South Creek West

Belmore Road Precinct

Housing Needs and Economic Impact Assessment

CKDI Bringelly Pty Ltd

June 2022

Atlas URBAN ECONOMICS

Document Control

Project Manager:	Jacob Vince	Job ID:	J118
Email:	Jacob.vince@atlasurbaneconomics.com	Job Name:	Bringelly Planning Proposal
Telephone:	+61 2 8016 3864		
Client:	CKDI Bringelly Pty Ltd		
Client Contact:	Tank Tan		
Document Name:	Belmore Road Precinct Housing Needs and Economic Impact Assessment Final June 2022	Last Saved:	30/06/2022 12:04 PM

Version	Date	Approved by	Reviewed by
Draft v1.0	25 March 2021	Jacob Vince, Matthew Kelly	Esther Cheong
Final	9 April 2021	Jacob Vince	Esther Cheong
Final Revised	30 June 2022	Jacob Vince	Esther Cheong

Table of Contents

Schedule

Appendices

1. Introduction

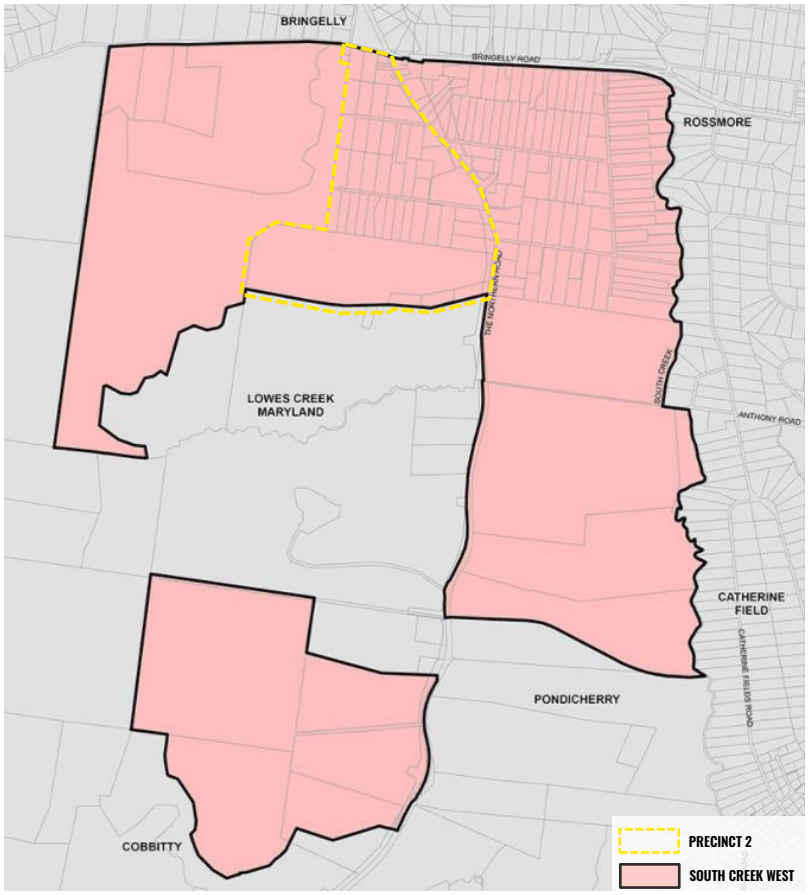
1.1 Background

CKDI Bringelly Pty Ltd (the Proponent) are a landowner in the South Creek West Land Release Area. The larger South Creek West precinct has been identified as one of Greater Sydney's largest future greenfield precincts with potential for circa 30,000 new homes. It is strategically located southwest of the future Western Sydney Airport and forms part of the South West Growth Area.

The Bringelly Sub-Precinct 2 (also referred to as the **Belmore Road Precinct**) forms part of the South Creek West precinct. Comprising 189.7ha, The Belmore Road Precinct is generally bounded by The Northern Road to the east, the Lowes Creek Maryland precinct to the south, Thompsons Creek to the west and Greendale Road to the north.

Figure 1.1 depicts the location of the Bringelly Sub-Precinct 2 within the broader South Creek West Land Release Area.

Figure 1.1: Bringelly Sub-Precinct 2



Source: BHL

A Structure Plan for the South Creek West Land Release Area is currently being developed by Camden Council with support from the Department of Planning, Industry and Environment (DPE). The Structure Plan intends on detailing the location of new town and local centres, community infrastructure, employment areas and residential communities.

In Q1 2021, the Proponent commissioned various technical investigations to inform the precinct planning process for Precinct 2 in accordance with the new approach to precinct planning launched by the Department of Planning and Environment (DPE). Precinct 2 was identified as a 'Collaboration Precinct', which is a collaboration between DPE and Camden Council.

Similar to the previous Precinct Acceleration Process (PAP) that has applied to the already rezoned precincts across the North West and South West Growth Areas, a draft Indicative Layout Plan (ILP) has been prepared for the Belmore Road Precinct and has guided the drafting of the proposed future land uses and housing mix for Precinct 2. Atlas Urban Economics (Atlas) have been engaged to carry out a Housing Market Needs Analysis to inform the precinct planning process for Precinct 2.

1.2 Scope and Approach

Atlas have been engaged to carry out a Housing Market Needs Analysis to understand the need and nature of demand for housing in the South West region of Greater Sydney. It is from this analysis that a set of specific recommendations for the Belmore Road Precinct can be made to assist in precinct planning.

Upon finalisation of an Indicative Layout Plan (ILP) for the Belmore Road Precinct, the economic impacts of the proposed development are then modelled and quantified.

The following tasks have been undertaken to fulfil the requirements of the brief:

- **Strategic Context**
  - Review relevant State and local planning documents and policies, including the Camden Local Strategic Planning Statement and draft Camden Local Housing Strategy.
  - Carry out socio-demographic analysis for the South West region.
- **Market Appraisal**
  - Review historic market data to understand long-term demand for housing across the South West region.
  - Carry out a market appraisal to understand the nature of market demand, including housing preferences, price points, purchaser profile and affordability thresholds in the South West region.
  - Review the NSW population, household and implied dwelling projections (DPE, 2019).
  - Investigate the nature of housing supply and development activity in the South West region, including quantum, typologies and likely delivery timeframes.
- **Implications and Recommendations for the Belmore Road Precinct**
  - Based the foregoing research and analysis, provide site-specific recommendations for the Precinct including:
    - Housing type and corresponding splits;
    - Residential density and corresponding splits;
    - Lot sizes.
  - Recommend the likely delivery timeframes which could be expected for development.
- **Economic Impact Assessment**
  - Following finalisation of an ILP, estimate the economic impacts (direct and indirect/flow-on) that could result from the future redevelopment of the Site during construction and post-construction in the operational phase.

1.3 Structure of the Study

The Study is structured in three parts:

- **Part A (Strategic Context)** considers the locational and strategic planning context of the Belmore Road Precinct, planned and ongoing infrastructure projects and the socio-demographic profile of residents within the South West region. The strategic and demographic analysis contained in Part A was carried out over the course of Q1 2021.
- **Part B (Housing)** examines the economic and market drivers influencing demand and supply of housing in the South West and considers the need for additional housing supply. Population projection analysis, property market research and supply forecasting were carried out in Q1 2021.
- Based on the finalised ILP, **Part C (Economic Impacts)** undertakes an economic impact assessment to ascertain the economic impacts of the future development of the Belmore Road Precinct against a no-intervention scenario to conclude whether the Proposal would deliver a net positive economic impact. Economic impact modelling carried out in Part C was undertaken in Q2 2022.

1.4 Assumptions and Limitations

Atlas acknowledges a number of limitations associated with the Study.

- The Study was largely completed in Q1 2021 with research and analysis reliant upon the most recent data sources available at that time. At this time, the fallout of the COVID-19-induced recession was still being understood.
- Following extensive consultation with Council, the Proponent finalised an Indicative Layout Plan for the Belmore Road Precinct in Q2 2022. Economic impact modelling (Part C of this Study) was subsequently carried out in Q2 2022. No revisions to socio-economic profiling, market research or take-up analysis were made in Q2 2022.
- Data from third party sources is assumed to be correct and is not verified.
- Population projections relied upon in this Study (DPE, 2019) are 'point in time' projections and were made prior to the onset of the COVID-19-induced recession.
- Desktop market research has been undertaken without physical site surveys and inspections.
- Specific assumptions related to economic impact modelling are detailed in Chapter 10 and Schedule 1.

Notwithstanding the above, all due care, skill and diligence has been applied to this Study as is reasonably expected.

PART A: STRATEGIC CONTEXT

2. Strategic Context

Research and analysis included Part A of this Study was carried out in Q1 2021.

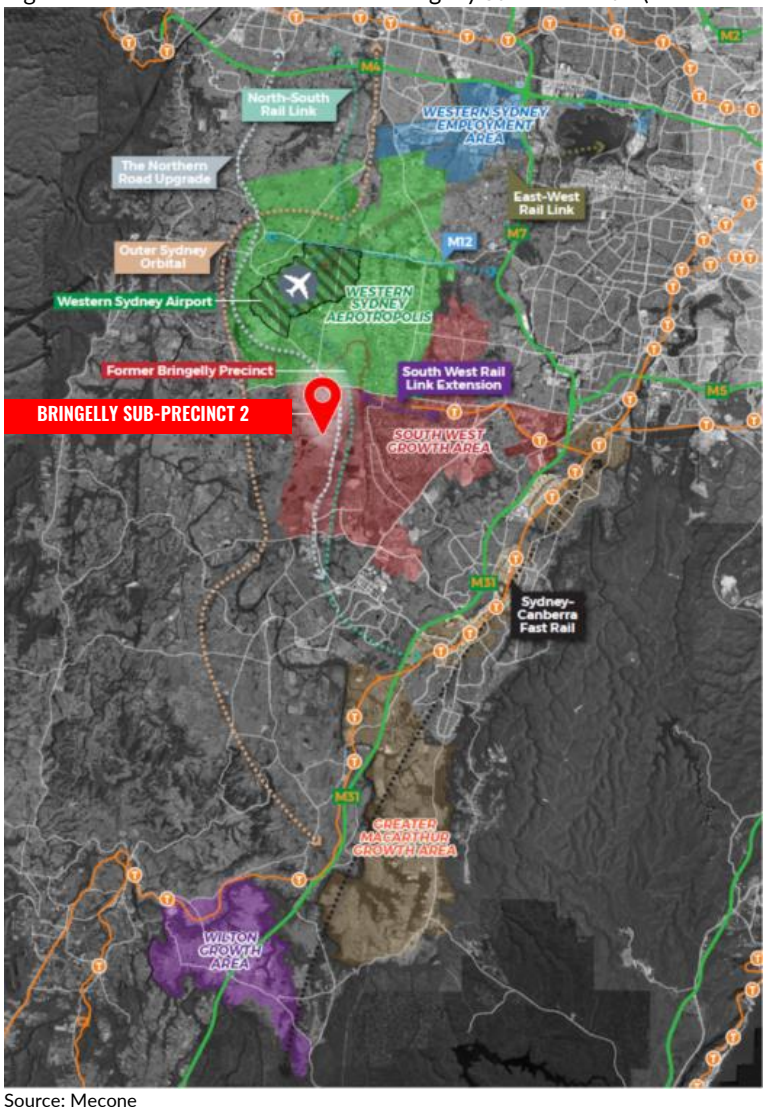
2.1 Location

The Belmore Road Precinct is located within the Camden local government area (LGA) about 54km west of the Sydney CBD and approximately 25km south of the Penrith CBD. The Precinct is characterised by a mix of rural-residential and agricultural uses.

The Precinct is strategically located given their proximity to other emerging centres and employment areas. The largest of these is the future Western Sydney Aerotropolis – a 11,200ha greenfield precinct being planned and developed around the future Western Sydney Airport just 2km north-east of the Site. The Western Sydney Aerotropolis is being planned as a highly connected, technology advanced city and is expected to accommodate 139,000 jobs over the coming decades. Other nearby centres include Oran Park Town Centre just 5km to the south and the emerging centre of Leppington around 7km to the east.

The Belmore Road Precinct is located within the South West Growth Area (SWGA) and form part of the South Creek West Land Release Area. The SWGA is one of the largest greenfield release areas in Greater Sydney. The SWGA comprises 14 precincts and stretches across most of the Camden LGA with some precincts falling within the Liverpool and Campbelltown LGAs.

Figure 2.1 illustrates the location of Bringelly Sub-Precinct 2 (Belmore Road Precinct) in the context of the broader region.



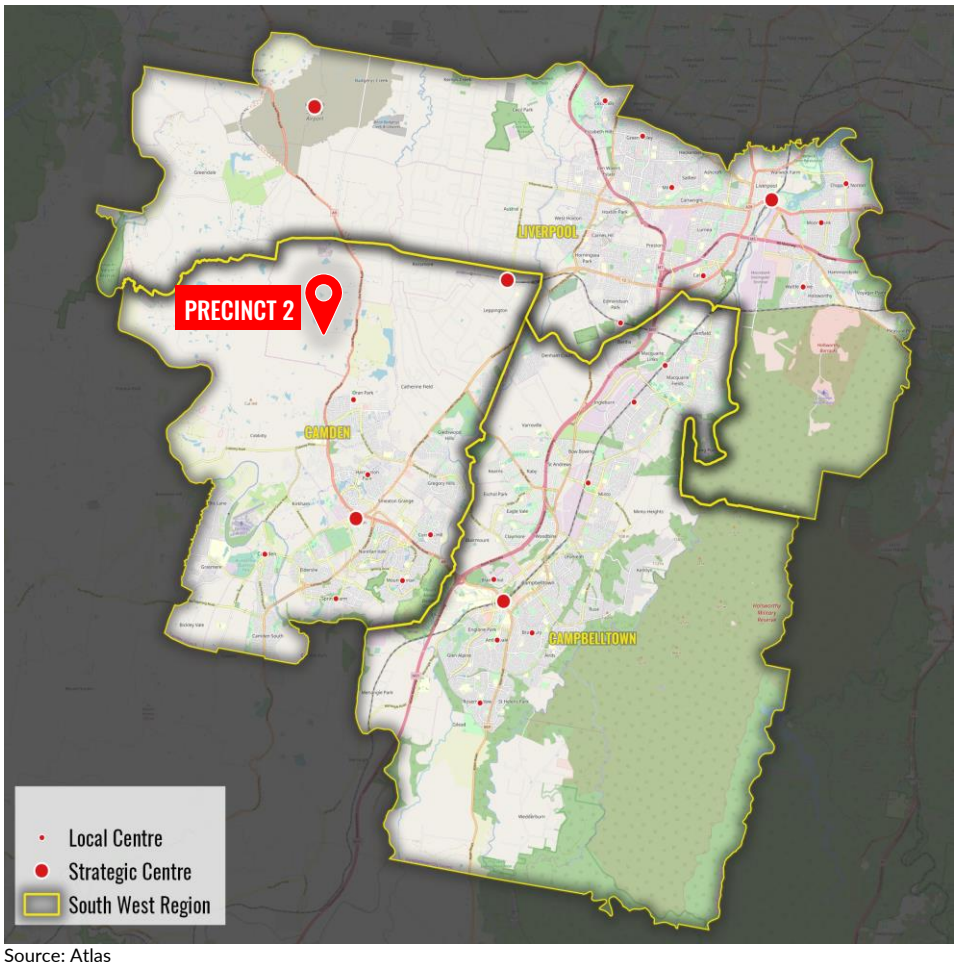
Source: Mecone

The South West Region

The Belmore Road Precinct falls within the Greater Sydney's South West Region, which for the purposes of this Study refer to the Liverpool, Camden and Campbelltown LGAs.

The fastest growing area within Greater Sydney, the South West Region is characterised by a mix of established centres and neighbourhoods and emerging residential areas in traditionally peri-urban areas. This mix can be distinctly observed by location; established areas being located east of the M7 Motorway with emerging areas and peri-urban areas to the west.

Figure 2.1: South West Region



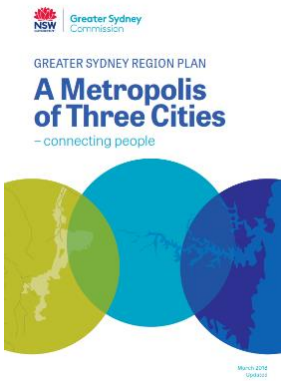
Source: Atlas

2.2 Strategic Planning

2.2.1 State Planning Policy

Greater Sydney Region Plan (2018)

The Greater Sydney Region Plan (the Region Plan) 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.

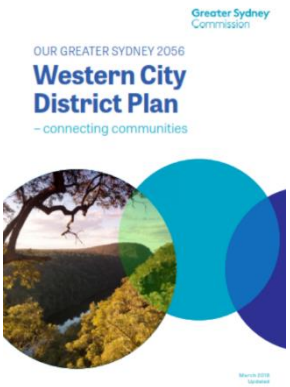


The Region Plan delineates Greater Sydney into five districts; Western City District, Central City District and Eastern City District, Northern District and the Southern District.

The Region Plan outlines a series of planning priorities, objectives and actions for each District. Those of direct relevance to the Site are detailed in the Western City District Plan (GSC, 2018b).

Western City District Plan

The Western City District Plan outlines the 20-year vision for growth and development in the Western City District. The Western City District is defined in the Greater Sydney Region Plan as comprising eight LGAs including Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly.



The entirety of the South West Region falls within the Western City District.

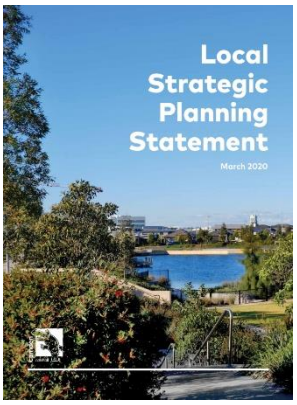
The District Plan outlines short and long-term housing targets for the Western City District in order to meet projected population growth. These include:

- Short-term Target (2016-2021): 39,850 additional dwellings (average of 7,970 dwellings per annum).
- Long-term Target (2016-2036): 184,500 additional dwellings (average of 9,225 dwellings per annum).

2.2.2 Local Planning Policy

Camden Local Strategic Planning Statement (2020)

The Camden LSPS is the local planning policy linking the objectives and actions outlined in the District Plan with the Camden LGA. The Camden LSPS outlines the a 20-year vision for the Camden LGA, detailed with a set of planning priorities and actions organised into the themes of the District Plan.



The key priorities and actions of relevance to the Belmore Road Precinct include:

- **Local Priority L1: Providing housing choice and affordability for Camden's growing and changing population**
  The LSPS recognises the significant role Camden is expected to play in accommodating population growth across Greater Sydney given much of the SWGA within the LGA. The South Creek West precinct is identified as one of the major sources of future housing supply for the LGA.

  Local Priority L1 sets out a series of principles for housing growth across Camden. Key principles of relevance include:

  - New greenfield housing growth is wholly contained within the SWGA;
  - Release of new precincts in the SWGA are sequenced to align with infrastructure provision;
  - The planned housing capacity for new precincts within the SWGA is sufficient to meet forecast demand;
  - Housing growth is in line with the delivery of local and regional infrastructure.

  A key action under Local Priority 1 was the finalisation of Local Housing Strategy to develop the vision and evaluation options for housing growth across the Camden LGA.
- **Local Priority P2: Creating a network of successful centres**
  Ensuring Camden has a strong network of local centres is a key component to delivering economic and social benefits to existing and future residents. In addition to the higher order centres of Narellan, Leppington, Camden and Oran Park, local and neighbourhood centres are critical to meeting the essential amenities and services to local residents. The future development of the Belmore Road Precinct and broader South Creek West will be supported by a number of local and neighbourhood centres which support the Camden LGA's larger strategic centres.
- **Local Priority P4: Ensuring a suitable supply of industrial and urban services land**
  The critical role of industrial and urban services land in supporting local economy activity and employment across the Camden LGA is recognised in the LSPS.
  A key action of Local Priority P4 is ensuring that new precincts within the SWGA contain an adequate supply of industrial and urban services land, with a focus on locating these areas close to transport corridors.

Camden Local Housing Strategy (2020)

The Camden Local Housing Strategy (LHS) establishes a strategic vision and plan for the delivery of housing across Camden over the coming 20-years and is a key action from the Camden LSPS (specifically Planning Priority L1).

Based on a series of population and household projections, the LHS sets a 10-year housing target (2016-2026) of between 10,000 and 12,500 dwellings. These dwellings will need to accommodate the quickly changing and ageing demographic of Camden. Accordingly, the LHS comprises five key Priorities to be addressed, each with their own set of objectives and actions, including:

- Priority 1: Providing housing capacity and coordinating growth with infrastructure
- Priority 2: Delivering resilient, healthy and connected communities
- Priority 3: Delivering the right housing in the right location
- Priority 4: Increasing housing choice and diversity
- Priority 5: Addressing housing affordability

The Priorities and associated objectives of direct relevance to the proposed development of the Belmore Road Precinct are considered below.

- **Priority 1: Providing housing capacity and coordinating growth with infrastructure**
  The LHS identifies that there is some sufficient planning capacity to meet the 6-10-year housing target for the Camden LGA – a total planning capacity of some 16,694 dwellings was assessed compared to the target of 10,000 to 12,500 new dwellings by 2026.

  Though not specifically identified as required to meet the 6-10-year housing target, the South Creek West precinct is recognised as an important part in meeting future housing demand beyond 2026.

  Whilst acknowledging the need for more housing, the LHS notes the critical nexus between infrastructure and development. To improve the alignment between infrastructure servicing and precinct planning in the SWGA, the LHS recommends the development of a SWGA Structure Plan and Camden LGA SWGA Infrastructure Study.

- **Priority 3: Delivering the right housing in the right location**
  New housing across Camden LGA should promote walkability, support lively local centres and maximise investment into infrastructure. Priority 3 recognises the role of providing higher-density housing typologies proximate to local centres for these reasons.

  Whilst demand for higher density typologies across Camden is not fully matured, the LHS recommends that master planning for future precincts and centres incorporating staging plans to allow for medium and high-density residential development to be developed over the course of a precinct or centre's development.

- **Priority 4: Increasing housing choice and diversity**
  Given the dominance of low-density housing typologies across Camden's housing market, increasing housing diversity is a key objective of the LHS. The demand for medium and higher-density typologies is expected to increase over the coming decades, driven by changing demographics, market preferences and affordability pressures.

  Master plans should avoid delivering housing based on 'blanket' density controls but instead incorporate a mix of housing typologies at different densities to deliver a mix of distinct character areas within a precinct.

The various Priorities and objectives outlined in the LHS should be considered and adopted (where applicable) in future master plans for SWGA's remaining undeveloped precincts, including South Creek West.

2.3 Infrastructure Pipeline

The South West Region is poised to benefit from the significant level of government (Commonwealth, State and local) infrastructure investment currently being planned and delivered across the region. Largely centred around maximising the opportunity brought on by the future Western Sydney Airport, accessibility to and connectivity within the South West will greatly improve over the coming decade.

Western Sydney Airport

The Western Sydney Airport (WSA) is a game-changer for the Western Sydney and broader NSW economy. Located approximately 4.7km to the north of the Belmore Road Precinct, the $5.3 billion airport is expected to be operational by 2026. The WSA is initially anticipated to service some 5 million passengers annually before doubling to 10 million annual passengers by 2031 (DIRD, 2016). By 2063, the WSA is expected to service some 82 million passengers per annum.

Air freight will be an important component of the WSA. It is anticipated to operate 24 hours, 7 days per week and will link Western Sydney industries with global markets. A master plan for the airport includes a large business precinct on-site that will be targeted at freight, logistics, transport and agribusiness activities.

The WSA will provide significant benefits for residents and business within the South West. Initial employment projections suggest the WSA will accommodate circa 28,000 direct and indirect jobs by the early 2030's (DIRD, 2016).

Western Sydney Aerotropolis

Centred around the future WSA, the Western Sydney Aerotropolis (the Aerotropolis) is 11,200ha greenfield precinct being planned by the NSW Government as a as highly connected, innovative new city to be known as 'Bradfield'. In addition to a variety of major transport projects, the Commonwealth, NSW Government and Penrith and Liverpool Councils are heavily investing into digital, social and cultural infrastructure throughout the Aerotropolis (WSPP, 2020). Key projects will include:

- **Connectivity infrastructure**, including, *inter alia*:
    - High quality 5G radio cells integrated into buildings, public transport and other infrastructure
    - Wi-Fi nodes and mesh networks for public access and sensor connection
    - Fibre optic network to buildings and homes and data transfer from gateway devices
    - Vehicle to Infrastructure (V2I) to communicate between road signs, traffic lights and connected autonomous vehicles (CAVs).
- **Sensor infrastructure** to assist in the management of infrastructure services, traffic and transport and public safety.
- **Communications infrastructure** such as digital signage and interactive smart screens in public places, smart poles and benches and smart road marking.
- A network of **high-quality community centres, multi-purpose hubs, libraries and aquatic centres.**
- An **Integrated Health Hub** (modern health facility).
- An **internationally significant research/innovation, science, training and education area** (including tertiary, Vocational Education and Training institutions and secondary school level).

The delivery of these infrastructure items is anticipated to be staged in accordance with the growth of the Aerotropolis.

North South Rail Link and South West Rail Extension

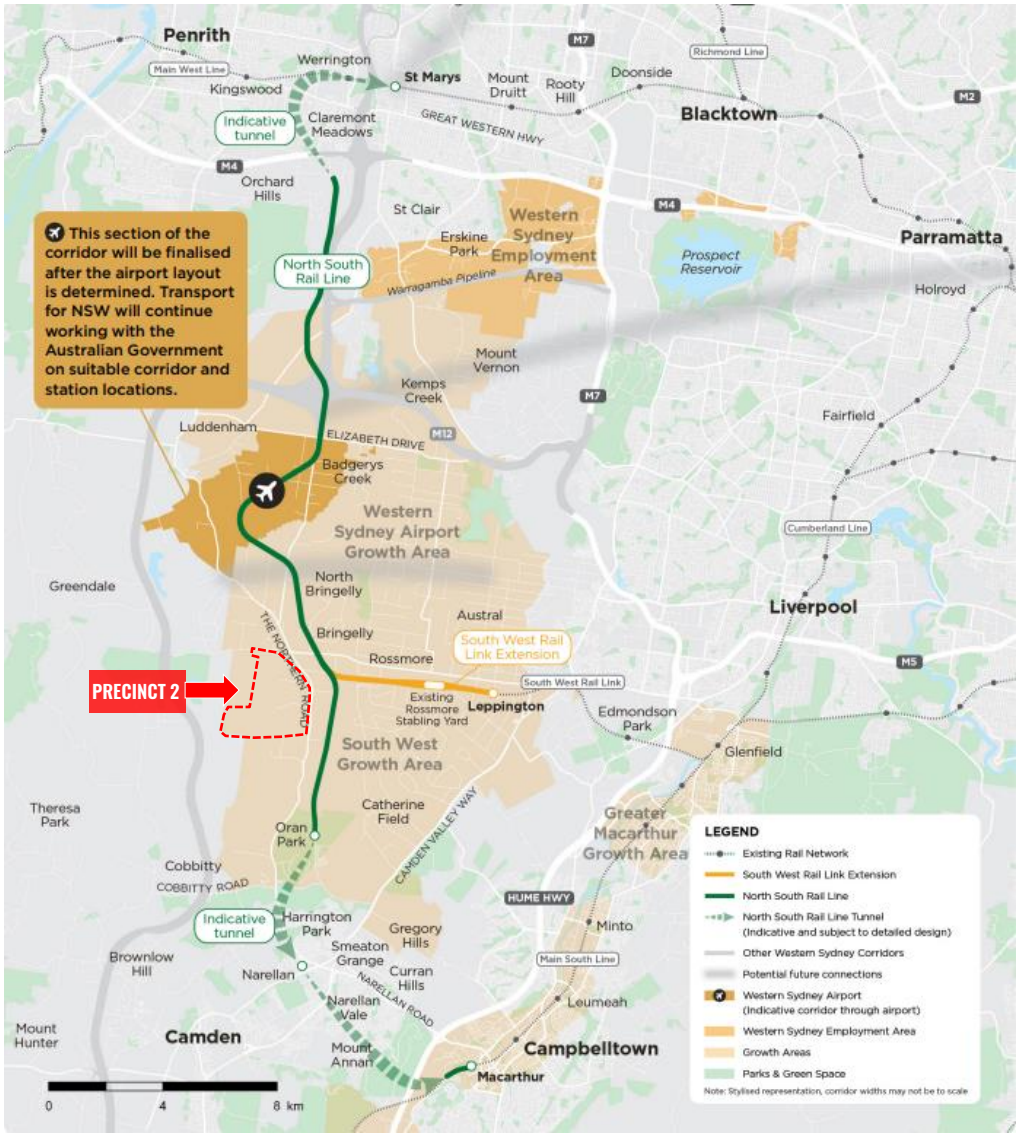
The North South Rail Link (NSRL) is a major city shaping rail investigation corridor which has been proposed in the NSW Government's *Future Transport Strategy 2056* (Transport for NSW, 2018). The rail corridor will extend from Tallawong Metro Station (the western terminus on the recently completed Sydney Metro Northwest line) in Schofields to Macarthur in Campbelltown, via St Marys and the Western Sydney Airport.

The initial stage of the NSRL – Sydney Metro Greater West – will provide a direct link from the existing St Marys Train Station to the WSA and Western Sydney Aerotropolis. The $11 billion rail link is scheduled for completion in 2026, aligning with the completion of the WSA and will feature five new metro stations including two within the future airport.

Additional stages will include Tallawong to St Marys via Marsden Park and the Western Sydney Aerotropolis to Macarthur via Oran Park and Narellan. Both these additional stages will likely be delivered post 2030 with further investigations to examine the potential for any potential station locations along either route.

The South West Rail Link Extension will connect the Sydney Metro Greater West metro line with the existing South West Rail Link at Leppington. Delivery of this extension is not anticipated until post-2030.

Figure 2.2: North South Rail Link (Initial Stages) and South West Rail Extension



Source: Transport for NSW

Western Sydney Infrastructure Plan

The Western Sydney Infrastructure Plan is the key strategic road infrastructure plan for Western Sydney over the 2016-2016 period (RMS, 2016). Capitalising on $3.6 billion in joint funding from the Commonwealth and NSW Governments to deliver a mix of new projects and major upgrades, a key objective of the Plan is to support and capitalise on the benefits of WSA, with an upshot being the drastically improved accessibility for precincts within the SWGA such as South Creek West. Significant projects currently funded under the Plan with direct implications for the Belmore Road Precinct include:

- **Bringelly Road Upgrade**
  A $509 million, 10km upgrade of Bringelly Road is being delivered across two stages between Camden Valley Way at Leppington and The Northern Road at Bringelly. Part of the upgrade will involve increasing Bringelly Road from two lanes to a six lane divided road through the future Leppington Town Centre with the remainder increasing to a four lane divided road with capacity for two additional lanes in the future. Both stages of the upgrade have been completed with Stage 1 completed in 2017 with Stage 2 completed in December 2020.

