lots to minimise upfront costs and maximise profits.

Lastly, **older couples and retirees** seeking a 'tree change' are also an important part of the local market. These buyers relocate from a variety of regions across metropolitan Sydney and may or may not work. Often with the greatest capacity to pay, these buyers will often purchase large acre lots (4,000sqm) and do not generally compete with the First Home Buyer cohort.

The buyer profile within the Wollondilly Shire is divergent with a range of owner occupier cohorts and investors activity observed. This is in contrast to the general buyer profile within the South West Growth Area which is much more homogenous - First Home Buyers a dominant cohort therein with affordability driving these buyers to ever increasingly opt for smaller lot size and/or product type, e.g. townhouses.

## 3.3 DEVELOPMENT ACTIVITY

### 3.3.1 Development Pipeline

Review of the development pipeline indicates the Wollondilly Shire has the potential to deliver just over 46,000 new dwellings over the next 10-20 years. It is important to note that not all projects in the development pipeline and planning proposals will eventuate into delivery (many of which do not have planning approval).

The majority of development currently proposed is in Wilton Growth Area (~15,000), Silverdale (~9,700 lots), Appin (12,000 lots) and Cawdor (~4,000). Other precincts that could deliver strong levels of new housing include Tahmoor, Picton, Silverdale, Thirlmere, The Oaks, Menangle, Oakdale and Appin.

As expected in peri-urban areas such as the Wollondilly Shire, new residential development is overwhelmingly land subdivisions as large rural blocks are developed into smaller parcels for eventual low-density development. New subdivided lots commonly range from 600sqm to 1,200sqm however a number of new estates are progressing smaller lots (450sqm to 600sqm) in light of strong demand from price conscious buyers. Larger rural subdivisions are also commonly observed to cater to this segment of the market, e.g. The Acres estate in Tahmoor.

Medium-density development (villas and townhouses) is beginning to emerge in larger established centres across the Shire such as Appin, Picton and Tahmoor. Very little higher density development is observed across the Shire; Picton currently being the only major centre where a small pocket of apartment development is being progressed whilst a Planning Proposal to increase building heights in Tahmoor could potentially yield >400 apartments (if approved and delivered).



Table 3.2 summarises development proposals across the Wollondilly Shire at various stages of planning and delivery, including major planning proposals. Suburbs where no development is currently proposed have been excluded.

**Table 3.3: Development Proposals, Wollondilly Shire**

Suburb	Potential Dwellings
<b>Precincts within Greater Macarthur Growth Area</b>	
Appin	12,177
Wilton	15,000
Sub-total	27,177
<b>Rest of Wollondilly Shire</b>	
Bargo	205
Buxton	7
Cawdor	4,000
Menangle	362
Oakdale	357
Picton	953
Razorback	5
Silverdale	9,756
Tahmoor	1,703
The Oaks	508
Thirlmere	990
Sub-total	18,846
<b>Grand Total</b>	<b>46,023</b>

Source: Cordell Connect

We highlight that planning proposals currently under review account for the majority of dwellings included in Table 3.3, representing approximately 95% of the development proposals; the remainder of the proposals (5%) is comprised of DAs (under assessment or approved).

When excluding major planning proposals which are not located within the Greater Macarthur Growth Area (e.g. Silverdale, Cawdor), the development pipeline is significantly smaller, circa 18,800 dwellings.

### **Speed of Development**

A review of subdivision certificates indicates strong growth over the 2013-2017 period with the number of subdivision certificates issued increasing significantly. Expectedly, occupation certificates have risen commensurate over this period, peaking in 2015 and falling slightly over the 2015-17 period.

There does not appear to be data available that enables direct tracking of the time taken between subdivision and occupation. Table 3.4 analyses the number of subdivision and occupation certificates issued over the 2013-2017 period.

The analysis demonstrates the scale of subdivision certificates increased between 2013 and 2014 and thereafter remained broadly stable. In contrast, the scale of occupation certificates increased sharply in 2015, indicating a swifter rate of development and higher rate of conversion to completion.

**Table 3.4: Subdivision and Occupation Certificates, 2013-2017**

	2013	2014	2015	2016	2017
Subdivision Certificates	33	43	51	48	54
Occupation Certificates	157	254	403	275	294

Source: WSC

### 3.3.2 Planning Proposals

The Wollondilly Shire has experienced a significant volume of landowner and developer-led planning proposals over the past decade. The overwhelming majority of these proposals have been for the conversion of large non-residential, rural parcels of land (typically zoned RU2 Rural Landscape and RU4 Primary Production Small Lots) for residential subdivisions with lot sizes generally ranging from 450sqm to 4,000sqm.

This section summarises planning proposal activity observed across the Shire in recent times, including those Proposals which have been approved, refused or are currently underway or under review. A list of current, approved and refused planning proposals is annexed to this Report as Appendix A.

#### **Current Proposals**

A total of 29 planning proposals seeking some form of residential development are currently underway at various stages of planning and delivery. Should all these proposals be approved, a total of over 22,000 new dwellings could be yielded. The following observations can be drawn from the current planning proposal pipeline.

- **Location**  
Planning proposals are heavily focused in the suburbs of Appin, Bargo, Picton, Tahmoor and Silverdale, whilst a number of proposals are also observed in Buxton, Menangle, Oakdale, Razorback, The Oaks and Thirlmere.
- **Size and Intensity of Development**  
Sites subject to planning proposals range in size (ha) and scale of development proposed; ranging from 4ha to >500ha in area and from <10 dwellings to 9,000 dwellings. The largest planning proposal is observed in Silverdale where a number of large, privately-owned parcels of rural land between Silverdale and Warragamba are proposed for a major residential subdivision comprising 8,944 lots. Other major planning proposals are observed in Appin where three proposals each envisage development of rural land for over 3,500 dwellings.
- **Changes to Planning Controls**  
All planning proposals cited seek changes to land use zones and reduction in minimum lot size controls. The majority of proposals are for sites currently zoned for rural use (RU1 Primary Production, RU2 Rural Landscape and RU4 Primary Production Small Lots) proposed for conversion to residential development; either via a R2 Low Density Residential and/or R5 Large Residential zoning. In many instances, proposals also include an Environmental zoning (E2 Environmental Conservation or E4 Environmental Living) to part of the site where environmental constraints limit capacity for total conversion to urban development.  
  
Developers are observed to be proposing a relatively tight range of minimum lot sizes in current planning proposals. Where R2 Low Density Residential zones are proposed, developers typically seek minimum lot sizes from 450sqm to 700sqm; where R5 Large Lot Residential zones are proposed, the accompanying minimum lot size control sought is generally 1,500sqm to 4,000sqm.

Overall, the planning proposal pipeline is dominated by large proposals in terms of both site area and proposed yield; most planning proposals being for sites in excess of 20ha with circa 60% proposing greater than 50 lots. Developers are targeting rural zoned land for conversion to R2 Low Density Residential and, less frequently, R5 Large Lot Residential. Minimum lot size controls sought are generally 450sqm to 700sqm.

#### **Completed Proposals**

A number of planning proposals (>15) have been approved in recent years which has generated an increase in housing stock across the Wollondilly Shire with an additional ~1,000 dwellings approved for delivery. These proposals have primarily been located in the Picton, Tahmoor and Thirlmere areas, however a number of approved proposals have also been observed in Oakdale, Silverdale and The Oaks.

Approved planning proposals have primarily been small in scale, often comprising <100 new lots per proposal. A number of exceptions to this are observed however, notably the Council-led rezoning of new urban precincts around Picton, Tahmoor and Thirlmere which is understood to generate capacity for in excess of 300 new residential lots.

Similar to those proposals currently under review, approved planning proposals have generally sought conversion of rural zoned land to urban residential land with a corresponding decrease in minimum lot sizes. Applicants have typically sought minimum lot size controls from 450sqm to 975sqm in an R2 zoning.

We note a planning proposal by Lend Lease to increase the dwelling yield within the Bingara Gorge Estate from 1,165 to 1,800 was recently approved by the Land and Environment Court in August 2016. Development of these new dwellings is understood to be subject to completion of the Wilton Growth Area Land Use and Infrastructure and Implementation Plan.

### Refused Proposals

Many of these are located in the suburbs of Douglas Park, Picton and The Oaks, commonly seeking rezoning of rural land to low density residential and industrial to residential. Minimum lot size controls sought by these proposals were not dissimilar to those being sought in existing planning proposals. The reasons for refusal for each proposal are generally unique however environmental factors (flooding, mine subsidence) and scale of development were generally identified as the primary reasons for refusal.

### 3.3.3 Development Typologies

Recent subdivisions are observed to be providing a range of lot sizes to accommodate to the different buyer cohorts active in the local market. For instance, a 30-lot subdivision at 45 Brundah Street, Thirlmere (Brundah Crest Estate) provides lots from 450sqm to 650sqm whereas the 125-lot subdivision at 165-185 River Road, Tahmoor (The Acres) provides large rural lots ranging from 4,000sqm to 12,000sqm.

Table 3.5 analyses the lot sizes and mix of a number of major residential subdivisions which were rezoned under Council's *Picton-Tahmoor-Thirlmere New Urban Precincts Planning Proposal*. With the exception of 55-65 Bronzewing Street, Tahmoor (minimum lot size control of 700sqm), these estates are subject to a minimum lot size control of 450sqm and are reflective of developer and market behaviour on small lot product in the Wollondilly Shire.

**Table 3.5: Lot Size Mix, Select Subdivisions in Thirlmere, Tahmoor and Picton**

Development	Total Lots	Lot Size Mix				
		450sqm-500sqm	500sqm-600sqm	600sqm-800sqm	800sqm-1,000sqm	>1,000sqm
<b>Thirlmere</b>	<b>351</b>	<b>47%</b>	<b>13%</b>	<b>28%</b>	<b>9%</b>	<b>3%</b>
10, 15, 20, 25 & 35 Marion St & Brundah Rd	144	11%	7%	59%	20%	3%
60 & 88 Rita St	62	73%	18%	8%	0%	2%
51 Rita St	41	34%	49%	7%	0%	10%
25 Bell St	41	95%	2%	0%	0%	2%
50 Rita St	32	74%	3%	16%	6%	0%
35 Antill St, 140 Jarvis St & 280 Thirlmere Way	31	87%	13%	0%	0%	0%
<b>Tahmoor</b>	<b>309</b>	<b>48%</b>	<b>20%</b>	<b>21%</b>	<b>7%</b>	<b>4%</b>
30-36 Progress & 38-42 Tahmoor Rds	126	60%	21%	12%	5%	0%
42 Greenacre Dr	66	73%	32%	0%	0%	2%
55-65 Bronzewing St	60	0%	0%	66%	17%	17%
70 River Rd	31	48%	29%	23%	0%	0%
55 Tahmoor Rd	24	38%	21%	17%	25%	0%
<b>Picton</b>	<b>21</b>	<b>90%</b>	<b>0%</b>	<b>10%</b>	<b>0%</b>	<b>0%</b>
21-31 Rumker St North & 200 Connellan Cr	21	90%	0%	10%	0%	0%

Source: WSC

As observed from Table 3.5, planning controls (minimum lot size controls) are a key determinant of lot sizing and lot mix in many markets, with a majority of lots at or just above the minimum lot size control.

In Tahmoor and Thirlmere almost half of lots progressed are sized between 450sqm and 500sqm. In Picton the majority (90%) of lots are sized in this lower size range of 450sqm-500sqm.

There are however instances where a large proportion of lots are *above* the minimum lot size control. For instance, 59% of lots in the 144-lot estate at 10-30 Marion Street, Thirlmere are 600sqm-800sqm, despite the 450sqm

minimum lot size control. This is representative of developers opting to cater for a specific buyer cohort seeking a larger lot product.

#### 3.3.4 Development Site Sales

Despite the strong development pipeline, the number of development site transactions observed across the Wollondilly Shire has been limited over the 2016-2018 period; the majority of new developments being progressed having been originally purchased prior to 2016. Tahmoor has experienced the greatest number of development site sales in recent times with a total of five sales recorded in the 12 months to June 2018. Development interest has predominately focused on recently rezoned parcels of land to R2 Low Density Residential within Tahmoor and Thirlmere with minimum lot size controls of 450sqm.

Table 3.6 analyses development site sales which have transacted over the 2015-18 period.

Table 3.6: Development Site Sales, Wollondilly Shire

Address	Site Area (ha)	Sale Price (Sale Date)	Analysis	Commentary
<b>Bargo</b>				
3 Kader St	1.94	\$3,000,000 (Oct 2017)	<ul style="list-style-type: none"> <li>\$1,540,000/ha</li> </ul>	Large rural block zoned R2 Low Density Residential improved with a single storey brick dwelling. Acquired by via private treaty by a local developer who intends on subdividing the site however no DA has been lodged to date.
<b>Tahmoor</b>				
165-195 River Rd	110.04	\$18,000,000 (April 2018)	<ul style="list-style-type: none"> <li>\$164,000/ha</li> <li>\$142,000/lot</li> </ul>	Large parcel of rural bushland acquired by a local developer. A Planning Proposal was submitted to rezone the site to the Tahmoor Tourist and Recreation Precinct incorporating 127 residential lots with a 4,000sqm minimum lot size in addition to a number of recreational uses. The Planning Proposal is currently under assessment.
2-4 Pitt St	0.35	\$1,100,000 (Feb 2018)	<ul style="list-style-type: none"> <li>\$3,100,000/ha</li> <li>\$122,000/t.h.</li> </ul>	Vacant parcel of cleared land zoned R3 Medium Density Residential with existing DA approval for construction of 9 townhouses. Acquired by a local developer via private treaty; construction has yet to commence.
16 Myrtle Creek Ave	1.01	\$1,330,000 (Dec 2017)	<ul style="list-style-type: none"> <li>\$1,300,000/ha</li> <li>\$190,000/lot</li> </ul>	Parcel of cleared vacant land zoned R2 Low Density Residential subject to 700sqm minimum lot size control. Sold subject to existing DA approval for a 7 lot subdivision and acquired by a local developer-builder.
100 Myrtle Creek Ave	1.69	\$2,000,000 (June 2017)	<ul style="list-style-type: none"> <li>\$1,180,000/ha</li> </ul>	Large rural block zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Improved with a single storey detached house. Purchased by a local developer however no DA has been lodged to date.
45-65 Greenacre Dr	2.27	\$2,900,000 (May 2017)	<ul style="list-style-type: none"> <li>\$970,000/ha</li> </ul>	Large block of vacant land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Purchased by a local developer however no DA has been lodged to date.
10 Bronzewing St	2.15	\$2,200,000 (Feb 2017)	<ul style="list-style-type: none"> <li>\$1,020,000/ha</li> </ul>	Vacant block of rural land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Purchased by a local developer however no DA has been lodged to date.
110 Myrtle Creek Ave	2.03	\$2,500,000 (Feb 2017)	<ul style="list-style-type: none"> <li>\$1,200,000/ha</li> </ul>	Vacant block of rural land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Purchased by a local developer however no DA has been lodged to date.
80 River Rd	1.53	\$2,100,000 (Nov 2016)	<ul style="list-style-type: none"> <li>\$1,370,000/ha</li> </ul>	Rural block of land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Improved with an aged single storey house. Purchased by a local developer however no DA has been lodged to date.
80 Tahmoor Rd	2.19	\$2,550,000 (June 2016)	<ul style="list-style-type: none"> <li>\$1,160,000/ha</li> </ul>	Rural block of land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Improved with an aged single storey house. Purchased by a local developer however no DA has been lodged to date.
70 River Rd	1.94	\$2,500,000 (Dec 2015)	<ul style="list-style-type: none"> <li>\$1,280,000/ha</li> <li>\$80,500/lot</li> </ul>	Rural block of land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Purchased by a local developer for progression of a 31 lot subdivision; subdivision works largely completed.
20 Macquarie Pl	22.3	\$3,150,000 (Aug 2015)	<ul style="list-style-type: none"> <li>\$141,000/ha</li> <li>\$87,500/lot</li> </ul>	Large rural block of vacant land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Purchased by a local developer for progression of a 36 lot subdivision; DA was originally refused then subsequently approved by the Land and Environment Court.
<b>Silverdale</b>				
66 Eltons Rd	237.19	\$115,000,000 (June 2017)	<ul style="list-style-type: none"> <li>\$482,000/ha</li> </ul>	Large parcel of vacant rural land currently zoned RU1 Primary Production and RU2 Rural Landscape. Purchased off-market by a private investor; likely future Planning Proposal for urban development.
65 Marsh Rd	6.75	\$5,500,000 (June 2016)	<ul style="list-style-type: none"> <li>\$815,000/ha</li> <li>\$70,000/lot</li> </ul>	Vacant parcel of rural land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Acquired by a local developer for progression of a 79 lot subdivision with lots ranging from 450sqm to 686sqm; subdivision application is currently under review.



