BIS OXFORD ECONOMICS

REDFERN – WATERLOO STRATEGIC EMPLOYMENT STUDY

JULY 2018

BIS Oxford Economics

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The Redfern-Waterloo study area is well located to benefit capture 'overflow demand from Sydney CBD and surrounding areas

The Redfern-Waterloo study area is well positioned to benefit from future economic and population growth across the Harbour CBD given its location in relation to the Sydney CBD and the close proximity of several significant employment clusters—most notably, the Australian Technology Park, the University of Sydney and Royal Prince Alfred Hospital.

However, within the Study Area itself, there are few obvious or significant employment drivers. Much of the recent growth in employment can be attributed to ad hoc or incremental growth across a range of industry sectors typical of that experienced across areas of strong population growth and gentrification in the Sydney region more broadly. Indeed, the Study Area is currently constrained in terms of employment growth by planning controls and a built form that favour residential over commercial land uses.

In order to expand the employment capacity of the Study Area, careful planning and co-ordination is required between local and state government stakeholders and private landowners who own and/or manage prospective employment clusters in and adjacent to the Study Area. Designated Urban Renewal and State Significant Precincts may present the best opportunity to plan for such growth, however, employment uses are limited or excluded from current site-specific plans.

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Its prime attractions are proximity to the CBD, good transport links and nearby universities, research and technology facilities

The Study Area experienced strong employment growth over the 10 years to August 2017. The additional workers were accommodated within existing (vacant) buildings, as well as a small number of new developments and/or buildings converted from other uses.

Metropolitan Sydney and the Study Area can both look forward to further population and employment growth in the decades ahead. In addition to the growth amongst its existing users/functions, the Redfern-Waterloo area will also attract increasing attention from businesses unable to secure suitable space in the (southern) CBD, Surry Hills and Chippendale based on availability of accommodation and/or cost.

The 'overflow demand' thus created will be attracted to the Study Area by its proximity to the CBD, existing and future transport links and proximity to surrounding employment clusters. The latter include the University of Sydney, the Australian Technology Park and the Royal Price Alfred Hospital, all of which are also highly space-constrained, and have the potential to direct some of their surplus demand towards the Study Area.

Current built form, ownership patterns and development zoning place a limit on the Study Area's ability to accommodate future demand for employment space

Beyond pure employment drivers, the Study Area is also well placed to capture demand to service/provide amenity for its own strongly growing population, as well as that of nearby Green Square.

However, in its current state – which includes built form and planning regulations – its ability to accommodate such demand is limited. 70% of the Study Area's stock of floorspace is residential (mirrored by the Area's zoning) and most of the remaining 'business' land is zoned for 'mixed use'. The latter

allows for residential uses alongside compatible employment uses without a limitation or preference for either. However, with (medium to high-rise) residential being the financially most attractive option, this has led to almost pure housing development over the past decade. Consequently, in order to expand the Study Area's employment capacity – to help meet jobs targets outlined in the Greater Sydney Region Plan and Eastern City District Plan – careful management of zoning/sites and property ownership is required in conjunction with planning for sites controlled by the NSW Government.

The best prospects to accommodate future employment demand lie in protecting existing mixed use business zones from further residential encroachment (particularly along the Regent Street/Botany Road Corridor) and within designated Urban Renewal (UR) and State Significant Precincts (SSPs) surrounded by or adjacent to the Study area. However, most of the URs and SSPs are designated almost exclusively for residential uses.

Of the URs and SSPs within the Study Area, the best prospects lie with the 1.9 hectare site above the future Metro Waterloo Station. Concept plans currently suggest predominantly residential uses, but an opportunity presents itself to create an employment precinct. History shows that for an area to successfully evolve as an employment precinct, large (pioneering) sites are required, preferably under single ownership. Examples include Docklands in Melbourne, Barangaroo in Sydney, Castle in London, the Brooklyn Navy Yards in New York and Hafencity in Hamburg.

The future Waterloo Metro Station is regarded as a positive, but there are concerns about congestion at Redfern Station in the intervening years

Transport links will also be critical to the Study Areas' success in capturing future employment. The interview process revealed that the majority of employees within the area travel by public transport – particularly by train – due to very limited car parking. The Redfern Station catchment (defined by a walking distance of approximately 500 metres) only captures part of the Study Area. Concerns were raised about the Station nearing capacity now and possibly exceeding capacity with the arrival of Commonwealth Bank at the ATP.

The future Waterloo Metro Station is viewed positively by businesses in the area. Expectations are that it will help to ease the transport load, although the Station will not be easily accessible to all the Study Area. However, completion is not scheduled until 2024, too distant for most businesses to take into consideration when planning ahead. However, taking a longer term perspective, the Metro's main transport impact for the Study Area will be providing extra capacity and alleviating bottlenecks at Redfern Station. Nevertheless, it is unlikely to open up access to areas not serviced by rail at present that lie within 30 minutes of the station. In the meantime, existing transport bottlenecks could weigh negatively on the Area's attraction for employers.

Forecast scenarios

Redfern – Waterloo's employment is forecast to grow by almost 50% by 2036

The Redfern-Waterloo Study Area has the potential to attract substantial employment growth over the long term. Based on the current employment mix, known employment-generating building projects, population growth forecasts and overflow demand, the Study Area's employment growth rate is forecast to outpace that of the metropolitan area between 2017 and 2036 (1.9% compared

to 1.3% average annual growth respectively), and over the longer term to 2066 (1.2% compared to 1.1%). By 2036, total employment within the Study Area is projected to increase to 14,400, reflecting an increase of about 4,400 from 2017. By 2066, employment is forecast to be almost double 2017 levels, reaching 17,600. This is our base case.

