



**Macquarie Park Data Centre Campus  
IC3 Super West | State Significant  
Development Application**

---

# SOCIO-ECONOMIC IMPACT ASSESSMENT

**ASTROLABE GROUP**

October 2021

### ABOUT ASTROLABE GROUP

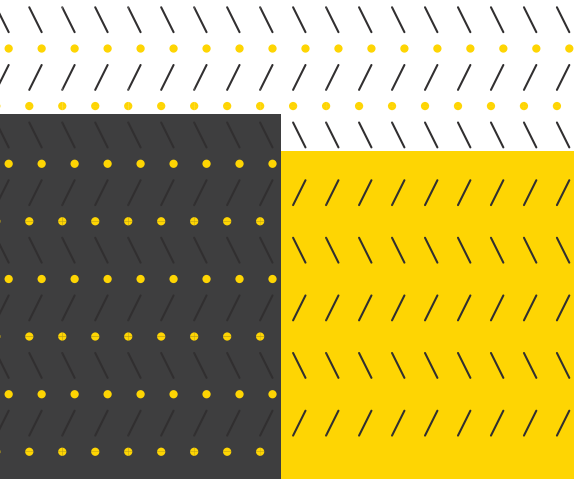
Astrolabe Group are the recognised experts in urban growth and change management with a uniquely empathetic approach to client and community.

This report was prepared for Macquarie Data Centres. In preparing the report, Astrolabe has made every effort to ensure the information included is reliable and accurate. Astrolabe is unable to accept responsibility or liability for the use of this report by third parties.

### ACKNOWLEDGMENT OF COUNTRY

In the spirit of reconciliation, Astrolabe Group acknowledges the Traditional Custodians of country and their connections to land, sea, and community.

For this project, we acknowledge the traditional custodians of this project as the Wallumedegal of the Dharug clan. We pay our respect to elders past, present and emerging and extend that respect to all Aboriginal and Torres Strait Islander people.



# EXECUTIVE SUMMARY

---

Astrolabe Group has prepared this socio-economic impact assessment to support the Environmental Impact Statement (EIS) prepared by Willowtree Planning PTY Ltd (Willowtree Planning).

The EIS has been submitted to the New South Wales (NSW) Department of Planning, Industry and Environment (DPIE), in support of an application for State Significant Development (SSD), for the construction and operation of a data centre, involving earth works, provision of infrastructure and expansion of an existing data centre at 17 – 23 Talavera Road, Macquarie Park (Lot 527 DP 752035).

The proposal represents an extension to the approved data centre (LDA/2018/0322) to allow for additional data storage capacity at the subject site, improving the overall operational efficiencies and provision of technology services to customers and the wider locality.

The proposal involves the construction and operation of an expansion to an existing data centre located at 17-23 Talavera Road, Macquarie Park (Lot 527 in DP 752035), comprising:

- a five-storey building
- ancillary office space and staff amenities
- a back-up power system
- associated infrastructure, car parking, loading docks and landscaping

The subject site is located within the City of Ryde Local Government Area (LGA). The proposal seeks to operate 24 hours per day, seven (7) days per week.

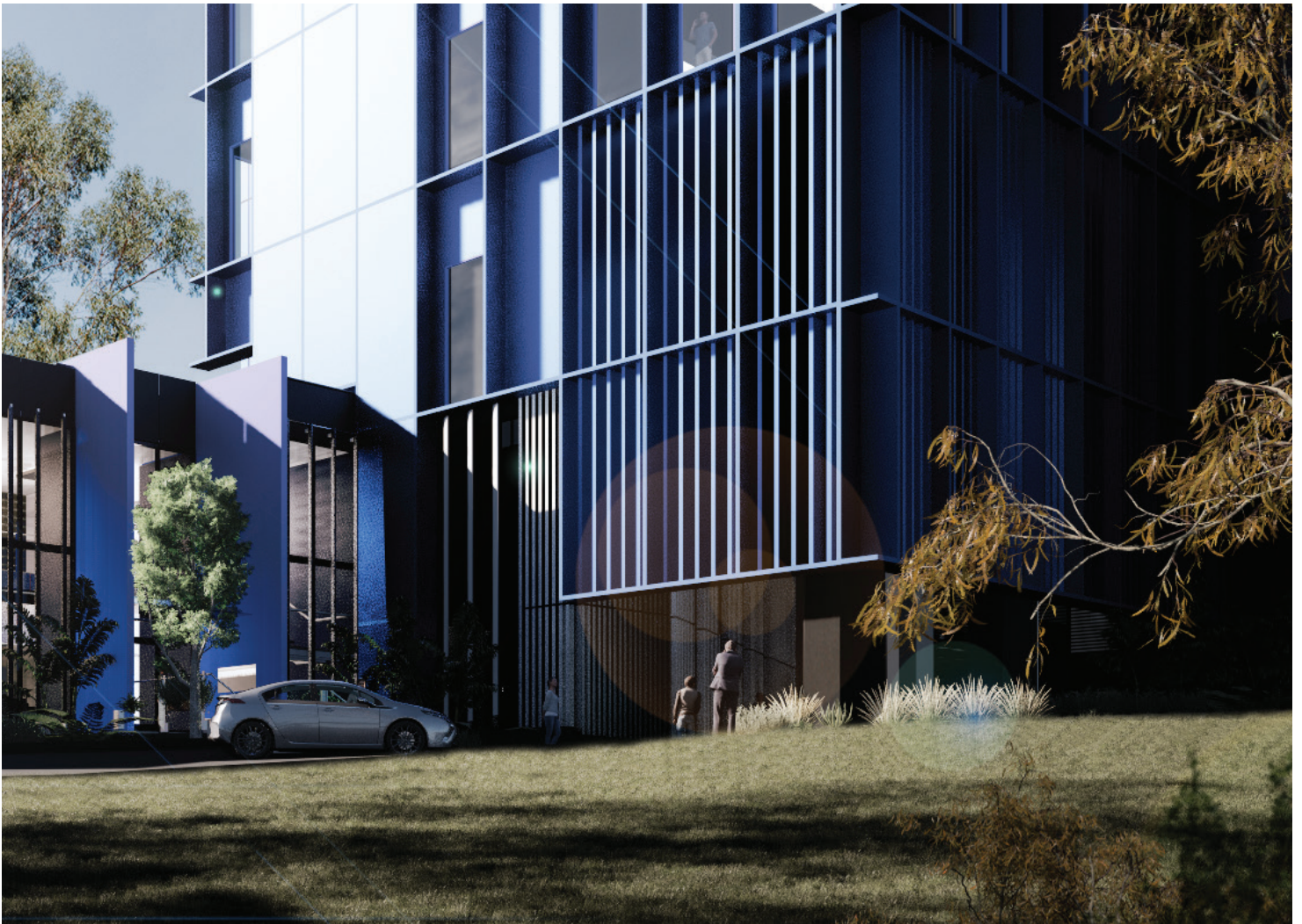
The particulars of this proposal are summarised below:

- Minor earthworks involving cut and fill works
- Infrastructure comprising civil works and utilities servicing
- Construction of a five (5) storey building extension, comprising up to:
  - 14 data halls
  - 18 back up generators
  - Fitout of the building for use as a data centre (on an as-needs basis)

This socio-economic impact assessment finds that the overall negative socio-economic impacts of the proposal is expected to be low, as the impacts on health and wellbeing, surroundings, and accessibility are not substantial, or expected to be limited to the immediate surrounding area during construction phase. The proposal is expected to have positive economic impacts, through job creation during construction and operation, as well as contributing to the vision of Macquarie Park as an Innovation District, and also providing services to business beyond the immediate surroundings through its digital reach. This assessment includes:

- A review of the surrounding community, including residents, businesses, and services
- Identification of local community values through the strategy and policy landscape
- Identification of surrounding land use within both existing and future context
- Identification of potential socio-economic impacts and how they will be distributed, in consideration of supporting technical studies.





# CONTENTS

---

5	Introduction
10	Existing environment
16	Property and land use
20	Socio-economic impact
25	Impact management measures
26	Appendices

# 1 INTRODUCTION

## 1.1 Report purpose

Astrolabe Group have been appointed by Macquarie Data Centres (MDC) to undertake the socio-economic impact assessment for the proposed development of the Macquarie Park Data Centre Campus IC3 Super West site at 17-23 Talavera Road, Macquarie Park (the proposal).

This socio-economic assessment serves to support the State Significant Development Application (SSDA) relating to the proposed development.

## 1.2 Secretary’s Environmental Assessment Requirements

This socio-economic assessment is prepared in accordance with the Secretary’s Environmental Assessment Requirements (SEARs). The SEARs for the proposal outline ‘Key Issues’ to be addressed as part of this EIS. The following SEARs are addressed within Table 1.

SEARs Items	Secretary’s Environmental Assessment Requirements	Response
Key Issues	<p>Socio-economic – including:</p> <ul style="list-style-type: none"><li>an analysis of any potential economic impacts of the development, including a discussion of any potential economic benefits to the local and broader community.</li></ul>	<p>This report, specifically includes:</p> <ul style="list-style-type: none"><li>Review of the existing environment (community demographic profile, social infrastructure and community values) in Section 2.</li><li>Analysis of socio-economic impacts during the construction and operation phases of the proposal in Section 4.</li><li>Identification of mitigation and management measures for identified impacts in Section 5.</li></ul>

Table 1 Secretary’s Environmental Assessment Requirements

### 1.3 Site description and context

The site is described as Lot 527 DP 752035, commonly known as 17 – 23 Talavera Road, Macquarie Park. The site has a total area of approximately 20,000sqm, with access achieved via Talavera Road.