- **The Northern Road Upgrade**
  A $1.6 billion, 35km upgrade of The Northern Road from The Old Northern Road at Narellan to Jamison Road in South Penrith. Being delivered across 6 stages, the first stage (Old Northern Road, Narellan to Peter Brock Drive, Oran Park) was completed in mid-2018.
  Stage 2 includes 11km of upgraded roadway featuring six lanes and six intersections, including a major interchange at The Northern Road and Bringelly Road. Stage 2 was completed in December 2020. The Belmore Road Precinct bears a direct frontage to this section of the upgrade and will benefit significantly from improved north-south travel times. The remaining stages are expected to be completed by 2022.
- **M12 Motorway**
  The $1.25 billion, 14km M12 Motorway is proposed to connect the M7 Motorway near Cecil Hills to The Northern Road at Luddenham, providing direct access from the Sydney's existing Orbital Network to the Western Sydney Airport. The roadway is to be motorway grade with four lanes, potentially expanded to six lanes in the future. The new motorway is expected to be completed by 2024.

Outer Sydney Orbital

The Outer Sydney Orbital (OSO) would comprise a 70km major motorway linking the Hills LGA in the north (Windsor Road) to the Camden LGA in the south (Hume Highway) with an associated freight rail line being considered to run parallel to the proposed motorway.

The project is expected to improve freight connectivity between metropolitan Sydney and regional NSW. Funding for early planning has been provided with technical studies currently being tabled; should the project receive Government endorsement completion would be post 2036.

The proposed corridor route for the OSO is significant given it falls adjacent the western boundary of the Belmore Road Precinct and thus would provide further access options for future residents.

2.4 Implications for Housing Demand

The location, strategic planning context and depth of infrastructure investment all jointly influence the role of the Precinct in providing housing to support the growth of the South West Region. Key implications of the overview undertaken in Chapter 2 of relevance the Proposal include:

- The Belmore Road Precinct forms part of the South West Growth Area (SWGA), specifically the South Creek West Land Release Area.
- The Belmore Road Precinct is located just 2km south-west of the future Western Sydney Airport and Western Sydney Aerotropolis –a future city and employment hub expected to accommodate some 139,000 jobs over the coming decades.
- There is a whole-of-government (Commonwealth, State and local Councils) agenda to establish the Western Sydney Aerotropolis as a highly connected and technologically advanced city.
- Significant infrastructure investment has dramatically improved accessibility to the Belmore Road Precinct namely the completion of the $509 million upgrade of Bringelly Road and Stage 2 of The Northern Road upgrade.
- The Belmore Road Precinct is ideally positioned proximate existing infrastructure corridors (North South Rail Link, Outer Sydney Orbital) which will significantly improve connectivity between Precinct 2 and Greater Sydney.
- The Camden Local Strategic Planning Statement recognises the role of South Creek West in addressing demand for housing over the coming decades.
- The Camden Local Housing Strategy (LHS) states there will be sufficient supply in Camden's existing zoned precincts to meet housing targets of 10,000-12,500 dwellings by 2026. This will be explored in Part B of this report.

3. Socio-Demographic Profile

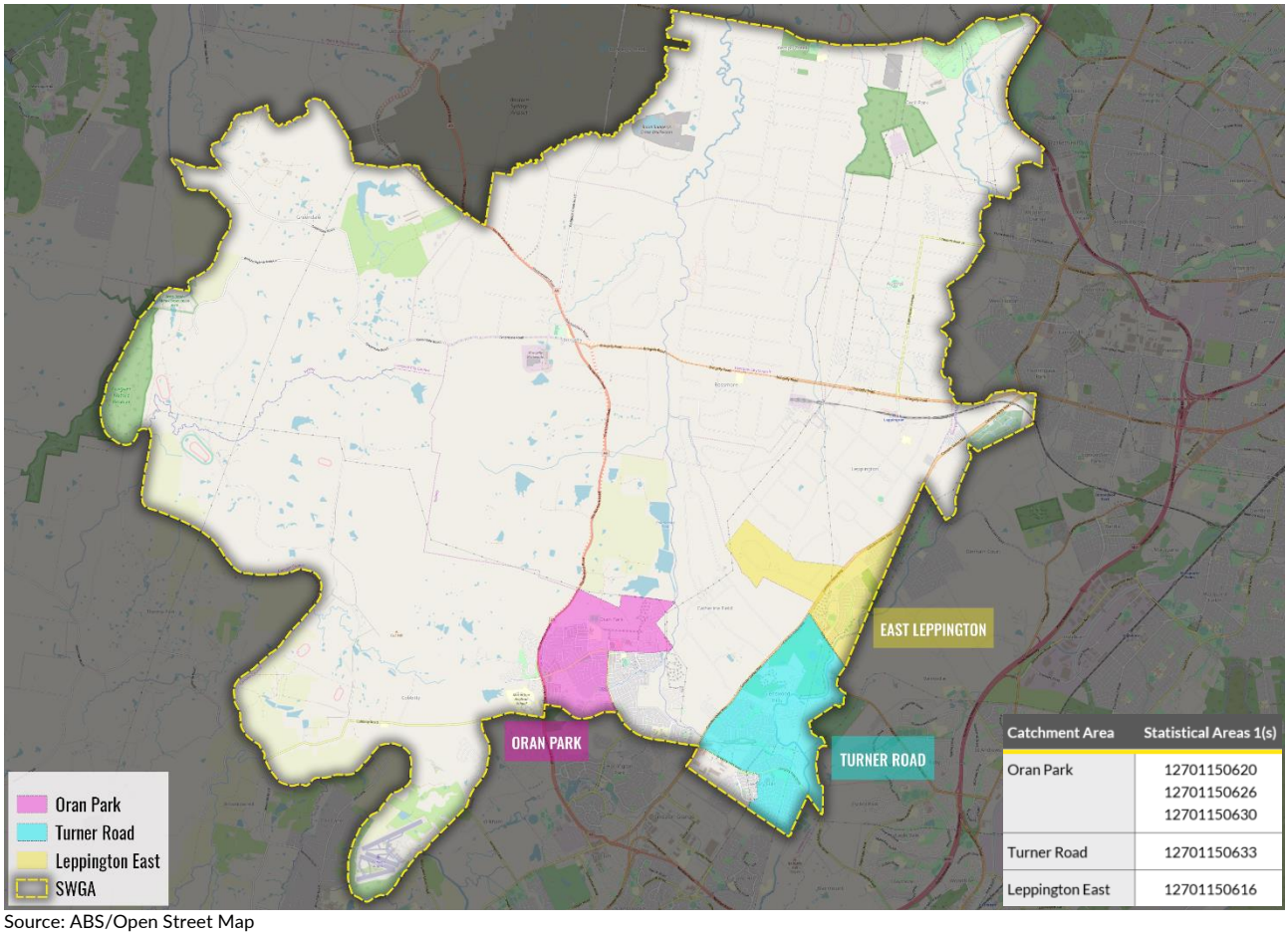
3.1 Catchment Area

The basis of demographic analysis is the Australian Bureau of Statistics (ABS) Census. The ABS define a series of geographies known as Statistical Areas (SA) which vary in size and range from SA4s (large regions comprising multiple local government areas) to SA1s (often smaller than a suburb). Census data can be extracted based on these statistical areas to understand the socio-demographic profile of different areas at various scales.

For the purpose of analysing how the socio-demographic profile of the SWGA has evolved in recent years, a number of SA1 geographies have been identified where new housing development occurred over the 2011-2016 period. These SA1 geographies are identified as the 'Catchment Areas' and include Oran Park (comprising the Oran Park Town Estate), Turner Road (comprising the Gregory Hills Estate) and East Leppington (comprising the Willowdale and Emerald Hills estates).

This analysis is then benchmarked against SA2 geographies which generally align with the boundaries of the SWGA (referred to as the 'South West Catchment Area'). Benchmarking against the South West Region (Camden, Campbelltown and Liverpool LGAs) is also undertaken to understand how new residents in the SWGA differ from those in the broader LGAs.

Figure 3.1: Catchment Areas for Demographic Analysis



Catchment Area	Statistical Areas 1(s)
Oran Park	12701150620 12701150626 12701150630
Turner Road	12701150633
Leppington East	12701150616

Source: ABS/Open Street Map

The purpose of this analysis is to understand the socio-demographic profile of residents moving into new estates across the SWGA and how they compare to the broader South West region.

Whilst we note the chosen geographies do not align exactly with estate boundaries or the formal boundaries of the SWGA, the analysis is considered useful as a proxy to provide insight into the socio-demographic characteristics of households in the SWGA. Accordingly, the limitations of different boundary alignments of the data and catchment areas are acknowledged.

3.2 Demographic Profile

3.2.1 Historic Population Growth

The South West Catchment Area recorded significant population growth of 11.7% per annum (average) over the 2011-2016 Census period to reach almost 28,000 residents in 2016. The Catchment Areas were major contributors to this growth, accounting for about two thirds of the overall population growth in the South West Catchment Area.

The Liverpool LGA recorded the greatest overall level of population growth over 2011-2016 with an additional 4,384 residents each year (on average). This was closely followed by Camden with about 4,300 additional residents per year, noting that this rate of growth was significantly faster than the Liverpool LGA. By contrast, the Campbelltown LGA (which comprises a smaller component of the SWGA than either Liverpool or Camden) recorded lower levels of population growth.

Table 3.1 shows historic population growth in the Catchment Areas over the 2011-2016 Census period.

Table 3.1: Historic Population Growth (2011-2016), Catchment Areas

Catchment Area	2011	2016	Average Annual Growth	
			%	No.
Oran Park	13	3,407	206.7%	679
Turner Road	17	3,077	183.4%	612
East Leppington	333	1,532	35.7%	240
South West Catchment Area	**15,924**	**27,673**	**11.7%**	**2,350**
Camden LGA	56,726	78,220	6.6%	4,299
Campbelltown LGA	145,969	157,007	1.5%	2,208
Liverpool LGA	180,160	204,330	2.5%	4,384

Source: ABS

In more recent times, the SWGA has continued to record significant rates of population growth. Since 2016, the SWGA has grown by some 13,600 people with an estimated resident population of 41,281 in September 2019 (ABS, 2020). This reflects an average annual growth rate of 14.3%, or 4,536 additional residents per annum. By comparison, the Camden, Liverpool and Campbelltown LGAs recorded average annual growth of 9.1%, 2.9% and 3.7% respectively.

Table 3.2 shows the most recent population growth in the SWGA and South West Region.

Table 3.2: Recent Population Growth (2016-2019), SWGA and South West Region

Catchment Area	2016	2017	2018	2019	Average Annual Growth	
					%	No.
South West Catchment Area	**27,673**	**31,625**	**36,041**	**41,281**	**14.3%**	**4,536**
Camden LGA	78,220	87,146	94,159	101,437	9.1%	7,739
Campbelltown LGA	157,007	164,649	168,139	170,943	2.9%	4,645
Liverpool LGA	204,330	217,788	223,304	227,585	3.7%	7,752

Source: ABS

*It is noted that the smallest geography at which the annual Estimated Resident Population release by the ABS is carried out at is Statistical Area 2. Accordingly, the Estimated Resident Population of the SA1 Catchment Areas is not provided.

Population estimates for 2020 at the LGA and SA2 geography are due for release by the ABS in late March 2021.

3.2.2 Age Profile

The SWGA is characterised by a growing younger population, predominantly residents aged 34 years and younger. The proportion of this age cohort has grown strongly over the five years to 2016, whereas the proportion of residents aged 55 years and older has declined as a proportion of total residents.

Table 3.3: Age Composition (2011-2016), Catchment Areas

Catchment Area	0-19 Years		20-34 Years		35-54 Years		55 Years and Older	
	2011	2016	2011	2016	2011	2016	2011	2016
Oran Park	26.3%	33.1%	22.7%	33.6%	30.8%	24.1%	20.2%	9.4%
Turner Road	26.7%	28.9%	18.7%	35.8%	25.1%	25.2%	29.5%	9.9%
East Leppington	29.1%	30.7%	18.3%	31.1%	31.2%	25.9%	21.3%	12.7%
South West Catchment Area	**28.3%**	**28.2%**	**17.5%**	**23.8%**	**26.6%**	**25.5%**	**27.5%**	**22.5%**
Camden LGA	31.7%	30.8%	19.4%	21.4%	29.3%	27.9%	19.6%	20.0%
Campbelltown LGA	29.9%	28.3%	21.7%	22.1%	27.1%	25.9%	21.4%	23.6%
Liverpool LGA	31.1%	29.9%	21.6%	21.7%	28.7%	27.8%	18.6%	20.6%

Source: ABS

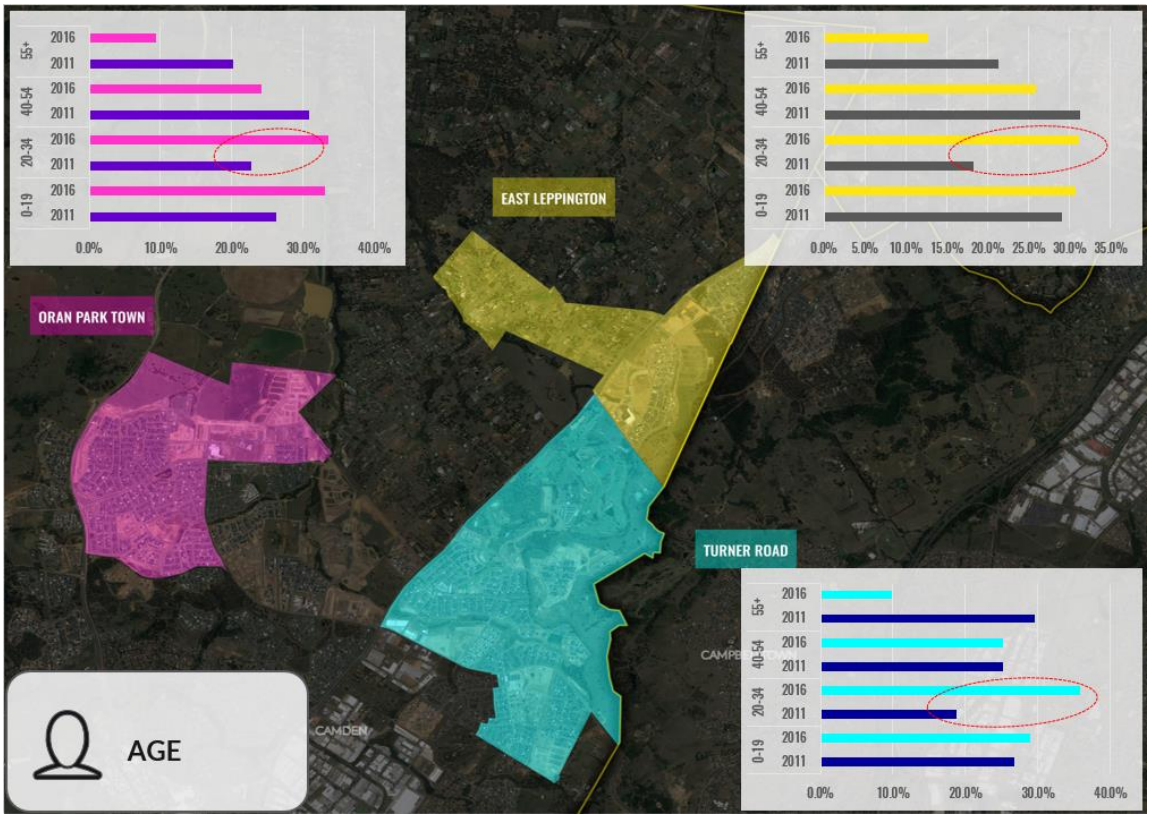
Analysis of the age profiles over the 2011-2016 period indicates a number of key points, including:

- In Oran Park, Turner Road and East Leppington, the median age fell from 37 years to between 28 and 30 years old. The dominant age cohort in these estates is residents aged 20-49 years (51% to 57%), followed by children and adolescents aged 0-19 years (29%-33%). Strong growth in these age cohorts occurred across all three areas over the 2011-2016 period, illustrating the growing number of younger and middle-aged residents moving into the area.
- The South West Catchment Area is similarly dominated by residents aged 20 to 49 years, accounting for 44% of the local population. Children aged 0-19 years are the second largest cohort, accounting for around 30% of the resident population. The strongest growth recorded over the 2011-2016 period was observed in the 20-49 years age cohort.
- By contrast, the Camden, Campbelltown and Liverpool LGAs recorded an increase in the median age to 2016 with the number and proportion of residents aged 55 years and older rising steadily over the 2011-2016 period.

In summary, the Catchment Areas and South West Catchment Area is becoming younger compared to the broader South West Region. This is conceivably a result of younger couples and families moving into new estates across the South West.

Error! Reference source not found. illustrates the change in population composition in the three SA1 Catchment Areas over 2011-2016.

Figure 3.2: Age Composition (2011-2016), SA1 Catchment Areas


EAST LEPPINGTON
ORAN PARK TOWN
TURNER ROAD
AGE
55+
40-54
20-34
0-19
2016
2011
0.0%
10.0%
20.0%
30.0%
40.0%
0.0%
5.0%
10.0%
15.0%
20.0%
25.0%
30.0%
35.0%
Source:ABS

3.2.3 Household Composition

In the South West Catchment Area, family households account for almost 80% of all households which is higher than family composition observed in both the Liverpool and Campbelltown LGAs (although slightly lower than that observed in the Camden LGA). The SA1 Catchment Areas comprise the highest proportion of families at around 85% of all households.

Over 2011-2016, the proportion of family households grew across the South West Catchment Area, particularly in Turner Road and East Leppington Catchment Areas. This directly contrasts with that observed in the Liverpool and Campbelltown LGAs, where the *proportion* of family households declined with the proportion of other households rising.

Table 3.4: Household Composition (2011-2016), Catchment Areas

Catchment Area	Family Households		Lone Person Households		Group Households		Other Households	
	2011	2016	2011	2016	2011	2016	2011	2016
Oran Park	80.6%	84.9%	14.5%	7.5%	0.0%	1.3%	4.8%	6.3%
Turner Road	78.3%	85.3%	3.8%	7.0%	0.0%	1.7%	17.9%	5.9%
East Leppington	75.5%	84.3%	9.2%	7.6%	5.1%	0.9%	10.2%	7.2%
South West Catchment Area	**77.0%**	**78.3%**	**13.6%**	**12.5%**	**1.6%**	**1.6%**	**7.7%**	**7.6%**
Camden LGA	81.3%	81.6%	14.1%	13.2%	1.8%	1.5%	2.9%	3.8%
Campbelltown LGA	76.2%	75.5%	18.0%	17.5%	2.1%	2.2%	3.7%	4.8%
Liverpool LGA	77.9%	77.1%	15.2%	14.6%	1.7%	1.6%	5.1%	6.6%

Source: ABS

3.2.4 Family Composition

Within the definition of 'family households', analysis shows that couple families with children are the largest family type within the South West Catchment Area, followed by couples with no children and one parent families. Compared to the broader South West Region, there is a higher proportion of couple with children families in the SA1 Catchment Areas. This again reflects the growing desirability of new estates within the South West Catchment Area for younger and middle-aged families with children.

Notably, the proportion of single parent households in the SA1 Catchment Areas declined over the 2011-2016 periods compared to the South West Region (where they generally rose as proportion of total households).

Table 3.5: Family Composition (2011-2016), Catchment Areas

Catchment Area	Couple No Children		Couple with Children		One Parent Family		Other Family	
	2011	2016	2011	2016	2011	2016	2011	2016
Oran Park	47.1%	29.3%	37.3%	57.6%	15.7%	11.3%	0.0%	1.8%
Turner Road	35.9%	38.4%	54.3%	54.3%	9.8%	7.0%	0.0%	0.3%
East Leppington	21.9%	30.1%	63.0%	58.1%	15.1%	10.5%	0.0%	1.3%
South West Catchment Area	**31.1%**	**32.9%**	**53.7%**	**54.1%**	**13.9%**	**11.7%**	**1.1%**	**1.3%**
Camden LGA	30.0%	29.8%	54.9%	55.1%	14.1%	14.0%	1.0%	1.0%
Campbelltown LGA	27.5%	27.9%	48.6%	48.8%	22.3%	21.8%	1.6%	1.6%
Liverpool LGA	23.7%	23.2%	56.7%	57.0%	18.2%	18.2%	1.3%	1.5%

Source: ABS

3.2.5 Education Levels

The new residents moving into the SA1 Catchment Areas are observed to be well-educated. As at 2016, the proportion of residents in the SA1 Catchment Areas who completed secondary schooling was well-above that observed in the broader South West Region.

Additionally, the proportion of residents in the SA1 Catchment Areas with some form of tertiary qualification is higher than the South West Region LGAs.

Table 3.6: Secondary School and Post-School Education (2011-2016), Catchment Areas

Catchment Area	Secondary School		Post-School Qualifications				
	Completed	Not Completed	Post-Grad	Bachelor	Diploma	Certificate	None
Census 2011							
Oran Park	33.8%	66.2%	2.1%	0.0%	8.9%	12.3%	28.8%
Turner Road	38.1%	61.9%	0.0%	0.0%	10.6%	7.3%	28.9%
East Leppington	31.6%	68.4%	0.0%	0.0%	6.5%	6.1%	24.9%
Camden LGA	43.8%	56.2%	1.8%	1.1%	9.0%	8.1%	21.3%
Campbelltown LGA	44.9%	55.1%	2.3%	0.8%	8.6%	7.1%	20.1%
Liverpool LGA	52.0%	48.0%	2.1%	0.7%	10.0%	7.9%	17.6%
Census 2016							
Oran Park	63.1%	36.9%	5.8%	1.1%	15.2%	11.0%	27.0%
Turner Road	64.0%	36.0%	5.6%	1.6%	23.4%	17.1%	33.3%
East Leppington	63.3%	36.7%	8.4%	1.9%	18.8%	13.3%	24.0%
Camden LGA	50.4%	49.6%	6.0%	2.8%	22.7%	20.0%	47.4%
Campbelltown LGA	51.4%	48.6%	8.4%	2.2%	23.8%	19.0%	46.0%
Liverpool LGA	57.0%	43.0%	7.5%	2.0%	28.0%	21.3%	40.8%

Source: ABS

3.2.6 Household Income and Housing Costs

Households in the newest estates of the South West Catchment Area are generally more affluent than households in the broader South West Region, earning between $2,200 and $2,400 per week compared to between $1,450 to $2,050 per week in the Camden, Campbelltown and Liverpool LGAs.

As a result of higher income levels, households in the SA1 Catchment Areas generally pay a lower amount of their median weekly income on mortgage payments. That said, the proportion of weekly income spent on rental payments is slightly higher than in nearby LGAs which is a function of higher market rents in newly established areas.

Interestingly, households in the Turner Road Precinct generally earn higher incomes than those in Oran Park and East Leppington. This aligns with market prices for new housing; higher prices typically achieved in the Gregory Hills precinct compared to Oran Park.

Table 3.7: Household Income and Housing Costs (2016), Catchment Areas

Catchment Area	SA1 Catchment Areas			South West Region			Greater Sydney
	Oran Park	Turner Road	East Leppington	Camden	Campbelltown	Liverpool	
Weekly Household Income	$2,240	$2,387	$2,224	$2,043	$1,458	$1,550	$1,750
Monthly Mortgage ($)	$2,624	$2,643	$2,600	$2,220	$1,842	$2,123	$2,167
Weekly Rent ($)	$540	$560	$555	$460	$350	$370	$440
% of Income on Mortgage	27.0%	25.6%	27.0%	25.1%	29.2%	31.6%	28.6%
% of Income on Rent	24.1%	23.5%	25.0%	22.5%	24.0%	23.9%	25.1%

Source: ABS

3.2.7 Housing Tenure

Households in the South West Catchment Area are typically home owners- over 72% of households either owning their home outright or with a mortgage. This rate of home ownership generally aligns with that observed in the Camden LGA, although it is much higher than either the Campbelltown or Liverpool LGAs.

Interestingly, about a third of households in Oran Park and East Leppington are renting which is higher than the Camden LGA. This suggests investors were active in purchasing homes in these new precincts.

Table 3.8: Housing Tenure (2016), Catchment Areas

	Owned Outright	Owned with a Mortgage	Rented	Other Tenure
Oran Park	8.4%	58.0%	32.6%	1.0%
Turner Road	8.3%	67.9%	23.1%	0.8%
East Leppington	10.7%	56.8%	31.7%	0.7%
South West Catchment Area	30.7%	41.7%	26.4%	1.2%
Camden LGA	24.7%	53.0%	20.9%	1.5%
Campbelltown LGA	24.9%	40.2%	33.4%	1.5%
Liverpool LGA	24.8%	41.2%	32.4%	1.5%

Source: ABS

3.2.8 Internal Migration

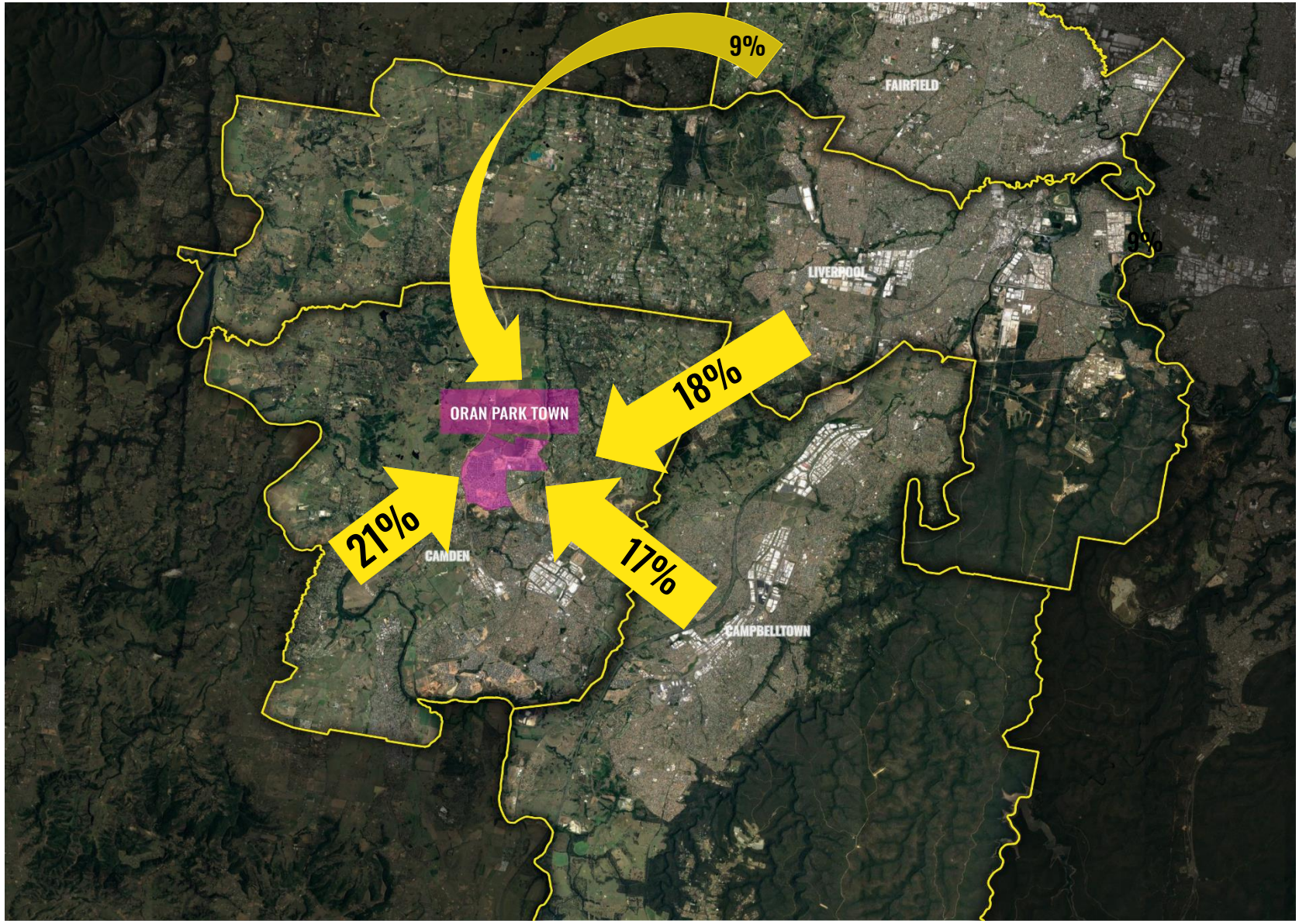
ABS data has been analysed to identify where the region's new residents in the Catchment Areas have relocated from. The most recent ABS data indicates where residents lived one and five years ago before the 2016 Census. Key findings include:

- In Oran Park, about 64% of residents lived in the Camden LGA one year prior to 2016, followed by Campbelltown LGA (8%) and Liverpool LGA (7%). In the five years prior, 21% of residents lived in Camden LGA, 18% lived in the Liverpool LGA, 17% lived in the Campbelltown LGA and 9% lived in the Fairfield LGA. Interesting, just over 5% had lived in another country the five years prior to 2016.
- In the Turner Road Catchment Area, about 64% of the population lived in the Camden LGA in the year prior to 2016. In the five years prior to 2016, 23% resided in the Liverpool LGA, 20% in the Campbelltown LGA, 19% in the Camden LGA and 9% in the Fairfield LGA. Similar to Oran Park, about 4% of residents had lived in another country 5 years prior 2016.
- In East Leppington, about 52% of residents lived in the Camden LGA in the year prior to 2016, followed by 24% in the Campbelltown LGA. In the five years preceding 2016, 33% resided in the Liverpool LGA, 20% in the Camden LGA, 9% in the Campbelltown LGA and 9% in the Fairfield LGA.

These sources of migration generally align with the broader South West Catchment Area, where the overwhelming majority of new residents relocating from the South-West Region.