The strongest growth in the Study Area is forecast to come from health, education, professional, scientific & technical, accommodation & food services and retail

The strongest employment growth within the Study Area between 2017 and 2066 is forecast to come from the health, education, professional scientific & technical, accommodation & food services and retail sectors. The growth rates forecast in all these sectors are generally consistent with those for the broader metropolitan area, with the exception of the retail sector. Retail employment growth within the Study Area is expected to receive a boost from servicing strong local and Green Square population growth. Conversely, employment in industrial-based industry sectors (manufacturing, transport, wholesale) is expected to contract over the long term as current users are displaced from the Study Area. Similarly, employment in the information media sector is forecast to contract as technology advances impact on employment.

Alternative scenarios have been tested based on a stronger or weaker average annual growth rate for professional, scientific & technical employment as well as stronger population growth, both at the Sydney Inner City SA3 level. Under these scenarios, total employment by 2036 within the Study Area ranged from 14,260 to 15,090, reflecting an increase in employment (from 2017) of between 4,280 and 5,110. By 2066, total employment ranged between 17,000 and 21,100, reflecting an increase in employment over the 49 year time horizon of between 7,000 and 11,100. Based on these results, the Study Area has the potential to contribute (2.6 to 3.1%) towards the Harbour CBD's lower (or baseline) target of 165,100 additional jobs by 2036, as set out within the Eastern City District Plan.

The Study Areas ability to capture the forecast employment growth depends on whether it can be accommodated

The potential for the Study Area to capture the forecast employment growth to 2066 depends on whether it can be accommodated under current planning and development controls. BIS Oxford Economics conducted an exercise applying space use ratios for community, entertainment & leisure, industrial, office, restaurants, shops, storage and other low employment space based on the data provided by the City of Sydney 2007 to 2017 Floorspace and Employment Surveys.

Applying space use ratios (with an allowance for long term efficiencies or expansion) to employment, the base case (scenario 1) suggests around 400,000 square metres (of the employment uses mentioned above) will be needed by 2036—an increase of around 125,000 square metres from 2017 levels. All floorspace uses are expected to expand by 2036, except entertainment & leisure and storage, which remain steady. Under the alternative scenarios tested, the additional required floorspace to meet employment growth outcomes is between 123,000 and 138,000 square metres. By 2066, the additional floorspace required increases to between 163,000 and 240,000 square metres, depending on the scenario. Until the City of Sydney completes a Capacity Study, we cannot say if there is sufficient permissible floorspace to meet future demand.

There's no doubt that it's a challenging task to allow for sufficient space to accommodate projected employment, given the current built form which is

dominated by residential land uses. However, if sufficient space is not available, growth will go elsewhere.

Recommended policy responses include:

- Protecting existing mixed-use business zones from further residential encroachment by using instruments available to council, particularly along Regent Street/Botany Road, the industrial precinct around Young Street.
- Advocate delivery of significant employment spaces in urban renewal areas (current and planned) threatened by residential encroachment and State Significant Precincts that have not already been locked into residential uses. The best prospects lie in the vacant 1.9 hectare Metro Quarter site and Botany Road corridor where infrastructure investment and future urban renewal can be focused on productivity and employment.
- Ensuring a co-ordinated approach from state and local government to support employment growth.
- Consider the development capacity under current FSR and height controls to meet forecast employment growth. However, attracting users to a particular location by simply raising FSRs/height limits in non-established centres is unlikely to succeed on its own. Commercial space users require a combination of criteria (including – amongst others – access to transport links for staff and clients, retail amenity, existing clusters of related industries and buildings with floorplates of sufficient size) to be fulfilled before choosing a particular location.
- Investigate retail space design. Respondents suggested that many modern ground floor retail premises within mixed use buildings have design shortcomings (such as low ceiling to floor heights) which limit the type of retailer that can use the space.

Recommended policy responses centre on protecting and promoting employment land uses

Infrastructure that facilitates accessibility is crucial for employment growth. The Sydney Metro, which will deliver a new station at Waterloo in 2024, will expand the rail catchment of the Study Area as will the Moore Park station for the CBD and South East Light Rail. However, the proposed White Bay station associated with the West Metro is likely to be too far away from the Study Area to directly boost employment. Critically, stakeholder feedback suggests Redfern Railway Station is a bottleneck in need of an upgrade, with patronage already close to capacity in peak periods.

1. INTRODUCTION AND OBJECTIVES

1.1 INTRODUCTION AND MAJOR OBJECTIVES

BIS Oxford Economics has been commissioned by the City of Sydney to undertake a strategic employment study of the Redfern/Waterloo area. The Study Area is loosely bounded by Cleveland Street in the north, South Dowling Street to the east, McEvoy Street to the South and Shepherd Street to the west. A map of the Study Area is provided in the Appendix in Fig. 27. The study's purpose is to help to inform the comprehensive review of planning controls in the area to achieve employment growth targets outlined in the Greater Sydney Region Plan and Eastern City District Plan.

The objectives of Stages 1 and 2 are twofold. Firstly, to understand and quantify the current employment and economic contribution of the Study Area, its land use profile and how it sits within the context of metropolitan Sydney (Sydney Greater Capital City Statistical Area). The second key objective is to assess the key future growth drivers of the area, identifying threats and challenges to growing economically productive uses.

In order to set the scene for understanding the current and potential future profile of the Study Area, we trace how it evolved into what it is today, identifying the key drivers of change.

The current role of the Study Area is assessed through an analysis of its employment profile, which is used to estimate its financial and productivity contribution to Sydney. This work is supplemented by an examination of the Study Area's floorspace mix and a series of interviews with stakeholders in (and around) the Study Area.

Together, these fields of enquiry help to define the key growth drivers going forward. In addition, we consider case studies of similar precincts in order to identify common themes in requirements for success.

In terms of analysing current and recent changes in employment and land use, the City of Sydney's 2017 *Floorspace and Employment Survey* (FES) is used, as this provides the most up-to-date and geographically relevant data.

