Waterloo South

Population and Demographic Study

Final Report

March 2020

prepared by .id

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1. Executive summary

Introduction

.id was commissioned by Department of Planning, Industry and Environment to undertake a demographic and employment analysis of Waterloo South. This report provides a profile of the Waterloo Precinct today and then presents forecast growth of Waterloo South.

Geographic definitions

The demographic and economic profile presented in this report is based on the Waterloo Precinct area. The demographic profile of the Waterloo Precinct presented in Section 3 is based on the following SA1's: – 1133801, 1133802, 1133804, 1133806, 1133838, 1133839, 1133841. The economic and employment profile is defined as the DZN 113381369 (ABS) and TZ 270 (NSW BTS). SA1's were not used for the economic analysis as Census data for Place of Work is not available at this level.

The forecasts presented in Section 4 refer to the refer to the Waterloo South only (highlighted by the blue boundary in the map below).

Demographic assessment – Waterloo Precinct

Economic assessment – Waterloo Precinct

Forecasts – Waterloo South

Waterloo State Significant Precinct (the Precinct)
Statistical areas that define the Waterloo Precinct
Waterloo South (forecast area)

Strategic context

- Greater Sydney and the City of Sydney LGA (Cos) have experienced substantial population growth over the last decade, well above the national rate.
- Inner city locations are experiencing a resurgence, as young workers and some downsizing retirees seek greater access to employment and essential services.
- Population growth is driving large increases in property values. Both the median property price and median rent in CoS have more than doubled in the last ten years. This trend highlights the need for housing diversity and affordable housing.
- CoS is the largest employment agglomeration in NSW by far and its influence has increased over time. In 2011, it supported 15% of the employment. However, in the last five years, it generated 38% of the employment growth.
- This jobs growth is increasing the divergence between where people work compared to where they live in Sydney. CoS has a substantial 'Jobs Surplus'.
- Driving this growth is an increase in jobs requiring more cognitive and non-routine skills that often necessitate higher qualified employees. These jobs are often concentrated in CBDs and other major employment nodes.
- Knowledge-based industries generate a large amount of these jobs and gain productivity benefits from agglomeration and access to deep labour pools.
- High-density development around major transport nodes can support access to labour for businesses and jobs for residents.
- The share of Social Housing has also declined in the Sydney LGA from 8.6% in 2011 to 8.0% in 2016. This highlights the need to maintain or improve the level of Social Housing available in the Sydney LGA.
- The Waterloo SSP area is planned to generate a substantial increase in residents in an area that has strong accessibility to education and employment opportunities, as well as being close to a major transport node.

Precinct profile today

- The resident population in Waterloo Precinct is much older than the profile for the broader CoS.
- The area is very multicultural with a high population of elderly Eastern European immigrants (Ukraine and Russia). There is an emerging Chinese population.
- There is a much higher share of Indigenous people amongst the resident population than the rest of CoS
- Education attainment is very low with just over 50% of persons aged 15 or more having completed Year 12 or equivalent.
- The Precinct is highly disadvantaged with all SA1s falling within the most disadvantaged 10% of small areas in NSW and Australia.
- The predominate dwelling stock is high-density social housing, largely occupied by lone person households. Just over three-quarters of dwellings are rented from a State or Territory Housing Authority.
- Participation in the labour force was very low (34%), less than half the CoS rate and the unemployment rate was 18.4% in 2016, three times that experienced in the CoS (6.0%).
- The main industries of employment for working residents are Professional, Scientific and Technical Services, Health Care and Social Assistance, and Accommodation and Food Services.
- Most residents work within the CoS. However, unlike other CoS residents, car and train are the most common methods of travel to work, not active methods (walking, cycling).
- The largest employing industries in the Precinct in 2016 were Manufacturing, Retail Trade, and Professional Services.

- The main occupations were Professionals and Managers. However, physical based occupations were over-represented compared to the Greater Sydney average.

Case study benchmarks

Redfern Estate represents what Waterloo might resemble without market led redevelopment, maintaining the existing majority social housing supply. Many residents would age in place, lone person households would become even more dominant and household income levels would be lower.

With market led redevelopment several outcomes could occur:

- If the redevelopment supported a predominately young employed resident base attracted to the area's proximity to high value knowledge jobs, it might resemble Pyrmont or Mascot's demographic profile.
- Zetland displays what could occur if the development attracted a profile that was a closer match to the CoS average.
- If the Precinct development incorporated a significant portion of student housing due to its proximity to education facilities, it might more closely resemble Ultimo.
- Kings Cross/Potts Point represents the demographic profile that could occur if the development supported a more mixed age and income demographic base.

It is likely that the result would be a combination of benchmark areas due to the existing social housing role and likely attraction of younger workers and/or students.

Assessment of the Proposal: Waterloo South

Our report presents the population and employment projections for Waterloo South. We have relied on the demographic and economic analysis and applied this to the revised land use assumptions for Waterloo South.

<u>Population and household forecasts – Waterloo South</u>

Our forecasts are developed using .id's forecasting model that incorporates our detailed understanding of the drivers of demographic change as well as specific input provided by project stakeholders. Please note, these forecasts are based on key assumptions provided by Land and Housing Corporation. Changes to these assumptions would result in different forecast results.

The key findings of our forecasts are:

- The forecasts for Waterloo South see an increase in population from 1,719 in 2016 to 5,542 in 2036.
- This forecast is based on an increase of 2,300 dwellings in net terms between 2023 and 2032.
- Average household size is expected to increase from 1.78 in 2016 to 1.86 in 2036. This is a result of the assumed migration of both younger adult age groups, primarily to the private dwellings, as well as a broader range of older ages to the affordable and social housing component.
- The area is expected to attract younger adult age groups, primarily to the private dwellings, driven by fast access to CBD jobs in finance, banking and professional services, as well as a broader range of older ages to the affordable and social housing component.
- The largest forecast increases by age are in the 25-39 age bracket

Employment forecasts – Waterloo South

The method used to forecast future employment at Waterloo South is based on estimated employment densities and the proposed land use mix presented in the Waterloo South metrics. The timing of employment is based on the population forecasts for the precinct. This method involves:

- Estimating work-space ratios (i.e. sqm per job) based on analysis of the City of Sydney Census of Land Use and Employment data.
- Applying work-space ratios to estimated land use mix – retail and non-retail space.
- Estimating the number of residents who would work from home (e.g. home based business)

Based on our analysis, employment in Waterloo South is projected to grow from 350 jobs in 2016 to around 760 in 2041. There will be a period of decline during the construction phase of the project but then grow in line with the timing and staging of the retail and non-retail uses.

Forecast summary – Waterloo South

The table on the next page summarises the key forecast for Waterloo South. Please refer to individual sections for more details. The existing households are based upon the existing social housing and existing market housing currently on the site with an assumption for vacancy based on analysis within the report.

	2016	2021	2026	2031	2036
Population forecasts					
Population	1,719	1,425	2,206	5,072	5,542
Dwellings	1,024	874	1,304	2,886	3,174
Vacancy rate	5.7%	5.7%	5.8%	6.2%	6.1%
Households (Occupied Private Dwellings)	965	824	1,228	2,705	2,979
Average h/hold size	1.78	1.73	1.8	1.87	1.86
Job forecasts					
Jobs	350	320	450	740	760

Table 1 Forecast summary – Waterloo South

2. Introduction

2.1 Introduction

The Greater Sydney Region Plan and Eastern City District Plan seek to align growth with infrastructure, including transport, social and green infrastructure. With the catalyst of Waterloo Metro Station, there is an opportunity to deliver urban renewal to Waterloo Estate that will create great spaces and places for people to live, work and visit.

The proposed rezoning of Waterloo Estate is to be staged over the next 20 years to enable a coordinated renewal approach that minimises disruption for existing tenants and allows for the up-front delivery of key public domain elements such as public open space. Aligned to this staged approach, Waterloo Estate comprises three separate, but adjoining and inter-related stages:

- Waterloo South;
- Waterloo Central; and
- Waterloo North.

Waterloo South has been identified as the first stage for renewal. The lower number and density social housing dwellings spread over a relatively large area, makes Waterloo South ideal as a first sub-precinct, as new housing can be provided with the least disruption for existing tenants and early delivery of key public domain elements, such as public open space.

A planning proposal for Waterloo South is being led by NSW Land and Housing Corporation (LAHC). This will set out the strategic justification for the proposal and provide an assessment of the relevant strategic plans, state environmental planning policies, ministerial directions and the environmental, social and economic impacts of the proposed amendment. The outcome of this planning proposal will be a revised planning framework that will enable future development applications for the redevelopment of Waterloo South. The proposed planning framework that is subject of this planning proposal, includes:

- Amendments to the Sydney Local Environmental Plan 2012 – This will include amendments to the zoning and development standards (i.e. maximum building heights and floor space ratio) applied to Waterloo South. Precinct-specific local provisions may also be included.

- A Development Control Plan (DCP) – This will be a new part inserted into 'Section 5: Specific Areas' of the Sydney DCP 2012 and include detailed controls to inform future development of Waterloo South.
- An infrastructure framework – in depth needs analysis of the infrastructure required to service the needs of the future community including open space, community facilities and servicing infrastructure.

2.2 Waterloo Estate

Waterloo Estate is located approximately 3.3km south-south-west of the Sydney CBD in the suburb of Waterloo (refer to Figure 1). It is located entirely within the City of Sydney local government area (LGA). Waterloo Estate is situated approximately 0.6km from Redfern train station and 0.5km from Australia Technology Park. The precinct adjoins the new Waterloo Metro Station, scheduled to open in 2024. The Waterloo Metro Quarter adjoins Waterloo Estate and includes the station and over station development, and was rezoned in 2019. Waterloo Estate comprises land bounded by Cope, Phillip, Pitt and McEvoy Street, including an additional area bounded by Wellington, Gibson, Kellick and Pitt Streets. It has an approximate gross site area of 18.98 hectares (14.4 hectares excluding roads). Waterloo Estate currently comprises 2,012 social housing dwellings owned by LAHC, 125 private dwellings, a small group of shops and community uses on the corner of Wellington and George Streets, and commercial properties on the south-east corner of Cope and Wellington Streets.

A map of Waterloo Estate and relevant boundaries is illustrated in Figure 2.

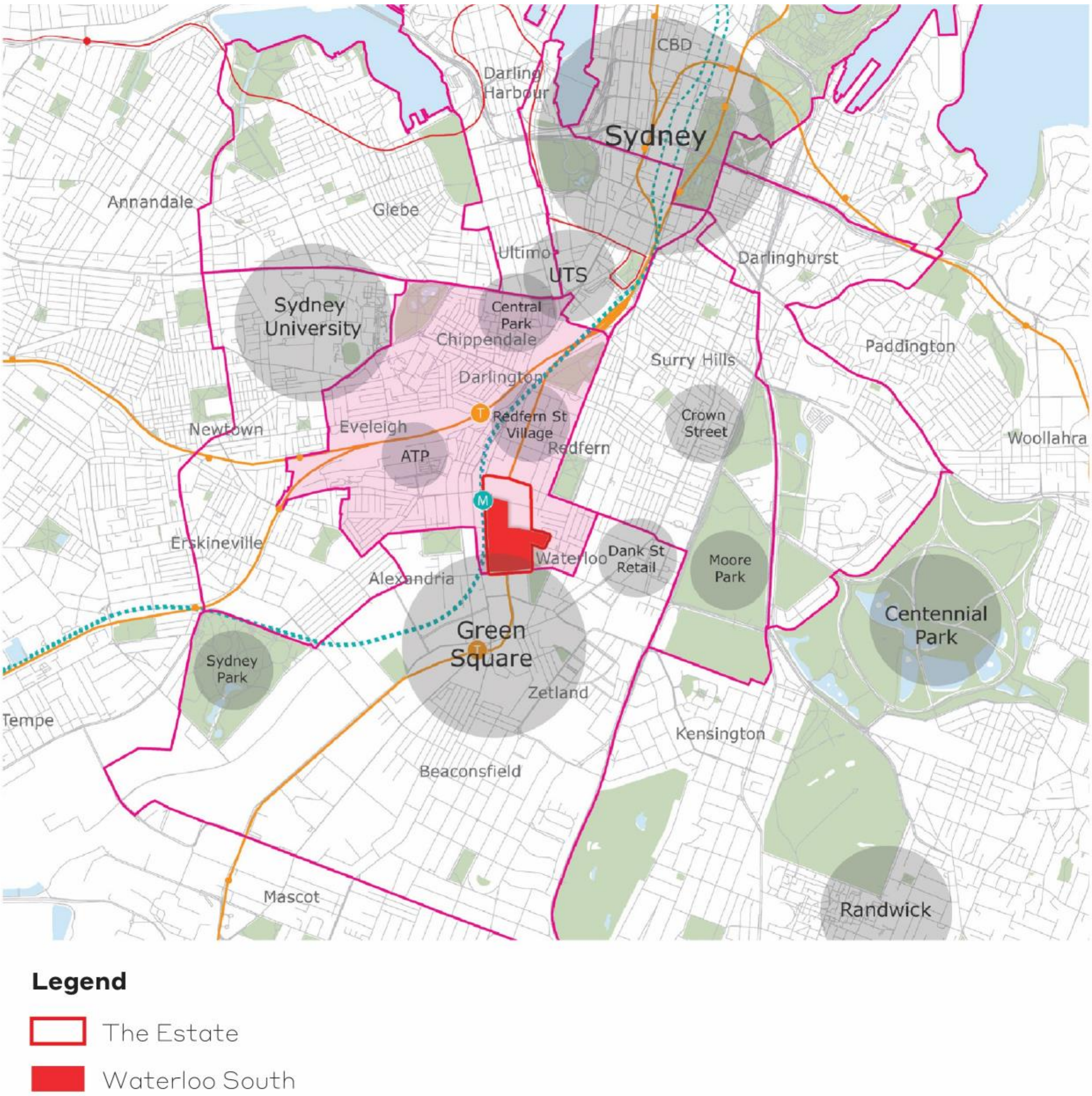


Figure 1 Location plan of Waterloo Estate and Waterloo South

Source: Turner Studio

2.3 Waterloo South

Waterloo South includes land bounded by Cope, Raglan, George, Wellington, Gibson, Kellick, Pitt and McEvoy Streets, and has an approximate gross site area of 12.32 hectares (approximately 65% of the total Estate).

Waterloo South currently comprises 749 social housing dwellings owned by LAHC, 125 private dwellings, and commercial properties on the south-east corner of Cope and Wellington Streets. Existing social housing within Waterloo South is predominantly walk up flat buildings constructed in the 1950s and '60s, and mid-rise residential flat buildings (Drysdale, Dobell & 76 Wellington Street) constructed in the 1980s. Listed Heritage Items within Waterloo South include the Duke of Wellington Hotel, Electricity Substation 174 on the corner of George and McEvoy Streets, the terrace houses at 229-231 Cope Street and the Former Waterloo Pre-School at 225-227 Cope Street. The State Heritage listed 'Potts Hill to Waterloo Pressure Tunnel and Shafts' passes underneath the precinct.

A map of Waterloo South and relevant boundaries is illustrated in Figure 2.

Figure 2 Waterloo Precinct

Source: Ethos Urban

2.4 Renewal Vision

The transition of Waterloo Estate will occur over a 20-year timeframe, replacing and providing fit for purpose social (affordable rental) housing as well as private housing to create a new integrated and inclusive mixed-tenure community. This aligns with Future Directions for Social Housing in NSW – the NSW Government's vision for social housing. It also aligns with LAHC's Communities Plus program, which is tasked with achieving three key objectives:

1. Provide more social housing
2. Provide a better social housing experience
3. Provide more opportunities and support for social housing tenants

The following is LAHC's Redevelopment Vision for Waterloo Estate, which was derived from extensive consultation and technical studies:

Source: Let's Talk Waterloo: Waterloo Redevelopment (Elton Consulting, 2019)

Culture and Heritage

- Recognise and celebrate the significance of Waterloo's Aboriginal history and heritage across the built and natural environments.
- Make Waterloo an affordable place for more Aboriginal people to live and work.
- Foster connection to culture by supporting authentic storytelling and recognition of artistic, cultural and sporting achievements.

Communal and Open Space

- Create high quality, accessible and safe open spaces that connect people to nature and cater to different needs, purposes and age groups.
- Create open spaces that bring people together and contribute to community cohesion and wellbeing.

Movement and Connectivity

- Make public transport, walking and cycling the preferred choice with accessible, reliable and safe connections and amenities.
- Make Waterloo a desired destination with the new Waterloo Station at the heart of the Precinct's transport network – serving as the gateway to a welcoming, safe and active community.

Character of Waterloo

- Strengthen the diversity, inclusiveness and community spirit of Waterloo.
- Reflect the current character of Waterloo in the new built environment by mixing old and new.

Local Employment Opportunities

- Encourage a broad mix of businesses and social enterprise in the area that provides choice for residents and creates local job opportunities.

Community Services, Including Support for Those Who Are Vulnerable

- Ensure that social and human services support an increased population and meet the diverse needs of the community, including the most vulnerable residents.
- Provide flexible communal spaces to support cultural events, festivals and activities that strengthen community spirit.

Accessible Services

- Deliver improved and affordable services that support the everyday needs of the community, such as health and wellbeing, grocery and retail options.

Design Excellence

- Ensure architectural design excellence so that buildings and surrounds reflect community diversity, are environmentally sustainable & people friendly – contributing to lively, attractive and safe neighbourhoods.
- Recognise and celebrate Waterloo's history and culture in the built environment through artistic and creative expression.
- Create an integrated, inclusive community where existing residents and newcomers feel welcome, through a thoughtfully designed mix of private, and social (affordable rental) housing.

2.5 Purpose of this report

This report relates to the Waterloo South planning proposal. While it provides comprehensive baseline investigations for Waterloo Estate, it only assesses the proposed planning framework amendments and Indicative Concept Proposal for Waterloo South.

The purpose of this report is to address the relevant Planning Proposal Requirements detailed below.

Planning Proposal Requirements reference	Planning Proposal Requirements	Section of report
8.1	Outline the future community profile in age groups and time series format of the proposal (see section 22).	4.2.3
22.1	Determine the most suitable data set, model (or combination of models) and assumptions to be used to inform forecasts of future population and employment. Assumptions to be agreed include average size of dwellings, average dwelling occupancy, average floorspace per worker and others where relevant. Data for employment is to be consistent with the City of Sydney's 2012 floor space and employment survey (FES) updated when available. Consult with NSW Department of Planning and Environment, and City of Sydney on methodology.	Population – 4.2.1 Employment – 4.3.2
22.2	Identify and clearly communicate (including through the use of maps, tables and charts as appropriate) key population and employment drivers and trends impacting the precinct and surrounding communities.	3.2, 3.3, 3.4, 3.5
22.3	Identify the key population and employment attributes of comparable higher density inner city Sydney communities. Potential areas to be reviewed include Kings Cross / Potts Point and Pyrmont. Identify the key population and employment attributes of comparable higher density social housing communities. Potential areas to be reviewed include Waterloo Estate, Redfern Estate and Northcote and surroundings.	3.7, 3.8, 3.9
22.4	Prepare a population and employment profile of the future community including dwelling types, age profile, ethnicity, education, employment, income, household types, housing tenure, car ownership, trip to work mode and other information required by the various parts of this study.	3.7
22.5	Compare precinct data with the remainder of the City of Sydney LGA and Greater Sydney Metropolitan Region for the purposes of benchmarking.	3.6

Planning Proposal Requirements reference	Planning Proposal Requirements	Section of report
22.6	Prepare time series (5 year increments) population and employment profiles of the precinct and surrounding community (including dwelling and job yields) based on existing development capacity, without the Planning Proposal.	3.10
22.7	Prepare time series (5 year increments) population and employment forecasts of the precinct and surrounding community (including dwelling and job yields) based on strategic modelling, with the Planning Proposal. Reference dwelling yields for the precinct will be provided for the precinct.	Population – 4.2 Employment – 4.3
22.8	Update data as the 2016 census results become available	All

2.6 Waterloo South planning proposal

The planning proposal will establish new land use planning controls for Waterloo South, including zoning and development standards to be included in Sydney LEP 2012, a new section in Part 5 of DCP 2012, and an infrastructure framework. Turner Studio and Turf has prepared an Urban Design and Public Domain Study which establishes an Indicative Concept Proposal presenting an indicative renewal outcome for Waterloo South. The Urban Design and Public Domain Study provides a comprehensive urban design vision and strategy to guide future development of Waterloo South and has informed the proposed planning framework. The Indicative Concept Proposal has also been used as the basis for testing, understanding and communicating the potential development outcomes of the proposed planning framework.

The Indicative Concept Proposal comprises:

- Approximately 2.57 hectares of public open space representing 17.8% of the total Estate (Gross Estate area - existing roads) proposed to be dedicated to the City of Sydney Council, comprising:
    - Village Green – a 2.25 hectare park located next to the Waterloo Metro Station; and
    - Waterloo Common and adjacent – 0.32 hectares located in the heart of the Waterloo South precinct
    - The 2.57 hectares all fall within the Waterloo South Planning Proposal representing 32.2% of public open space

- Retention of 52% of existing high and moderate value trees (including existing fig trees) and the planting of three trees to replace each high and moderate value tree removed.
- Coverage of 30% of Waterloo South by tree canopy.
- Approximately 257,000 sqm of GFA on the LAHC land, comprising:
    - Approximately 239,100 sqm GFA of residential accommodation, providing for approximately 3,048 dwellings comprising a mix of market and social (affordable rental) housing dwellings;
    - Approximately 11,200 sqm of GFA for commercial premises, including, but not limited to, supermarkets, shops, food & drink premises and health facilities; and
    - Approximately 6,700 sqm of community facilities and early education and child care facilities.

The key features of the Indicative Concept Proposal are:

- It is a design and open space led approach.
- Creation of two large parks of high amenity by ensuring good sunlight access.
- Creation of a pedestrian priority precinct with new open spaces and a network of roads, lanes and pedestrian links.
- Conversion of George Street into a landscaped pedestrian and cycle friendly boulevard and creation of a walkable loop designed to cater to the needs of all ages.
- A new local retail hub located centrally within Waterloo South to serve the needs of the local community.
- A target of 80% of dwellings to have local retail services and open space within 200m of their building entry.
- Achievement of a 6 Star Green Star Communities rating, with minimum 5-star Green Star – Design & As-Built (Design Review certified).
- A range of Water Sensitive Urban Design (WSUD) features.

The proposed land allocation for the Waterloo South precinct is described in Table 1 below.

Table 2 | Breakdown of allocation of land within the Waterloo South

Land allocation	Existing	Proposed
Roads	3.12ha / 25.3%	4.38ha / 35.5%
Developed area (Private sites)	0.86ha / 6.98%	0.86ha / 7%
Developed area (LAHC property)	8.28ha / 67.2%	4.26ha / 34.6%
Public open space (proposed to be dedicated to the City of Sydney)	Nil / 0%	2.57ha / 20.9% (32.3% excluding roads)
Other publicly accessible open space (Including former roads and private/LAHC land)	0.06ha / 0.5%	0.25% / 2%
TOTAL	**12.32ha**	**12.32ha**

The Indicative Concept Proposal for the Waterloo South is illustrated in **Figure 3** below.

Figure 3 Indicative Concept Proposal

Source: Turner Studio

3. Baseline analysis - Strategic context for the Waterloo Precinct

3.1 Introduction

This section presents the findings of .id baseline investigations for the broader Waterloo Precinct. This section of our report includes the following:

- Strategic context
- Precinct Profile
- Case study / benchmark analysis

3.2 Strategic context

This section provides an overview of some of the main social and economic trends impacting the Waterloo Precinct. It also highlights some of the strategic drivers for renewal.

Key findings

- Greater Sydney and the City of Sydney LGA (Cos) have experienced substantial population growth over the last decade, well above the national rate.
- Inner city locations are experiencing a resurgence, as young workers and some downsizing retirees seek greater access to employment and essential services.
- Population growth is driving large increases in property values. Both the median property price and median rent in CoS have more than doubled in the last ten years. This trend highlights the need for housing diversity and affordable housing.
- CoS is the largest employment agglomeration in NSW by far and its influence has increased over time. In 2011, it supported 15% of the employment. However, in the last five years, it generated 38% of the employment growth.
- This jobs growth is increasing the divergence between where people work compared to where they live in Sydney. CoS has a substantial 'Jobs Surplus'.
- Driving this growth is an increase in jobs requiring more cognitive and non-routine skills that often necessitate higher qualified employees. These jobs are often concentrated in CBDs and other major employment nodes.
- Knowledge-based industries generate a large amount of these jobs and gain productivity benefits from agglomeration and access to deep labour pools.
- High-density development around major transport nodes can support access to labour for businesses and jobs for residents.
- The share of Social Housing has also declined in the Sydney LGA from 8.6% in 2011 to 8.0% in 2016. This highlights the need to maintain or improve the level of Social Housing available in the Sydney LGA.

- The Waterloo Precinct area is planned to generate a substantial increase in residents in an area that has strong accessibility to education and employment opportunities, as well as being close to a major transport node.

3.3 Social drivers

Rapid population growth

Greater Sydney is growing rapidly, adding almost 400,000 new residents in the last five years to house an estimated 5 million people in 2016.[1]

The City of Sydney LGA is also receiving its share of growth with the resident population increasing by more than 2% p.a. in nine out of the last ten years. This growth was faster than both NSW and Australia.

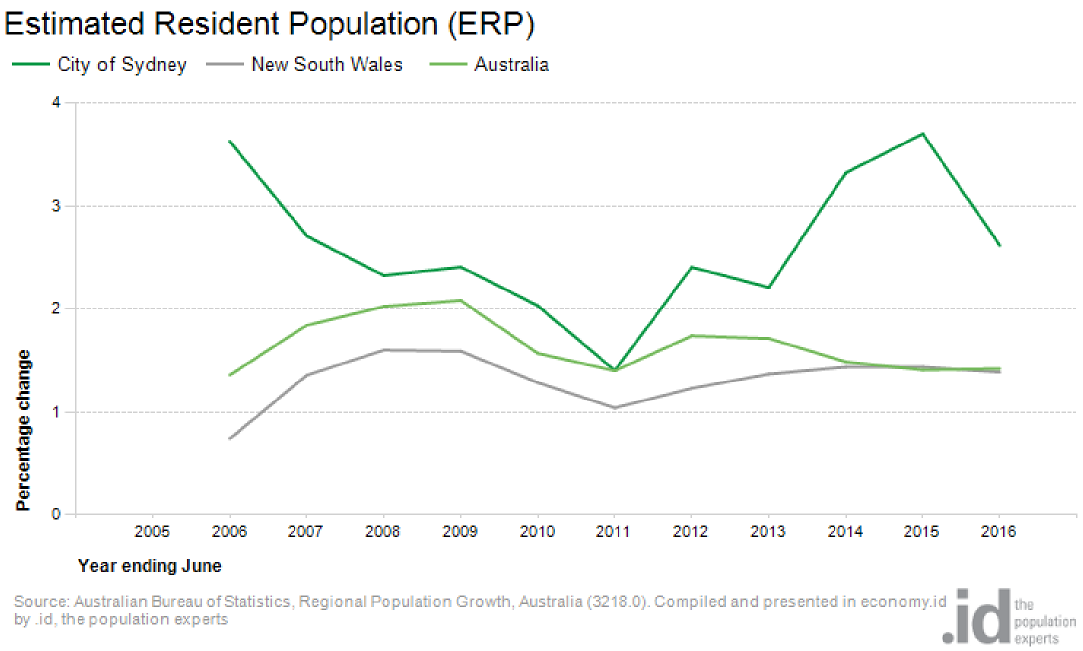


Figure 4 Population growth

Inner urban life is becoming more attractive to a range of ages. Young workers are seeking opportunities to be in walking distance to work, cafes, bars and other entertainment precincts. Older people are also looking to age in place and some retirees are learning the benefits of downsizing to apartments close to health and transport facilities.

[1] Australian Bureau of Statistics, Regional Population Growth, Australia (3218.0)

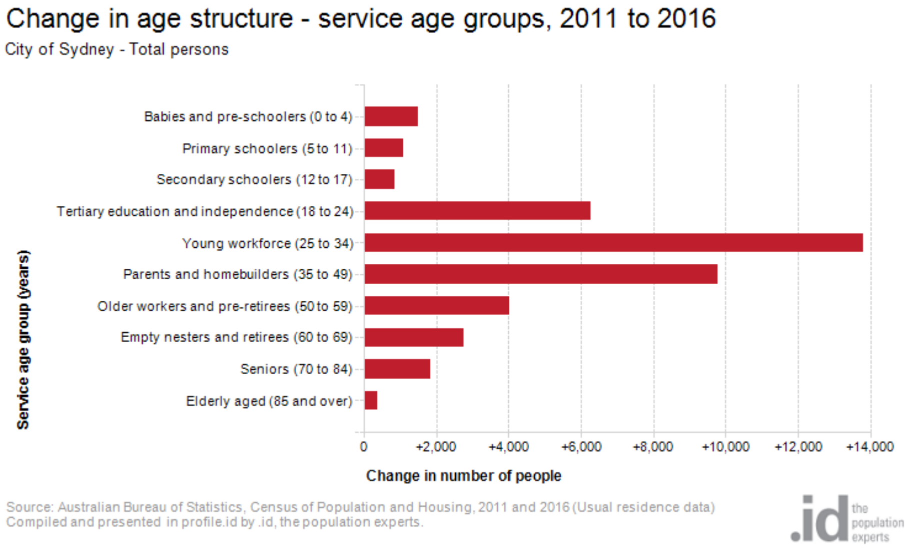


Figure 5 Age profile – City of Sydney

The CoS is very multicultural place with 47.7% of residents born overseas, compared to 36.7% for Greater Sydney. It is often the first location for new migrants. In 2016, over 40% of overseas born residents in the LGA had arrived in the last five years. This compares with 20% for Greater Sydney as a whole.

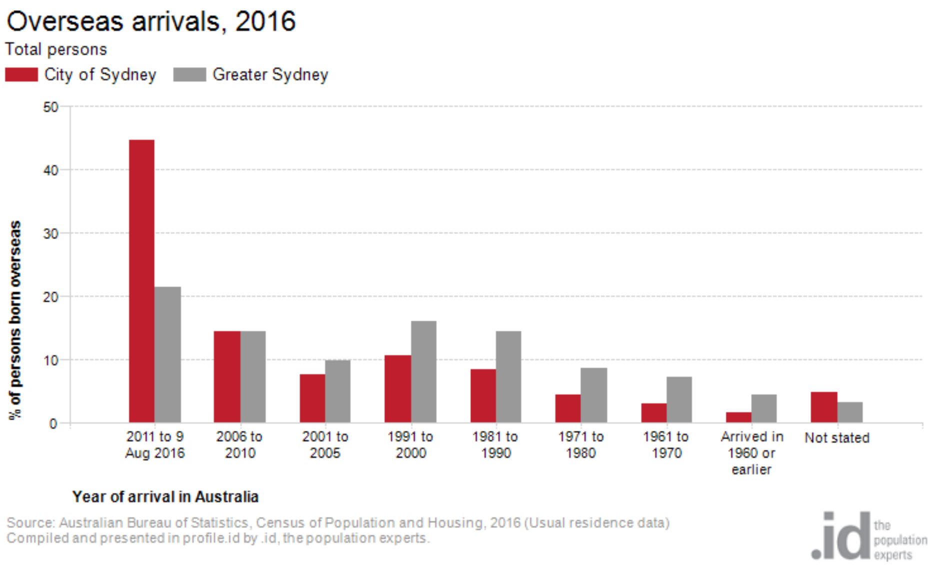


Figure 6 Overseas arrivals – City of Sydney

Declining affordability

Rising population and an increasing desire from more affluent individuals and families to live close to inner city Sydney is having an impact on house prices. The median property price (strata) has increased by 126% in the last ten years and the median rent has also more than doubled.

Rising house prices place considerable challenges for low income groups to continue living in inner city locations that also offer the best access to services and potential job opportunities. While CoS has a higher share of high-income households (than Greater Sydney), it also has a higher share of low income households.