Address	Site Area (ha)	Sale Price (Sale Date)	Analysis	Commentary
1976 Silverdale Rd	12.96	\$2,500,000 (Aug 2016)	<ul style="list-style-type: none"> <li>\$193,000/ha</li> </ul>	Large rural block zoned RU2 Rural Landscape subject to a 16ha minimum lot size control. Acquired by a private investor; possibly landbanking for future urban development.
<b>The Oaks</b>				
730-760 Montpelier Dr	43.7	\$4,100,000 (Sep 2015)	<ul style="list-style-type: none"> <li>\$94,000/ha</li> <li>\$19,500/lot</li> </ul>	Large block of rural farmland zoned RU2 Rural Landscape acquired by a local developer for progression of a Planning Proposal to rezone the site to R2 Low Density Residential and R5 Large Lot Residential and allow subdivision of 210 lots with sizes from 975sqm-4,000sqm. The Planning Proposal was approved in 2015 with marketing largely completed.
<b>Thirlmere</b>				
100 Rita St	2.03	\$2,810,000 (Mar 2017)	<ul style="list-style-type: none"> <li>\$1,390,000/ha</li> <li>\$94,000/lot</li> </ul>	Rural block of land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Purchased by a local developer for progression of a 30 lot subdivision; subdivision works largely completed.
40, 60 Brundah Rd	4.05	\$4,300,000 (Dec 2017)	<ul style="list-style-type: none"> <li>\$1,060,000/ha</li> </ul>	Large block of rural land zoned R5 Large Lot Residential subject to a 4,000sqm minimum lot size control. Also located within a Future Residential Growth Area. The site is currently improved with two modern detached dwellings. Acquired by a local developer following an EOI campaign however no DA has been lodged to date.
43 Brundah Rd	1.81	\$2,500,000 (Aug 2017)	<ul style="list-style-type: none"> <li>\$1,380,000/ha</li> </ul>	Rural block of land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Improved with a modern detached house. Purchased by a local developer however no DA has been lodged to date.
30 Jarvis St	1.44	\$1,550,000 (May 2016)	<ul style="list-style-type: none"> <li>\$1,070,000/ha</li> <li>\$62,000/lot</li> </ul>	Rural block of land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Improved with a modern detached house. Purchased by a local developer for progression of a 25 lot subdivision.
25 Bell St	2.47	\$3,775,000 (Dec 2016)	<ul style="list-style-type: none"> <li>\$1,520,000/ha</li> <li>\$92,000/lot</li> </ul>	Rural block of land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Purchased by a local developer for progression of a 41 lot subdivision; subdivision works largely completed.
296 Thirlmere Way	1.54	\$1,600,000 (Sep 2015)	<ul style="list-style-type: none"> <li>\$1,040,000/ha</li> <li>\$59,000/lot</li> </ul>	Rural block of land zoned R2 Low Density Residential subject to a 450sqm minimum lot size control. Improved with an aged weatherboard cottage. Purchased by a local developer for progression of a 27 lot subdivision.
45 Rita St	2.21	\$1,350,000 (May 2015)	<ul style="list-style-type: none"> <li>\$611,000/ha</li> <li>\$54,000/lot</li> </ul>	Narrow rural block of land zoned R2 Low Density Residential subject to a 450sqm and 4,000sqm minimum lot size controls. Purchased by a local developer for progression of a 25 lot subdivision; subdivision works largely complete.
<b>Wilton</b>				
10 Marcus St	10.58	\$6,500,000 (Dec 2017)	<ul style="list-style-type: none"> <li>\$614,000/ha</li> </ul>	Large block of rural land zoned RU2 Rural Landscape subject to a 16ha minimum lot size control. Located within the Wilton Growth Area. Sold to a private developer following significant interest over the EOI campaign. No DA plans lodged to date; owner likely to await rezoning of Wilton Growth Area.
10 Berwick Park Rd	13.71	\$7,400,000 (Aug 2017)	<ul style="list-style-type: none"> <li>\$540,000/ha</li> </ul>	Large block of rural land zoned RU2 Rural Landscape subject to a 16ha minimum lot size control. Located within the Wilton Growth Area (area demoted as future employment area).
190 Argyle St	4.40	\$2,750,000 (Sep 2015)	<ul style="list-style-type: none"> <li>\$631,000/ha</li> </ul>	Small block of rural land (no current land use zoning) located within the Wilton Growth Area subject to a minimum lot size control of 1ha. Located just south of the Bingara Gorge Estate, the site was acquired by Walker Corporation however no DA has been lodged to date.

Source: AEC/Cordell Connect/CoreLogic RP Data

Additionally, we are aware of a number of development sites across the Wollondilly Shire which are currently being marketed for sale.

A large site at **55 Hornby Street, Wilton** is currently being marketed for sale via an Expression of Interest campaign. The 10.33ha site is located within the Wilton Growth Area within an area determined for future residential development as per the *Wilton Land Use Infrastructure Implementation Plan* (DPE, 2017). Informal discussions with the marketing agent indicates strong interest has been received to date from a variety of interested parties including Tier-2 developers, medium-sized local developer-builders and some Asian-based developers. Price expectations are circa \$10m which equates to just under \$970,000/ha.

**83 Menangle Street, Picton** is approximately 9,700sqm (R3 Medium Density Residential) with current DA approval for construction of a two storey residential flat building comprising 38 apartments. An Expression of Interest campaign is currently underway with anecdotal evidence from the sales agent indicating interest has been strong since marketing commenced in late May 2018 with a total of 4-5 interested buyers, mostly local developer-builders. Price expectations are circa \$3,500,000, equating to just over \$92,000 per unit/site and \$3.6m/ha.

Another large rural site currently for sale is **65-95 Ironbark Road, Bargo**. The 8.8ha site is zoned RU4 Primary Production Lots and is subject to a 2ha minimum lot size control. An EOI campaign is currently underway with the marketing being undertaken privately; the site is understood to under contract with no details on the likely sale price available.

A number of key observations can be made from the analysis of sales evidence:

- **Range of Prices Paid:** Land zoned for residential development generally ranges from \$1,000,000/ha to \$1,500,000/ha. Larger sites or where urban development is not permitted, lower sale prices (on a dollar per hectare basis) are observed.
- **Market Cooling:** Prices paid for development sites across the Wollondilly Shire have remained relatively constant over the 2017-18 period with no significant increases on dollar per hectare or dollar per lot observed. This is conceivably due to a mix of factors, including tightening lending restrictions and a more tempered view to future capital growth for subdivided lots.
- **Planning Status:** sites with the benefit of development consent sell for much higher than sites without consent even though appropriately zoned as planning risk is arguably at a minimum with the developer only having to manage market and financial risk. Sites that require a rezoning or planning proposal to vary planning controls are even more risky, and so the market accordingly prices the risk into price paid for the site.
- **Scale and Size of Development:** All things being equal, the price paid for a site is inversely related to its size. A larger development site is worth less on a rate per hectare compared to a smaller development site. For instance, the 110ha site at 165-195 River Road, Tahmoor sold for \$164,000/ha compared to other smaller development sites within Tahmoor which transacted for circa \$1,000,000/ha to \$1,300,000/ha.
- **Focus on Tahmoor and Thirlmere:** Limited development site sale activity outside of Tahmoor and Thirlmere has been observed across the Wollondilly Shire in recent times as developers focus on newly rezoned lands within these suburbs.

#### **Site Sales Activity in South West GA**

In contrast to the Wollondilly Shire, a flurry of development site sale activity across the South West Growth Area (SW GA) has been observed in recent times. Areas such as Austral, Leppington and Edmondson Park continue to receive significant interest from a range of developers seeking to capitalise on pent up demand and the high level of infrastructure investment being delivered in these precincts.

Prices paid for development sites within the SW GA can range from \$2,000,000/ha to the \$3,250,000/ha, commensurate with high end sale values attributed to subdivided lots and/or house and land packages within the area. We also highlight the proliferation of smaller lots across the newly subdivided estates in the SW GA (particularly in Edmondson Park and Austral) as demand for affordable product from First-Home Buyers has prompted developers to respond in kind.

### 3.4 ALIGNMENT WITH WOLLONDILLY GROWTH MANAGEMENT STRATEGY

As outlined in section 2.2, the Wollondilly Growth Management Strategy (2011) identified key areas across the Shire where future residential development should be concentrated. A review of development activity (undertaken in section 3.3) provides a basis from which to assess whether development has occurred in those areas identified for development in the Strategy.

In general, development activity across the Shire following release of the Strategy (2011) has been strong and gained momentum in line with Greater Sydney's housing boom over the 2012-2017 period. Strong uptake of residential land for subdivision in Picton, Tahmoor and Thirlmere which was rezoned as a result of Council's New Urban Precincts Planning Proposal is testament to recent market behaviour. Development in other areas has been more muted; Douglas Park for instance has seen little new residential development in recent years.

The following observations are made with regard to the areas identified for potential future development in the Strategy.

- **The Oaks**

Development within The Oaks has largely aligned with that envisaged in the Strategy; development has extended south along Montpelier Drive with subdivisions such as Montpelier Grove (780-790 Montpelier Drive) and 24 Hardwicke Street reflective of this trend. The planning proposal for 760 Montpelier Drive (210 lot subdivision) was refused on the basis it exceeded the dwelling targets for The Oaks outlined in the Strategy.

- **Tahmoor and Thirlmere**

Strong uptake of newly zoned residential land has been observed across Tahmoor and Thirlmere; 85% of new residential developments in Thirlmere have resulted from Council's New Urban Precincts Planning Proposal and just under 70% of residential developments in Tahmoor.

Development outside the newly zoned residential areas is observed to generally be occurring in those areas designated for future development in the Strategy. This is observed by the planning proposals for 165-195 River Road and Cross Street in Tahmoor, which is proposing new residential land *south* of Greenacre Drive.

- **Warragamba and Silverdale**

New development activity within Silverdale generally aligns with that envisaged in the Strategy; development south of St Heliers Road has occurred (Cascades Estate) and is poised to continue to do so given the significant planning proposal for the Eltondale Precinct. Other areas earmarked for development have yet to commence, notably the former African Lion site (1-41 Marsh Road) and the North Silverdale Precinct.

- **Picton**

Limited new residential development has been delivered across Picton in recent times with a number of current planning proposals along Abbotsford Road not situated within areas forecasted for future residential development in the Strategy. Some development following the PTT New Urban Precincts Planning Proposal is observed to be occurring (e.g. 21-31 Rumker Street) however development activity is generally less strong compared to the neighbouring Tahmoor and Thirlmere precincts.

- **Oakdale**

Current residential development activity completely aligns with that envisaged in the Strategy with four subdivisions located to the north and south of Burragorang Road on the edge of the existing urban centre.

- **Menangle**

Development activity within Menangle has been limited owing to the constraints of the surrounding heritage curtilage investigation area. The main development proposal at Station Street generally aligns with the areas considered for future development in the Strategy.

- **Douglas Park**

Little to no development activity has occurred within Douglas Park in recent times with no major planning proposals being progressed to date.

- **Bargo**  
Residential development within Bargo largely aligns with that envisaged in the Strategy's Structure Plans; a number of planning proposals east and west of Remembrance Drive at varying stages of planning and approval serving the expand the existing urban centre outwards.
- **Appin**  
Development within Appin is poised to occur in the areas aligned within the Strategy however given the scale of development proposed (3 separate planning proposals each in excess of 3,500 dwellings), development has yet to occur as strategic planning is underway.

In general, development activity has aligned with the Strategy as developers seek to further expand beyond the existing urban footprint, taking cues from the areas identified in the Strategy. Good uptake has particularly been observed in recent years as evidenced by development activity in Tahmoor and Thirlmere where developers have acquired recently rezoned land in earnest.

### 3.5 IMPLICATIONS FOR HOUSING DEMAND

Market preference and attitudes towards housing is progressively shifting within the Wollondilly Shire. As housing affordability drives demand for housing in Sydney's major greenfield release areas, strong competition from a range of buyer cohorts (First Home Buyers, upgraders, investors) continues to place upward pressure on prices. As a result, a greater proportion of buyers are widening their search for housing which is affordable such as those on the outskirts of metropolitan Sydney including regions such as the Central Coast, Wollondilly, Camden and Wollongong.

This trend is increasingly being observed within the Wollondilly Shire as new housing estates attract First Home Buyers and other price-sensitive owner occupiers who have been 'priced-out' from the neighbouring South-West markets (Liverpool, Campbelltown and Camden LGAs). Buyers are trading larger commute times and/or proximity to extended family to take advantage of the greater savings on housing costs on offer within the Wollondilly Shire. For instance, a newly subdivided 450sqm lot within the Wollondilly Shire would likely cost \$300,000-\$330,000 compared to \$420,000-\$450,000 for similar sized product in the neighbouring SW GA.

Whilst growing affordability issues are undoubtedly influencing developers within the SW GA as new subdivisions propose smaller lot sizes, the traditional role of the Wollondilly Shire as a peri-urban housing market has not diminished. More established families, older couples and semi-retirees who are attracted to the rural lifestyle generally provided by large allotments continue to be attracted the region; many being 'tree-changers' who have relocated from other areas across metropolitan Sydney. These buyers have a greater price tolerance compared to younger buyers and accordingly can afford the higher prices afforded to large lots. This is directly observed in the success of 'The Acres' estate in Tahmoor where prices have started at \$680,000 for 4,000sqm lots.

Accordingly, the Wollondilly Shire housing market is observed to have a multi-faceted role in response to an array of affordability and lifestyle preferences. We make the following comments on the main housing typologies.

#### **Detached Lots**

Demand for housing within the Wollondilly Shire will continue to be focused on detached lots. Affordability issues will continue to persist over the coming years and likely further drive price-conscious buyer behaviour. Developers are expected to respond in kind by seeking to provide a greater proportion of smaller-lot housing which could be incompatible with existing density controls across the Shire.

The Wollondilly Shire will continue to play a key role in providing large lot housing in a peri-urban location and setting. As metropolitan Sydney's population ages over the coming decades, demand for rural living will undoubtedly rise as many 'empty nesters' elect to relocate to more rural locations for their implicit lifestyle benefits.

Demand for smaller lot housing must therefore be considered in context; the Wollondilly Shire has a role to play in accommodating a variety of buyer cohorts over the long-term at a variety of price points. Price points in the Shire are generally observed to be lower than product offered in masterplanned estates that often offer greater levels of urban and retail amenity, landscaping and community facilities.

### **Townhouses and Villas**

Medium-density product such as townhouses and villas have yet to be delivered in any meaningful quantum across Wollondilly Shire, a trend also witnessed across the SW GA. That said, developers of masterplanned estates such as Bingara Gorge in Wilton and Appin Valley (Appin) have delivered small components of townhouse product to 'test the market' for such product. Market response has been strong; particularly from First Home Buyers and investors who are attracted to the low price points.

The Study expects medium density development to incrementally increase across the Shire over the long-term and be focused in the large existing centres (e.g. Picton) where transport and retail amenity is good, or in new masterplanned estates (e.g. Wilton New Town, Cawdor).

### **Apartments**

Multi-unit living is perceived to be associated with a low maintenance and convenience lifestyle that is accessible to a range of amenity and entertainment options. Acknowledging that many people are drawn to multi-unit living for these lifestyle reasons, equally important are the issues of choice and affordability.

The Picton market is observed to be the only precinct within the Wollondilly Shire where higher-density development is being progressed with a total of three projects currently underway. This clustering within Picton is unsurprising; higher-density development requires a concentration of population, transport infrastructure and retail amenity in order to be an attractive overall offer.

We note that market acceptance of higher-density product remains untested in the Wollondilly Shire. We do note that in markets where market acceptance to apartments and units is low, the price of existing detached houses and townhouses generally forms a ceiling for prices which are able to be achieved by new higher density product. This is referred to as the principle of substitutability. For example, if a 3 bedroom detached house is available for \$650,000, there is low prospect of a three bedroom apartment selling for a price in the same order of magnitude. For this reason, the price threshold of new apartment product in some scenarios is below the economic price that is required for feasible development to occur (i.e. existing land value exceeds those as a high-density development site).