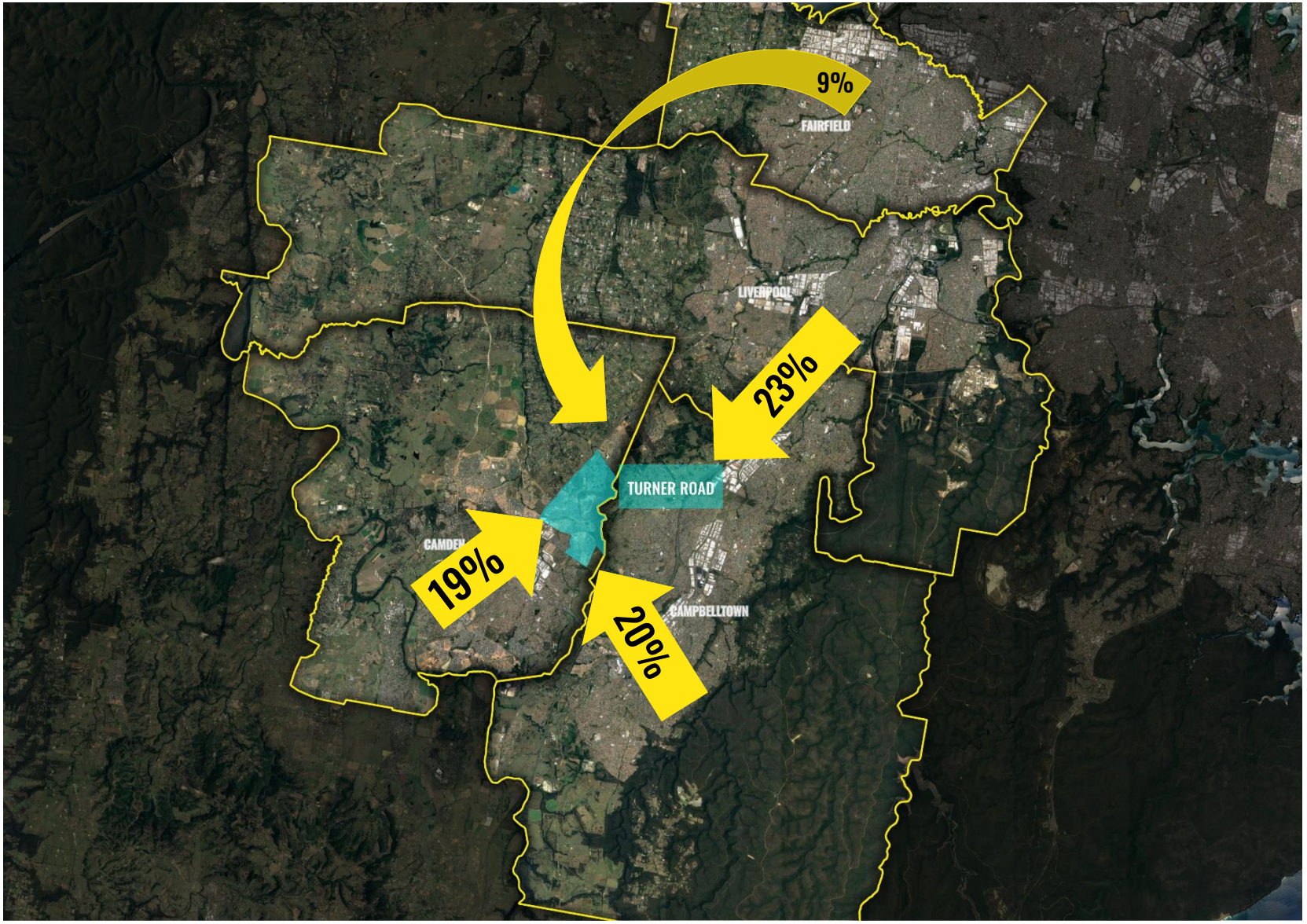
Figure 3.3 to **Figure 3.5** illustrate the patterns of internal migration in the three SA1 Catchment Areas in the five years prior to 2016.

Figure 3.3: Where Residents Used to Live 5 Years Ago (2016), Oran Park Catchment Area



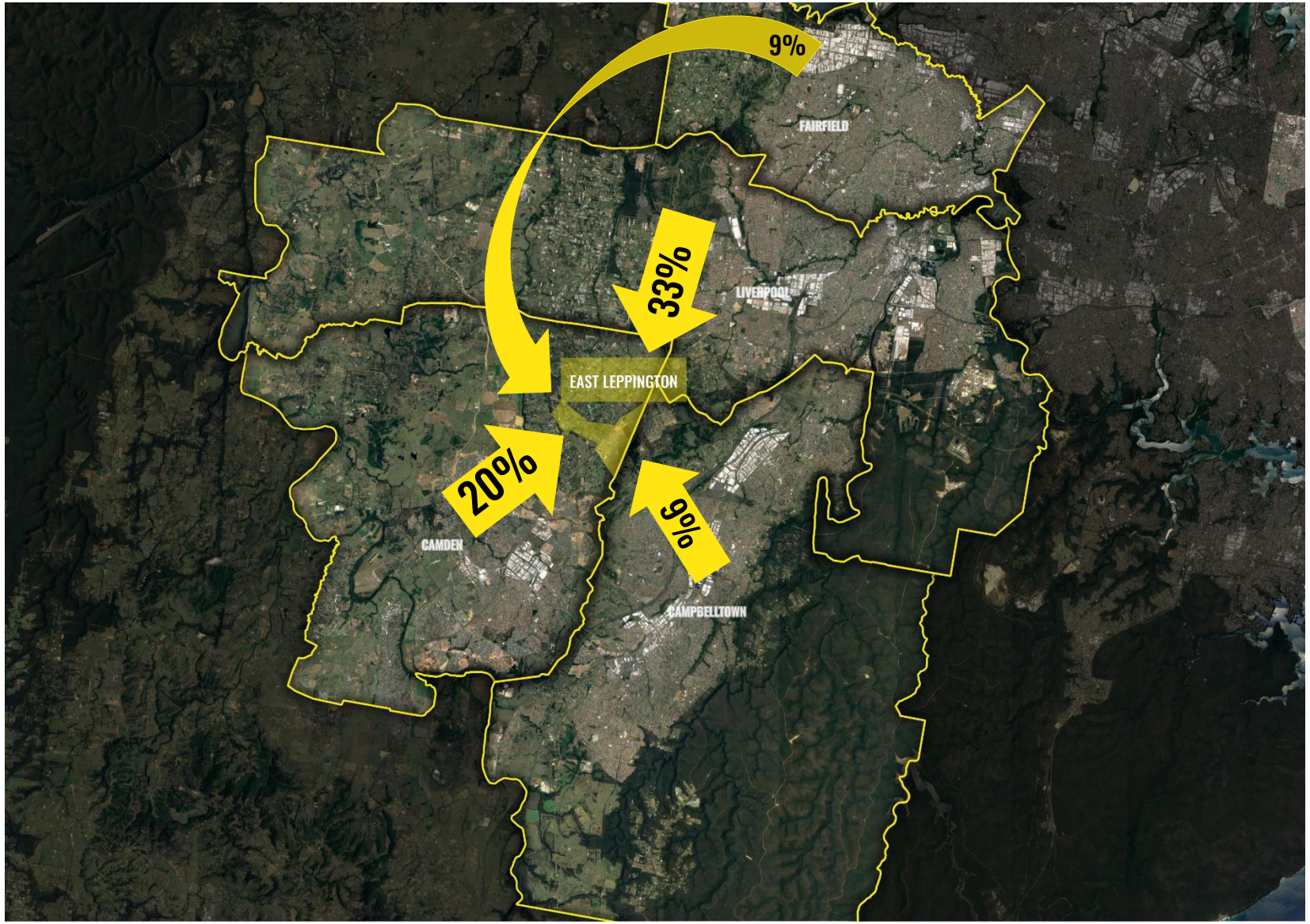
Source: ABS

Figure 3.4: Where Residents Used to Live 5 Years Ago (2016), Turner Road Catchment Area



Source: ABS

Figure 3.5: Where Residents Used to Live 5 Years Ago (2016), East Leppington Catchment Area



Source: ABS

3.2.9 Employment by Occupation

As at 2016, most residents in the Catchment Areas were employed as professionals, clerical and administrative workers and technicians and trade workers. A much higher proportion of white-collar workers (professionals, managers) reside within the Catchment Areas as compared to the broader LGAs of Liverpool, Camden and Campbelltown. This aligns with the higher incomes of residents within the Catchment Areas in comparison to the broader South West Region.

Table 3.9: Employment by Occupation (2016), Catchment Areas

Occupation	Oran Park	Turner Road	East Leppington	Camden	Campbelltown	Liverpool
Manager	11.8%	12.8%	16.0%	13.0%	8.6%	10.2%
Professional	20.4%	20.1%	18.7%	18.2%	15.6%	17.4%
Technician/Trades Worker	15.4%	15.8%	14.2%	15.3%	14.2%	14.9%
Community/Personal Service Worker	8.9%	9.1%	8.3%	10.3%	11.5%	10.2%
Clerical and Administrative Worker	17.2%	17.7%	18.9%	16.8%	16.5%	16.5%
Sales Worker	10.4%	9.8%	9.1%	10.1%	9.9%	9.4%
Machinery Operators and Driver	7.9%	9.2%	8.1%	8.3%	12.1%	10.7%
Labourer	7.8%	5.6%	6.6%	7.8%	11.5%	10.6%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: ABS

3.2.10 Where Residents Work

ABS journey to work data has been analysed to understand where residents in the Catchment Areas travel to work. This is an important indicator as proximity to employment is a well-known consideration for prospective purchasers of new housing. The main findings of the journey to work analysis include:

- In Oran Park, one fifth of all residents' work within the Camden LGA. This is closely followed by the Liverpool LGA (16% of residents) and Campbelltown LGA (11%). Other important areas include the Sydney LGA (8%), Fairfield (6%) and Parramatta and Blacktown (4% each respectively). Overall, almost 50% of residents work locally within the South West.
- In the Turner Road Catchment Area, approximately 16% of residents' work in the Camden LGA, closely followed by Liverpool (15%) and Campbelltown (12%). Notably, the Sydney LGA is also a major destination for employment with 12% of residents travelling there for work. Overall, 43% of residents in Turner Road work in the South West Region.
- In East Leppington, the Liverpool LGA is the largest destination for working residents at 16%. This is closely followed by Camden at 15% of all residents and the Sydney LGA at 12%. 10% of residents work in the Campbelltown LGA. The East Leppington precinct has the smallest proportion of local workers with 41% working in the South West Region.

These findings align with the South West Catchment Area, give most new residents have relocated from the South-West.

3.2.11 Household Occupancy Rates

As at 2016, the household occupancy rate (i.e. the average number of persons per household) in the South West Catchment Area was 3.18. This was slightly down from the occupancy rate of 3.24 recorded the five years prior in 2011. In the SA1 Catchment Areas, occupancy rates ranged from 3.13 in Oran Park, 2.99 in Turner Road and 3.03 in East Leppington.

The household occupancy rate in the South West Catchment Area aligns with that observed in the Camden and Liverpool LGAs, whereas the Campbelltown LGA has a smaller household occupancy rate.

Table 3.10: Household Occupancy Rates (2011-2016), Catchment Areas

Catchment Area	2011	2016
Oran Park	2.79	3.13
Turner Road	3.58	2.99
East Leppington	3.54	3.03

Catchment Area	2011	2016
South West Catchment Area	**3.24**	**3.18**
Camden LGA	3.08	3.13
Campbelltown LGA	2.97	2.99
Liverpool LGA	3.19	3.25

Source: ABS

3.2.12 Dwellings

In 2016, a total of 147,360 dwellings were collectively recorded in the Camden, Campbelltown and Liverpool LGAs. Approximately 2,500 dwellings were delivered per annum over the 2006-2016 period (on average), with a much higher rate of growth recorded over the five years to 2016 as opposed to the 2011-2016 period.

Table 3.11 shows private dwelling growth across the South West Region over the 2006-2016 period.

Table 3.11: Private Dwelling Growth (2006-2016), South West Region

LGA	2006	2011	2016	Avg. Annual Growth (No.)		
				2006-11	2011-2016	2006-16
Camden	16,969	19,343	26,187	475	1,369	922
Campbelltown	50,218	51,280	55,281	212	800	506
Liverpool	55,068	58,838	65,892	754	1,411	1,082
South West Region	**122,255**	**129,461**	**147,360**	**1,441**	**3,580**	**2,511**

Source: ABS

3.3 Summary of Demographic Analysis

An understanding of the current and historical socio-demographic profile of residents in the South West Catchment Area is critical to planning for future housing demand in South Creek West. Of particular relevance is the demographic profile of residents in the Catchment Areas of Oran Park, Turner Road and East Leppington given they provide a useful barometer for the type of residents which could accommodated within the Belmore Road Precinct.

Key findings from the socio-demographic analysis are as follows.

- Historically, the South West Catchment Area has being growing at an exponential rate with average annual growth of 11.7% (2,350 residents per annum) over 2011-2016. This pace of growth has continued in recent years, with an additional 13,600 residents recorded between 2016 and 2019 at an average annual rate of 14.3%.
- The South West Catchment Area is characterised as an area with young, family-oriented households with children and a much younger population compared to the broader South West Region.
- The new residents moving into the South West Catchment Area are also more educated and affluent than the broader South West Region, with higher proportions of residents being tertiary qualified with higher income levels.
- The overwhelming majority of residents moving into the South West Catchment Area's new housing estates are South West locals, having relocated from the Camden, Liverpool and Campbelltown LGAs.
- Most residents in the South West Catchment Area go to work in the surrounding South West Region, although a significant amount also commute to the Sydney LGA for employment.
- Households in the South West Catchment Area ear earn markedly higher incomes than residents in the broader South West Region as well as Greater Sydney.
- Residents in the South West Catchment Area predominantly work in the surrounding South West Region, although a large proportion also commute to the Sydney LGA.
- The average household size in the South West Region is 3.18 persons per dwelling (in 2016), generally aligning with that observed in the broader South West Region.

PART B: HOUSING NEED

4. Population and Dwelling Projections

Research and analysis included Part B of this Study was carried out in Q1 2021.

A variety of factors influence the housing market though a key driver of demand for housing is population growth. Official population projections in NSW are carried out by the NSW Department of Planning Industry and Environment (DPE).

DPE's Demography and Research Unit project population growth on a variety of demographic assumptions, including birth and fertility rates, mortality rates, migration levels and household formation patterns. These projections of population growth are divided by projected household occupancy rates to arrive at the number of dwellings impliedly required to accommodate the projected population.

The outbreak of COVID-19 has significantly impacted national population growth due to the cessation of international migration. In the year ending 30 June 2020, the NSW population grew by 76,700 people, or 0.09% over the course of the year. Population growth in NSW has fluctuated over time but since 1971 has averaged 1.1% per year.

Capital cities – where international migration is a key source of population growth, the impacts have been greater.

In December 2020, the Australian Government's Centre for Population, working with the NSW Government, released population projections which have included adjustments for the impact of COVID-19 on population growth. These projections are based over a 10-year period from 2020-21 to 2030-31.

Updated projections conclude that Greater Sydney is expected to grow by some 614,000 residents over the decade to 2020-2031. This compares with growth of almost 832,000 new residents expected in a pre-COVID-19 scenario. As such, this suggests population growth in Greater Sydney could be some 35% lower because of the COVID-19 pandemic.

4.1.1 Population

As at the date of writing, the NSW Government's Main Series population projections remain the standard set of projections used in the NSW Government's Common Planning Assumptions. This report is based on these Main Series Assumptions, though recognises that these may change following release of updated projections at the LGA level.

The South West Region is projected to increase by some 544,000 residents over the coming decades to 2041, reaching a total population of just under 1,000,000. The South West Region will account for the vast majority of the broader Western City District's population with 53% of the District's residents living in the South West Region.

The largest increase in resident population is expected to occur in Liverpool with an additional 229,444 residents, closely followed by the Camden LGA with 227,463 residents. An additional 87,696 residents are expected in Campbelltown LGA.

Table 4.1 shows the projected population of the Western City District over 2016-2041.

Table 4.1: Main Series Population Projections (2016-2041), South West Region

Area	2016	2021	2026	2031	2036	2041	Change (2016-41)
Camden	**80,264**	**127,647**	**153,299**	**180,071**	**236,255**	**307,727**	
Change (No.)		47,383	25,652	26,772	56,184	71,472	227,463
Avg. Annual Growth (%)		9.7%	3.7%	3.3%	5.6%	5.4%	5.5%
Campbelltown	**161,566**	**180,051**	**194,039**	**212,366**	**227,946**	**249,262**	
Change (No.)		18,485	13,988	18,327	15,580	21,316	87,696
Avg. Annual Growth (%)		2.2%	1.5%	1.8%	1.4%	1.8%	1.7%
Liverpool	**211,983**	**251,322**	**291,187**	**328,447**	**380,085**	**441,427**	**229,444**
Change (No.)		39,339	39,865	37,260	51,638	61,342	
Avg. Annual Growth (%)		3.5%	3.0%	2.4%	3.0%	3.0%	3.0%
South West Region	**453,813**	**559,020**	**638,525**	**720,884**	**844,286**	**998,416**	
Change (No.)		105,207	79,505	82,359	123,402	154,130	544,603
Avg. Annual Growth (%)		4.3%	2.7%	2.5%	3.2%	3.4%	3.2%

Source: DPE (2019b)

4.1.2 Components of Population Growth

Population growth can be disaggregated into two components; natural increase (the difference between births and deaths) and net migration (the difference between in-and-out migration).

Over the 2016-2041 period, population growth in the South West Region is expected to be largely driven by net migration at around 67% of total population growth. Net migration is expected to be more modest over 2021-2031 after which it progressively increases and peaks in 2036-2041 at 72.5%. This is reflective of the large draw the South West Region is expected to have in the coming decades as new housing supply and employment opportunities are unlocked.

Table 4.2 shows the components of population growth in the South West Region over 2016-2041.

Table 4.2: Components of Population Growth (2016-2041), South West Region

Period	Natural Increase		Net Migration*	
	No.	% of Pop. Growth	No.	% of Pop. Growth
2016-2021	29,996	28.5%	75,211	71.5%
2021-2026	36,259	45.6%	43,246	54.4%
2026-2031	36,601	44.4%	45,761	55.6%
2031-2036	36,839	29.9%	86,562	70.1%
2036-2041	42,321	27.5%	111,808	72.5%
2016-2041	182,016	33.4%	362,588	66.6%

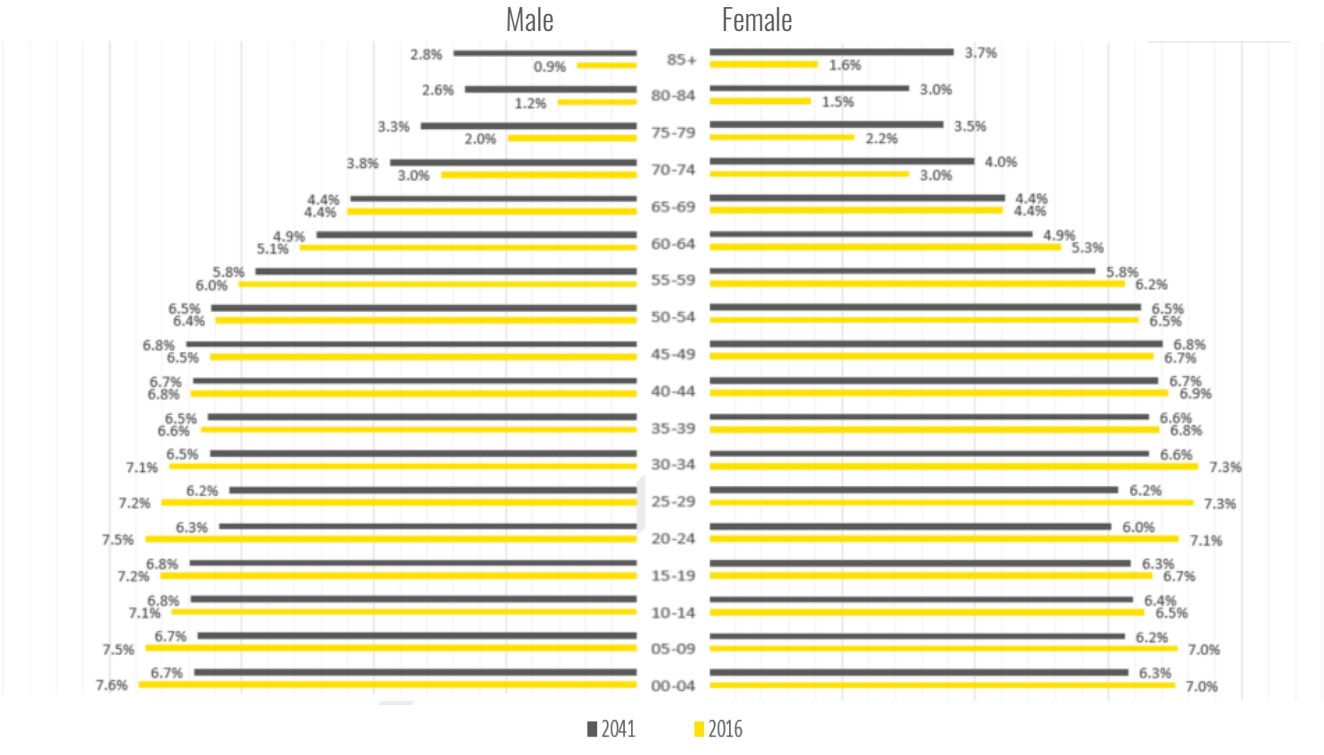
*Net migration is the sum of intrastate, interstate and overseas migration flows
Source: DPE (2019b)

4.1.3 Age Composition

The age profile of the South West Region is expected to gradually change over the coming decades with the proportion of residents aged 65 years and older rising considerably. This a broad trend with a gradually older population expected across Greater Sydney and NSW in general.

That said, the South West Region is expected to remain a major hub for young families with residents aged 14 years and younger expected to comprise around 39% of the population in 2041.

Figure 4.1: Age Composition by Gender (2016-2041), South West Region



Source: DPE (2019b)

4.1.4 Household and Family Composition

The number of households in the Western City District is expected to increase by almost 200,000 over the coming decades to 2041, rising to just over 345,000 households. Couples with children are expected to remain the largest household type over this period, although the proportion of couples with no children and lone person households is expected to progressively increase in the coming decades.

Table 4.3 shows the projected household composition in the South West Region over 2016-2041.

Table 4.3: Household Projections (2016-2041), Western City District

Household Type	2016	2021	2026	2031	2036	2041	Change (2016-41)
Couple only	27,804	36,726	42,482	48,614	58,811	72,002	44,199
Couple with children	65,226	80,311	91,458	102,444	118,975	139,121	73,895
Single parent	21,555	26,444	30,626	35,088	41,035	48,339	26,785
Other family	6,942	8,571	9,729	10,957	12,914	15,325	8,383
Total Family Households	121,526	152,051	174,295	197,103	231,735	274,788	153,262
Lone person	23,144	30,168	36,568	43,497	53,228	65,456	42,311
Group	2,391	2,957	3,340	3,740	4,438	5,383	2,992
Total Non-Family Households	25,535	33,125	39,908	47,237	57,666	70,838	45,303
Total Households	**147,062**	**185,176**	**214,202**	**244,340**	**289,401**	**345,626**	**198,565**

Source: DPE (2019b)

4.1.5 Implied Dwelling Requirement

The South West Region is expected to require a total of 362,385 dwellings by 2041. The implied dwelling requirement as at 2016 as projected was 154,306 dwellings. This is below the actual number of total dwellings recorded at the 2016 Census, which was circa 147,454 dwellings. This indicates there was already a shortfall of some 6,800 dwellings as at 2016.

Based on the 2016 dwelling count (Census), the number of additional dwellings required to meet the implied dwelling requirement of 362,385 dwellings by 2041 is circa **214,000** dwellings. To meet this requirement would require average growth of 8,600 dwellings per annum from 2016.

Table 4.4: Current and Previous Implied Dwelling Projections, Western City District

Area	Current Dwelling Projections					Previous Dwelling Projections		
	2016	2041	Change (2016-2041)	Avg. Annual Growth		Change (2016-2036)	Avg. Annual Growth	
				No.	%		No.	%
Camden	27,159	110,353	83,194	3,328	5.8%	52,800	2,640	5.4%
Campbelltown	57,591	95,256	37,665	1,507	2.0%	26,700	1,335	1.9%
Liverpool	69,556	156,776	87,220	3,489	3.3%	43,650	2,183	2.4%
South West Region	154,306	362,385	208,079	8,323	3.5%	123,150	6,157	2.9%
Using Census (2016)	**147,454**	**362,385**	**214,931**	**8,597**	**3.7%**			

Source: DPE (2016, 2019b)

It is highlighted that the most recent implied dwelling requirement projections undertaken by DPE are ***greater*** than previous projections made in 2016 and which informed the Western City District Plan.

Whilst the earlier projections were only made to 2036 and did not extend to 2041, the rate of growth previously envisaged for the South West Region was much lower to that now anticipated. The previous projections concluded an additional 123,150 dwellings would be required to 2036, analysing to an average annual rate of 6,157 required dwellings or 2.9%. This is much lower than the assessed implied dwelling requirement in the most recent projections.

5. Economic and Market Context

5.1 Economic Trends and Drivers

At the time of writing, the fallout of the COVID-19-induced recession is still being understood. The true economic ramifications of the recession are yet to fully play out and are intrinsically linked to the significant financial assistance packages provided by Commonwealth and State Governments. A clearer 'picture' of the economy will be observable following the cessation of these assistance packages.

The Australian economy appears to have entered into a recovery phase as at Q1 2021 following the historic falls in economic output and employment during 2020 as a result of the COVID-19-induced recession. This has first and foremost been driven by historically accommodating fiscal and monetary policy, principally the Commonwealth Government's JobKeeper and JobSeeker financial assistance packages and the historically low cash rate of 0.1% set by the Reserve Bank of Australia.

Most economic indicators are showing positive signals. Strong growth over the December 2020 quarter has resulted in the national economy being down just 1.1% compared to pre-COVID-19 levels. Household spending is rising, and unemployment is falling. Notably, house prices in Sydney have returned to record highs as low interest rates and government incentives such as the Commonwealth's HomeBuilder scheme fuel purchaser activity.

Table 5.1 summarises some of the key economic indicators influencing housing demand as at Q1 2021.

Table 5.1: Key Economic Indicators

Indicator		Comment
	**National GDP to Grow by 3.5%**	The Australian economy is expected to experience growth in GDP of 3.5% in 2021 (IMF, 2021). Australian GDP rose by 3.1% over the December 2020 quarter, with GDP down just 1.1% over the preceding 12-months.
	**Cash Rate at 0.1%**	The Reserve Bank of Australia (RBA) has held the cash rate into 2021 and has continued with quantitative easing supply of money to assist debt and is unlikely to cut the cash rate below 0.1%. Recent commentary on the potential need for an increase in the cash rate to mitigate potential inflation have been repudiated by the RBA who do not expect an increase to the cash rate until 2024.
	**Population Grows 1.3%**	The Australian population grew by just over 320,000 in the year to June 2020, representing growth of 1.3%. Net overseas migration accounted for 57% of growth. The population growth rate is expected to continue to fall over 2021 should international travel restrictions be maintained.
	**Unemployment at 6.4%**	The accuracy of unemployment data following COVID-19 shutdowns remains questionable as those receiving JobKeeper payments and not in the workforce are not counted in unemployment counts. That said, unemployment has fallen to 6.4% in January 2021 following its peak of 7.5% in July 2020.
	**Dwelling Approvals Surging**	Dwelling approvals across Australia reached 20-year highs in October 2020, illustrating the strong demand for residential property even in the midst of the COVID-19 pandemic. Approvals in NSW pulled back markedly in January 2021, particularly for higher-density housing typologies.
	**Median House Prices at Record Highs**	House prices have surged across Greater Sydney with the median house price of over $1,000,000 approaching the record high levels recorded at the peak of the residential property boom in 2017. Further price growth is anticipated over the course of 2021.
	**Wages Rise by 1.4%**	Wage growth across Australia was recorded at 1.4% over the 12-months to December 2016, with a 1.6% rise in the public sector and 1.4% rise in the private sector.

Source:

It is important to recognise that the demand for housing in this Study is considered over a long-term horizon (i.e. the next 25 years). With this in mind, the long-term fundamentals underpinning housing demand in Greater Sydney are strong:

- Strong projected long-term population growth, particularly in South-West Sydney;
- Historically low interest rates, which are likely to be remain low over the short to medium-term;
- Significant level of investment in transport infrastructure;
- Historic undersupply resulting in a major undersupply of housing and major pent-up demand.

These core economic fundamentals suggest the long-term demand for housing in Greater Sydney will remain strong.

Housing Affordability

Australia's east coast housing boom over 2012-2017 resulted in extraordinary price growth across essentially all regions of Greater 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 outer locations and/or smaller product. Owing to demand for housing that is more affordable, developers across Sydney's North West and South West Growth Areas are increasingly offering smaller lots in new land subdivisions.

The significant growth in residential property values, primarily houses, across Greater Sydney over the past 6-months has returned the issue of housing affordability to the forefront of State and local government. House prices are expected to continue to rise over the course of 2021 given historically low interest rates are expected to remain in place for some time.

South West Growth Area

Affordability and level of surrounding infrastructure drives market preference and compromise in the SWGA. Anecdotal evidence from local agent's notes <450sqm lots and/or house and land packages are particularly appealing to First Home Buyers given their more 'manageable' price points (typically sub-$800,000).

The significant uptick in market activity across Greater Sydney's property market has been primarily focused on houses as opposed to higher-density typologies. Coupled with this shift in market tastes, the Commonwealth Government's HomeBuilder subsidy and NSW Government's First Home Buyer Grant has fuelled interest into new housing estates. This has translated into significant enquiry levels and price growth across the SWGA, predominantly from First Home Buyers and owner occupier 'upgraders'.

5.2 Historic Market Activity

This section considers historic market activity in the broad South West Region, including an analysis of median sale prices and sales volumes. This provides insight into market sentiment in Sydney's South West (of which the SWGA is situated).

5.2.1 Median Sale Prices

Sale prices are one of the principal indicators for housing demand over time. Over the 10 years to Q4 2020, house prices across the South West Region have risen on average by between 4.8% to 7.0% per annum (CoreLogic RP Data, 2021). This is generally higher than the growth observed across the broader Greater Sydney region, where median house prices have risen by 4.4% per annum on average over 2010-2020.

A distinct hierarchy in median house values is currently observed in the South West Region with the Liverpool LGA commanding the highest median sale price at ~$778,000, followed by Camden at $750,000 and Campbelltown at $650,000. This a reflection of the greater amenity and desirability of suburbs within the Liverpool LGA.

With the exception of the Liverpool LGA, the South West housing market has beginning to show signs of strong growth over the 12 months to December 2020. House prices in the Campbelltown LGA rose by almost 10%, Camden rose by 3.2% whereas house values remained flat in the Liverpool LGA. It is expected that release of more recent data for the Q1 2021 period will show strong price growth across all LGAs within the South West region, aligning with broader activity in Greater Sydney.

Table 5.2 shows the growth in median house prices across the South West Region.