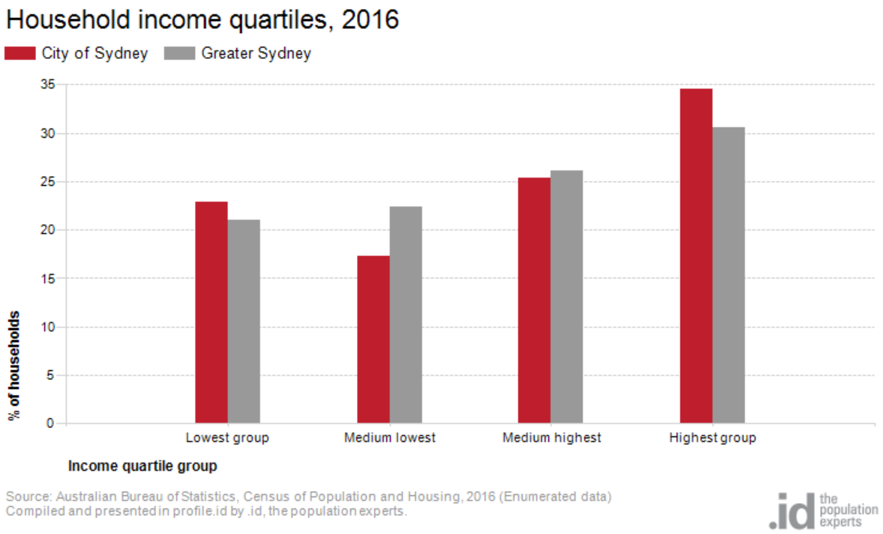
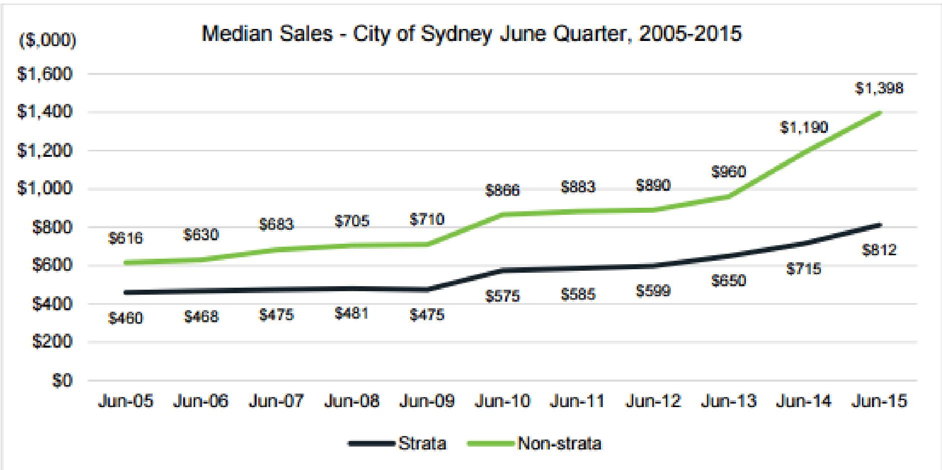
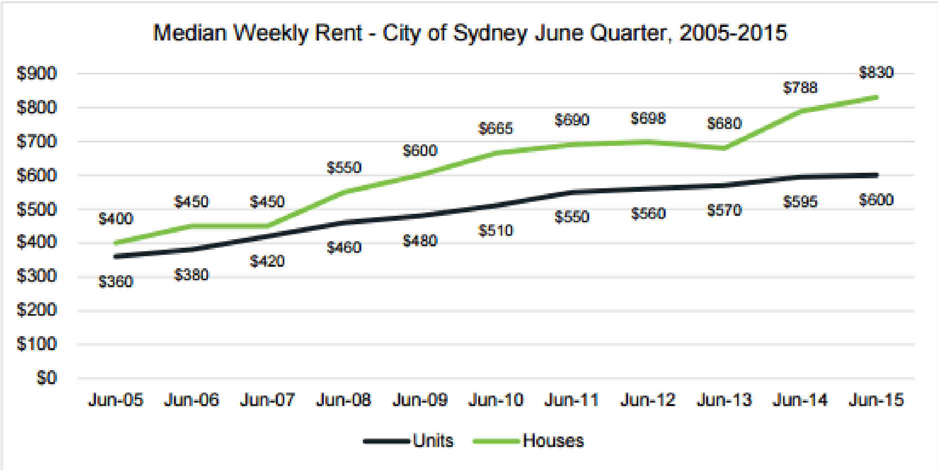


Figure 7 Household income – City of Sydney



Source: NSW FACS Rent and Sales Reports

Figure 8 Median sales – City of Sydney



Source: NSW FACS Rent and Sales Reports

Source: City of Sydney, 2016, *Housing Audit June 2016*

Figure 9 Median rent – City of Sydney

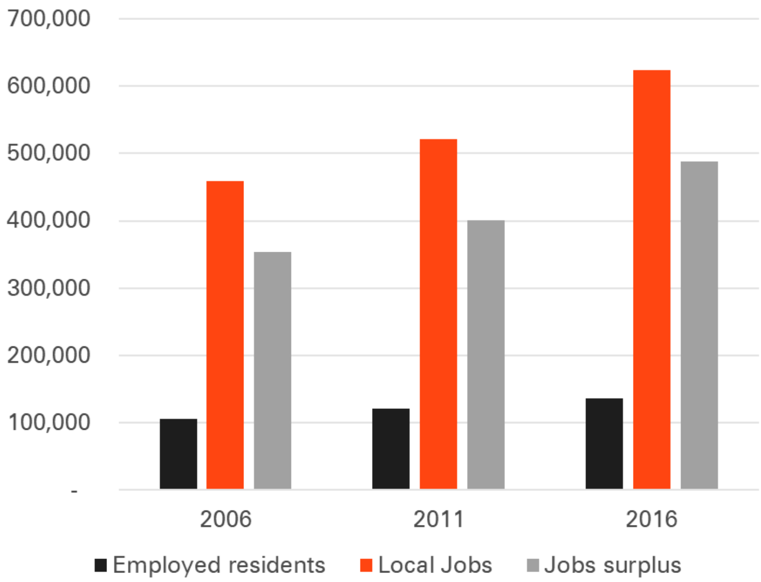
3.4 Economic drivers

Inner city jobs powerhouse

CoS is the engine room for the Greater Sydney and NSW economy. In 2016, it supported some 15% of the employment in the State, however in the last five years it generated 38% of the employment growth.

There is a growing divergence in Sydney between where jobs are located and where workers live. In 2016, CoS had almost half a million (487,855) more jobs than employed residents. This 'jobs surplus' has been rising steadily over the last decade, growing by more than 100,000[2].

This divergence places a strain on transport systems and impacts people's welfare as workers must commute longer and longer distances to access high order employment opportunities.



Source: National Economics (NIEIR), 2017

Figure 10 City of Sydney jobs vs employed residents

Employment growth in knowledge industries

It is no question that in the last decade, the service sector is driving employment growth. The industries that are experiencing the most rapid development are increasingly dependent on

[2] All data National Economics (NIEIR), 2017

ideas and problem-solving skills. Except for construction, the industries that have contributed most to growth in the last 15 years have required non-routine and often cognitive skills.

The rewards of the new economy then flow towards those with higher qualifications. In 2019, those with a degree had higher participation rates, faced lower unemployment and earned far more.

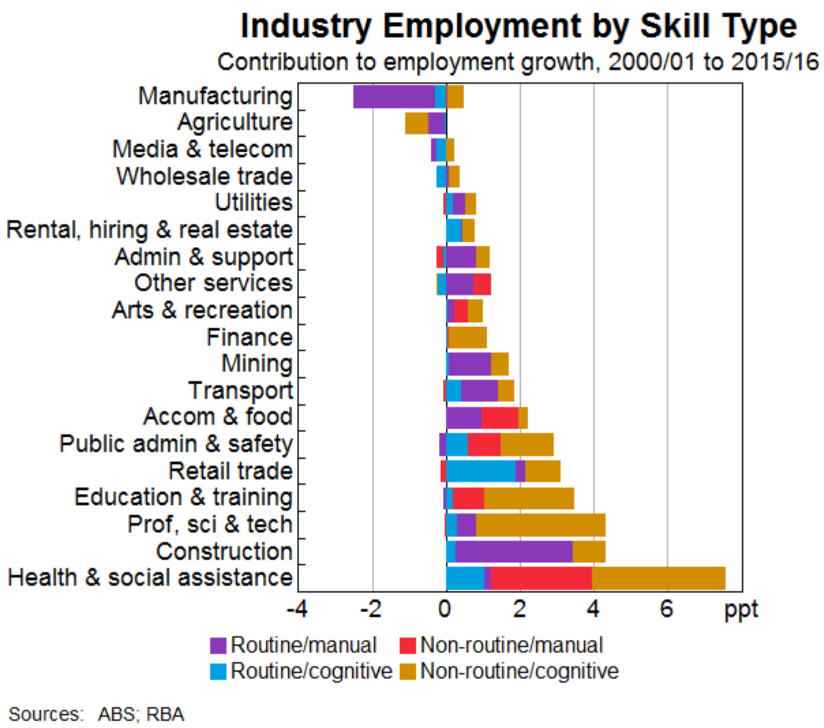
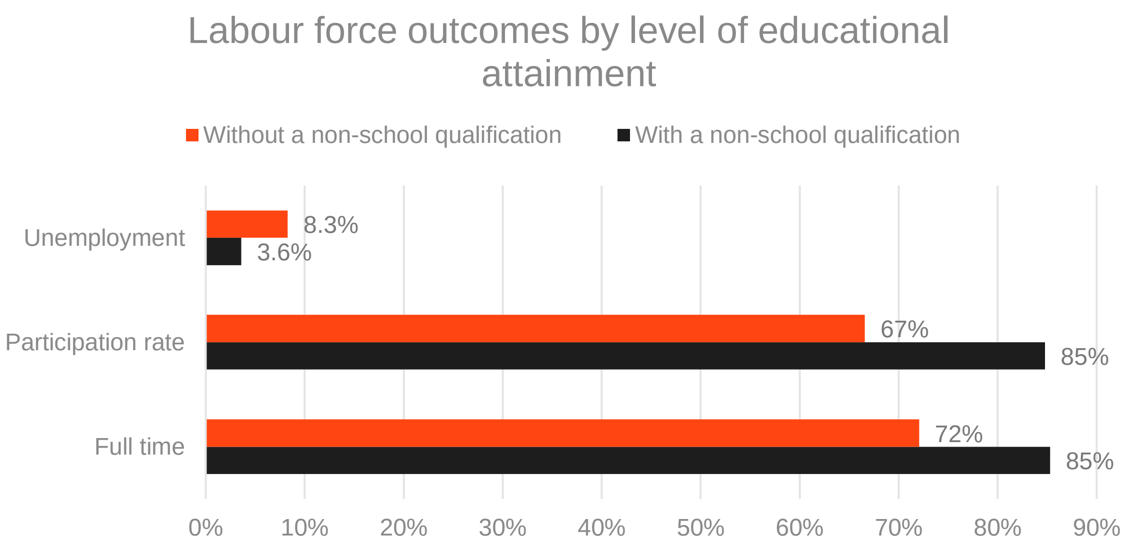


Figure 11 Industry of Employment by skill type - Australia



Source: 6227.0 - Education and Work, Australia, May 2019

Figure 12 Labour force outcome by level of educational attainment

Agglomeration favours service sector industries

Most knowledge-based industries benefit from agglomeration, the co-location or clustering of firms and deep labour pools. Health care, professional services, finance and insurance, and administration industries have all been shown to increase labour productivity as job density increases[3].

Transit Orientated Development has been a popular planning concept for some time. The maximisation of business and residential space around key transport nodes offers residents the greats access to employment opportunities and businesses access to the widest labour pools.

However, TOD in Australia is often successful at achieving only one outcome, residents or businesses. 'Knowledge Oriented Development' (KOD) where businesses and residents both benefit from agglomeration of housing and employment co-located along rapid transit hubs is the next step.

3.5 Drives for renewal

Sydney Metro

Labelled Australia's biggest public transport project, the Sydney Metro is a new 64km urban railway line that aims to provide high frequency metro train services in and out of Sydney's CBD.

Stage 1 of the project (Northwest) is complete and Stage 2 (City & Southwest) is underway. The Stage 2 component of the project incorporates a new metro station in Waterloo.

The new metro station at Waterloo aims to support revitalisation of the Waterloo precinct and support the extension of the CBD. It is planned to connect with:

- bus services along Botany Road and rail services at Redfern Station.
- employment opportunities in the Australian Technology Park.
- expanded development opportunities along the Global Economic Corridor between the Sydney CBD and Green Square.

Social housing

The NSW Government has a ten-year vision for developing better outcomes for social housing tenants. *Future Directions for Social Housing in NSW*[4] outlines three strategic priorities:

- More social housing.

[3] See SGS, 2012, *Productivity and Agglomeration Benefits in Australian Capital Cities*
[4] NSW Government Family and Community Services Department

- More opportunities, support and incentives to avoid and/or leave social housing.
- A better social housing experience.

As an area of high social housing tenure, the Waterloo SSP study area is of key focus in the Government achieving its priorities. The Waterloo redevelopment will provide better quality housing and more opportunities to access work and necessary services for the local resident base.

3.6 Precinct profile

This section provides a representative demographic and employment profile of the Waterloo Precinct area. The information provided mainly relies on data from the 2016 ABS Census of Population and Housing. All information refers to the Waterloo Precinct area unless stated otherwise.

Key findings

- The resident population in Waterloo Precinct is much older than the profile for the broader CoS.
- The area is very multicultural with a high population of elderly Eastern European immigrants (Ukraine and Russia). There is an emerging Chinese population.
- There is a much higher share of Indigenous people amongst the resident population than the rest of CoS
- Education attainment is very low with just over 50% of persons aged 15 or more having completed Year 12 or equivalent.
- The Precinct is highly disadvantaged with all SA1s falling within the most disadvantaged 10% of small areas in NSW and Australia.
- The predominate dwelling stock is high-density social housing, largely occupied by lone person households . Just over three-quarters of dwellings are rented from a State or Territory Housing Authority.
- Participation in the labour force was low (34%), less than half the CoS rate and the unemployment rate was 18.4% in 2016, three times that experienced in the CoS (6.0%).
- The main industries of employment for working residents are Professional, Scientific and Technical Services, Health Care and Social Assistance, and Accommodation and Food Services.
- Most residents work within the CoS. Unlike other CoS residents, car and train are the most common methods of travel to work, not active methods (walking, cycling).
- The largest employing industries in the Precinct in 2016 were Manufacturing, Retail Trade, and Professional Services.
- The main occupations were Professionals and Managers. However, physical based occupations were over-represented compared to the Greater Sydney average.

3.6.1 Geographic definition

The demographic and economic profile presented in this report is based on the Waterloo Precinct area. The demographic profile of the Waterloo Precinct presented in Section 3 is based on the following SA1's: – 1133801, 1133802, 1133804, 1133806, 1133838, 1133839, 1133841. The economic and employment profile is defined as the DZN 113381369 (ABS) and TZ 270 (NSW BTS). SA1's were not used for the economic analysis as Census data for Place of Work is not available at this level.

The forecasts presented in Section 4 refer to Waterloo South only (highlighted by the black boundary in the map below[5]).

Demographic assessment – Waterloo Precinct	*Economic assessment – Waterloo Precinct*	*Forecasts – Waterloo South*
		

Waterloo State Significant Precinct (the Precinct)
Statistical areas that define the Waterloo Precinct
Waterloo South (forecast area)

[5] Note: Village Green not included as no housing development is forecast here

3.6.2 Who lives in the precinct?

According to the ABS Census of Population and Housing, there were 3,650 residents living in the Waterloo Precinct in 2016 (see Section 3.6.1 for definition). This represented 1.8% of the City of Sydney's resident population. The population of the Precinct grew by 477 people or 15% between 2011 and 2016.

Older demographic

The current residents of the Precinct are quite elderly.

Just under a third of residents were aged over 65 years in 2016, compared to 8% in the City of Sydney and 14% across Greater Sydney. This proportion is slightly lower than it was in 2011.

The older demographic in the Precinct impact service needs in the area. In 2016, 12.5% of residents had need for assistance, much higher than the City of Sydney (2.4%) and Greater Sydney rates (4.9%). The majority in need were 65 or over (63%).

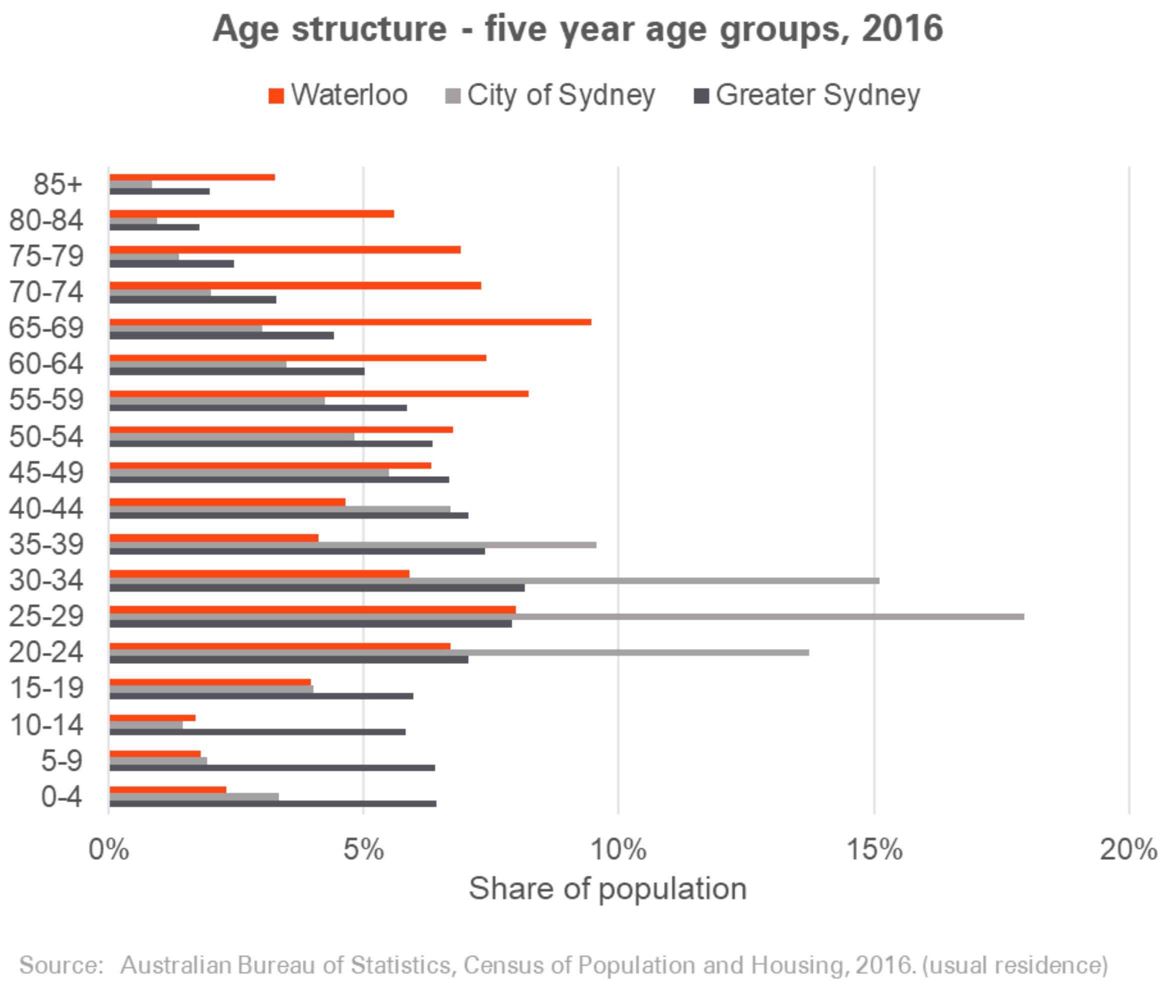
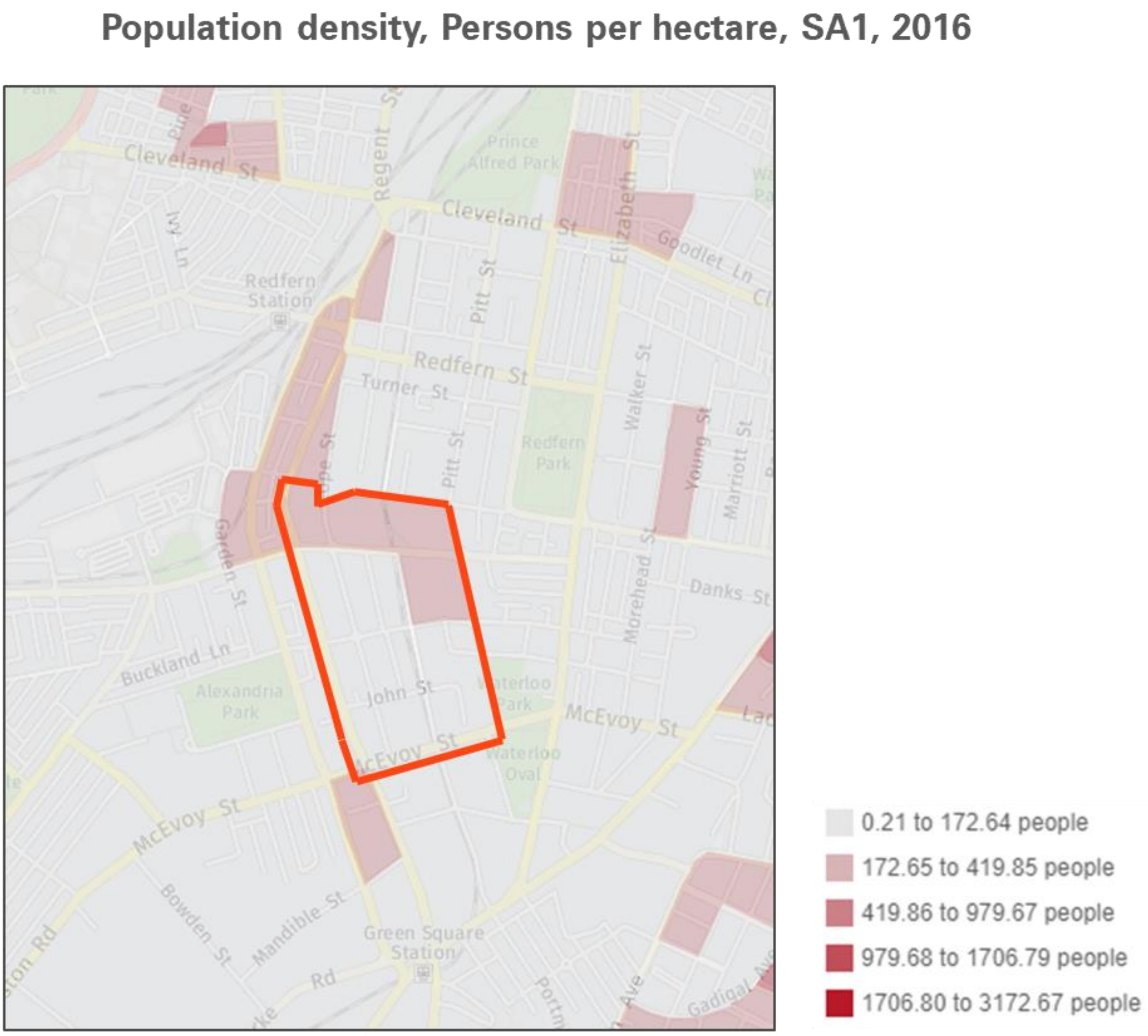


Figure 13 Age structure – Waterloo (2016)

Currently medium to low density for inner city area

The densest areas in the precinct are in the northern SA1s which incorporate the larger social housing buildings. SA1 - 1133838 had a population density of 236 persons per hectare in 2016, while areas to the south had densities below 150 persons per hectare



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011. (usual residence)

Figure 14 Population density – Waterloo (2016)

Multicultural, with strong eastern European influence

Like most of inner Sydney, Waterloo is highly multicultural. In 2016, 58.8% of residents were born overseas. This is a significant increase from 2011, when 45% were born overseas. This compares with 47.7% for CoS and 36.7% for Greater Sydney.

- Less than half of residents in Waterloo were born in Australia
- Decline in the Ukrainian population – comprising 8% of the population in 2011, this community is now just 4.8% of the Precinct population.
- There were also higher proportions of Russian and Chinese born persons compared to Greater Sydney
- Significant increase in the Chinese population between 2011 and 2016 – 317 people or 226%

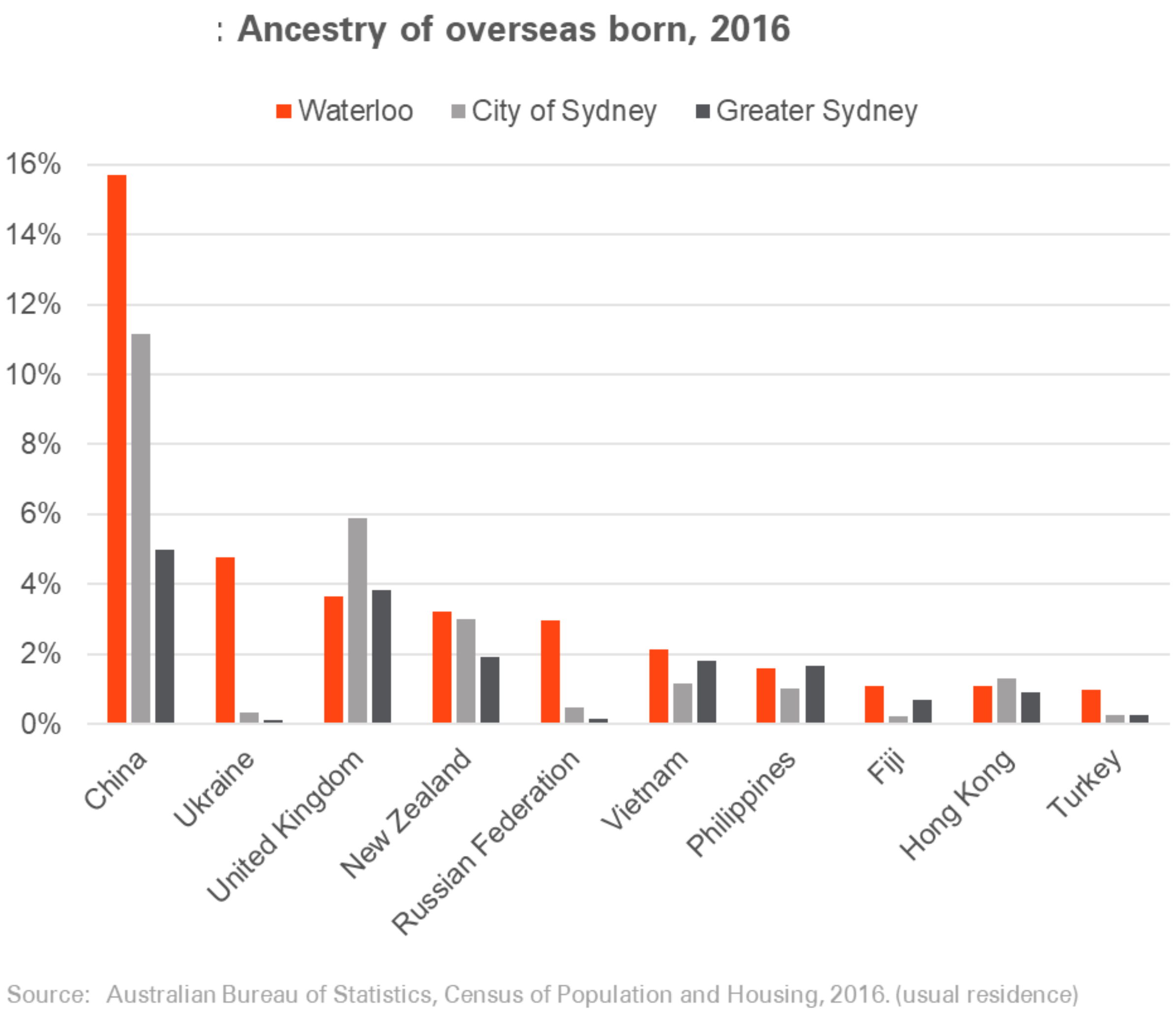


Figure 15 Ancestry – Waterloo (2016)

Influx of migrants in 80s and 90s

The majority of residents that were born overseas arrived in the 1980s and 1990s. This could possibly be a result of the break-up of the Soviet Union, given the ancestry of migrants. However, there has been a significant influx of migrants in the past five years, most likely from China.

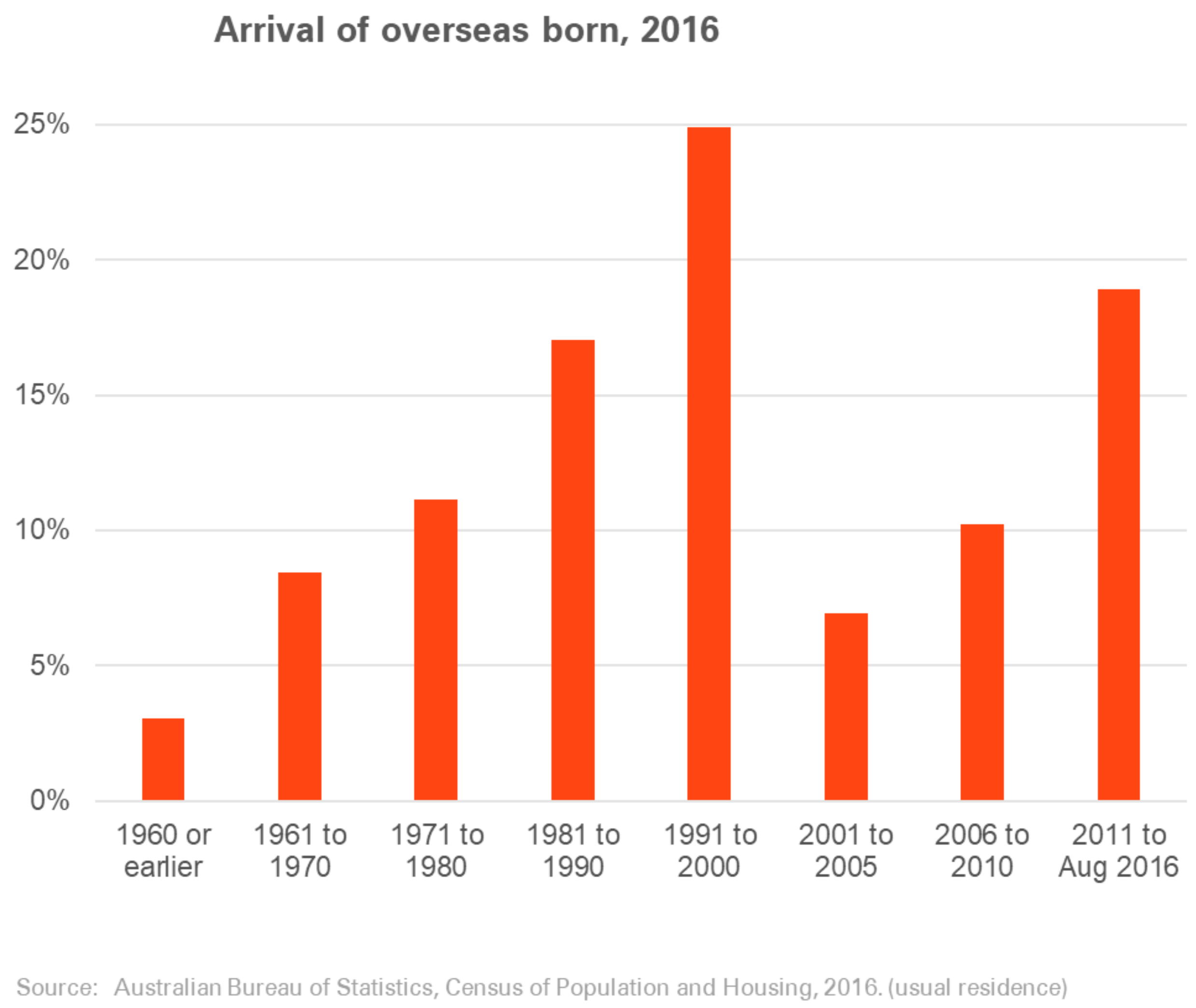


Figure 16 Arrival of overseas born – Waterloo (2016)

High share of Indigenous people

In 2016, 227 residents (or 6.2%) identified as Aboriginal and/or Torres Strait Islander, a far higher proportion than the 1.5% average across Greater Sydney. There was also a concentration of middle aged adults with some evidence of young families, with a high proportion of children aged 10 to 14 years

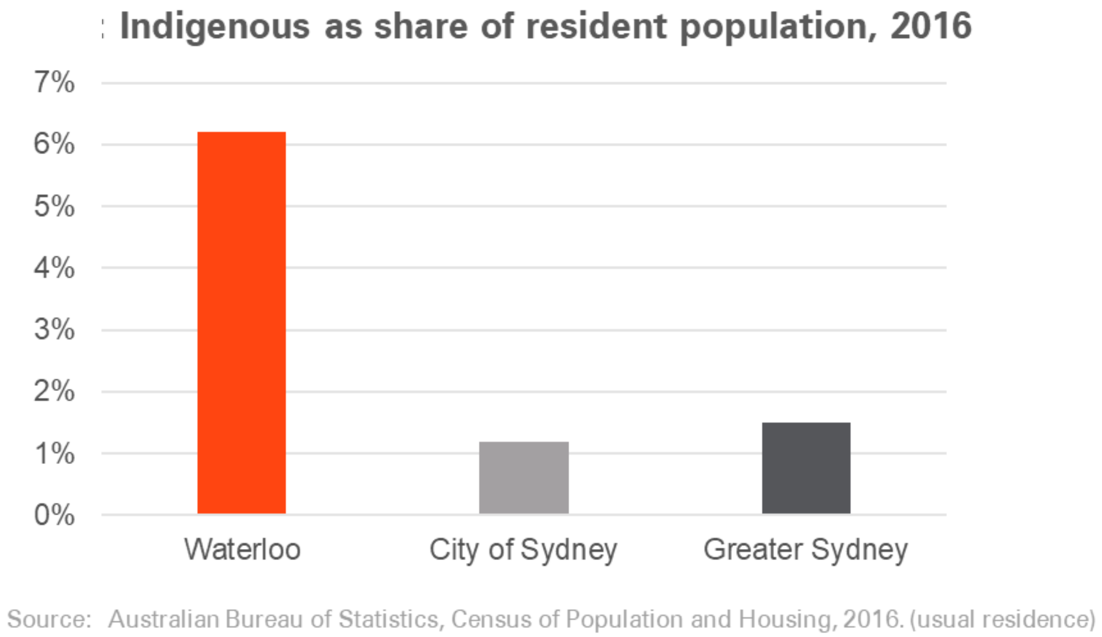


Figure 17 Indigenous population – Waterloo (2016)

Lower education levels

Just over half of residents in the Waterloo Precinct completed Year 12 or equivalent, compared to 85% in the City of Sydney and 65% across Greater Sydney. However, this rate has improved since 2011. Almost one in five completed Year 9 or below, including those that did not attend school at all.

In 2016, 43% of residents had a post school qualification, this contrasts with 65% for the City of Sydney, but is close to the Greater Sydney average (46%). Of those with post school qualifications, most had a bachelor degree or higher (50%) but this was far lower than the average for the City of Sydney (74%), and less than Greater Sydney (54%).

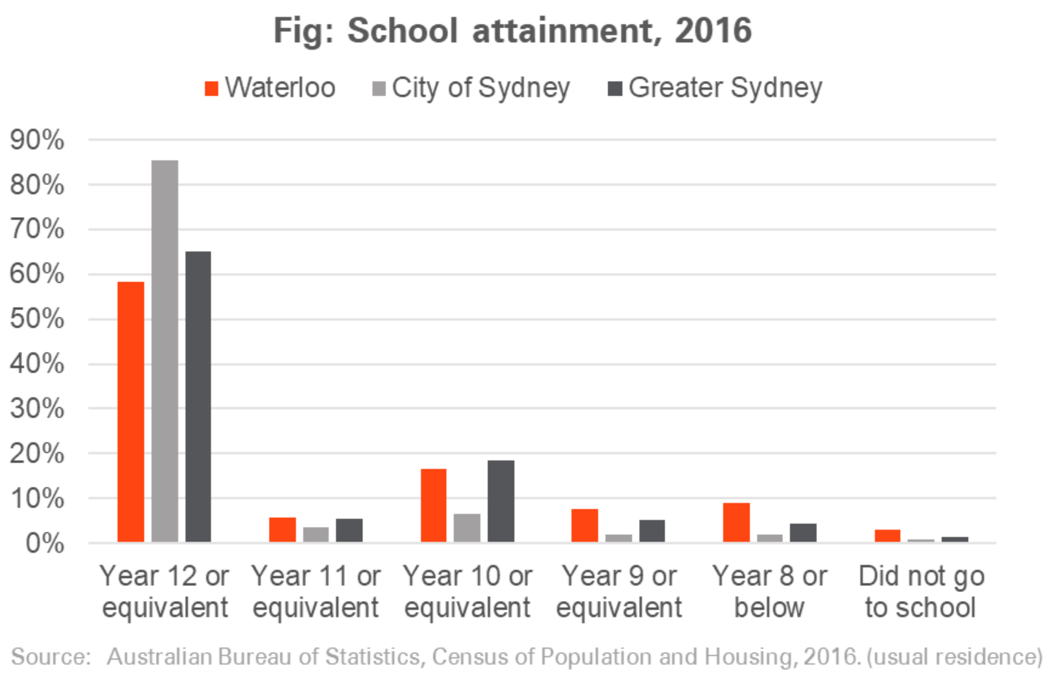


Figure 18 School attainment – Waterloo (2016)

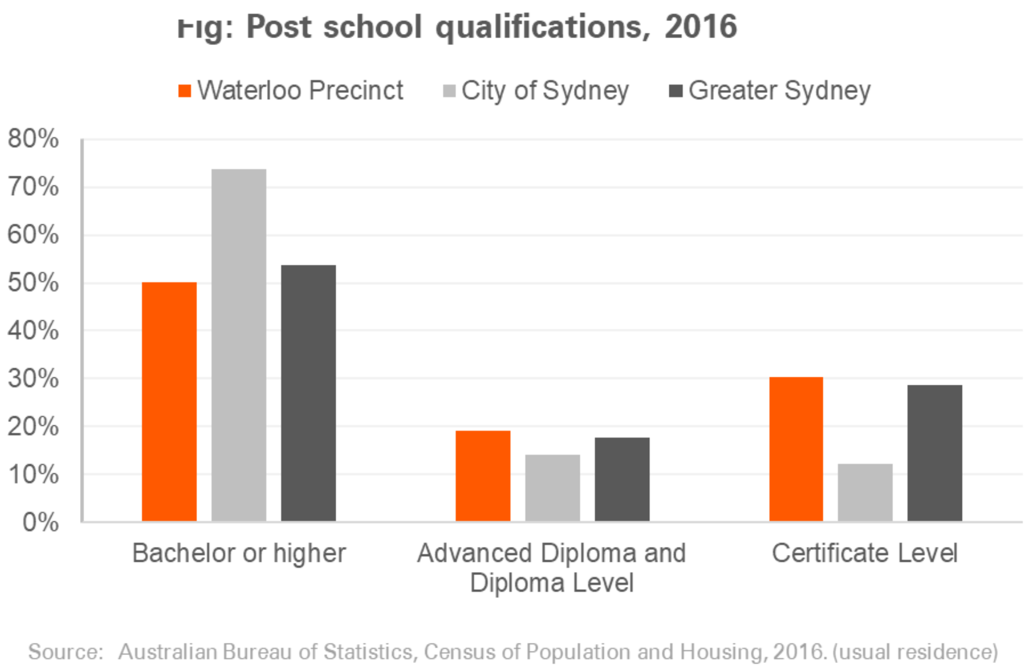


Figure 19 Post school qualifications – Waterloo (2016)

High disadvantage levels

The Waterloo Precinct contains some of the most disadvantaged areas in the CoS. All SA1s within the Precinct fall within the SEIFA index of disadvantage 1st decile (most disadvantaged 10%) in NSW and Australia.[6] Five SA1s are within the 1st percentile (most disadvantaged 1%) in NSW and one in is ranked the 28th most disadvantaged SA1 in NSW[7].