Progress and volume of development activity is underpinned by the ability to assemble sites at competitive prices. The availability of services infrastructure and development capability of land collectively influence landowner and price expectations. A myriad of factors influences the supply of housing. These and the market signals observed in this section will be further examined in the following chapters.

The next chapter examines housing demand in the context of supply capacity in the Wollondilly Shire.

## WOLLONDILLY SHIRE

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## 4. HOUSING DEMAND V SUPPLY CAPACITY

### 4.1 HISTORICAL HOUSING SUPPLY

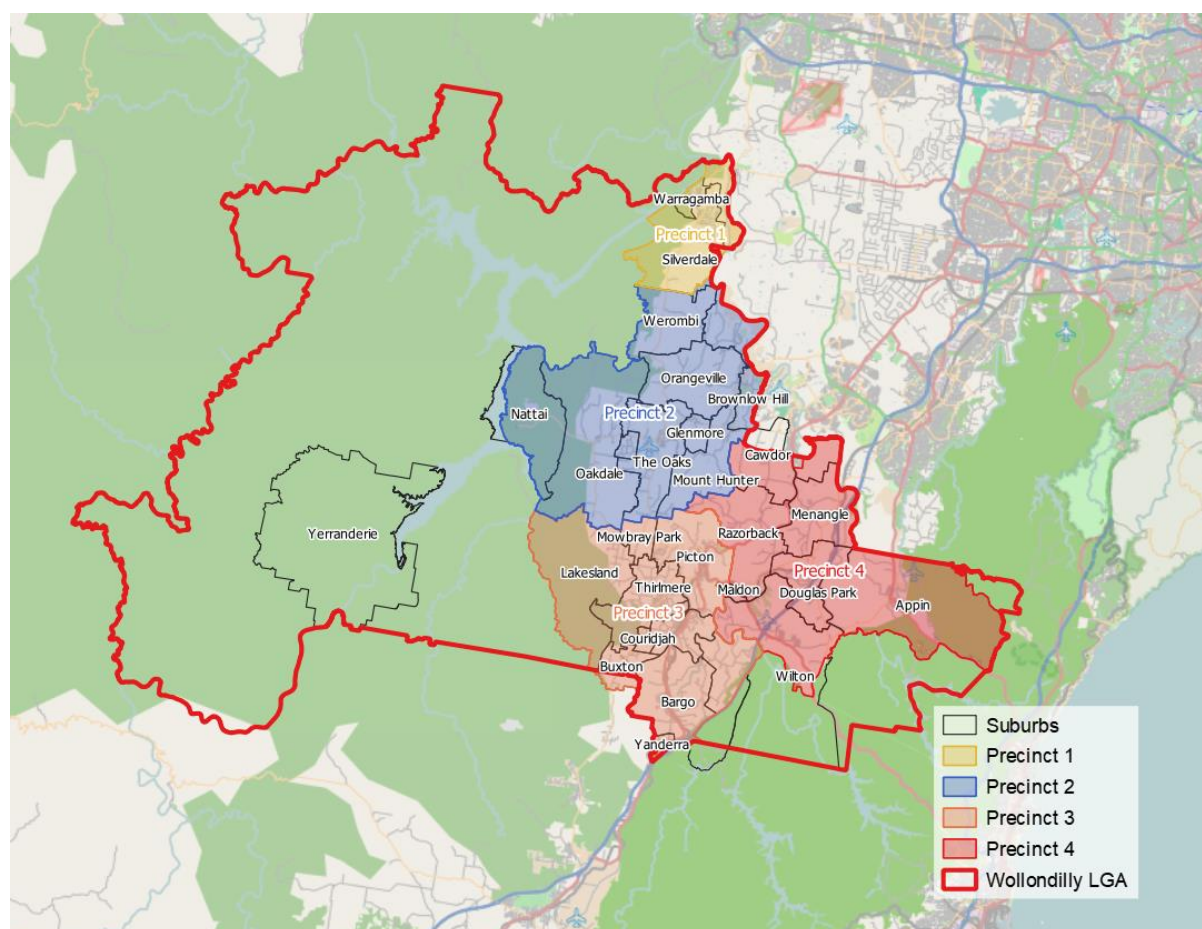
With a population of just over 48,500 recorded in 2016, the Wollondilly Shire has grown at an average annual rate of 1.9% since 2006, with a slightly higher rate of growth (2.3%) recorded over the 2011-16 period. This level of growth is generally higher than that observed in the surrounding LGAs (Penrith, Wollongong, Campbelltown) with the exception of Camden LGA.

In terms of dwellings, the Wollondilly Shire recorded just over 15,800 dwellings in 2016 following an average annual growth rate of 1.7% (or 243 dwellings per annum) over the 2006-2016 period. A sharper increase in dwellings growth was observed over the 2011-16 period with an average annual growth rate of 1.9%, or 287 dwellings per annum. Similar to population growth, historical dwellings growth in the Wollondilly Shire has been greater than that observed in the neighbouring LGAs with the exception of Camden LGA.

For a deeper understanding of the distribution of population and dwellings growth, analysis at a finer grain level (by suburb) is carried out. For reference purposes, the finer grain suburb-level analysis is aligned (to best fit) to the precincts in the *Wollondilly Development Contributions Plan 2011*. The ABS geographical level of Statistical Area Level 2 (SA2), which broadly comprises 2-3 suburbs, is used to approximate the precincts in the 2011 contributions plan. It is acknowledged that the new development contributions plan *may not* necessarily perpetuate the 2011 precincts. Notwithstanding, presentation of the analysis against these precincts is included for reference.

Figure 4.1 identifies suburbs against the ABS SA2 boundaries selected to approximate the four precincts in the *Wollondilly Development Contributions Plan 2011*.

**Figure 4.1: Suburbs and SA2 Precincts**



Source: ABS, WSC (2011)

### Historical Population and Dwelling Growth

The majority growth over the 2011-2016 period has been focused in the suburbs of Appin and Wilton with notable growth also occurring in Camden Park, Pheasants Nest, Thirlmere and Werombi.

Table 4.1 summarises the analysis of 2011-2016 historical growth by suburb and by contributions precinct area.

**Table 4.1: Historical Population and Dwelling Growth, Suburb and SA2 Level, 2011-2016**

Precinct/ Suburb	Population			Occupied Private Dwellings		
	2011	2016	Avg. Ann Growth	2011	2016	Avg. Ann Growth
<b>Precinct 1</b>	<b>5,206</b>	<b>5,299</b>	<b>0.4%</b>	<b>1,627</b>	<b>1,653</b>	<b>0.3%</b>
Silverdale	3,537	3,680	0.8%	1,028	1,093	1.2%
Warragamba	1,235	1,241	0.1%	476	478	0.1%
<b>Precinct 2</b>	<b>8,833</b>	<b>9,220</b>	<b>0.9%</b>	<b>2,725</b>	<b>2,798</b>	<b>0.5%</b>
Belimbla Park	546	583	1.3%	177	174	-0.3%
Brownlow Hill	363	422	3.1%	110	96	-2.7%
Glenmore	128	119	-1.4%	40	41	0.5%
Mount Hunter	678	733	1.6%	213	214	0.1%
Nattai	59	64	1.6%	20	31	9.2%
Oakdale	1,856	1,842	-0.2%	627	612	-0.5%
Orangeville	1,101	1,249	2.6%	335	368	1.9%
Theresa Park	548	535	-0.5%	168	170	0.2%
The Oaks	2,442	2,524	0.7%	792	825	0.8%
Werombi	841	927	2.0%	246	274	2.2%
<b>Precinct 3</b>	<b>21,382</b>	<b>23,010</b>	<b>1.5%</b>	<b>7,229</b>	<b>7,733</b>	<b>1.4%</b>
Bargo	4,131	4,393	1.2%	1,447	1,530	1.1%
Buxton	1,876	2,027	1.6%	620	651	1.0%
Couridjah	276	304	2.0%	102	90	-2.5%
Lakesland	406	434	1.3%	126	135	1.4%
Maldon	49	19	-17.3%	16	4	-24.2%
Mowbray Park	81	93	2.8%	28	28	0.0%
Pheasants Nest	593	691	3.1%	187	210	2.3%
Picton	4,513	4,815	1.3%	1,557	1,670	1.4%
Tahmoor	4,582	5,068	2.0%	1,692	1,816	1.4%
Thirlmere	3,632	4,043	2.2%	1,227	1,383	2.4%
Wilton	1,666	3,085	13.1%	537	932	11.7%
Yanderra	683	682	-0.6%	221	219	-0.2%
<b>Precinct 4</b>	<b>7,331</b>	<b>9,985</b>	<b>6.4%</b>	<b>2,262</b>	<b>2,997</b>	<b>5.8%</b>
Appin	1,803	2,633	7.9%	580	829	7.4%
Camden Park	1,825	2,240	4.2%	542	646	3.6%
Cawdor	397	437	1.9%	132	137	0.7%
Douglas Park	1,315	1,360	0.7%	420	448	1.3%
Menangle	1,011	1,146	2.5%	330	367	2.1%
Razorback	962	1,084	2.4%	299	324	1.6%
<b>Wollondilly Shire*</b>	<b>43,261</b>	<b>48,519</b>	<b>2.3%</b>	<b>14,372</b>	<b>15,809</b>	<b>1.9%</b>

\*covers an area larger than the sum of the SA2s

Source: ABS (2012, 2017)

On an overall basis, dwellings have been added to the Shire at an average rate of 1.9% compared to population growth which averaged 2.3% per annum over the 2011-2016 period, leading to rising household occupancy ratios.

## 4.2 FACTORS AFFECTING HOUSING DEMAND

As detailed in Chapter 3, a multitude of factors influence demand of housing and the nature of that demand across the Wollondilly Shire. These factors are discussed in further detail below.

### Demographic Profile

Demographic analysis of the Wollondilly Shire (undertaken in section 2.3) indicated a number of key characteristics which drive demand for different housing typologies:

- The Wollondilly Shire comprises a strong mix of age cohorts with around 30% children and adolescents, 19% being young adults, middle aged adults comprise 27% and older adults representing 25%. Older adults have consistently become a larger proportion of the Wollondilly population over the decade to 2016.
- Families are the dominant household type within Wollondilly Shire, predominantly couples with children.
- Average household occupancy rates are observed to have increased particularly in the five years to 2016.
- The population is relatively stable with low levels of internal migration observed in the five years to 2016.
- The population is considered to have high levels of social advantage with low levels of housing stress observed.
- Residents are a mix of white collar workers (such as professionals, clerical and administration and managers) and blue collar workers (technicians and trade workers, machinery operators and drivers and labourers).
- Residents are heavily car based with the majority of residents reliant on private vehicles to commute to work.

These trends ultimately underpin demand for a variety of housing sizes across Wollondilly Shire.

### Buyer Profiles

As discussed in section 3.2.3, the local housing market across Wollondilly Shire is dominated by a variety of buyers; First-Home Buyers, upgraders, older couples downsizing and investors. Collectively, these different buyer cohorts drive demand for a variety of housing sizes and types.

The shift to smaller lot sizes as observed in other greenfield precincts such as the North West and South West Growth Areas is primarily driven by housing affordability. This shift has yet to occur in the same magnitude in the Wollondilly Shire. Whilst demand for this product typology (sub-500sqm) is good with strong uptake of such product observed in recent subdivisions in Tahmoor and Thirlmere; relatively low land prices and a diverse mix of buyers (many whom opt to purchase in the Wollondilly Shire because of access to larger land parcels) has blunted overall demand for smaller lot product to date.

Larger rural lots continue to experience good demand as evidenced by take-up in estates across the Shire, notably at The Acres (165-175 River Road, Tahmoor) which solely provides lots at >4,000sqm. Owing to price points, this product typology is typically beyond the financial capacity of many First Home Buyers, rather catering to upgraders and/or downsizers relocating from the South-West region of Sydney attracted to the rural lifestyle offering.

While affordability pressures have yet to make a significant impact on the type of housing offered across the Shire, demand for smaller lots or different typologies (townhouses, apartments) is expected to grow commensurate with population growth, internal migration of younger households and further economic activation of existing centres within the Shire.

### Household Occupancy Ratios

In line with trends across Greater Sydney and neighbouring local government areas, Wollondilly Shire recorded an aggregate ratio of 3.1 persons per dwelling in 2016 increased from 3.0 in 2011.

In the high growth suburbs, household occupancy ratios increased over the period, for example, Appin - 3.1 persons (2011) to 3.2 persons (2016) and Wilton - 3.1 persons (2011) to 3.3 persons (2016).

In established centres, observed trends are mixed. Suburbs such as Picton, Oakdale and The Oaks are observed to have maintained their household occupancy ratios between 2011 and 2016. In contrast, Thirlmere's occupancy ratio reduced from 3.0 to 2.9 persons and Tahmoor's occupancy ratio increased from 2.7 to 2.8 persons.

### **Market Substitutability**

The principle of substitutability refers to the comparability of different property markets. For instance, many buyers looking to purchase property in Tahmoor may also consider Thirlmere and Bargo, whereas potential purchasers looking for accommodation at Bingara Gorge would not likely consider housing in Silverdale.

Market intelligence gathered in Chapter 3 indicates that the Wollondilly Shire housing market is generally not substitutable with other markets; buyers opting for residential product within the Shire are generally attracted to the rural lifestyle and large lot sizes not available in many other nearby markets. That said, there are other areas outside the Shire which will likely compete with pockets of the Wollondilly Shire and will thus impact on future housing demand.

- **Greater Macarthur Growth Area**

The Greater Macarthur Growth Area greenfield precincts outside the Wollondilly Shire are considered highly substitutable to some estates within Wollondilly Shire. The Menangle Park and Mount Gilead release areas were identified in the *Greater Macarthur Land Release Investigation Preliminary Strategy* (DPE, 2015) as having capacity for up to 18,100 dwellings; we note these dwelling targets are currently under review by DPE.

Planning proposals for both release areas were recently approved with Menangle Park recently receiving rezoning approval (November 2017) for a 3,400 masterplanned estate whilst a Planning Proposal for a 1,650 masterplanned estate at Mount Gilead was approved in July 2017 (marketing yet to commence). Owing to their similar rural characteristics and provision of a variety of lot sizes, both estates will likely compete to some degree with the Wollondilly Shire.

- **Spring Farm and Elderslie**

Located in the neighbouring Camden LGA, the suburbs of Spring Farm and Elderslie comprise a number of large residential estates currently marketing or in the development pipeline. Developments such as East Village (1,400 lots; 65% sold), Riverside (726 lots; 90% sold), Evergreen (980 lots) and Argyle (500 lots, 85% sold) directly compete with estates in Wollondilly Shire given their similar rural setting and lot sizes.

- **South West Growth Area**

The South West Growth Area (SW GA) comprised circa 8,700 dwellings in 2016, these primarily located in areas which have been released and rezoned for urban development (ABS, 2017b). Initial dwelling targets for the SW GA set by DPE (in 2006) was approximately 52,000 dwellings, however it is conceivable the dwelling target will be increased as market shifts towards smaller and denser product and importantly, as planning and implementation for the Western Sydney Airport is underway. Regardless, the SW GA is set to deliver a significant quantum of new housing in the coming decades (potentially greater than the initial target of 52,000 dwellings) which will provide more choice for purchasers in the South-West and Greater Macarthur regions.

Current and future residential development in the above regions will undoubtedly influence demand for housing and take-up in the Wollondilly Shire.

### **Housing Affordability**

Affordability is a function of property prices, income levels and interest rates. As property prices increase amid stagnant or falling income levels, affordability declines, i.e. fewer people are able to afford to purchase a home. A common metric to measure housing affordability is the percentage of weekly household income spent on housing costs, e.g. mortgage repayments or rent. Housing stress is generally defined as when households are observed to be paying over 30% of weekly household income on housing cost.

A review of housing income and housing costs in section 2.3.1 indicates low levels of housing stress across the Shire; owner occupiers paying 25% of average weekly household income on mortgage whilst renters are paying circa 17% of household income on rental payments.

The role of Wollondilly Shire as an affordable residential market is further punctuated by a review of similar housing product in the nearby SW GA. As observed from Table 4.2, land prices for similar sized lots in the SW GA are significantly higher in markets across the SW GA, conceivably attracting a distinct premium (up to 40%) above those in Wollondilly Shire.