Table 5.2: Median Sale Prices (Houses) by LGA, South West Region

LGA	Median Sale Price		Recent Changes in Median Sale Prices (%)			Long-Term Avg. Annual Growth (%)	
	Q4 2019	Q4 2020	2019-2020	2017-2020	2015-2020	2010-2020	2000-2020
Camden	$726,000	$750,000	3.2%	-2.4%	9.1%	4.8%	6.7%
Campbelltown	$585,000	$650,000	9.9%	-1.5%	14.9%	6.8%	7.0%
Liverpool	$778,750	$778,750	0.0%	-6.3%	5.6%	5.5%	6.2%

LGA	Median Sale Price		Recent Changes in Median Sale Prices (%)			Long-Term Avg. Annual Growth (%)	
	Q4 2019	Q4 2020	2019-2020	2017-2020	2015-2020	2010-2020	2000-2020
Greater Sydney	**$966,000**	**$1,030,000**	**3.6%**	**-2.0%**	**4.7%**	**4.4%**	**5.1%**

Source: CoreLogic RP Data (2021)

In a similar trend to the housing market, apartment markets across the South West Region recorded declines over the 12 months to November 2019 although the rate of decline has been much sharper. For instance, established apartment markets in the Campbelltown and Liverpool LGA have declined by 10.7% and 6.8% respectively. These rates of decline are also much sharper than the average declines observed in the broader Greater Sydney region.

Over the 10-years to November 2019, apartment values across the South West Region have increased by between 5.4% and 6.2% per annum (on average). This rate of growth is generally in line with the Greater Sydney average of 5.8% per annum.

Table 5.3 shows the growth in median apartment prices across the South West Region.

Table 5.3: Median Sale Prices (Units) by LGA, South West Region

LGA	Median Sale Price		Recent Changes in Median Sale Prices (%)			Long-Term Avg. Annual Growth (%)	
	Q4 2019	Q4 2020	2019-2020	2017-2020	2015-2020	2010-2020	2000-2020
Camden	$558,000	$582,500	4.4%	6.1%	24.0%	7.3%	6.6%
Campbelltown	$417,500	$440,000	5.4%	-6.8%	5.4%	5.7%	6.7%
Liverpool	$489,000	$500,000	2.2%	-7.3%	3.2%	6.0%	6.4%
Greater Sydney	**$706,500**	**$732,000**	3.6%	-2.0%	4.7%	4.4%	5.1%

Source: CoreLogic RP Data

5.2.2 Sales Volumes

Measuring the number of dwellings being offered for sale (i.e. listings) and the number actual sales recorded over any given time series is another useful barometer of housing demand. These indicators provide a further level of insight into housing demand beyond that which can be obtained from analysis of pricing data alone.

Over the 12 months to December 2020, the South West Region recorded a marked decline in the total number of listings, with declines ranging from 9% to 28% compared to the 2019 calendar year. This strong decline in supply to market was primarily driven by the COVID-19 outbreak. Conversely, strong growth in sales activity was recorded over the 12 months to December 2020, particularly detached houses. This uptick in sales activity coupled with a lack of supply brought to market expectedly contributed to the strong price growth observed over the same period.

Table 5.4 shows listing and sales volumes for housing across the South West Region over 2019-2020.

Table 5.4: Sales Activity (2017-2019), Western City District

LGA	Listings			Sales			Avg. Days on Market (2020)	Median Vendor Discounting (2020)
	2019	2020	Change (%)	2019	2020	Change (%)		
Houses								
Camden	2,390	2,056	-14.0%	2,054	2,644	28.7%	28	-2.2%
Campbelltown	1,981	1,777	-10.3%	1,862	1,924	3.3%	20	-3.2%
Liverpool	2,147	1,795	-16.4%	1,816	2,112	16.3%	34	-3.5%
Units								
Camden	64	82	-28.0%	123	129	4.9%	38	-3.5%
Campbelltown	391	457	-16.8%	388	444	14.4%	32	-3.8%
Liverpool	632	689	-9.0%	664	778	17.2%	35	-3.2%

Source: CoreLogic RP Data

5.3 Demand for New Housing

The greenfield housing market (i.e. land and/or house and land) is distinct from the established housing market in many respects. This section provides a summary of the greenfield housing market in the SWGA based on informal discussions with local marketing agents and development managers in addition to reference to industry databases. Buyer profile, pricing and market preferences provide insight into the nature of demand for new residential product within the SWGA.

5.3.1 General Market Conditions

Over the 12 months to September 2020, a strong uptick in purchasing activity was observed across the SWGA. Sales volumes have risen by over 130% over the 9-months to September 2020 compared to 2019 (DPE, 2021).

Stimulus and Incentives

This marked upswing in sales activity has been driven by a mix of factors, particularly government grants and schemes and record low finance costs. Key factors driving buying activity in the SWGA over 2020 included:

- Historically low interest rates with the cash rate at 0.1%, making mortgage repayments more affordable;
- Introduction of the Commonwealth Government's HomeBuilder Grant program which provides eligible owner-occupiers (including First Home Buyers) with a grant ($15,000 to $25,000) to build a new home, substantially renovate an existing home or buy an off-the-plan home/new home;
- Rollout of the Commonwealth Government's First Home Loan Deposit Scheme offering 10,000 FHBs the opportunity to enter the market with as little as a 5% deposit, without paying lender's mortgage insurance;
- The NSW Government's First Home Buyer Assistance Scheme which waives stamp duty for FHBs when purchasing new properties of up to $800,000, existing homes up to $650,000 or vacant land up to $400,000;
- The NSW Government's own First Home Buyer Grant scheme providing a $10,000 grant for eligible FHBs when purchasing a new home up to $600,000 or a house and land package of up to $750,000;
- Strong competition amongst retail banks for new customers and highly attractive introductory offers.

This record amount of stimulus has driven strong levels of purchasing activity which has now in turn reignited high levels of consumer confidence (otherwise known as 'animal spirits').

Unsurprisingly, enquiry levels in recent months are understood to have been strong across most of the major estates in the SWGA. Demand is being primarily driven by younger owner occupiers, particularly FHBs or younger families looking to upgrade from their existing premises.

Housing Demand and Preference

Affordability remains the primary driver behind buying activity in the SWGA. Informal discussions with local sales agents and developers indicates many purchasers are considering estates in the SWGA as they cannot afford housing in locations where they currently reside or are looking at comprising on location to secure new housing product and thus access the HomeBuilder and/or First Home Buyer grants. Many purchasers are also 'priced out' of new estates in the North West Growth Area, where prices have historically been higher than those in the SWGA.

Importantly, market investigations indicate an enduring preference for detached housing irrespective of lot size across many estates of the SWGA. For instance, market activity at Oran Park Town shows buyers prefer small detached houses rather than equally sized attached townhouse product. That said, the market for attached housing (including townhouses, town-homes and villas) is growing given the fragility of housing affordability in the SWGA. In many instances, a difference of just $10,000 can be the factor driving purchaser decisions.

The onset of COVID-19 over the course of 2020 has further amplified the preference for detached housing product, with many prospective purchasers relocating from their existing townhouse or apartment citing the need for more living space in a post-COVID world where working from home for at least part of the working will likely become mainstream.

Whilst still the smallest component of the SWGA's overall residential market, apartments projects in the SWGA are beginning to gain traction. The premier apartment project in the area is Fraser's 'Ed. Square' mixed-use development directly

opposite Edmondson Park train station. Oran Park has also recorded sales in its first apartment project opposite the Oran Park Town Centre. To date, apartments have achieved strong sale prices and healthy interest, though this has waned slightly over the course of 2020. The viability of apartments in the SWGA is directly linked to their immediate proximity to public transport and retail amenity.

5.3.2 New Residential Product

As at Q1 2021, there are numerous housing estates actively marketing across the SWGA and surrounds. These estates vary in size, quality and offering with the largest estates (in excess of 1,000 lots) being progressed by Tier 1 and Tier 2 developers with smaller estates offered by local developer-builders.

Market investigations show that in line with the broader upswing in median house prices across the South West Region over the 12 months to Q4 2020, sale prices being achieved for new housing in many estates across the SWGA have begun to improve following their modest declines of 5%-10% observed in 2019. For instance, 300sqm lots in Oran Park Town are currently being advertised for $400,000 ($1,300/sqm site area), compared to circa $350,000 ($1,200/sqm site area) in 2019.

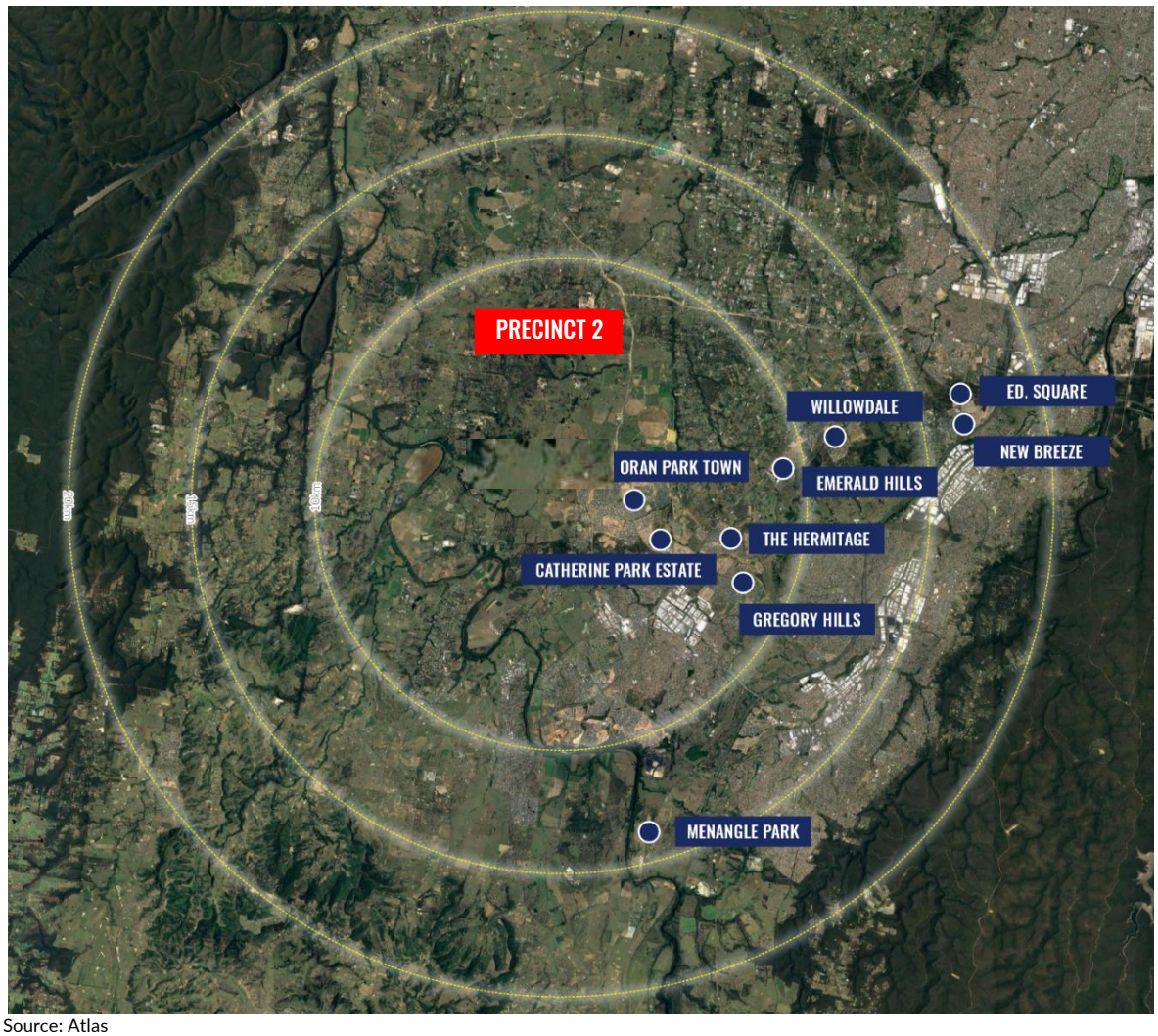
To understand current market dynamics including price points, buyer profile and product preferences, several estates proximate the Belmore Road Precinct have been investigated. This is not intended to be a comprehensive market appraisal of the SWGA, rather a review of key estates to assess the likely housing demand profile in the coming decade.

The major estates investigated include:

- Oran Park Town, Oran Park
- Catherine Park Estate, Oran Park
- Willowdale, Leppington
- Menangle Park, Menangle Park

Figure 5.1 depicts the location of several major estates in relation to the Belmore Road Precinct

Figure 5.1: Neighbouring Major Estates



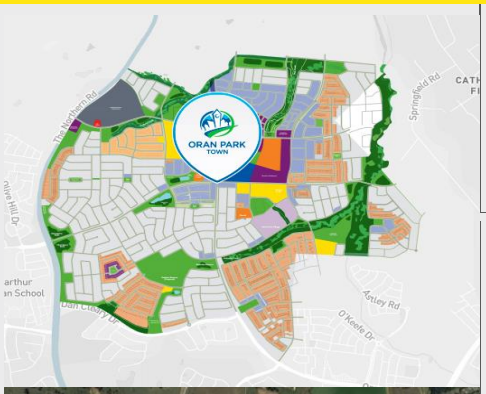
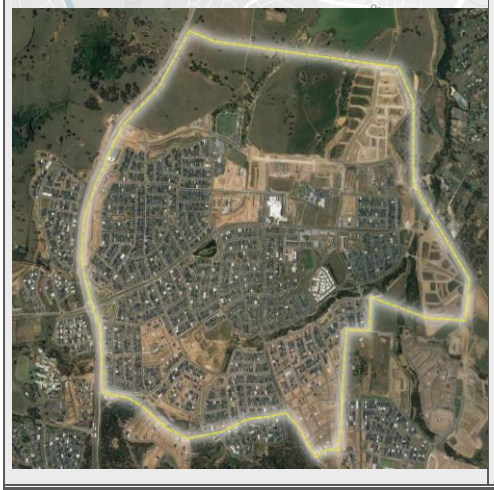
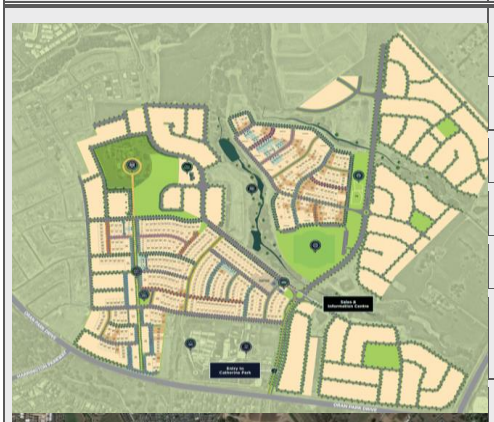
Source: Atlas

Active Estates

Table 5.5 provides an analysis of the Oran Park Town, Catherine Park, Willowdale and Menangle Park estates.

Table 5.5: Active Estates, South West Growth Area and surrounds

Estate	Details	
	Estate	**Oran Park Town, Oran Park**
	Location	4.3km south of the Belmore Road Precinct
	Total Yield	6,500
	% Sold	48%
	Lot Sizes	300sqm-760sqm
	Sale Prices ($/sqm)	$400,000-$687,000 ($900-$1,360)
	Buyer Profile	Predominantly Western-Sydney based buyers. Over the last 24 months, buyers have been an approximate mix of FHBS (60%), upgraders (30%) and investors (10%).

Estate	Details	
 	*Preferred Product Type*	Owing to affordability constraints, FHBs have been focused on smaller lots (300sqm-450sqm) which can be acquired for sub-$450,000. Upgraders have the financial capacity to pay for larger lots (450sqm-650sqm) whilst investors typically target lots from ≥450sqm.
	Commentary	Lots from 450sqm are generally identified as the 'sweet spot' at Oran Park town given they attract a wide range of purchasers, particularly FHBs.
 	*Estate*	**Catherine Park Estate, Oran Park**
	Location	6.3km south-east of the Belmore Road Precinct
	Total Yield	1,700
	% Sold	22%
	Lot Sizes	375sqm-780sqm
	Sale Prices ($/sqm)	$420,000-$625,000 ($785-$1,125)
	Buyer Profile	Western-Sydney based buyers, particularly from the South West Region. Mix of owner occupiers and investors (mix of 80% to 20%). High number of FHBs.
	Preferred Product Type	Smaller lots (330sqm to 475sqm) have proven most popular to date, predominantly to FHBs.
	Commentary	Although attracting less interest than the neighbouring Oran Park Town estate, Catherine Park has proven particularly popular to price-sensitive FHBs given their slightly lower price points and absence of community charges.
	Estate	**Willowdale, Leppington/Denham Court**
	Location	7.5km east of Precinct 2
	Total Yield	3,700

Estate	Details	
 	*% Sold*	50%
	Lot Sizes	250sqm-700sqm
	Sale Prices ($/sqm)	$355,000-$585,000 ($835/sqm-$1,425/sqm)
	Buyer Profile	Large number of South-West Region local residents, particularly from the Liverpool. Predominantly owner occupiers with approximately 60% FHBs and 40% upgraders. Investors have also been active over the course of marketing.
	Preferred Product Type	FHBs have targeted smaller lots (250sqm-450sqm) in order to keep total land and construction costs below the First Home-owner Grant threshold of $750,000. Small releases of completed townhomes have been well met by the market, although detached product remains the preferred typology.
	Commentary	One of the most popular estates in the SWGA given its proximity to established centres further east and a strong retail offering within the estate. Commands higher price points compared to many other estates.
	*Estate*	**Menangle Park, Menangle Park**
	Location	14.5km south-east of the Belmore Road Precinct
	Total Yield	4,000
	% Sold	7%
	Lot Sizes	420-970
	Sale Prices ($/sqm)	$360,000-$660,000 ($675/sqm-$885/sqm)
	Buyer Profile	FHBs have shown strong levels of interest over the course of the initial release in late 2019 and particularly in the 6-months to January 2021. Affordability is the key driver thus far, with the estate offering more 'bang for your buck' than other estates in the SWGA.
	Preferred Product Type	Lots sub-500sqmhave proven particularly popular thus far given their price points below $400,000.
	Commentary	As the profile and amenity offering of Menangle Park grows ad builds momentum, it is expected that the estate will become a major competitor to many second-tier estates in the SWGA given its compelling value for money offer.

Source: Atlas

Emerging Apartment Typologies

Edmondson Park and Leppington are the only sub-markets in the SWGA which have progressed marketing for high-density housing. Whilst a number of smaller projects in Leppington have been marketed over the course of 2016-2017, the largest apartment project to date has been the mixed-use development 'Ed Square' in Edmondson Park.

'Ed. Square' is a mixed-use development comprising 992 apartments and 892 terrace/town-homes directly opposite the existing Edmondson Park train station. The retail component at Ed. Square (to be known as the Ed. Square Town Centre) is set to be significant with 25,000sqm of retail floorspace comprising a full-line supermarket, 'eat street' dining precinct and cinema complex. Stage 1 (367 units and town-homes) of the development sold over the course of 2019 and attracted a strong mix of interest from FHBs, international investors and downsizers. This first stage included multiple residential flat buildings ranging in size from 5 to 13 storeys.

Prices achieved have been markedly strong; one-bedroom apartments have achieved prices from $500,000 whilst two-bedroom apartments have achieved prices from $600,000 to $650,000. One-bedroom town-homes have achieved prices from $560,000 whereas two and three-bedroom town-homes have ranged from $675,000 to $730,000. Given these prices are comparable and in some instances *greater* than prices for house and land packages in many land estates across the SWGA, it is testament to the growing acceptance of higher-density housing. Critically however, these strong prices reflect the high amenity that will offered on-site and close proximity to an existing train station.

Figure 5.2 depicts the ongoing construction at the Ed. Square precinct and illustrates the scale of residential buildings being developed as part of Stage 1.

Figure 5.2: Aerial Image of Ed. Square (Stage 1)

Source: Realestate.com.au

Additionally, the 'Metro Apartments' at Oran Park Town immediately opposite Oran Park Town Centre commenced marketing in Q3 2020.

The 6-storey residential flat building is set to comprise 53 apartments, with one bedroom units priced from $465,000 to $500,000, two bedroom units from $580,000 to $630,000 and three bedroom penthouses from $650,000. Enquiry levels thus far have been stable though limited sales have been achieved thus far.

5.3.3 Take-Up Rates

Sales data in Greater Sydney's Growth Areas is tracked by the NSW DPE. This data is useful in understanding demand for new housing in the South West Region, specifically in the South West Growth Area (SWGA).

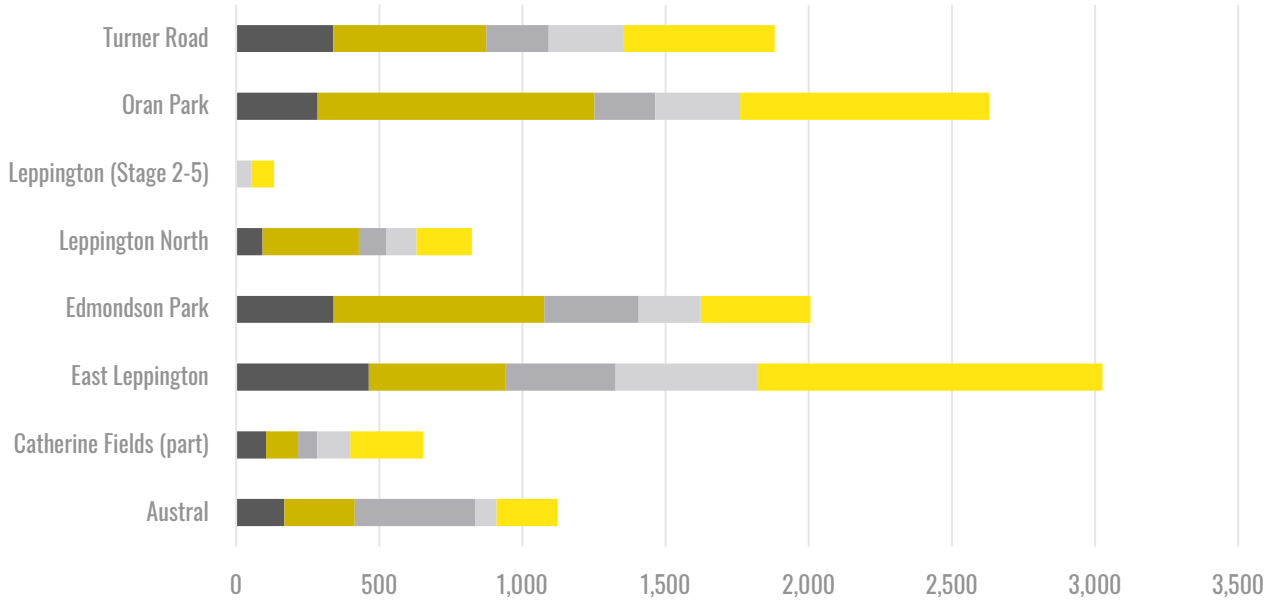
From 2016 up until Q3 2012, a total of 12,276 sales were recorded in precincts which have been released in the SWGA at an average rate of 2,584 sales per annum. The greatest number of sales over this period was recorded in East Leppington at 3,026 sales, closely followed by Oran Park (2,630 sales) and Edmondson Park (2,006 sales).

The 2020 period generated the most significant uptick in sales activity recorded in the SWGA – a total of 3,727 sales have been recorded over the 9 months to September 2020. This compares to the last peak over 2017 period where some 3,400 sales were recorded. This record amount of sales volumes is testament to the current market conditions buoyed by various government incentive schemes and record low interest rates.

Compared to 2019, overall sales volumes in the SWGA have risen by over 130% in the 9 months to September 2020. In Oran Park and East Leppington, sales volumes increased by 194% and 144% respectively. The true volume of sales activity across the SWGA over the course of 2020 will be even clearer upon the release of the next *Sydney Greenfield Housing Monitor* by DPE later in 2021.

Figure 5.3 shows the number of sales recorded in the precincts released in the SWGA over 2016-2019.

Figure 5.3: Sales Volumes (2016-2020*), Released Precincts in South West Growth Area



	Austral	Catherine Fields (part)	East Leppington	Edmondson Park	Leppington North	Leppington (Stage 2-5)	Oran Park	Turner Road
2016	168	105	464	340	92	0	285	339
2017	246	111	478	736	337	0	967	535
2018	421	67	383	330	95	0	212	218
2019	75	116	495	217	106	53	296	262
2020	213	254	1206	383	194	80	870	527

Source: DPE (2021)

5.4 Implications for Housing Demand

Historic Growth in South West Region

Following a softening in market conditions witnessed over 2018-2019, demand for housing across the South West over the course of 2020 has been at historic highs. Sales volumes in the SWGA in the 9-months to September 2020 have been the highest on record with 3,727 sales– well above the historic average of 2,584 sales per annum and the peak recorded in 2017.

Taking a broader view, the long-term historic growth in housing demand across the South West Region has been significant. In the 20-years to 2020, all LGAs in the Region recorded average growth of between 6.2% and 7.0% per annum or greater- this level of growth outpacing that of Greater Sydney (5.1% per annum). This significant and sustained rate of price growth is an obvious indicator of housing demand outstripping supply over the past 20 years.

Projected Dwelling Need

The most recent population projections issued by the NSW DPE indicate that the South West Region will require a total of 208,000 dwellings over the coming decades to 2041.

The projections indicate that a total of 154,306 dwellings were required in 2016 across the South West Region. However, the 2016 Census counted a total of 147,454 dwellings. This indicates a shortfall of some 6,800 dwellings as at 2016.

Based on the 2016 dwelling count (Census), the number of additional dwellings required to meet the implied dwelling requirement of 208,000 dwellings by 2041 is circa 214,000 dwellings. This would equate to 8,600 new dwellings per annum.

Market Activity in South West Growth Area

Market activity in the major estates across the SWGA picked up significantly over 2020, buoyed by the lowest interest rates recorded on record and a raft of Commonwealth and NSW Government incentive programs for owner occupiers, particularly First Home Buyers. Significant demand is beginning to translate into escalating prices across almost all major estates.

The onset of the COVID-19 pandemic over the course of 2020 has brought on a distinct preference for detached housing typologies with many buyers seeking larger accommodation to accommodate more time spent at home. However, this emerging trend has not impacted the persistent shift towards smaller lot sizes.

- **Lots**
  Detached lots are the preferred housing typology in the SWGA. Prospective purchasers are continuingly willing to accept smaller lot sizes in exchange for a detached housing product with 400sqm-450sqm understood as the current 'sweet spot' in the market given the affordability of such product.
- **Townhouses and Townhomes**
  Market acceptance for medium-density typologies continues to grow across the SWGA. Market response to such product in Edmondson Park has been strong as demonstrated by swift take-up rates and prices comparable to some detached housing products. As affordability pressures continue to persist, demand for affordable medium-density typologies will undoubtedly grow.
- **Apartments**
  The markets of Edmondson Park, Leppington and Oran Park are the three precincts within the SWGA marketing new apartments. A strong response to such product has been received at the Ed. Square development in particular, testament to their location proximate Edmondson Park Train Station and the emerging Ed. Square Town Centre.

  The recently released apartments at Oran Park have experienced a more tempered response to date. Tracking the performance of this development will be important to gauging the likely demand for apartment product at Precinct 2.

  Looking forward, it is expected that as the SWGA continues to mature and amenity increases the market for higher density product will undoubtedly expand. This will be exacerbated if land prices continue to outpace the growth in household incomes.

The next chapter examines the nature of housing supply in the SWGA and broader South West Region and forecasts the quantum of that supply which could be realistically delivered by 2041.

6. Housing Supply

This Chapter examines housing supply in the South West Region. Existing supply and historic levels of growth is firstly assessed. Data on future planned supply (i.e. the amount of housing expected in key growth areas) and that are already in the development pipeline is then examined and interrogated. Lastly, infrastructure servicing plans for the major Growth Areas in the South West Region are reviewed given their importance to facilitating planned housing supply.

6.1 Existing Supply

There is no current count of existing dwellings in the South West Region. A combination of ABS Census (2016) and DPE dwelling completions data has been used to estimate the existing number of dwellings in the South West Region.

6.1.1 Census Count

The most recent formal count of dwellings in the South West Region was the 2016 Census. The number of dwellings in the Region as at the 2016 Census night (August 2016) is shown in **Table 6.1**.

Table 6.1: Dwelling Count (2016), South West Region

LGA	Total Dwellings	Proportion of Total
Camden	26,197	18%
Campbelltown	55,326	38%
Liverpool	65,931	45%
South West Region	**147,454**	**100%**

Source: ABS (compiled by .id)

6.1.2 Recent Growth

Dwelling completions across Greater Sydney's LGAs are monitored by the DPE Metropolitan Housing Monitor on a monthly basis. Dwellings are categorised as detached or multi-unit (which includes both medium and high-density housing typologies). The Metropolitan Housing Monitor is current to December 2019.

Completions data in Greater Sydney's Growth Areas is monitored by the DPE Greenfield Housing Monitor (also on a monthly basis). The most recent completions data released for the SWGA is for December 2019.

Analysis of dwelling completions is useful for the purposes of this Study given it shows the rate of historic dwelling growth in the South West Region since the 2016 Census and the historic growth in the SWGA.

Metropolitan Housing Monitor (LGA)

From 2016 to Q3 2020, just over 26,400 dwellings were completed across the South West Region with an average completion rate of 5,566 dwellings per annum. Dwelling completions peaked in 2017 with 6,238 completions before falling in 2018 to 5,513 completions. A slight increase in completions was recorded over 2019 at 5,594 completions, with around 4,300 completions recorded in the 9-months to Q3 2020.

Notably, the average rate of dwelling completions over 2016-2020 has been faster than that recorded over the 2011-2016 Census period.

Table 6.2 shows the number of dwelling completions across the South West Region (by LGA) over the 2016-2020 period.

Table 6.2: Dwelling Completions (2016-2020), South West Region

Year	Camden			Campbelltown			Liverpool			South West Region		
	Detached	Multi-Unit	Total	Detached	Multi-Unit	Total	Detached	Multi-Unit	Total	Detached	Multi-Unit	Total
No. of Dwelling Completions												
2016	2,166	162	2,328	609	304	913	1,035	464	1,499	3,810	930	4,740
2017	2,585	256	2,841	980	626	1,606	1,169	667	1,836	4,734	1,549	6,283
2018	2,191	218	2,409	945	302	1,247	1,020	837	1,857	4,156	1,357	5,513
2019	2,184	92	2,276	823	373	1,196	766	1,356	2,122	3,773	1,821	5,594
2020*	1,504	126	1,630	764	192	956	576	1,147	1,723	2,844	1,465	4,309
2016-2020*	**10,630**	**854**	**11,484**	**4,121**	**1,797**	**5,918**	**4,566**	**4,471**	**9,037**	**19,317**	**7,122**	**26,439**
Proportion of Dwelling Completions												
2016	93.0%	7.0%	100.0%	66.7%	33.3%	100.0%	69.0%	31.0%	100.0%	80.4%	19.6%	100.0%
2017	91.0%	9.0%	100.0%	61.0%	39.0%	100.0%	63.7%	36.3%	100.0%	75.3%	24.7%	100.0%
2018	91.0%	9.0%	100.0%	75.8%	24.2%	100.0%	54.9%	45.1%	100.0%	75.4%	24.6%	100.0%
2019	96.0%	4.0%	100.0%	68.8%	31.2%	100.0%	36.1%	63.9%	100.0%	67.4%	32.6%	100.0%
2020*	92.3%	7.7%	100.0%	79.9%	20.1%	100.0%	33.4%	66.6%	100.0%	66.0%	34.0%	100.0%
2016-2020*	**92.6%**	**7.4%**	**100.0%**	**69.6%**	**30.4%**	**100.0%**	**50.5%**	**49.5%**	**100.0%**	**73.1%**	**26.9%**	**100.0%**

*Data current to Q3 2020
Source: DPE (2021c)

As shown in **Table 6.2**, detached dwellings have consistently accounted for the majority of completions across the South West Region. Of the 26,439 dwellings completed over the 2016-2020 period, 19,317 of these completions have been detached dwellings. This equates to almost three quarters of all completions. That said, the number and proportion of multi-unit dwellings being completed across the South West Region is rising, particularly in the Liverpool LGA. The exception to this is the Camden LGA, where detached housing remains the dominant form of new housing.