[6] [1]The Socio-Economic Indexes for Areas (SEIFA) index of relative socio-economic disadvantage is the most commonly used aggregate measure of disadvantage at the local level in Australia. The 2011 SEIFA data is currently the most up to date available. SEIFA 2016 indexes will be available in 2018.

[7] Note: there are 17,131 SA1s in NSW.

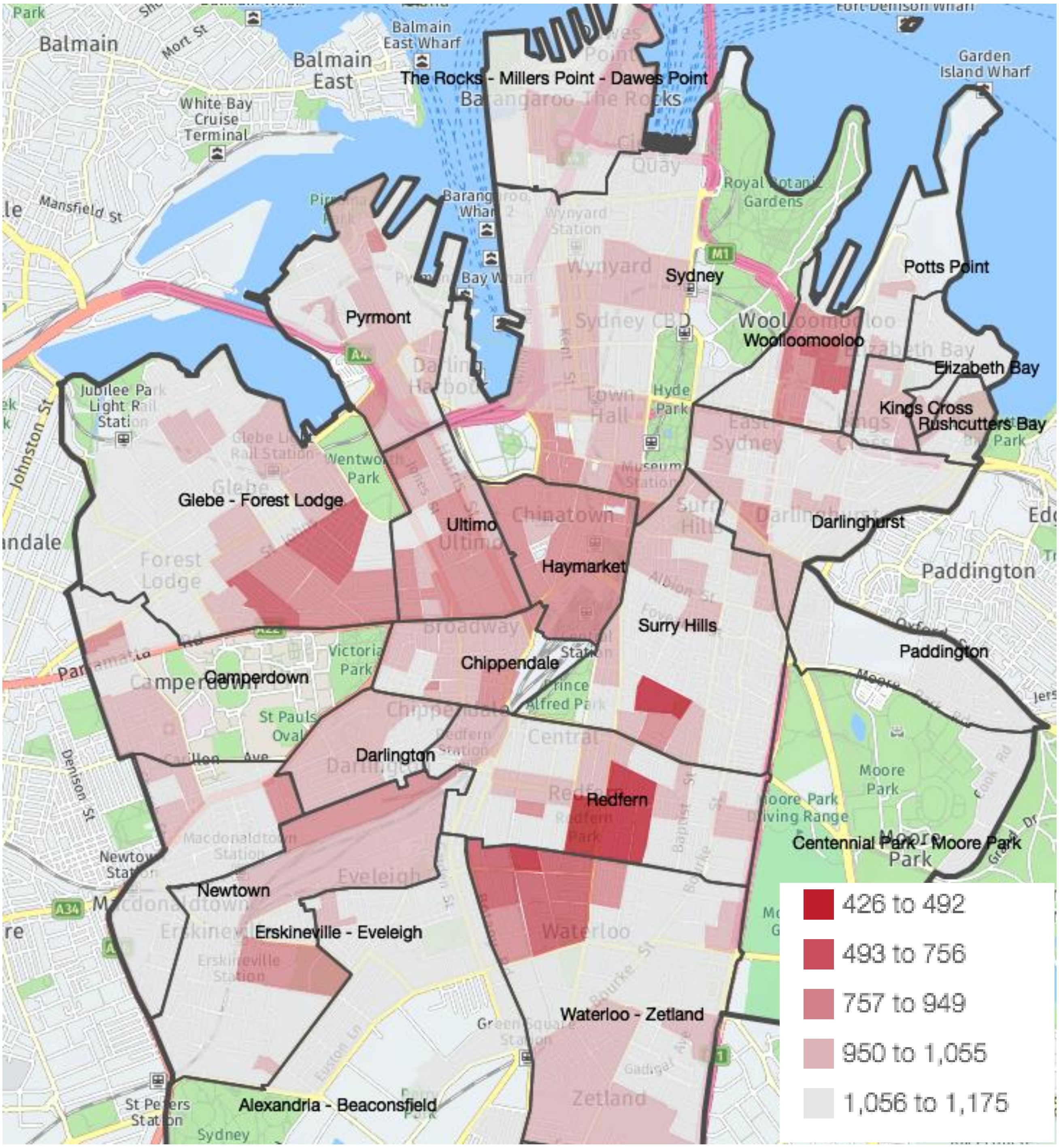


Figure 20 Level of disadvantage - SEIFA – Waterloo and surrounds (2016)

3.6.3 How do they live?

According to the ABS Census of Population and Housing, there were 2,545 dwellings recorded in the Waterloo Precinct area in 2016. This represented 2.3% of the City of Sydney's dwelling stock.

High density living

Just over 90% of dwellings in the Waterloo Precinct were high density, slightly higher than the City of Sydney and far higher than Greater Sydney. Just 0.2% of dwellings were separate houses, compared to 55% across Greater Sydney.

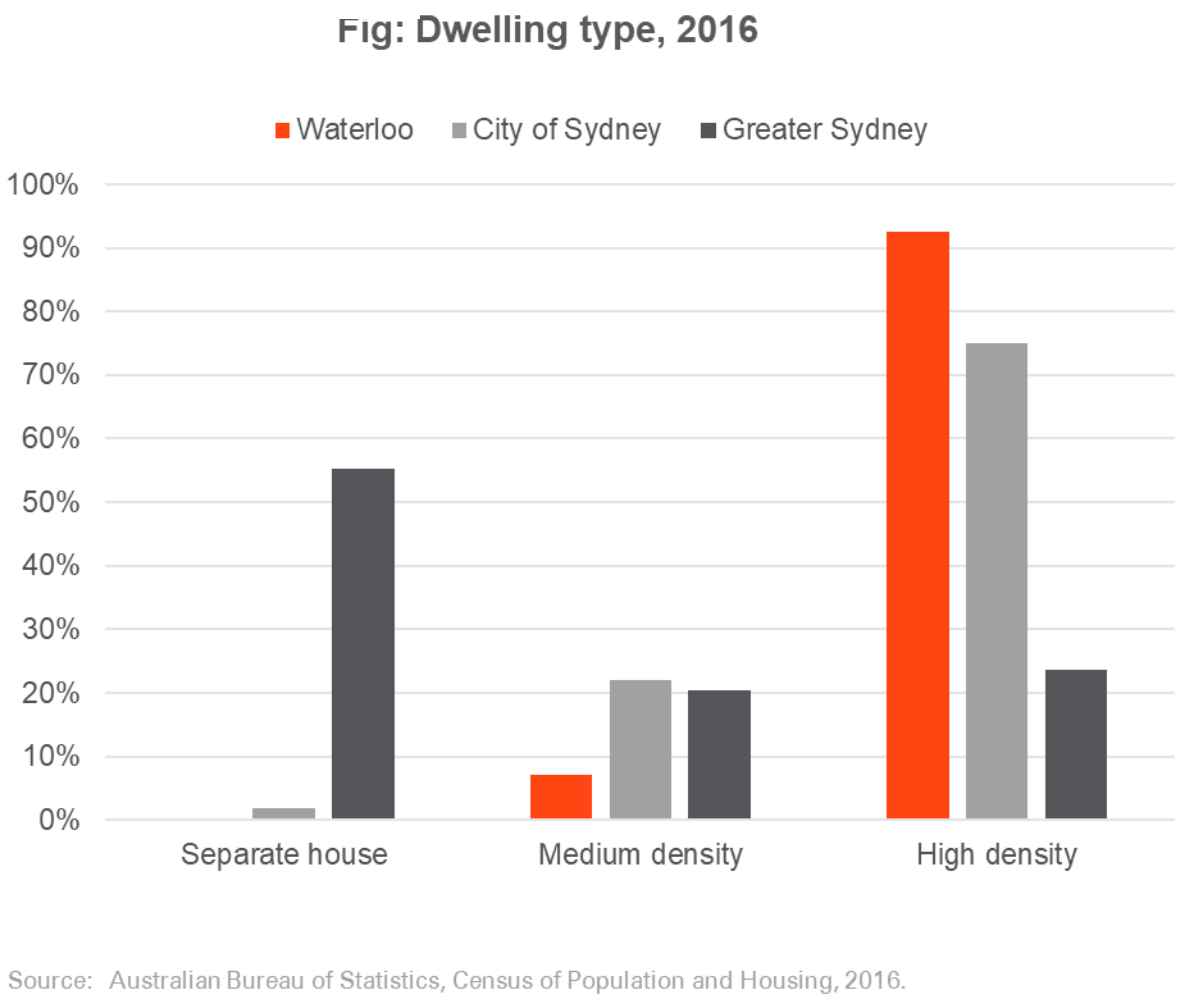
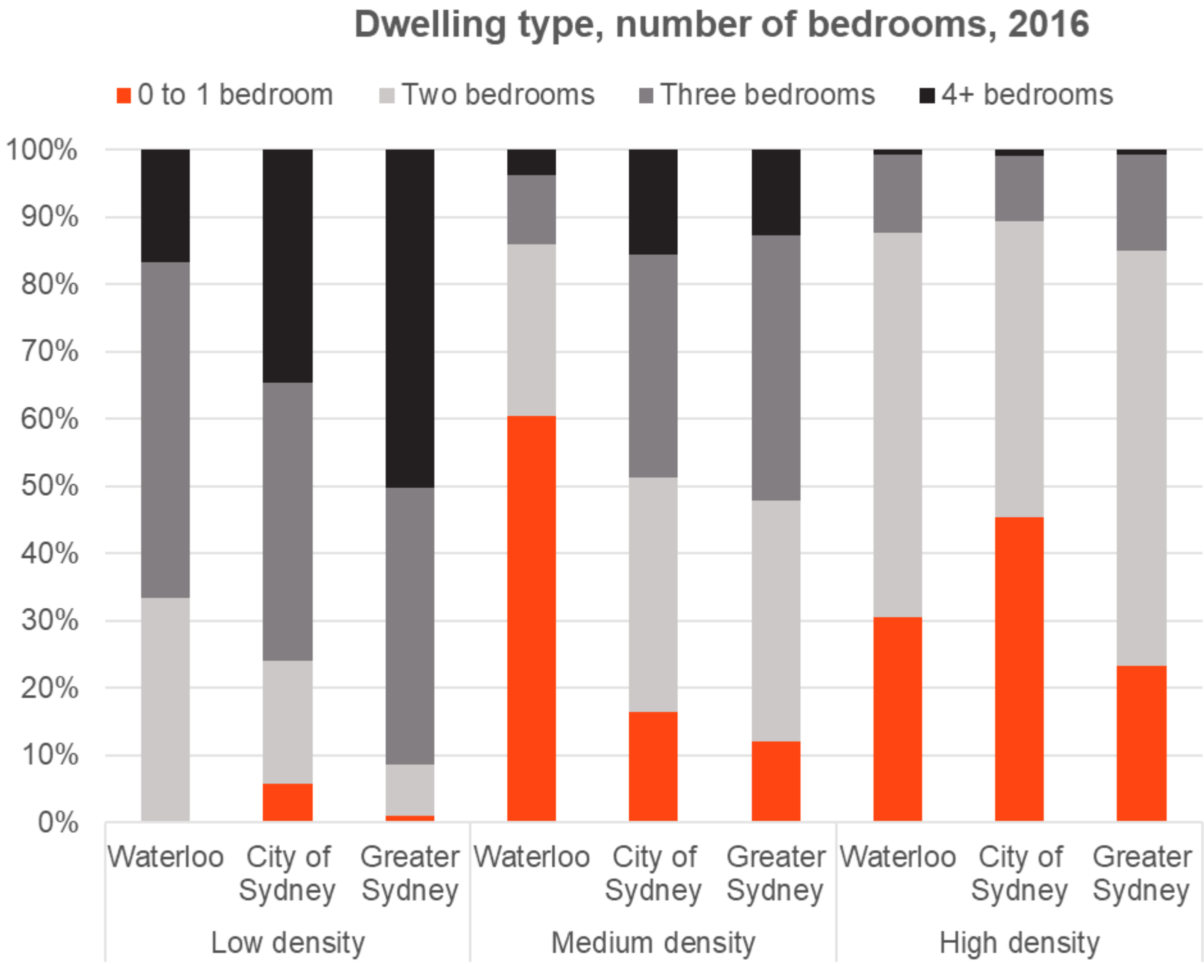


Figure 21 Dwelling type – Waterloo (2016)

Large proportion of one-bedroom dwellings

There were a high proportion of one-bedroom dwellings (32.3%) – just a little lower than City of Sydney (38%). Surprisingly, medium density dwellings are mostly likely to have one bedroom.



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

Figure 22 Dwelling type by bedrooms – Waterloo (2016)

Lone person households dominate

Most households in the Waterloo Precinct are small – just under two-thirds are lone person households compared to around 37% for the City of Sydney and around 22% across Greater Sydney. Around 16% of households are couples without children, and another 10% are one parent families.

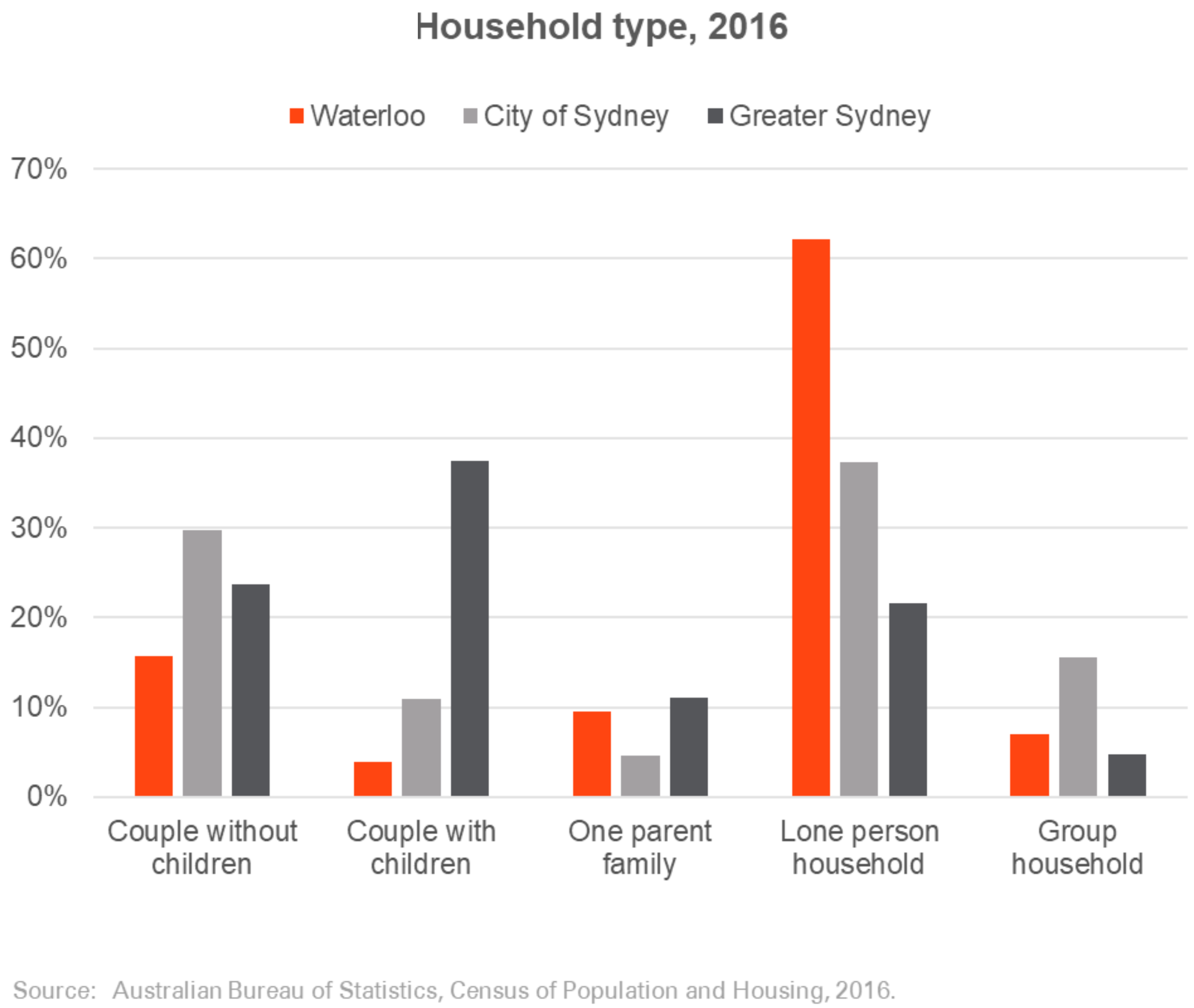


Figure 23 Household type – Waterloo (2016)

Low income households

Household incomes are much lower in the Waterloo Precinct – around a half of residents earned between $300 and $649 per week. Around one in eight earned $1,000 or more per week, compared to 62% across the City of Sydney.

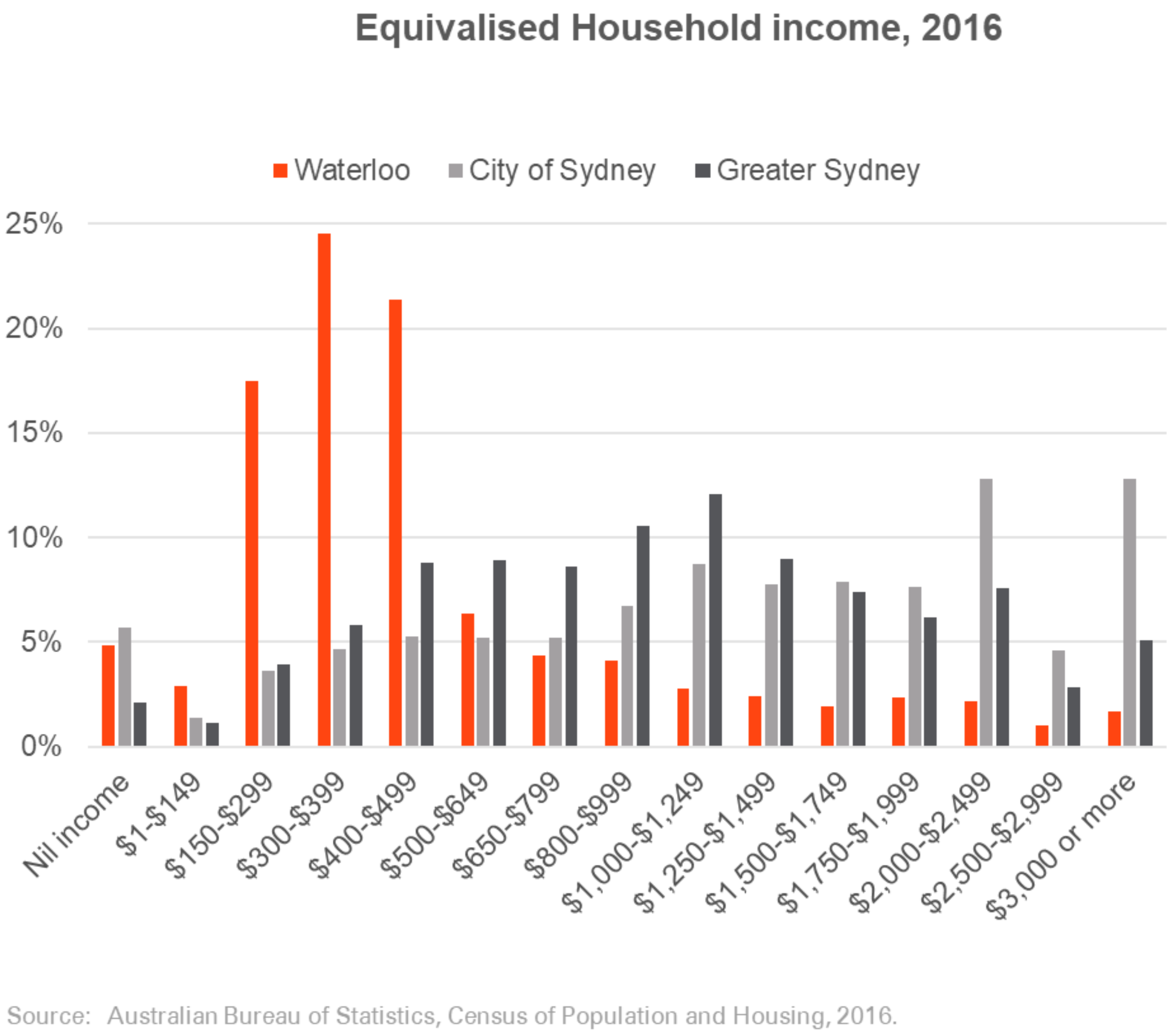
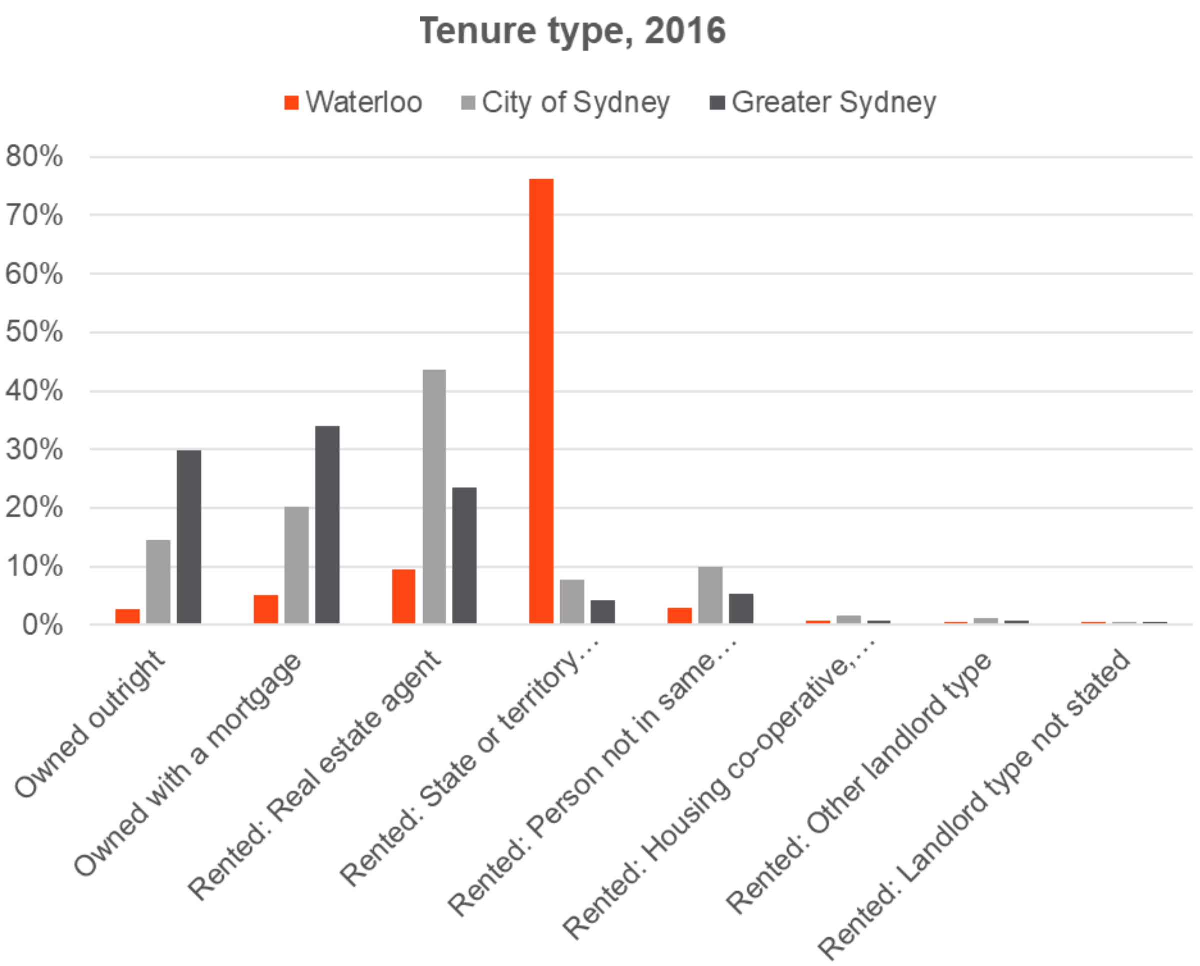


Figure 24 Household Weekly income – Waterloo (2016)

Predominantly social housing tenure

Most households (76%) in the Waterloo Precinct are rented from a State or Territory Housing Authority, compared to less than 5% across Greater Sydney. Private rentals and mortgages have increased since 2011. Around 9.4% are rented from a real estate agent, and around 5% are owned with a mortgage.



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

Figure 25 Tenure – Waterloo (2016)

Reliance on public transport

Most households (65%) in Waterloo do not own a motor vehicle. Car ownership is far lower than the rest of Greater Sydney, reflecting the inner city location and income levels of the area.

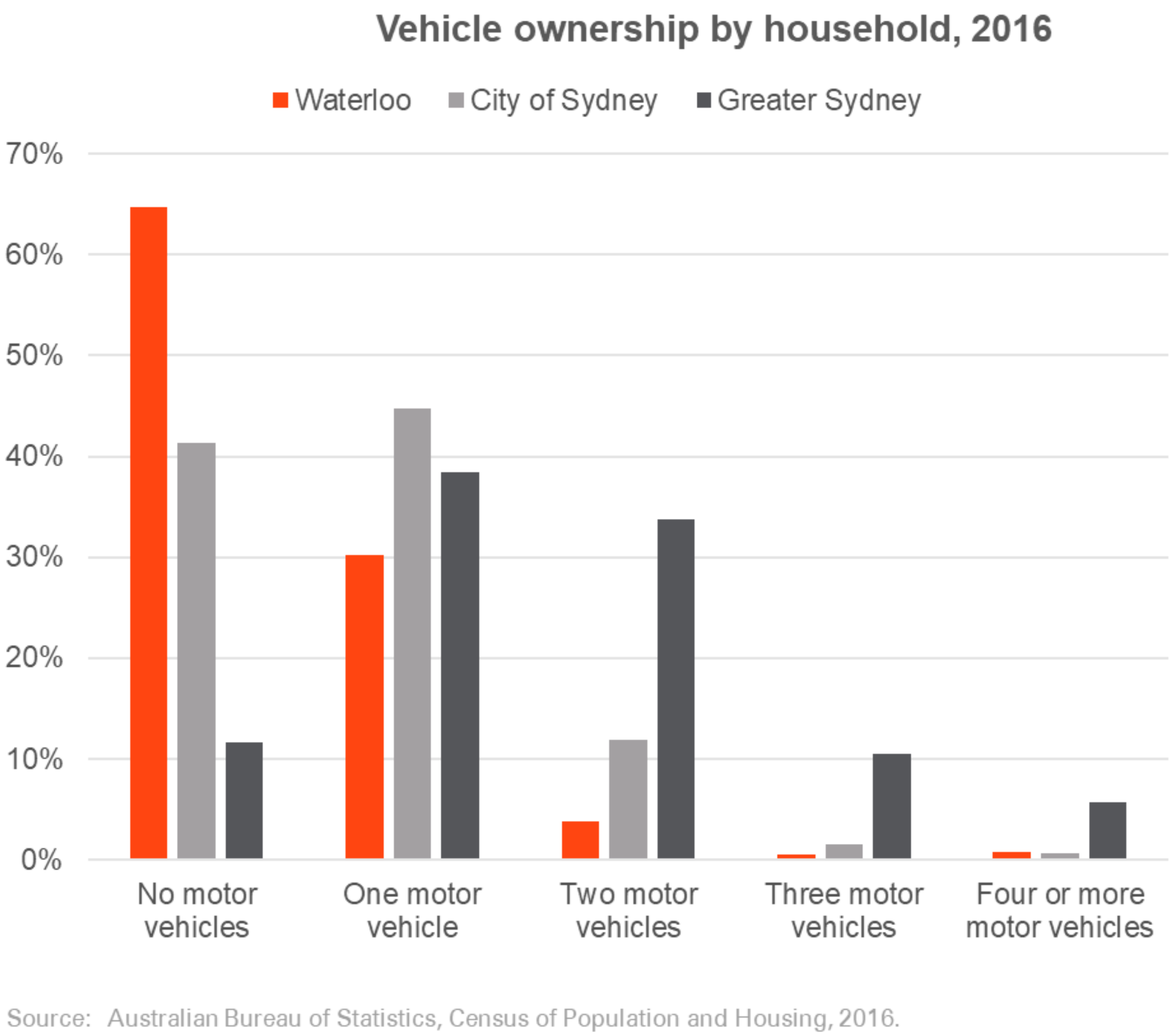


Figure 26 Vehicle ownership – Waterloo (2016)

3.6.4 What do they do?

According to the ABS Census of Population and Housing, there were approximately 771 employed residents recorded in the Waterloo Precinct area in 2016.

Low workforce participation, high unemployment

Participation in the labour force is very low in the Waterloo Precinct with only 34% of residents in the labour force. This is mainly due to the older age structure.

Just over a quarter of residents in Waterloo are employed (28%).

In 2016, the unemployment rate for those in the labour force was 18.6%, three times that experienced in the CoS (6.0%) and Greater Sydney as a whole (6.0%).

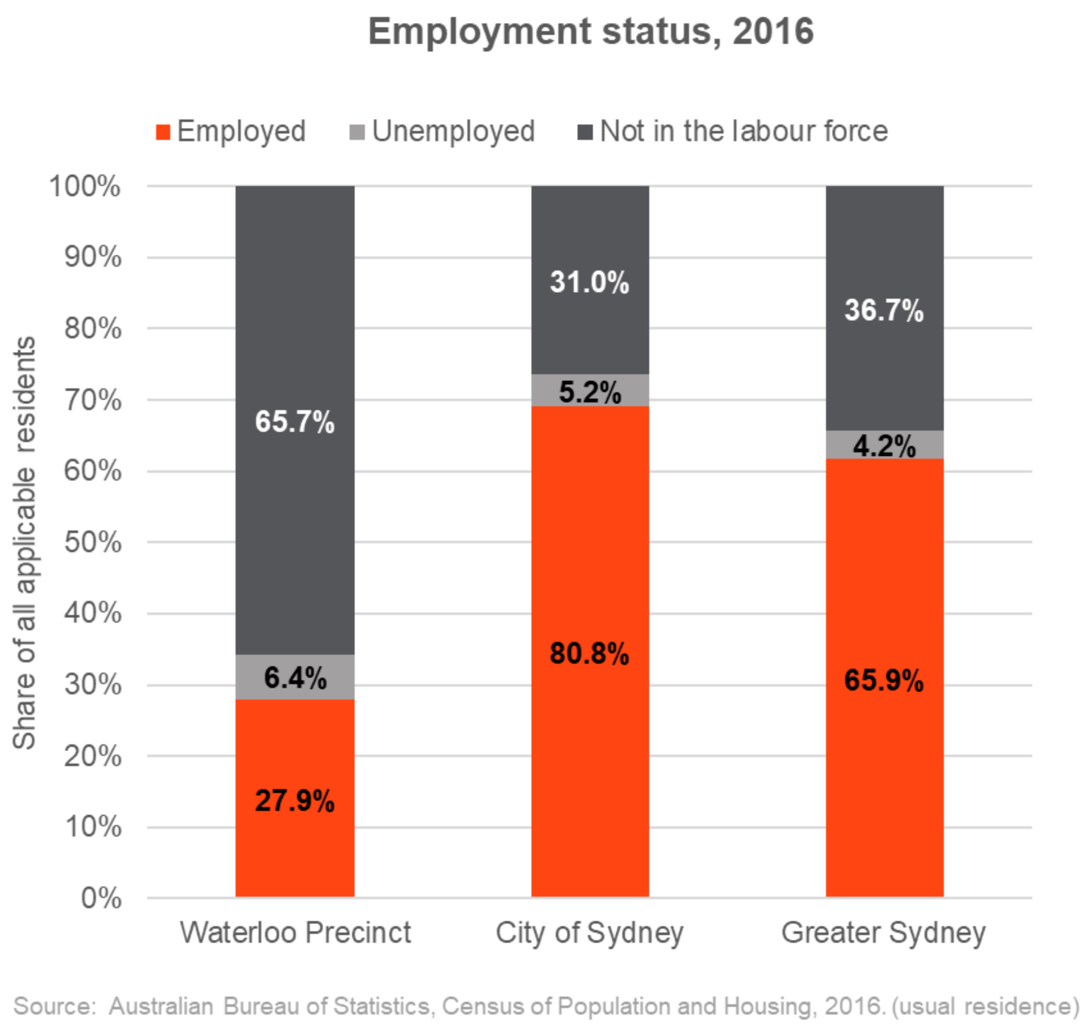


Figure 27 Employment status – Waterloo (2016)

Residents mainly working in population servicing industries but some professional services

The main industries of employment for working residents in the Waterloo Precinct are: Health Care and Social Assistance (13%), Professional, Scientific and Technical Services (13%) and Accommodation and Food Services (11%). When compared to the rest of CoS, residents were overrepresented in Health Care and Social Assistance, Retail Trade, Transport, Postal and Warehousing, and Wholesale Trade. Residents were underrepresented in Professional, Scientific and Technical Services, Financial and Insurance Services, Accommodation and Food Services, and Information, Media and Telecommunications.