2. CURRENT STATE OF PLAY

2.1 KEY POINTS

The Redfern-Waterloo Study Area is located to the south of the Sydney CBD, around 3 kilometres from the GPO, while Kingsford Smith Airport and Port Botany lie 4 and 7 kilometres respectively to the south of its southern boundary.

The Study Area lies within Sydney's 'Eastern Economic Corridor', a 25 km concentration of economic activity that arcs from the airport, through the CBD and north-west to Macquarie Park. The Study Area also lies within the 'Harbour CBD' and 'Innovation Corridor' outlined in the *Eastern City District Plan*.

At 2017, the Study Area had an estimated resident population of around 32,000 (as high as 42,000 when Zetland is included) and covered an area of approximately 2.1 square kilometres, representing approximately 0.6% and 0.02% of the Sydney metropolitan area respectively. Its share over the past 10 years has been increasing steadily.

Land-use is dominated by residential functions, which occupy 70% of total building floorspace. Office, retail and industrial uses make up 7, 4 and 3% respectively. Floorspace of office and retail has stayed steady over the last 10 years, while industrial floorspace has been declining.

Economically, the Study area represents 0.4% of total metropolitan employment and 0.4% of its GVA. However, GVA growth (of almost 75%) over the 10 years to 2017 was around double that of the metropolitan area.

The Study area's economic role evolved over time as it became more employment-intensive and its sectoral make-up transitioned from a blue-collar dominated workforce to white collar – a trend that has been happening since the 1950s. Over the past 10 years, fast growing sectors included professional, scientific & technical, administration & support services and information media & telecommunications, with these three sectors accounting for a combined 36% of jobs in the Study area today.

Fig. 1. Study Area, Key indicators, 2017

Indicator	*Sydney GCCSA*	*Study Area*	*Study Area (% share)*
Size (km^2)	12,368	2.1	0.02
Population ('000 persons)	2,131	32	1.5
Total employment ('000 persons)	2,480	10.0	0.40
GVA ($b)	307.3	1.1	0.37

Source: BIS Oxford Economics, ABS, City of Sydney FES

The Study area accommodates sectors attracted to its proximity to and support clusters in the CBD, Australian Technology Park, Ultimo-Camperdown Health and Education Precinct (including Royal Prince Alfred Hospital and University of Sydney) and other clusters along the transport line.

The Study area's locational attractors including its rental price differential, character and building stock allows for the emergence of a number of co-working office/creative spaces that suits tech start-ups and creative industries, which emerged as a fast growing sector between 2007 and 2012 (a trend that we expect to have continued over the intervening period to 2017). This is an indicator of types of flexible spaces accommodated in the Study area, for price-sensitive sectors and clusters unable to secure space in the (Southern) CBD, Surry Hills and Chippendale.

There are few major employers within the Study area, with the most prominent being Australia Post, and the National Centre of Indigenous Excellence.

Three of the biggest employment clusters in the region are located just outside the Study Area – namely the Australian Technology Park (ATP), the University of Sydney and the Royal Prince Alfred Hospital. While the University and the Hospital are located adjacent to the Study Area's western boundary, the ATP can be regarded both geographically and functionally as part of Redfern. We expect these clusters to remain significant employment drivers for the Study Area into the future.

2.2 OVERVIEW – PHYSICAL CHARACTERISTICS OF THE STUDY AREA

The Redfern-Waterloo Study Area (Fig. 27 in Appendix 1) is located to the south of the Sydney CBD, separated by Central Station and its approaches to the West and Surry Hills to the East. Its northern boundary is located less than 2.5 kilometres from the Sydney GPO, while the distance to its farthest point is around 4 kilometres. From its southern boundary, it is approximately 4 kilometres to Kingsford Smith Airport and 7 km to Port Botany. The Study Area lies within Sydney's 'Eastern Economic Corridor', a 25 km concentration of economic activity that arcs from the airport, to the CBD then to Macquarie Park.

Built form consists primarily of residential building stock (70% of total floorspace as per the 2017 FES) made up of mostly low rise dwellings and the high-rise public housing estates, industrial/showroom/retail premises along Botany Road and Young Street, plus concentrations of retail spaces along Redfern and Cleveland Streets. The residential precincts are interspersed with newer residential developments of higher density, as well as residential conversions of former warehousing premises. There are some older (and small scale) industrial premises which have been retained rather than re-purposed, but larger industrial properties are only found south of McEvoy Street and to the east of Young Street, just beyond the boundary of the Study Area.

Apart from public housing estates, urban renewal areas and the site of the future Waterloo Metro Station, most property is held in private ownership. Other than the Metro Station, there are very few large vacant sites that are readily developable. To the best of our knowledge, there are no other large amalgamations of either business or residential premises within the Study Area.

There are several major space users just beyond the borders of the Study Area, in particular the University of Sydney, the Australian Technology Park and the Royal Prince Alfred Hospital. Given their dominant position in terms of regional employment and traffic generation/usage, they have been included in the analysis where appropriate – particularly to consider their potential impact on shaping the future land use, employment and economic contribution of the Study Area.