The site forms part of the Macquarie Park Corridor, which is the strategic centre of Macquarie Park, being a health and education precinct and an important economic and employment powerhouse in Sydney's North District (Figure 1).

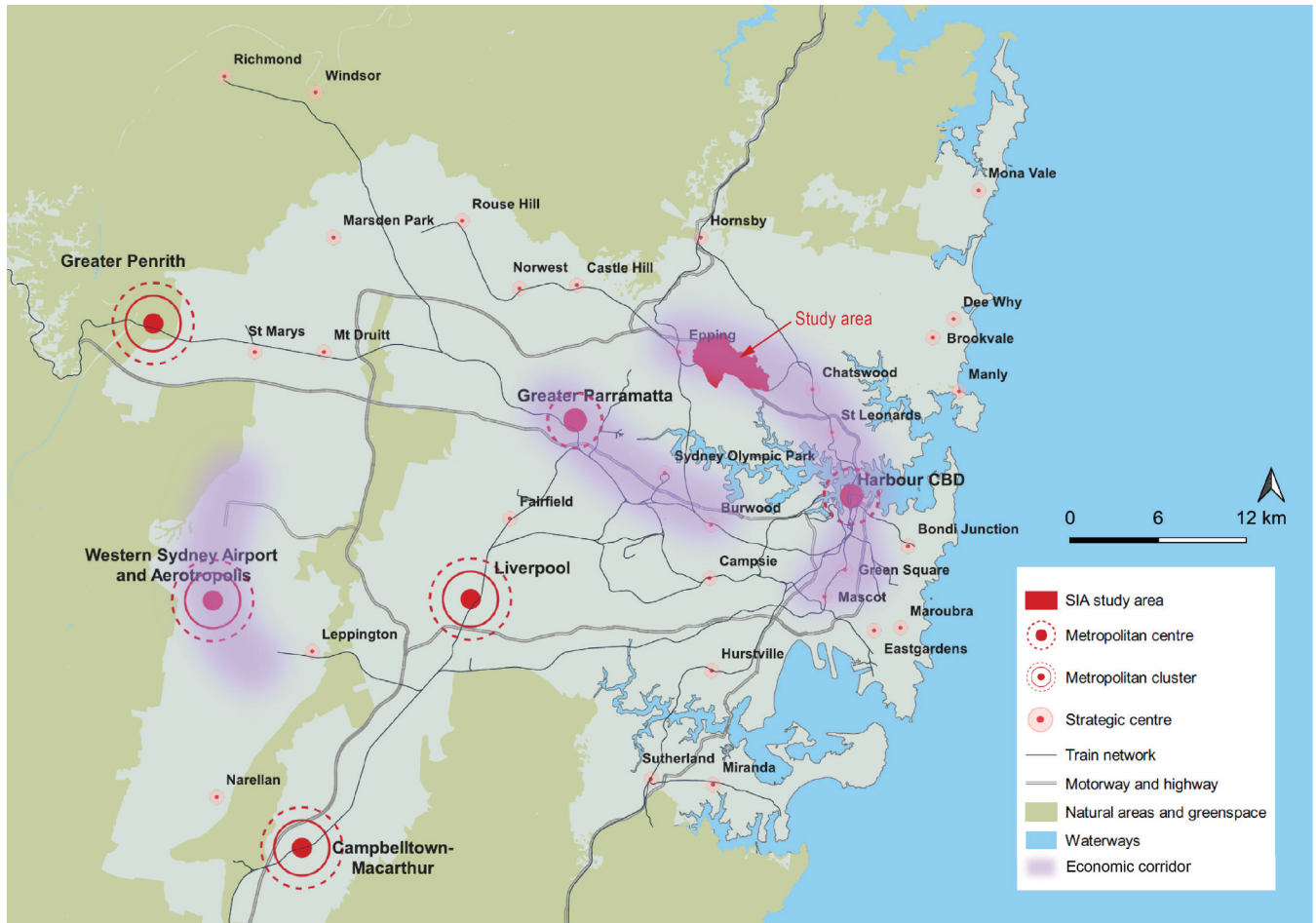


Figure 1 Metropolitan Sydney Context

The site is described through its current commercial setting as an existing Data Centre (LDA/2018/0322), adjoining surrounding commercial premises along Talavera Road, and forming part of the wider Macquarie Park Corridor.

The site is situated approximately 12.5 km northwest of the Sydney CBD and 11.3 km northeast of Parramatta. It is within close proximity to transport infrastructure routes (predominantly the bus and rail networks), as well as sharing direct links with the wider regional road network, including Talavera Road, Lane Cove Road, Epping Road and the M2 Motorway (Figure 2).

These road networks provide enhanced connectivity to the subject site and wider locality. Additionally, the site is located within close proximity to active transport links, such as bicycle routes, providing an additional mode of accessible transport available to the subject site.



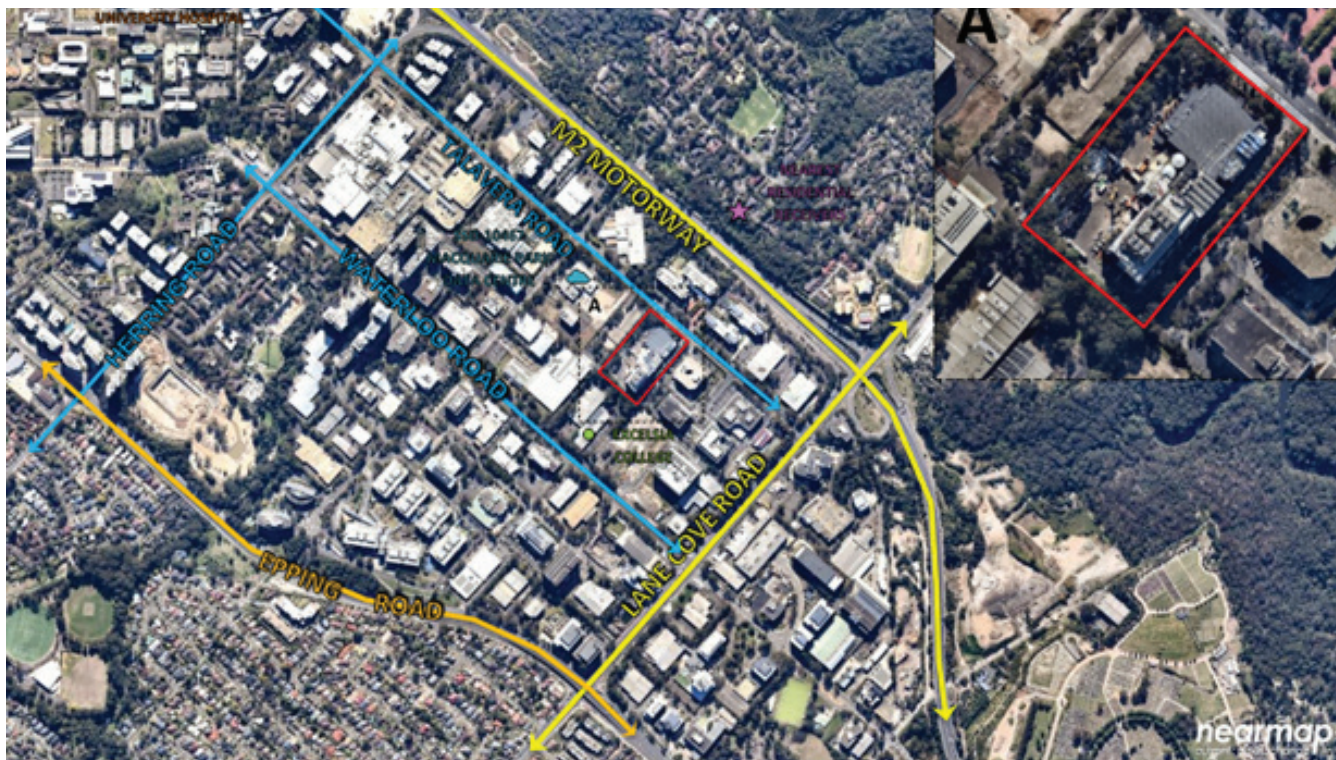


Figure 2 The site: 17 – 23 Talavera Road, Macquarie Park, being Lot 527 DP 752035

## 1.4 Study area

The study area chosen for this socio-economic assessment is the Statistical Area Level 2 (SA2) 'Macquarie Park-Marsfield'. As defined by the Australian Bureau of Statistics, SA2s are areas that 'represent a community that interacts together socially and economically'. This geographic extent captures the area of immediate social and economic impacts. The extent of the study area is identified in Figure 3.



Figure 3 The site: 17 – 23 Talavera Road, Macquarie Park, being Lot 527 DP 752035

1 Australian Bureau of Statistics (2016), Australian Statistical Geography Standard (ASGS): Volume 1 – Main Structure and Greater Capital City Statistical Areas, July 2016, [<link>](#) (accessed 10/9/2021)



## 1.5 Methodology

This socio-economic impact assessment has assessed the direct and indirect impacts and benefits of the proposal by:

- Understanding the surrounding community, including residents, businesses, and services
- Identifying local community values through the strategy and policy landscape
- Highlighting surrounding land use within both existing and future context
- Identifying potential socio-economic impacts and how they will be distributed, in consideration of supporting technical studies

Socio-economic impacts can be analysed using quantitative (population growth and employment measures and projections) and qualitative (sentiment and attitude) methods. This assessment has utilised both approaches based on relevance and the quality of available data. No new data has been developed as part of this socio-economic impact assessment. Data has been drawn from the following sources:

- ABS Census Data
- Transport for New South Wales population and employment projections
- Greater Sydney Commission (2018) North District Plan
- NSW DPIE (2021) Draft Macquarie Park Place Strategy
- City of Ryde (2020) Local Strategic Planning Statement
- City of Ryde (2018) Community Strategic Plan 2028
- Greater Sydney Commission (2020) City Shaping Impacts of COVID-19.