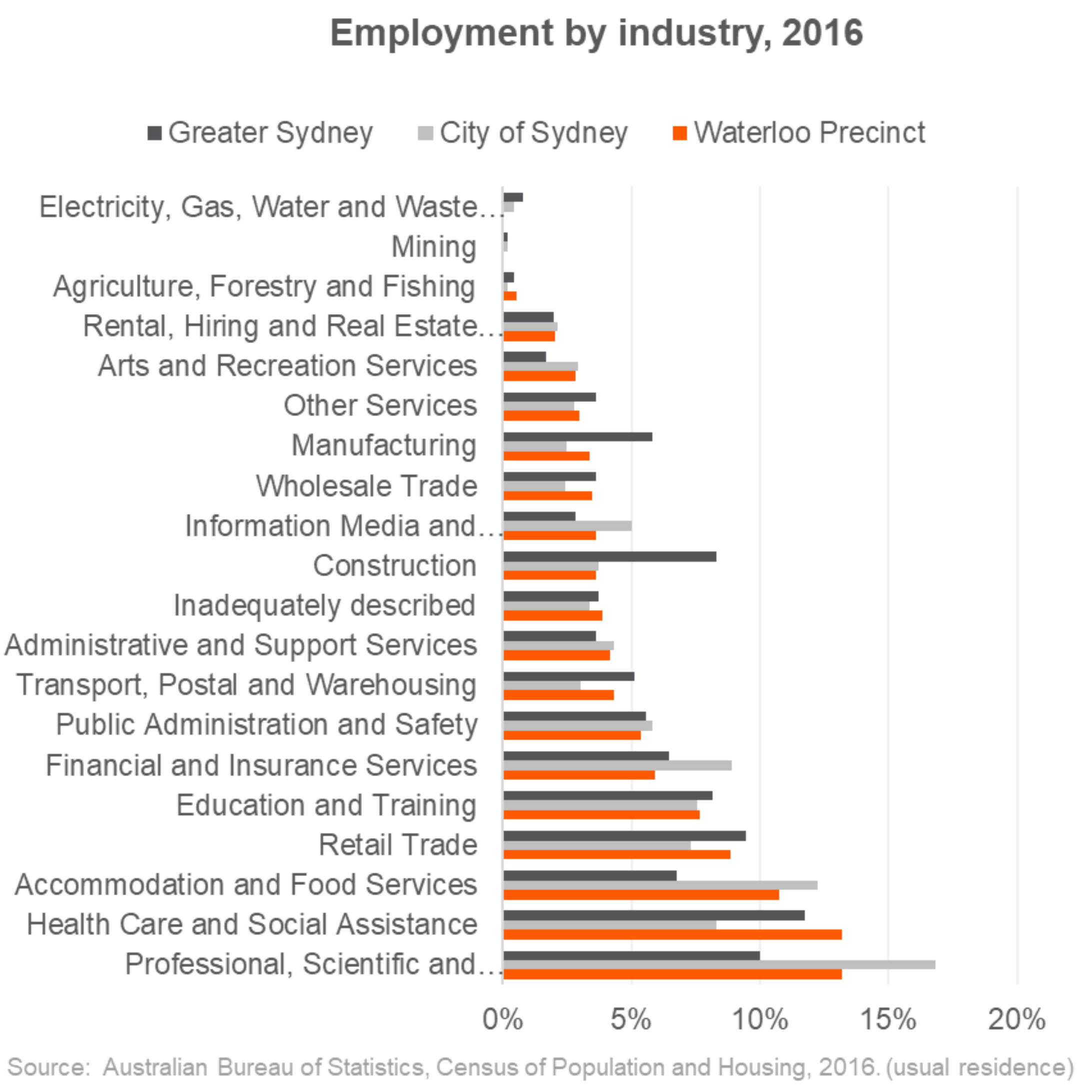
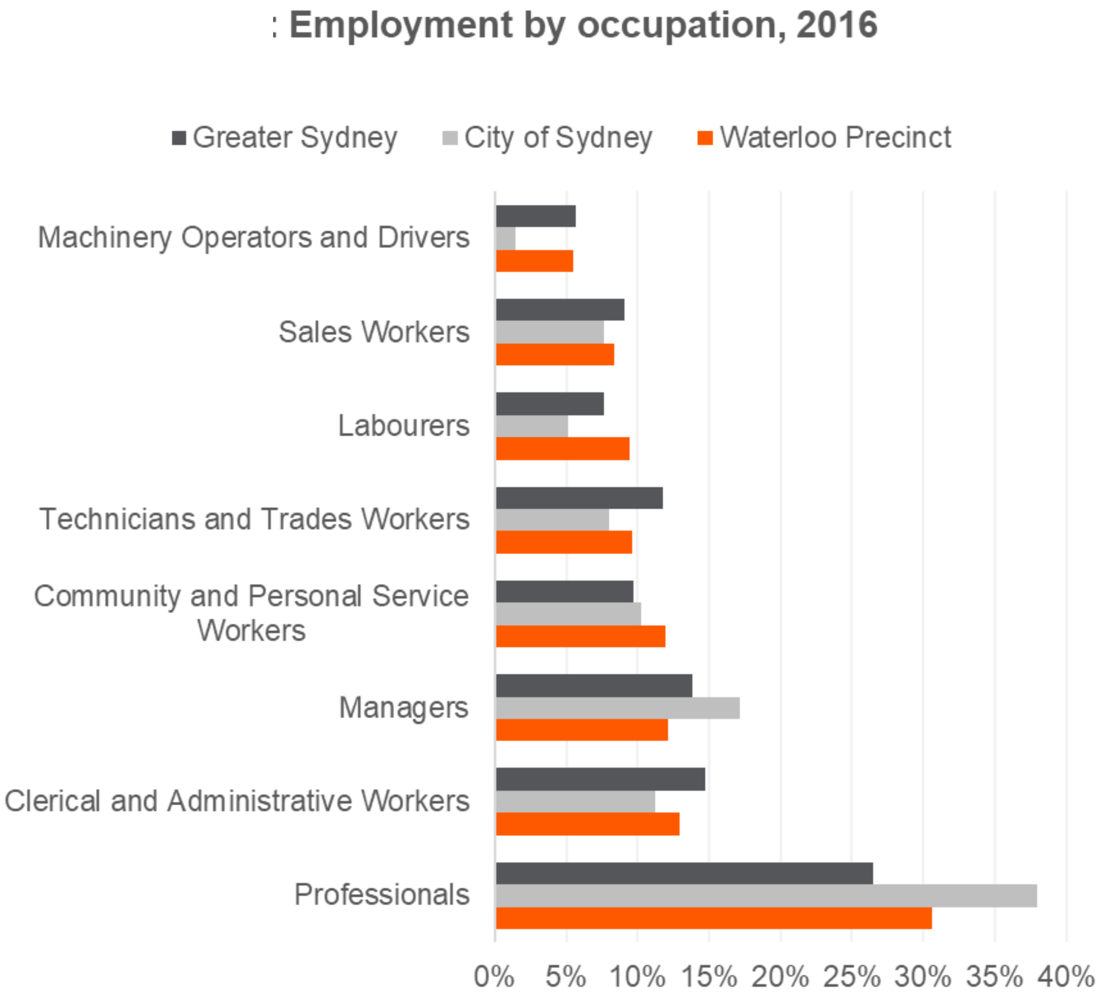


Figure 28 Employment by industry – Waterloo (2016)

Mostly professionals but physical occupations overrepresented

Around 30% of employed residents in the Waterloo Precinct are in professional occupations. While this appears high, it is a lot lower than the CoS average (38%) but above Greater Sydney levels. Most working professionals are in Business, Human Resource and Marketing. Working residents are overrepresented as Labourers and Machinery Operators and Drivers when compared to the CoS as a whole.



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016. (usual residence)

Figure 29 Employment by occupation – Waterloo (2016)

Relatively contained - Most trips to work are within the City of Sydney

An analysis of work locations showed that around a quarter of working residents worked in the CBD. Approximately 12% worked in the Waterloo – Beaconsfield area/ Over half worked in neighbouring locations within the City of Sydney.

Employed Residents - Place of work, 2016

SA2	Number	% of those stated working in Greater Sydney
Sydney - Haymarket - The Rocks	168	23.3%
Waterloo - Beaconsfield	89	12.4%
Surry Hills	33	4.6%
Redfern - Chippendale	30	4.2%
Pyrmont - Ultimo	25	3.5%
POW No Fixed Address (NSW)	25	3.5%
Newtown - Camperdown - Darlington	24	3.3%
Erskineville - Alexandria	20	2.8%
North Sydney - Lavender Bay	20	2.8%
Mascot - Eastlakes	18	2.5%
Darlinghurst	18	2.5%
Paddington - Moore Park	18	2.5%
Macquarie Park - Marsfield	18	2.5%
Potts Point - Woolloomooloo	16	2.2%
Kensington (NSW)	15	2.1%

Source: Australian Bureau of Statistics, Census of Population and Housing, 2016. (Usual Residents - Place of Work)

Figure 30 Where residents work – Waterloo (2016)

Over a quarter of employed residents drive to work

Reflecting the inner-city location, Waterloo Precinct working residents are much more likely than Greater Sydney as a whole to walk or bicycle to work. However, the share (17% is less than CoS (27%). Around 26% of workers used a car to travel to work. This level is slightly higher than the CoS average. A high proportion (25%) use the train to get to work. Around 1 in 10 did not go to work on the day of census.

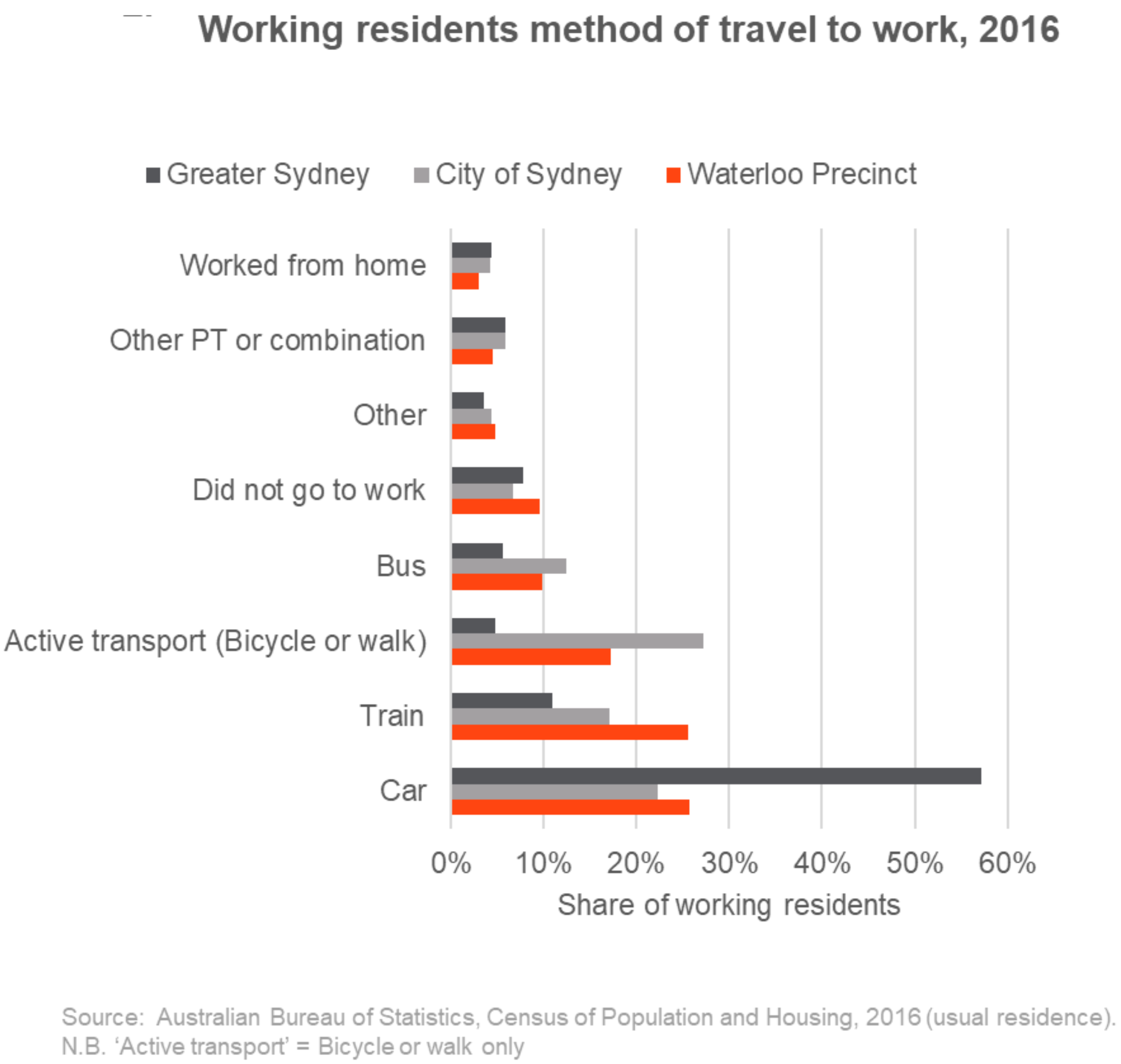


Figure 31 Method of travel to work – Waterloo (2016)

Disengaged youth

In 2016, approximately 7% of persons aged 15-24 year in the Precinct were not in the labour force (NILF) and not studying, this is more than double the CoS share (3.1%).

An estimated 41% of unemployed and 14% of those NILF were not pursuing some form of study. This compares to 18% and 7% for the CoS as a whole. The figures more closely resemble that for Greater Sydney (37% and 13% respectively). It is much more difficult for young people to enter the labour force and achieve employment outcomes if they are not even developing skills outside the work environment.

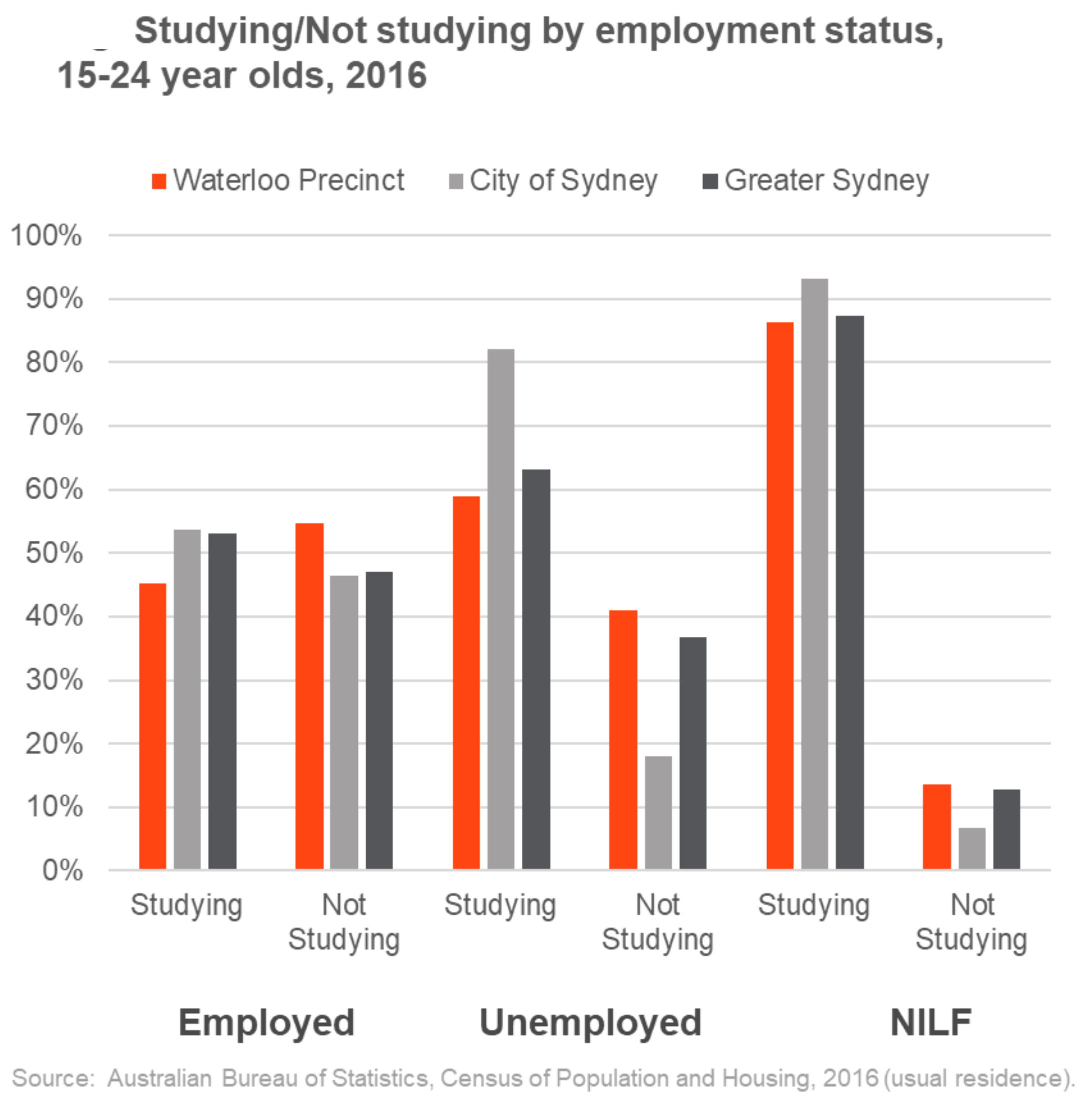


Figure 32 Disengaged youth – Waterloo (2016)

Lower volunteer rates

Around 12.6% of people in the Waterloo Precinct volunteered in the twelve months prior to the Census, a lower proportion than the rest of Sydney (18%). Volunteering in Waterloo is fairly evenly spread amongst the age groups, though a little higher in those aged 65+ years which is no surprise given the older demographics.

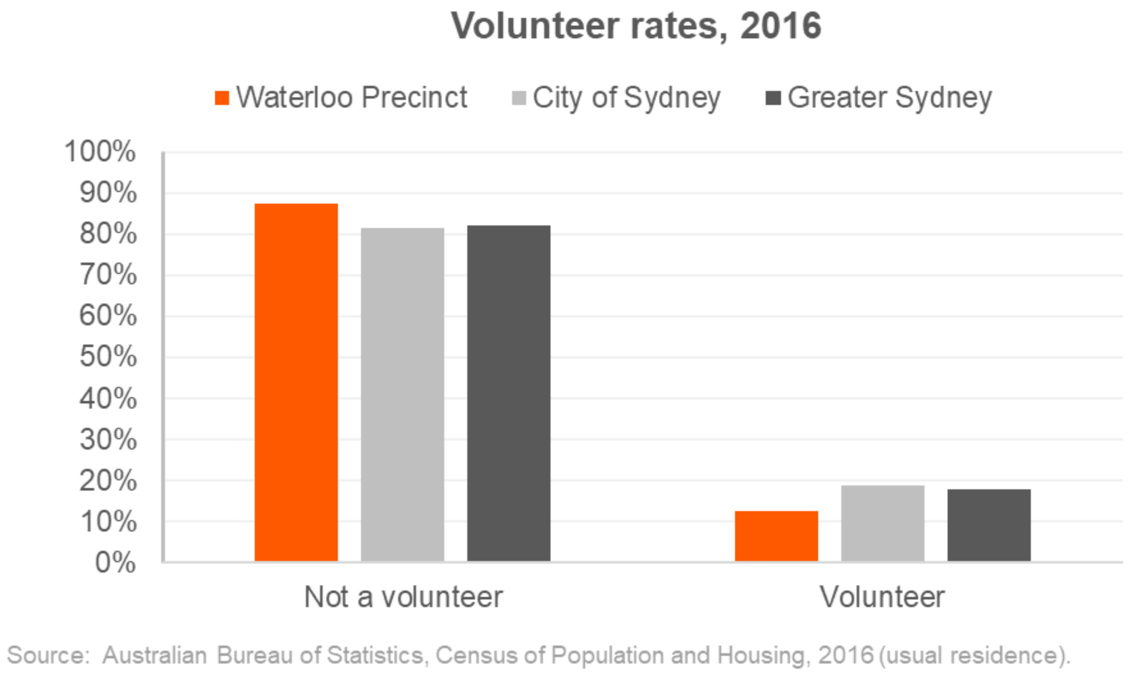


Figure 33 Volunteering – Waterloo (2016)

3.6.5 Who works in the precinct?

According to the ABS Census there were 641 employees working in the Waterloo Precinct Destination Zone area in 2016[8].

High proportion of Manufacturing and Wholesale & Retail Trade

The largest employing industry in the Precinct DZN was Manufacturing in 2016, with most workers in clothing/footwear manufacturing. Retail Trade and Professional jobs were also high. It is important to note that the 2016 Census generated many workers whose industry could not be defined based on the description given.

When compared to the CoS, there was a clear underrepresentation of Professional, Scientific and Technical Services, and Financial and Insurance Services jobs.

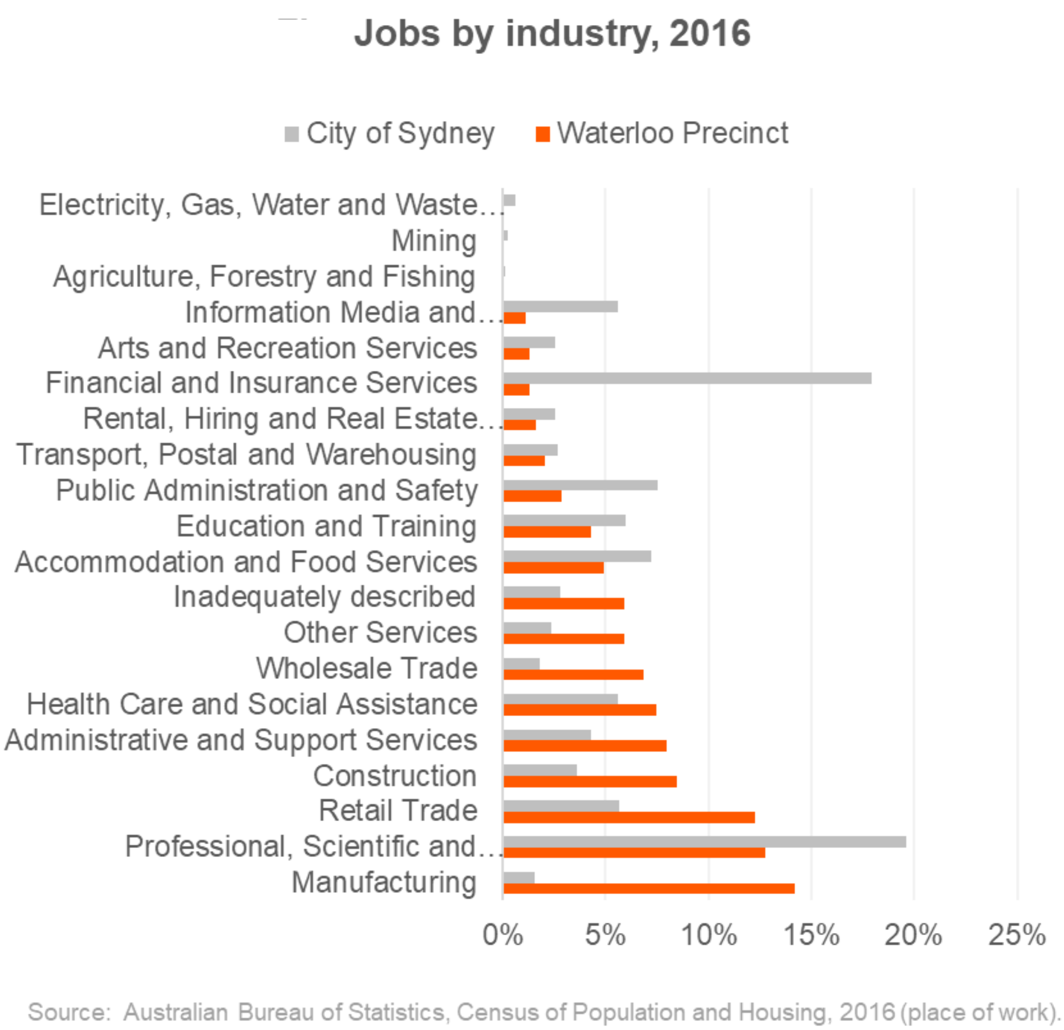


Figure 34 Jobs (POW) by industry – Waterloo (2016)

[8] Note this region (destination zone) is different to the forecast presented in Chapter 4 which refer to Waterloo South.

Workers predominately Professionals and Managers, but overrepresented in physical occupations

The main occupation of workers in the precinct was Professionals reflecting the predominant office-based workers in the inner city. Most professionals were in Business Services. Managers were mostly Hospitality, Retail and Service Managers, Construction, Distribution and Production Managers, Advertising, Public Relations and Sales Managers. Physical based occupations such as Trades, Machinery Operators, and Labourers were over-represented when compared to the CoS.

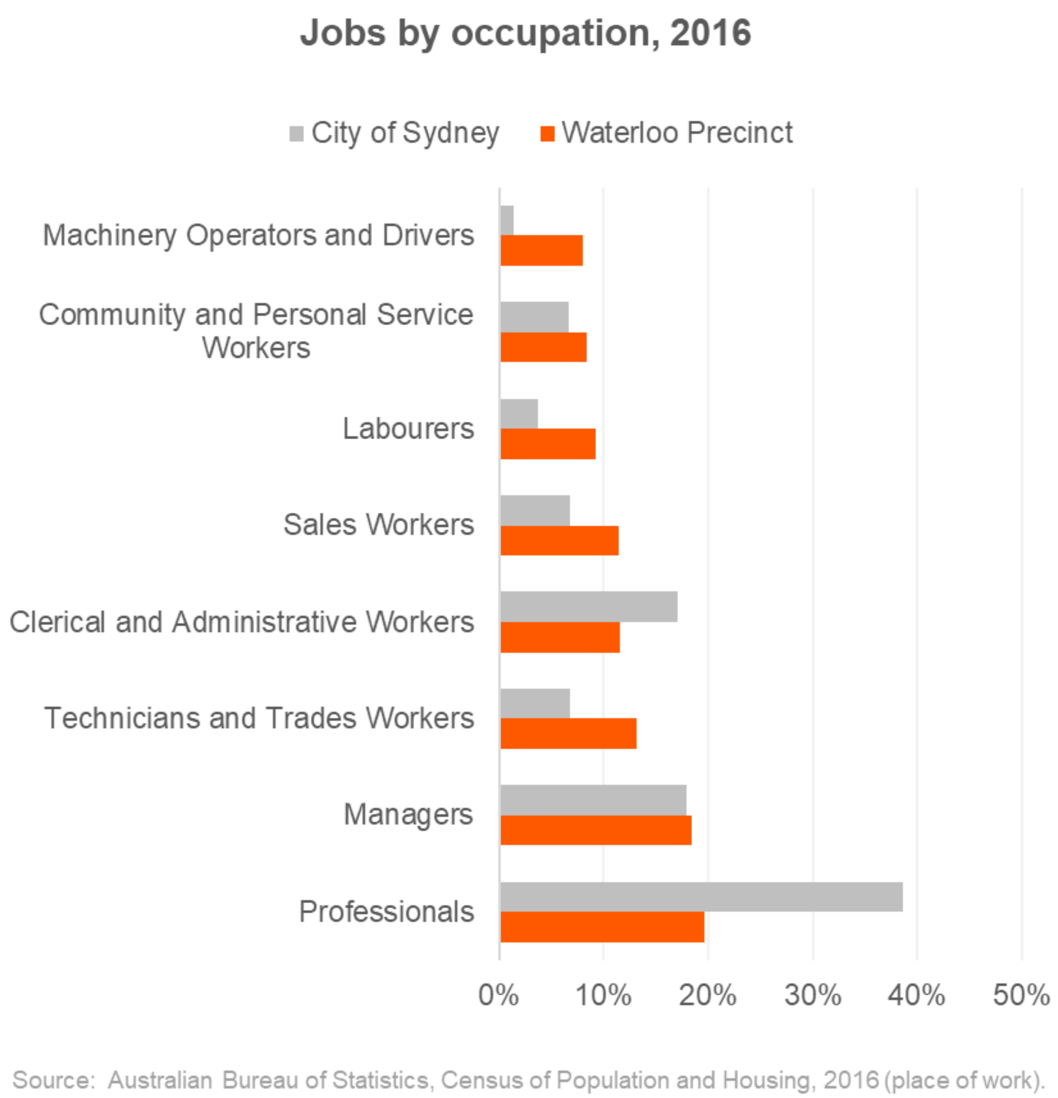


Figure 35 Jobs (POW) by occupation – Waterloo (2016)

Most businesses, and likely employment, located along Botany Bay Rd/Cope Street corridor

There were approximately 103 GST registered businesses in the Waterloo Precinct DZN in 2017. Most were located on the western periphery bordering Botany Road. Around 39 or 38% of businesses were Sole Traders.

There were an estimated 66 businesses in the designated Precinct Development area (excludes those in DZN but not in focus area). Of these, 27% were Sole Traders. Most businesses were in Transport, Postal and Warehousing, Professional, Scientific and Technical Service, and Construction.

Registered business locations, 2017

Source: Australian Business Registrar, 2017.

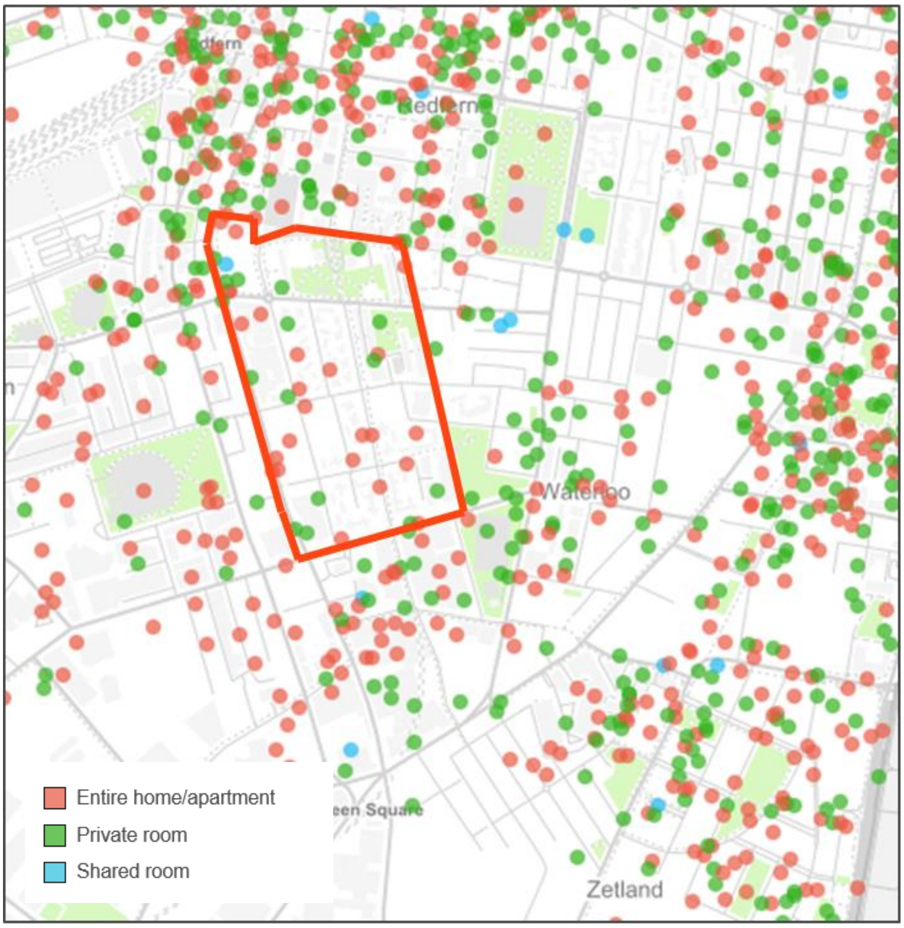
Figure 36 Businesses – Waterloo (2016)

Currently, low Airbnb offer

As would be expected with a high share of social housing tenure and an older demographic, the Waterloo Precinct currently has a very limited number of short term rental listings (approximately 30-40).

This contrasts with nearby Redfern and the eastern edge of Waterloo (adjacent to Moore Park) which have an abundance of listings.

: Active Airbnb listings, 2017



Source: insideairbnb.com, October 2017.

Figure 37 Airbnb activity – Waterloo (2016)

Strong creative industries cluster

The City of Sydney Floor space and employment survey provides another measure of economic activity in the Waterloo precinct. The 2012 City of Sydney Floor space survey revealed a high amount of workers who could be defined as working in 'creative industries', whether that be in creative business, manufacturing or print/media. The largest business count was in Retail and F al Services.

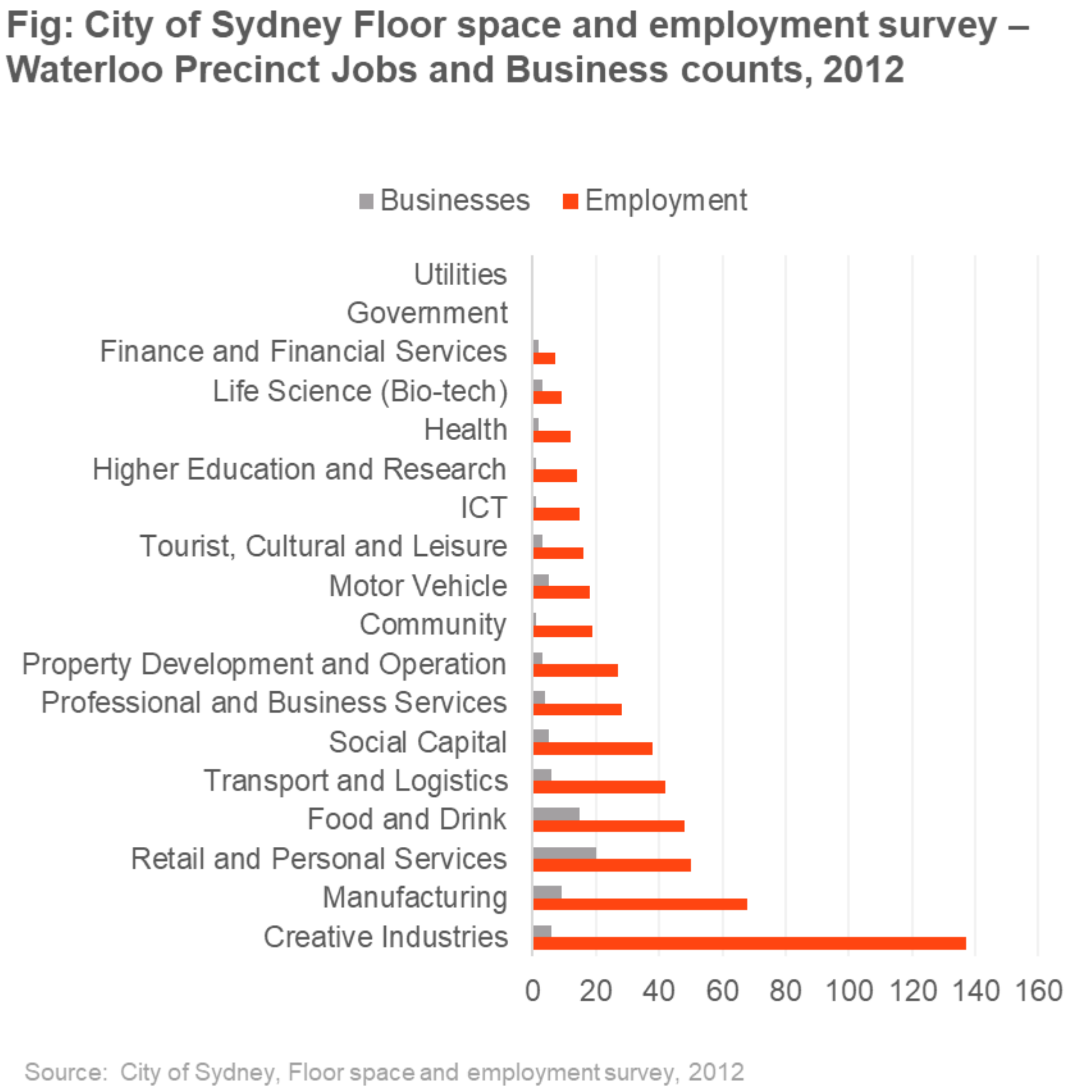


Figure 38 Employment and business– Waterloo (2016)

3.7 Case study benchmarks

This section compares other inner urban areas in the City of Sydney with the current profile of the Waterloo Precinct area. The areas are of different geographies and population sizes. However, they are generally all medium to high density locations.