2.3 STRATEGIC FRAMEWORK – CONTEXT AND INTENT

There are numerous planning and infrastructure policies covering NSW, Greater Sydney, districts within Greater Sydney and the City of Sydney Local Government Area, each with their own set of goals and directions which have some relevance to the Study Area. These plans include:

NSW Government

- Jobs For The Future: Adding 1 Million Rewarding Jobs In NSW by 2036
- The NSW Innovation Strategy, Bringing Big Ideas To Life
- Future Transport Strategy 2056
- State Infrastructure Strategy 2018 to 2038

Greater Sydney Commission

- The Greater Sydney Region Plan, A Metropolis Of Three Cities
- Our Greater Sydney 2056: The Eastern City District Plan

City of Sydney

- Sustainable Sydney 2030

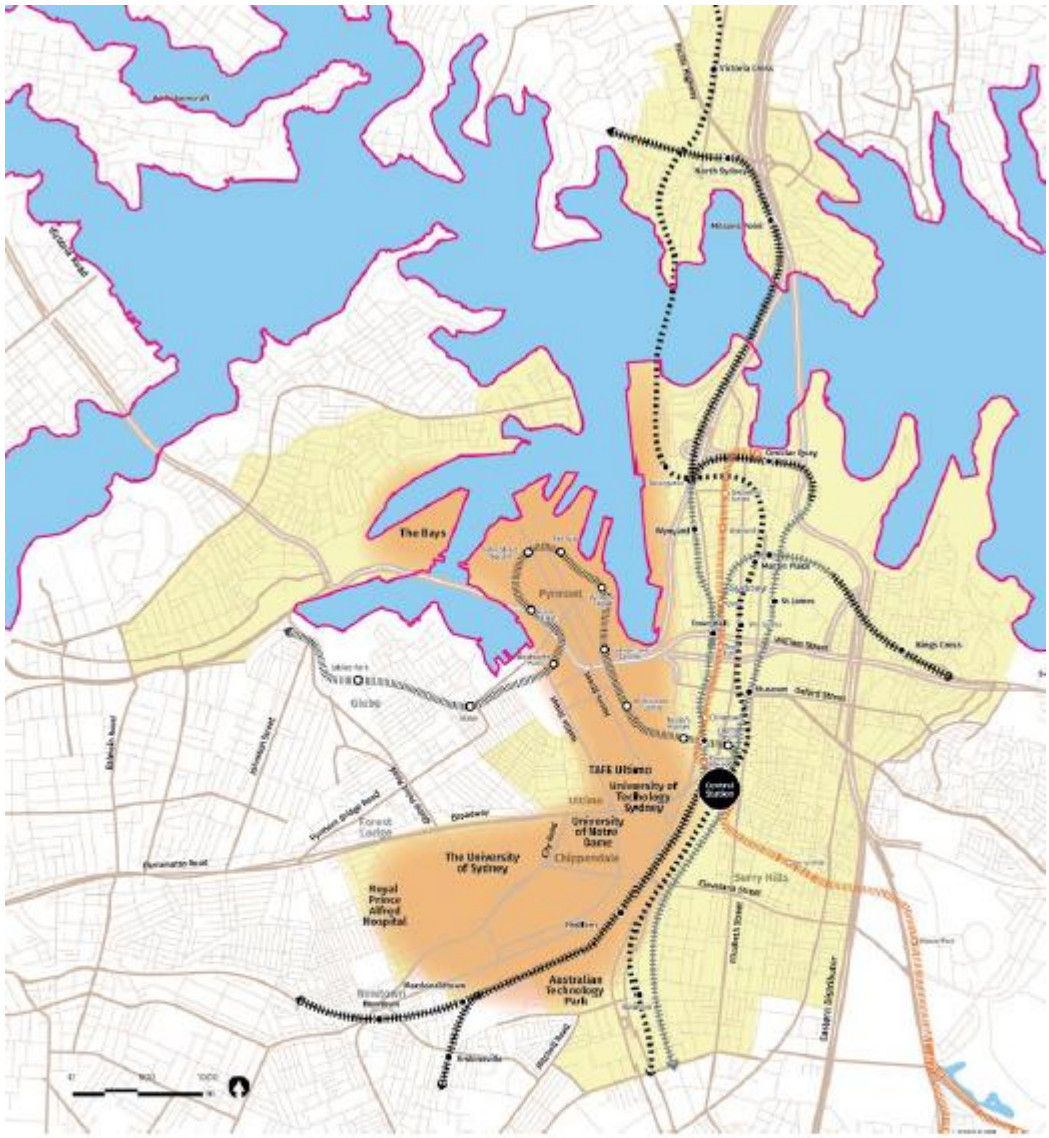
These plans and strategies, in many cases, are overlapping. However, the focus of this study is employment. In that context, the only policy which sets jobs targets incorporating the Study area specifically is the Eastern City District Plan.

Within the Eastern City District Plan, the Study Area forms part of the Eastern Economic Corridor (stretching from Macquarie Park, through the Harbour CBD to Sydney Airport), the Harbour CBD and the Innovation Corridor. The Harbour CBD and Innovation Corridor are shown in Fig 2. Looking at employment, only the Harbour CBD has jobs targets that are applicable to the Study Area. By 2036, an additional 165,100 to 235,100 jobs are targeted above the 496,900 in 2016, representing growth of 33 to 47%.

2.4 BACKDROP – ECONOMIC HISTORY OF THE STUDY AREA

Early industrialisation. Following the first major land grants in 1817 and construction of early dwellings, the Study Area's economic development took its first major steps in the 1840s. In 1849, the Sydney Slaughterhouses Act forced heavy polluters such as abattoirs, tanners, wool scourers and washers, fellmongers and boiling down works out of the city and away from the Tank Stream. Many chose to settle in and around Redfern-Waterloo, attracted by its proximity to the City – the major market for their produce – and the availability of water needed to sustain their operations. It was the beginning of the industrialisation of the Southern Sydney corridor that stretched from the City to Port Botany (and, later, to the airport) – of which the Study Area become an integral part.

Fig. 2. Harbour CBD - Greater Sydney Commission, Eastern City District Plan



The Eveleigh Railway Workshops. Early industrialisation was soon followed by other major events in, or in locations adjacent to, the Study Area. The 1850 foundation of Sydney University at Camperdown was followed in 1855 by the opening of the first railway in NSW, a private line that ran from Eveleigh (today's Redfern Station) to Parramatta. After takeover by the government and subsequent network expansion, 1875 marked the start of construction of the Eveleigh railway workshops. Their purpose was to manufacture and maintain rolling stock, including construction of carriages and, later, steam locomotives. Within a short period of time, the workshops became the largest employer in the area. They were in operation for over 100 years: both economic and social development of the Study Area were inextricably linked to their fortunes.