This socio-economic assessment has evaluated potential impacts through the process identified in the Technical Supplement: Social Impact Assessment Guideline for State Significant Projects (Department of Planning, Industry and Environment, 2021). This process involves a standardised matrix approach that considers likelihood and magnitude of potential impacts. The following dimensions were considered in understanding potential impacts:

- Likelihood – ranging from very unlikely to almost certain
- Extent – who will be affected, what is the geographic extent of these impacts?
- Duration – when will the impacts likely occur?
- Severity or scale – what is the degree of change?
- Intensity or importance – how vulnerable are the affected? How do they value the matter being impacted?
- Level of concern/interest – how concerned are people?

Considering these dimensions to determine the likelihood and magnitude of potential impacts, the



following matrix has been used to determine their significance.

		Magnitude level				
		1	2	3	4	5
Likelihood level		Minimal	Minor	Moderate	Major	Transformational
A	Almost certain	Low	Medium	High	Very High	Very High
B	Likely	Low	Medium	High	High	Very High
C	Possible	Low	Medium	Medium	High	High
D	Unlikely	Low	Low	Medium	Medium	High
E	Very unlikely	Low	Low	Low	Medium	Medium

Table 2 Impact significance matrix (Source: Social Impact Assessment Guideline for State Significant Projects, Department of Planning, Industry and Environment, 2021)

## 1.6 Stakeholder engagement

Engagement was undertaken with key stakeholders as required by the SEARs. The process involved the following activities (details in Community and Stakeholder Engagement Report):

- Local resident and business community letterbox drop and email notification – providing information about the proposal and invitation to Online Community Information Session
- Online Community Information Session – held on 8 September 2021 to provide a platform for key stakeholders to understand more about the proposal and ask any questions or provide feedback
- Key stakeholder session – letters were sent to key agencies offering an opportunity for engagement to discuss concerns and relevant matters. One session was held with Ryde City Council
- Community information website developed with online feedback form.

# 2 EXISTING ENVIRONMENT

## 2.1 Demographic profile

The following profile presents relevant community characteristics to identify high-level insights on the study area’s population, for consideration in the assessment of potential impact significance. A comparison table of the study area’s demographic profile alongside Greater Sydney can be found in Appendix A.

### Community

In 2020, the total population of the study area was 25,192. The age profile of the study area is younger when compacted to Greater Sydney, with a significantly larger working age population percentage (74.5% and 67.2%) and lower median age (32.2 and 36.3) (Figure 4).

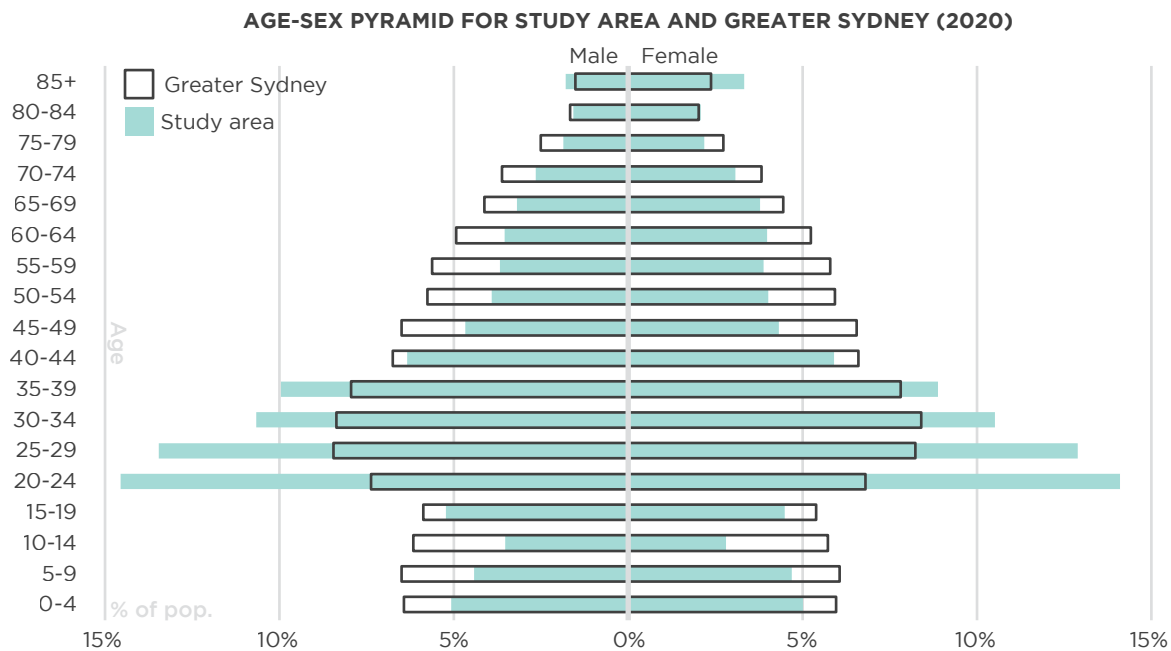


Figure 4 Source: Estimated regional population, ABS 2021

Macquarie Park has a lower proportion of Aboriginal and Torres Strait Islander residents (0.3%) when compared with the Greater Sydney (1.5%). The population of overseas-born residents in Macquarie Park however is notably higher than Greater Sydney, at 58% and 43% respectively, with the study area’s most common regions of birth being Asia and the Middle East. English proficiency of the study area’s population is generally high, at less than 2 percentage points lower than Greater Sydney’s 91.2%.

Education attainment levels in Macquarie Park is higher than Greater Sydney, with 59% of people holding post-school qualification, compared to Greater Sydney’s 49.7%. The unemployment rate is however higher in the study area (9%, compared to 6% in Greater Sydney). This may be reflective of the student population living in the study area attending Macquarie University.

Journey to Work data illustrates that a higher proportion of the study area’s residents use public transport to get to work (31%) than the Greater Sydney total (23%).

Overall, the study area has a lower average household size than Greater Sydney, at 2.25 and 2.8 people per household respectively. The study area also has slightly lower median weekly household income at \$1,645, compared to Greater Sydney’s \$1,750.

Local economy

The top 5 industries of employment for the study area’s working residents are shown in Figure 5, which includes Professional, Scientific and Technical Services, Health Care and Social Assistance, Education and Training, Retail Trade, and Accommodation and Food Services.

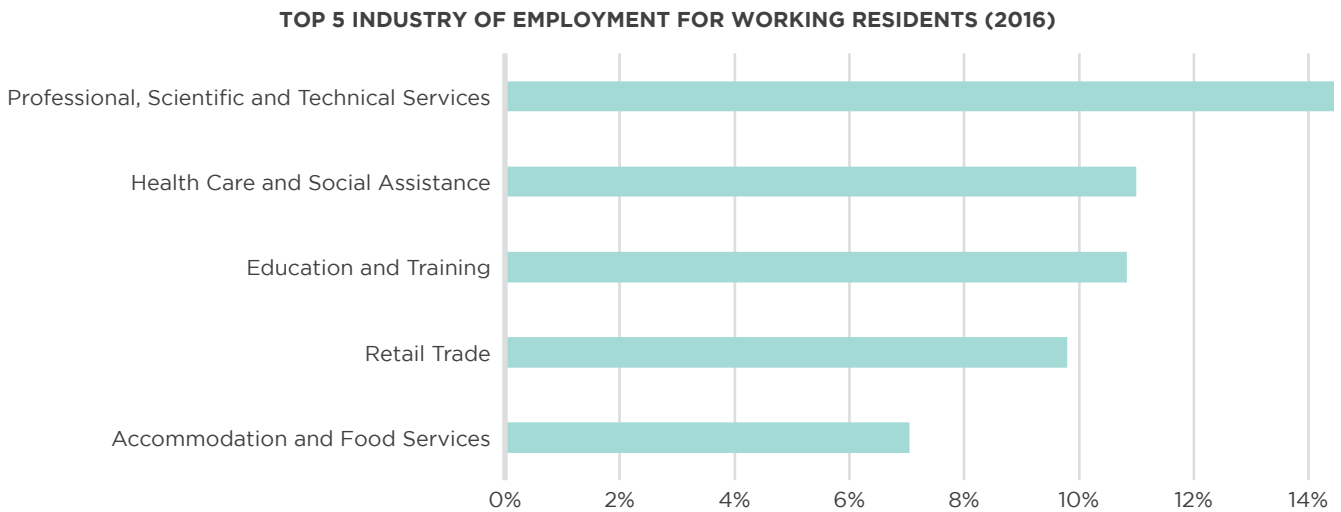


Figure 5 Source: Industry of Employment (Place of usual residence), 2016 Census

In terms of the study area’s local economy, the top 5 employing industries are Wholesale Trade, Information, Media and Telecommunication, Professional, Scientific and Technical Services, Education and Training, and Health Care and Social Assistance.