**Table 4.2: Generic Lot Prices, Wollondilly Shire v South West Growth Area**

Lot Size	Wollondilly Shire		South West GA	
	Rate (\$/sqm)	Prices (\$)	Rate (\$/sqm)	Prices (\$)
350sqm-450sqm	\$750/sqm-\$900/sqm	\$285,000-\$335,000	\$1,050/sqm-\$1,100/sqm	\$385,000-\$480,000
500sqm-700sqm	\$620/sqm-\$700/sqm	\$350,000-\$435,000	\$930/sqm-\$1,050/sqm	\$525,000-\$650,000
750sqm-950sqm	\$500/sqm-\$600/sqm	\$450,000-\$475,000	\$785/sqm-\$900/sqm	\$675,000-\$750,000
1,000sqm-2,000sqm	\$275/sqm-\$485/sqm	\$500,000-\$550,000	\$500/sqm-\$800/sqm	\$800,000-\$1,000,000

Source: AEC

Given the significant savings that could be enjoyed through purchase of subdivided land, it is unsurprising the appeal of Wollondilly Shire in attracting First-Home Buyers who are highly price-conscious and often looking to enter the market below a total land and build cost of \$800,000-\$850,000.

### 4.3 ALIGNMENT WITH HOUSING SUPPLY

There are a considerable number of factors affecting the deliverability of new/additional housing and rarely is a single factor solely attributed to supply activity. Market preferences, availability of land, existing uses ('as is' values) and planning controls collectively drive the quantum and type of supply response in greenfield markets.

#### Market Preference

As evidenced in Chapter 3, demand for housing within Wollondilly Shire is focused on traditional detached housing, typically via residential subdivisions and/or house and land packages. Within this market however, demand for different lot sizes is divergent and dependent on the factors discussed in section 4.2.

Given the range of different buyer cohorts actively seeking housing across Wollondilly Shire, developers are observed to be responding in kind by seeking to provide a range of lot sizes in many new estates, in some cases delivering larger lots than the minimum lot size control. This is further evidenced by planning proposals where developers are seeking to rezone rural land for residential subdivisions at smaller lot sizes (450sqm-950sqm). More evident however is where new estates are opting to deliver lots above the minimum lot size controls given strong demand for lot sizes circa 600sqm-800sqm. This was discussed in section 3.3.3.

#### Planning Controls

Planning controls directly impact housing impacts through their role in determining the quantum and distribution of land available for urban development. Additionally, planning controls determine the intensity and type of residential development within any given area.

The volume of planning proposals observed in the Wollondilly pipeline appears to be an upshot of metropolitan Sydney's residential property boom as developers seek to capitalise on strong pent up demand for housing.

#### Land Values and Site Assembly

In order to economically acquire and develop land a proposed use must translate into a higher value than the existing use including any improvements on the land (or 'As Is' value). Development will only occur where a proposed use is valuable enough to displace an existing use. While existing improvements may be dated and due for replacement, they may still be providing a good level of functional utility and thereby be relatively valuable.

In the case of Wollondilly Shire, the cost of acquiring land and assembling sites is modest; low existing use values associated with rural lands has allowed developers to purchase sites at lower cost. This has drawn further interest into Wollondilly Shire as developers seek to acquire significant land holdings (gaining economies of scale) and progress planning proposals.

In comparison to the other established Growth Areas, the cost of acquiring land and consolidating sites in Wollondilly Shire is not observed to be a major impediment to supply.



## 4.4 TAKE-UP PROJECTIONS TO 2036

In order to project dwellings take-up across the Wollondilly Shire to 2036, regard is had to the following:

- 1 Historical dwellings and population growth (2006-2016) observed in the suburbs and overall LGA.
- 2 Dwelling and population projections developed by Department of Planning and Environment (DPE) and Transport Performance Analytics (TPA) to 2036.
- 3 Capacity for additional development which is underpinned by:
  - Observed market interest and demand in the Shire.
  - Remaining capacity under the existing zonings in the Wollondilly planning framework.
  - Additional indicative capacity envisaged in Growth Management Strategy (2011).
  - Current development pipeline within Wollondilly Shire, including planning proposals currently under review.
- 4 Planned supply in the Greater Macarthur and broader South West region.

This section additionally considers how Wilton GA may impact on dwellings take-up in the Wollondilly Shire.

### 4.4.1 Historical Growth

Many suburbs experienced modest growth over the 2011-16 period with some recording negative growth. Notwithstanding, population growth has likely increased at a greater rate post-2016 following the progression of a number of large residential suburbs in suburbs such as Silverdale. We also highlight the potential for significant future population growth should the planning proposal for Silverdale (Eltondale) progress.

On a Shire-wide basis, new private dwellings have been added on average nearly 290 per annum in 2011 to 2016. High growth suburbs such as Appin and Wilton unsurprisingly experienced the highest rate of growth, (50 and 80 dwellings per annum respectively), reflective of activity in Appin Valley and Bingara Gorge over the period.

Table 4.3 summarises the average annual growth of population and private dwellings over 2011-2016.

**Table 4.3: Historical Population and Dwelling Growth, Suburb and SA2 Level, 2011-2016**

Precinct/ Suburb	Population			Occupied Private Dwellings		
	2011	2016	Annual Avg.	2011	2016	Annual Avg.
<b>Precinct 1</b>	<b>4,772</b>	<b>4,921</b>	<b>30</b>	<b>1,504</b>	<b>1,571</b>	<b>13</b>
Silverdale	3,537	3,680	29	1,028	1,093	13
Warragamba	1,235	1,241	1	476	478	0
<b>Precinct 2</b>	<b>8,562</b>	<b>8,998</b>	<b>86</b>	<b>2,728</b>	<b>2,805</b>	<b>15</b>
Belimbla Park	546	583	7	177	174	-1
Brownlow Hill	363	422	12	110	96	-3
Glenmore	128	119	-2	40	41	0
Mount Hunter	678	733	11	213	214	0
Nattai	59	64	1	20	31	2
Oakdale	1,856	1,842	-3	627	612	-3
Orangeville	1,101	1,249	30	335	368	7
Theresa Park	548	535	-3	168	170	0
The Oaks	2,442	2,524	16	792	825	7
Werombi	841	927	17	246	274	6
<b>Precinct 3</b>	<b>20,773</b>	<b>22,530</b>	<b>351</b>	<b>7,207</b>	<b>7,732</b>	<b>107</b>
Bargo	4,131	4,393	52	1,447	1,530	17
Buxton	1,876	2,027	30	620	651	6
Couridjah	276	304	6	102	90	-2
Lakesland	406	434	6	126	135	2
Mowbray Park	81	93	2	28	28	0



Precinct/ Suburb	Population			Occupied Private Dwellings		
	2011	2016	Annual Avg.	2011	2016	Annual Avg.
Pheasants Nest	593	691	20	187	210	5
Picton	4,513	4,815	60	1,557	1,670	23
Tahmoor	4,582	5,068	97	1,692	1,816	25
Thirlmere	3,632	4,043	82	1,227	1,383	31
Yanderra	683	662	-4	221	219	-0
<b>Precinct 4</b>	<b>9,028</b>	<b>12,004</b>	<b>595</b>	<b>2,856</b>	<b>3,687</b>	<b>167</b>
Appin	1,803	2,633	166	580	829	50
Maldon	49	19	-6	16	4	-2
Wilton	1,666	3,085	284	537	932	79
Camden Park	1,825	2,240	83	542	646	21
Cawdor	397	437	8	132	137	1
Douglas Park	1,315	1,360	9	420	448	6
Menangle	1,011	1,146	27	330	367	7
Razorback	962	1,084	24	299	324	5
<b>Wollondilly Shire*</b>	<b>43,261</b>	<b>48,519</b>	<b>1,052</b>	<b>14,372</b>	<b>15,809</b>	<b>287</b>

\*covers an area larger than the sum of the SA2s

Source: ABS (2012, 2017)

### Household Occupancy, Number of Bedrooms and Motor Vehicles

Household occupancy rates have generally risen across the Wollondilly Shire, rising from 3.0 persons per dwelling (2011) to 3.1 persons per dwelling (2016). This rise is not uniform across all suburbs. Relevantly, the high growth suburbs recorded increases in household occupancy rates over the 2011-16 period. These household occupancy rates affirm the Study Area's demographic composition dominated by family households with children. The rise in household occupancy rates across the Shire is reflective of general trends across Greater Sydney.

Notably, the number of bedrooms and motor vehicles per dwelling are consistent with increasing occupancy rates.

#### 4.4.2 Population and Dwelling Projections

##### Population and Implied Dwellings (DPE)

DPE's Demography Unit projects population growth based on demography assumptions, i.e. birth and death rates, household formation, migration, etc. These projections of population growth are divided by projected household occupancy rates to arrive at the number of dwellings impliedly required to accommodate the population projected.

Actual dwellings (in 2016) fell short of projections by 2,400 dwellings. Conversely, actual population (in 2016) exceeded DPE's projections by 392 residents, resulting in higher household occupancy rates than projected.

Table 4.4 compares DPE's dwelling and population projections at the Shire level against 2016 census data. Assuming similar growth rates, alternate projections are calculated by re-basing the growth against 2016 census.

**Table 4.4: Projected Growth, Wollondilly Shire, 2016-2036**

	2016	2021	2026	2031	2036	Change (2016-2036)	Avg. Annual (2016-2036)
<b>Population</b>							
DPE Projections	49,350	51,300	57,350	64,450	72,600	23,250	1,162
Re-based Projections	49,742*	52,479	58,668	65,931	74,269	24,527	1,226
<b>Implied Dwellings</b>							
DPE Projections	18,200	19,250	21,700	24,500	27,750	11,650	583
Re-based Projections	15,809*	17,871	18,902	21,308	24,057	8,248	412
<b>Implied Household Occupancy Ratio</b>							
DPE Projections	2.7	2.7	2.6	2.6	2.6		
Re-based Projections	3.1	2.9	3.1	3.1	3.1		

\*2016 census count  
Source: DPE (2016)

By re-basing DPE's dwelling and population projections according to the 2016 census count, a different projection trajectory results. The differences are:

- The projections at 2016 (49,350 residents and 18,200 dwellings) is equivalent to 2.71 persons per dwelling.
- In contrast, the 2016 census count (49,742 residents and 15,809 dwellings) is equivalent to 3.15 persons per dwelling.

The re-basing of DPE's growth projections against the 2016 census count results in a lower number of additional dwellings to 2036 however a higher resident population number, owing to higher overall household occupancy rates observed in 2016 (3.1 persons per dwelling) than projected (2.7 persons per dwelling).

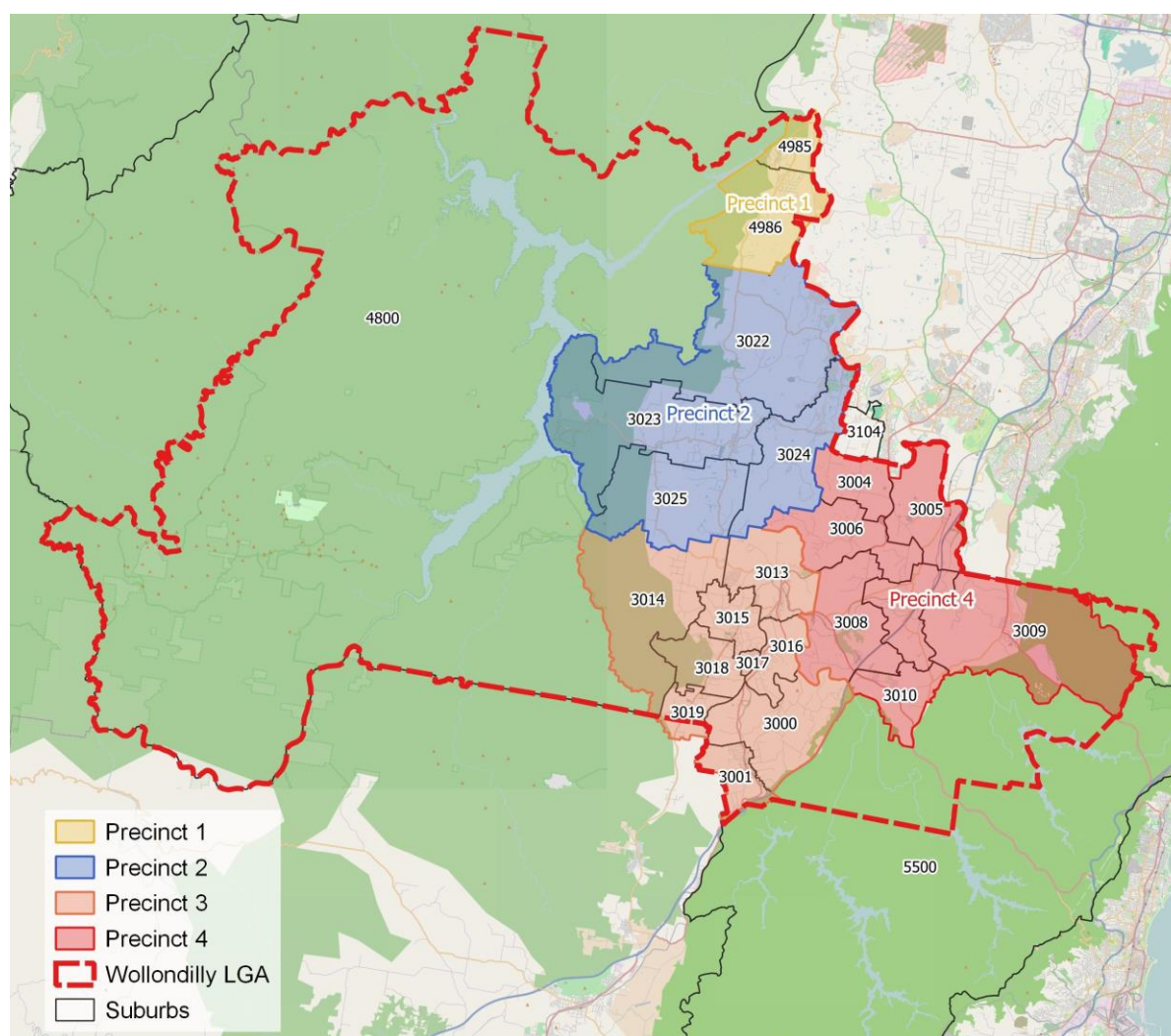
Notably, DPE's projections (specifically implied household occupancy ratios) are contrary to historical trends observed across the Wollondilly Shire and neighbouring local government areas.

### **Projection of Dwellings at Small Area Level (TPA)**

Transport Performance Analytics (TPA), carries out projections to distribute dwellings and population at a small area (travel zones, TZs). The projections are capacity constrained, i.e. the capacity of the small area influences the distribution of dwellings. For example, if a particular TZ is vacant/unimproved and planning controls permit urban development, that TZ is considered to have capacity to accommodate distributed dwellings and population.

Figure 4.2 outlines the TZs examined in comparison to contribution areas/precincts in the 2011 contributions plan.

**Figure 4.2: Travel Zones (TZs) and SA2 Precincts**



Source: TPA (2016), WSC (2011)

Table 4.5 summarises the small area projections by ascribing TZs to suburbs, noting TZ boundaries are generally larger and do not align to suburb boundaries. For reference, TZs and suburbs are grouped in the contribution areas.

**Table 4.5: Projected Dwellings Growth, Travel Zones in Wollondilly Shire, 2016-2036**

Travel Zone	Suburb/Precinct	2016	2021	2026	2031	2036	2016-2036 Change	2016-2036 Avg. Ann.
<b>Precinct 1</b>		1,888	2,006	2,233	2,489	2,778	890	45
4986	Silverdale	1,238	1,340	1,552	1,799	2,084	846	42
4985	Warragamba	650	666	681	690	694	44	2
<b>Precinct 2</b>		3,403	3,442	3,509	3,579	3,655	252	13
3023	Belimbla Park, The Oaks, Nattai	1,485	1,523	1,588	1,657	1,731	246	12
3024	Brownlow Hill, Glenmore, Mount Hunter	379	379	380	380	381	1	0
3022	Orangeville, Theresa Park, Werombi	813	813	814	814	815	2	0
3025	Oakdale	726	727	727	728	728	2	0
<b>Precinct 3</b>		8,601	8,986	9,567	10,129	10,709	2,108	105
3000	Bargo, Pheasants Nest	519	521	527	533	541	22	1
3019	Buxton	737	759	783	800	812	75	4
3018	Couridjah	321	324	333	344	358	37	2
3014	Lakesland, Mowbray Park	192	192	192	192	192	1	0
3013	Picton	1,784	1,887	2,013	2,115	2,205	421	21
3016, 3017	Tahmoor	2,061	2,196	2,426	2,670	2,935	874	44
3015	Thirlmere	1,400	1,462	1,555	1,645	1,737	337	17
3001	Yanderra	1,587	1,645	1,738	1,830	1,929	342	17
<b>Precinct 4</b>		3,182	3,560	4,883	6,543	8,492	5,310	266
3009	Appin	881	958	1,060	1,148	1,231	350	18
3008	Maldon	329	514	1,217	2,047	2,978	2,649	132
3010	Wilton	620	714	1,199	1,907	2,805	2,185	109
3005	Camden Park, Menangle	253	257	261	263	264	11	1
3004, 3104	Cawdor	359	369	379	388	398	40	2
3007	Douglas Park	456	464	482	505	531	75	4
3006	Razorback	284	284	285	285	285	1	0

Source: TPA (2016)

The Wilton Growth Area encompasses Wilton and Maldon, reflected in the large growth projected in these areas.