In the 1880s and 1890s, the workshops become the largest of their type in southern hemisphere. They drew increasing numbers of people into the area and become a significant employer of aboriginal people. Much of the Study Area was heavily subdivided and developed in order to provide housing for the workers at the workshops.

Population and employment growth led to the establishment of other businesses in the area, including retailing, warehousing and service provision. Following on from the tanners and wool businesses forced out of the City earlier, Redfern and surrounding suburbs became a centre for rag trading. Along the major thoroughfares and intersections – particularly Redfern, Botany, Cleveland and Abercrombie Streets – new retail premises were established to serve the local population.

Redfern was proclaimed a municipality in 1859, with Waterloo and Alexandria split off a year later to become separate entities. Many grand buildings were erected over subsequent decades, such as the town hall (1870), post office (1880), and in 1892, the first municipal electric light station.

Development and population growth continued over the subsequent decades, but two World Wars and the Great Depression in the early 1930s left their mark on the economic and social fabric of the Redfern-Waterloo area and its surrounds. Unemployment became a major issue during the inter-war and immediate post-war years.

In the early to mid 1950s, the heyday of steam, the railway workshops employed up to 5,000 workers. However, when the NSW Government made the decision to phase out steam traction, the writing was on the wall. The last steam locomotive was built in 1952 and steam traction was abandoned in 1965.

Attempts were made in the 1970s to modernise operations to service the growing diesel and electric fleets. However, Eveleigh's machinery was outdated and its workforce was skilled in trades that had become redundant. Operations were gradually transferred to other workshops such as Chullora and Clyde. The workshops became increasingly obsolescent and employment numbers continued to decline. The Locomotive Works were closed by the end of 1987 and the Suburban Car Workshops of the Carriageworks finally closed in 1989.

Post-workshops era. After the official closure, a part of the southern site was used by Paddy's Markets while other buildings were demolished over several years. In 1991 the NSW Government announced the creation of a technology park at Eveleigh in association with the University of NSW, the University of

Sydney and the University of Technology. It was opened in 1995 as the Australian Technology Park (ATP) and occupies the eastern part of the locomotive workshops.

The western end of the locomotive workshops was remodelled to become a maintenance depot, which today is operated by Downer EDI Rail. The nearby former Alexandria Goods Yard areas were subdivided and the eastern part was transferred to ATP.

Socio-economic and ethnic fabric. The decline in Eveleigh was accompanied by changes in the economic fortunes of the Study Area, including its socio-economic and ethnic fabric.

Rising living standards in the 1950s and 1960s saw a wave of suburban migration across Australia, and the Redfern-Waterloo area was no exception. Those who could afford it left the area for locations further afield that offered more modern housing and more space. Making such moves even more attractive was that much of the original housing stock in the Redfern-Waterloo area and surrounding suburbs was by then in poor condition.

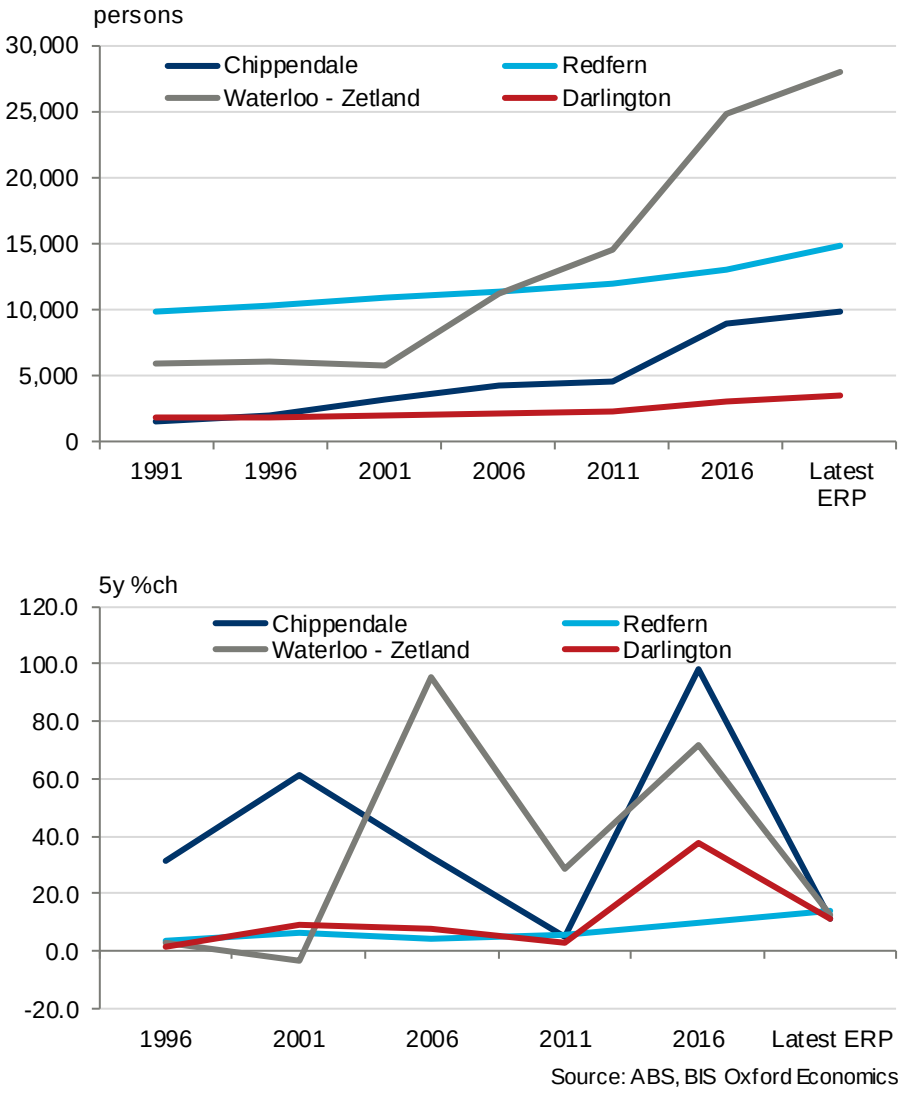
Unemployment became a common problem, causing a decline in the combined purchasing power of the local population. In turn, this fed through to local businesses, many of whom saw their trade decline to the point where they had to close. Properties fell into disrepair, many were boarded up and whole streetscapes went into decline. With no immediate prospects of recovery or alternative uses, property owners stopped maintaining their assets, let alone invest in refurbishment or redevelopment.