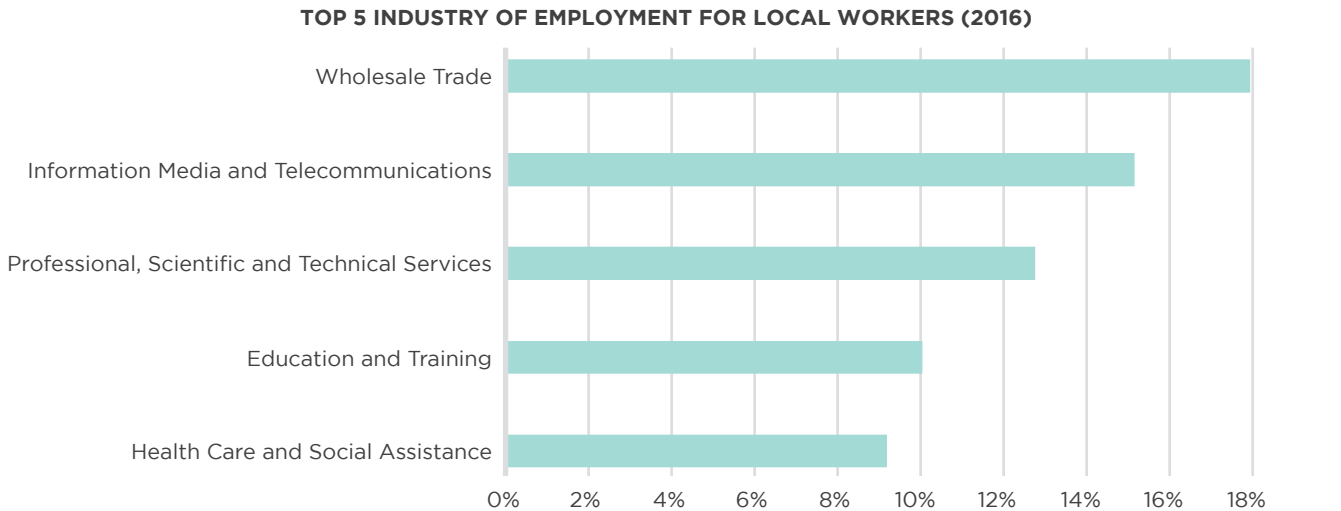


Figure 6 Source: Industry of Employment (Place of work), 2016 Census



Built environment

At the time of the 2016 Census, the study area was predominantly characterised by lower density development, with 54% of dwellings being separate houses, semi-detached or town houses (Figure 7). Recent years however have seen a shift in development patterns, with numerous higher density residential projects being developed, or under construction since 2018.

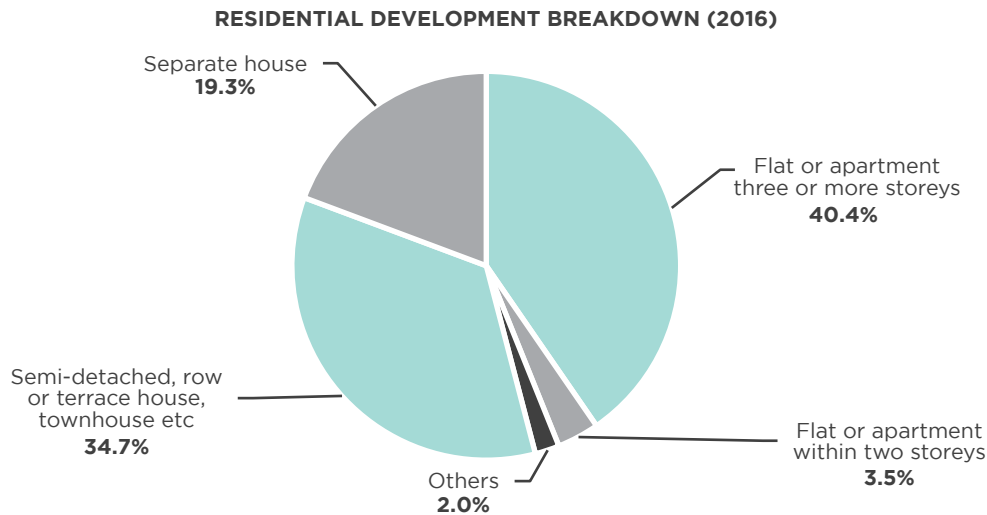


Figure 7 Source: Dwelling Structure (Place of enumeration), 2016 Census

Projected community change

According to Transport for NSW population projections, Macquarie Park is expected to experience substantial population growth to 2036 (approximately 128% from 2020), whereas Greater Sydney is expected to grow by 23% overall. The projected age structure of the study area is expected to shift to a slightly older demographic, as 15 – 34 years olds decrease as a proportion of the total population, and 35 – 54 year olds increase.

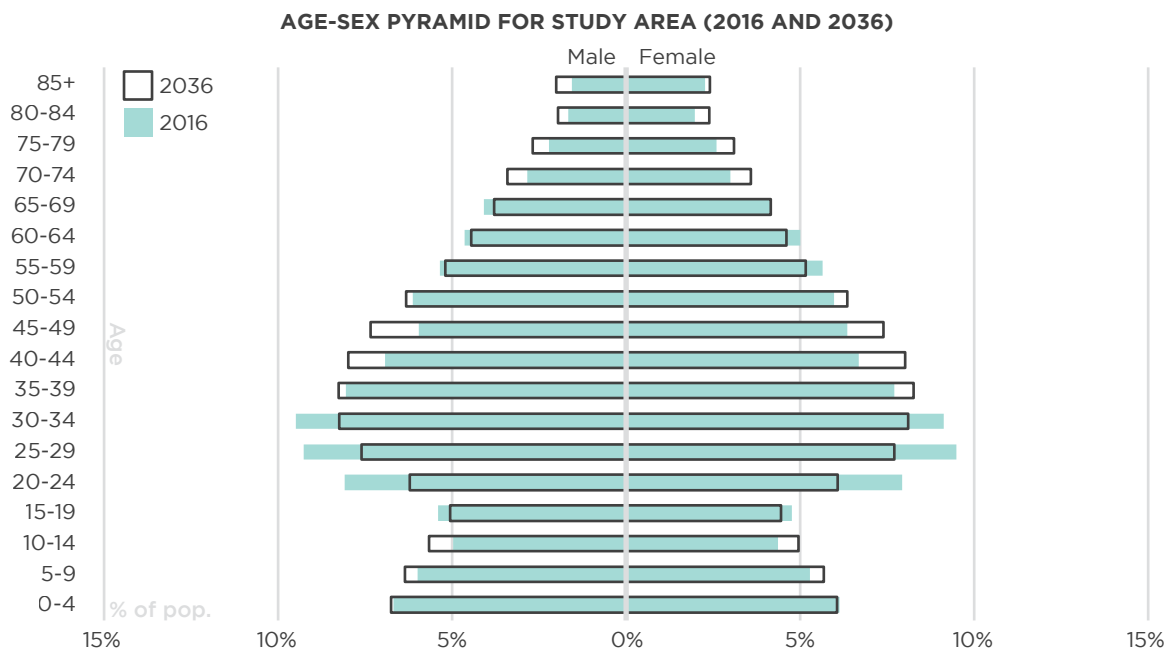


Figure 8 Source: Travel Zone Projections 2019, Transport for NSW 2020

Transport for New South Wales employment projections demonstrate a slight shift in the study area's local economy to 2036, with Professional, Scientific and Technical Services projected to overtake Information, Media and Telecommunications as the second largest industry employing local workers. Similarly, Health Care is expected to experience greater growth when compared to Education and Training, with the former increasing its share of local employees by approximately 3 percentage points, whilst the latter remains at 10%.

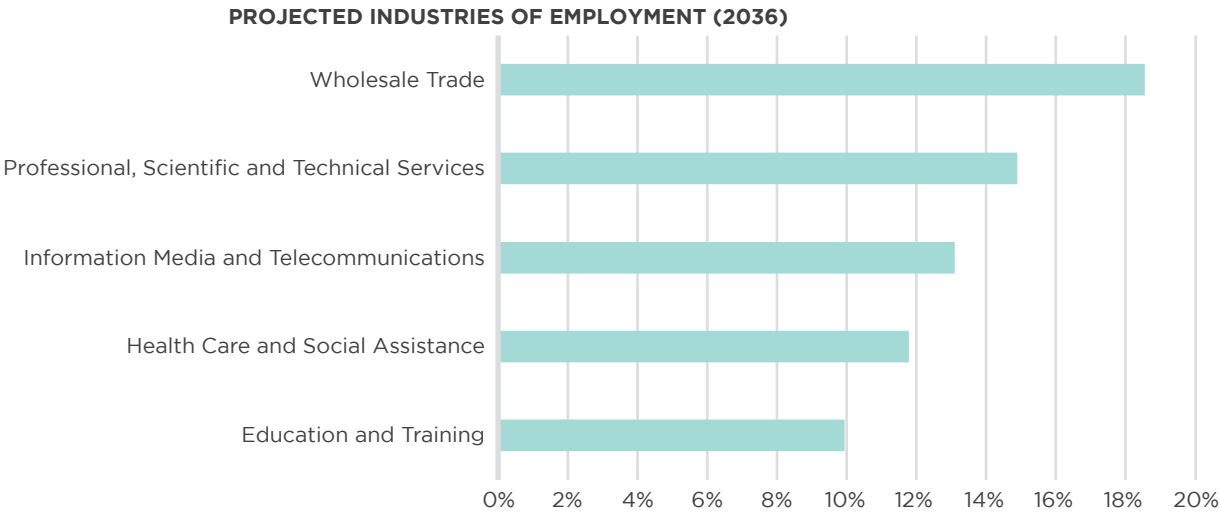


Figure 9 Source: Travel Zone Projections 2019, Transport for NSW 2020

## 2.2 Social infrastructure and potential sensitive receivers

Social infrastructure is made up of facilities, spaces, networks, and services that support the delivery of social services. Social infrastructure falls into six categories:

- Education
- Health and aged care
- Arts and culture
- Social housing
- Green, blue and recreation
- Justice and emergency services<sup>2</sup>

In addition to these categories of social infrastructure, other potential sensitive receivers in Macquarie Park include: accommodation, hospitality venues, places of worship and retail premises. These are places that people visit regularly or stay for extended periods of time.