### **Household Occupancy Rates**

The small area projections for dwellings and population result in implied household occupancy rates (Table 4.6).

**Table 4.6: Implied Household Occupancy Rates, Travel Zones in Wollondilly Shire, 2016-2036**

Travel Zone	Suburb/Precinct	Actual (Census 2016)	Implied Household Occupancy Rates				
			2016	2021	2026	2031	2036
<b>Precinct 1</b>							
4986	Silverdale	3.4	3.2	3.1	3.1	3.1	3.1
4985	Warragamba	2.6	2.6	2.6	2.6	2.6	2.6
<b>Precinct 2</b>							
3023	Belimbla Park, The Oaks, Nattai	3.4, 3.1, 2.1	3.0	3.0	2.9	2.9	2.9
3024	Brownlow Hill, Glenmore, Mount Hunter	4.4, 2.9, 3.4	3.2	3.2	3.2	3.3	3.3
3022	Orangeville, Theresa Park, Werombi	3.4, 3.1, 3.4	3.3	3.3	3.3	3.4	3.4
3025	Oakdale	3.0	2.9	2.9	2.9	2.9	2.9
<b>Precinct 3</b>							
3000	Bargo, Pheasants Nest	2.9, 3.3	3.0	3.0	3.0	3.0	3.0
3019	Buxton	3.1	2.9	2.9	2.9	2.8	2.8
3018	Couridjah	3.4	2.9	2.9	2.9	2.9	2.9

Travel Zone	Suburb/Precinct	Actual (Census 2016)	Implied Household Occupancy Rates				
			2016	2021	2026	2031	2036
3014	Lakesland, Mowbray Park	3.2, 3.3	3.3	3.3	3.3	3.3	3.3
3013	Picton	2.9	2.7	2.7	2.7	2.7	2.7
3016, 3017	Tahmoor	2.8	2.6	2.5	2.5	2.5	2.5
3015	Thirlmere	2.9	2.8	2.8	2.8	2.8	2.8
3001	Yanderra	3.0	2.8	2.7	2.7	2.7	2.7
<b>Precinct 4</b>							
3009	Appin	3.2	2.9	2.9	2.8	2.8	2.8
3008	Maldon	4.8	2.9	2.6	2.6	2.6	2.6
3010	Wilton	3.3	3.0	2.9	2.8	2.8	2.8
3005	Camden Park, Menangle	3.5, 3.1	3.0	3.0	3.1	3.2	3.3
3004, 3104	Cawdor	3.2	3.3	3.3	3.3	3.3	3.3
3007	Douglas Park	3.0	3.1	3.1	3.1	3.1	3.1
3006	Razorback	3.3	3.2	3.2	3.2	3.2	3.2

Source: TPA (2016)

Relevantly, the implied household occupancy rates are overall lower than census data (2016). That said, the official projections (DPE, TPA) were carried out prior to release of census data and are understood to be under review.

#### 4.4.3 Capacity for Additional Development

##### Existing Zoned Land (Current Planning Controls)

A desktop audit of unimproved land zoned for residential development (R2 Low Density, R3 Medium Density and R5 Large Lot) across the Wollondilly Shire was undertaken. Geospatial software was used to estimate land areas of residential zoned lots not currently improved or subject to existing development applications/planning proposals.

Table 4.7 summarises the quantum of residential zoned land which is unimproved by suburb. We highlight the limitations of this approach, as land that is observed to be unimproved is not necessarily a reflection of additional dwelling capacity due to ownership patterns and environmental factors which may constrain future development.

**Table 4.7: Estimated Unimproved Residential Land and Indicative Dwellings Potential by Precinct**

Suburb	Unimproved Residential Land (ha)			Indicative Dwellings Potential*			
	R2	R3	R5	R2	R3**	R5	Total
Silverdale	0.55		14.04	8		35	43
Warragamba	0.58			8			8
<b>Sub-total</b>	<b>1.13</b>		<b>14.04</b>	<b>16</b>		<b>35</b>	<b>51</b>
Oakdale	1.9			27			27
The Oaks	0.75			11			11
<b>Sub-total</b>	<b>2.65</b>	<b>-</b>	<b>-</b>	<b>38</b>	<b>-</b>	<b>-</b>	<b>38</b>
Bargo	5.13		2.53	73		6	79
Buxton	2.01		3.47	29		9	38
Picton	2.84	1	1.1	41	10 (20)	3	54 (64)
Tahmoor	4.02	0.81		72	8 (16)		80 (88)
Thirlmere	1.73	0.55		25	6 (12)		31 (37)
<b>Sub-total</b>	<b>15.73</b>	<b>2.36</b>	<b>7.1</b>	<b>240</b>	<b>24 (48)</b>	<b>18</b>	<b>282 (306)</b>
Appin	9.19			131			131
Camden Park	-						-
Douglas Park	0.91	1.4	0.41	13	14 (28)	-	27 (41)
Menangle	-	2.5			26 (52)		26 (52)
Wilton^	1.45			21			21
<b>Sub-total</b>	<b>11.55</b>	<b>3.9</b>	<b>0.41</b>	<b>165</b>	<b>40 (80)</b>	<b>-</b>	<b>205 (245)</b>
<b>Total</b>	<b>31.06</b>	<b>6.26</b>	<b>21.55</b>	<b>459</b>	<b>64 (128)</b>	<b>53</b>	<b>576 (640)</b>

\*calculated by applying applicable minimum lot size controls, \*\*dual occupancy dwellings in brackets, ^excluding Bingara Gorge  
Source: AEC

As observed from Table 4.7, a total of 31.1ha of unimproved R2 Low Density Residential land is observed across the precincts, followed by 21.6ha (R5 Large Lot Residential) and 6.3ha (R3 Medium Density Residential).

The majority of unimproved R2 Low Density land is observed in Precinct 3 and 4, with 15.7ha and 11.6ha respectively. Small amounts of unimproved R2 land are observed in Precinct 1 and 2 (1.13ha and 2.65ha respectively).

By applying applicable minimum lot size controls to the estimated amounts of unimproved land, indicative dwellings potential by precinct and by zone are calculated in Table 4.7.

- Additional dwellings capacity is the greatest in the established centres of Bargo/Buxton/Picton/Tahmoor/Thirlmere with potential for more than 280 additional dwellings (or more than 300 dwellings assuming all R3 capacity as dual occupancy dwellings).
- Modest dwellings capacity is observed in the R2 zones in suburbs of Silverdale/Warragamba and Oakdale/The Oaks (16 and 38 dwellings respectively).

Overall, there could be additional capacity for 640 dwellings if all unimproved land was subdivided according to the applicable minimum lot size controls. Fewer dwellings would result if the land was subdivided to larger sizes.

The 10-year average (2006-2016) annual growth of dwellings in Wollondilly Shire is observed to be circa 240 dwellings. At a similar rate of take-up, this would imply 2.7 years of capacity remains. In the recent 5-year period (2011-2016), the average annual growth of dwellings is circa 290 dwellings. If a similar take-up rate occurred, this implies 2.2 years of capacity remaining.

### **Growth Management Strategy**

The Growth Management Strategy (2011) envisaged focusing the majority of future residential development in existing centres. The strategy adopted a series of housing targets for various centres to 2036. The targets were developed and informed by development activity already planned and the strategy's focus on existing centres.

A limitation of the strategy is that it did not undertake technical investigations into the environmental capacity of land for development.

**Table 4.8: Housing Targets, Wollondilly Growth Management Strategy (2011)**

Location	Planned Dwellings	Add. Dwellings Required	Total Dwelling Target	% of Total
Warragamba/Silverdale	520	480	1,000	9.3%
The Oaks/Oakdale	100	250	350	3.3%
Picton/Tahmoor/Thirlmere	1,930	2,070	4,000	37.2%
Bargo	40	1,960	2,000	18.6%
Bridgewater/Camden	150	0	150	1.4%
Macarthur South (Bingara Gorge, North Appin, Menangle)	1,525	475	2,000	18.6%
Various	-	1,250	1,250	11.6%
<b>Total</b>	<b>4,265</b>	<b>6,485</b>	<b>10,750</b>	<b>100%</b>
<b>Adopted Housing Target</b>			<b>7,500</b>	

Source: WSC (2011)

The additional dwellings envisaged to be required in the strategy are some 3,200 dwellings (adopted housing target of 7,500 dwellings less 4,265 planned dwellings). This is considerably fewer than the dwellings implied to be required in DPE and TPA's projections.

Some planning interventions would be required to facilitate higher residential densities to achieve the strategy's housing target.

The next section examines development that is proposed in the Shire, whether in development applications or planning proposals.



### Development Proposals

There are over 46,000 dwellings proposed across the Shire (development applications and planning proposals).

A significant proportion of dwellings in the pipeline are progressed via planning proposals (~95%) and therefore it is conceivable that some will be found to be lacking in environmental capacity or strategic merit. Table 4.9 identifies the development proposals under review, including the total indicative dwelling yield.

**Table 4.9: Dwellings Count in Development Proposals (DA and Planning Proposals)**

Suburb	DAs	Planning Proposals	Total Proposed Dwellings	% of Total	Comments
Silverdale	154	9,602	9,756	21%	Majority proposed in new town centre (Eltondale), early stages of planning
Oakdale/The Oaks	-	357	357	2%	Low density residential subdivisions
Bargo	-	205	205	0%	
Buxton	-	7	7	0%	
Picton	258	695	953	2%	
Tahmoor	834	869	1,703	4%	
Thirlmere	650	340	990	2%	
Wilton	-	15,000	15,000	33%	Wilton Growth Area
Appin	310	11,867*	12,177	26%	Longer term (post-10 years)
Cawdor	-	4,000	4,000	9%	Longer term (post-10 years)
Menangle	12	350	362	1%	
Razorback	-	5	5	0%	
<b>Total</b>	<b>2,396</b>	<b>43,427</b>	<b>46,023</b>	<b>100%</b>	

\*portion which falls in Wollondilly Shire  
Source: WSC

In Silverdale, a planning proposal (Eltondale) envisages delivery of a town centre south of the residential area with 9,000 new dwellings across a range of lot sizes and typologies. Silverdale is amongst the most desirable residential areas within the Wollondilly Shire, however considering its early stage of planning, major access infrastructure issues yet to be resolved and the number of other major competing release areas within the Shire (namely Wilton) it would be speculative to assume delivery of the Eltondale proposal at least in its current form is a given.

Less development is proposed in Oakdale/The Oaks with three planning proposals envisaging around 700 dwellings. These proposals seek delivery of low-density residential subdivisions and would likely be well-met by market demand. Given these three proposals are generally well-advanced with specialist studies underway, subject to planning approval, we consider these conceivably delivered in the short-term (3-5 years).

A large number of planning proposals are currently being prepared or are under review in established centres such as Bargo, Picton, Tahmoor and Thirlmere with potential for delivery of over 2,100 new dwellings. These proposals generally seek rezoning of rural lands for low-density residential subdivisions. Observations of market activity suggests these proposals would likely be well-met by the market. Subject to planning approval, these could be delivered over the medium to longer term (3-10 years).

The planning proposals in Wilton Growth Area and Appin represent the majority of Wollondilly's pipeline. A range of typologies are proposed in these areas, many of which additionally seek to deliver associated neighbourhood centres. Timeframes for proposed delivery are divergent - Wilton Growth Area within the next 5-10 years whereas other proposals (Cawdor, West Appin) could be delivered over a longer timeframe (15-25 years).

While the *Wollondilly Growth Management Strategy (2011)* identified areas for potential residential growth it did not undertake technical studies to assess environmental capacity for growth. The market is observed to have responded well to the Strategy, with many of the planning proposals since submitted falling within the areas outlined in the Strategy's structure plans. There could be latent capacity still remaining across the Wollondilly Shire for further residential growth, however this would need to be subject to technical investigations.

We highlight that the foregoing discussion on growth capacity does not consider the environmental capacity or urban capability of land proposed for development.



#### 4.4.4 Projections of Dwelling Take-up

##### Dwellings

This section projects the take-up of new dwellings in the Wollondilly Shire, having regard to the above factors:

- Historical growth.
- Population and dwellings projections.
- Capacity for additional development.

The projections of dwellings take-up are less of a mechanical process, rather they are carried out by applying gathered intelligence to known urban capacity and planned development activity.

The Wilton Growth Area (15,000 dwellings) is on the cusp of significant growth in next 30 years. Additionally, there are planning proposals in Silverdale, Appin and Cawdor of significant size, which if all delivered, have the capacity for another 25,000 new dwellings.

Other areas in the Shire are expected to grow at average annual rates not too dissimilar from previously observed growth. Capacity for additional development in the Shire will be speculative to a degree until decisions on the planning proposals are reached.

Table 4.10 contains TZP 2016 dwellings projections (TPA, 2016). They mostly assume a business-as-usual scenario, i.e. the planning framework remains unchanged. Notably, the projections in 2016 were higher than the census 2016 count. Accordingly, the projections in Table 4.10 are adjusted to reflect the 2016 census count of dwellings and presented in Table 4.11.

**Table 4.10: TPA Projected Additional Dwellings Take-up, 2016-2036**

Towns and Villages	2016* (census)	2016- 2021	2021- 2026	2026- 2031	2031- 2036	Total (2036)	Additional (2016-36)	Avg. Annual
Silverdale, Warragamba	1,571	98	189	213	241	2,312	741	37
The Oaks, Oakdale, Belimbla Park, Nattai	1,642	36	62	65	71	1,876	234	12
Brownlow Hill, Glenmore, Mount Hunter	351	-	-	-	-	352	1	-
Bargo, Pheasants Nest	1,740	7	18	22	26	1,812	72	4
Buxton, Couridjah	741	18	23	19	18	819	78	4
Picton	1,670	96	118	95	85	2,064	394	20
Tahmoor, Thirlmere, Yanderra	3,418	173	282	288	309	4,470	1,052	53
Appin	829	73	96	83	78	1,159	330	16
Wilton Growth Area (Wilton, Maldon)	936	275	1,170	1,516	1,804	5,701	4,765	238
Camden Park, Menangle	1,013	15	15	9	4	1,056	43	2
Cawdor	137	4	4	3	4	152	15	1
Douglas Park, Razorback	772	8	19	24	28	851	79	4
Orangeville, Werombi, Theresa Park	812	-	1	1	1	814	2	-
Rest of Shire	177	226	262	282	296	296	119	6
<b>Wollondilly Shire</b>	<b>15,809</b>	<b>853</b>	<b>2,033</b>	<b>2,357</b>	<b>2,682</b>	<b>23,734</b>	<b>7,925</b>	<b>396</b>

\*2016 actual dwellings (census) fell below that projected by TPA for the same year  
Source: TPA (2016)

The remainder of the section identifies the dwellings growth (alternate to Table 4.10) likely to be achieved due to:

- Progressed precinct planning in growth areas such as Wilton and Appin.
- Known development proposals (development applications and planning proposals). Planning proposal activity outnumbers DA activity significantly (as outlined in Table 4.9). Some planning proposals are in the early stages of progress (technical investigations still to be completed) and it could be speculative to assume delivery in their current form. The exception to this approach is taken in Wilton and Appin where state-led strategic planning is progressed for delivery of large scale development.

Table 4.11 projects alternate dwellings growth which accounts for the above factors.