The analysis in **Table 6.2** also shows that the Camden LGA has accommodated the greatest number of new dwellings in the South West Region over the 2016-2020 period, accounting for some 43% (11,484 dwellings) of all new dwellings. Liverpool accommodated circa one third of new dwellings, with the Campbelltown LGA accommodating around 22%. Accordingly, the pace of dwelling completions across each of the LGAs has differed:

- Camden LGA: average annual completions of 2,418 dwellings;
- Campbelltown LGA: average annual completions of 1,246 dwellings;
- Liverpool LGA: average annual completions of 1,903 dwellings.

Greenfield Housing Monitor (SWGA)

Over 2016-2020 period, 11,960 dwellings were completed across the SWGA, analysing to an average completion rate of 2,518 dwellings per annum. Dwelling completions peaked in 2017 with just over 3,000 completions.

A large fall in completions was recorded over 2018 and 2019, reflecting the overall completions observed in the Metropolitan Housing Monitor during this period. This dip in activity was a result of numerous factors; buyers being more cautious in times of price uncertainty, greater difficulty in obtaining construction finance and developers delaying lot releases to avoid lengthy marketing periods and/or price discounting.

A strong uptick in dwelling completions has been recorded over the 9-months to Q3 2020 with some 2,350 completions recorded. The next release of the Greenfield Housing Monitor is expected to show a large number of completions over the Q4 2020 period.

Table 6.3 shows annual dwelling completions in the released precincts of the SWGA over the 2016-2020 period.

Table 6.3: Completions (2016-2020), Released Precincts in South West Growth Area

Precinct	2016	2017	2018	2019	2020*	Completions (2016-20)	Avg. Annual Completions
Austral	0	0	19	85	116	220	46
Catherine Fields (Part)	0	93	325	483	291	1,192	251
East Leppington	188	589	657	657	348	2,439	513
Edmondson Park	254	706	564	565	808	2,897	610
Leppington North	41	37	143	68	138	427	90
Oran Park	369	1007	598	379	337	2,690	566
Turner Road	231	613	470	468	313	2,095	441
Total	**1,083**	**3,045**	**2,776**	**2,705**	**2,351**	**11,960**	**2,518**

Source: DPE (2021a)

6.1.3 Calculating Existing Supply

The following steps are taken to approximate the existing number of dwellings (as at Q3 2020) in the South West Region:

1. Adopt the 2016 Census dwelling counts as a starting point.
2. Sum dwelling completions for each LGA from September 2016 to December 2016 (months prior to September 2016 are not included given the 2016 Census was completed on 9 August 2016).
3. Sum the 2016 Census dwelling counts and DPE dwelling completions from September 2016 onwards to arrive at existing dwelling supply for September 2020.

Table 6.4 shows the process in estimating the total number of existing dwellings in the South West Region as at Q3 2020.

Table 6.4: Existing Dwelling Supply (September 2020), South West Region

Area	Census 2016 Dwellings (a)	DPE Dwelling Completions (b)					Existing Supply (a+b)
		2016^	2017	2018	2019	2020*	
Camden	26,197	1,048	2,841	2,409	2,276	1,630	36,401
Campbelltown	55,326	422	1,606	1,247	1,196	956	60,753
Liverpool	65,931	755	1,836	1,857	2,122	1,723	74,224
South West	**147,454**	**2,225**	**6,283**	**5,513**	**5,594**	**4,309**	**171,378**

^ Dwelling completions from September 2016-December 2016
Source: ABS/ Atlas/ DPE (2019c)

As shown in **Table 6.4**, there is just over an estimated **171,000 dwellings** across the South West Region. This will be an important starting point from which to assess the potential of the South West Region to meet the projected implied dwelling requirement for the Region.

6.2 Planned Supply

There is a significant amount of housing that is being planned for in the South West Region. The majority of new housing to be delivered over the coming decades is well-known and planned in three main Growth Areas - Western Sydney Aerotropolis, South West Growth Area and Greater Macarthur Area. That said, there are also other precincts which are set to deliver a significant quantum of new housing (e.g. the Liverpool CBD).

This section takes a broad, comprehensive approach to identifying and establishing the quantum of housing which could be theoretically delivered across the South West Region. This has involved investigating all known areas and regions where future housing is being planned, including Growth Areas, Planned Precincts and Investigation Areas. This process has investigated each of the three LGAs which comprise the South West Region in detail.

6.2.1 Areas Investigated

The review of planned housing supply across the South West Region has identified approximately 31 individual precincts which have been planned for new housing. These individual precincts are mostly located within the four main growth areas; the South West Growth Area, Western Sydney Aerotropolis, Greater Macarthur Growth Area and Liverpool City Centre.

The prospects of these precincts delivering new housing over the coming decades is investigated in this section.

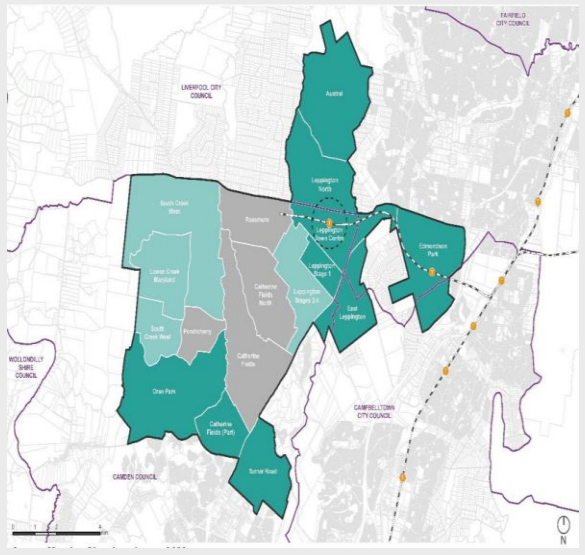
South West Growth Area

The SWGA is one of the largest greenfield release areas in Greater Sydney. The SWGA comprises 14 individual precincts and stretches across most of the Camden LGA with some precincts also falling within the Liverpool and Campbelltown LGAs. Initial planning identified a total planned supply of around **108,000 dwellings** across the SWGA upon buildout.

Precinct release across the SWGA has been staged. Oran Park and Turner Road were first rezoned and released in 2007 with strong take-up and development across both precincts. This has largely been attributed to both precincts being held in single or majority ownership. Edmondson Park was rezoned and released in 2008 and has enjoyed similar success given the precinct was held in majority ownership. Numerous other precincts (Catherine Field, East Leppington, Austral and Leppington North) were rezoned over the course of 2013-2014. Development in these precincts has been more tempered, particularly in Austral and Leppington North where small landholdings and fragmented land ownership patterns have presented significant difficulties for consolidating large landholdings for new development.

More recently, the Lowes Creek Maryland and South Creek West precincts have been released for redevelopment, although rezoning has yet to be completed.

Table 6.5: Supply Summary, South West Growth Area



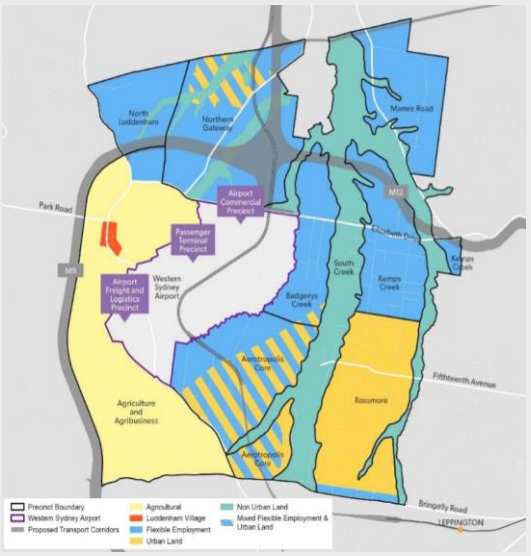
South West Growth Area	
Location (LGA)	Camden, Campbelltown, Liverpool
Status	8 precincts rezoned; 3 precincts released; 3 precincts not released
Planned Supply	108,000 dwellings
Completions to Date	20,350 dwellings
Remaining Planned Supply	87,650 dwellings
Likelihood of Take-Up	Owing to expected delays in infrastructure servicing, the full quantum of planned supply is not expected to be delivered by 2041. Land fragmentation in several key precincts will further delay take-up.

Source: Atlas

Western Sydney Aerotropolis

The Western Sydney Aerotropolis comprises some 11,200ha of land centred around the future Western Sydney Airport (WSA) and is planned to be one of Greater Sydney's largest economic hubs and the 'Western City' as identified in the Greater Sydney District Plan. The Aerotropolis is divided into 9 individual precincts which will be released for development in two stages to align with the completion of the WSA in 2026. Precinct planning for Stage 1 (Aerotropolis Core, Northern Gateway and South Creek) is underway and is expected to be completed by 2023. Planning for the Aerotropolis envisages the delivery of some 200,000 jobs and 60,000 new homes by 2026. Approximately 11,400 dwellings are planned for delivery in Stage 1.

Table 6.6: Supply Summary, Western Sydney Aerotropolis



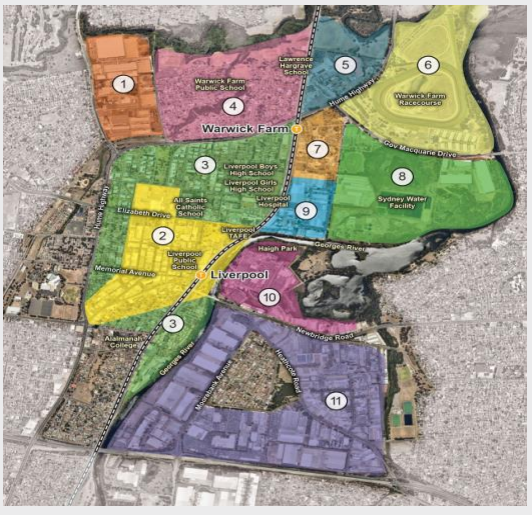
Western Sydney Aerotropolis	
Location (LGA)	Penrith, Liverpool, Fairfield
Status	Precinct planning underway
Planned Supply	60,000 dwellings
Completions to Date	-
Remaining Planned Supply	60,000 dwellings
Likelihood of Take-Up	Development is not expected for several years and will likely be post completion of the Western Sydney Airport. Full take-up of planned supply is not expected until post 2041.

Source: Atlas

Liverpool Collaboration Area

The Liverpool Collaboration Area is a major planned precinct in the Liverpool LGAs and is centred around the Liverpool City Centre whilst also including neighbouring areas and Warwick Farm. The Liverpool Collaboration Area Place Strategy (GSC, 2019) identified potential for some 18,800 additional dwellings over the coming decades to 2036.

Table 6.7: Supply Summary, Greater Macarthur Growth Area



Liverpool Collaboration Area	
Location (LGA)	Liverpool
Status	City Centre is rezoned; precinct planning for other precincts is ongoing
Planned Supply	18,800 dwellings
Completions to Date	-
Remaining Planned	18,800 dwellings
Likelihood of Take-Up	Whilst much of the Liverpool City Centre is characterised by fine grain lot patterns, there remains significant redevelopment opportunities throughout the CBD with older style commercial buildings on large lots representing immediate opportunities.

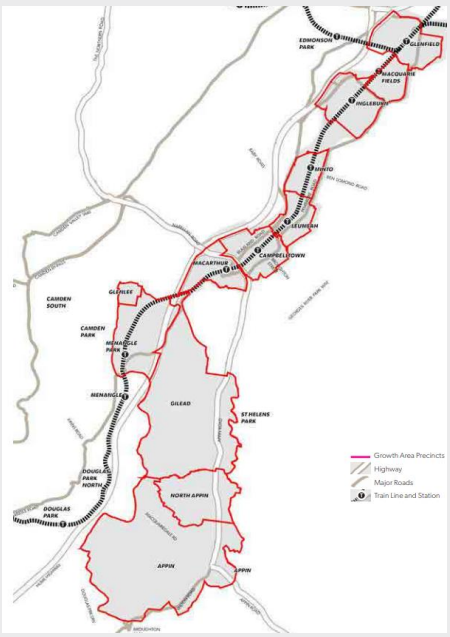
Source: Atlas

Greater Macarthur Growth Area

The Greater Macarthur Growth Area (GMGA) is a major growth area in the Campbelltown and Wollondilly LGAs and comprises a mix of greenfield release areas (Menangle Park, Gilead, North Appin, West Appin) and urban renewal areas, incorporating the Glenfield to Macarthur Urban Renewal Corridor. With a total of 11 individual greenfield and urban renewal areas, planning for the GMGA has identified the potential for some 56,000 dwellings upon build-out.

Only three precincts within the GMGA are currently being progressed. The Menangle Park (4,000 dwellings) and Gilead (1,250 dwellings – first stage) precincts received rezoning approval in 2019 with marketing expected to commence in 2020. The Leumeah precinct is the first precinct within the Glenfield to Macarthur Urban Renewal Corridor to be progressed for rezoning, with Campbelltown City Council progressing a rezoning of the precinct in early 2020.

Table 6.8: Supply Summary, Greater Macarthur Growth Area



Greater Macarthur Growth Area	
Location (LGA)	Campbelltown, Wollondilly
Status	Various levels of precinct planning and delivery
Planned Supply	56,230 dwellings
Completions to Date	-
Remaining Planned Supply	56,230 dwellings
Likelihood of Take-Up	Take-up in the greenfield precincts of Menangle Park and Gilead is expected to be strong owing to single ownership. Take-up in infill areas expected to be modest in short to medium term.

Source: Atlas

6.2.2 Summary of Findings

Based on the analysis of the various Growth Areas, Planned Precincts and Investigation Areas identified, the following key findings have been made:

- A total some 222,000 dwellings have been planned for across the South West Region in some 31 individual precincts.
- After deducting the number of dwellings in these various areas which have been delivered to date, there is a remaining capacity of about **202,000 dwellings** which could still be delivered.
- The greatest level of planned housing supply is identified in the Liverpool and Camden LGAs.
- Of the 202,000 planned dwellings yet to be delivered, just over 163,000 of these are expected to be delivered in the SWGA, Western Sydney Aerotropolis and Greater Macarthur Growth Area.
- The vast majority of new supply which is planned is expected to be greenfield housing.

The quantum of planned supply which could be delivered across the South West Region (by LGA) is summarised in **Table 6.9**.

Table 6.9: Planning Capacity in Growth Areas, Planned Precincts and Investigation Areas, South West Region

LGA	Total Planning Supply	Remaining Planned Supply*
By LGA		
Camden	84,382	71,966
Campbelltown	39,230	37,188
Liverpool	99,271	93,303
South West Region	**222,883**	**202,457**
By Growth Area		
South West Growth Area	108,000	87,646
Western Sydney Aerotropolis	56,450	56,450
Greater Macarthur Growth Area	19,100	19,100
Major Growth Areas	**183,150**	**163,196**

*after deducting dwellings already completed
Source: Various – see References

6.3 Supply Forecast

The NSW DPE carries out 5-year housing supply forecasts at the suburb and local government area level for the Greater Sydney region. The forecast is based on several factors:

- The current development pipeline (including DAs under assessment, approved or under construction);
- Analysis of likely future development under current zoning and planning controls;
- Information from state and local government and industry; and,
- Factors reflecting the outlook for housing demand and market conditions.

The 2020 forecast (released in December 2020) has taken into consideration the impacts of the COVID-19 outbreak and includes three scenarios that respond to the uncertainty resulting from the pandemic. These include:

- **Central Base Case**: reflects the market conditions and demand factors at the time of the forecast in October 2020.
- **High Growth**: reflects a faster recovery and improving conditions that are more favourable to housing development.
- **Low Growth**: reflects a slower recovery and more subdued conditions that are less favourable to housing development

Under the Central Base Case Scenario, the South West Region is expected to deliver some 18,650 dwellings over the five years to 2025, averaging around 3,730 dwellings per annum. These forecasts are summarised in **Table 6.10**.

Table 6.10: DPE Supply Forecasts (2020-2025), South West Region

LGA	High Growth Scenario	Central Base Case Scenario	Low Growth Scenario
Camden	7,300	6,900	6,850
Campbelltown	4,800	4,550	4,400
Liverpool	8,000	7,200	6,200
South West Region	**20,100**	**18,650**	**17,450**

Source: DPE (2020)

It is highlighted that the Camden LGA is forecast to deliver between 6,850 dwellings (Low Growth Scenario) and 7,300 dwellings (High Growth Scenario) over the 2020-2026 period.

Planning Proposals

Rezoning proposals yet to be approved are not considered in DPE's housing supply forecasts. There are several major planning proposals currently under assessment in the South West Region, primarily in the Campbelltown and Liverpool LGAs. These are detailed in **Table 6.11**.

Table 6.11: Planning Proposal Under Assessment, South West Region

Address	PP Number	Status	New Dwellings
Camden LGA			
Oran Park Town Centre	PP_2019_CAMDE_003_00	Pre-exhibition	56
187-191 Turner Rd, Currans Hill	PP_2019_CAMDE_007_00	Pre-exhibition	6
Campbelltown LGA			
22-32 Queen St, Campbelltown	PP_2019_CAMPB_003_00	Pre-exhibition	750
Ingleburn Town Centre	PP_2019_CAMPB_001_00	Pre-exhibition	3,240
158-168 Queen St, Campbelltown	PP_2018_CAMPB_006_00	Pre-exhibition	438
Liverpool LGA			
79 - 4-8 Hoxton Park Rd, Liverpool	PP_2019_LPOOL_005_00	Pre-Exhibition	90
Total			**4,580**

Source: DPE

As shown in **Table 6.11**, the planning proposals under assessment could yield some 4,580 dwellings across the South West.

The next section considers the infrastructure servicing programme in the Growth Areas of the South West Region.

6.4 Infrastructure Servicing Programme

The availability of essential services including water, sewerage and electricity is one of the key influencing factors of housing supply in the Western City. This is given the significant number of Growth Areas in the District which have not previously required services infrastructure given their existing uses (i.e. agricultural or large rural homestead uses).

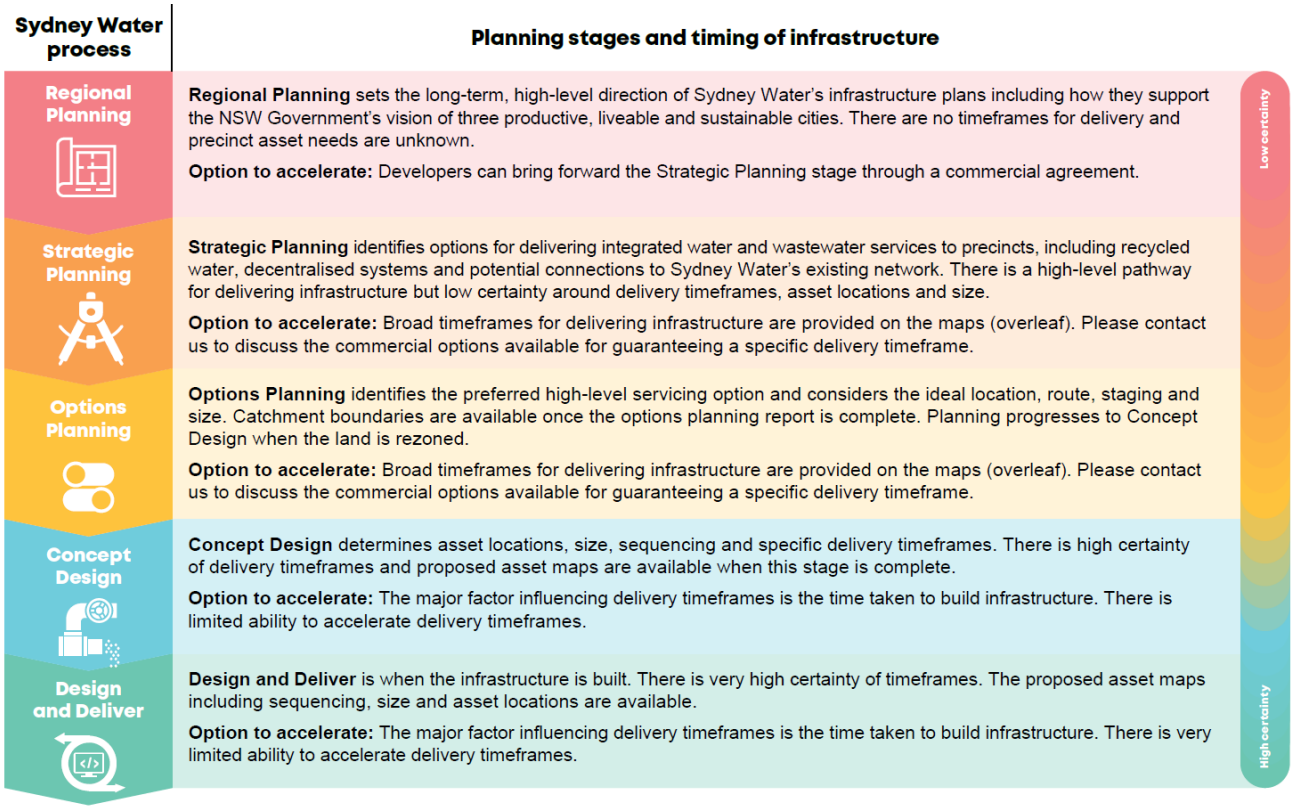
Water and Sewerage

The development and management of water and sewerage infrastructure across the various Growth Areas and Planned Precincts across the South West Region is principally managed by Sydney Water. The Sydney Water Growth Servicing Plan 2019-2024 (the Servicing Plan) outlines proposed timelines for delivery of new water and sewerage infrastructure across Greater Sydney's Growth Areas.

The Servicing Plan outlines the status of water and sewerage infrastructure for each precinct across the Growth Areas through five main categories: Regional Planning, Strategic Planning, Options Planning, Concept Design and Design and Deliver. These categories reflect the certainty on infrastructure planning and delivery timeframes.

Figure 6.1 illustrates the various planning stages for water and sewerage infrastructure as defined by Sydney Water.

Figure 6.1: Water and Sewerage Planning Stages, Sydney Water



Source: Sydney Water (2019)

A review of the Servicing Plan (2019) shows that water and sewerage infrastructure is only expected to be operational in some precincts across the Western City's Growth Areas in the short-term. Austral and Leppington North are expected to be serviced by late-2022 which will facilitate the delivery of the 15,557 dwellings planned. Menangle Park is expected to be serviced by 2023, facilitating delivery of the 4,000 dwellings proposed.

The key precincts expected to be serviced for drinking and wastewater in the medium-term are those within the Western Sydney Aerotropolis, including the Aerotropolis Core, Northern Gateway and South Creek. These precincts are expected to have operational water servicing by 2024, about two years prior to the opening of the Western Sydney Airport and Sydney Metro Greater West in 2026. These precincts are capable of accommodating 11,500 dwellings.

Table 6.12 describes the status and expected delivery timeframes of drinking water and sewerage infrastructure in the Western City's Growth Areas.

Table 6.12: Status of Drinking and Waste Water Infrastructure, South West Region Growth Areas

Area	Drinking Water		Wastewater	
	Status	Delivery Timeframe	Status	Delivery Timeframe
Western Sydney Aerotropolis				
Aerotropolis Core	Options Planning	FY2024	Options Planning	FY2024
Northern Gateway	Options Planning	FY2024	Options Planning	FY2024
South Creek	Options Planning	FY2024	Options Planning	FY2024
Rossmore	Strategic Planning	Unknown	Strategic Planning	Unknown
South West Growth Area				
Lowes Creek Marylands	Design and Deliver	Dec-2019	Concept Design	Unknown
South Creek West	Design and Deliver	Dec-2019	Strategic Planning/ Concept Design	Unknown

Area	Drinking Water		Wastewater	
	Status	Delivery Timeframe	Status	Delivery Timeframe
Austral	Concept Design	Dec-2022	Concept Design	Dec-2021
Leppington North	Concept Design	Dec-2022	Concept Design Design and Deliver	Dec-2019 Dec-2021-22
East Leppington	Design and Deliver	Dec-2019	Adequate existing capacity	
Oran Park	Adequate existing capacity		Adequate existing capacity	
Turner Road	Adequate existing capacity		Adequate existing capacity	
Edmondson Park	Adequate existing capacity		Adequate existing capacity	
Pondicherry	Design and Deliver	Dec-2019	Concept Design	Unknown
Rossmore South	Strategic Planning	Unknown	Strategic Planning	Unknown
Catherine Fields (part)	Adequate existing	Adequate existing capacity	Adequate existing capacity	Adequate existing
Catherine Fields North	Strategic Planning	Unknown	Strategic Planning	Unknown
Catherine Fields	Strategic Planning	Unknown	Strategic Planning	Unknown
Greater Macarthur Growth Area				
Menangle Park	Options Planning	FY2023	Options Planning	FY2023
Gilead	Concept Design	Unknown*	Concept Design	Unknown*
North Appin	Strategic Planning	Unknown	Strategic Planning	Unknown
West Appin	Strategic Planning	Unknown	Strategic Planning	Unknown
Wilton (All Precincts)	Options Planning	FY2021	Options Planning	FY2021
Glenfield to Macarthur	Strategic Planning	Unknown	Strategic Planning	Unknown

Source: Sydney Water (2019)

Maps illustrating the status and timing of water infrastructure across the Growth Areas are included at Appendix 1.

Electricity

The primary supplier of electricity network service provider in the Western City District is Endeavour Energy. Timing of upgrades to the existing network is aligned with the Sydney Water servicing plan. Upcoming upgrades to the network required to meet future residential and employment demand are outlined in the Endeavour Energy Growth Servicing Plan 2019-2024 and Distribution Annual Planning Report 2019.

Key projects required to facilitate residential growth in the South West Region include:

- The Menangle Park zone substation to support residential and employment growth in Menangle Park. Expected to be completed by 2021/2022. This will support the 4,000 dwellings planned.
- The South Leppington zone substation will be required to support residential development in the Leppington Town Centre and Leppington precincts within the SWGA. Expected to be completed by 2021/2022. This will be needed to support the >9,000 dwellings planned.
- The Southern Macarthur 66kV Network to support broader electricity supply in the Macarthur and South West region; expected to be progressively completed over 2023-2025. This will be needed to support the additional dwelling capacity (circa 17,000 dwellings) to be unlocked in the Glenfield to Macarthur Corridor.

Zone substations may require upgrading depending on development take-up (which is largely determined by water servicing timeframes): Penrith Lakes, Austral, Bringelly, North Catherine Fields, Rossmore, North Rossmore and Kemps Creek.

Maps of existing and proposed substations across the South West Region are appended at Appendix 2.

7. Supply Capacity Assessment

A common misconception is that if land is zoned for urban uses it will be developed. In practice, this can be far from reality as the development potential of land is collectively influenced by environmental, market or economic constraints that can together impede development. This is directly observable in certain precincts in the SWGA (e.g. Leppington, Austral) where despite being zoned for urban development, development as planned has not occurred.

The capacity of urban land for new development is two-fold: Planning Capacity and Market Capacity.

- **Planning (Theoretical) Capacity** refers to the physical ability of land to be developed, taking into account permissibility under the planning framework, environmental and infrastructure constraints and other factors.
- **Market Capacity** refers to issues of commercial viability whether pricing levels, market acceptance/ attitudes, development costs, etc. make development a commercial proposition, i.e. if development is financially feasible.

This section investigates Market Capacity across the South West Region over the coming decades to 2041.

7.1 Methodology and Approach

Housing supply forecasts are carried out at the precinct level (i.e. Growth Area, Planned Precinct, Investigation Area) and then collated by LGA.

The assessment of the sufficiency of housing capacity in the South West Region is made using the following methodology:

- Calculate the remaining number of dwellings required to be delivered across the South West Region in order to meet the DPE implied dwelling requirement of 362,385 dwellings by 2041. This is referred to as the Remaining Dwelling Need.
- Forecast take-up of **greenfield development** opportunities in the Growth Areas based on:
    - Planned existing services infrastructure and future servicing programme.
    - Proximity to existing and future transport infrastructure and employment precincts.
    - Land ownership patterns and lot fragmentation.
    - Observed take-up rates in existing and greenfield precincts on the market.
- Carry out high-level feasibility testing in select centres (Liverpool, Leumeah, Campbelltown, Macarthur) to assess the likely take-up of **infill development** opportunities.
- Forecast take-up of infill growth in existing centres and urban areas based on:
    - High-level development feasibility assessment of planning interventions implemented or proposed.
    - Assessment of market acceptance/ resistance to higher density living.
- Forecast take-up of dwelling growth elsewhere in the South West Region by applying a nominal growth factor based on historic rates (2006-2016).
- Sum the housing supply forecasts by LGA and compare against the estimated Remaining Dwelling Need.

7.2 Remaining Dwelling Need

Based on future population and household growth in the South West Region, DPE have projected there will be a need for approximately 362,000 dwellings by 2041. The assessment of supply carried out in section 6.1 estimated that as at September 2020 there were about 171,000 private dwellings in the South West Region.

By deducting the number of existing dwellings in the South West Region against the implied dwelling requirement for 2041, a Remaining Dwelling Need of 191,000 dwellings is calculated. This equates to some 9,100 additional dwellings per annum (on average) over the next 21 years to 2041, at a required average annual growth rate of 3.6%.

Figure 7.1 illustrates the how the remaining dwelling need to 2041 was calculated for the South West Region.

Figure 7.1: Remaining Dwelling Need, South West Region

Source: Atlas

7.2.1 Take-up of Greenfield Development

The scale and pace of greenfield development opportunities is hampered by:

- **Long lead-in times to availability of services infrastructure**
  It is not uncommon for a mismatch between delivery of services infrastructure, for example electricity infrastructure may be available in 2021 but options planning for water services infrastructure may only commence in 2023 (delivery to occur some years after that). In many cases drinking water may be available ahead of wastewater (e.g. drinking water for South Creek West is proposed for delivery in 2019/2020 whilst wastewater is still in the strategic planning stage).
- **Lot fragmentation in precincts**
  Lot and ownership fragmentation makes site consolidation and large-scale development difficult. For example, despite having been rezoned since 2013, there has been only limited development at Austral and Leppington North.