<sup>2</sup> Infrastructure Australia, '*Reforms to meet Australia's future infrastructure need: 2021 Australian Infrastructure Plan*', (August 2021)

The social infrastructure and potential sensitive receivers located within an immediate 1 km radius of the Macquarie Park Data Centre site is shown in Figure 10. A table of each facility and its distance from the site can be found in Appendix B.

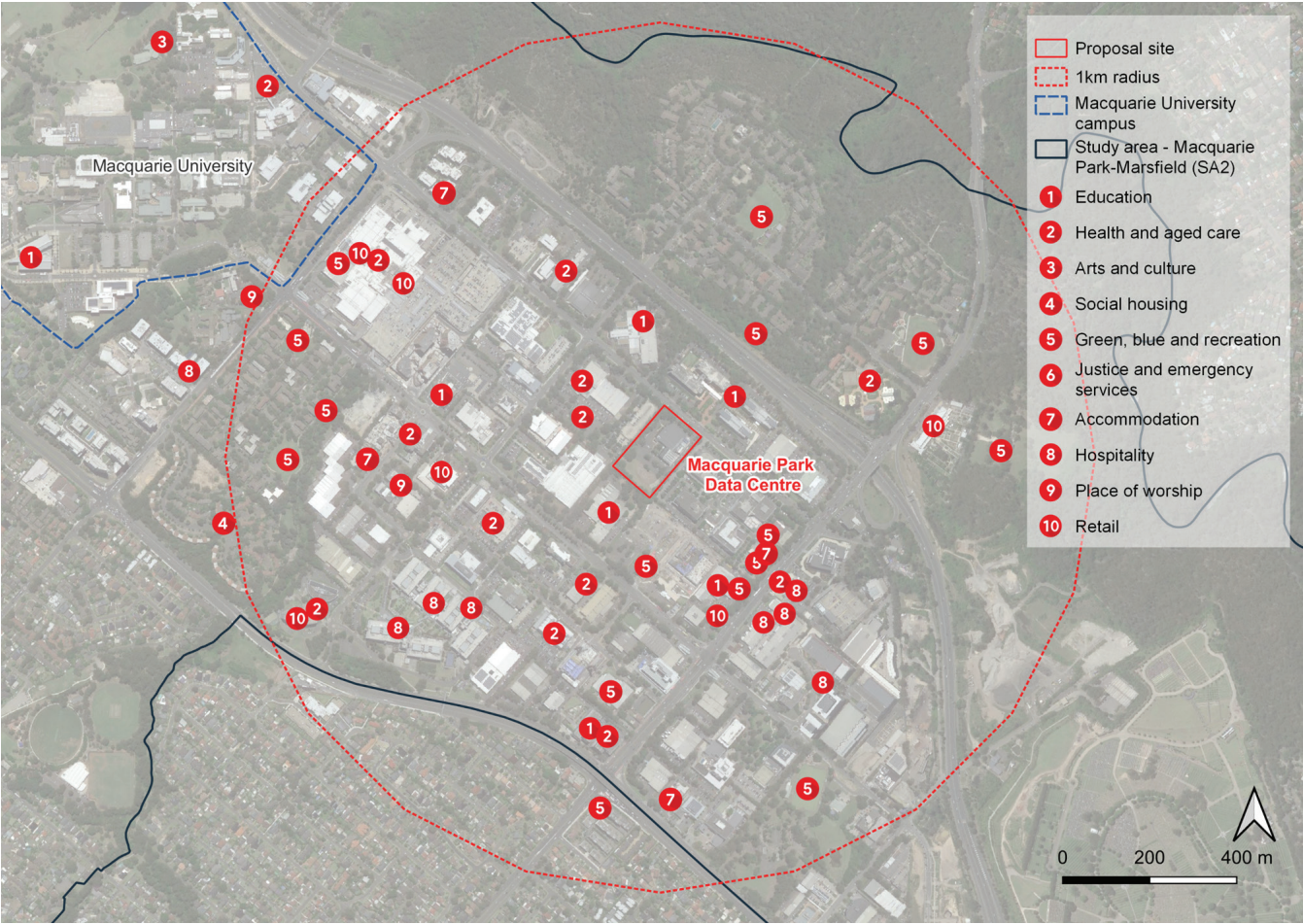


Figure 10 Location of social infrastructure and potential sensitive receivers within 1km catchment of the site (Source: Google API and SIX NSW, 2021)

New development that is bringing new social infrastructure and development within 1 km of the site is reviewed in Section 3.2.

The Ivanhoe Estate, located to the west of the site on the 1 km radius boundary, is a social housing estate currently under redevelopment. When complete, the site will support a mix of private, social and affordable housing dwellings.

### 2.3 Social infrastructure and potential sensitive receivers

This section identifies community values for the broad study area – Macquarie Park and the City of Ryde Local Government Area. Community values are perspectives and principles that are commonly shared, informing a shared direction, a sense of common goals, and a long-term commitment to place.

A review of strategic land use plans was undertaken to identify elements of community sentiment and values relevant to the proposal. This review included recent reporting on how behaviours and attitudes in Sydney have changed in relation to impacts of the ongoing management of COVID-19.



Strategic land use plans are developed in consultation with the community and therefore capture the values the community hold and reflect the community's aspirations and expectations of Macquarie Park in the future.

Documents that informed this understanding of community values are listed in Section 1.5. The review of documents found the following themes representing the community's values and expectations for the future.

### **Growth and change in Macquarie Park**

It is widely expected and accepted that Macquarie Park is part of the Eastern Economic Corridor and that it is a place that will experience significant growth in the number of residents and workers in the area and change in the scale and type of urban development in the future. Macquarie Park is a significant employment centre and supports businesses and activities aligned with research and innovation.

### **Supporting and enabling digital technology**

Digital technology is vital infrastructure which enables ways to connect and do business and universal access is needed. Digital technology services accommodate growing demand and provide more reliable and secure connections.

The Greater Sydney Commission's, City-Shaping Impacts of COVID-19 identifies that digital infrastructure plays an equally essential role in achieving the 30-minute city vision as transport infrastructure. The report estimates 47% of Greater Sydney's employees are able to work from home and require supporting digital infrastructure to do so – felt more strongly in the Eastern Harbour City, which has a high proportion of workers in the knowledge economy. This report identifies increasing local demand for data centres to support and cater for increasing reliability on secure connectivity, driven by data-intensive industry sectors including financial services, internet and tech companies.

The proposal is consistent with these community values and expectations for the future. The proposal supports the application of digital technology in the daily lives of many businesses and individuals across the broader community.

# 3 PROPERTY AND LAND USE

## 3.1 Current context

The site is currently zoned B7 Business Park under the 'Ryde Local Environmental Plan 2014' (Figure 11). Adjacent sites are also zoned B7 Business Park and B3 Commercial Core, which enables development for employment opportunities, including retail, businesses, offices, and particularly for industries involved in research and development.

Surrounding development includes large office buildings with landscaping and carparking on site, typical of the Macquarie Park business precinct character.

There is an existing data centre on the site, which is currently in operation. Macquarie Data Centres have operated existing data centres on the site since 2012. The proposal is consistent with the character, development and activities in the Macquarie Park area.