The areas reflect the possible demographic outcomes of the Waterloo Precinct under different scenarios e.g. current trends, or with market led development. The benchmark areas include: Redfern Estate, Pyrmont, Zetland, Ultimo, and Kings Cross/Potts Point.

Key findings

Redfern Estate represents what Waterloo might resemble without market led redevelopment, maintaining the existing majority social housing supply. Many residents would age in place, lone person households would become even more dominant and household income levels would be lower.

With market led redevelopment several outcomes could occur:

- If the redevelopment supported a predominately young employed resident base attracted to the area's proximity to high value knowledge jobs, it might resemble Pyrmont or Mascot's demographic profile.
- Zetland displays what could occur if the development attracted a profile that was a closer match to the CoS average.
- If the Precinct development incorporated a significant portion of student housing due to its proximity to education facilities, it might more closely resemble Ultimo.
- Kings Cross/Potts Point represents the demographic profile that could occur if the development supported a more mixed age and income demographic base.

It is likely that the result would be a combination of benchmark areas due to the existing social housing role and likely attraction of younger workers and/or students.

3.7.1 Benchmark area 1 – Redfern Estate

Redfern Estate is an area of very high density social housing close to the Waterloo Precinct. The resident base is older than Waterloo and much older than the rest of CoS. Redfern Estate reflects what is likely to occur in Waterloo without redevelopment. Many residents would age in place, lone person households would become even more dominant and household income levels would be lower.

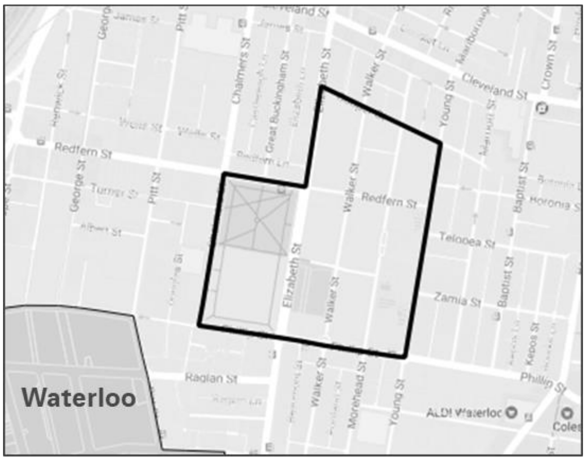


Figure 39 Age structure – Waterloo and Redfern (2016)

Households and dwellings

High density living is the norm in the Redfern Estate which largely consists of social housing blocks. Lone person households make up 74.7% of all households, far above the CoS average (37.3%). There is a very low share of couples with children (2.6%)

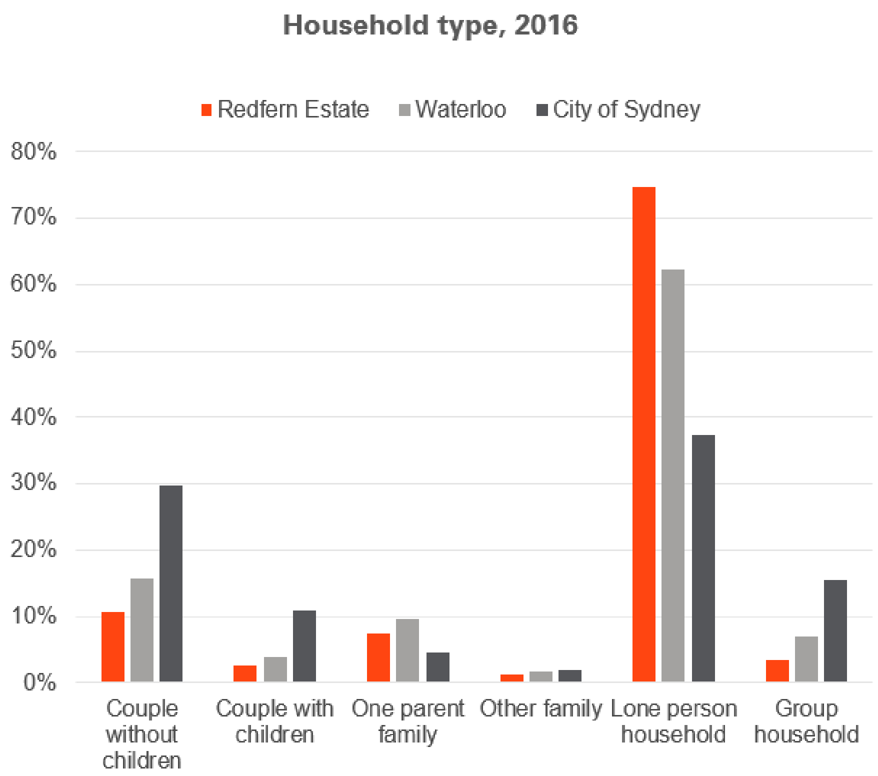


Figure 40 Household type – Waterloo and Redfern (2016)

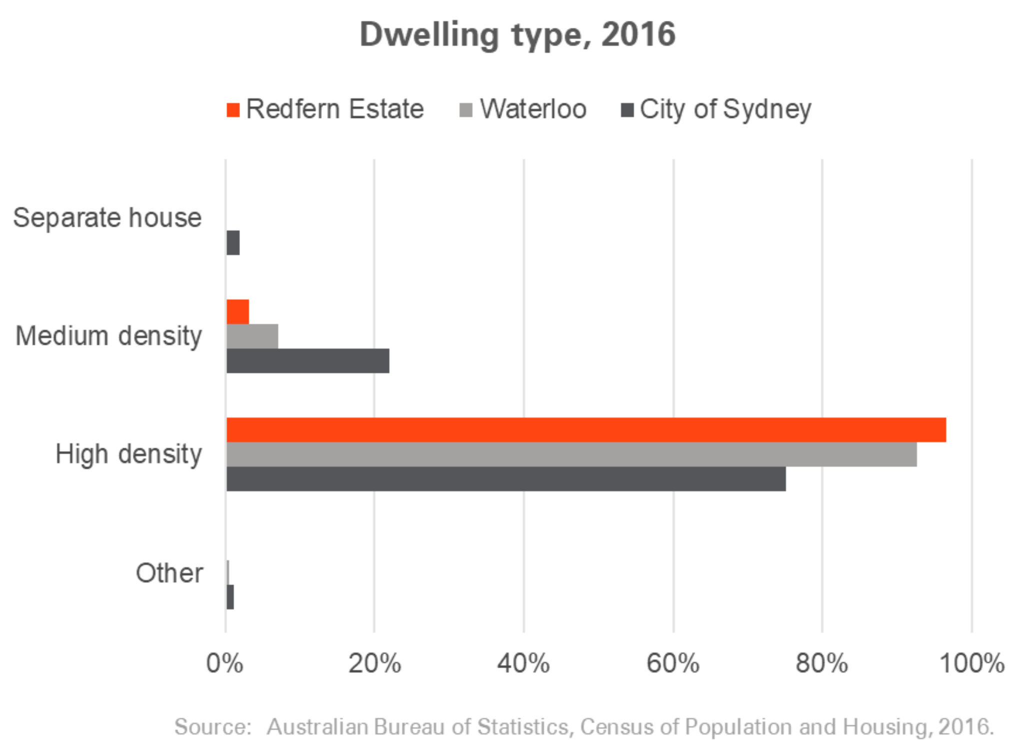


Figure 41 Dwelling type – Waterloo and Redfern (2016)

Tenure and income

Almost exclusively social housing tenure. Nearly all households in Redfern Estate have income levels below $1000 a week

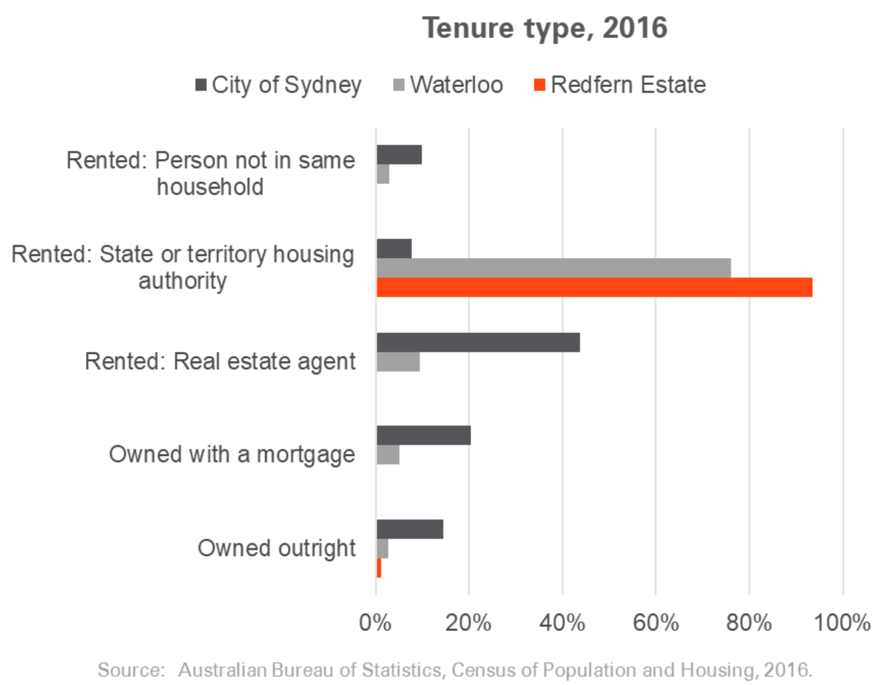
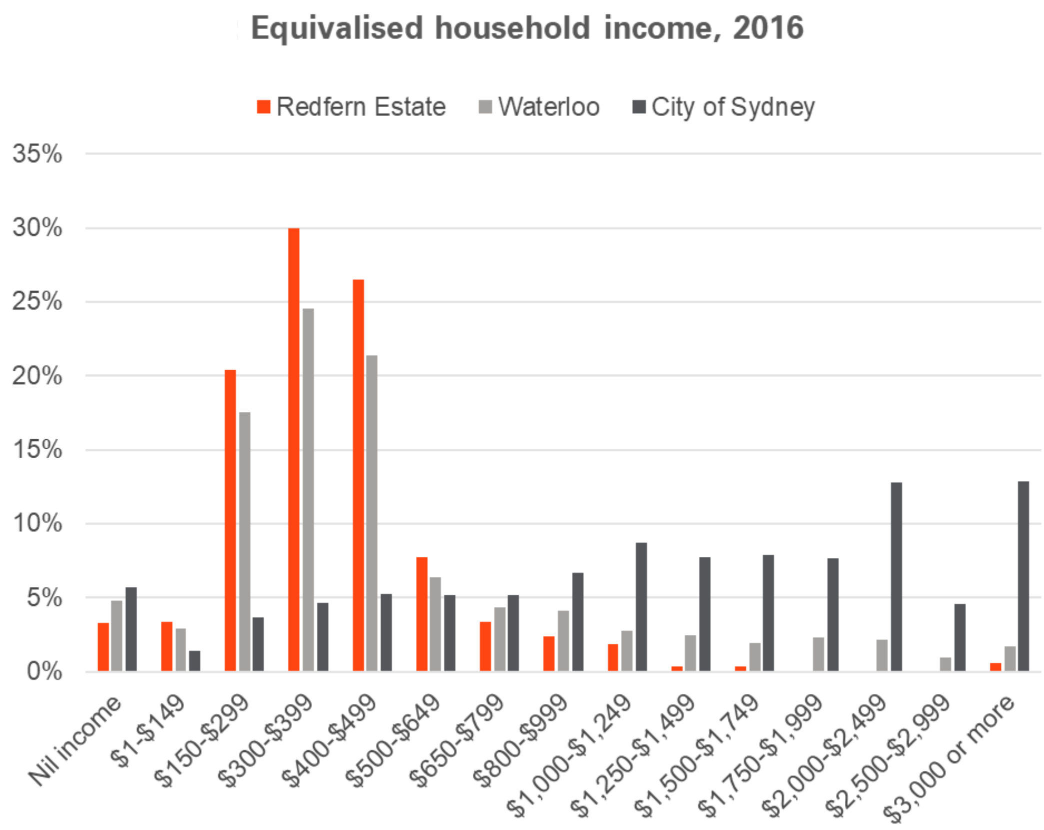


Figure 42 Tenure – Waterloo and Redfern (2016)

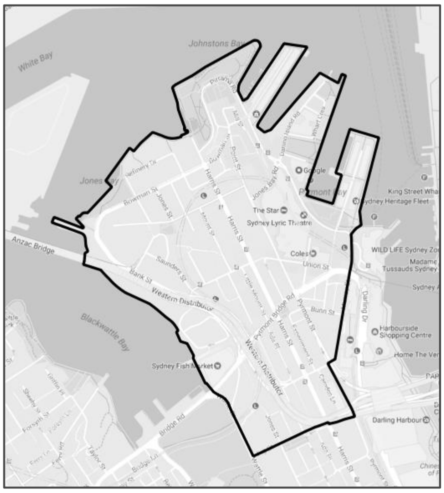


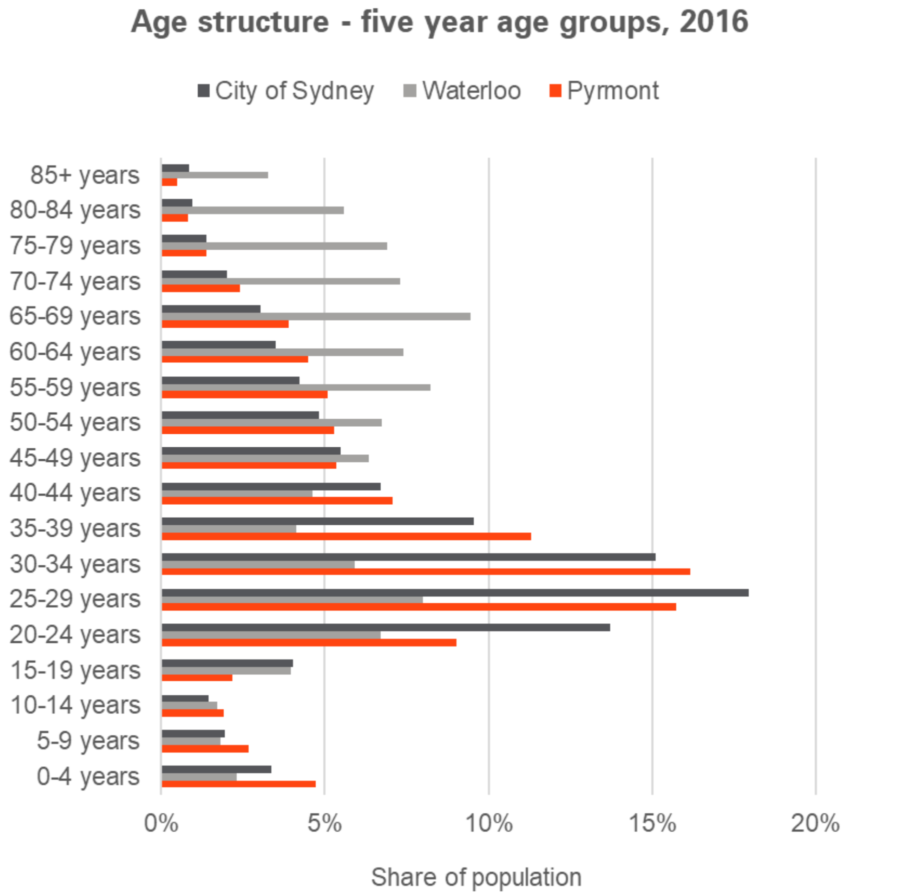
Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

Figure 43 Income – Waterloo and Redfern (2016)

3.7.2 Benchmark area 2 – Pyrmont

Pyrmont is a relatively affluent area close to Sydney Harbour that supports a young high-income working population. The area is much larger than Waterloo but accommodates a similar population size to that planned for the Precinct. It represents the demographic profile that could occur if the development supported a predominately young employed base attracted to the area's proximity to high value knowledge jobs.



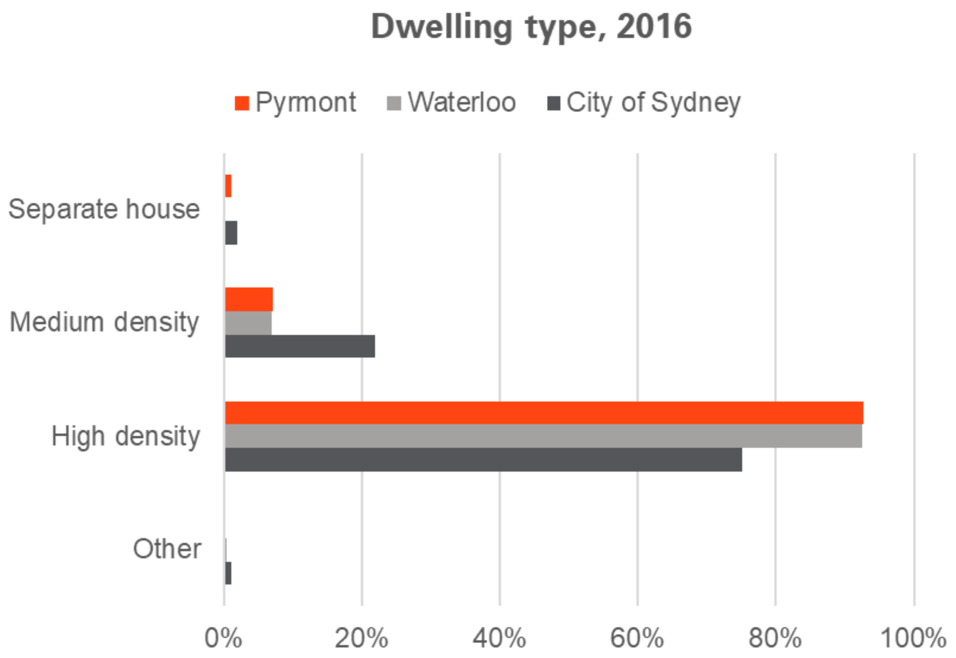


Source: Australian Bureau of Statistics, Census of Population and Housing, 2016. (usual residence)

Figure 44 Age profile – Waterloo and Pyrmont (2016)

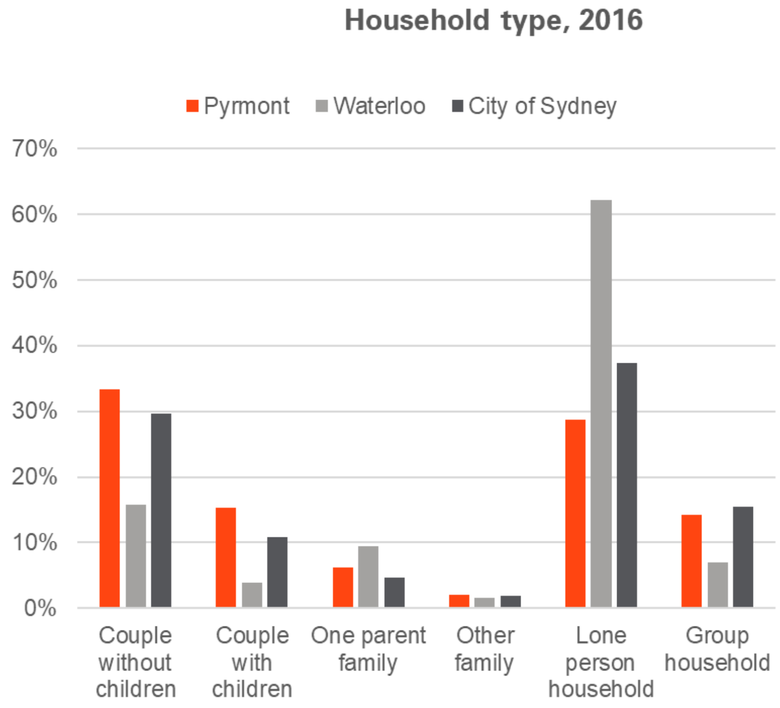
Households and dwellings

The area comprises a high share of high-density housing made up of modern apartment towers and medium scale apartment blocks. This area accommodated many young working families and couples as well as shared flats.



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

Figure 45 Dwelling profile – Waterloo and Pyrmont (2016)



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

Figure 46 Household profile – Waterloo and Pyrmont (2016)

Tenure and income

This area has a low share of social housing and is predominately private rental (52.7%). The shares of dwelling ownership a little higher than the rest of CoS (37.2% owned outright or with mortgage). It is a very high-income area with 18.1% of households earning over $3,000 a week, more than the CoS average (12.8%).

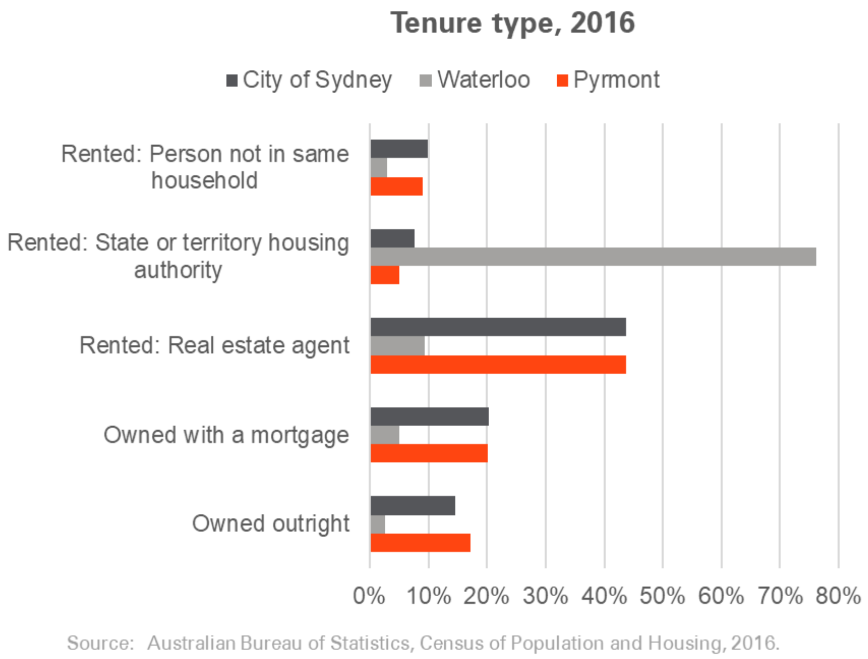


Figure 47 Tenure profile – Waterloo and Pyrmont (2016)

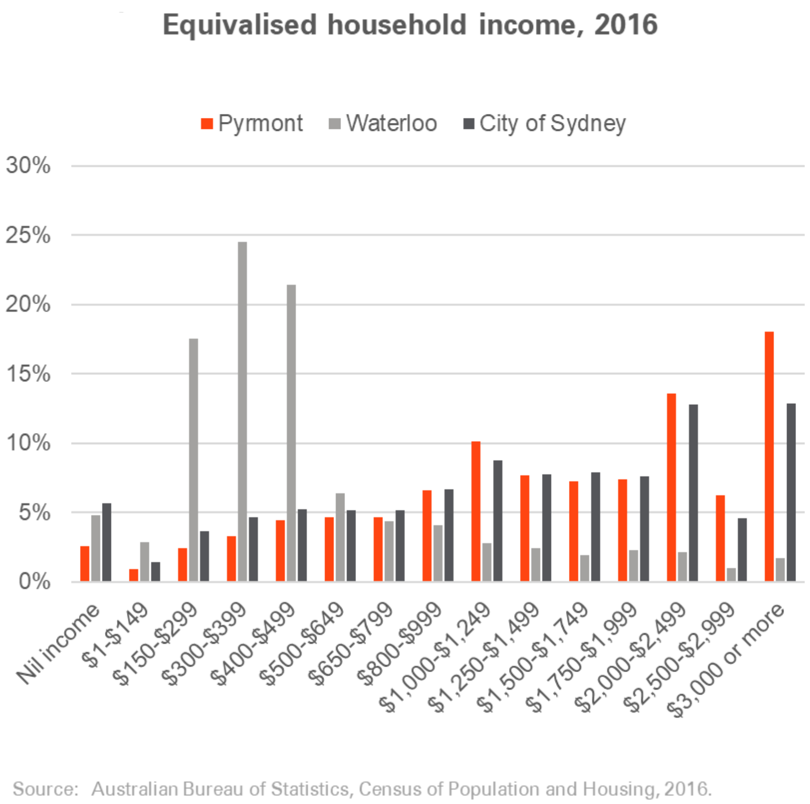
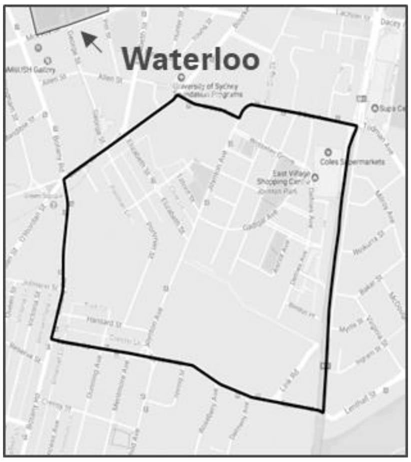
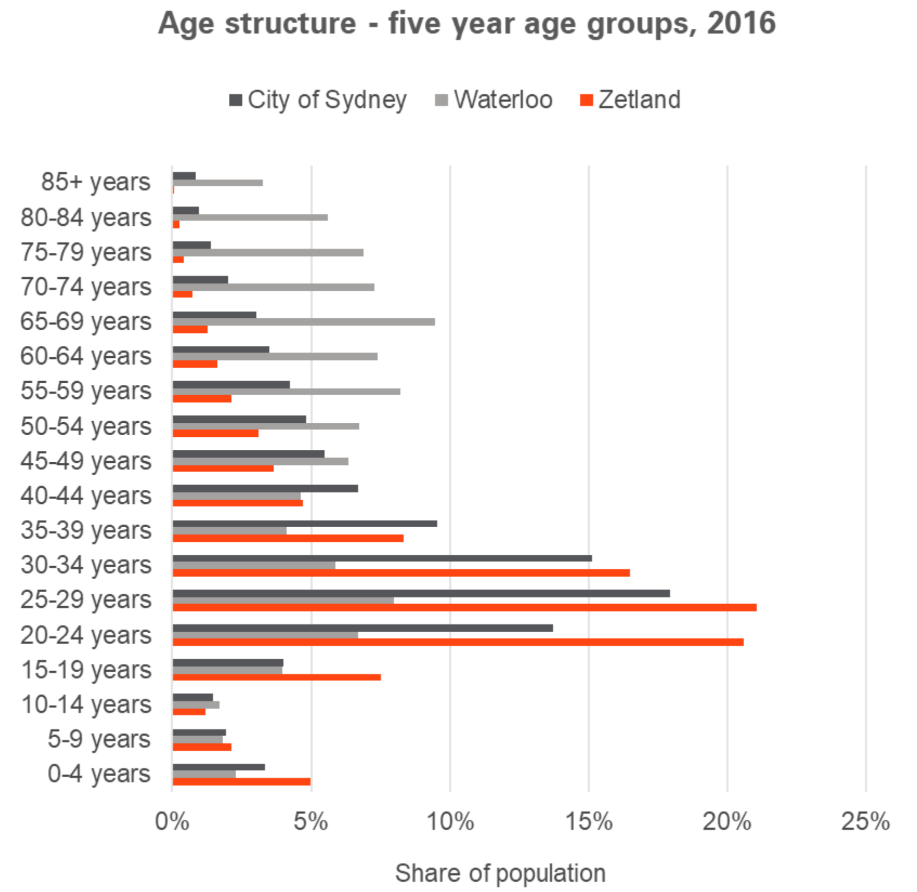


Figure 48 Income profile – Waterloo and Pyrmont (2016)

3.7.3 Benchmark area 3 – Zetland

Zetland is another planned high-density development area close to Waterloo. Its existing demographics a closer match to that for CoS as a whole. The area could serve as base for comparing development outcomes overtime starting from different bases.





Source: Australian Bureau of Statistics, Census of Population and Housing, 2016. (usual residence)

Figure 49 Age profile – Waterloo and Zetland (2016)

Households and dwellings

There were roughly similar density levels to that for CoS. Housing is predominately high-density, some medium density (9.3%) and a very small portion of houses (0.2%). The dominant household type is couples with and without children (45.7% in total).

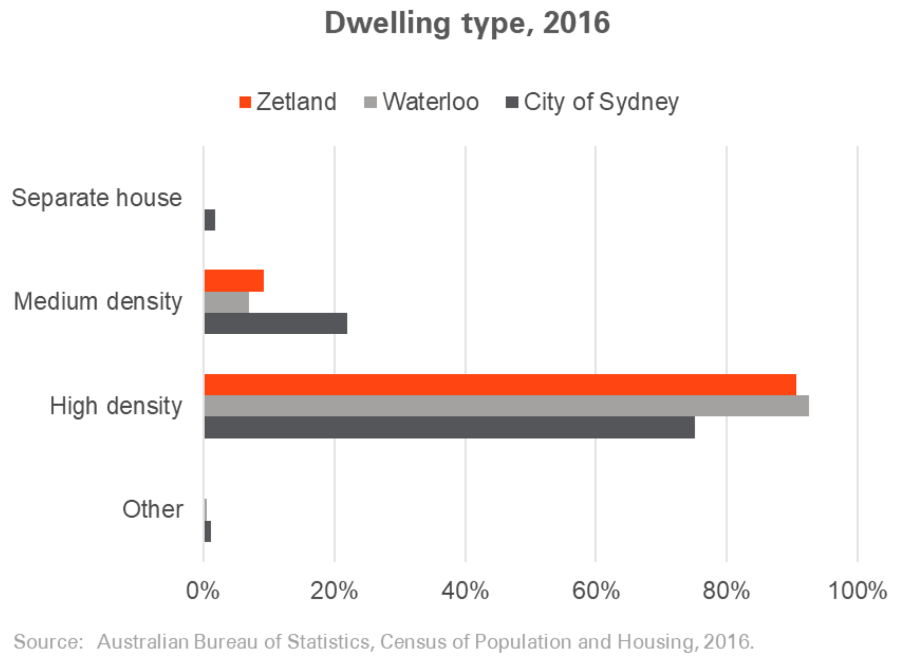


Figure 50 Dwelling profile – Waterloo and Zetland (2016)

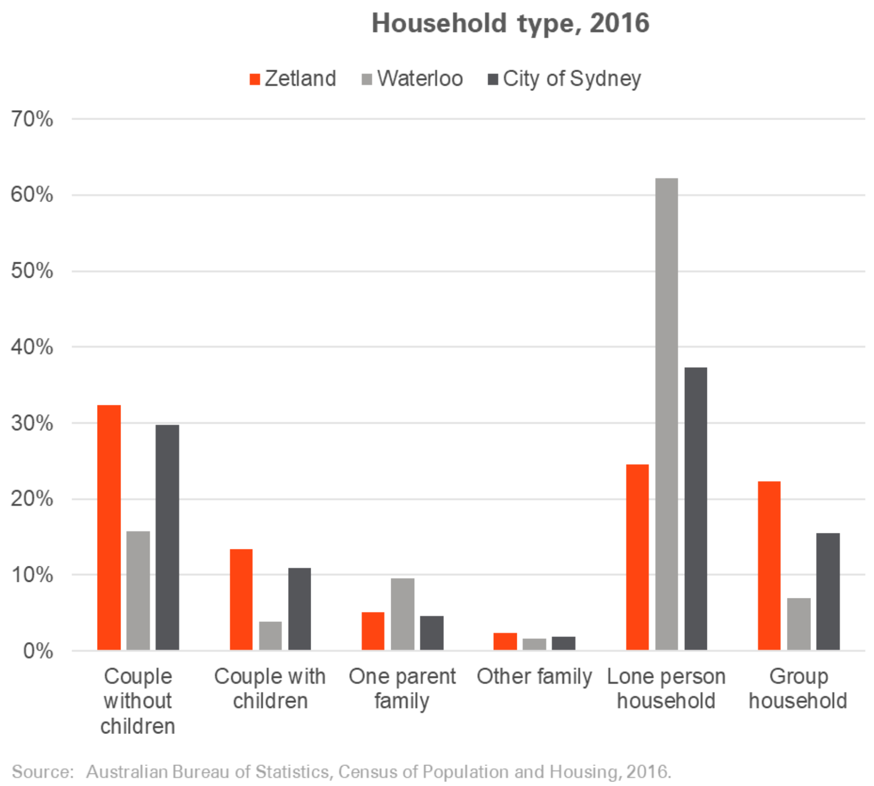
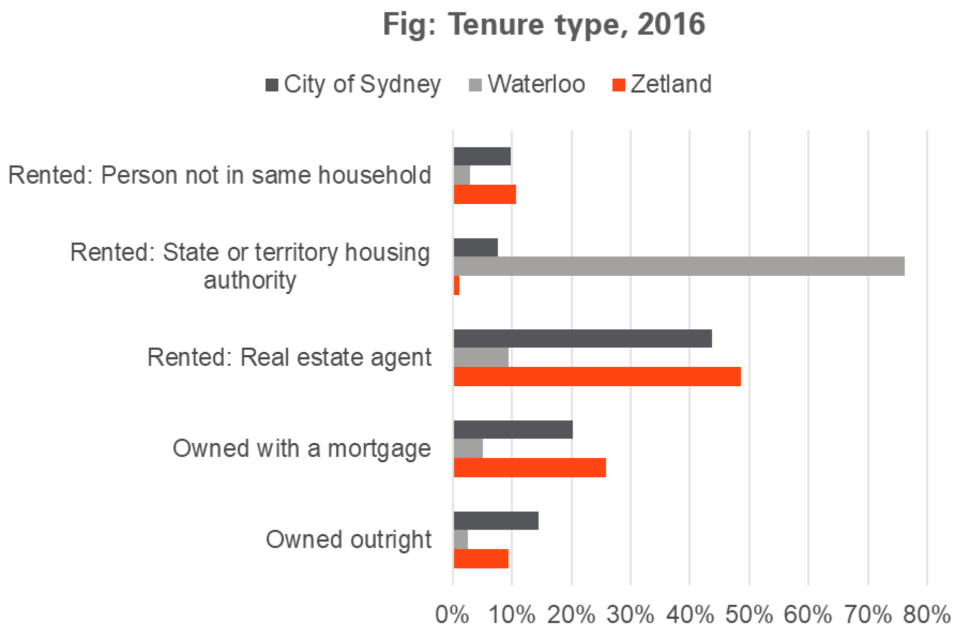


Figure 51 Household profile – Waterloo and Zetland (2016)

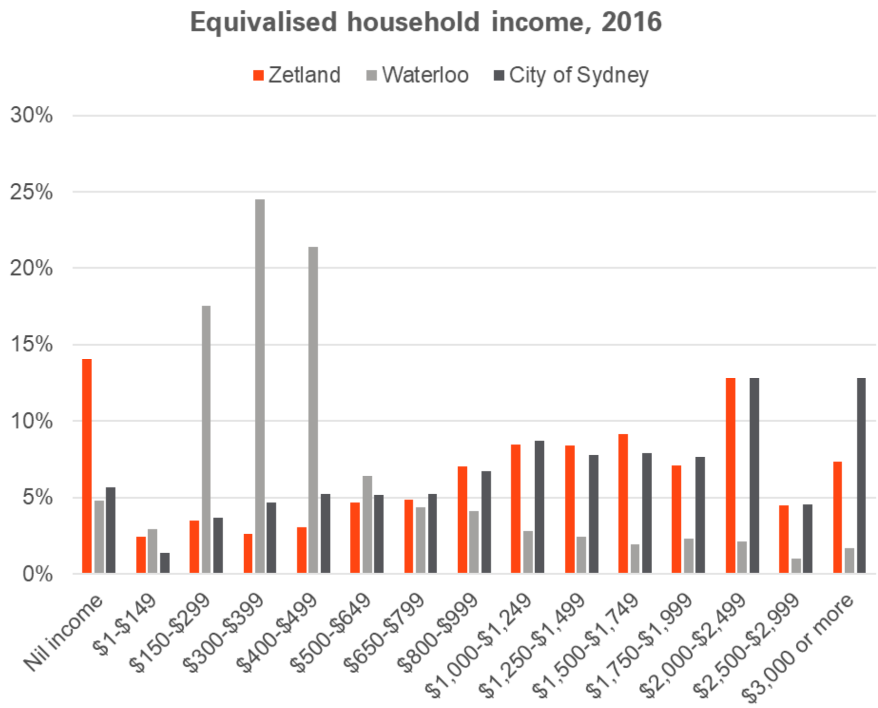
Tenure and income

The area has a low share of social housing, predominately rental through agent (48.6%) or owner mortgage (25.8%). Ownership has declined significantly since 2011. Income levels on par with CoS, but with a slightly higher share households earning no income. The increase in “nil income” is significant since



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

Figure 52 Tenure profile – Waterloo and Zetland (2016)

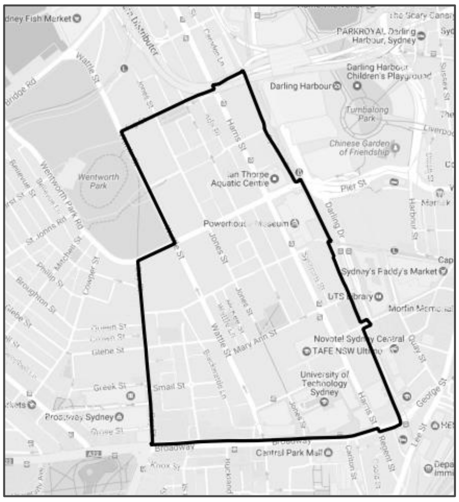


Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

Figure 53 Income profile – Waterloo and Zetland (2016)

3.7.4 Benchmark area 4 - Ultimo

Ultimo represents a higher density area that incorporates a much younger population, high share of students, due to its inclusion of UTS and TAFE NSW Ultimo, and its proximity to University of Sydney. It reflects a possible outcome if the Precinct development incorporated a significant portion of student housing (studios and shared rentals) due to its proximity to these education facilities (1-1.5km walk).