**Table 4.11: Alternate Projected Additional Dwellings Take-up, 2016-2036**

Ref.	Towns and Villages	2016 (census)	2016- 2021	2021- 2026	2026- 2031	2031- 2036	Total (2036)	Additional (2016-36)	Avg. Annual
1	Silverdale, Warragamba	1,571	252	189	213	241	2,466	895	45
2	The Oaks, Oakdale, Belimbla Park, Nattai	1,642	214	62	65	71	2,054	412	21
3	Brownlow Hill, Glenmore, Mount Hunter	351	0	0	0	0	352	1	0
4	Bargo, Pheasants Nest	1,740	7	18	22	26	1,812	72	4
5	Buxton, Couridjah	741	18	23	19	18	819	78	4
6	Picton	1,670	354	118	95	85	2,322	652	33
7	Tahmoor, Thirlmere, Yanderra	3,418	915	282	288	309	5,212	1,794	90
8	Appin	829	228	96	2,583	2,578	6,314	5,485	274
9	Wilton Growth Area (Wilton, Maldon)	936	1,520	3,150	3,030	2,760	11,396	10,460	523
10	Camden Park, Menangle	1,013	40	15	9	4	1081	68	3
11	Cawdor	137	4	4	3	4	152	15	1
12	Douglas Park, Razorback	772	8	19	24	28	851	79	4
13	Orangeville, Werombi, Theresa Park	812	0	1	1	1	814	2	0
14	Rest of Shire	177	49	36	20	14	296	119	6
	<b>Wollondilly Shire*</b>	<b>15,809</b>	<b>3,610</b>	<b>4,013</b>	<b>6,371</b>	<b>6,138</b>	<b>35,941</b>	<b>20,132</b>	<b>1,007</b>

Notes:

1 - A planning proposal for a new town centre (9,800 dwellings at Eltondale) is in the early stages of planning. The likelihood of approval is unknown and has not been incorporated in the projections. Modest number of dwellings proposed in DAs.

2 - Moderate number of dwellings proposed in DAs.

3 - No DA or planning proposal activity.

4 - No DA or planning proposal activity.

5 - No DA or planning proposal activity.

6 - Moderate number of dwellings proposed in DAs.

7 - Large number of dwellings proposed in DAs with equal number of dwellings proposed in planning proposals.

8 - Moderate number of dwellings proposed in DAs. Dwellings in growth area assumed to be delivered post-2026.

9 - Wilton growth area assumed to be delivered from mid-2020 over a 30-year period.

10 - Modest number of dwellings proposed in DAs.

11 - Large number of dwellings proposed in planning proposals.

12 - Small number of dwellings in planning proposals.

13 - No DA or planning proposal activity.

14 - No DA or planning proposal activity.

Source: AEC

Allowing for precinct planning that is progressed across the growth areas and anticipated development activity, the alternate dwelling growth projections anticipate an additional 20,000 dwellings over the 2016-2036 period. The majority of growth is expected to occur in the Greater Macarthur Growth Area - Wilton from 2020 and Appin from 2026.

### Population

Table 4.12 contains projections of new population corresponding to additional dwellings projected in Table 4.11.

**Table 4.12: Projected New Population, 2016-2036**

Towns and Villages	2016 (census)	2016- 2021	2021- 2026	2026- 2031	2031- 2036	Total (2036)	Additional (2016-36)	Avg. Annual
Silverdale, Warragamba	4,921	732	585	659	747	7,644	2,723	136
The Oaks, Oakdale, Belimbla Park, Nattai	5,013	556	186	195	212	6,161	1,148	57
Brownlow Hill, Glenmore, Mount Hunter	1,274	25	2	2	1	1,304	30	1
Bargo, Pheasants Nest	5,084	(18)	52	63	74	5,255	171	9
Buxton, Couridjah	2,331	22	-6	58	53	2,458	127	6
Picton	4,815	852	331	267	237	6,502	1,687	84
Tahmoor, Thirlmere, Yanderra	9,773	2,359	789	807	865	14,593	4,820	241
Appin	2,633	644	297	8,006	7,992	19,572	16,939	847
Wilton Growth Area (Wilton, Maldon)	3,104	4,264	8,889	8,787	9,144	34,188	31,084	1554
Camden Park, Menangle	3,386	89	50	28	14	3,568	182	9
Cawdor	437	1	12	10	13	472	35	2
Douglas Park, Razorback	2,444	(26)	60	73	86	2,637	193	10

Towns and Villages	2016 (census)	2016- 2021	2021- 2026	2026- 2031	2031- 2036	Total (2036)	Additional (2016-36)	Avg. Annual
Orangeville, Werombi, Theresa Park	2,711	50	3	2	2	27,69	58	3
Rest of Shire	593	152	118	66	48	978	385	19
<b>Wollondilly Shire*</b>	<b>48,519</b>	<b>9,703</b>	<b>11,366</b>	<b>19,023</b>	<b>19,488</b>	<b>108,100</b>	<b>59,581</b>	<b>2,979</b>

Source: AEC

Should the projected dwellings be delivered over the projection timeframes, the Wollondilly Shire population would more than double over the 20 years to 2036.

#### 4.4.5 Implications of Dwelling Take-up for Broader Region

##### Planned Supply in Broader Region

The Greater Sydney Region Plan (GSC, 2018a) identifies a target of 184,500 new dwellings for the Western Parklands City by 2036. The Western City District Plan (GSC, 2018b) further outlines 5-year housing targets for the individual LGAs which comprise the Western City District - a target of 1,550 dwellings is identified for the Wollondilly Shire to 2021. The Region Plan clarifies that 5-year targets are calculated based on a combination of factors including existing development pipeline and the remaining capacity within the existing planning controls.

The Wilton, Greater Macarthur and South West growth areas are identified as key precincts to accommodate future housing growth within the Western Parklands City to 2036. Initial precinct planning by DPE indicates the Greater Macarthur Growth Area has potential for approximately 37,900 dwellings with the South West Growth Area with potential for at least 52,000 dwellings.

Dwelling targets for the Wollondilly Shire in conjunction with yield estimates for the Greater Macarthur Growth Area and South West Growth will undoubtedly influence future housing take-up across the Wollondilly Shire. Of most relevance to the Wollondilly Shire is the future timing of development within the Greater Macarthur Growth Area as future development within these areas is considered to compete with existing housing markets in the Shire.

##### Implications of Wilton Growth Area Delivery

The Wilton Growth Area is planned for circa 15,000 dwellings over the next 20-30 years with initial stages potentially commencing within the next 3-5 years. Market evidence has indicated that existing development in the growth area, namely Bingara Gorge, has attracted strong demand in comparison to many other markets across the Shire.

While market intelligence observes that Bingara Gorge has mostly attracted a different buyer segment compared to those traditionally seen across the Shire, the significant volume of new dwellings proposed within the Wilton GA in a co-ordinated masterplanned approach will ostensibly contribute to 'creating' a new market and a destination. This will likely have the most impact on other masterplanned release areas (e.g. Menangle Park, Mount Gilead which are advancing in their planning) rather than on infill opportunities in the rest of the Wollondilly Shire.

## WILTON GROWTH AREA

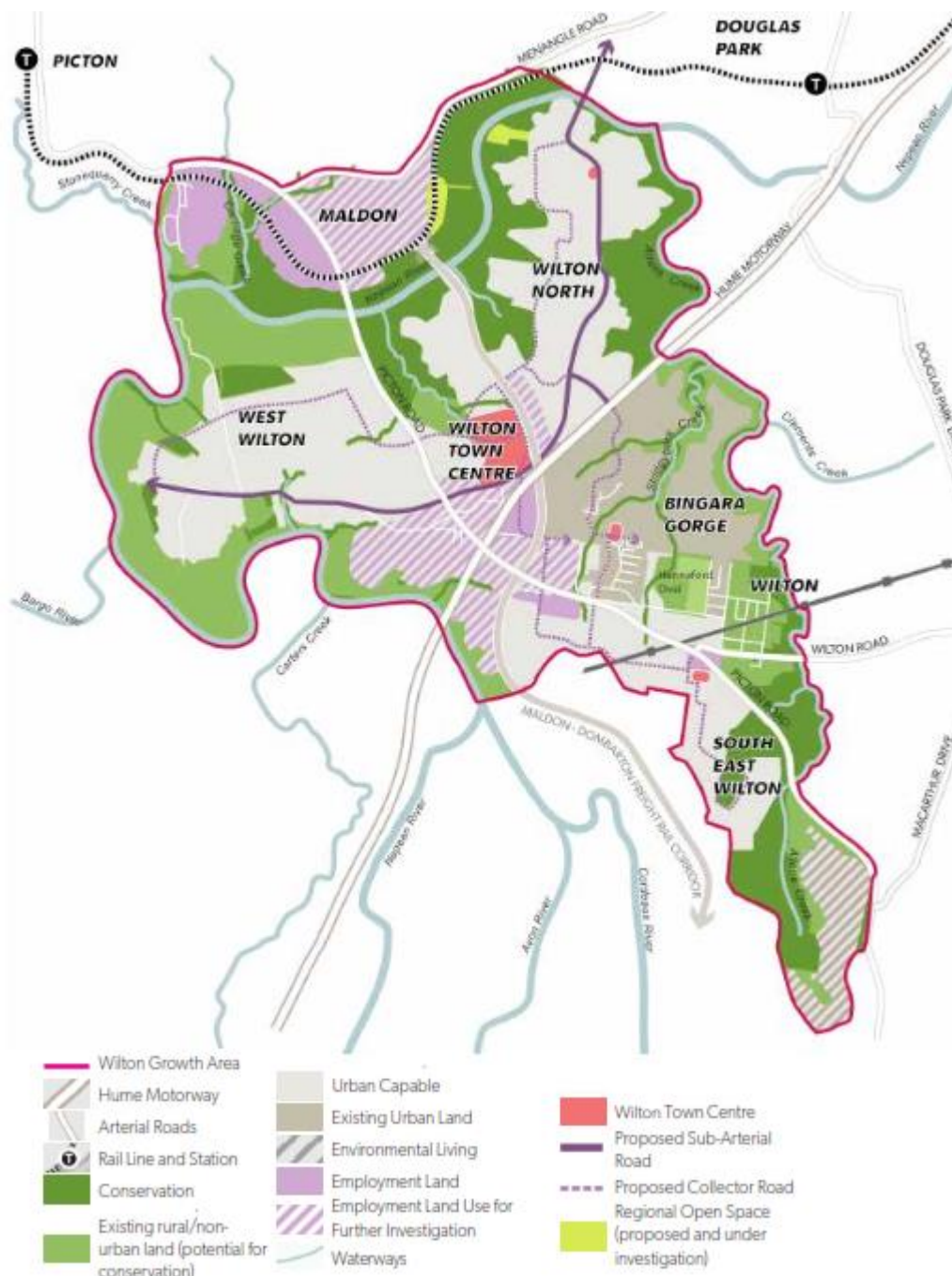
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## 5. POTENTIAL DEVELOPMENT TAKE-UP

### 5.1 STRUCTURE PLAN AREA

The Wilton LUIIP (Wilton 2040) indicates potential for around 15,000 dwellings, open space, schools and a range of employment opportunities at Wilton Growth Area. Figure 5.1 illustrates the boundaries of the Wilton Growth Area (Wilton GA) and its geographical context.

Figure 5.1: Wilton Growth Area Structure Plan



Source: DPE (2018)

The Wilton Growth Area (Wilton GA) is comprised of five precincts: South East Wilton, North Wilton, Wilton Town Centre and West Wilton. Bingara Gorge was rezoned in 2005 and is being developed for low density housing. The Maldon employment area is also located in the Wilton GA.

The Wilton LUIIP envisages detached housing (medium sized lots averaging 400sqm-700sqm) to comprise the majority of homes delivered in the Wilton GA. Medium density housing and apartments are additionally expected to be delivered in the Wilton GA close to public transport, town/local centres and open space. At build-out, the Wilton LUIIP expects 20% of dwellings to be comprised of medium and higher density product.

Table 5.1 indicates potential dwellings and non-residential floorspace contemplated by the Wilton LUIIP in the precincts of the Wilton GA.

**Table 5.1: Wilton Growth Area Potential Development Yields**

Precinct	Dwellings	Expected Staging	Non-residential Uses
Bingara Gorge	1,800	Ongoing	
North Wilton	5,600	From mid-2020	Retail floorspace within mixed use development and in North Wilton Local Centre, schools
Wilton Town Centre	1,600	From mid-2020	Retail uses (large tenancies), retail and non-retail floorspace within mixed use development and enterprise/employment uses, education facility, community facilities, civic uses. Potential integrated health facilities for future investigation
South East Wilton	3,600	From mid-2020	Retail and non-retail floorspace in Local Centre and enterprise uses, school
West Wilton	2,400	From 2025	Residential only
Wilton Rural Residential	50	From 2025	Rural residential only
Maldon	-		Enterprise/employment uses and employment lands for future investigation
<b>Total</b>	<b>15,000</b>		<b>15,000 total jobs</b>

Source: DPE (2018)

### **Centres and Employment**

Each of the residential precincts will accommodate a local centre, with the Wilton Town Centre identified as the primary centre for the growth area. Major social infrastructure, community facilities and a potential K-12 education facility will be established in the town, co-located with open space areas.

The town centre is expected to develop in stages, and by 2046 is expected to provide a full range of retail, business and community uses (around 50,000sqm) to service the growth area and surrounding areas, to be comprised of:

- At least two full-line supermarkets (3,000sqm-4,000sqm).
- Discount supermarket.
- Speciality retail of around 20,000sqm.
- Café and food services.
- Office and retail services of around 9,000sqm.
- Education, health facilities, leisure and civic uses.
- Open space.

A network of village centres will provide convenience retail and services in the growth area. The Wilton LUIIP identifies capacity for up to 20,000sqm floorspace across village centres, each comprised of:

- A small supermarket (15,000sqm-2,000sqm).
- Up to 2,000sqm of speciality retail, cafes and food services.
- Education and child care.
- Local health services.
- Recreation services.

Beyond centre-based employment, enterprise and industrial areas will also provide for jobs (overall total of 15,000).



In order to project residential take-up, the factors that influence housing supply/delivery are first examined.

## 5.2 DRIVERS OF HOUSING SUPPLY RESPONSE

There is a considerable number of factors affecting the deliverability of new/additional housing and rarely is a single factor the only cause for low housing supply activity.

### Availability of Land

The supply of land available for urban development determines the quantum and speed at which development can occur. In areas where the supply of land zoned for urban development is constrained, or where lot and ownership patterns are fragmented, the ability of developers to assemble large development sites is limited and thus the ability of areas to facilitate new residential development will be accordingly constrained. In areas or precincts where fragmented ownership patterns are observed, the acquisition of land is often a high-risk and high-resource activity for developers.

The Wilton Growth Area comprises a total of 2,480ha of land area with over 75% of lands currently owned/controlled by four major landowners and developers, namely Walker Corporation, Governors Hill, Lend Lease and Bradcorp. It is understood the remaining lands within the Wilton GA (572.3ha) are owned by a total of 113 other private landowners, excluding those within Bingara Gorge and the existing Wilton Town Village. The Wilton Junction Landowners Group members represent these interests.

Given the significant proportion of lands within the Wilton GA currently owned/controlled by a small number of landowners, the Wilton GA is well-positioned to deliver housing at a large scale and in an orderly, coordinated manner.

### Services Infrastructure Capacity

In Greenfield locations, the availability of trunk and lead-in infrastructure can be a major impediment to development proceeding. While there is nothing precluding a prospective developer from assuming the provision of necessary infrastructure to facilitate development of a site, the uncertainty and heavy capital cost associated with infrastructure provision not only contributes to a perception of increased risk, it is beyond the financial capacity of many developers. This has been observed in several precincts in the South West GA (e.g. Austral).

Trunk and lead-in infrastructure are understood to be available and therefore not an impediment to deliverability of the growth area.

### Land Capacity and Capability

The urban and development capability of land is a critical factor that underpins the development supply response. Environmental and site constraints affect the ability of, and the intensity at which land can be developed. The quality of the land, subsisting mining leases, mine subsidence issues and heritage biodiversity values are some of the factors that drive the urban capacity of land (and percentage of land that can be developed) in Wilton GA.

Some portions of the growth area are understood to be subject to mining leases, however commercial agreements struck are expected to facilitate urban development in the proposed timeframes.

## 5.3 TAKE-UP PROJECTIONS TO 2036

The Wilton LUIIP envisages that detached residential product will be the overwhelming typology delivered in the growth area with the exception of medium density product and apartments delivered close to public transport facilities, town/local centres and open space. At build-out, the LUIIP expects detached residential product to comprise 80% of overall stock with medium density and apartment product comprising 20%.

Table 5.2 summarises the residential yields envisaged in the Wilton LUIIP and applies the split between residential typologies anticipated by the Wilton Junction Landowners Group (who collectively represent the interests of Walker Corporation, Bradcorp and Governors Hill).