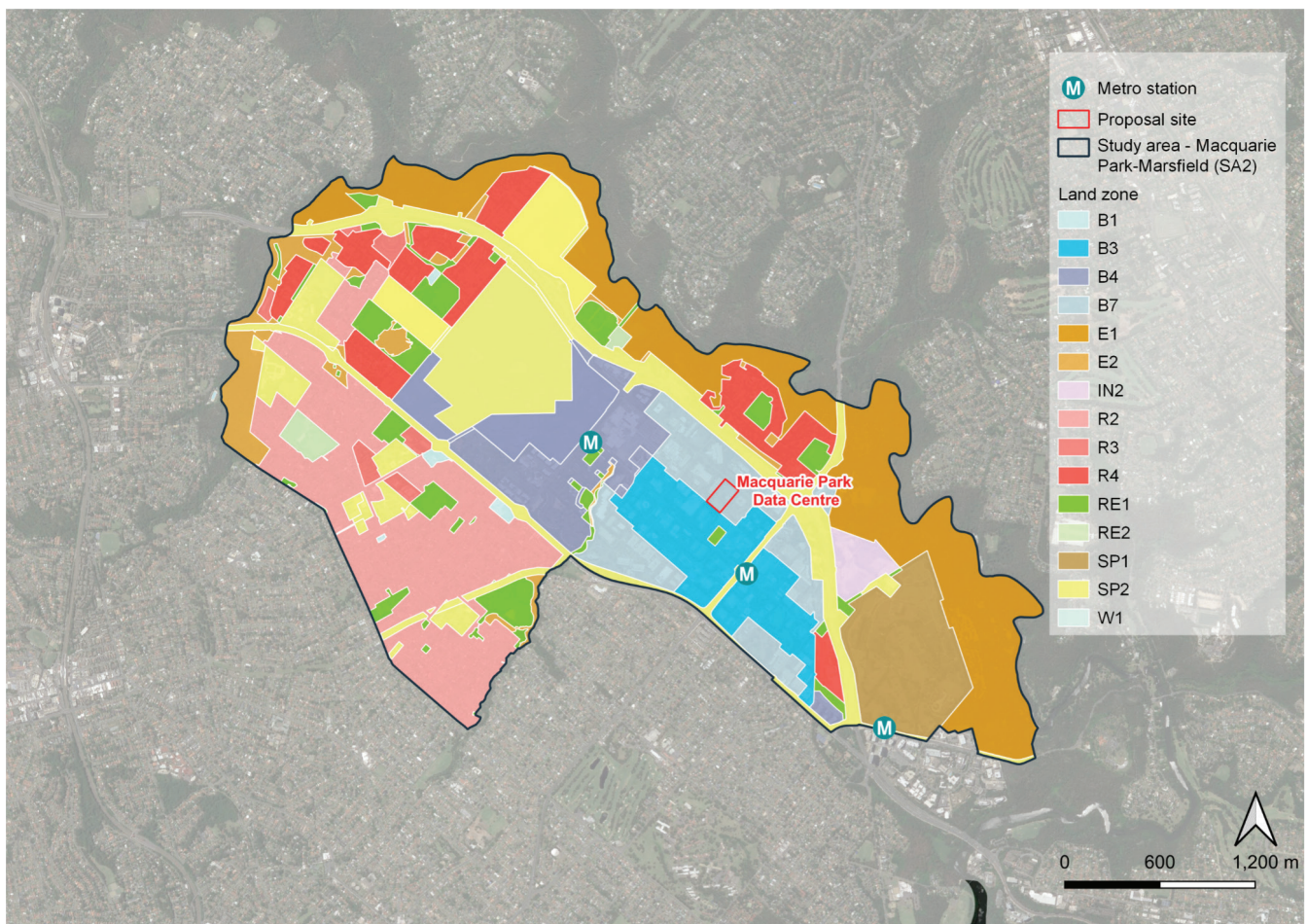


Figure 11 Land use zones in the Macquarie Park area (Source: NSW Planning Portal, 2021)

## 3.2 Future context

### Strategic plans

Macquarie Park has been identified as a place of growth and change over the coming years. The suite of State and local strategies and plans describe the future vision for the area to be a key strategic centre supporting a range of employment, research and innovation activities that enhance the economic productivity of Greater Sydney.

Redevelopment and activation is planned for Macquarie Park to support a growth in jobs, particularly in knowledge and research sectors, and accommodate more residents living in and around the centre over the next 20 years.

The proposal is consistent with this future vision for Macquarie Park and compatible with its transition into an 'innovation district'.

#### Greater Sydney Commission (2018) North District Plan

The '*North District Plan*' is a strategic land use document for the nine Local Government Areas which make up the North District. '*The North District Plan*' sets 24 planning priorities to advance the liveability, productivity and sustainability of the North District, towards delivering on the 30-minute vision outlined in '*A Metropolis of Three Cities*'.

The '*North District Plan*' identifies Macquarie Park as a strategic centre and health and innovation precinct. The growth of Macquarie Park is central to enhancing the economic productivity of the Eastern Economic Corridor, which stretches from the Harbour CBD to North Sydney. Macquarie Park is the largest non-CBD office market in Australia and is set to become Australia's fourth largest commercial precinct by 2030. By 2036 the '*North District Plan*' anticipates supporting between 73,000 (baseline target) and 79,000 (higher target) jobs by 2036 – an additional 15,000-19,000 jobs on 2016 estimates.

The proposal contributes to the following '*North District Plan*' Planning Priorities:

- N8: Eastern Economic Corridor is better connected and more competitive
- N9: Growing and investing in health and education precincts
- N10: Growing investment, business opportunities and jobs in strategic centres
- N12: Delivering integrated land use and transport planning and a 30-minute city
- N13: Supporting growth of targeted industry sectors.

#### Draft Macquarie Park Place Strategy

Released in July 2021, the Draft Macquarie Park Place Strategy guides the transformation of Macquarie Park over the next 20 years. The central objective of the Draft Place Strategy is to accelerate the delivery of the Macquarie Park Innovation District outlining a framework for place prioritising new connections and open spaces, supporting the creation of an additional 20,000 jobs in Macquarie Park by 2041.

The Draft Place Strategy is supported by a masterplan that details design criteria and place character for seven neighbourhoods. The site is located in the North Park (Ngalawala) neighbourhood: 'A commercial neighbourhood with a new activity hub supported by the Metro station and a diversified local centre. A restored Industrial Creek will provide a focus to connect quality open spaces. A new cluster of public uses will encourage places for gathering and meeting'.

North Park (Ngalawala) is primarily a commercial neighbourhood area, with new commercial activity hubs supported by the Metro station anticipated to generate over 4,000 new jobs over the next 20 years.

The proposal aligns with the characteristics of this commercial neighbourhood.



### **City of Ryde (2020) Planning Ryde: Local Strategic Planning Statement**

Planning Ryde is the City of Ryde's 20-year vision and key guiding document for local land use planning. The LSPS vision statement, developed from community feedback, sets the intentions for the City of Ryde over the next 20 years. The LSPS identifies planning priorities across four domains: infrastructure and collaboration, liveability, productivity, and sustainability. Actions for Macquarie Park look to provide opportunity for local enterprise, small business, start-ups and the creative economy.

The proposal contributes to the following LSPS planning priorities:

- IN1 Align growth with infrastructure: Provide sufficient infrastructure to support current and future population growth
- EM2 Ensure the City of Ryde LGA is well-designed and planned to encourage new investment, local jobs and business opportunities in an environment of innovation, progression and economic growth

### **City of Ryde (2018) Community Strategic Plan 2028**

The Community Strategic Plan is the closest document to the community's view and vision of place. The Community Strategic Plan for the City of Ryde identifies seven key categories for Council to deliver on the community's vision for social, economic and environmental outcomes.

Of particular relevance to the proposal is *'Our smart and innovative city: The City of Ryde is designed and planned to encourage new investment, thriving local businesses, local jobs and business opportunities. Community and businesses flourish in an environment of innovation, progression and economic growth'*.

The proposal is consistent with and supports establishing Macquarie Park's role as a *'leading commercial centre and innovation district'*.

### **Neighbouring proposed development**

Major projects and major development applications (DAs) that have been approved and submitted over the past three years demonstrate the change that is occurring in Macquarie Park, consistent with the vision described in State and local strategies and plans. These are shown in Figure 12.

There have been a few major DAs surrounding the site for commercial developments. Immediately adjacent to the site, a major project for a data centre has been approved. The proposal is consistent with other developments proposed and being built in the study area, contributing to the planned growth and change of Macquarie Park to an Innovation District.

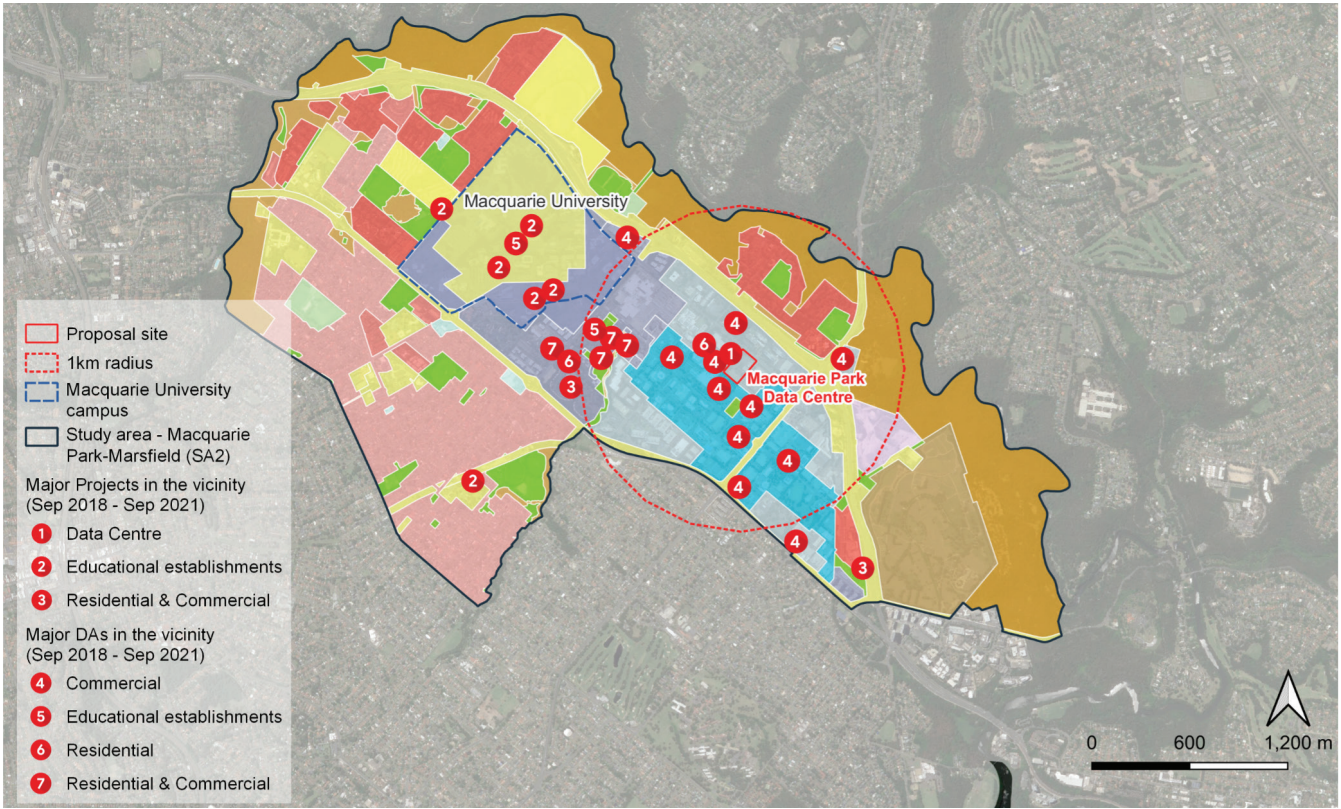


Figure 12 Location and nature of major projects and major Das (Source, NSW Planning Portal, 2021 and Ryde Council DA tracking, 2021)

## 4 SOCIO-ECONOMIC IMPACTS

---

The proposal is expected to have the greatest negative impact during the construction phase, which will be limited to the site's immediate surroundings. As surrounding development is low scale, with low density of people, the magnitude of these impacts are expected to be relatively low, and can be managed with plans to mitigate certain construction activities.