Meanwhile, the NSW Government's County of Cumberland Plan (1948 to 1951) provided for old housing stock to be replaced by modern high-rise apartment blocks. After clearing several city blocks, two major estates were constructed by the NSW Housing Commission in the 1960s and 1970s, which remain a major feature of the area to this day.

Demographic change through gentrification. The Study Area has witnessed significant changes in its socio-economic and ethnic make-up since WWII. Aboriginal people moved back into the area in the late 1940s and 1950s, many of whom were employed at the Eveleigh Workshops. The indigenous population peaked at over 35,000 in the late 1960s, but had declined to less than 700 by the 2011 Census after a sometimes turbulent five decades. While the initial in-migration more than offset those who left for outer suburbs, the Study Area's total population and jobs declined significantly until the late 1980s/early 1990s.

The resident population did not start to increase again until the late 1990s/early 2000s. Rising real estate prices forced many residents in the expensive inner suburbs and along the harbour and coast to look for more affordable accommodation. This set in motion a gentrification process that is still on-going. Living in converted warehousing space became fashionable amongst young urban professionals, who also started to renovate run-down terraces. They brought with them demand for local services, including cafes and restaurants.

Fig. 3. Enumerated population, selected suburbs, levels and growth rates



Source: ABS, BIS Oxford Economics

Moreover, converted older-style industrial premises attracted small businesses in the creative industries, including media, performing arts, fashion design and architecture, as well as information and communication technology. The newly converted spaces were of a size that suited both small operators and start-ups, while also attracting businesses that had been forced to leave the City following strong increases in the cost of office accommodation.

The result was a modest increase in the populations of Redfern and Darlington, with much stronger growth witnessed in Chippendale and Waterloo-Zetland in particular (Fig. 3). While the ABS coverage does not match that of the Study Area – nor that of NSW Transport's Travel Zones – it highlights the difference in growth figures between suburbs where vacant land was available for apartment construction – notably in Zetland – and those where residential development has been limited to infill and smaller amalgamations.

Economic change over the last decade reflects a continuation of trends discussed. The dominance of residential use has increased, while the industry structure has continued to shift away from blue-collar and towards white-collar sectors. Changes are discussed more fully in 2.4 below.

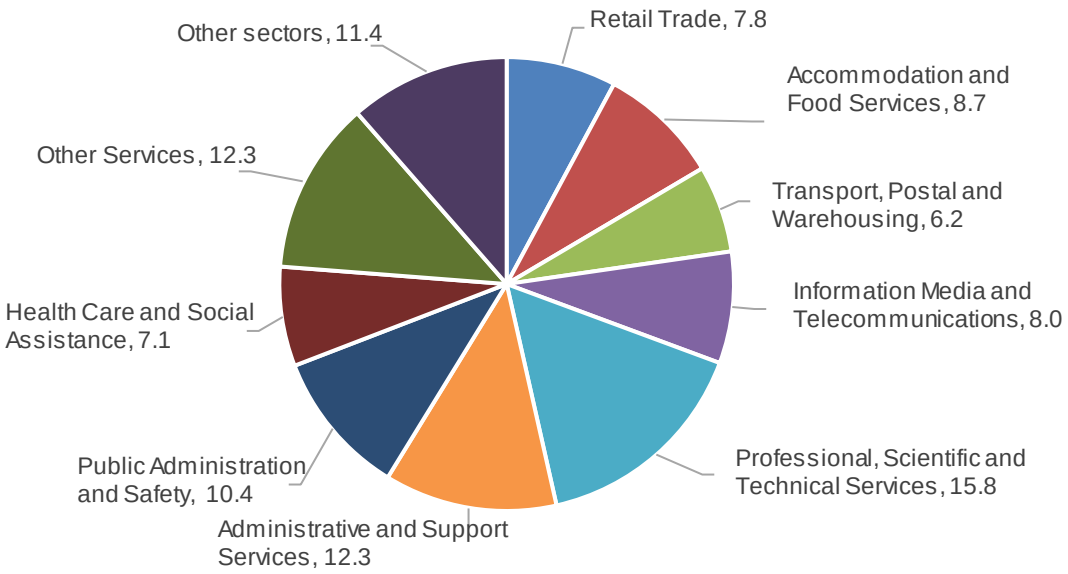
2.5 CURRENT PROFILE AND RECENT CHANGES – ECONOMIC AND PRODUCTIVITY CONTRIBUTION AND CAPACITY

2.5.1 Employment in the Study Area

The City of Sydney's 2017 *Floorspace and Employment Survey (FES)* forms the basis for the assessment the Study Area's employment profile, using ANZSIC industry classifications.

As at 2017, the Study Area contained 836 businesses and almost 10,000 workers. Determining the dominant industries depends on whether one is considering employment composition, the number of businesses or, indeed, occupied floorspace (see 2.4.4).