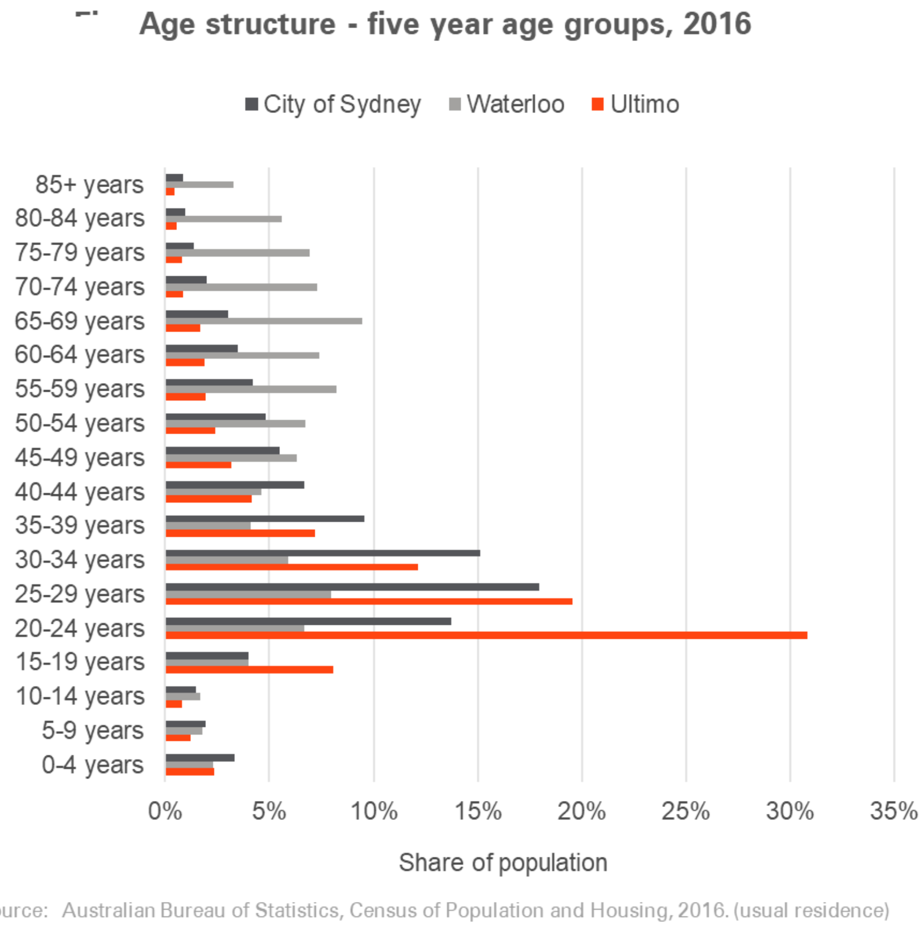


Figure 54 Age profile – Waterloo and Ultimo (2016)

Households and dwellings

The area has similar housing density levels to that for CoS average. There is a high share of high-density housing, some medium density (20%) . The predominate household type is lone persons reflecting high shares of student accommodation (e.g. UTS housing – Yura Mudang tower). Group households are also becoming increasingly common. However, a third of households are also made up of couples and families.

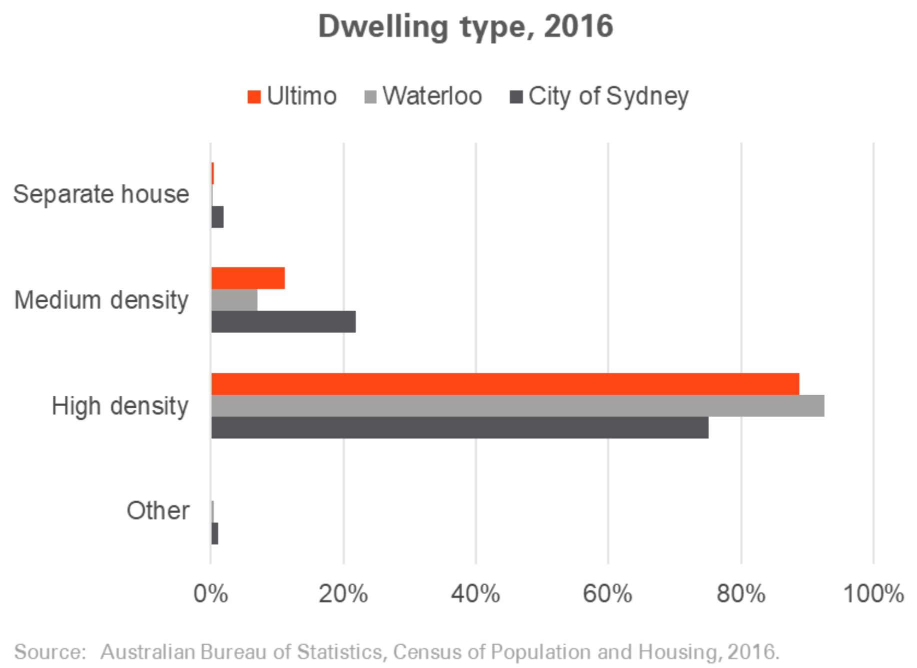


Figure 55 Dwelling profile – Waterloo and Ultimo (2016)

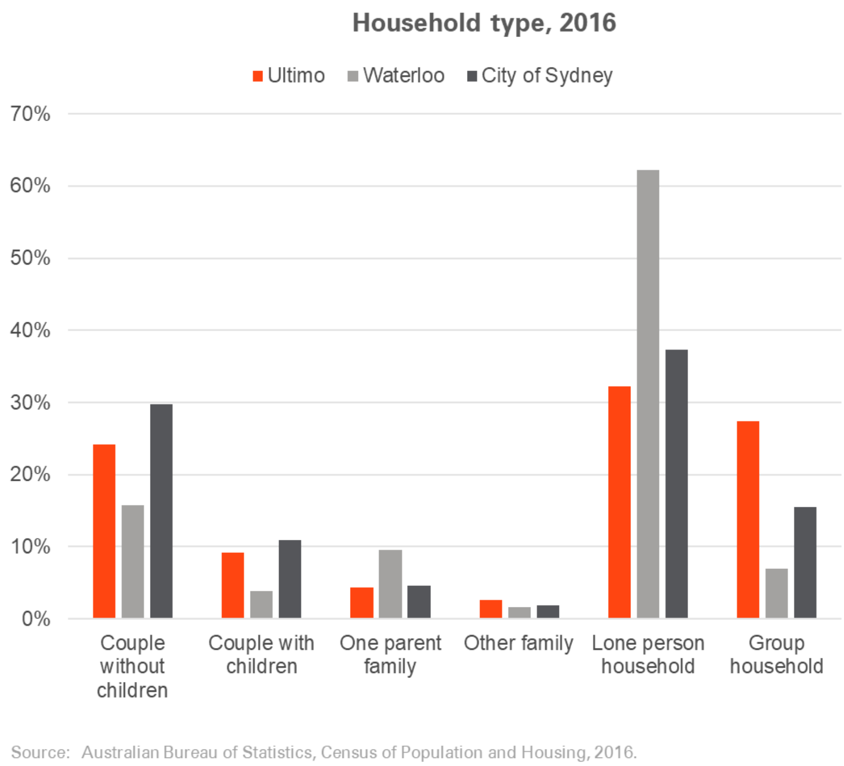
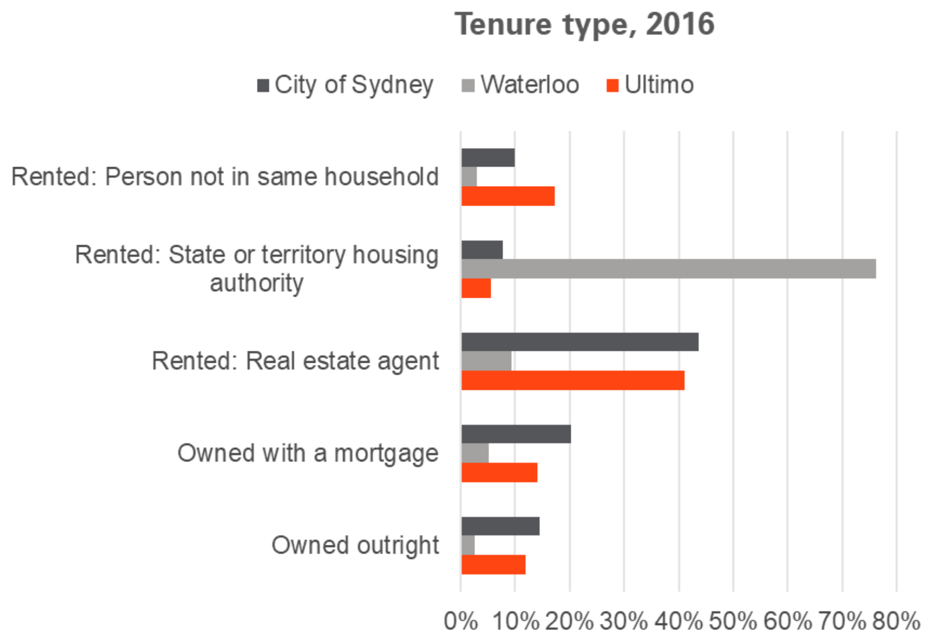


Figure 56 Household profile – Waterloo and Ultimo (2016)

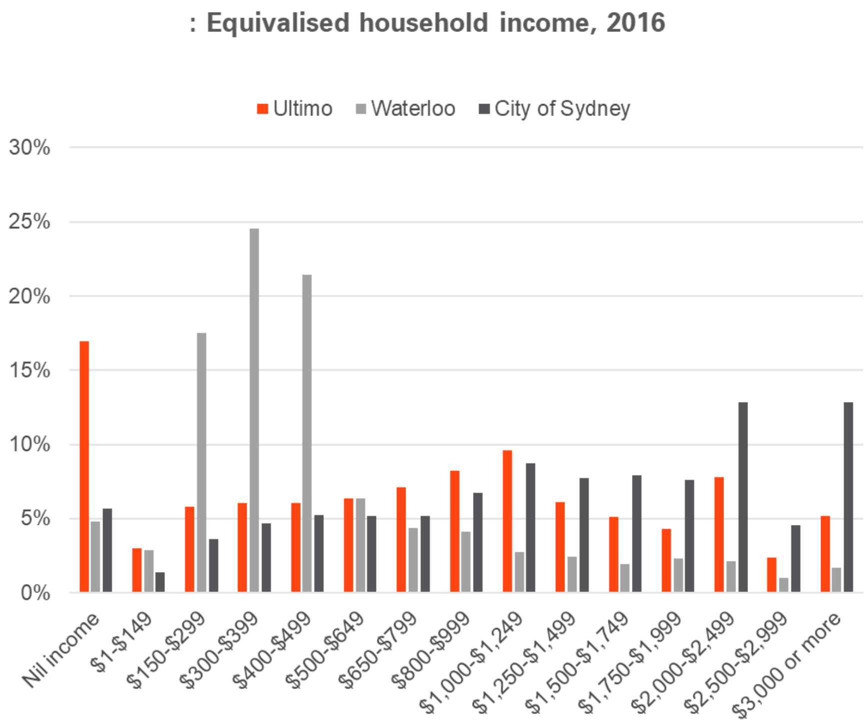
Tenure and income

The predominate tenure type by far is agent-based rental. Income levels are lower than the CoS average and there is a high share of nil income households, once again reflecting the high student population.



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

Figure 57 Tenure profile – Waterloo and Ultimo (2016)

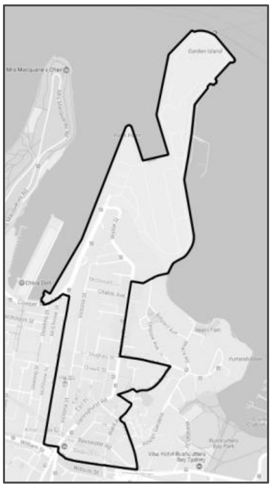


Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

Figure 58 Income profile – Waterloo and Ultimo (2016)

3.7.5 Benchmark area 5 – Kings Cross/Potts Point

Kings Cross/Pyrmont is another relatively affluent area close to Sydney Harbour that supports a more middle-aged population base. It has high shares of residents aged over 35 than the CoS. The area is much larger than Waterloo but incorporates areas of high density like that planned for the Precinct. It has a high tourism and night time economy role that influences the urban makeup. Kings Cross/Pyrmont represents the demographic profile that could occur if the development supported a more mixed demographic base.



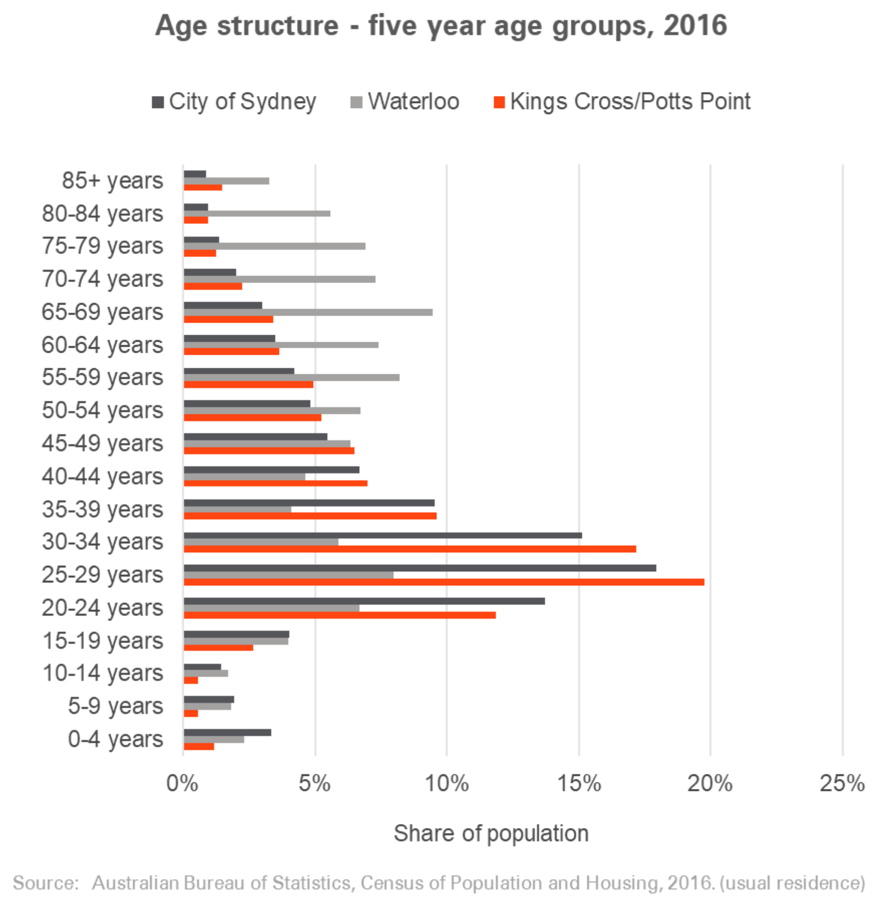


Figure 59 Age profile – Waterloo and Kings Cross/Potts Point (2016)

Households and dwellings

The area has a higher share of higher density housing compared to CoS (92% of housing is high-density). The predominate household type is lone persons which is spread across the age groups. This reflects the attractiveness of the location for short term stays and people seeking proximity to night time entertainment opportunities.

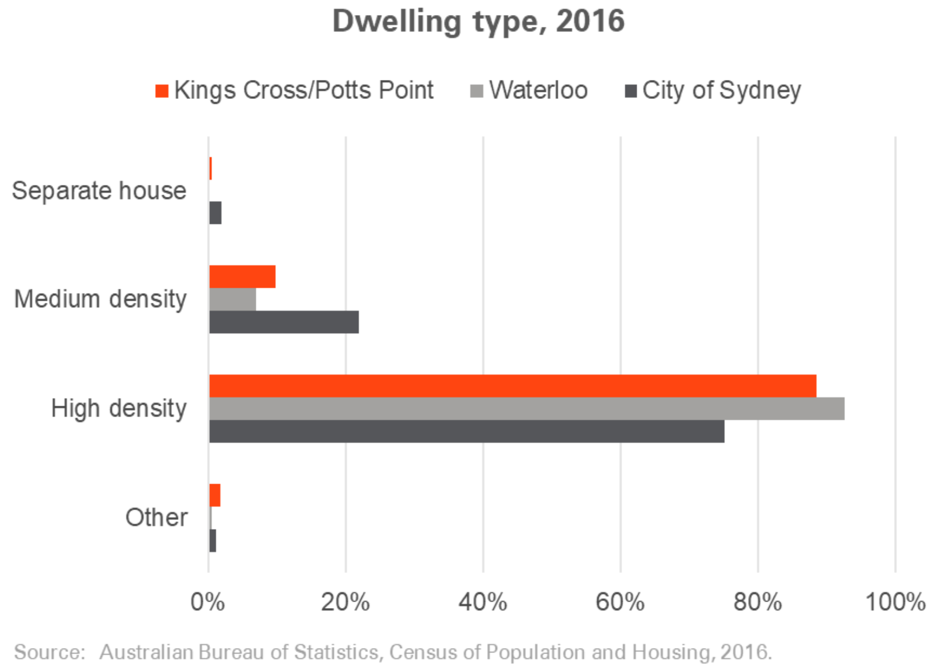


Figure 60 Dwelling profile – Waterloo and Kings Cross/Potts Point (2016)

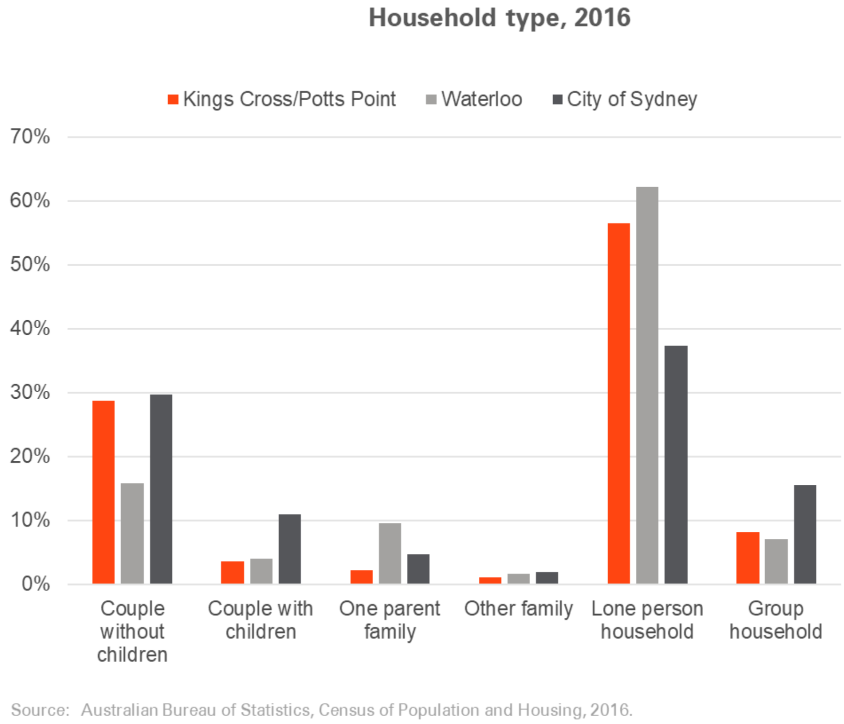
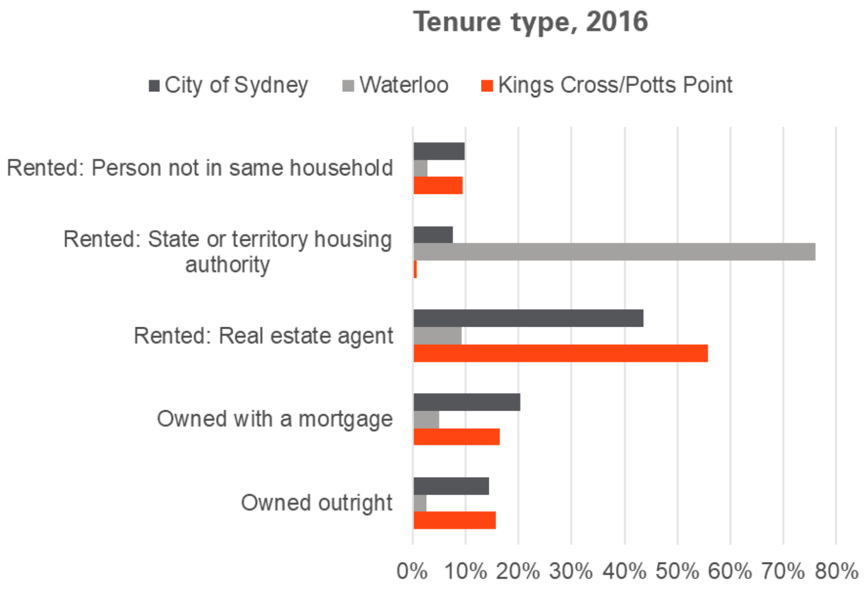


Figure 61 Household profile – Waterloo and Kings Cross/Potts Point (2016)

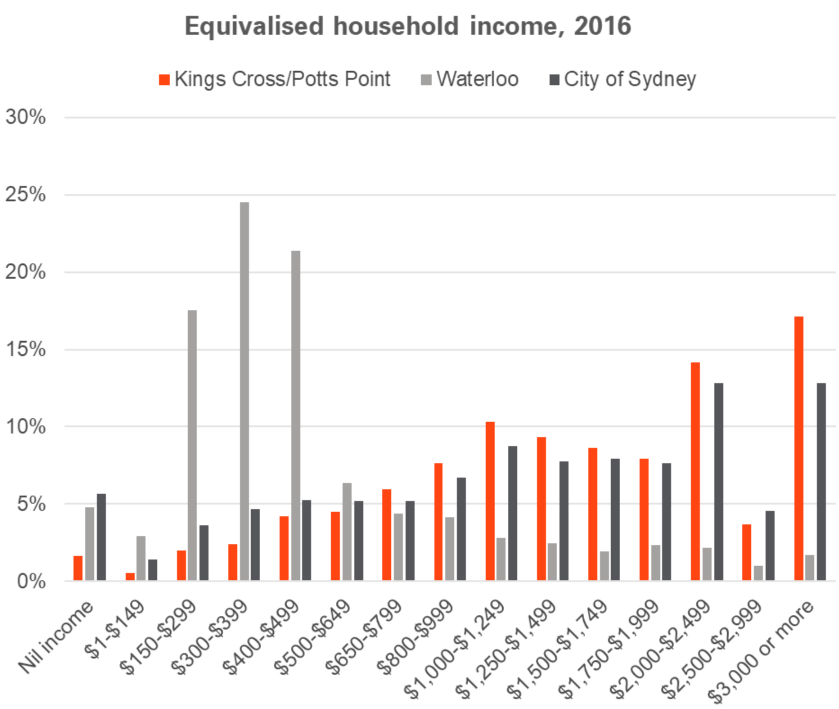
Tenure and income

The predominate tenure type by far is agent based rental. The area is quite affluent, however households in the Potts Point end closer to the harbour are earning considerably more than Kings Cross and the CoS average.



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

Figure 62 Tenure profile – Waterloo and Kings Cross/Potts Point (2016)



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016.

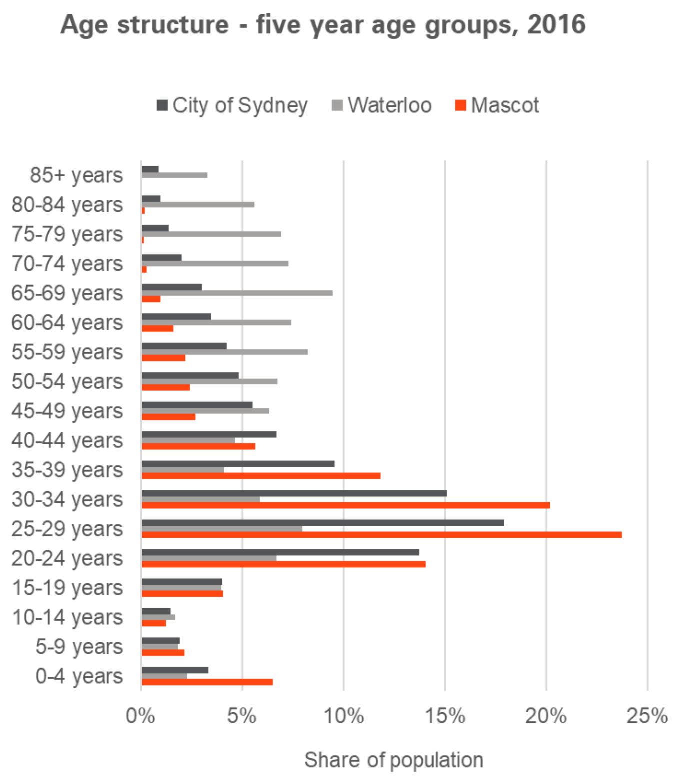
Figure 63 Income profile – Waterloo and Kings Cross/Potts Point (2016)

3.7.6 Benchmark area 6 – Mascot Station surrounds

Mascot Station surrounds is a location close to a large economic node (Sydney Airport) that has recently undergone intensive redevelopment. It has attracted skilled migrants (70% of residents were born overseas, most are working professionals) to the area which is reflected by the young worker and young family demographics. In 2016, 72% of the resident base was under 35.

The area profiled is much larger than Waterloo but most of the residential population (95%) is around the train station where densities reach 300/hectare.

Mascot station surrounds represents the demographic profile that could occur as a result of Waterloo being a new development area.



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016. (usual residence)

Figure 64 Age profile – Waterloo and Mascot (2016)

Households and dwellings

The area is entirely made up of high density living with multi-storey apartment blocks serving all residents. The predominate household type is couples without children. An analysis of occupation and income suggests that most households are made up of working professionals.

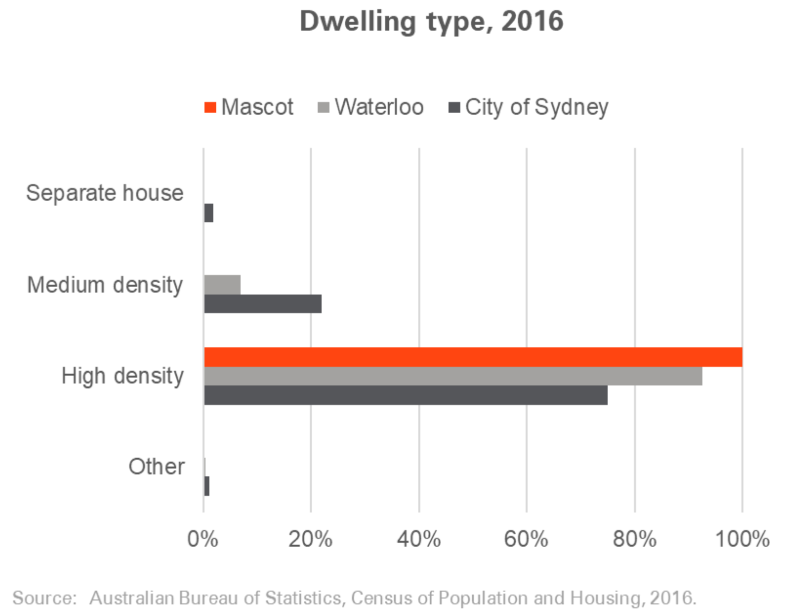


Figure 65 Dwelling profile – Waterloo and Mascot (2016)

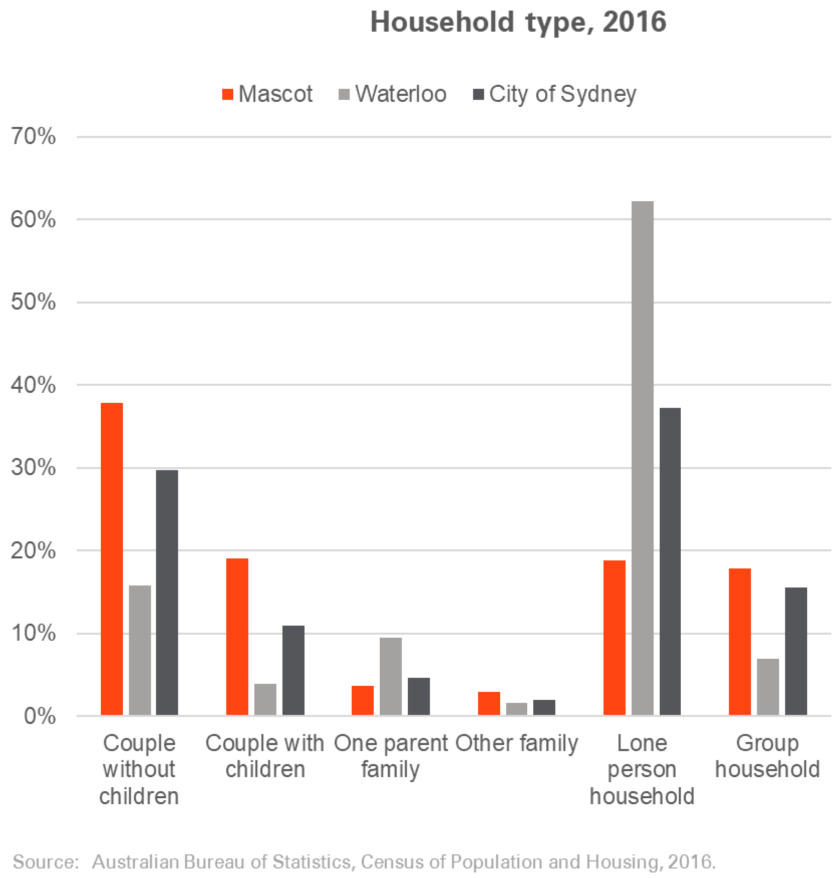


Figure 66 Household profile – Waterloo and Mascot (2016)

Tenure and income

The predominate tenure type by far is agent-based rental. The area is very affluent with 30% of households earning more than $3,000 per week. There are very little low-income earners.