**Table 5.2: Anticipated Residential Development Typologies**

Precinct	Dwellings	Low Density	Med Density	Apartments
Bingara Gorge	1,800	90%	10%	-
North Wilton	5,600	80%	20%	-
Wilton Town Centre	1,600	40%	40%	20%
South East Wilton	3,600	80%	20%	-
West Wilton	2,400	100%	-	-
<b>Total</b>	<b>15,000</b>	<b>80%</b>	<b>18%</b>	<b>2%</b>

Source: DPE (2018), Elton

On an overall basis and at build-out, low density residential (detached product) is expected to comprise 80% of total residential stock, followed by medium density and apartments collectively comprising 20% of residential stock. The take-up of dwellings to build-out is examined next.

### 5.3.1 Dwellings

The take-up of dwellings is projected with reference to earlier researched market evidence, lot production observed in comparable areas and the alignment/consolidation of interests within the growth area. The Wilton LUIIP expects development to commence in North Wilton, Wilton Town Centre and South East Wilton from mid-2020 with West Wilton longer-term development propositions (post-2025).

The following assumptions underpin the projections of dwelling take-up:

- Bingara Gorge continues delivery, after which the rate of production and dwelling take-up slows concurrent with the other precincts ramping-up from 2021.
- North Wilton, Wilton Town Centre and South East Wilton commence development in mid-2020, ramping up incrementally to peak production in 2026 onwards. Individually, lot production is projected to average 80-150 in the early years per precinct. When several development fronts are pursued (offering product differentiation and choice), the cumulative production and take-up is generally expected to be higher than if only a single development front were pursued.
- Pursuant to relatively smaller number of dwellings and diversity of product in the Wilton Town Centre (40% low density, 40% medium density, 20% apartments), completion is expected to occur ahead of the other precincts.
- West Wilton commences in 2025 and peaks as development in the earlier precincts advance in delivery.
- There are physical limitations for the pace of housing delivery. Despite market demand, the reality of supply-side constraints can place a ceiling on how many dwellings are delivered and taken-up each year. Across the growth area, it is assumed lot production and dwelling take-up do not exceed 650-700 lots per annum.
- Services and other infrastructure will be constructed and forthcoming when required, and therefore not constrain lot production and delivery.

Table 5.3 projects dwellings take-up for the Wilton GA. They distinguish precincts where a more diverse product mix is envisaged, expecting swifter take-up compared to precincts where the product offer is more homogenous.

As the projections demonstrate, average annual dwelling take-up is as follows in five-year increments:

- Year 0-5 (2016-2021) - 304 dwellings per annum.
- Year 6-10 (2021-2026) - 630 dwellings per annum.
- Year 11-15 (2026-2031) - 606 dwellings per annum.
- Year 16-20 (2031-2036) - 552 dwellings per annum.
- Year 21-25 (2036-2041) - 446 dwellings per annum.
- Year 26-30 (2041-2046) - 260 dwellings per annum.
- Year 31-35 (2046-2051) - 102 dwellings per annum.

**Table 5.3: Projected New Dwellings Take-up, 2016 to Build-out**

Precinct (Residential Type)	Dwellings	2016- 2021	2021- 2026	2026- 2031	2031- 2036	2036- 2041	2041- 2046	2046- 2051
Bingara Gorge	1,800	850	400	50				
North Wilton	5,600	270	970	1,300	1,260	1,000	800	
(Low Density)	(4,480)	(180)	(600)	(900)	(1,000)	(1,000)	(800)	
(Medium Density)	(1,120)	(90)	(370)	(400)	(260)			
Wilton Town Centre	1,600	200	860	490	50			
(Low Density)	(640)	(100)	(400)	(140)				
(Medium Density)	(640)	(100)	(400)	(140)				
(Apartments)	(320)		(60)	(210)	(50)			
South East Wilton	3,600	200	900	820	950	730		
(Low Density)	(2,880)	(100)	(500)	(600)	(950)	(730)		
(Medium Density)	(720)	(100)	(400)	(220)				
West Wilton	2,400		20	370	500	500	500	510
<b>Total</b>	<b>15,000</b>	<b>1,520</b>	<b>3,150</b>	<b>3,030</b>	<b>2,760</b>	<b>2,230</b>	<b>1,300</b>	<b>510</b>
<b>Cumulative Total</b>		<b>1,520</b>	<b>4,670</b>	<b>7,700</b>	<b>10,460</b>	<b>12,690</b>	<b>13,990</b>	<b>14,500*</b>
	Avg. Annual	304	630	606	552	446	260	102

\*note this excludes 500 dwellings already delivered in Bingara Gorge

Source: DPE (2018), Elton

Relevantly, at the conceptual stage of structure planning, prior to product development and marketing campaigns, projections of dwelling production and market take-up are necessarily generic. There will undoubtedly be volatility from year to year as market and economic factors influence the market's response to the availability of new product.

Competitive supply (outside Wilton GA) elsewhere in the region, the availability of employment opportunities and completion of critical infrastructure will influence the overall desirability of the Wilton GA as a residential destination.

Masterplanned estates in the Greater Macarthur Growth Area is expected to influence the rate of delivery at Wilton GA. Future development at Menangle Park and Mount Gilead will likely compete within Wilton GA in the short-term given both precincts have recently received planning approval. Development at West Appin is likely to have less of an impact on short-term delivery at Wilton given its longer-term nature and expected delivery horizon.

### 5.3.2 Population

Demographic analysis indicates a number of key characteristics that drive demand for different housing typologies:

- Family households as the dominant household, particularly couples with children. A strong mix of age cohorts with around 30% children and adolescents, 19% young adults, 27% middle aged adults and 25% older adults.
- Average household occupancy rates are observed to have increased particularly in the five years to 2016.
- Stable population with low levels of internal migration observed in the five years to 2016.
- Relatively high levels of social advantage with low levels of housing stress observed.
- Residents are heavily car based with the majority of residents reliant on private vehicles to commute to work.

The market analysis in Chapter 3 indicates the housing market across Wollondilly Shire is dominated by a variety of buyers; First-Home Buyers, upgraders, older couples downsizing and investors. Collectively, these different buyer cohorts drive demand for a variety of housing sizes and types.

The shift to smaller lot sizes as observed in other greenfield precincts such as the North West and South West Growth Areas is primarily driven by housing affordability. This shift has yet to occur at the same scale in the Shire. While demand for smaller product typology (sub-500sqm) is good with strong uptake of such product observed in recent subdivisions in Tahmoor and Thirlmere; relatively low land prices and a diverse mix of buyers (many whom seek larger land parcels) has blunted overall demand for smaller lot product to date.

While affordability pressures have yet to make a significant impact on the type of housing offered across the Shire, demand for smaller lots or higher density is expected to grow commensurate with population growth, internal migration of younger households and further economic activation of existing centres within the Shire.

### Household Occupancy Ratios

In line with trends across Greater Sydney and neighbouring local government areas, Wollondilly Shire recorded an aggregate ratio of 3.1 persons per dwelling in 2016 increased from 3.0 in 2011. In the high growth suburbs, household occupancy ratios increased over the period, for example, Appin - 3.1 persons (2011) to 3.2 persons (2016) and Wilton - 3.1 persons (2011) to 3.3 persons (2016).

In established centres, observed trends are mixed. Suburbs such as Picton, Oakdale and The Oaks are observed to have maintained their household occupancy ratios between 2011 and 2016. In contrast, Thirlmere's occupancy ratio reduced from 3.0 to 2.9 persons and Tahmoor's occupancy ratio increased from 2.7 to 2.8 persons.

Table 5.4 projects new population in the Wilton GA by applying average household occupancy ratios (Table 5.5) to new dwellings projected in Table 5.3.

**Table 5.4: Projected New Population, 2016 to Build-out**

Precinct (Residential Type)	Population	2016- 2021	2021- 2026	2026- 2031	2031- 2036	2036- 2041	2041- 2046	2046- 2051
Bingara Gorge	3,960	2,610	1,200	150				
North Wilton	16,800	792	2,822	3,830	3,776	3,100	2,480	
(Low Density)	(13,888)	(558)	(1,860)	(2,790)	(3,100)	(3,100)	(2,480)	
(Medium Density)	(2,912)	(234)	(962)	(1,040)	(676)			
Wilton Town Centre	4,288	560	2,372	1,246				
(Low Density)	(1,920)	(300)	(1,200)	(420)				
(Medium Density)	(1,664)	(260)	(1,040)	(364)				
(Apartments)	(704)	-	(132)	(462)	(110)			
South East Wilton	10,800	570	2,590	2,432	2,945	2,263		
(Low Density)	(8,928)	(310)	(1,550)	(1,860)	(2,945)	(2,263)		
(Medium Density)	(1,872)	(260)	(1,040)	(572)				
West Wilton	7,440		62	1,147	1,550	1,550	1,550	1,581
<b>Total</b>	<b>43,288</b>	<b>4,532</b>	<b>9,046</b>	<b>8,805</b>	<b>8,381</b>	<b>6,913</b>	<b>4,030</b>	<b>1,581</b>
<b>Cumulative Total</b>		<b>4,532</b>	<b>13,578</b>	<b>22,383</b>	<b>30,764</b>	<b>37,677</b>	<b>41,707</b>	<b>43,288</b>
	Avg. Annual	906	1,823	1,782	1,676	1,383	806	316

Source: AEC

By applying the assumed household occupancy rates to the projected new dwellings, a new resident population of nearly 43,500 persons is estimated at build-out. This is equivalent to an overall rate of 3 persons per dwelling. Notably, the number of persons in smaller format housing (medium density and apartments) is expectedly lower than low density dwellings. Table 5.5 details the average household occupancy rate assumptions.

**Table 5.5: Assumed Household Occupancy Rates for New Dwellings, 2016 to Build-out (persons/dwelling)**

Precinct (Residential Type)	Build-out	2016- 2021	2021- 2026	2026- 2031	2031- 2036	2036- 2041	2041- 2046	2046- 2051
Bingara Gorge	3.0	3.1	3.0					
North Wilton	3.0							
(Low Density)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	
(Medium Density)	(2.6)	(2.6)	(2.6)	(2.6)	(2.6)			
Wilton Town Centre	2.7							
(Low Density)	(3.0)	(3.0)	(3.0)	(3.0)				
(Medium Density)	(2.6)	(2.6)	(2.6)	(2.6)				
(Apartments)	(2.2)		(2.2)	(2.2)	(2.2)			
South East Wilton	3.0							
(Low Density)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)		
(Medium Density)	(2.6)	(2.6)	(2.6)	(2.6)				
West Wilton	3.1		3.1	3.1	3.1	3.1	3.1	3.1
<b>Total</b>	<b>3.0</b>	<b>3.0</b>	<b>2.9</b>	<b>2.9</b>	<b>3.0</b>	<b>3.1</b>	<b>3.1</b>	<b>3.1</b>
	Average	3.0	2.9	2.9	3.0	3.1	3.1	3.1

Source: AEC

### 5.3.3 Employment and Jobs

This section relies on research and recommendations in *Future Employment Analysis* (Urbis, 2017) commissioned by DPE to inform precinct planning of the Greater Macarthur Growth Area (referred to as 'the Analysis'). The Analysis' terms of reference are broader than the Wilton Growth Area. Where applicable, its findings and recommendations as relevant to the Wilton Growth Area are extracted and applied to inform employment/jobs projections.

The Analysis distinguishes between employment activity that is population-driven and activity that responds to drivers broader than local population growth. Specialised health and education facilities for example, respond not only to population growth in the Wilton GA, they have a broader service catchment that would extend to the region.

Industrial activity (and consequent employment) is driven not only by local population growth. Broader economic activity will influence the type of industrial activity (e.g. manufacturing, transport and logistics, warehousing) and businesses could demand floorspace in the Wilton GA not just to service local residents but due to road connectivity could respond to market demand in areas much further away than Wilton.

#### **Retail and Non-retail**

Retail and non-retail floorspace is demanded as a consequence of population-driven uses and are commonly provided for in centres. It is no different in Wilton GA, with a town centre and a series of local centres anticipated to accommodate these uses.

In Australia there is around 2.2sqm of retail floorspace provided for every resident. This is generally the accepted standard provision used throughout the Australian retail industry, with the last Retail Census undertaken by the ABS in 1991/92.

The growth in retail floorspace per capita has largely been driven by real growth in income levels in Australia and consequently increases in retail spending capacity. In addition, new retail formats have been introduced as the retail industry has evolved. Consequently, during this period, Australia has witnessed the extensive development of super-regional and regional shopping centres, many more village centres anchored by supermarkets, homemaker centres and outlet centres.

The retail floorspace provision of 2.2sqm per capital also incorporates allowance for large format retailers such as Bunnings, Harvey Norman and the like, which accounts for approximately 0.6sqm per person of the total of 2.2sqm per person. As these uses will not be developed at the local centre or neighbourhood centre, the retail floorspace provision per capita in centres is reduced to 1.6sqm per person.

The Wilton LUIP envisages up to 70,000sqm of retail and commercial space distributed in the Wilton Town Centre (50,000sqm) and local centres in North Wilton and South East Wilton (20,000sqm). The 70,000sqm of centre-based floorspace is equivalent to 1.6sqm per capita at build-out. This presents a conservative scenario given the absence of different types of retail formats not being supportable in the main trade area, such as regional and super-regional shopping centres and factory outlet/discount centres.

In reality, the delivery of retail and non-retail uses is lumpy. Critical mass of residents will be required before retailers can viably establish a presence.

Table 5.6 projects the take-up of centre-based floorspace in the Wilton GA. The table additionally estimates the associated employment by applying a generic floorspace ratio of 16sqm per employee.

There are obvious limitations to the high-level projections, however for the purposes of anticipating employment growth that is linked to population growth the approach is considered appropriate.

**Table 5.6: Projected New Centre-based Retail and Non-retail Floorspace & Employment, 2016 to Build-out**

Precinct		2016-2021	2021-2026	2026-2031	2031-2036	2036-2041	2041-2046	2046-2051
<b>New Floorspace</b>	<b>(sqm)</b>							
Bingara Gorge	8,000*		8,000					
North Wilton	10,000	2,000	4,000	4,000				
Wilton Town Centre	42,000*	4,000	6,000	12,000	8,000	12,000		
South East Wilton	6,000			2,000	4,000			
West Wilton	4,000						4,000	
<b>Total</b>	<b>70,000</b>	<b>6,000</b>	<b>18,000</b>	<b>18,000</b>	<b>12,000</b>	<b>12,000</b>	<b>4,000</b>	
<b>Cumulative Total</b>		<b>6,000</b>	<b>24,000</b>	<b>42,000</b>	<b>54,000</b>	<b>66,000</b>	<b>70,000</b>	<b>70,000</b>
	Avg. Annual	1,200	3,600	3,600	2,400	2,400	800	
<b>New Employment</b>	<b>(Jobs<sup>^</sup>)</b>							
Bingara Gorge	500		500					
North Wilton	625	125	250	250				
Wilton Town Centre	2,625	250	375	750	500	750		
South East Wilton	375			125	250			
West Wilton	250						250	
<b>Total</b>	<b>4,375</b>	<b>375</b>	<b>1,125</b>	<b>1,125</b>	<b>750</b>	<b>750</b>	<b>250</b>	
<b>Cumulative Total</b>		<b>375</b>	<b>1,500</b>	<b>2,625</b>	<b>3,375</b>	<b>4,125</b>	<b>4,375</b>	<b>4,375</b>
	Avg. Annual	75	225	225	150	150	50	-

\*50,000sqm assumed across Wilton Town Centre (42,000sqm) and Bingara Gorge (8,000sqm)

<sup>^</sup>applying an average generic ratio of 16sqm per employee

Source: Urbis (2017), AEC

At a generic floorspace ratio per employee of 16sqm, at build-out the 70,000sqm of centre-based floorspace could conceivably accommodate 4,375 jobs.

Additional to centre-based retail and non-retail floorspace, the Analysis projects other population-driven employment activity of almost 9,500 jobs<sup>2</sup> at build-out.

### **Industrial**

The Analysis (Urbis, 2017) projects industrial land consumption to average 33ha per annum (875 workers), equivalent to a density of 26 employees per hectare. Industrial areas in inner and middle ring suburbs in Greater Sydney are observed to achieve 25 to 60 employees per hectare (where the employment lands are exclusively industrial zones).

We consider the above projections at the lower end of the density range to be reasonable. Across Western Sydney, industrial land uptake/consumption has averaged 150-250ha per annum over the last decade.