Fig. 4. Share of employment by industry, 2017, Study Area



Source: BIS Oxford Economics, City of Sydney FES

Employment in the Study Area was dominated in 2017 by white-collar sectors: professional, scientific and technical services (16% of the total), administrative & support services (12%), public administration & safety (10%) and information media & telecommunications (8%). However, health (7%), retail trade (8%), accommodation and food services (9%) and transport, postal & warehousing (6%) also had over 500 workers each. Note that the transport, postal & warehousing sector is dominated by Australia Post, and that staff at its Cleveland Street headquarters is predominantly white collar in nature. Of note, the finance and insurance sector was heavily under-represented (less than 1% of total employment).

There are few large single employers in the Study Area, with the most prominent being Australia Post's head office on Cleveland Street and the National Centre of Indigenous Excellence on George Street. In line with this, businesses in the Study Area are mainly small, with an average of 11 workers each as at 2017. There were only three industry sectors averaging over 20

workers per business: transport, administrative and support services and public administration and safety. The smallest businesses were in the retail and accommodation industries – which were also the most numerous and therefore significant in terms of their shares of employment.

'City-Based Industry' analysis

The 'City-Based Industry' data is a different way of classifying industries (rather than ANZSIC one digit level) that the City of Sydney employs in its Floorspace and Employment Surveys. City- based industries are classified by business uses across hundreds of categories and adopted by the City of Sydney to better reflect industries more commonly found in city centres. However, data at a city-based level is only available at present for 2007 and 2012, thus not permitting an analysis of current trends.

In terms of the number of establishments, the count of 801 businesses was headed in 2012 by 'food & drink' and 'retail & personal services', which together accounted for over one-third of the total number of businesses. This is similar to the ANZSIC dominance of retail trade and accommodation, followed by 'other services'. 'Creative industries' came in third place, accounting for 13% of the number of businesses.

By employment, 'food & drink' and 'retail & personal services' slipped down the rankings, as these businesses tend to be fairly small. Top spot went to 'transport & logistics' (14%), followed by 'creative industries' on 13% and 'professional & scientific services' on 12%.

Given the changes seen in the ANZSIC-based employment profile of the Study Area, we would expect to see considerable change in the 'city-based' profile once the 2017 data becomes available.

Employment change since 2007

Employment has increased sharply in the Study Area over the 10 years to 2017 – up over 51% or 3,353 jobs – as low-employment uses were replaced by more intensive users of floorspace.

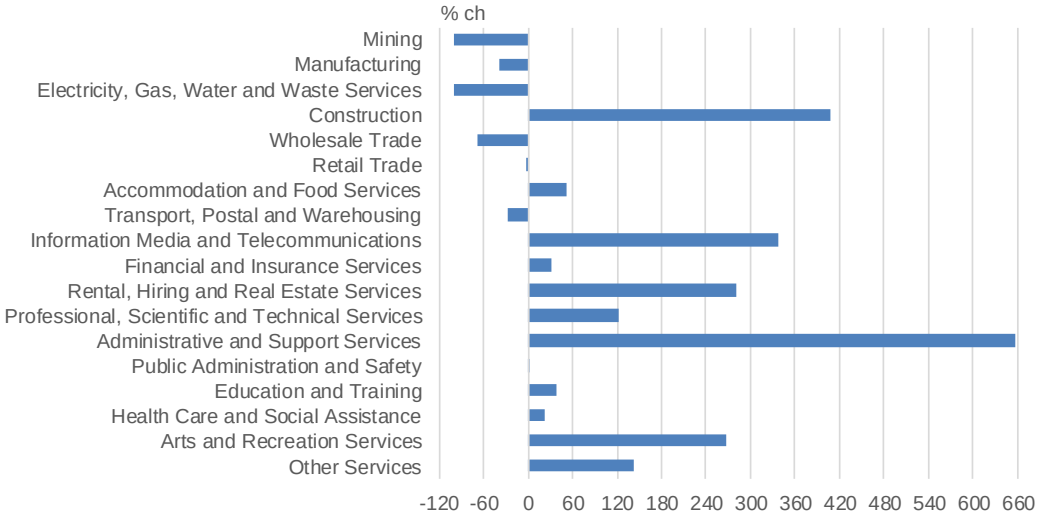
Based on the ANZSIC industry classification of the FES, the key growing employment sectors were:

- White-collar sectors such as administrative and support services, professional, scientific and technical services, rental, hiring and real estate services and information media and telecommunications. These industries each saw about a doubling or more in employment. Construction and arts and recreation services also enjoyed strong employment growth.
- The main exception amongst white-collar sectors was public administration and safety, which saw employment fall between 2007 and 2012, then rebound, ending flat.
- Alone among blue-collar industries, the construction sector saw notable growth. However, it is still very small, and forms part of 'other sectors' in Fig. 4.

The key shrinking employment sectors were:

- Wholesaling, where employment fell by around two-thirds from 2007 and accounted for just 2% of the total in 2017.
- Manufacturing, where employment almost halved, and by 2017 represented only 3% of the total.
- Transport, where employment fell by around 25% (but nonetheless retains a reasonably large 6% employment share).

Fig. 5. Change in employment by industry, 2007–2017, Study Area



Source: BIS Oxford Economics, City of Sydney FES

2.5.2 Economic contribution of the Study Area

The economic contribution of the Study Area is estimated at $1.1 billion as at 2017. As such, it accounts for 0.4% of the economic contribution of the Sydney metropolitan area and represents 2% of the contribution of the Sydney-Haymarket SA2[1] (see Section 2.4.3).