These challenges associated with take-up in greenfield areas have serious ramifications for overall housing supply in the South West Region given the nature and scale of the housing role which is planned for these areas.

7.2.2 Feasibility of Infill Development

Generic feasibility assessments have been carried out in a select number of centres across the South West Region to ascertain the likelihood of development under existing and/or proposed controls. The centres selected for testing include Liverpool, Ingleburn, Campbelltown and Macarthur.

Where specific schemes are not available, feasibility testing is carried out in generic terms only and based on a desktop review of existing land values and development site values, also referred to as Residual Land Values (RLV).

The Residual Land Value (RLV) can be defined as the maximum price a developer would be prepared to pay for a site in exchange for the opportunity to develop the site, whilst achieving target hurdle rates for profit and project return. The residual value must be of a sufficient amount to encourage an owner to sell and/or displace the current use of the land. For development to be viable, the Residual Land Value of a development opportunity must exceed the 'as is' value of the land.

Assumptions in Aggregate

Feasibility testing relies on an assessment of aggregate 'as is' property values in the various centres. Different environmental conditions will influence the developability of land, ultimately influencing the value of the site. It is not the intention of the analysis to assess the land values at a fine grain, rather to make observations that can be aggregated at a centre-wide level.

Notional Development Scenarios

Where specific schemes are not available, the feasibility analysis is predicated on a hypothetical 2,000sqm site with the key variables being adopted land cost and density controls. This analysis, commonly referred to as 'tipping point analysis', allows for a high-level assessment of the density required for different sites in the centres to become viable redevelopment

opportunities. Findings are then compared against planning controls (either existing or proposed) in each centre to ascertain the likely take-up of development opportunities and inform take-up forecasts.

It is not the intention of the feasibility to quantify the *quantum* of dwellings which could be delivered in each centre. Rather, the feasibility assessment is undertaken to inform assumptions used in forecasts for infill housing across the South West.

Development Feasibility Assessment

Liverpool City Centre

The Liverpool City Centre was formally rezoned from B3 Commercial Core to B4 Mixed Use in September 2018, facilitating capacity for approximately 10,000 dwellings. The Liverpool City Centre also forms part of the broader Liverpool Collaboration Area (which includes parts of Warwick Farm and Moorebank) which has capacity for some 18,800 dwellings.

Density controls across the Liverpool City Centre vary. In the R4 High Density Residential zone along the periphery of the centre, permitted densities range from FSR 1.5:1 to FSR 2:1, although greater densities (up to FSR 3:1) are permitted if minimum lot size requirements are achieved. Throughout the majority of the centre which is zoned B4 Mixed Use, permitted densities range from FSR 2.5:1 to FSR 3:1 although bonus floorspace up to FSR 10:1 are also achievable. Bonus density controls are largely based on location with the City Centre defined into four distinct areas known as Area 7, 8, 9 and 10.

The City Centre is characterised by a mix of building typologies and land uses; single storey, fine grain shop front buildings characterise uses along Macquarie Street and the area immediately west of the train station. Larger, two storey commercial buildings are interspersed throughout the Centre, with car showrooms located along Macquarie Street on the southern edge of the Centre. Single storey detached houses and aged, two storey unit blocks are observed on the periphery of the Centre.

A review of existing property values throughout the City Centre along with recent development site sale evidence has been undertaken and applied in a high-level feasibility analysis. The results of this analysis are summarised in **Table 7.1**.

Table 7.1: Summary of High-Level Feasibility Assessment, Liverpool City Centre

	R4 High Density Residential Zones		B4 Mixed Use Zones	
Base FSR	1.5:1, 2:1		2.5:1, 3:1	
Bonus FSR	3:1, subject to additional provisions[1]		10:1, subject to additional provisions[2]	
Location	Periphery of the City Centre to the west, north and south of the B4 Mixed Use zone.		Majority of the City Centre (referred to as Area 7 and Area 8 in Liverpool CBD), including the main thoroughfares of George, Macquarie, Scott and Moore Street.	
Existing Improvements	Primarily aged, 2-3 storey unit blocks with small pocket of single storey detached housing.		Mix of aged, fine grain shopfronts, large commercial buildings, car showrooms and aged, 2-3 storey unit	
'As Is' Values ($/sqm site area)	$2,500/sqm	$3,500/sqm	$3,750/sqm	$6,500/sqm
As Is Value	$5,000,000	$7,000,000	$8,000,000	$13,000,000
Development Site Values ($/sqm GFA)	$800/sqm	$850/sqm	$850/sqm	$1,000/sqm
Tipping Point FSR	3.1:1	4:1	4.2:1	6.5:1
Likelihood of Development	Sites improved with detached houses present most likely opportunities for redevelopment. High-density development at base density controls is unlikely to be viable for most sites.		Fine grain commercial buildings unlikely to be developed given high cost of site consolidation. Larger commercial buildings within Area 8 more likely to be developed, particularly those with access to bonus FSRs.	

Notes:
1 - Site must exceed 2,500sqm in site area, otherwise floorspace is calculated by (2+X:1) where X = site area-1,000/1,500
2 - Site must fall in Area 8, have a lot size exceeding 1,500sqm and have at least two street frontages
Source: Atlas

Ingleburn, Campbelltown and Macarthur

The Glenfield to Macarthur Urban Renewal Corridor represents one of the largest urban renewal projects in the Western City. Of the circa 17,000 dwellings expected to be theoretically realised upon implementation of new planning controls, around 11,500 dwellings, or almost 70%, are expected to be delivered in the centres of Ingleburn (3,200 dwellings), Campbelltown (3,600 dwellings) and Macarthur (4,700 dwellings). Accordingly, the commercial viability of development in these centres will be critical to the success of the Corridor.

Existing land uses and land values differ across these three precincts. The Ingleburn centre is characterised by a small cluster of aged commercial and shopfront buildings and single storey, older style detached houses. The Campbelltown centre is one of the largest commercial, retail and civic hubs in the Western City with a variety of existing land uses and building typologies including fine grain shop fronts, larger commercial buildings, large format retail showrooms and detached housing. Macarthur is dominated by the Macarthur Square shopping centre along with large format retail buildings and showrooms.

Implementation of the planning controls proposed in the Glenfield to Macarthur Corridor Strategy and various Precinct Plans is staged. The initial precinct to be progressed is Ingleburn with a planning proposal submitted by Campbelltown City Council in February 2020 to rezone the precinct in line with the Ingleburn Precinct Plan currently under assessment.

A high-level feasibility assessment of the Ingleburn, Campbelltown and Macarthur Precincts has been undertaken in **Table 7.2** based on the density controls proposed in the Ingleburn Planning Proposal (Campbelltown City Council, 2020) and Campbelltown and Macarthur Precinct Plans (DPE, 2017).

Table 7.2: Summary of High-Level Feasibility Assessment, Ingleburn, Campbelltown and Macarthur

	Ingleburn			Campbelltown			Macarthur
Existing Zone	B4	R4	R2	B4	R4	R3	B4
Proposed Zone	B4	R4	R4	B4	R4	R4	B4
Proposed FSR*	3.7:1#	2.7:1	2.7:1	4:1	3:1	3:1	3:1
'As Is' Values ($/sqm site area)	$3,000	$1,500	$1,100	$3,500	$1,600	$1,200	$2,500
As Is Value	$6,000,000	$3,000,000	$2,200,000	$7,000,000	$3,200,000	$2,200,000	$5,000,000
Site Values ($/sqm GFA)	$700/sqm	$750/sqm	$750/sqm	$750/sqm	$800/sqm	$800/sqm	$800/sqm
Tipping Point FSR	4.3:1	2.0:1	1.5:1	4.7:1	2.0:1	1.5:1	3.1:1
Likelihood of Development	Development unlikely to occur in the B4 zone unless large sites can be economically acquired. Development in the existing R2 and R4 zones more likely.			Similar to Ingleburn, development in the existing B4 zone is challenging given high existing land values. Development in the R3 and R4 is considered viable.			Development in the B4 zone is marginal and contingent on the value of existing large format retail buildings.

*Based on estimate of equivalent FSR controls from building height controls
#Includes a minimum non-residential density control of FSR 1.7:1
Source: Atlas

Based on the high-level findings observed from the analysis undertaken, it is highly unlikely that all of the 11,500 potential dwellings identified across Ingleburn, Campbelltown and Macarthur will be delivered.

Summary of Feasibility Analysis

Some of the centres examined are undergoing a transition to more intensive uses brought about by increased development and investment activity. Penrith and Liverpool centres in particular have been the beneficiary of high density development with market attitudes towards high density living observed to be shifting.

Notwithstanding the shift in market attitudes towards high density living and development interest in the South West Region's centres, particularly Liverpool, development feasibility is still challenging.

As is evident from the feasibility analysis results, the feasibility of higher density development (under current and proposed planning controls) varies between centre, influenced by the following key factors:

- **Existing uses and values**
  Where numerous lots are required for consolidation, the payment of incentives over and above market value is often required to incentivise individual landowners to sell.

  It is an unfortunate reality that site consolidation is a high-risk and costly exercise. Consolidation of sites in multiple ownership can be cost-prohibitive unless there is notable planning upside (i.e. where planning controls are amended).

  Most of the centres have fine grain lot patterns. In some instances, redevelopment into higher densities is sufficient to displace existing uses (enabling site consolidation) however landowner objectives are not always financial in nature and do not always align to enable development.

- **Development typology and construction cost**
  The cost of construction increases as buildings become taller. Service requirements specify that more lifts are required so that vertical transportation times are not compromised. Service shafts and fire escapes too are correspondingly wider in taller buildings.

  Tall buildings will only be developed in locations where the increased cost of construction (taller buildings and more basement levels) can be offset with higher revenue levels. Accordingly, residential towers are not feasible in all markets.

  Table 7.3 outlines the potential cost and venue differential as buildings become taller. For comparison purposes, indicative revenue potential in the Parramatta CBD is also provided.

  Table 7.3: Indicative Cost v Revenue Comparison

No. of Storeys	South West Region ($/ sqm)		Parramatta LGA ($/ sqm)	
	Avg. Cost	Avg. Revenue	Avg. Cost	Avg. Revenue
<3 storeys	$1,800-$2,400	$4,000-$6,000	$1,800-$2,400	$6,000-$8,000
Multi-storey	$2,400-$4,000	$6,000-$9,000	$2,400-$4,000	$8,000-$14,000

Source: Atlas

  The cost of building construction is not too dissimilar across Sydney. Medium density dwellings are a relatively cost-effective typology to deliver, offering more living space than a unit and more economical to construct (i.e. without the need for basement carparking). Notwithstanding, the cost of site consolidation is often the largest impediment to large scale development of medium density dwellings in established areas. In many centres, the prices paid to consolidate sites requires a higher density response (higher than medium density) for development to be viable.

- **Effective demand for higher density product**
  Residential markets are diverse. Market acceptance for higher density product is established within most inner ring suburbs of Sydney. In these areas, end sale prices of completed product justify higher construction costs.

  Effective demand (rather than underlying demand) is there the principle that is relevant for development feasibility. Households must be able and willing to pay for housing, which in turn underpins the type and nature of development that the market can respond with.

  While market attitudes in the South West Region are also shifting and smaller residential product is enjoying growing market acceptance prices achieved for residential units are nevertheless limited by prices paid for detached/ attached dwellings. For example, if a 3 bedroom detached dwelling is available for say $550,000, it is unlikely a 3 bedroom unit will be able to achieve to same level of pricing. This is observed in and around all the centres examined.

The findings of the high-level feasibility analysis in the centres of Liverpool, Ingleburn, Campbelltown and Macarthur show that it is unlikely that all planned housing supply for these centres will eventuate. Existing-use values, fine lot patterns and ownership fragmentation (all which are supply-side issues) are modest end sale values and market attitudes (demand-side issues) are all significant challenges for new development to overcome.

There is considerable development activity in the South West Region's existing urban areas and centres, however is mostly confined to areas where existing buildings are nearing the end of their economic useful lives, where planning upside has been significant or where vacant blocks of land are available or in majority ownership/ control.

The feasibility analysis findings are used to inform dwelling forecasts for the various centres across the South West Region.

7.3 Dwelling Forecasts

Dwelling forecasts are undertaken at a precinct level and then aggregated by respective LGA across the South West Region. Forecasts are carried out on a year-by-year basis and summed into five-year forecast periods.

To understand the importance of the South Creek West precinct with regard to future dwelling supply, this assessment has *excluded* the South Creek West precinct from the forecasts.

The forecasts indicate that a total of ~78,000 dwellings could be delivered over the coming decades to 2041. These dwelling forecasts reflect the *total* dwellings rather than *net* dwellings (net dwellings would account for existing housing which is demolished for the purposes of new development which was not considered in the housing forecasts).

These forecasts are underpinned by several factors including infrastructure servicing timeframes, known and observed ownership patterns, market attitudes and the feasibility of development.

Table 7.4 summarises the housing forecasts for each LGA within the South West Region over the 2021-2041 period.

Table 7.4: Dwelling Forecasts (2021-2041), South West Region

LGA	Forecast Period						Remaining Capacity	
	2021	2021-2026	2026-2031	2031-2036	2036-2041	2021-2041	No.	% of Total
New Dwellings (No.)								
Camden	2,249	8,279	5,454	4,455	3,905	24,341	47,625	66%
Campbelltown	1,155	7,709	7,282	6,254	3,905	26,304	10,884	29%
Liverpool	2,100	7,797	5,830	5,500	4,813	27,439	65,864	71%
South West Region	**5,504**	**23,785**	**18,566**	**16,209**	**12,623**	**78,084**	**124,373**	**61%**
Average Annual Dwelling Supply (No.)								
Camden	2,249	1,656	1,091	891	781	1,159		
Campbelltown	1,155	1,542	1,456	1,251	781	1,253		
Liverpool	2,100	1,559	1,166	1,100	963	1,307		
South West Region	**5,504**	**4,757**	**3,713**	**3,242**	**2,525**	**3,718**		

Source: Atlas

Key findings from the dwelling forecasts outlined in **Table 7.4** are detailed below:

- Overall, the dwelling forecasts indicate that the South West Region could deliver (on average) approximately 3,718 dwellings per annum over the next 20 years to 2041. This is lower than the rate of average annual growth (5,530 dwellings per annum) in the most recent past (2016-2019) when Sydney's residential markets experienced peak investment conditions, although is greater than historic growth observed over 2006-2016 (2,473 dwellings per annum).
- The greatest number of new dwellings is forecast over the 2021-2026 period with a total of 23,785 dwellings at an average annual rate of 4,757 dwellings. Annual dwelling growth is forecast to taper from 2026; forecasts of 3,713 dwellings over 2026-2031, 3,242 dwellings over 2031-2036 and 2,525 dwellings per annum over 2036-2041.
- Based on the forecast supply of circa 77,000 dwellings over the 2021-2041 period, there remains a Theoretical Capacity of ~124,000 dwellings across the South West Region which could be delivered post-2041. Most of this remaining capacity is located within greenfield precincts across the Liverpool and Camden LGAs, including South Creek West.

Dwelling forecasts for each individual precinct and LGA within the South West Region are included at Schedule 4.

It is important to differentiate dwelling forecasts by development type given take-up rates for each development type differ accordingly. Three development types have been defined in the dwelling forecasts - greenfield, infill and undefined.

- **Greenfield** development refers to new housing in non-urbanised areas. Take-up of greenfield development is principally determined by availability of services infrastructure and nature of surrounding transport connections.

- **Infill** development refers to new housing in existing urban areas and often involves intensifying existing residential areas with denser forms of housing (townhouses, apartments). Market factors and development feasibility are the principal determinants of take-up of these forms of development
- Not all future supply across the South West Region is defined in local strategic planning policies or in the current development pipeline. Development is expected to continue to occur as permitted under existing planning controls (e.g. dual occupancy, medium density, etc.). To account for this unspecified development, an additional quantum of supply referred to as **Undefined** has been included in the overall dwelling forecast. This could occur in greenfield or infill areas.

The equivalent split between greenfield, infill and undefined housing in the housing forecasts is outlined in **Table 7.5**.

Table 7.5: Dwelling Forecasts (2021-2041) by Development Type, South West Region

LGA	Greenfield		Infill		Undefined		Total	
	No.	% of LGA	No.	% of LGA	No.	% of LGA	No.	% of LGA
Camden	21,583	88.7%	-	0.0%	2,758	9.1%	24,341	100.0%
Campbelltown	10,458	39.8%	13,455	51.2%	2,391	9.1%	26,304	100.0%
Liverpool	8,592	31.3%	16,321	59.5%	2,526	9.2%	27,439	100.0%
South West Region	**40,633**	**52.0%**	**29,776**	**38.1%**	**7,675**	**9.8%**	**78,084**	**100.0%**

Source: Atlas

As shown in **Table 7.5**, greenfield development is expected to account for the majority of new housing across the South West Region over the coming decades to 2041, accounting for 52% of all forecast new dwellings. Infill development is expected account for around 38% of new housing, primarily in the Liverpool and Campbelltown LGAs. Undefined development (which could be in either greenfield or infill areas) accounts for circa 10% of forecast supply.

*The Study highlights that dwelling forecasts represent 'totals' rather than 'net new' dwellings. The forecasts do not account for where development results in demolition of existing dwellings. The demolition/ withdrawal of housing stock should rightfully be deducted from dwelling forecast totals before they are added to existing dwelling stock.

The implications of the housing forecasts undertaken for the South West Region in the context of future demand projections, along with the role for the Belmore Road Precinct to play, are outlined next in Chapter 8.

Dwelling forecasts suggest that the Camden LGA is well-placed to meet their housing targets in the short-term (i.e. 10,000-12,500 dwellings by 2026). This is a short-term target and does not reflect medium to long-term demand.

Post-2026, dwelling forecasts suggest that the Camden LGA, along with the broader South West Region, will face a **significant shortfall** in required supply to meet projected population demand.

Accordingly, commencing the release and development of the Belmore Road Precinct prior to 2026 will be critical in mitigating impacts of demand outstripping supply across the South West.

8. Need for the Proposal

This Chapter reconciles the housing demand projections carried out by the NSW DPE against forecast supply to assess the likelihood of supply matching demand in the South West Region. Based on these findings, along with the market analysis carried out in Chapters 5-6, recommendations are made on the type of housing which could be pursued at within the Belmore Road Precinct.

8.1 Projected Housing Demand v Forecast Supply

After deducting the number of existing dwellings in the South West Region (to Q3 2020) from the implied dwelling requirement for 2041, a Remaining Dwelling Need of 191,000 dwellings results. To meet Remaining Dwelling Need, average annual supply of 9,095 dwellings is required from 2020 to 2041 (representing an average annual growth rate of 3.6%).

This average annual number of dwellings required (9,095) is higher than the ~8,600 average annual dwellings which would be needed to meet DPE's 2016-2041 projections. This is because dwelling completions over 2016-2020 were short of the required ~8,600 dwellings. ***Each year dwelling completions fall short of the required, unmet demand grows and exacerbates the housing shortfall***.

Supply forecasts carried out in Chapter 7 indicated that approximately 78,000 dwellings could be delivered over the coming decades to 2041 (excluding potential dwellings at South Creek West). Compared against the Remaining Dwelling Need, a significant shortfall in housing supply is identified. This is depicted in **Figure 8.1**.

Figure 8.1: Housing Supply and Demand (2041), Western City District

Source: Atlas

It is important to note that the South Creek West precinct was not included in the supply forecasts. Initial precinct planning found there could be potential for some 30,000 dwellings across the precinct. Even if *all* this theoretical supply was delivered prior to 2041, there would still be a significant undersupply of some 83,000 dwellings across the South West.

The factors that influence housing supply capacity and housing demand were examined in Chapters 4 to 6. Dwelling completions peaked in 2017 (6,283 dwellings) commensurate with a peak in Sydney's housing market. Completions fell to 5,500-5,600 dwellings over 2018-2019 as market conditions softened.

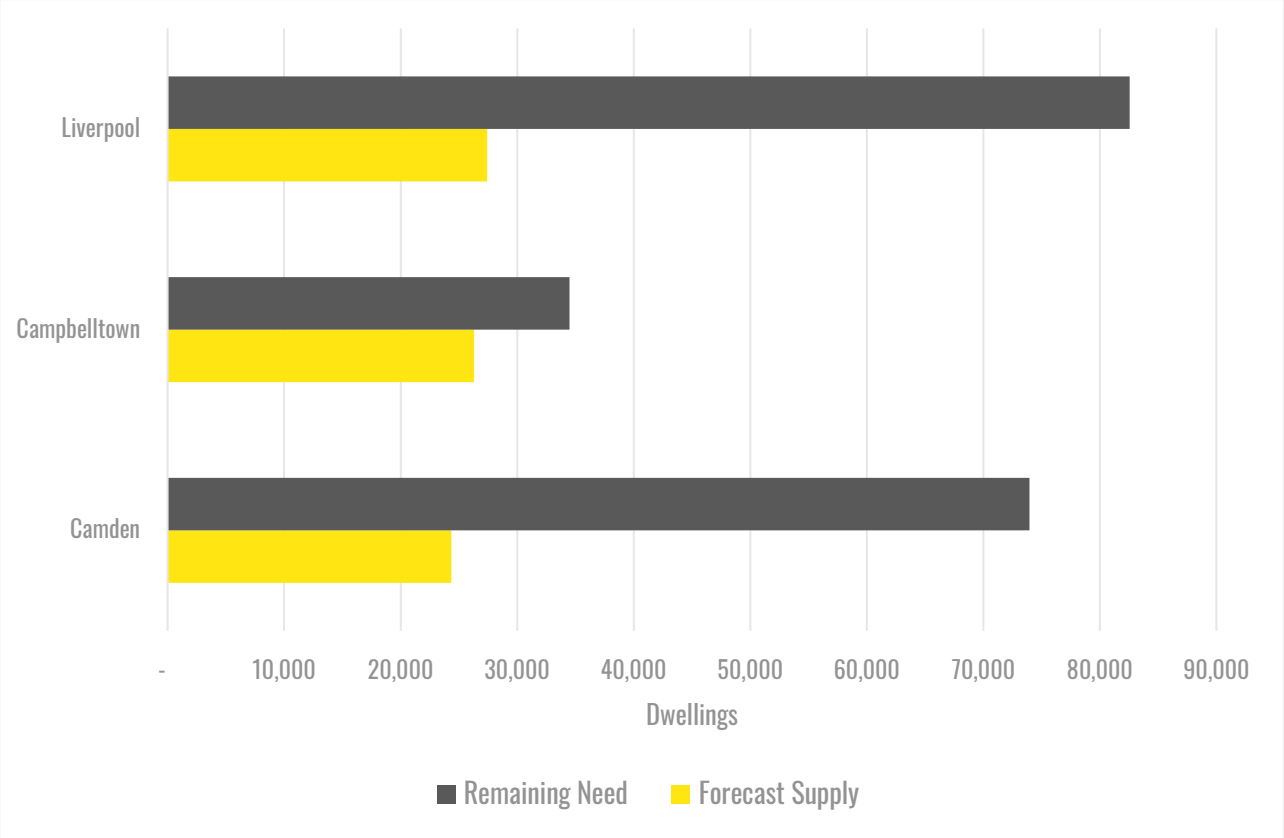
Despite the economic uncertainty resulting from the COVID-19-induced recession over the course of 2020, Sydney's residential market is beginning to return to the peaks of activity witnessed in 2017. Even still, dwelling completions will take time before they return to peak levels of 2017. Development activity is 'lumpy' in nature and will take time to re-mobilise.

Even at peak levels (6,300 dwellings) sustained to 2041, dwelling completions (6,300 x 21 years) would be insufficient to meet the Remaining Dwellings Need of 191,000. A housing shortfall (58,700 dwellings) would still result.

There remains a significant amount of planned supply (approximately 124,000 dwellings) which is not expected to be delivered prior to 2041. If ***all*** of this planned supply was brought forward and delivered in the period to 2041, there would be sufficient capacity to meet projected demand. As the analysis shows, this is unlikely.

Figure 8.2 illustrates the assessment of housing demand and supply forecasts for the individual LGAs within the South West Region with **Table 8.1** providing the detailed figures of the assessment.

Figure 8.2: Housing Demand and Supply Assessment (2021-2041), South West Region



Source: Atlas

Table 8.1: Housing Demand and Supply Assessment (2020-2041), South West Region

Market Region	Existing Dwellings (2020)	Remaining Need (2019-2041)	Forecast Supply (2019-2041)	Over/ Under Supply (2019-2041)	Remaining Capacity (2041+)
Camden	36,401	73,952	24,341	-49,611	47,625
Campbelltown	60,753	34,503	26,304	-8,199	10,884
Liverpool	74,224	82,552	27,439	-55,113	65,864
South West Region	171,378	191,007	78,084	-112,923	124,373

Source: Atlas

Whilst there is adequate *theoretical* housing capacity across the South West Region, this assessment has concluded that not all of that capacity is deliverable due to a variety of reasons.

- In Greenfield areas, the availability of services infrastructure is a major impediment to housing supply.
- In Infill areas, fragmented lot and ownership patterns challenge the deliverability of housing.
- Market attitudes towards high density living and the availability of lower density housing options at relatively affordable prices constrain the supply of higher density dwellings.

The next section considers the likely role for Precinct 2 to play in accommodating future housing demand in anticipation of the significant shortfall in supply to 2041.

8.2 Role of the Belmore Road Precinct

Supply forecasts identified a major shortfall in the amount of new housing required to meet projected housing demand across the South West Region to 2041. Even though there may be sufficient ***theoretical dwelling capacity***, it is unlikely all residential land will be developed.

Landowner objectives, motivations and personal circumstances may not necessary align with development imperatives and in precincts where ownership is highly fragmented, development take-up is expected to be less than the theoretical capacity for dwellings. Accordingly, the Belmore Road Precinct is of critical importance to mitigate the forecast shortfall in housing supply.

Beyond the important issue of housing supply, the location of Precinct 2 proximate the Western Sydney Aerotropolis is also of strategic importance. Ensuring housing supply proximate one of the largest planned employment precincts in Greater Sydney's history is delivered in timely and orderly fashion will be critical to the success of the Aerotropolis.

PART C: ECONOMIC IMPACTS

9. Indicative Layout Plan

Research and economic modelling carried out in Part C of this Study was undertaken in Q2 2022.

9.1 Housing Mix and Yield

Market investigations have identified strong demand for dwellings in the various estates across the SWGA. Affordability issues in conjunction with lifestyle reasons is seeing owner occupier purchasers favouring smaller, denser product.

Detached housing typologies remain the preferred product of choice for most prospective purchasers across the SWGA, although the popularity and acceptance of medium-density and high-density typologies is growing.

9.1.1 Target Densities

'Target density' controls are generally used in neighbouring precincts within the SWGA including Edmondson Park (north), Austral & Leppington North, East Leppington and Catherine Fields (part) where average densities range from 10dw/ha to 28dw/ha. The following density targets are applied to residential zones in each sub-precinct.

- Low density - 12.5dw/ha to 20dw/ha.
- Medium density - 20dw/ha to 40dw/ha.
- High density - 40dw/ha.

Indicative lot sizes envisaged by density provisions in the Growth Centres Development Code are classified below:

- Townhouses, semi-detached and detached small dwellings (up to 350sqm).
- Detached medium dwellings (350sqm-450sqm).
- Detached large dwellings (450sqm).

Development at higher densities than the target density controls is permitted however the maximum number of dwellings is controlled by stipulated minimum lot sizes in each precinct. Higher density development is not anticipated to occur unless access to transport, employment and other services are available.

9.1.2 Market Densities

Market investigations suggests that residential typologies are becoming increasingly focused on smaller lot sizes, as market acceptance of small lot housing and denser product is growing amidst an enduring housing affordability issue. In particular, the market appears to be willing to compromise on lot size as long as a detached product can be secured.

Given this ongoing structural shift in demand, **Table 9.1** outline potential market densities for the Belmore Road Precinct. Detached product is still expected to be the dominant typology, a function of general market expectations.

Given the location of the Belmore Road Precinct immediately south-west of the Western Sydney Aerotropolis and west of the Bringelly Road Employment Investigation Corridor, medium and higher density typologies could be considered given the future level of amenity and employment opportunities nearby.

Table 9.1: Proposed Product Typology and Mix, Belmore Road Precinct

Dwelling Type	Mix (%)		Size Range*
	Low	High	
Detached - Large	4%	5%	550sqm – 657sqm site area
Detached - Standard	45%	50%	270sqm - 450sqm site area
Medium-Density (Attached)	35%	40%	193sqm – 270sqm site area
High-Density (Apartments)	5%	15%	100sqm to 120sqm GFA

*Dwelling sizes for detached lots and medium-density typologies are represented in site area whereas high-density typologies are based on gross floor area.
Source: Atlas

Based on these development typologies and mixes and following extensive consultation with Council, a revised final indicative layout plan (the ILP) has been prepared. The ILP proposes four residential density bands to provide certainty on the quantum of dwellings which can be delivered throughout the precinct, though also enable flexibility in the distribution of different dwelling typologies. The density bands and their potential dwelling yields are summarised in **Table 9.3**.

Table 9.2: Residential Dwelling Densities, Final Revised Indicative Layout Plan

Dwelling Type	Density (Dw/ha)		Yield		% of Yield
	Min	Max	Min	Max	
Low-Density Band 1	10	20	416	831	25%
Low-Density Band 2	20	25	708	885	27%
Medium-Density Band 1	25	35	642	899	27%
Medium-Density Band 2	35	60	257	440	13%
Village Centre (2-3 storey apartments)	-	60	-	217	7%
Total			2,022	3,271	100%

Source: Urbis

Based on the density bands outlined in **Table 9.3**, the ILP proposes a mix of four housing typologies – larger detached dwellings (450sqm to 600sqm lots), detached dwellings (350sqm to 450sqm lots), attached, semi-detached and rear loaded dwellings (150sqm to 350sqm lots) and 2-3 storey apartments above mixed-use podiums in the proposed town centre. In total, the ILP proposes 3,271 dwellings, equivalent to 28 dwellings per hectare of residential development area. Detached housing formats account for almost 70% of the proposed yield.