To build-out, the Analysis projects 7,000 employees in industrial uses.

### **Specialised Health and Education**

The Analysis (Urbis, 2017) identifies opportunity for specialised health and education uses to be located adjacent a higher order town centre such as Wilton Town Centre.

Health and education facilities are not 'market uses', rather they are institutional uses. Government investment policy will drive the provision and delivery of health and education facilities and are less readily inferred from market evidence. In a higher order centre such as Wilton Town Centre the provision of specialised health and education facilities will conceivably serve a regional population beyond the Wilton Growth Area.

Projections of development take-up for institutional uses are not examined in this Study, considered beyond the scope of the brief.

<sup>2</sup> Excluding home-based employment



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## APPENDIX A: PLANNING PROPOSALS

**Table A.1: Current Planning Proposals, Wollondilly Shire**

Location	Dwellings Potential	Status	Description
<b>Appin</b>			
Macquariedale Rd	337	Gateway approval; public exhibition	A privately-owned, 62.8ha rural site currently zoned RU2 Rural Residential subject to a 40ha minimum lot size control proposed to be rezoned R2 Low Density Residential and E2 Environmental Conservation with minimum lot size controls of 450sqm (R2) and 10ha (E2).
Brooks Point Rd	340	Preliminary assessment on-hold	A privately-owned 60ha rural site currently zoned RU2 Rural Residential subject to a 40ha minimum lot size control proposed to be rezoned to a mix of land use zones including R2 Low Density Residential, B2 Local Centre, E2 Environmental Conservation and E4 Environmental Living. Minimum lot sizes are yet to be determined.
Appin Vale	4,000	Preliminary assessment on-hold	A privately-owned 584ha rural site currently zoned RU2 Rural Residential subject to a 40ha minimum lot size control proposed to be rezoned to a mix of land use uses including R2 Low Density Residential, R3 Medium Density Residential, R5 Large Lot Residential and a range of other business (B1, B2, B4), environmental (E2) and industrial (IN2) zones. Minimum lot sizes are yet to be determined.
North Appin	4,000	Preliminary assessment on-hold	A privately-owned 368ha rural site currently zoned RU2 Rural Residential subject to a 40ha minimum lot size control proposed for rezoning; no details are currently available given early stages of planning.
Brooks Point Rd (West Appin)	3,500	Preliminary assessment on-hold	A privately-owned 244ha rural site currently zoned RU2 Rural Residential subject to a 40ha minimum lot size control proposed for rezoning; no details are currently available given early stages of planning.
<b>Bargo</b>			
Land Adjoining Bargo Sportsground	22	Gateway approval; altered application under assessment	A small privately-owned rural site adjoining the Bargo Sportsground currently zoned RU1 Primary Production subject to a 16ha minimum lot size control proposed to be rezoned to R2 Low Density Residential and E2 Environmental Conservation with a minimum lot size control of 700sqm (R2).
Government Rd	5	Gateway approval; altered application under assessment	A small privately-owned rural site currently zoned RU1 Primary Production subject to a 20ha minimum lot size control proposed to be rezoned to E2 Environmental Conservation and E4 Environmental Living subject to a 2ha minimum lot size control.
Noongah & Gwynn Hughes Sts	80	Gateway approval; application being revised	A privately-owned rural site currently zoned RU2 Rural Landscape subject to a minimum lot size control of 16ha proposed to be rezoned to R5 Large Lot Residential and E3 Environment Management with a minimum lot size control of 1,500sqm.
Great Southern Rd	167	Gateway approval; public exhibition complete	A large privately-owned rural site currently zoned RU2 Rural Landscape subject to a minimum lot size control of 16ha proposed to be rezoned to R2 Low Density Residential with a 700sqm minimum lot size control.
65-95 Ironbark Rd	60	Preliminary assessment	A privately-owned rural site currently zoned RU4 Primary Production Small Lots subject to a minimum lot size control of 2ha proposed to be rezoned to R2 Low Density Residential and R3 Medium Density Residential subject to minimum lot size controls of 700sqm and 975sqm.
<b>Buxton</b>			
West Parade	4	Gateway approval; specialist studies underway	A small privately-owned rural parcel of land currently zoned RU1 Primary Production subject to a minimum lot size control of 16ha proposed to be rezoned to R5 Large Lot Residential and E3 Environment Management with a minimum lot size control of 4,000sqm.

Location	Dwellings Potential	Status	Description
<b>Menangle</b>			
Station St	350	Approved; implementation pending	A privately-owned, 27ha rural site currently zoned RU1 Primary Production proposed to be rezoned to B1 Neighbourhood Centre and R2 Low Density Residential subject to a range of minimum lot size controls; 250sqm, 600sqm and 900sqm.
<b>Oakdale</b>			
Oakdale Sportsfields	196	Gateway approval; specialist studies underway	A privately-owned, 22.7ha rural site located adjacent the Oakdale Sportsfields currently zoned RU1 Primary Production proposed to be rezoned to R2 Low Density Residential and E2 Environmental Conservation with a minimum lot size control of 700sqm (R2).
Burraborang & Steveys Forest Rds	50	Gateway approval; specialist studies underway	A privately-owned, 22ha rural site currently zoned RU1 Primary Production subject to a minimum lot size control of 20ha proposed to be rezoned to R2 Low Density Residential and R5 Large Lot Residential with a minimum lot size controls of 700sqm (R2) and 2,000sqm (R5).
<b>Picton</b>			
Abbotsford	40	Revised application under review	A privately-owned, 66.6ha rural site currently zoned RU2 Rural Landscape subject to a minimum lot size control of 40ha proposed to be rezoned to R5 Large Lot Residential and E4 Environmental Living with minimum lot size controls of 4,000sqm and 20ha.
Picton East	240	Gateway approval; application being revised	Number of large, privately-owned parcels of rural land totaling 120.7ha currently zoned RU2 Rural Landscape subject to a minimum lot size controls of 40ha and 100ha proposed to be rezoned to a range of land use zones including RU2 Rural Landscape, R2 Low Density Residential, R3 Medium Density Residential, B2 Local Centre, E2 Environmental Conservation, E3 Environmental Management and RE1 Public Recreation. Minimum lot size controls to range from 480sqm, 5,000sqm and 2ha.
Stonequarry Commercial Picton	0	Gateway approval; specialist studies underway	Privately-owned, rural site currently zoned RU4 Primary Production Small Lots, B2 Local Centre and R2 Low Density Residential subject a minimum lot size control of 40ha proposed to be rezoned for business and recreational uses (B2, RE1, RE2, SP2) with an unrestricted minimum lot size control.
Stilton Lane and Remembrance Dr	32	Pending Gateway determination	Privately-owned, rural site currently zoned RU4 Primary Production Small Lots subject a minimum lot size control of 40ha proposed to be rezoned to a mix of land use zones including RU2 Rural Landscape, SP3 Tourist Zone, IN2 Light Industrial, E2 Environmental Conservation and RU4 Primary Production Small Lots. Residential zonings would be subject to minimum lot size controls of 4ha.
Land Adjacent Mushroom Tunnel	33	Gateway approval; public exhibition	A privately-owned, 4.1ha rural property currently zoned RU2 Rural Landscape subject to a minimum lot size control of 16ha proposed to be rezoned to R2 Low Density Residential and R5 Large Lot Residential with minimum lot size controls of 700sqm (R2) and 1,250sqm (R5).
Barkers Lodge Rd	20-30	Preliminary assessment underway	A privately-owned rural property currently zoned RU2 Rural Landscape subject to a minimum lot size control of 40ha proposed to be partly rezoned to R5 Large Lot Residential and SP3 Tourist Zone subject to a 4,000sqm minimum lot size control (R2) and unrestricted lot size control (SP3).
<b>Razorback</b>			
11 Westminster Pl	5	Pending Gateway determination	A privately-owned rural property currently zoned RU2 Rural Landscape and E4 Environmental Living subject to a minimum lot size control of 35ha and 4ha subject to a proposal to allow for residential subdivision.
<b>Silverdale</b>			
North Silverdale	400	Gateway approval; altered application under assessment	Number of large, privately-owned parcels of rural land totaling 68ha surrounding the Silverdale Shopping Centre currently zoned RU2 Rural Landscape with a minimum lot size control of 16ha proposed to be rezoned to a mix of land uses including

Location	Dwellings Potential	Status	Description
			R2 Low Density Residential, R3 Medium Density Residential, IN2 Light Industrial, B2 Local Centre and E2 Environmental Conservation. Minimum lot size controls for residential land are proposed to be 700sqm and 4,000sqm.
Eltondale	8,944	Preliminary assessment on-hold	Number of large, privately-owned parcels of rural land totaling currently zoned RU2 Rural Landscape and subject to a 16ha minimum lot size control proposed to be rezoned to a mix of land uses (E2, E4, RE1, R1, R2, R5, B1, B2) for delivery of a new township subject to minimum lot size controls of 300sqm to 4,000sqm.
<b>Tahmoor</b>			
Cross St	264	Gateway approval; public exhibition	A privately-owned rural parcel of land currently zoned RU4 Primary Production and E2 Environmental Conservation subject to a minimum lot size control of 2ha proposed to be rezoned to R2 Low Density Residential, R5 Large Lot Residential and E3 Environment Management.
West Tahmoor Lot Size Amendments No.2	17	Gateway approval; specialist studies underway	Small parcel of privately-owned residential land currently zoned R2 Low Density Residential subject to a minimum lot size controls of 450sqm, 2,000sqm and 4,000sqm to be partly rezoned to E2 Environmental Management whilst retaining the existing R2 zoning and reduce the minimum lot size control of 4,000sqm to 700sqm.
West Tahmoor Lot Size Amendments No.3	20	Preliminary assessment underway	Parcel of privately-owned residential land currently zoned R2 Low Density Residential subject to a minimum lot size control of 2,000sqm subject to a Planning Proposal to reduce the minimum lot size control to 450sqm.
Tahmoor Town Centre Height Limit	432	Preliminary assessment underway	Privately-owned urban land currently zoned B2 Local Centre subject to a Planning Proposal to allow for an increase in maximum building heights from 11m to 30m which could hypothetically yield 432 units.
<b>The Oaks</b>			
The Oaks North	60	Gateway approval; specialist studies underway	Small parcel of privately-owned rural land zoned RU2 Rural Landscape subject to a minimum lot size control of 40ha proposed to be rezoned to R5 Large Lot Residential subject to a minimum lot size control of 1,500sqm.
<b>Thirlmere</b>			
Darley St	60	Gateway approval; specialist studies underway	Privately-owned, 30.2ha parcel of rural land currently zoned RU4 Primary Production Small Lots subject to a 2ha minimum lot size control proposed to be rezoned R5 Large Lot Residential; minimum lot size to be determined following completion of specialist studies.

Source: WSC

**Table A.2: Approved Planning Proposals, Wollondilly Shire**

Location	Dwellings Potential	Description
<b>Appin</b>		
Bulli-Appin Rd	33	Parcel of privately-owned rural land (2.7ha) which was previously zoned RU2 Rural Landscape subject to a minimum lot size control of 40ha rezoned in July 2017 to R2 Low Density Residential subject to a minimum lot size control of 975sqm for subdivision into 33 residential lots.
<b>Bargo</b>		
Avon Dam & Hawthore Rds	30	Number of privately-owned parcels of rural land totaling 11.3ha previously zoned RU4 Rural Production Small Lots rezoned in March 2012 to R2 Low Density Residential and R5 Large Lot Residential subject to minimum lot size controls of 700sqm (R2) and 4,000sqm (R5) for subdivision into 30 lots.
<b>Oakdale</b>		
Egans Rd	35	Small parcel of privately-owned, rural land (2.9ha) formerly zoned RU1 Primary Production subject to a minimum lot size control of 20ha rezoned to R2 Low Density Residential with a 700sqm minimum lot size control for subdivision into 35 residential allotments.
Land Adjoining Oakdale P.S.	76	Privately-owned, rural site circa 23ha formerly zoned RU1 Primary Production rezoned in March 2016 to R2 Low Density Residential and R5 Large Lot Residential with minimum lot size controls of 450sqm (R2) and 4,000sqm (R5) for subdivision into 76 residential lots.
<b>Picton-Tahmoor-Thirlmere</b>		
Menangle St	17	Large parcel of privately-owned, rural land (34.8ha) formerly zoned RU2 Rural Landscape subject to a 30ha minimum lot size control partially rezoned in August 2014 (2.32ha) to R2 Low Density Residential with a minimum lot size control of 700sqm with the rezoned parcel to be subdivided into 17 lots.
Thirlmere Way	26	Small parcel of privately-owned, vacant rural land (2.45ha) formerly zoned RU4 Primary Production Small Lots rezoned in July 2014 to R2 Low Density Residential subject to a minimum lot size control of 700sqm for a residential subdivision comprising 26 allotments.
PTT New Urban Precincts	1,100	A number of rural land parcels (RU2 Rural Landscape and RU4 Primary Production Small Lots) located across six precincts within Picton, Tahmoor and Thirlmere which were identified by Council as having potential for future urban development which were rezoned in January 2014 to R2 Low Density Residential with minimum lot size controls of 450sqm.
Land Between Tahmoor and Thirlmere	250-300	A total of 87 individual rural lots (total of 232ha) located in Tahmoor and Thirlmere which were previously zoned RU4 Rural Production Small Lots rezoned in June 2015 to R5 Large Lot Residential subject to a minimum lot size control of 4,000sqm.
Bronzewing St	60	A privately-owned, small parcel of rural land (4ha) formerly zoned RU4 Primary Production Small Lots rezoned in July 2017 to R2 Low Density Residential subject to a minimum lot size control of 450sqm for subdivision into 60 residential lots.
<b>Silverdale</b>		
Warradale Rd	93	Large parcel of unimproved rural land (27.4ha) formerly zoned RU2 Rural Landscape rezoned in February 2014 to R2 Low Density Residential, IN2 Light Industrial and E2 Environmental Conservation. The residential zoned land is subject to a minimum lot size control of 700sqm.
Silverdale & St Helliers Rds	165	Privately-owned, rural parcel of land (29.5ha) formerly zoned RU2 Rural Landscape rezoned in December 2014 to R2 Low Density Residential and E4 Environmental Living with a minimum lot size of 700sqm for a 165 lot residential subdivision.
<b>The Oaks</b>		
Monteplier Dr	60	Parcel of unimproved, privately-owned rural land (10.7ha) formerly zoned RU2 Rural Landscape rezoned in November 2015 to R2 Low Density Residential with a 975sqm minimum lot size control for a 60 lot residential subdivision.

Source: WSC

**Table A.3: Refused Planning Proposals, Wollondilly Shire**

Location	Dwellings Potential	Description
<b>Douglas Park</b>		
Douglas Park Dr	39	A large parcel of rural land zoned RU2 Rural Landscape subject to a minimum lot size control of 16ha. A Planning Proposal was submitted in 2012 to rezone the site to R5 Large Lot Residential subject to a minimum lot size control of 3,000sqm, yielding 39 residential lots. The Proposal refused by Council in April 2013 and a subsequent pre-Gateway review was refused by DPE in July 2014.
<b>Picton</b>		
Clearview	550	Large rural parcel of private land (81.5ha) zoned RU2 Rural Landscape subject to a minimum lot size control of 16ha. A Planning Proposal was submitted April 2011 to rezone the site to R2 Low Density Residential and R5 Large Lot Residential with minimum lot size controls of 450sqm (R2) and 4,000sqm (R5). The Proposal was refused on the basis of the site being subject to mine subsidence due to coal mining activities in the immediate surrounds.
Coull St	20-30	Small rural parcel of private land (2.1ha) currently zoned IN2 Light Industrial. A Planning Proposal was submitted in May 2014 to rezone the site to R3 Medium Density Residential and recreational land; the R3 lands to be subject to a minimum lot size control of 975sqm. The Proposal was refused in July 2017 given the site is heavily flood impacted.
<b>The Oaks</b>		
760 Montpelier Dr	210	Large parcel of privately-owned, rural land (43.8ha) currently zoned RU2 Rural Landscape subject to a minimum lot size control of 40ha. A Planning Proposal was lodged in November 2015 to rezone the site to R2 Low Density Residential and R5 Large Lot Residential with minimum lot size controls of 975sqm (R2) and 4,000sqm (R5). The Proposal was refused in February 2017 as the site is not required in order to meet Wollondilly Shire's housing targets nor is it consistent with Wollondilly Growth Management Strategy.

Source: WSC



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