Overall, long term socio-economic impacts of the proposal are expected to be positive, with benefits to be felt by groups extending beyond the immediate study area, through the enhanced digital connectivity and broad economic benefits realised in operation.

The impacts of the proposal on the local community, economy, and place has been assessed in regard to the social elements of value to people, as identified in DPIE's *'Social Impact Assessment Guidelines'*<sup>3</sup>. This includes health and wellbeing, surroundings, accessibility and community. Details of impacts can be found in accompanying specialist reports.

### 4.1 Health and wellbeing

#### Noise and vibration impacts

The Noise and Vibration Report provides an assessment of potential noise and vibration at sensitive receivers located near the site during construction and assessment of operational noise levels during operation.

Exposure to noise and vibration at high levels or for sustained periods can create annoyance, and/or interfere with concentration, ability to carry out activities or sleep. There can also be longer term health impacts from excessive exposure to noise and vibration.

Noise and vibration assessments were undertaken for the proposal's construction phase. Predicted noise levels were assessed in accordance with the NSW Noise Policy for Industry (EPA 2017). During construction neighbouring developments, including sensitive residential developments, are expected to be exposed to noise however the implementation of noise mitigation measures will mitigate these impacts resulting in no neighbouring receivers being predicted to be highly noise affected.

Out of standard construction hours activities (Period 1) is expected to have slightly above the noise management levels for neighbouring receivers immediately to the south-west of the site, which includes an educational premises, Excelsia College at 63-71 Waterloo Road. Noise mitigation measures will assist in reducing noise levels as much as possible during this period.

Construction traffic to and from the proposal site on public roads is predicted to be insignificant, therefore having negligible impact.

There is a low risk of vibration impact during the construction phase.

<sup>3</sup> Department of Planning, Industry and Environment, 'Social Impact Assessment Guideline for State Significant projects', (July 2021)



Operation of the proposal is modelled to have very little to no impact on surrounding receivers and is predicted to comply with the applicable policies and guidelines.

The significance of noise and vibration impacts on the community is **low to medium**.

### Air quality

The main potential sources for air emissions identified in the Air Quality Impact Assessment (AQIA), are:

- Suspended particulate matter and deposited dust during the construction stage
- Particulate matter during the operational stage
- The dispersion of emissions due to emergency conditions (on the occasion that there is a loss of all feeders to the site, requiring generators to operate simultaneously)

A total of nine representative sensitive receptors were identified in undertaking the AQIA, with the closest located approximately 120 metres from the proposal. The representative sensitive receptors included childcare centre outdoor areas, residences (ranging from ground floor to seventh floor) and air intakes up to 900m from the proposal site.

The AQIA found that during both construction and operational phases, the risk of dust emissions and ambient air quality exceeding the relevant criteria and causing nuisance to sensitive receptors is unlikely.

In the event that emergency conditions occur, and all generators operate simultaneously, there is a low chance that air quality compliance requirements will not be met at one sensitive receiver. The AQIA suggests however, that the likelihood of this occurring is vanishingly small.

Overall, the significance of air quality impacts during construction and operation is **low**.

As the significance of noise and vibration, and air quality impacts are low to medium, are limited to the construction phase, and mitigation measures have been recommended to further lessen the impact, it is expected that the socio-economic impact of the proposal on health and wellbeing are **low**. Socio-economic impact managements measures can be found in Section 5.

## 4.2 Surroundings

### Visual amenity impacts

The proposal site sits adjacent to an existing data centre, the recently completed 'IC3east' extension. The proposal will tie into this existing building, extending the development footprint to the north and west. As the proposal is situated within a highly urbanised area close to the commercial core of Macquarie Park, surrounding developing is characterised by large, multi-storey commercial offices, data centres and educational facilities, consistent with the character of a business precinct. Site and aerial analysis show that the proposal is not out of character for the site or the surrounding area.

There is a **low** risk of vibration impact during the construction phase.

At approximately 44m tall at completion, the proposal will be the same height as the existing IC3east. Seven viewpoints were used in assessing the proposal's visual impact, with a summary of significance at each viewpoint as follows:

- Talavera Road (North), Macquarie Park: **minor negligible**
- Talavera Road (East), Macquarie Park: **moderate/minor**
- Macquarie Gardens, 1-15 Fontenoy road, Macquarie Park: **moderate/minor**
- Waterloo Road, Macquarie Park: **minor**
- 54 Waterloo Rd (Novartis), Macquarie Park: **moderate/minor**
- Natura Apartments, 82 Waterloo Road, Macquarie Park: **minor**
- 8 Khartoum Rd, Macquarie Park: **minor**

The Visual Impact Assessment (VIA) notes that where overall significance is predicted to be moderate or higher, the likely impact is considered substantial, therefore where the significance is considered moderate/minor and below, impacts are not considered to be substantial. As a result, none of the viewpoints are assessed as being significantly impacted in regard to visual amenity. This is largely due to the receptors within the immediate area having low sensitivity, or the baseline view already containing other highly visible developments.

Overall, the significance of visual amenity impacts is **low**. It is expected that the socio-economic impact of the proposal on surroundings are **low**.

## 4.3 Accessibility

### Traffic impacts

The Transport Impact Assessment (TIA) and Preliminary Construction Traffic Management Plan (PCTMP) assesses impacts of the proposal on traffic and parking during construction and operation phases. The PCTMP and TIA note the following:

- During the construction phase, it is expected that there will be 7 vehiclea (7 in; 7 out) per hour during the busiest period. This level of traffic movement is not expected to cause any discernible adverse impacts to the state road network
- A total of 71 car parking spaces will be provided on-site for workers, which is expected to exceed the peak parking demand of approximately 58 spaces
- Three accessible parking space is proposed, in compliance with Council's Development Control Plan (DCP)
- The proposal will provide a total of eight on-site bicycle parking spaces
- At a maximum of 23 vehicle trips per hour during AM and PM peak, it is expected that the proposal's impact on traffic will be negligible, having no noticeable impacts on the surrounding road network

Overall, the significance of traffic impacts is **low**. It is expected that the socio-economic impacts of the proposal on accessibility are **low**.

## 4.4 Community

### Community values

The proposal generates positive impacts for the local Macquarie Park community and aligns with its values and expectations for the future in relation to growth and change in Macquarie Park.

The proposal is consistent with the Community Strategic Plan vision for the City of Ryde. The data centre expansion will support positive socio-economic impacts across the seven identified categories, it is most relevant to the category '*Our smart and innovative city*'.

The proposal supports community aspirations for Macquarie Park as home to world-class businesses, innovation, research and education precinct. The proposal also aligns with improved movement and place outcomes for Macquarie Park, noting its strategic location next to Macquarie Park Station.

The proposal aligns with the vision for North Park (Ngalawala), as set in the Draft Macquarie Park Place Strategy, supporting the generation of a new commercial activity hub. The data centre expansion does not impact on the current and future amenity of the North Park neighbourhood area.

The proposal supports liveability and sustainability outcomes for Macquarie Park through improved utilisation of an existing site.

Overall, the significance of impacts on community values is **low**. It is expected that the socio-economic impacts of the proposal on community are **low**.

## 4.5 Economic impacts

### Job creation

The proposal will create approximately 1,200 direct construction jobs during the construction phase. This also creates indirect positive economic benefits for local hospitality and retail venues during the construction phase where construction workers located on site choose to visit these venues and purchase food and drink, in particular.

During operation the proposal is expected to generate direct employment opportunities, supporting approximately 49 ongoing jobs across the campus.

### Digital technology impacts

The operation of the project has a large digital reach and services business and communities beyond the study area. There will be broader economic impacts experienced by communities further afield as a result of the project.

The proposal generates positive impacts for the community and aligns with the local Macquarie Park and broader Greater Sydney communities' expectations around digital technology and reliance on this to support their daily lives.

Expansion of the existing data centre provides critical enabling infrastructure, supporting the high-tech economic specialisations of the Eastern Economic Corridor and Macquarie Park innovation district. Considering the economic specialisations of the City of Ryde in high-tech industry sectors, increasing data centre capacity is a core requirement for current and future business activity in the City of Ryde.



and talent. These facilities need to be in place to support the transformation of Macquarie Park into an innovation district.

Increased data centre capacity will support the increasing shift to hybrid working arrangements, evidenced during ongoing management of COVID-19 and shift to digital delivery. The need for reliable, sovereign and secure data storage for public and private sector operations.

Further, increased data centre capacity supports businesses to operate securely online. Not only does this make businesses more resilient to future disruption, but it provides people who are able to work flexibly with greater choice about where they are able to live – supporting the 30-minute city vision.

## 5 IMPACT MANAGEMENT MEASURES

It is expected that the overall negative socio-economic impacts of the proposal will be low, as the impacts on health and wellbeing, surroundings, and accessibility are not substantial, or limited to the immediate surrounding area during construction phase. Furthermore, the proposal will have positive economic impacts, namely through job creation during construction, job creation during operation, as well as contributing to the vision of Macquarie Park as an Innovation District and providing services to business beyond the immediate surroundings through its digital reach.

The following table lists impact management measures to address potential impacts in relation to noise and vibration and air quality, and to enhance the positive economic impacts during construction.