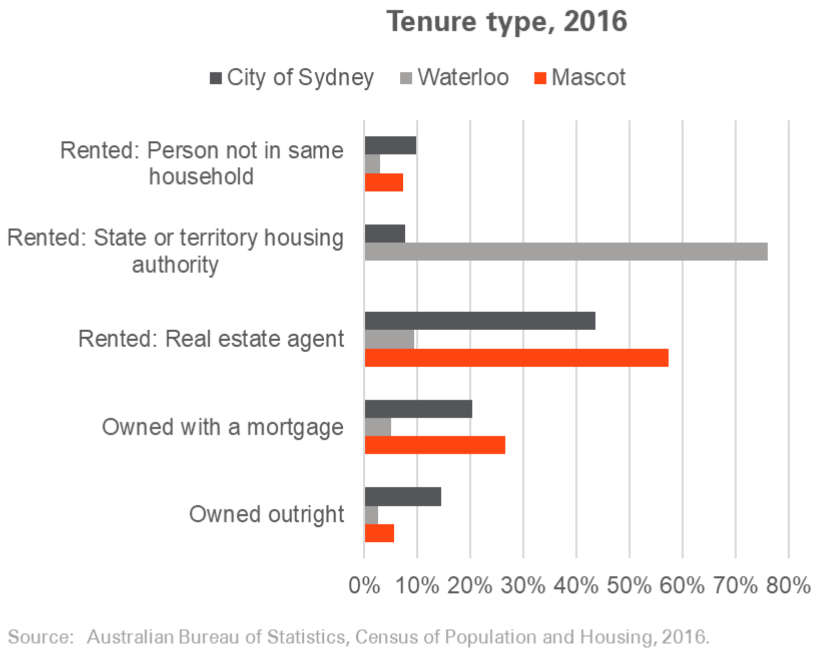


Figure 67 Tenure profile – Waterloo and Mascot (2016)

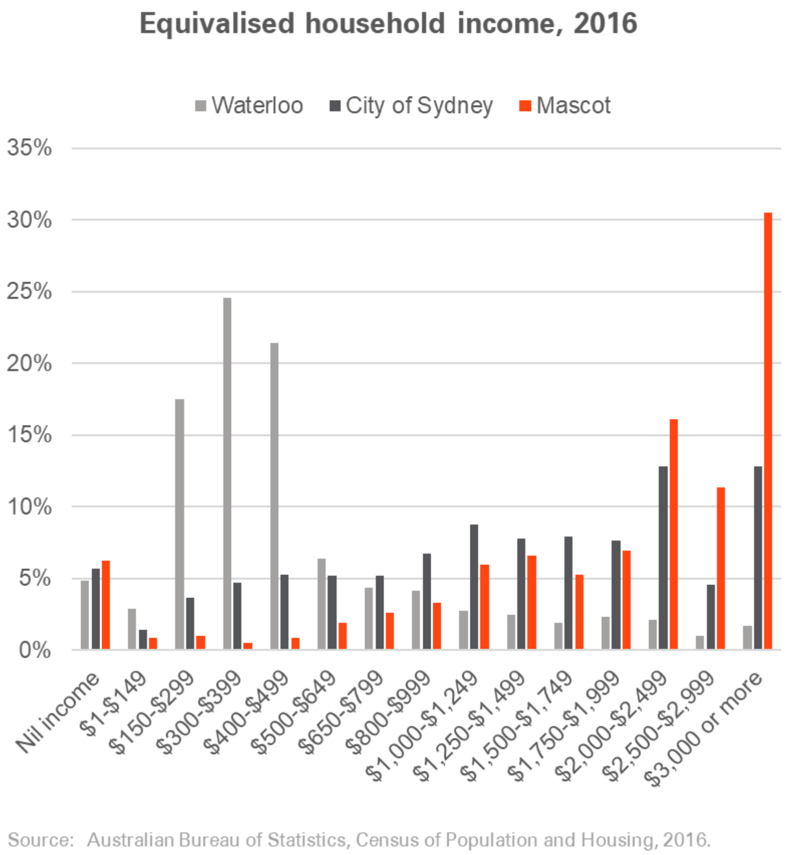


Figure 68 Income profile – Waterloo and Mascot (2016)

3.8 How does the precinct compare?

3.8.1 Comparisons to other inner city areas

The following table provides an overview of the key demographic differences between the locations.

Redfern Estate presents an area which most closely resembles Waterloo currently and what it could become without market led redevelopment.

The other areas present different demographic profiles that could occur under a market led redevelopment but largely reflect their specific roles and function. For example, Ultimo's role as a base for students.

	Waterloo	Zetland	Redfern Estate	Pyrmont	Ultimo	Kings Cross/ Potts Point	Mascot Station surrounds
Population	3,647	10,072	1,746	12,813	8,476	10,819	6,165
Age structure							
0-19 years	9.8%	15.8%	6.5%	11.5%	12.4%	5.0%	13.9%
20-39 years	24.7%	66.5%	10.7%	52.2%	69.7%	58.4%	69.9%
40-59 yeas	25.9%	13.6%	34.4%	22.8%	11.7%	23.6%	13.0%
60-79 years	31.1%	4.0%	36.8%	12.2%	5.3%	10.6%	3.0%
80+ years	8.9%	0.3%	12.0%	1.3%	1.0%	2.4%	0.2%
Cultural Diversity							
ATSI	7.6%	1.0%	8.8%	1.1%	0.8%	1.0%	0.5%
Born Overseas	58.8%	68.5%	55.2%	59.2%	79.2%	44.8%	69.0%
Education and Employment							
Left school in Year 10 or earlier	36.1%	7.7%	49.1%	10.9%	8.4%	10.0%	7.3%
No post school qualification	56.4%	40.1%	65.4%	34.0%	40.8%	26.0%	35.2%
Not participating in the labour force	65.7%	33.3%	81.0%	22.0%	43.4%	16.0%	20.3%
Unemployed	18.3%	7.6%	36.5%	5.0%	12.8%	4.3%	5.4%
Housing							
Dwellings	2,545	5,130	1,355	6,468	3,554	6,077	2,768
High density dwelling	92.6%	90.6%	96.6%	92.7%	88.7%	88.5%	100%
Lone person households	62.2%	24.5%	74.7%	28.8%	32.2%	56.4%	18.8%
Has a mortgage	5.1%	25.8%	0.0%	20.1%	14.1%	16.6%	26.6%
Social housing	76.8%	3.2%	95.5%	8.1%	10.4%	1.0%	0.4%
Equivalised household income of $500 or less per week	71.2%	25.6%	83.5%	13.7%	37.9%	10.7%	9.5%

Source: Australian Bureau of Statistics, Census of Population and Housing, 2016

Figure 69 Comparison of benchmark areas

Other benchmark areas – new development in the inner city between 2011-2016

Several new development areas in the inner city have been profiled. These areas were developed in the most recent intercensal period (2011-2016) and provide an insight into who is occupying new apartment developments. The areas profiled were the Lachlan Precinct in the Green Square area of Waterloo, Central Park (the former Kent Brewery) in Chippendale, Harold Park in Forest Lodge and Mascot Central. The key findings were:

- The 2016 population of the profiled areas was dominated by young adults.
- All developments had more than 87% of their population under the age of 49. There were however some notable differences between the developments.
- Central Park has a significantly higher proportion of 15-24 year olds, a result of its location near UTS and Sydney University.
- Lachlan Precinct had a higher proportion of 30-34 year olds.
- Harold Park and Mascot Central had over 5% of their population between 0 and 4 years olds.

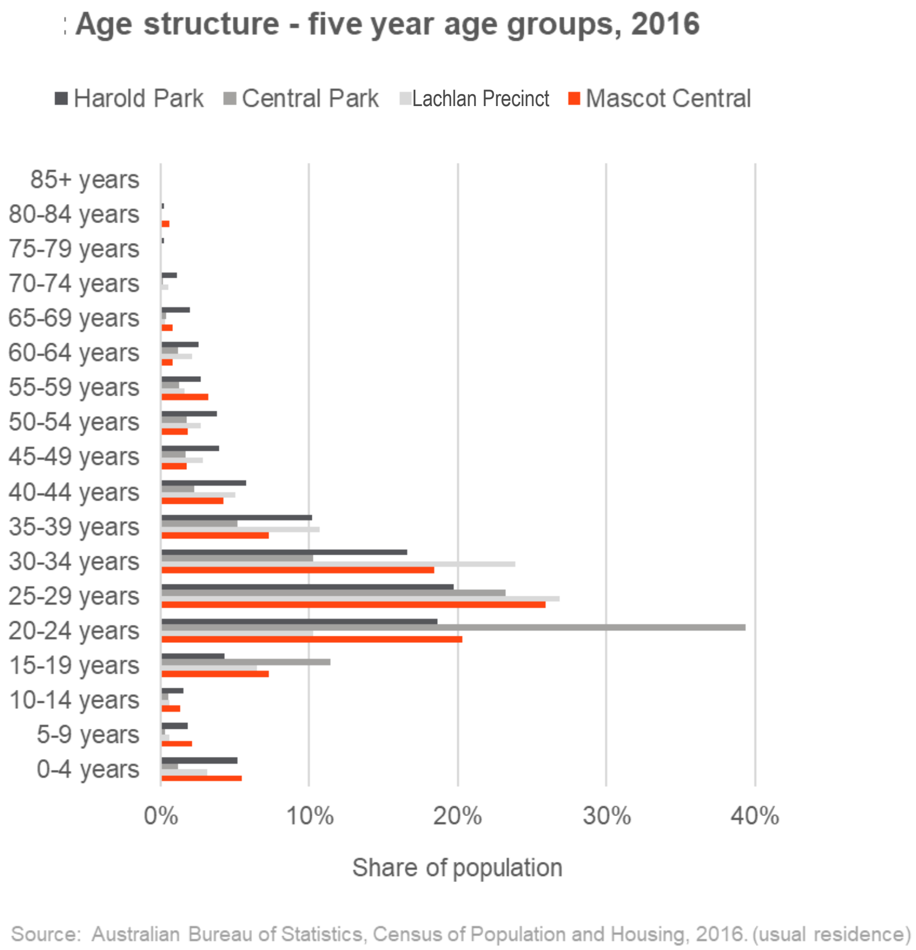


Figure 70 Age profile – Waterloo and new developments (2016)

Other benchmark areas – household types

All developments had high proportions of lone person and couple without children households.

Central Park had a particularly high proportion of lone person households. This is influenced by the dwelling format of the development. Harold Park and Mascot Central had noticeably higher proportions of couple with children households. The prospect of these households ageing in these developments rather than moving to separate households elsewhere will be an interesting trend to observe over time. Lachlan Precinct had a high proportion of couple without children households at around 40%.

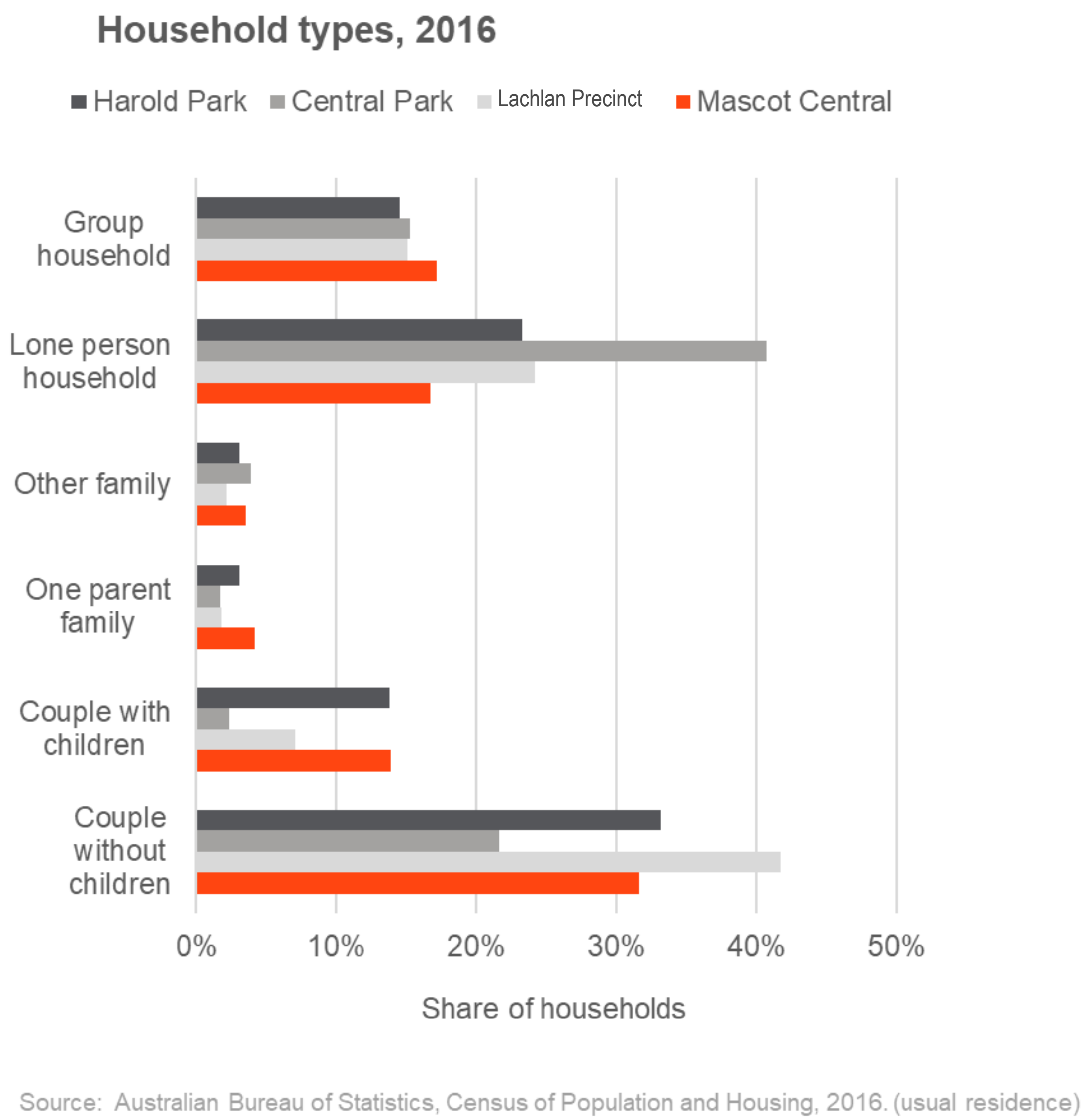


Figure 71 Household profile – Waterloo and new developments (2016)

Other benchmark areas – dwelling sizes

All developments had high proportions of one and two-bedroom dwellings.

Central Park has a focus on smaller format dwellings. Nearly two thirds of dwellings are bedsit or one-bedroom dwellings. Harold Park and Mascot Central had higher proportions of three-bedroom dwellings which correlates with the noticeably higher proportions of couple with children households. Lachlan Precinct had a similar proportion of one and two bedroom dwellings.

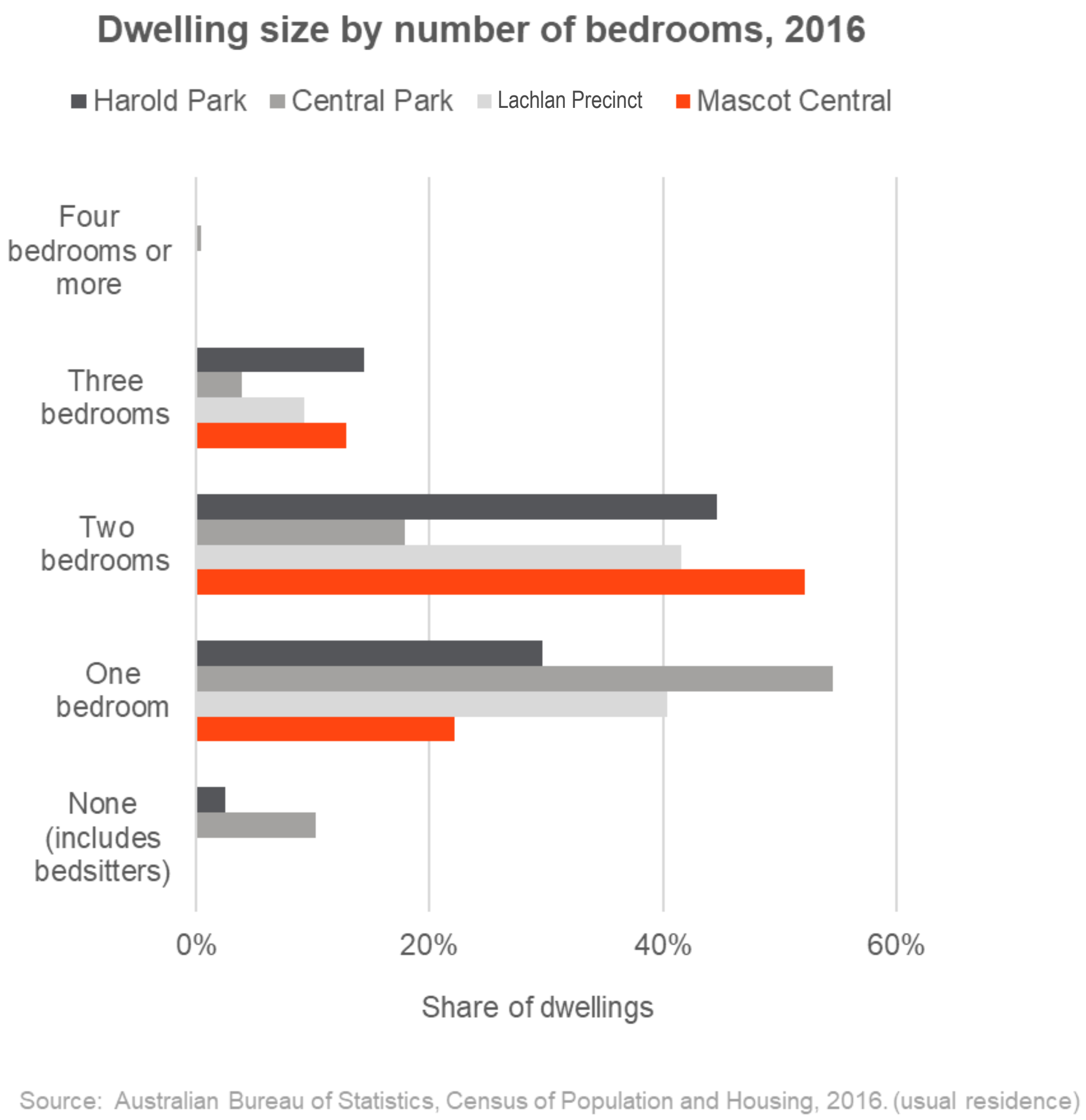


Figure 72 Dwelling size profile – Waterloo and new developments (2016)

3.9 Employment benchmarks

This section presents several inner urban benchmarks to understand the possible employment outcomes of the Waterloo Precinct. The benchmark areas include:

- Waterloo Crown Square
- Rhodes
- Kings Cross/Potts Point
- Pyrmont North
- Pyrmont South
- Mascot

As Waterloo South is planned to be a predominately residential location and is located in close proximity to existing and planned knowledge worker hubs it is likely to generate jobs primarily in population servicing industries[9].

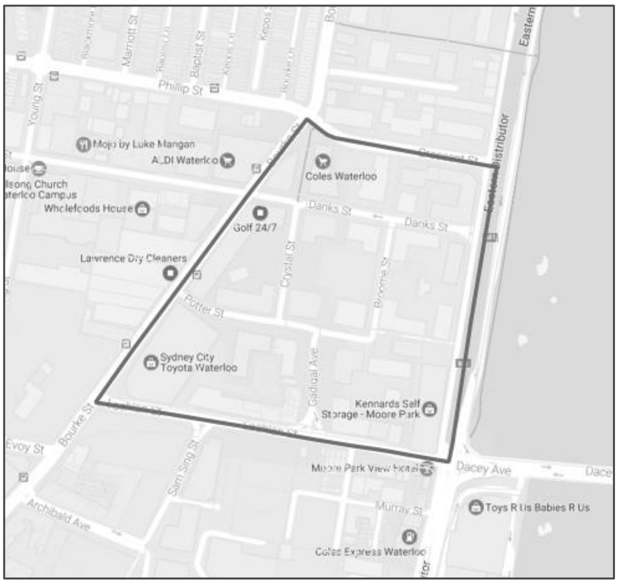
It is likely given the proximity to other larger employment nodes that Waterloo precinct would be on the lower side and be comparative to Waterloo Crown Square. Waterloo Crown Square was developed approximately 15 years ago to a density of 365 residents per hectare over an area of almost 13 hectares and includes primarily population servicing employment (in addition to a car showroom).

[9] Population servicing industries defined as those that work to serve a residential population base e.g. retail, education, health services. See Appendix for full list)

Benchmark area 1 – Waterloo Crown Square

Key points to note about this area are:

- In close proximity to Waterloo Precinct.
- Lacks a major transport node.
- High share of high density housing.
- Density levels of approximately 365 residents per hectare over an area of 12.3 hectares.
- In 2016, it had approximately 4,488 residents and generated 615 jobs.
- Approximately 34% of these jobs were in retail.
- Existing businesses include: Supermarket, Restaurants and Takeaway food (e.g. Subway, Pizza, Thai), Cafes, Real estate, Barber/salon, Clinic (small), Pharmacy, Serviced apartments, Storage facilities, Vehicle showroom.



Benchmark area 2 – Rhodes

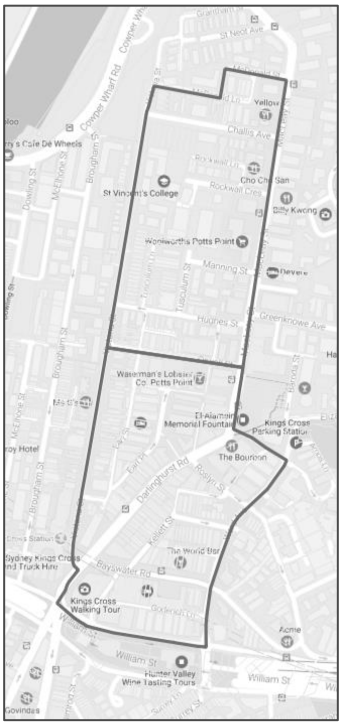
Key points to note about this area are:

- Existing medium density and planned high density residential environment.
- Adjacent to transport node and shopping centre with large box retail stores (IKEA; Target).
- Density levels of approximately 300 residents per hectare over an area of 37 hectares (excl. shopping centre), but rising to 373/h by 2036.
- In 2016, it had approximately 11,151 residents and the broader area including the supermarket and commercial offices generated 4,112 jobs.
- Existing businesses in residential area include: Convenience stores, Restaurants and Takeaway food (e.g. Chinese, Italian), Cafes, Real estate, Kindergarten, Medical clinic, Salon, Serviced apartments.
- 23% of these jobs were in retail or hospitality; 13% in Financial and Insurance Services; 10% in Wholesale; 9% in Information Media and Telecommunications.

Benchmark area 3 – Kings Cross/Potts Point

Key points to note about this area are:

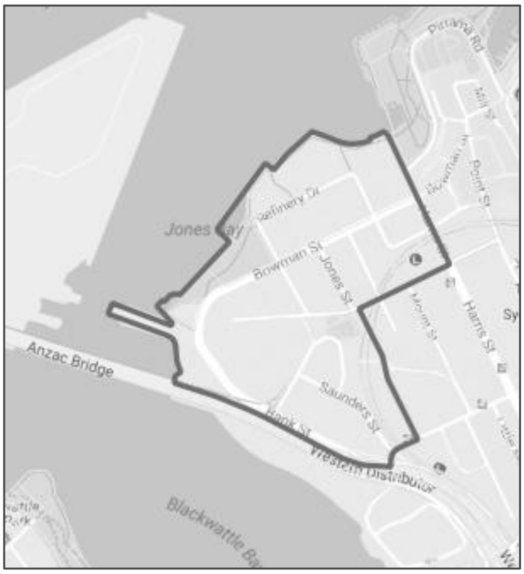
- Current medium/high density residential environment over large area.
- Adjacent to transport node.
- High tourism destination role impacts jobs outcome.
- Density levels of approximately 240 residents per hectare over an area of 18.6 hectares.
- In 2016, it had approximately 4,457 residents and generated 2,795 jobs.
- Approx. 26% of these jobs were in accommodation and food services,17% heath care, 13% in retail.
- Existing businesses in non-tourist area include: Convenience stores, Restaurants and Takeaway food, Cafes, small retail (e.g. bookshop, dress shop), Fitness centre, Real estate, School, Medical clinic, Salon, Serviced apartments.



Benchmark area 4 – Pyrmont North

Key points to note about this area are:

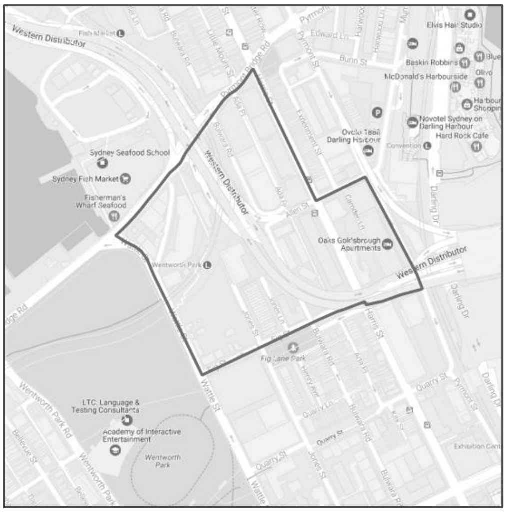
- Current med/high density residential environment.
- Adjacent to transport nodes (light rail).
- Density levels of approximately 184 residents per hectare over an area of 19 hectares.
- In 2016, it had approximately 3,511 residents and generated 2,742 jobs.
- Approx. 52% of these jobs were in Information Media and Telecommunications (Network Ten), 19% in Professional, Scientific and Technical Services.
- Existing businesses excluding large commercial ones include: Convenience stores, Restaurants and Takeaway food, Pubs, Cafes, small retail, Community centre, Real estate.



Benchmark area 5 – Pyrmont South

Key points to note about this area are:

- Current med/high density residential environment.
- Adjacent to transport nodes (light rail) and inclusive of freeway.
- Density levels of approximately 315 residents per hectare over an area of 10.8 hectares (Western Distributor removed).
- In 2016, it had approximately 3,409 residents and generated 1,220 jobs.
- Approx. 27% of these jobs were in in Professional, Scientific and Technical Services, 15% in Information Media and Telecommunications, and 10% in Administration and Support Services.
- Other existing businesses include: Convenience stores, Restaurants and Takeaway food, Cafes, Small retail, Adult learning, Accommodation, Co-working space, Real estate, Serviced apartments, Car hire.



Benchmark area 6 – Mascot

Key points to note about this area are:

- Current high density residential environment.
- Adjacent to major transport gateway and employment node of Sydney Airport.
- Density levels of approximately 300 residents per hectare in high residential area, but very low outside of this.
- In 2016, the broad destination zone area had approximately 6,165 residents and generated a substantial 18,060 jobs
- Approx. 48% of these jobs were in Transport, Postal and Warehousing due to the airport. Of the remaining jobs, 13% were in Retail Trade and 13% in Administrative and Support Services.
- Existing businesses in the high residential area include: Supermarket, Convenience stores, Restaurants and Takeaway food, Cafes, Small retail, Pharmacy, Accommodation, Gymnasium, Hairdressers, Real estate, Serviced apartments, Car hire.

Comparative overview

The different case study areas present variant employment outcomes as expected based on their location and the relevant historical and existing functional role of that location.

As Waterloo Precinct is planned to be a predominately residential location and is located in close proximity to existing and planned knowledge worker hubs it is likely to generate jobs primarily in population servicing industries[10]. Disregarding Kings Cross/Potts Point (tourism role) and Mascot (Airport influence), it would appear that a ratio of 0.08 – 0.1 population servicing jobs per person is an appropriate estimate for a high-density residential area. This of course has the potential to rise considerably if a larger scale shopping centre is attracted/incorporated.

However, every area studied attracts additional non-population servicing jobs too, ranging from a marginal addition in Waterloo Crown Square, to substantial job numbers in the case of Rhodes, Pyrmont North and Mascot.

It is likely given the proximity to other larger employment nodes that Waterloo precinct would be on the lower side and be comparative to Waterloo Crown Square.

[10] Population servicing industries defined as those that work to serve a residential population base e.g. retail, education, health services. See Appendix for full list)

	Waterloo Crown Square	Rhodes	Kings Cross/Potts Point	Pyrmont North	Pyrmont South	Mascot
Density	365/ha	300/ha (residential area); forecast to increase to 373/ha	240/ha	184/ha	315/ha	300/ha in residential area; outside of that – very low
Jobs to pop ratio Pop servicing jobs/pop	0.14 0.103	<0.05 in residential area; 0.37 if including commercial/shopping centre 0.08 in residential area; 0.14 if including commercial/shopping centre	0.62 0.453	0.78 0.085	0.36 0.088	2.93 0.581
Industry structure	Predominately retail and also high share of accommodation and food services	Predominately population based industries (retail, health, education) in residential area but very high share information media and professional services in commercial centre	Large share of accommodation and food services (obvious tourism, night-time entertainment role) and high shares of other population based industries	Very high share information media and professional services	Very high share information media and professional services	Extremely high share of Transport, Postal and Warehousing jobs due to proximity of Airport. Makes jobs comparisons in non-residential area a poor benchmark

Table 3 Employment outcomes at relevant benchmarks

Redfern Street Village analysis

The planned Waterloo Precinct is located in the Redfern Street Village area utilised for City of Sydney 2012 Floorspace and Employment Survey purposes.

In 2012, the survey estimated 866,315m2 was utilised to support 17,276 jobs and there were an estimated 21,160 residents. This represents a floor space to resident ratio of 40.9m2/person.

However, a large amount of this floor space was for industries that are unlikely to operate in the Waterloo precinct (e.g. the area incorporates sections of UTS and University of Sydney Campuses). The area does include relevant TOD employment offers though.

If we isolate population servicing industries, we can identify possibly more relevant floor space per capita and work space ratios.

Source: City of Sydney 2012 Floorspace and Employment Survey - Redfern Street Village Summary Report 2012

Floorspace and Employment demand

By isolating the population servicing industries in the Redfern Village we arrive at more conservative floor space to population ratio of 12m2 /person.

This figure can then be divided by the work space ratio for the relevant industries in Redfern Village to provide an estimated increase in jobs required of 1,850 between 2011 and 2036. This is likely to be at slightly exaggerated estimate given current developments in the vicinity of Waterloo Precinct that will generate additional population servicing floor space (e.g. Green Square Town Centre) and therefore capture demand.

City-Based Industry Sector	Businesses	Employment	Business Floor Area	Floor area/ population ratio	Workspace ratio	Estimated floor space demand	Estimated employment increase
Community	14	835	39,006	1.84	47m^2	17,864	382
Food and Drink	155	659	20,211	0.96	31	9,256	302
Health	40	332	15,998	0.76	48	7,327	152
Property Development and Operation	18	167	16,575	0.78	99	7,591	76
Retail and Personal Services	128	369	22,748	1.08	62	10,418	169
Social Capital	63	804	41,519	1.96	52	19,015	368
Tourist, Cultural and Leisure	72	873	106,285	5.02	122	48,677	400
Total	**490**	**4,039**	**262,342m^2**	**12m^2**	**460m^2/ employee**	**120,149m^2**	**1,850**

Source: City of Sydney, Redfern Street Village Summary Report 2013

Table 4 Redfern Village Floorspace and Employment

3.10 Forecasts without the planning proposal

This section provides forecasts for the Waterloo Precinct, without the Planning Proposal. Please note that these forecasts refer to a different area than presented in Section 4.

It is important that this is not a 'no development' scenario as the area was already expected to experience housing development. As such, this scenario is based on the dwelling change assumptions made for the Waterloo Precinct as part of the most recent set of small area forecasts (forecast.id) prepared for the City of Sydney, prior to the development of the Planning Proposal.

The City of Sydney forecasts are undertaken for 15 small areas. The Waterloo precinct is part of the Redfern Street (Redfern Waterloo) small area. This area comprises the study area as well as Darlington, Eveleigh, the western half of Redfern and most of Waterloo. In 2011, the precinct comprised 23% of the Redfern Street (Redfern-Waterloo) small area.

3.11 Population and households

3.11.1 Assumptions

Births and deaths, age specific migration:

- Assumptions about births and deaths and age specific migration are identical to those in the draft forecasts for Waterloo Precinct. As the City of Sydney forecasts were prepared for the larger area of Redfern Street (Redfern Waterloo), there were no previous site-specific assumptions made solely for the Waterloo Precinct.

Net dwelling change:

- Assumptions about residential development for the Waterloo Precinct base case scenario used the site assumptions from the City of Sydney forecasts (forecast.id). They assumed a net increase of 5,000 dwellings between 2018 and 2036. This is compared to the Waterloo Precinct draft forecast assumptions of 5,533 net dwellings from 2020 to 2036.

3.11.2 Results

The Without the Planning Proposal scenario forecasts for the Waterloo Precinct see an increase in population from 3,241 in 2011 to 11,976 in 2036. This forecast is based on an increase of 5,000 dwellings in net terms between 2018 and 2036. This scenario differs from the Planning Proposal scenario only in terms of net change to dwellings.

Similar to the Planning Proposal scenario:

- average household size is expected to increase from 1.60 in 2011 to 1.75 in 2036 based on the addition of significant numbers of private dwellings of two or more dwellings attracting larger households.

- the area is expected to attract younger adult age groups, primarily to the private dwellings, as well as a broader range of older ages to the affordable and social housing component. The largest forecast increases by age are in the 20-44 age bracket.
- all household types are expected to increase to 2016, with the largest numerical increase in lone person households. Percentage wise however, couples without children are expected to increase from 13 to 23% of households over the forecast period.