Table 9.3: Residential Densities to Build-Out, Indicative Layout Plan

Typology (Lot Size)	Low Density (Band 1)	Low Density (Band 2)	Med. Density (Band 1)	Med. Density (Band 2)	Village Centre	Total	% of Yield
Detached – Large (450sqm-600sqm)	208	88	45	-	-	341	10%
Detached (350sqm-450sqm)	623	708	449	132	-	1,912	58%
Attached-Semi-detached/Rear (150sqm-350sqm)	-	88	404	220	-	713	22%
Units	-	-	-	88	217	305	9%
Total	831	885	899	440	217	3,271	100%

Source: Urbis

The residential yields proposed in the ILP are broadly consistent with the recommended typology mix outlined in Table 8.2, albeit the ILP proposes a higher quantum of detached housing typologies (68% of total yield compared to 55% recommended in Table 8.2). Given the significant escalation in residential property values which has occurred across Greater Sydney over the past 12-months to Q2 2022 (31% growth in median house prices in Camden LGA alone), a higher proportion of medium-density typologies could be considered, subject to environmental capacity and other technical considerations. It is understood that the adopted yields in the ILP have been developed through extensive consultation with Council.

9.1.3 Population Estimates

On an overall basis, household occupancy rates in South West Region ranged from 3.0 to 3.3 persons per dwelling as at 2016. In the South West Catchment Area, a household occupancy rate of 3.2 persons per dwelling was assessed.

DPE projections for the South West Region suggest a declining household occupancy size over the coming decades to 2041 will be observed, aligning with a growing population of older, single residents. This is considered appropriate for the broader South West Region; however it is not expected to be reflective of greenfield areas such as the Belmore Road Precinct which will continue to attract younger families with children.

Based on previous experience and industry standards, the following household occupancy rates are considered appropriate:

- ‘Detached – Large’ single dwellings - 3.6 persons
- ‘Detached – Standard’ single dwellings - 3.4 persons.
- Medium-density typologies (Semi-detached, attached, row housing) - 2.9 persons.
- High-density typologies (flats, units, apartments) - 2.3 persons.

Table 9.4 applies the adopted household occupancy rates to the proposed dwelling yields to estimate resident population. **Table 9.4: Dwellings and Population, Belmore Road Precinct**

Typology	Dwellings	Household Occupancy	Population
Detached - Large	341	3.6	1,228
Detached - Standard	1,912	3.4	6,501
Medium-Density	713	2.9	2,068
High-Density	305	2.3	702
Total	**3,271**	**3.2**	**10,498**

Source: Atlas Economics

Application of the adopted household occupancy rates results in a resident population of 10,498 residents, equating to an average of 3.2 persons per dwelling. This is consistent with the occupancy rates of 3.2 persons per dwelling observed across the South West Catchment Area (in 2016).

9.2 Timing and Staging

The development of the Belmore Road Precinct is directly influenced by the availability provision of regional and services infrastructure. Market demand for housing in the SWGA is strong and supply forecasts indicate that there will be a major shortfall in housing over the coming decades. This presents an immediate and sustained opportunity for the Precinct to meet market demand before a major lag in housing supply results in a negative economic and social impacts.

9.2.1 Spatial Distribution

Location will be the principal determinant of the spatial distribution of dwellings across the Precinct. Higher-density product will require close proximity to both public transport and retail facilities to be viable. Lower density product will be supportable in areas on the fringe of the precinct. As retail land uses are followers of population growth, the retail centre is unlikely to be established until such time as a critical mass of residents is established. This follows that any higher density dwelling product will be a longer-term proposition.

9.2.2 Expected Take-Up

A somewhat perverse outcome of the COVID-19 outbreak has been a major uptick in demand for residential housing across Greater Sydney’s Growth Areas. Supply forecasts suggests there will be a significant shortfall in housing supply required to meet projected demand over the coming decades.

Conventional wisdom would suggest a conservative take-up rate starting from 150-200 lots per annum to potentially a peak of 300-400 lots per annum across the Precinct. Nevertheless, astute marketing, upfront delivery of community infrastructure and product branding have been observed to result in phenomenal take-up exceeding 400 lots per annum in some estates.

The direct relationship between affordability (and lifestyle) and smaller lot sizes is well-established and will persist over the medium-term. The shift towards higher-density accommodation is also growing - townhouses, villas and apartment products have wide market acceptance in the more mature North West market while precincts such as Edmondson Park are beginning to deliver significant quantum of medium and higher-density housing.

Tracking the market response to new higher-density product in the SWGA is crucial to delivering an appropriate typology mix. The success of higher density product will be entirely dependent on the quality of amenity that can be established.

9.3 Final Indicative Layout Plan

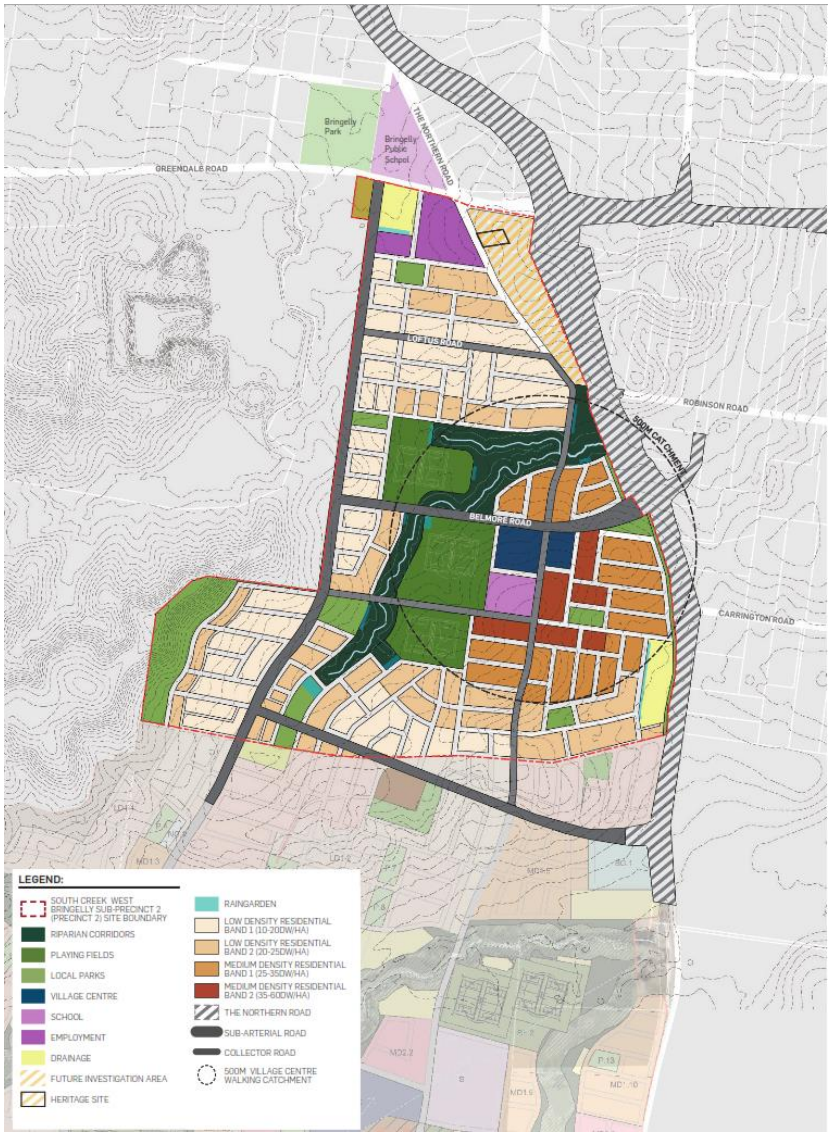
The revised final ILP for the Belmore Road Precinct envisages a mix of residential typologies, a small neighbourhood centre to support the local resident population, a riparian corridor and network of green spaces and an employment precinct at the northernmost end fronting Greendale Road.

The draft ILP envisages the following yields and land uses:

- 113.6ha of residential land totalling 3,271 dwellings, including:
    - 341 detached (450sqm to 600sqm lots) dwellings;
    - 1,912 detached (350sqm to 450sqm lots) dwellings;
    - 713 attached/semi-detached (150sqm-350sqm lots) dwellings;
    - 305 apartments within the village centre.
- A 7.18ha employment precinct, a 3.11ha village centre and ~2.34ha of land dedicated for education uses.
- Around 39.11ha of open space and riparian land.

Figure 9.1 depicts the draft Indicative Layout Plan for the Belmore Road Precinct.

Figure 9.1: Indicative Layout Plan (June 2022), Belmore Road Precinct



Source: Urbis

The economic impacts which could result from the development of the land uses proposed in the ILP are considered next.

10. Economic Impact Assessment

10.1 Overview

This Chapter examines the economic activity and impacts that could be facilitated through progressing development of the Belmore Road Precinct during construction and upon completion.

The economic impacts are assessed at the Camden LGA level. An Input-Output model (including the development of specific regional Input-Output transaction tables) was developed to reflect the economic structure of the Camden LGA (see Schedule 2 for further detail).

Input-Output modelling describes economic activity through the examination of four types of impacts described in **Table 10.1**.

Table 10.1: Economic Indicators

Indicator	Description
Output	The gross value of goods and services transacted, including the cost of goods and services used in the development and provision of the final product. Care should be taken when using output as an indicator of economic activity as it counts all goods and services used in one stage of production as an input to later stages of production, thus overstating economic activity.
Gross Product	The value of output after deducting the cost of goods and services inputs in the production process. Gross product (e.g. Gross Regional Product (GRP)) defines a net contribution to economic activity.
Incomes	The wages and salaries paid to employees as a result of the Project either directly or indirectly.
Employment	Employment positions generated by the Project (either full time or part time, directly or indirectly). Employment is reported in terms of Full-time Equivalent (FTE) positions or person-years.

Source: Atlas

Input-Output modelling estimates show the impacts of direct spending in a particular industry as well as from Production-induced impacts (Type I) or Consumption-induced impacts (Type II).

- **Production-induced impacts (Type I)** show the effects of industrial support effects of additional activities undertaken by supply chain industries increasing their production in response to direct spending.
- **Consumption-induced impacts (Type II)** estimate the re-circulation of labour income earned as a result of the initial spending through other industry impacts (or impacts from increased household consumption).

The estimates of economic impacts consider production and consumption-induced flow-on impacts. Type II impacts are commonly considered to overstate economic activity and therefore the types of flow-on impacts are reported separately.

10.2 Modelling Approach

This Chapter seeks to understand the economic impacts of developing the Precinct prior to its anticipated development post-2030. Accordingly, economic modelling is based on a 10-year period (i.e. 2021-2031). It is not expected that Precinct 2 will be fully developed, 'built out', within this period.

10.2.1 Expected Take-Up over Modelling Period

A high-level forecast of expected take-up of residential and non-residential uses within the 10-year modelling period has been carried out for the purposes of economic modelling. This forecast has been based on historic take-up rates observed elsewhere within the SWGA, current market conditions and the future economic outlook.

This high-level forecast suggests that by 2031 the following land uses will have been delivered:

- Around 2,699 dwellings;
- Almost 25,000sqm of gross floor area within the future neighbourhood/village centre;
- The entirety of the northern employment precinct (estimated to yield around 50,000sqm of employment GFA);

- A new primary school with capacity for some 1,100 students.

Table 10.2 summarises the estimated take-up of different land uses within the Precinct over 2021-2031.

Table 10.2: Estimated Take-up (2021-2031), Belmore Road Precinct

Land Use	Yield (GFA*/dwellings)	% Delivered
Residential:	2,699	83%
Detached-Large (450sqm-600sqm)	*341*	100%
Detached-Standard (350sqm-450sqm)	*1,912*	73%
Medium-Density (150sqm-350sqm)	*713*	100%
High-Density (Units)	*305*	82%
Neighbourhood Centre	24,880sqm	67%
Employment	50,260sqm	100%
Education	23,400sqm	100%

Source: Atlas

*Gross floor area has been estimated for the purposes of economic modelling.

Based on the 2,699 dwellings expected for delivery by 2031, the local resident population has been approximated by applying average household size rates to the different housing typologies envisaged. Adopted household size rates include:

- 3.6 residents per detached (large) dwelling;
- 3.4 residents per detached (standard) dwelling;
- 2.9 residents per medium-density dwelling;
- 2.3 residents per high-density dwelling.

Application of these average household sizes to the forecast dwellings would result in a total resident population of some 8,613 residents by 2031. **Table 10.3** summarises the population estimates based on applied average household sizes.

Table 10.3: Estimated Resident Population (2021-2031), Belmore Road Precinct

Typology	2021	2026	2031	2021-2031
Dwellings				
Detached-Large	-	341	-	341
Detached-Standard	-	450	945	1,395
Medium-Density	-	338	375	713
High-Density	-	-	250	250
Total	**-**	**1,129**	**1,570**	**2,699**
Population				
Detached-Large	-	1,228	-	1,228
Detached-Standard	-	1,530	3,213	4,743
Medium-Density	-	980	1,088	2,068
High-Density	-	-	575	575
Total	**-**	**3,738**	**4,876**	**8,613**

Source: Atlas

10.2.2 Base and Proposal Case

Comparing the economic impacts of developing the Precinct within the 10-year modelling period (i.e. the Proposal Case) is made against the expected use of the Belmore Road Precinct up until 2031 (i.e. the Base Case):

- **Proposal Case**: Development of the draft ILP with the following yields delivered by 2031:
  - 2,699 new dwellings accommodating 8,613 residents.
  - A neighbourhood/village centre comprising 24,880sqm of GFA.
  - An employment area comprising 50,260sqm of employment/industrial GFA.
  - A 23,400 sqm (land area) primary school capable of accommodating 1,100 students.
- **Base Case:** the Belmore Road Precinct remains as undeveloped rural land until the year 2031.

Note: employment floorspace included in the Proposal Case has been estimated for the purposes of economic modelling.

10.2.3 Drivers of Economic Activity

To understand the economic impacts likely to result from the Proposal compared to the Base Case, it is necessary to distinguish economic impacts during the construction phase and those economic impacts that will be more permanent in nature following construction completion and operations commencement and stabilisation.

- **Construction Phase:** Construction activity will draw resources from and thereby generate economic activity in the Camden LGA as well as from outside the LGA. Assumptions are made on the proportion sourced from within and from outside the LGA. Construction activity is assessed for the Proposal Case only.
- **Operations Phase:** The Proposal is expected to generate ongoing economic/ operational activity through:
  - Direct turnover generated by the town centre and industrial employment spaces.
  - Additional household expenditure within the Camden LGA generated through delivery of new housing.

Refer to Schedule 1 for a description of the drivers and assumptions that underpin the assessed economic impacts.

10.3 Economic Activity and Impacts

Economic impacts arising in the Construction phase are estimated separately to the Operational phase. Construction impacts are expected to be short-term in nature and will conclude when development activity is completed.

10.3.1 Construction Phase

During construction the Proposal Case is projected to generate significant economic impacts for Camden LGA, including:

- **$2.9 billion** in output ($1.8 billion directly).
- **$1.0 billion** contribution to GRP ($508.9 million direct contribution).
- **$575.8 million** in wages and salaries paid to local workers ($320.1 million directly).
- **6,825** FTE jobs (3,532 direct FTE).

Table 10.4 summarises the estimated economic impacts during the construction phase in both the Base and Proposal Case.

Table 10.4: Construction Impacts in Camden LGA (Proposal Case)

Indicator	Output ($M)	GRP ($M)	Incomes ($M)	Employment (FTE)
Direct	$1,822.2	$508.9	$320.1	3,532
Production Induced	$679.4	$287.3	$168.0	2,006
Consumption Induced	$379.1	$225.7	$87.7	1,288
Total Impact	**$2,880.6**	**$1,021.8**	**$575.8**	**6,825**

Note: Totals may not sum due to rounding.
Source: Atlas Economics

10.3.2 Operational Phase

Following the completion of construction, the Proposal Case is estimated to support the following annual economic activity through direct and indirect (flow-on) impacts associated with operations on the Site[1] by 2031:

- **$543.2 million** in output (including $328.2 million in direct activity).
- **$253.9 million** contribution to GRP (including $145.5 million in direct activity).
- **$124.1 million** in incomes and salaries paid to households (including $74.8 million in direct income).
- **1,569** FTE jobs (including 927 FTE directly related to activity on the Site).

Table 10.5 summarises the estimated economic impacts during the operational phase in the Proposal Case.

Table 10.5: Operational Impacts in Camden LGA, Proposal Case (2031)

Indicator	Output ($M)	GRP ($M)	Incomes ($M)	Employment (FTE)
Direct	$328.2	$145.5	$74.8	927
Production Induced	$131.6	$58.7	$30.0	359
Consumption Induced	$83.4	$49.6	$19.3	283
Total Impact	**$543.2**	**$253.9**	**$124.1**	**1,569**

Note: Totals may not sum due to rounding.
Source: Atlas

10.3.3 Household Expenditure

Compared to the Base Case, additional local retail expenditure associated with the Proposal's 2,699 new residential dwellings by 2031 are estimated to support the following economic activity through direct and flow-on impacts (per annum):

- **$239.5 million** in output (including $157.0 million in direct activity).
- **$136.9 million** in contribution to GRP (including $91.9 million in direct activity).
- **$70.7 million** in incomes and salaries paid to households (including $50.7 million in direct activity).
- **1,122** FTE jobs (including 8851FTE jobs directly).

Table 10.6 summarises the economic impacts associated with household retail spend in the Proposal Case. It should be noted that not all households residing in the development would be net new to the Camden LGA, and that a degree of double counting exists between the expenditure of residents and the operational impacts of the development (e.g. retail).

Table 10.6: Household Retail Impacts in Camden LGA, Proposal Case (2031)

Indicator	Output ($M)	GRP ($M)	Incomes ($M)	Employment (FTE)
Direct	$157.0	$91.9	$50.7	851
Production Induced	$35.0	$16.8	$9.0	110
Consumption Induced	$47.5	$28.3	$11.0	161
Total Impact	**$239.5**	**$136.9**	**$70.7**	**1,122**

Note: Totals may not sum due to rounding.
Source: Atlas

10.4 Other Economic Benefits

In addition to the significant economic activity supported by the Proposal Case, facilitating development of the Precinct within the next decade would produce several other important economic and social impacts and benefits compared to the Base Case. These include:

[1] Including impacts from dispersed employment.

- **Supporting Housing Affordability:** The Proposal will provide some 2,688 new dwellings over the next 10 years at a range of price points. This increase in housing supply will support housing affordability for residents seeking accommodation in the South West Region, including the availability of rental accommodation.
- **Providing Significant Local Infrastructure:** The Proposal includes an allowance for nearly 40ha of open space in addition to civil/road and educational infrastructure to support the growth of the local community. This is intended to be provided at no-cost to government in line with the principles of the Precinct Acceleration Protocol (PAP) scheme.
- **Increase in Rates and Taxation Revenues:** Along with greatly increased economic activity, the Proposal will support significant taxation revenues to all levels of government including Council rates, payroll tax, stamp duty, and income tax.
- **Supporting Economic Diversification:** The Proposal will support a range of employment uses, helping to improve the diversity and resilience of the Camden economy. The proposed location of the employment uses also align with the Northern Road Employment Corridor currently under investigation by Camden Council.
- **Create a Buffer of Housing Supply:** As Precinct 2 is held in majority ownership, the issues of land fragmentation observed elsewhere across the SWGA are mitigated. In other rezoned precincts observed across the SWGA where land ownership is heavily fragmented, the timely supply of housing is not a given. The Proposal has the capacity to provide a buffer of housing supply which mitigates the timing risk observed elsewhere across the SWGA.

10.5 Summary of Findings

The development of the Precinct 2 prior to its anticipated development post-2030 is shown to deliver positive economic impacts to the Camden LGA and the broader South West Region. Given it is held in majority ownership, the development of Precinct 2 could quickly become 'shovel-ready' and support Greater Sydney's economy as it continues to recover from the COVID-19-induced recession.

Compared with the Base Case, the Proposal is estimated to result in **a net increase in economic activity** during the construction phase through a mix of direct and indirect (flow-on) activity, including:

- **$2.9 billion** in output ($1.8 billion directly).
- **$1.0 billion** contribution to GRP ($508.9 million direct contribution).
- **$575.8 million** in wages and salaries paid to local workers ($320.1 million directly).
- **6,825** FTE jobs (3,532 direct FTE).

When operational, the Proposal is estimated to result in an annual **net increase in economic activity** by 2031 with:

- **$543.2 million** in output (including $328.2 million in direct activity).
- **$253.9 million** contribution to GRP (including $145.5 million in direct activity).
- **$124.1 million** in incomes and salaries paid to households (including $74.8 million in direct income).
- **1,569** FTE jobs (including 927 FTE directly related to activity on the Site).

Additional local retail expenditure associated with the Proposal's 2,699 new residential dwellings are estimated to support significant economic activity through direct and flow-on impacts (per annum) by 2031, including:

- **$239.5 million** in output (including $157.0 million in direct activity).
- **$136.9 million** in contribution to GRP (including $91.9 million in direct activity).
- **$70.7 million** in incomes and salaries paid to households (including $50.7 million in direct activity).
- **1,122** FTE jobs (including 8851FTE jobs directly).

The economic impacts estimated in this chapter demonstrates the Proposal has economic merit, having the ability to contribute significantly to the Camden economy. Development of Precinct 2 is also considered to have merit from a market perspective and its delivery will be critical for the South West Region to meet its dwelling need over the coming decade. Importantly, the Proposal intends on delivering a broad range of local infrastructure at no cost to government.

References

ABS (2017a). *Census of Population and Housing, 2016*. Cat no. 2071.0. Australian Bureau of Statistics, Canberra.

ABS (2017b). *Household Expenditure Survey, Australia 2015-16*. Australian Bureau of Statistics, Canberra.

ABS (2020). *Australian National Accounts: Input-Output Tables, 2017-18*. Cat. No. 5209.0.55.001. ABS, Canberra.

ABS (2021). *Consumer Price Index, Australia*. Cat. No. 6401.0, ABS, Canberra.

DIRD (2016). *An Airport for Western Sydney*. Department of Infrastructure and Regional Development, Canberra.

Department of Planning, Infrastructure and Environment (2021a). *Metropolitan Housing Monitor*. Accessible from: https://www.planning.nsw.gov.au/Research-and-Demography/Metropolitan-Housing-Monitors.

Department of Planning, Infrastructure and Environment (2021b). *Sydney Housing Supply Forecast*. Accessible from: https://www.planning.nsw.gov.au/Research-and-Demography/Sydney-Housing-Supply-Forecast/Forecast-data.

Department of Planning, Infrastructure and Environment (2019b). *Population, Household and Implied Dwelling Projections by LGA*. Accessible from: https://www.planning.nsw.gov.au/Research-and-Demography/Population-projections/Projections.

Department of Planning, Infrastructure and Environment (2016). *Population, Household and Implied Dwelling Projections by LGA*. No longer available online.

Department of Planning, Infrastructure and Environment (2015). *Glenfield to Macarthur Corridor Strategy*. Accessible from: https://www.planning.nsw.gov.au/-/media/Files/DPE/Strategy-documents/draft-corridor-strategy-glenfield-to-macarthur-2015-07.pdf.

Department of Planning, Infrastructure and Natural Resources (2003). *South West Sydney Regional Structure Planning – Land Use Fragmentation Study*. Department of Planning, Infrastructure and Natural Resources, Sydney.

Endeavour Energy (2019a). *Distribution Annual Planning Report 2019*. Accessible from: http://www.endeavourenergy.com.au/wps/wcm/connect/fe5972a9-9b7d-494a-950c-2c8edd4416e2/Endeavour+Energy+2019+DAPR.pdf?MOD=AJPERES.

Endeavour Energy (2019b). *Directions Paper for Consultation*. Accessible from: http://www.endeavourenergy.com.au/wps/wcm/connect/2ec58892-b248-4ae2-b978-d300fe984386/INE7170_Preliminary_Proposal_final.pdf?MOD=AJPERES.

Endeavour Energy (2018). *Growth Servicing Plan 2018*. Accessible from: http://www.endeavourenergy.com.au/wps/wcm/connect/aa08bdad-060a-4d07-9d05-dd8aa339d094/Endeavour+Energy+Growth+Servicing+Plan+2018+FINAL.pdf?MOD=AJPERES.

Greater Sydney Commission (2019). *Liverpool Collaboration Area Place Strategy*. Accessible from: https://gsc-public-1.s3.amazonaws.com/s3fs-public/gsc-collaboration-area-ca2018-liverpool-place-strategy-1812.pdf.

Greater Sydney Commission (2018a). *Greater Sydney Region Plan*. Accessible from: https://www.greater.sydney/metropolis-of-three-cities.

Greater Sydney Commission (2018b). *Western City District Plan*. Accessible from: https://www.greater.sydney/district-plans.

Kronenberg, T. (2009). *Construction of Regional Input-Output Tables Using Nonsurvey Methods: The Role of Cross-Hauling*. International Regional Science Review, 32(1), 40–64.

Norbert, S. (2015). *Methods for Regionalising Input-Output Tables*. Regional Statistics, 5(1), 44-65.

Sydney Water (2019). *Growth Servicing Plan 2019-2024*. Accessible from: https://www.sydneywater.com.au/web/groups/publicwebcontent/documents/document/zgrf/mdq2/~edisp/dd_046979.pdf.

Transport for NSW (2018). *Future Transport Strategy 2056*. Accessible from: https://future.transport.nsw.gov.au/sites/default/files/media/documents/2018/Future_Transport_2056_Strategy.pdf

Western Sydney Planning Partnership (2020). *Western Sydney Aerotropolis Plan 2020*. Accessible from: https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/00-Western+Sydney+Aerotropolis/000-Final+Planning+Package/Final+Documents/Western+Sydney+Aerotropolis+Plan+2020+(High+Res).pdf.

Schedules

Schedule 1

Economic Impact Modelling Assumptions

Input-Output models are a method to describe and analyse forward and backward economic linkages between industries based on a matrix of monetary transactions. The model estimates how products sold (outputs) from one industry are purchased (inputs) in the production process by other industries.

The analysis of these industry linkages enables estimation of the overall economic impact within a catchment area due to a change in demand levels within a specific sector or sectors.

Impacts are traced through the economy via:

- Direct impacts, which are the first round of effects from direct operational expenditure on goods and services.
- Flow-on impacts, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:
    - Industry Support Effects (Type I) derived from open Input-Output models. Type I impacts represent the production induced support activity as a result of additional expenditure by the industry experiencing the stimulus on goods and services, and subsequent round effects of increased purchases by suppliers in response to increased sales.
    - Household Consumption Effects (Type II) derived from closed Input-Output Models. Type II impacts represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the catchment economy.

The economic analysis considers the following four types of impacts.

Table S1-1: Economic Activity Indicators

Indicator	Description
Output	The gross value of goods and services transacted, including the cost of goods and services used in the development and provision of the final product. Care should be taken when using output as an indicator of economic activity as it counts all goods and services used in one stage of production as an input to later stages of production, thus overstating economic activity.
Gross Product	The value of output after deducting the cost of goods and services inputs in the production process. Gross product (e.g. Gross Regional Product (GRP)) defines a net contribution to economic activity.
Incomes	The wages and salaries paid to employees as a result of the Project either directly or indirectly.
Employment	Employment positions generated by the Project (either full time or part time, directly or indirectly). Employment is reported in terms of Full-time Equivalent (FTE) positions or person-years.

Source: Atlas

REGIONAL MODEL DEVELOPMENT

Multipliers used in this assessment have been created using a regionalised Input-Output model derived from the 2017-18 Australian transaction table (ABS, 2020).

Estimates of gross industry production in the catchment area were developed based on the share of employment (by place of work) of the Catchment Area within the Australian economy (ABS, 2017a) using the Flegg Location Quotient and Cross Hauling Adjusted Regionalisation Method (CHARM). See Norbert (2015) and Kronenberg (2009) for further details.

MODELLING LIMITATIONS AND ASSUMPTIONS

Input-Output modelling is subject to a number of key assumptions and limitations (ABS, 2020):

- **Lack of supply–side constraints:** The most significant limitation of economic impact analysis using multipliers is the implicit assumption that the economy has no supply–side constraints. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.
- **Fixed prices:** Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured.
- **Fixed ratios for intermediate inputs and production:** Economic impact analysis using multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. As such, impact analysis using multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount;
- **No allowance for purchasers' marginal responses to change:** Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.

Despite these notable limitations, Input-Output techniques provide a solid approach for assessing the direct and flow on economic impacts of a project or policy that does not result in a significant change in the overall economic structure.

DRIVERS OF ECONOMIC IMPACT

In order to understand the economic impacts likely to result from the Proposal, it is necessary to distinguish economic impacts during the construction phase and those economic impacts that will be more permanent in nature following construction completion and operations commencement.

- **Construction Phase:** Construction activity will draw resources from and thereby generate economic activity in the Camden LGA as well as from outside the LGA. Assumptions are made on the proportion sourced from within and from outside the LGA.
- **Operational Phase:** On completion of development, the Site is expected to generate ongoing economic/ operational activity through the direct turnover generated by the food and beverage and commercial office operational activities, as well as the dispersed jobs of residents working from home.

Construction Phase

For modelling purposes, construction costs (including contingency) for the Proposal Case were broken down into their respective Australia and New Zealand Standard Industrial Classification (ANZSIC) industries.

The breakdowns were developed based on the following assumptions by Atlas regarding the most appropriate ANZSIC industries for each activity.

Table S1-2: Construction Cost Allocation (including Contingency)

Item	$M	ANZSIC
Detached Residential	$1,059.1	Residential Building Construction
Medium Density Residential	$245.8	Residential Building Construction
High Density Residential	$114.7	Residential Building Construction
Town Centre	$57.2	Non-Residential Building Construction
Employment	$115.5	Non-Residential Building Construction
Open Space	$408.6	Heavy and Civil Engineering Construction
Roads	$125.4	Heavy and Civil Engineering Construction
Education	$43.0	Non-Residential Building Construction
Site Costs	$43.4	Construction Services
Professional Fees	$216.9	Professional, Scientific and Technical Services
Total Development Cost	$2,429.5	-

Note: Totals may not sum due to rounding.
Source: Atlas

Of the above capital outlay, not all activity will be undertaken within the Camden LGA economy. It was assumed:

- Approximately 75% of the direct expenditure on construction-related (i.e. Non-Residential Building Construction and Construction Services) activity would be sourced from local businesses and labour. Of this:
    - Approximately 25% of purchases on goods and services (supply chain related activity) made by construction-related businesses sourced from outside the Camden LGA would be spent within the local economy (i.e., 25% of the Type I flow on activity associated with non-local construction companies is assumed to represent additional local activity in Camden LGA).
    - Approximately 5% of wages and salaries paid to construction-related workers sourced from outside the region would be spent on local goods and services, such as food and beverages (i.e. 5% of the Type II).

Only flow-on activity of locally sourced professional, scientific and technical services activity (75%) is included, as it is not anticipated professional, scientific and technical services businesses located outside of Camden LGA would purchase goods/ services locally.

Operational Phase

In order to model the economic impacts, operational employment levels for the economic activity occurring in the two scenarios were categorised into the ANZSIC industries which Atlas considered most appropriate.