ID	Measure	Timing
SE1	<p>Notify surrounding businesses and residents one week before commencement of construction activities. Notices should include:</p> <ul style="list-style-type: none"> <li>• Details of the proposal, including contact details of management team</li> <li>• Hours and expected period of construction</li> <li>• Details regarding process should businesses or residents have concerns, questions or complaints</li> </ul>	Prior to construction phase
SE2	Set up a feedback process to manage and respond to stakeholder concerns, questions, or complaints. Ensure this process is clear and accessible to stakeholders such as surrounding businesses and residents.	Prior to, and throughout construction phase
SE3	Prioritise engaging with local businesses where practicable e.g. site induction for visiting workers to include profile of surrounding food and beverage retailers	Throughout construction phase

Table 3 Mitigation and intensification measures

# APPENDICES

---

## APPENDICES

---

- Appendix A Demographic Profile
- Appendix B Social infrastructure and potential sensitive receivers



# APPENDIX A DEMOGRAPHIC PROFILE

	Macquarie Park-Marsfield	Greater Sydney
<b>Population and age cohort</b> <b>Source: ABS 3218.0 (2021), ABS 3235.0 (2021), 2016 Census</b>	Population (2020): 25,192 Median age (2020): 32.2 Main age cohorts (2020): age 20-39 (47.47% in total) Percentage of Aboriginal and Torres Strait Islander population (2016): 0.31% Percentage of people born overseas (2016): 57.57%	Population (2020): 5,367,206 Median age (2020): 36.3 Main age cohorts (2020): age 20-39 (31.7% in total) Percentage of Aboriginal and Torres Strait Islander population (2016): 1.45% Percentage of people born overseas (2016): 42.9%
<b>Population Projection</b> <b>Source: TfNSW 2019</b>	2036 Population: 57,422 Growth rate to 2020: 127.94%	2036 Population: 6,580,708 Growth rate to 2020: 22.63%
<b>Language and English proficiency</b> <b>Source: 2016 Census</b>	Speak English only (2016): 41.02% Speak English very well or well (2016): 50.13% Speak English not well or not at all (2016): 8.85% Total: 91.15%	Speak English only (2016): 62.01% Speak English very well or well (2016): 31.09% Speak English not well or not at all (2016): 6.9% Total: 93.10%
<b>Education</b> <b>Source: 2016 Census</b>	Percentage of post-school qualification for people age 15+ (2016): 59.16%	Percentage of post-school qualification for people age 15+ (2016): 49.70%
<b>Employment (Place of Usual Residence)</b> <b>Source: 2016 Census</b>	Unemployment rate (2016): 8.94% Top 5 Industry of Employment for residents (2016): 1. Professional, Scientific and Technical Services 2. Health Care and Social Assistance 3. Education and Training 4. Retail Trade 5. Accommodation and Food Services	Unemployment rate (2016): 6.04% Top 5 Industry of Employment for residents (2016): 1. Health Care and Social Assistance 2. Professional, Scientific and Technical Services 3. Retail Trade 4. Construction 5. Education and Training

	Macquarie Park-Marsfield	Greater Sydney
<b>Employment (Place of Work)</b> <b>Source: 2016 Census</b>	Top 5 Industry of Employment for local workers (2016): 1. Wholesale Trade 2. Information Media and Telecommunications 3. Professional, Scientific and Technical Services 4. Education and Training 5. Health Care and Social Assistance	Top 5 Industry of Employment for local workers (2016): 1. Health Care and Social Assistance 2. Professional, Scientific and Technical Services 3. Retail Trade 4. Education and Training 5. Construction
<b>Dwellings</b> <b>Source: 2016 Census</b>	Flat or Apartment three or more storeys (2016): 40.37% Flat or Apartment within two storeys (2016): 3.5% Semi-detached, terrace and townhouse etc (2016): 34.74% Separate house (2016): 19.29% Others (2016): 2.03%	Flat or Apartment three or more storeys (2016): 17.45% Flat or Apartment within two storeys (2016): 4.46% Semi-detached, terrace and townhouse etc (2016): 13.12% Separate house (2016): 64.50% Others (2016): 0.47%
<b>Household type and projection</b> <b>Source: DPIE 2019</b>	Couple Only (Ryde 2016): 22.96% Couple with Children (Ryde 2016): 35.27% Single Parent (Ryde 2016): 8.21% Lone person (Ryde 2016): 22.89% Group (Ryde 2016): 5.95% Couple Only (Ryde 2036): 22.31% Couple with Children (Ryde 2036): 35.36% Single Parent (Ryde 2036): 8.68% Lone person (Ryde 2036): 24.29% Group (Ryde 2036): 5.08%	Couple Only (GSA 2016): 21.45% Couple with Children (GSA 2016): 36.91% Single Parent (GSA 2016): 10.36% Lone person (GSA 2016): 21.61% Group (GSA 2016): 5.10% Couple Only (GSA 2036): 21.50% Couple with Children (GSA 2036): 35.38% Single Parent (GSA 2036): 11.01% Lone person (GSA 2036): 23.60% Group (GSA 2036): 4.22%
<b>Household size</b> <b>Source: 2016 Census</b>	Total households: 8,938 Average household size (2016): 2.25	Total households: 1,623,873 Average household size (2016): 2.8

	Macquarie Park-Marsfield	Greater Sydney
<b>Household Income</b> <b>Source: 2016 Census</b>	Median weekly household income (2016): \$1,645	Median weekly household income (2016): \$1,750
<b>Journey to Work</b> <b>Source: 2016 Census</b>	Travel by Car (2016): 46.6% Travel by Public Transport (2016): 31.1%	Travel by Car (2016): 59.4% Travel by Public Transport (2016): 22.8%



# APPENDIX B SOCIAL INFRASTRUCTURE AND POTENTIAL SENSITIVE RECEIVERS

Facility type	Facility	Spatial distance (metres)	Street distance
Education	Guardian Childcare & Education Macquarie Park	317	0.6 km
	Excelsia College	200	1.0 km
	Greenwood North Ryde	522	1.0 km
	North Ryde Early Learning Centre	222	0.2 km
	Only About Children Macquarie Park	322	1.6 km
	Explore and Develop Macquarie Park	643	1.4 km
	Macquarie University	1,516	2.4 km
	Thrive Early Learning Centre	912	1.8 km
Health and aged care	Wise Dental Macquarie Park	251	0.6 km
	Prevent Dental Macquarie Park	200	0.7 km
	KINNECT Macquarie Park	480	0.7 km
	North Ryde Dentistry	480	0.7 km
	Laverty Pathology	412	1.6 km
	Macquarie Dentists	576	1.1 km
	Midas Dental	338	1.3 km
	Life-Style Psychology Clinic Sydney	513	1.0 km
	North Ryde Macquarie Park Dentists	398	0.6 km
	Macquarie Health Professionals	790	2.0 km
	Douglas Hanly Moir Macquarie Park Lab	473	1.9 km
	Histopath Diagnostic Specialists	655	1.5 km
	Kingdom Hearts Consulting	861	1.8 km
	MQ Health General Practice – Macquarie University	1,242	1.8 km
Arts and culture	Macquarie University Art Gallery	1,491	2.1 km
	Museum of Ancient Cultures, Macquarie University	1,742	2.6 km
	Australian History Museum	1,952	2.7 km
	NSW Schoolhouse Museum of Public Education	1,614	2.2 km

Facility type	Facility	Spatial distance (metres)	Street distance
Social Housing	Ivanhoe Estate	1,000	2.3 km
Green, blue and recreation	Macquarie Ice Rink	864	2.1 km
	Quandong Reserve	774	1.4 km
	Tasman Park	361	2.7 km
	Elouera Reserve	874	1.4 km
	Keith Thompson Hockey Centre	835	1.4 km
	Nimbin Reserve	819	1.3 km
	Catherine Hamlin Park	252	1.4 km
	Fontenoy Park	602	1.2 km
	Wilga Park	854	1.6 km
	Tuckwell Park	658	1.0 km
	Lane Cove National Park	2,977	4.6 km
	Tunks Hill Picnic Area	783	2.0 km
	Good Vibes Fitness	306	0.4 km
	Anytime Fitness, Waterloo Road	353	1.6 km
	F45 Training Macquarie Park	2,040	3.0 km
	Jason Swimming School Macquarie Park	329	0.3 km
	Crossfit Rush Hour Ryde	551	1.4 km
Accommodation	Courtyard by Marriott Sydney-North Ryde	330	0.6 km
	Holiday Inn Express Sydney Macquarie Park	671	1.5 km
	Meriton Suites North Ryde	785	0.8 km
	Quest Macquarie Park	788	1.4 km
Place of worship	Hillsong Church Macquarie Campus	597	1.6 km
	Trinity Chapel Macquarie	1,007	1.4 km
Retail	Macquarie Centre	709	0.9 km
	P.O.S.M	502	1.7 km
	McDonalds North Ryde	834	1.4 km
	7-Eleven North Ryde	387	1.0 km
	Eden Gardens	632	1.0 km
	AMD Far East	911	2.1 km

Facility type	Facility	Spatial distance (metres)	Street distance
Hospitality	BATCH ZKK Cafe	554	1.9 km
	Go Hun Thai Take Away	403	0.7 km
	Hungry Baker OCS	618	1.9 km
	Sambal	420	0.8 km
	Café Boardroom	448	0.8 km
	Bluestone Espresso Bar	718	1.9 km
	SweetBuds by Nancy Walker	1,776	2.7 km
	Glasshouse Cafe Restaurant and Wine Bar	638	1.4 km
	Kin By Us	1,098	1.7 km