Waterloo Precinct	2011	2016	2021	2026	2031	2036
Population	**3,241**	**3,259**	**3,600**	**6,368**	**9,423**	**11,976**
Change in pop. (5yrs)	190	18	341	2,768	3,055	2,552
Average annual % change	1.2%	0.1%	2.0%	12.1%	8.2%	4.9%
Households	2,024	2,024	2,170	3,716	5,398	6,823
Change in households (5yrs)	53	0	146	1,547	1,682	1,425
Average h/hold size	1.60	1.61	1.66	1.71	1.74	1.75

Table 5 Forecast summary – Waterloo Precinct – Without Planning Proposal Scenario

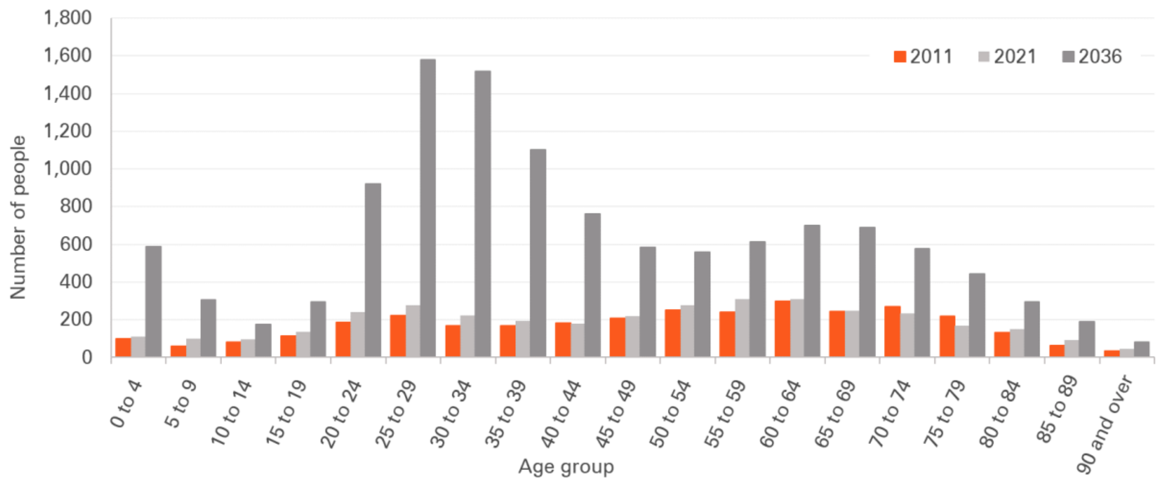


Figure 73 Age structure, Waterloo Precinct, 2011-2036 – Without Planning Proposal Scenario

	2011	2016	2021	2026	2031	2036
0 to 4	98	105	109	231	434	589
5 to 9	59	91	99	114	191	307
10 to 14	81	73	95	109	124	174
15 to 19	115	118	135	222	268	295
20 to 24	188	174	241	606	825	920
25 to 29	222	197	277	911	1,369	1,581
30 to 34	168	182	223	690	1,215	1,518
35 to 39	168	158	193	425	783	1,102
40 to 44	184	177	180	329	528	760
45 to 49	207	215	218	280	422	585
50 to 54	252	264	275	343	428	558
55 to 59	239	292	311	423	519	612
60 to 64	300	257	308	447	592	699
65 to 69	243	276	249	391	550	690
70 to 74	270	204	234	279	431	578
75 to 79	217	209	167	241	309	444
80 to 84	132	151	150	161	231	293
85 to 89	64	78	92	111	138	189
90 and over	35	39	45	56	69	82
Total population	**3,241**	**3,259**	**3,600**	**6,368**	**9,423**	**11,976**

Table 6 Age forecast – Waterloo Precinct – Without Planning Proposal Scenario

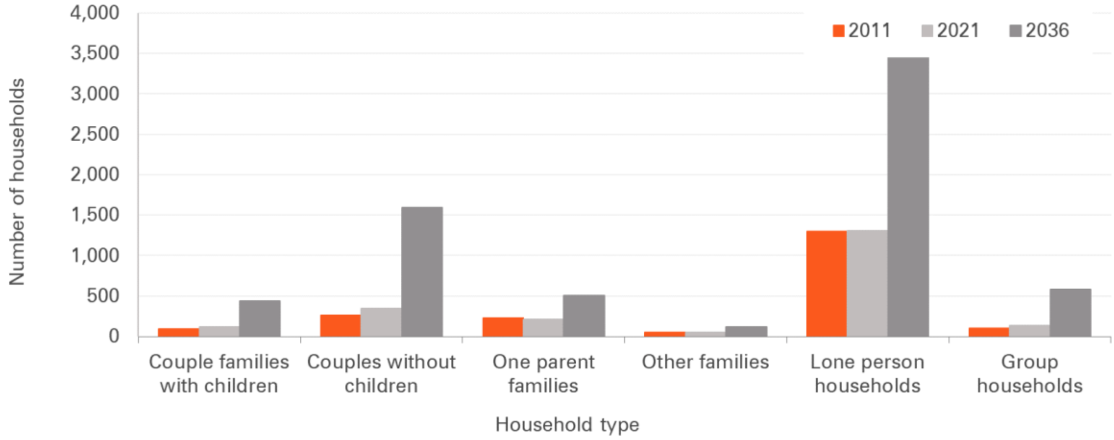


Figure 74 Household forecast – Waterloo Precinct –Without Planning Proposal Scenario

	2011	2016	2021	2026	2031	2036
Couple families with children	90	89	120	212	338	442
Couples without children	262	268	345	817	1,239	1,593
One parent families	226	214	215	266	390	510
Other families	51	51	49	69	102	122
Lone person households	1,296	1,300	1,306	2,025	2,844	3,571
Group households	100	102	135	327	485	585
Total households	**2,024**	**2,024**	**2,170**	**3,716**	**5,398**	**6,823**

Table 7 Household forecasts – Waterloo Precinct – Without Planning Proposal Scenario

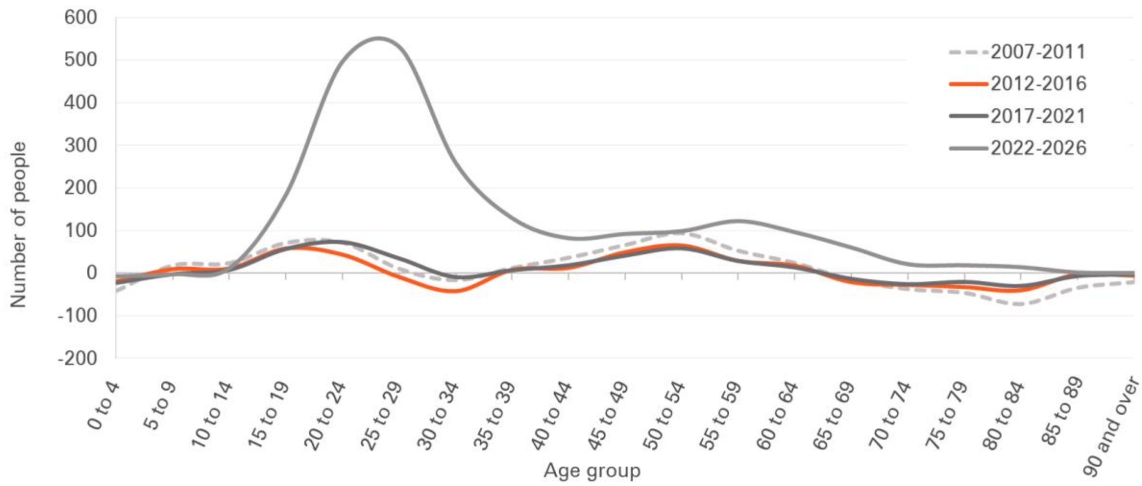


Figure 75 Net migration profile – Waterloo Precinct – Without Planning Proposal Scenario

3.11.3 No development scenario

The base case scenario above is not a “no development” scenario. However, if the Planning Proposal change to the floor space ratio did not occur the base case scenario would not be achieved. Under the status quo (no planning changes), the Waterloo Precinct would experience much slower growth in population and dwellings. The demographic profile would also be much older as resident’s age in place with little opportunity for inward migration.

3.12 Employment

3.12.1 Assumptions

This section provides employment projections for the Waterloo Precinct (Waterloo TZ area) without the Planning Proposal. This forecast is based on an analysis of Bureau of Transport Statistics (BTS) employment projections. We believe this is the most likely outcome that would occur Without the Planning Proposal. This is because employment growth would be more ad-hoc and not part of a coordinated effort across stakeholders.

The projections are based largely on the local population service offer using .id population forecasts (Without Planning Proposal Scenario) as the main employment driver. Planning and development decisions that impact the provision of commercial office space (for example) would influence employment numbers.

3.12.2 Results

Under an adjusted BTS Forecasts method, an extra 372 jobs would be created between 2011 and 2036, resulting in approximately 1,070 jobs. This results in a slower and lower employment outcome compared to the Planning Proposal Scenario.

Employment estimates	2011	2016	2021	2026	2031	2036	Net additional 2011 - 2036
1. Adjusted BTS (without Planning Proposal scenario)	**698**	**701**	**703**	**787**	**909**	**1,070**	**+372**

Table 8 Employment forecasts – Waterloo Precinct – Without Planning Proposal Scenario

3.12.3 No development scenario

The base case scenario above is not a "no development" scenario. However, if the Planning Proposal change to the floor space ratio did not occur the base case scenario would not be achieved. Under the status quo (no planning changes), the Waterloo Precinct would experience much slower growth in employment, and possibly employment decline given the older demographic profile of the Waterloo Precinct under the Without Planning Proposal Scenario.

4. Waterloo South Forecasts

4.1 Study area definition

This section presents the population and employment projections for Waterloo South. We have relied on the demographic and economic analysis in stage 1 (section 3 of this report) and applied this to the revised land use assumptions for the Waterloo South. The map below illustrates the forecast area used in this section.

4.2 Population and housing forecasts

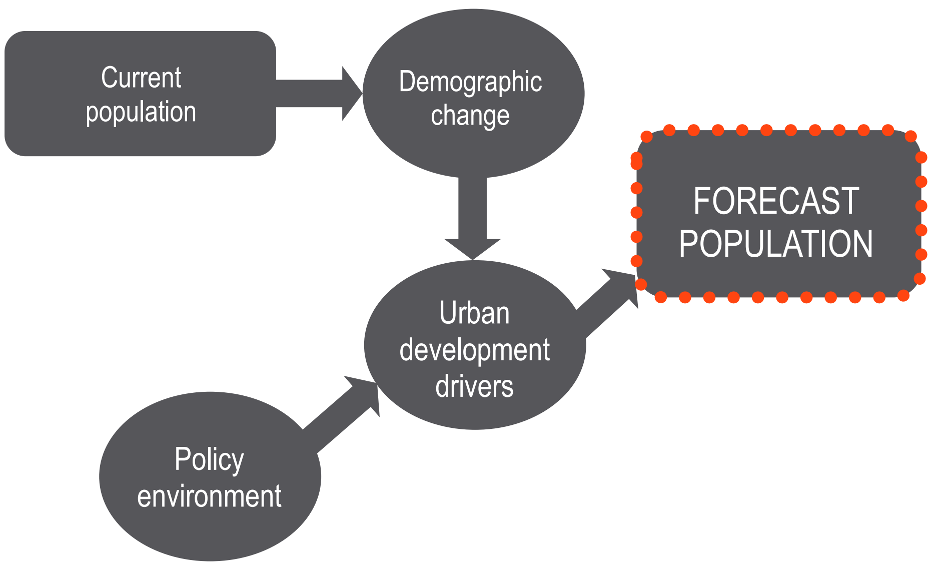
This section provides population and household forecasts for the Waterloo South area. The forecasts are developed using .id's forecasting model that incorporates our detailed understanding of the drivers of demographic change as well as specific input provided by project stakeholders. Please note: these forecasts are based on key assumptions provided by the Land and Housing Corporation NSW. Assumptions of timing of dwelling construction and dwelling format (number of bedrooms) are key inputs. Changes to these assumptions would result in different forecast results.

Key findings

- The forecasts for Waterloo South see an increase in population from 1,719 in 2016 to 5,542 in 2036.
- This forecast is based on an increase of 2,300 dwellings in net terms between 2023 and 2032.
- Average household size is expected to increase from 1.78 in 2016 to 1.86 in 2036. This is a result of the assumed migration of both younger adult age groups, primarily to the private dwellings, as well as a broader range of older ages to the affordable and social housing component.
- The area is expected to attract younger adult age groups, primarily to the private dwellings, driven by fast access to CBD jobs in finance, banking and professional services, as well as a broader range of older ages to the affordable and social housing component.
- The largest forecast increases by age are in the 25-39 age bracket.

4.2.1 Forecast process and methodology

Assumptions are devised regarding residential development rates, tenure, household types, housing markets with the client providing input into residential development rates and tenure. The figure below depicts the forecast method. The 2016 population forms the base year for the forecasts. The population is aged each year and assumptions are made regarding the net change in dwelling stock, birth and death rates, the age profile of in and out migration, and the household relationships by age.



4.2.2 Forecast inputs

Drivers of change – metropolitan and regional

At a metropolitan and regional level, overseas migration is the key driver of migration change particularly in inner metropolitan areas. New South Wales has traditionally attracted a significant share of Australia's overseas intake and this is expected to continue. The Waterloo area's access to significant numbers of jobs in both inner Sydney as well as the airport precinct are key drivers of residential demand in this area.

Drivers of change – local inputs to model - Births and deaths

These are based on the assumptions used for the City of Sydney forecasts for the Redfern Street (Redfern-Waterloo) small area. The Redfern Street (Redfern-Waterloo) small area comprises the study area as well as Darlington, Eveleigh, the western half of Redfern and most of Waterloo. In 2016, the precinct comprised 8.4% of the Redfern Street (Redfern-Waterloo) small area. The birth and death rates for the larger area are preferred for this analysis. This is because the precinct's characteristics after redevelopment will be more similar to the larger area than its current demographic characteristics. This is based on the likely eventual split between private and public housing and the likely age groups and household types that will be living in the area.

Age specific migration

In terms of age specific migration, it is assumed that the private dwelling component of the precinct will play a similar role to areas such as Green Square, attracting 20-29 year olds in large numbers. Fast access to CBD jobs in finance, banking and professional services will be a key driver here. There will be a component of migration in the older ages of 45-69 consistent with the traditional migration profile of the area. The social and affordable housing component of the precinct at completion is 25% of total stock and it is assumed that this housing will have a slightly different migration profile to the private dwelling stock.

Household structure

This is informed by both the nature of the dwelling stock proposed in terms of number of bedrooms and the tenure type. It is assumed that household relationships by age more closely reflects private housing areas such as Green Square. The general result sees 18-29 year olds being more likely to be in lone person, couple without children and group household relationships. There are however still assumed to be some proportions of older adults (50+) assumed to be in lone person households based on the social housing component of the area. This has a dampening effect on overall average household size, with a 2036 average household size of 1.86 being lower than areas such as Ultimo, Pyrmont and Green Square.

Non-private dwellings

Non private dwellings include institutional uses such as nursing homes, boarding schools, prisons, military facilities etc. There are no non-private dwellings in the area as at 2016, and none are assumed to be added over the forecast period.

Vacancy rates

Vacancy rates are assumed to increase slightly as new dwelling stock is established before stabilising, going from 5.7% in 2024 to 6.4% in 2033. By 2036, the vacancy rate is assumed to be 6.1%

Assumed dwelling change

The chart following shows the assumed residential development timings in these forecasts. The total dwelling numbers, timings and tenure and were provided by LAHC. Please note, these assumptions are based on the net impact of dwelling change each year (completions – demolitions).

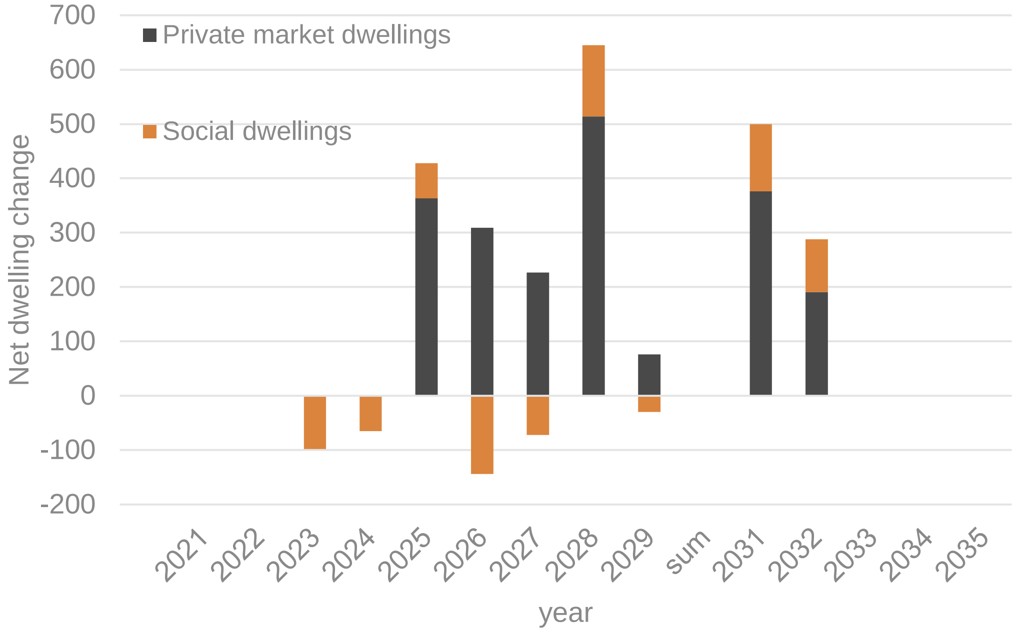


Figure 76 Dwelling inputs –Waterloo South

The chart below shows the forecast number of private dwellings[11] in the Waterloo South as a result of the demolition and addition activity presented in the chart above. Vacancy rates are applied to these dwelling forecasts to estimate the number of households. As at 2020, there were 874 dwellings in Waterloo South (749 social, 125 private). This forms the base of the forecasts. Net change in dwellings is then applied for each year of the forecasts.

These forecasts are based on ABS Census counts of dwellings in 2016 as the starting point (1,024 dwellings). There is a discrepancy between this number and what the Department of Planning, Industry and Environment understands is in the Waterloo South area. To account for this, the model removes dwellings between 2016 and 2020 to ensure consistency with understood dwelling totals.

[11] Includes occupied and vacant private dwellings of all tenure types.

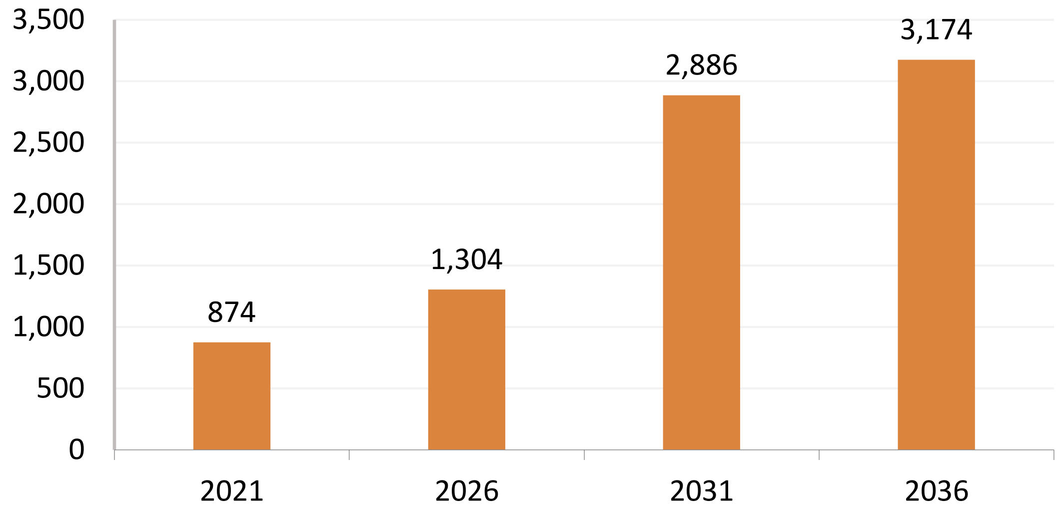


Figure 77 Total dwelling forecasts –Waterloo South

4.2.3 Main forecast results

Forecast summary – Waterloo South

The forecasts for the Waterloo South see an increase in population from 1,719 in 2016 to 5,542 in 2036. This forecast is based on an increase of 2,300 dwellings in net terms between 2023 and 2032. Average household size is expected to increase slightly from 1.78[12] in 2016 to 1.86 in 2036. This is a result of the assumed migration of both younger adult age groups, primarily to the private dwellings, as well as a broader range of older ages to the affordable and social housing component. The largest forecast increases by age are in the 25-39 age bracket.

All household types are expected to increase to 2036, with the largest numerical increase in lone person households. The charts below show the results of the forecasts in more detail.

[12] It is noted that the occupancy rate for the social housing properties is estimated by the Department of Family and Community Services at 1.31 people per dwelling. This is based on tenancy data for the existing dwellings in the Study area. It is noted that this estimate is different to the definition of 'usual resident' used in the Census. From a population and household forecasting perspective, it is not possible to include this information into the model as the data does not include household relationship information (e.g. lone person) or age. Census data is used in our model instead as this is the only information that provides detailed age structure and household relationship for .id's base data.

Forecast summary – Waterloo South

	2016	2021	2026	2031	2036
Population	**1,719**	**1,425**	**2,206**	**5,072**	**5,542**
Change in pop. (5yrs)	-	-294	781	2,866	471
Average annual % change	-	-3.7%	9.1%	18.1%	1.8%
Dwellings	1,024	874	1,304	2,886	3,174
Vacancy rate	5.7%	5.7%	5.8%	6.2%	6.1%
Social Dwellings	749	749	507	652	749
Private Market Dwellings	275	125	797	2,234	2,425
Households (Occupied Private Dwellings)	965	824	1,228	2,705	2,979
Change in households (5yrs)	-	-141	404	1,477	273
Average h/hold size	1.78	1.73	1.80	1.87	1.86

Table 9 Forecast summary – Waterloo South

Forecast age structure– Waterloo South

	2016	2021	2026	2031	2036
0 to 4	53	57	74	216	320
5 to 9	38	35	49	90	149
10 to 14	40	31	43	84	85
15 to 19	108	55	103	214	161
20 to 24	172	114	236	570	421
25 to 29	187	132	315	826	694
30 to 34	128	120	222	646	711
35 to 39	84	86	150	389	515
40 to 44	87	65	113	284	348
45 to 49	112	79	97	222	297
50 to 54	133	102	117	238	272
55 to 59	133	117	134	262	295
60 to 64	95	116	146	275	318
65 to 69	122	86	134	247	307
70 to 74	92	104	90	189	257
75 to 79	66	69	94	128	185
80 to 84	42	36	56	103	111
85 to 89	15	14	21	57	65
90 and over	11	6	12	32	31
Total population	**1,719**	**1,425**	**2,206**	**5,072**	**5,542**

Figure 78 Forecast age structure – Waterloo South

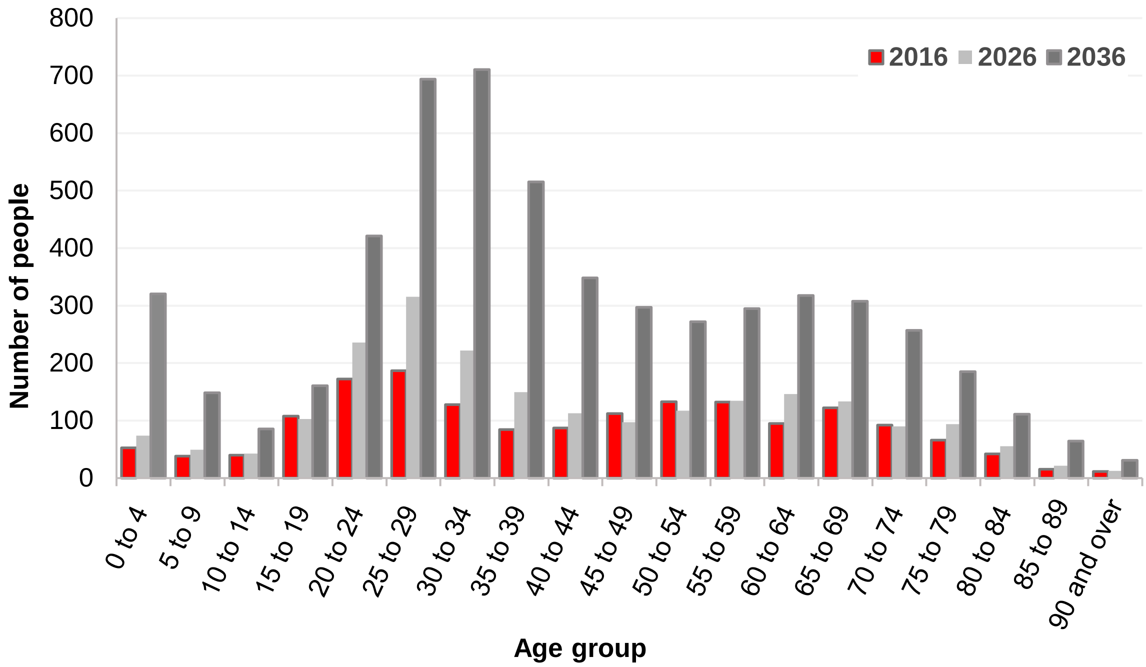
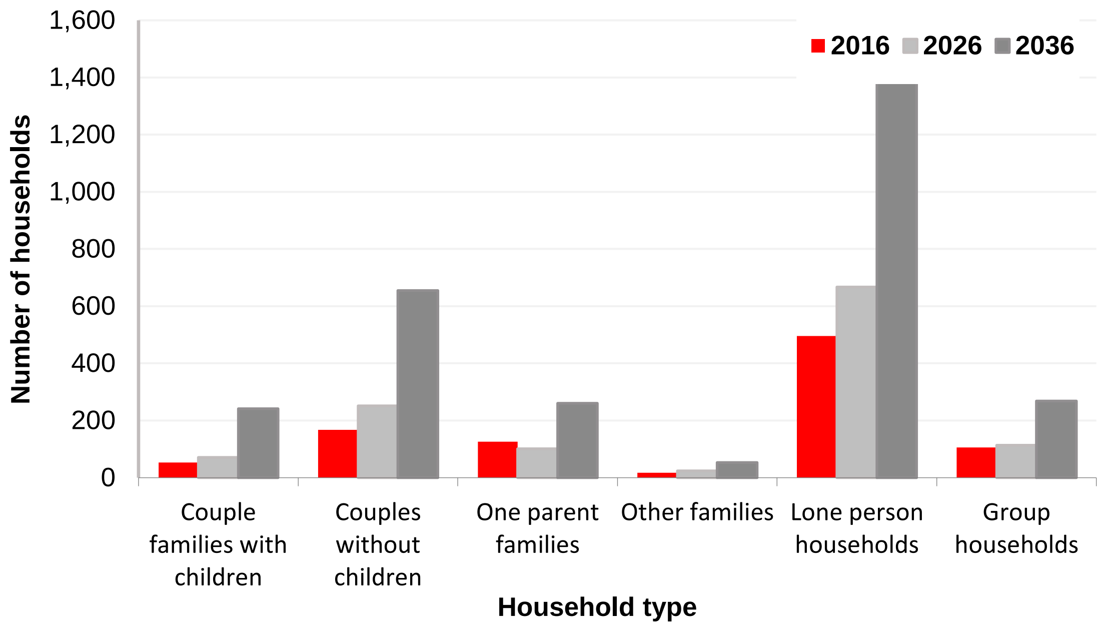


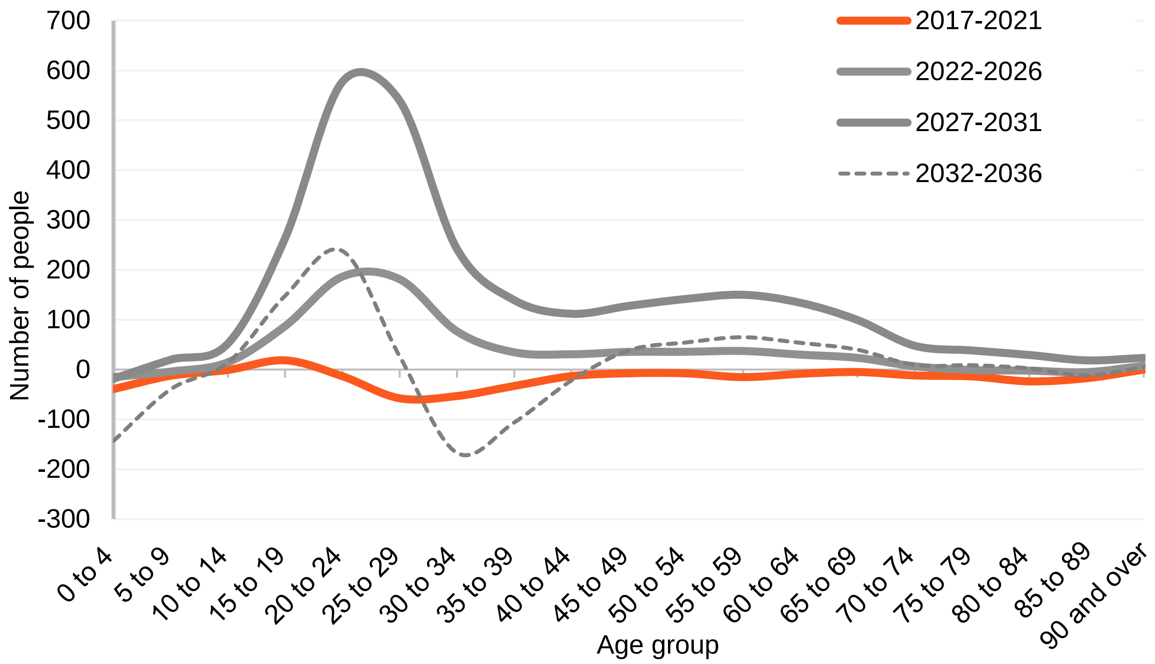
Figure 79 Forecast household structure – Waterloo South



Forecast household structure– Waterloo South

	2016	2021	2026	2031	2036
Couple families with children	53	47	71	187	241
Couples without children	167	149	251	605	655
One parent families	126	87	102	222	260
Other families	17	13	24	57	53
Lone person households	495	460	667	1,348	1,501
Group households	106	68	113	286	268
Total households	**965**	**824**	**1,228**	**2,705**	**2,979**

Figure 80 Net migration by age profile – Waterloo South



4.3 Employment projections

This section provides employment projections for the Waterloo South.

4.3.1 Overview

The stage 1 report presented three employment forecasts scenarios. This was necessary as the economic role and function of the precinct was still being defined.

We have now developed an updated employment projection for the Waterloo South based on our understanding of the role and function and land use mix proposed.

4.3.2 Methodology

The method used to forecast future employment at the Waterloo South is based on estimated employment densities and the proposed land use mix presented in the Turner Report. The timing of employment is based on the population forecasts for the precinct.

This method involves:

- Estimating work space ratios (i.e. sqm per job) based on analysis of the City of Sydney Census of Land Use and Employment data.
- Applying work space ratios to estimated land use mix – retail and non-retail space.
- Estimating the number of residents who would work from home (e.g. home based business)

4.3.3 Analysis

The proposed land use mix for the Waterloo South is as follows:

- Retail: 11,200 sqm
- Community Services/ Cultural: 6,700 sqm

Floorspace is then converted to employment using work space ratios from the City of Sydney's 2012 floor space and employment survey (FES). For this assessment, we have used the Redfern Village work space ratios as a proxy for the likely employment supported at the Waterloo South.

Work space ratio assumptions for Waterloo South

City-Based Industry Sector	Businesses	Employment	Business Floor Area	Work space ratio
Redfern Village				
Community	14	835	39,006	47
Food and Drink	155	659	20,211	31
Health	40	332	15,998	48
Property Development and Operation	18	167	16,575	99
Retail and Personal Services	128	369	22,748	62
Social Capital	63	804	41,519	52
Tourist, Cultural and Leisure	72	873	106,285	122
Employment type supported at Waterloo South				
Retail related[1]	283	1028	42,959	**42**
Community Services/ Cultural [2]	135	2138	113,098	**53**
1 Based on Food and Drink and Retail and Personal Services 2 Based on Commercial, Community, Health, Property Development and Operation and Social Capital				

Table 10 Work space ratio assumptions for Waterloo South

In addition to employment supported within the retail and commercial space, Waterloo South will also support employment in home based businesses. In 2016, around 2.8% of the population aged 15+ worked from home in a home based business in the City of Sydney. This estimate has been applied to the population forecasts to estimate the number of home based workers in the Waterloo South.

4.3.4 Results

The table below presents the employment projections for the Waterloo South. Employment in the Waterloo South is projected to grow from 350 in 2016 to around 760 by 2036. There will be a period of decline during the construction phase of the project, but then grow in line with the timing and staging of the retail and non-retail uses.

Employment projections - Waterloo South

	2016	2021	2026	2031	2036
Total jobs	350	320	450	740	760

Table 11 Employment projections –Waterloo South

4.3.5 Potential employment opportunities

Based on our analysis of similar high density locations in Sydney, the forecast population growth, and desired planning function of the precinct, we believe employment opportunities will be largely focused in:

Health and aged care services

- A growing industry and considering the existing older demographics of the area, there is a likely service need.

Community services

- Given the existing social housing tenure and the planned rapid population growth, community facilities would be required.

Child care

- There is a forecast substantial increase in young working families with younger children providing an obvious need for child care or even kindergarten facilities.

Personal services

- A number of comparison areas supported beauty salons, hairdressers, dry-cleaning etc.
- Local retail
- Every comparison area had a supply of small retail outlets and/or convenience stores. The transport node would likely support a number of like businesses.

Cafes/Restaurants and fast food

- Every comparison area had a supply of diverse caf□and food service providers

Serviced apartments

- A number of comparison areas included the provision of serviced apartments which would be supported by the proximity to a major transport node.

Home based businesses

- There is a growing number of workers, especially in knowledge industries, who are providing freelance work to larger companies.

Office space

- Given the location next to a transport node, some commercial office space may be generated, or even co-working spaces.

5. Conclusion

Our report analyses the existing and future population and employment profile of the Waterloo South. The table below summarises the key forecast for the Waterloo South. Please refer to individual sections for more details.

	2016	2021	2026	2031	2036
Population forecasts					
Population	1,719	1,425	2,206	5,072	5,542
Dwellings	1,024	874	1,304	2,886	3,174
Vacancy rate	5.7%	5.7%	5.8%	6.2%	6.1%
Households (Occupied Private Dwellings)	965	824	1,228	2,705	2,979
Average h/hold size	1.78	1.73	1.8	1.87	1.86
Job forecasts					
Jobs	350	320	450	740	760

Figure 81 Forecast summary – Waterloo South

6. Appendix

6.1 Terminology

The following terms and acronyms are used in this report.

Waterloo SSP study area

Waterloo State Significant Precinct

Precinct/Waterloo Precinct

Geographic area for profile and employment projection purposes that includes the Waterloo State Significant Precinct

CoS

City of Sydney

LGA

Local Government Area

Villages

City of Sydney Local Government Area Village Centre Geographies

DZN

Destination Zone (ABS Journey to Work small area geography)

ABS

Australian Bureau of Statistics

TZN

Travel Zone (BTS forecast small area geography)

BTS

Bureau of Transport Statistics

FES

Floor Space and Employment Survey

6.2 Geographic areas used in this report

The demographic and economic profile presented in this report is based on the Waterloo Precinct area. The demographic profile of the Waterloo Precinct presented in Section 4 is based on the following SA1's: – 1133801, 1133802, 1133804, 1133806, 1133838, 1133839, 1133841. The economic and employment profile is defined as the DZN 113381369 (ABS) and TZ 270 (NSW BTS). SA1's were not used for the economic analysis as Census data for Place of Work is not available at this level.

The forecasts presented in Section 6 refer to the refer to the Waterloo South only (highlighted by the blue boundary in the map below).

Demographic assessment – Waterloo Precinct	*Economic assessment – Waterloo Precinct*	*Forecasts – Waterloo South*
		

Waterloo State Significant Precinct (the Precinct)
Statistical areas that define the Waterloo Precinct
Waterloo South (forecast area)

6.3 Other definitions

Population servicing industries

- Retail Trade
- Accommodation and Food Services
- Rental, Hiring and Real Estate Services
- Public Administration and Safety
- Education and Training
- Health Care and Social Assistance
- Arts and Recreation Services
- Other Services