Employment by industry estimates were converted to a direct output value using a multiplier based on the national transaction table (ABS, 2020). The resultant estimates of output were modelled as the direct activity associated with the Proposal Case.

Table S1-3: Operational FTE Allocation of Floorspace

Work Type	GFA (sqm)	GFA (sqm) / FTE	Estimated Jobs (FTE)	Direct Output ($M)	ANZSIC
Employment Space	50,260	150	335	$188.1	Split across industrial sectors: • Construction • Agriculture, Forestry and Fishing • Mining • Manufacturing • Electricity, Gas, Water and Waste Services • Wholesale Trade • Transport, Postal and Warehousing
Town Centre	24,880	75	332	$62.5	Split across population serving sectors:

Work Type	GFA (sqm)	GFA (sqm) / FTE	Estimated Jobs (FTE)	Direct Output ($M)	ANZSIC
					• Retail Trade • Accommodation and Food Services • Arts and Recreation Services • Other Services
Education	18,720	300	62	$8.6	Primary and Secondary Education Services (including Pre-Schools and Special Schools)
Residential (dispersed employment)[1]	2,699 dwellings	-	198	$68.9	Split as per the current Camden resident employment profile (ABS 2017a)
Total	**93,850**	**-**	**927**	**$328.2**	-

Notes: Totals may not sum due to rounding. [1] Calculated as 2,688 dwellings less 2% vacancy rate times an average 1.5 FTE workers per dwelling times 5% working from home. This is potentially a conservative estimate given the rise of working from home arrangements post COVID-19.
Source: Atlas

Household Expenditure Supported

This section outlines the household expenditure that would be associated with the new dwellings proposed as part of the Proposal Case, and potential economic activity supported.

The household expenditure activity supported should not be combined with the impacts in the section above, as some of these impacts are likely to have already been captured in the assessment (e.g. some expenditure on retail and food and beverages by households is likely to spent at the retail and food and beverage outlets locating onsite).

This section is to understand specific economic activity supported in Camden LGA through household expenditure as its own separate analysis.

The ABS Household Expenditure Survey (ABS, 2017b) was used to identify the proportion of weekly household incomes that is spent across expenditure items in the Camden LGA. The fourth quintile of NSW residents was used to best represent the expenditure patterns of residents in the Camden LGA.

The household survey only contains household expenditure data, and individual residents must be converted to an equivalent number of households. This was achieved by applying the estimated number of dwellings (2,699 by 2031) and a vacancy rate of 2% (representative of the current rental market) resulting in 2,645 equivalent households residing within the development.

This data was converted to 2021 values (ABS, 2021), annualised and allocated into their respective ANZSIC industries. The breakdown to ANZSIC industries was developed based on assumptions by Atlas regarding the most appropriate ANZSIC industries for each activity.

The table below shows the household expenditure estimates for the Camden LGA should the Site be redeveloped to accommodate 2,645 households.

Table S1-4: Estimated Household Expenditure Supported, Proposal Case

ANZSIC	Total Annual Spend ($M)	% Spent in LGA	Local Spend ($M)
Ownership of Dwellings	$48.8	50%	$24.4
Retail Trade	$49.3	75%	$37.0
Food and Beverage Services	$25.2	75%	$18.9
Personal Services	$13.0	75%	$9.8
Other Services	$18.1	75%	$13.5
Telecommunication Services	$8.2	25%	$2.0
Road Transport	$18.3	50%	$9.2
Rail Transport	$11.0	50%	$5.5
Air and Space Transport	$7.3	0%	$0.0
Sports and Recreation	$21.3	75%	$16.0

ANZSIC	Total Annual Spend ($M)	% Spent in LGA	Local Spend ($M)
Primary and Secondary Education Services	$2.6	75%	$1.9
Technical, Vocational and Tertiary Education Services	$2.1	60%	$1.2
Arts, Sports, Adult and Other Education Services	$0.5	60%	$0.3
Health Care Services	$12.9	75%	$9.7
Heritage Creative and Performing Arts	$9.1	75%	$6.8
Electricity Transmission, Distribution, On Selling and Electricity Market Operation	$3.0	25%	$0.7
Total	$250.7	63%	$157.0

Note: Totals may not sum due to rounding.
Source: ABS (2017b), Atlas

Schedule 2

Dwelling Forecasts by Precinct (2021-2041), South West Region

Precinct	Status	2021	2021-2026	2026-2031	2031-2036	2036-2041	2021-2041	Remaining Capacity	Commentary
Camden									
Lowes Creek Marylands	Released	-	1,450	1,700	1,500	1,500	6,150	833	Large release area in close proximity to Western Sydney Airport and Aerotropolis with potential for future rail station. Land fragmentation is limited. Developer is expected to deliver necessary trunk infrastructure. Sydney Water note water infrastructure was scheduled for completion 2019-2020 with sewerage works to be finished by 2022. Endeavour Energy works were to be delivered by 2023-2024 with interim capacity (prior 2023) to accommodate 1,300 lots. Take-up is expected to be strong over the coming decades given its proximity to the Aerotropolis and Oran Park.
Leppington Town Centre	Rezoned	-	1,200	1,200	800	750	3,950	5,050	Substation works to be completed by 2021-22 to service 14,000 lots (both Leppington Town Centre and East Leppington). Water infrastructure to be completed by 2022. Highly fragmented land ownership will impede the rate of take-up. Potential for rezoning of existing B3 and B7 precincts. Take-up not expected to commence until 2023.
East Leppington	Rezoned	-	-	-	-	-	-	-	For the purpose of the Study, all remaining capacity in the East Leppington precinct has been assumed to fall within the Campbelltown LGA.
Oran Park	Rezoned	400	1,166	-	-	-	1,566	-	One of the most established precincts within the SWGA. Held in single ownership with services infrastructure. It is expected that take-up will remain strong over the short to medium term with build out by 2025/2026.
Turner Road	Rezoned	49	-	-	-	-	49	-	One of the most established precincts within the SWGA. Held in majority ownership with established services infrastructure. Following strong take up observed over 2020, it is expected that remaining capacity will be exhausted by 2021/22.
Pondicherry	Not Released	-	300	750	750	700	2,500	-	Large precinct held in majority ownership in close proximity to Oran Park. Water infrastructure to be completed by 2022 although sewerage infrastructure likely completed closer to 2025. Substation works to be completed by 2022-23. Take-up is expected to be strong and commence in 2025.

Precinct	Status	2021	2021-2026	2026-2031	2031-2036	2036-2041	2021-2041	Remaining Capacity	Commentary
Rossmore South	Not Released	-	-	-	-	-	-	2,500	Timing on delivery of water and sewerage infrastructure is unknown; status is noted as 'strategic planning' in the Sydney Water Servicing Plan 2019-2024'. Not identified as a short to medium term project by Endeavour Energy. Theoretical yield of 2,500 lots has been adopted. No development expected prior to 2041.
Catherine Fields (part)	Rezoned	300	1,300	608	-	-	2,208	-	Substation works to be completed by 2024-25 to service 12,500 lots. Timing for water infrastructure is unknown and possibly developer-led. Catherine Fields (part) is expected to be taken-up prior commencement of other Catherine Fields precincts.
Catherine Fields North	Not Released	-	-	200	500	300	1,000	8,500	
Catherine Fields	Not Released	-	200	500	500	300	1,500	3,500	
Emerald Hills	Rezoned	300	900	-	-	-	1,200	-	Construction is currently underway. Take-up is expected to be strong with build out expected by 2024/25.
El Caballo/ Gledswood	Rezoned	300	560	-	-	-	860	-	Construction is currently underway. Take-up is expected to be strong with build out expected by 2023/24.
Camden Lakeside	Rezoned	150	560	-	-	-	860	-	Construction is currently underway. Take-up is expected to be strong with build out expected by 2023/24.
Undefined		750	753	496	405	355	2,758	-	A factor of 50% is applied to the 2021 dwelling forecast to reflect the existing construction pipeline with a factor of 10% applied over 2021-2041 to account for infill development. This accounts for ongoing development at Spring Farm and elsewhere across the LGA.
Total		**2,249**	**8,279**	**5,454**	**4,455**	**3,905**	**24,341**	**50,383**	It is forecast that about 30% of 73,200 theoretical capacity in Camden will be delivered by 2041.
Campbelltown									
East Leppington	Rezoned	300	658	-	-	-	958	-	Established residential precinct with existing town centre and market profile. Take-up is expected to remain strong over the short-term with build-out expected by 2024/25.
Gilead	Rezoned	200	1,000	1,300	1,500	1,500	5,500	9,600	Large release area held in majority ownership with marketing currently underway. Take-up is expected to commence in 2020 with additional releases expected to commence in 2030.
Menangle Park	Rezoned	300	1,450	1,300	950	-	4,000	-	Large precinct rezoned held in majority ownership with marketing currently underway. Take-up commenced in 2020 with additional releases expected to commence in 2030.

Precinct	Status	2021	2021-2026	2026-2031	2031-2036	2036-2041	2021-2041	Remaining Capacity	Commentary
Glenfield	Not Rezoned	-	750	1,500	1,250	500	4,000	-	The Glenfield precinct is split into two main precincts; the Western precinct (he Hurlstone Agricultural High School site) and the Eastern precinct (characterised by existing low-density housing surrounding Glenfield train station). Following the recent announcement that the Hurlstone Agricultural High School would not be relocating to Richmond, the NSW Government has announced that only part of the site (further west of the school site and train station) will be developed. This portion of the site is expected to yield up to 3,500 homes, new local centre and primary school although masterplanning is still underway. There is no documentation on theoretical capacity of the eastern portion of the Glenfield precinct. For the purposes of this Study, it is assumed there is theoretical capacity for 500 dwellings in the Eastern precinct. It is assumed that further masterplanning will be undertaken for the Hurlstone site, further delaying any eventual land release. It is expected that take-up could commence in 2023 at a rate of 150 dwellings/annum. The Eastern precinct is expected to deliver infill housing opportunities. Assuming rezoning occurs by 2022, the precinct could contribute 20 dwellings per annum over the short to medium term.
Macquarie Fields	Not Rezoned	20	100	100	50	50	320	-	The Macquarie Fields Precinct Plan (2017) outlines the proposed land uses and density controls for the local centre and surrounding residential area. Medium-rise residential buildings (3-6 storeys) are envisaged around the train station with lower density uses closer to the existing shopping centre. Overall, the precinct is noted as having the theoretical capacity for an additional 340 dwellings. Take-up in Macquarie Fields to 2041 is expected to be soft; price points for existing detached housing limit the potential sale prices for new apartments to a level which is generally unfeasible to deliver. The market for higher-density uses is yet to mature; this type of demand is more likely to occur in Campbelltown prior to the smaller centres along the Corridor. Medium-density development is more likely to occur over the short to medium term. Take-up is assumed to commence in 2020 at a rate of 10-20 dwellings per annum.
Ingleburn	Rezoning Underway	10	500	500	500	500	2,010	1,230	The Ingleburn Precinct Plan is the first precinct in the Glenfield to Macarthur Corridor to be progressed into the Campbelltown LEP; a Planning Proposal to implement the proposed planning controls was lodged in September 2019 and is currently under assessment by Campbelltown Council. The Planning Proposal envisages a mix of density controls across the centre with theoretical capacity for 3,200 new dwellings. Existing R2 land adjoining the B2 Local Centre is to be rezoned to R4 High Density Residential with a FSR 2.7:1. Mixed-use development in the B2 zone will be subject to FSR 3.7:1 with a minimum non-residential FSR 1.7:1. In most instances, these are considered viable for redevelopment to occur in the short to medium term. Whilst Ingleburn is similar to Macquarie Fields in some respects given its limited market profile and soft demand for apartment product, the centre enjoys a much greater level of amenity and retail offerings. This will contribute to moderate take-up of development opportunities over the

Precinct	Status	2021	2021-2026	2026-2031	2031-2036	2036-2041	2021-2041	Remaining Capacity	Commentary
									short to medium term, although it is not expected that all theoretical capacity will be achieved by 2041.
Minto	Not Rezoned	10	150	120	60	-	340	-	The Minto Precinct Plan (2017) outlines the proposed land uses and density controls for the local centre and surrounding residential area. Medium-rise residential buildings (3-6 storeys) are envisaged around the train station with lower density uses further north. Overall, the precinct has the theoretical capacity for an additional 350 dwellings. Take-up in Minto to 2041 is expected to be soft; price points for existing housing limiting the potential sale prices for new apartments to a level which is generally unfeasible to deliver. Medium-density development is more likely to occur over the short to medium term. Take-up is assumed to commence in 2022 at a rate of 10-30 dwellings/annum.
Leumeah	Not Rezoned	10	400	200	125	-	735	165	The Leumeah Precinct Plan (2017) outlines the proposed land uses and density controls for the local centre and surrounding residential area. High rise residential (7+ storeys) is proposed immediately adjacent the station, medium-rise residential buildings (3-6 storeys) are envisaged around the train station with lower density uses closer to the existing shopping centre. Overall, the precinct is noted as having the theoretical capacity for an additional 900 dwellings. Owing to the significant increases in densities proposed, particularly in those areas immediately around the train station, take-up in Leumeah in the short-term is expected to be good. As these opportunities are taken up, development is expected to decline with medium density forms of infill development more likely.
Campbelltown	Not Rezoned	200	1,000	850	750	500	3,300	-	The Campbelltown Precinct Plan (2017) envisages a range of high rise mixed-use and residential uses (7+ storeys), medium rise residential flat buildings and low rise residential uses. Development activity within Campbelltown has already begun to emerge, with several high-rise apartment buildings in excess of 70 units recently completed or under construction. Infill development within the City Centre is expected to be strong over the coming 20 years, although the opportunities for development will likely diminish post-2031.
Macarthur	Not Rezoned	-	1,000	750	500	500	2,750	1,950	The Macarthur Precinct Plan (2017) outlines the proposed land uses and density controls for the local centre and surrounding residential area. High rise mixed use (7+ storeys) is proposed along Melicar Road immediately east of the station, medium-rise residential buildings (3-6 storeys) is proposed north of the station with lower density uses on the periphery of the centre. Overall, the precinct has theoretical capacity for an additional 4,700 dwellings. Take-up of high-rise mixed-use opportunities is expected in the medium to long term - many of these existing buildings are improved with valuable large format retail facilities. Market dynamics are yet to shift enough to displace these current uses. The medium-rise residential uses proposed north of the train station are more likely to occur in the short-term given this land is unimproved and owned by WSU and Landcom.

Precinct	Status	2021	2021-2026	2026-2031	2031-2036	2036-2041	2021-2041	Remaining Capacity	Commentary
Undefined		105	701	662	569	355	2,391	-	A factor of 10% is applied to the 2020 dwelling forecast to reflect the existing construction pipeline with a factor of 10% applied over 2021-2041 to account for infill development.
Total		**1,155**	**7,709**	**7,282**	**6,254**	**3,905**	**26,304**	**13,275**	Circa 64% of the 37,680 theoretical capacity in the Campbelltown LGA could be delivered by 2041.
Liverpool									
Aerotropolis Core	Not Rezoned	-	-	1,000	900	625	2,525	5,475	Development expected to align closer to the opening of the Western Sydney Airport in 2026. Sydney Water intend on delivering water and sewerage infrastructure in 2024-2025. Construction of the substation to service the airport and surrounding area is to be Government-led as part of the development of the WSA. Other substations to support development across the WSGA will be delivered by Endeavour Energy over the course of 2019-2024. Take-up is expected to be strong, commencing in 2027 with 2,525 dwellings delivered by 2041.
South Creek	Not Rezoned	-	-	-	25	125	150	-	Minimal development expected in the short to medium-term as activity is focused in the Aerotropolis Core and Northern Gateway precincts. Location along South Creek is likely to offer high level of amenity and enjoy good level of take-up in the longer term.
Rossmore	Not Rezoned	-	-	-	-	-	-	48,300	Highly fragmented landholdings with delivery of water and energy infrastructure not expected in the medium term. Take-up is expected to occur post 2041.
Austral/Leppington North	Rezoned	250	1,250	1,000	675	625	4,000	11,265	Zoned residential precinct yet to be serviced; Sydney Water intend on delivering water and sewerage infrastructure in 2022 with Endeavour Energy expected to complete the North Leppington and Austral substations by 2021-2022. Precinct is highly fragmented with multiple landowners and small lots. Development is expected to gradually increase in line with completion of the Western Sydney Airport.
Edmondson Park	Rezoned	450	1,367	-	-	-	2,117	-	One of the more established precincts within the SWGA. Water and sewerage infrastructure is complete with Endeavour Energy expected to finalise energy infrastructure by 2020. Edmondson Park Town Centre (Ed Square) is expected to be complete by Q2 2020. Take-up is expected to be strong over the short term with build-out expected by 2026.
Liverpool CBD	Rezoned	850	4,000	3,500	3,400	3,000	15,650	3,150	The Liverpool CBD was rezoned from B3 Commercial Core to B4 Mixed Use in early 2018 with FSRs ranging from FSR 2.5:1 to FSR 3:1 (although higher FSRs can be achieved subject to conditions being met). In 2018, the Liverpool Place Strategy (2018) identified the City Centre had the capacity to deliver an additional 18,800 dwellings by 2036. In the five years to 2018, GSC identified that the Liverpool Collaboration Area had delivered an additional 1,177 dwellings (average of 235 dwellings per annum). Looking forward, the development pipeline indicates a total of 4,555 dwellings in the suburb of Liverpool. Of these,

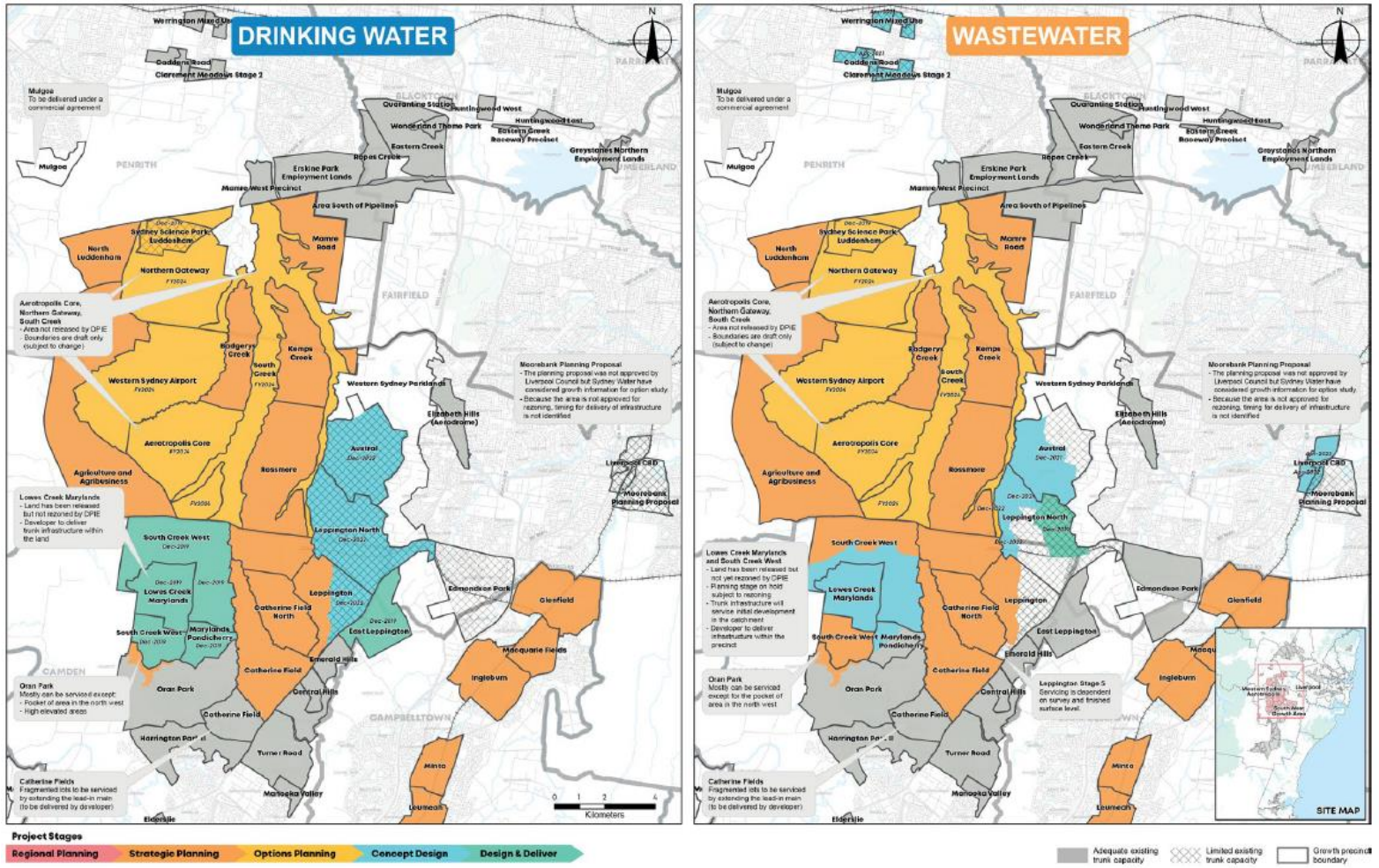
Precinct	Status	2021	2021-2026	2026-2031	2031-2036	2036-2041	2021-2041	Remaining Capacity	Commentary
									approximately 1,850 dwellings are currently under construction with a further 2,068 dwellings having some form of approval. The remainder are yet to secure formal approval. Whilst much of the Liverpool City Centre is characterised by fine grain lot patterns, there remains significant redevelopment opportunities throughout the CBD with older style commercial buildings on large lots representing immediate opportunities. This is reflected in the quantum of development proposed in the pipeline. As Liverpool grows in importance following the completion of the Western Sydney Airport and implementation of possible direct links (Fast bus route), development activity will further grow.
Middleton Grange	Rezoned	200	471	-	-	-	671	-	Planning proposal for a new town centre and mixed-use precinct servicing the Middleton Grange release area. The area was rezoned in mid-2018 with take-up expected to occur in the short-term.
Undefined		350	709	550	500	438	2,546	-	A factor of 20% is applied to the 2020 dwelling forecast to reflect the existing construction pipeline with a factor of 15% applied over 2021-2041 to account for infill development.
Total		**3,900**	**8,189**	**7,240**	**5,750**	**5,031**	**30,111**	**68,682**	Some 27% of the 94,000 theoretical dwellings in the Liverpool LGA forecast to be delivered by 2041.
South West Region		**5,504**	**23,785**	**18,566**	**16,209**	**12,623**	**78,084**	**131,848**	Overall, the South West is expected to deliver around 78,000 dwellings by 2041, accounting for some 59% of total theoretical supply.

Appendices

APPENDIX 1

Sydney Water Infrastructure Maps

Figure A. 1: Drinking and Wastewater Delivery Program, South West Sydney

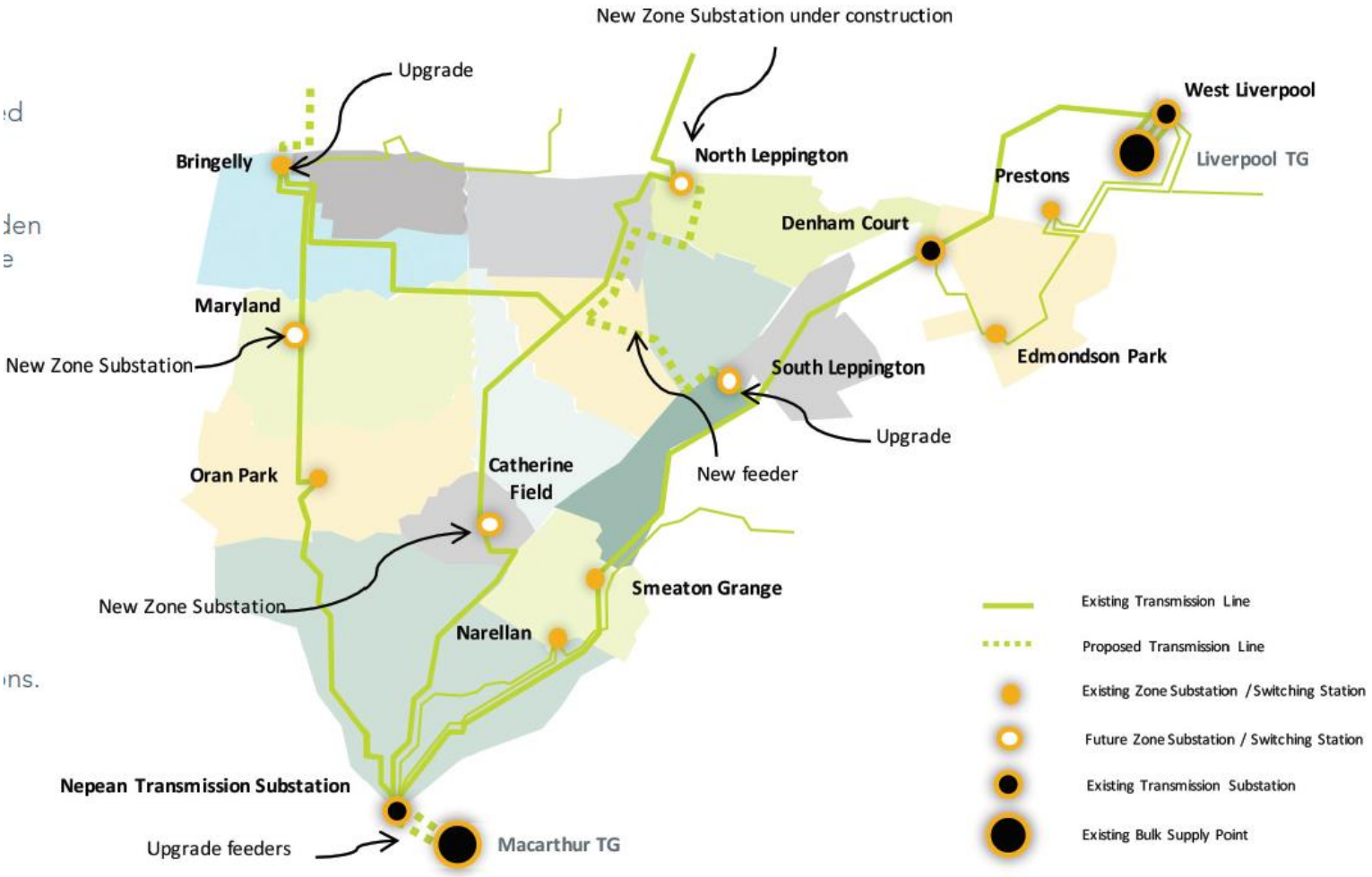


Source: Sydney Water (2019)

APPENDIX 2

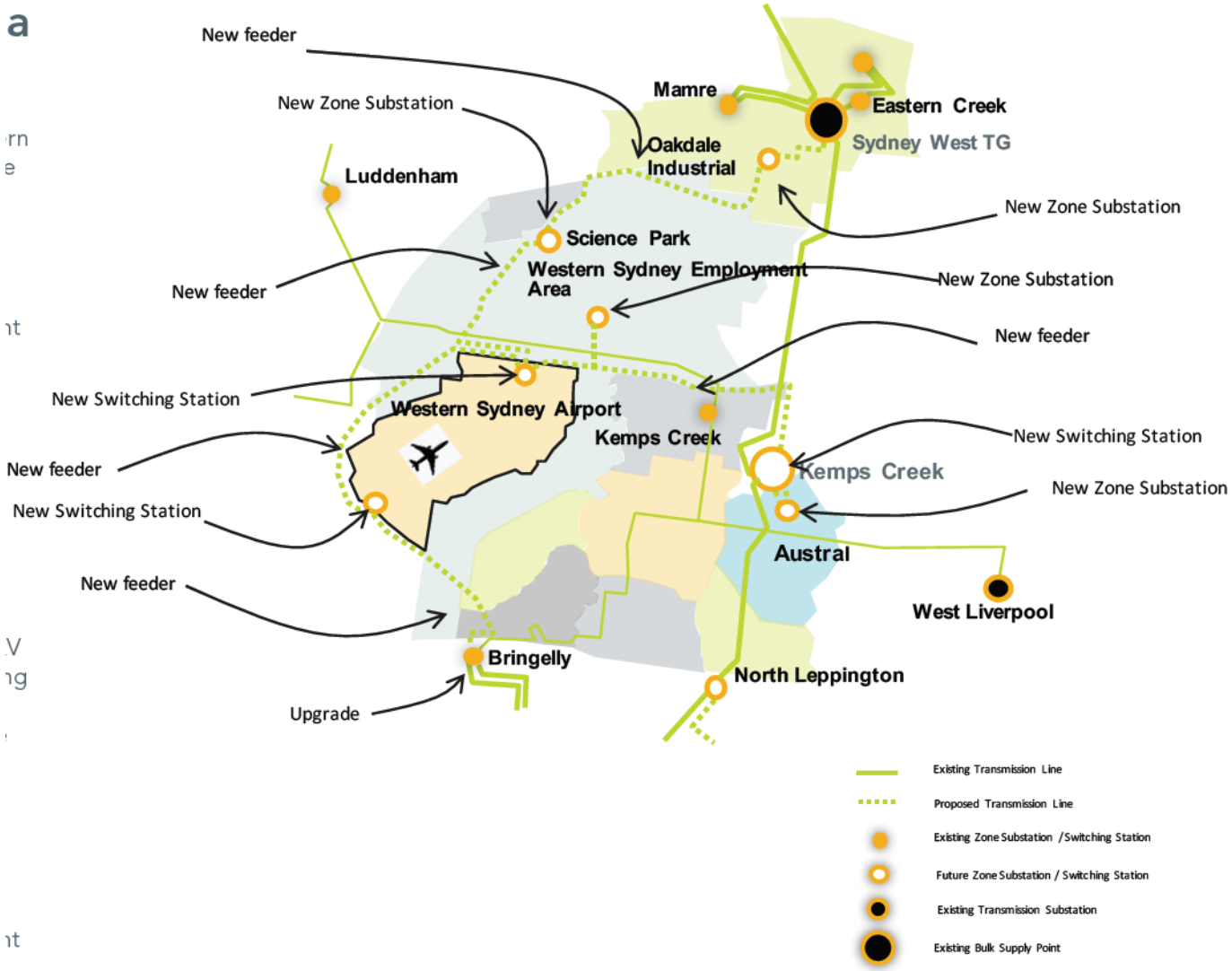
Existing and Proposed Substations

Figure A.2: Existing and Proposed Electricity Assets, South West Growth Area



Source: Endeavour Energy (2019)

Figure S3-3: Existing and Proposed Electricity Assets, Western Sydney Employment Area



Source: Endeavour Energy (2019)

SYDNEY
Level 12, 179 Elizabeth Street
Sydney NSW 2000

MELBOURNE
Level 1, 333 Collins Street
Melbourne VIC 3000

T: 1300 149 151
E: info@atlasurbaneconomics.com

Atlas
URBAN ECONOMICS