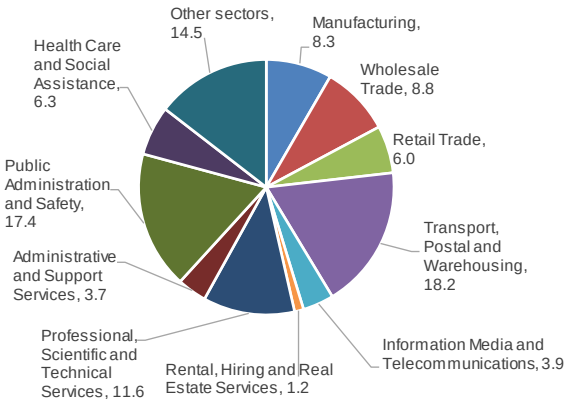
The estimate of the economic contribution of the Study Area is based on its Gross Value Added (GVA). In economics, gross value added (GVA) is the measure of the value of goods and services produced in an area, industry or sector of an economy. GVA has been calculated by industry in constant 2015–16 prices, then summed to give a total for the Study Area. GVA is calculated by applying average productivity levels by industry (published by the ABS) to the employment data by industry discussed above. Note that NSW productivity levels were applied as smaller area productivity data was not available.

In addition to estimating current economic contribution, contribution as at 2007 and 2012 has also been estimated, by drawing on previous FESs and historic ABS data. This permitted an analysis of how the economic contribution has changed over the last 10 years, both in terms of total dollar value and in terms of the relative contribution of different industries.

[1] The Study Areas overall economic contribution to the metropolitan area and SA2 (as measured by GVA) is minor. However, major economic contributors sit just outside the Study Area (Sydney University, RPA and the ATP). Of those that sit inside, contributors that play a broader role beyond the Study Area boundary include the Aboriginal Health Service, creative industries and a small number of specialist business providers.

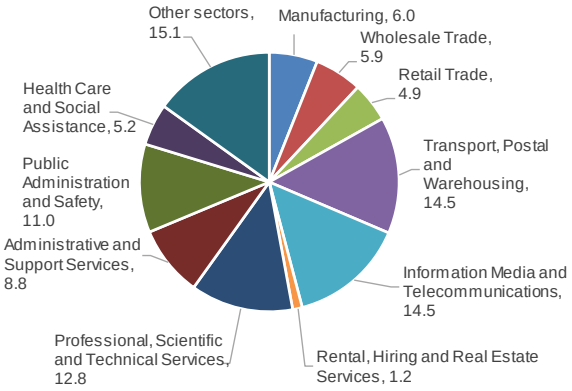
Fig. 6. Share of Gross Value Added by industry over time (%), Study Area

2007



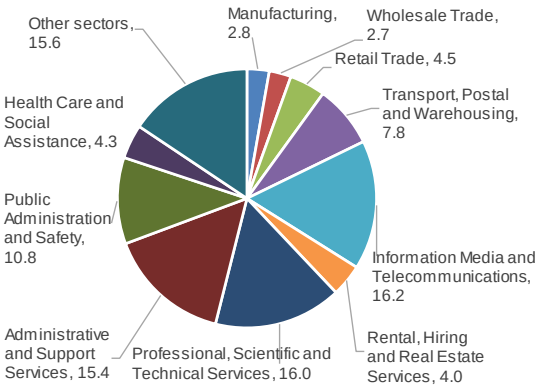
Source: BIS Oxford Economics, City of Sydney FES

2012



Source: BIS Oxford Economics, City of Sydney FES

2017



Source: BIS Oxford Economics, City of Sydney FES

Fig 5 shows the breakdown of GVA by industry, revealing that white-collar industry sectors dominate the total as at 2017. In particular, we highlight the contributions from professional, scientific & technical services (16% of the total), information, media and telecommunications (also 16%), administration & support services (15%) and public administration and safety (11%).

This dominance reflects both the importance of these sectors in terms of employment in the Study Area and the relatively high productivity levels of sectors such as information, media and telecommunications and rental, hiring and real estate services.

Change in economic contribution since 2007

The Study Area enjoyed strong growth in its economic contribution over the 10 years to 2017. GVA increased by almost 75% from 2007 (around $660 million) to 2017's figure of $1.1 billion. Most of that growth occurred in the second half of the decade, with an average annual increase in GVA of 5.3% from 2007 to 2012 ($850 million GVA), followed by stronger 6.0% average annual growth in the subsequent five years. By way of comparison, Sydney metropolitan GVA increased at a much slower growth rate of 36% over the 10 years to 2017, reflecting an average annual 3.1%.

Broadly, the Study Area can be characterised as having a greatly expanded economic contribution from white-collar sectors and a decline in blue-collar contribution. The contribution shares of those white-collar sectors that currently dominate have all almost doubled (or more than doubled) since 2007 with the exception of public administration and safety. This latter industry suffered a stalling in employment levels since 2007 and its economic contribution has fallen from 17% to 11% of the Study Area total. Even so, in absolute terms its GVA has increased.

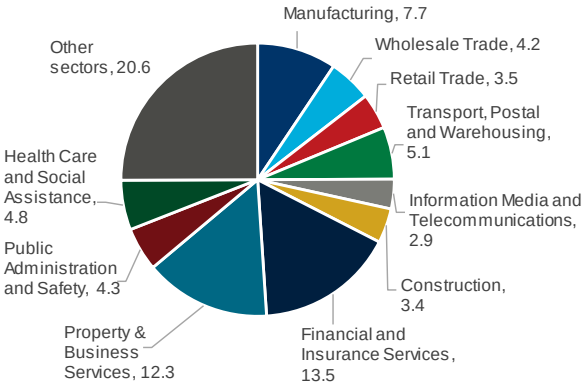
The shift towards white-collar dominance has resulted from strong employment growth in most white-collar sectors in the Study Area as well as, in some cases, strong productivity gains within these industries. In particular, rental, hiring and real estate services and information media and telecommunication and, recorded the highest and second highest productivity gains from 2007 to 2017 of all industries. The second largest contributor to the Study Area's economic contribution in 2017, professional and technical services achieved only modest productivity gains over the decade.

A number of industries suffered productivity falls over the last 10 years, including manufacturing, accommodation & food services, administration & support, education and health, but all the declines were fairly moderate. However, the analysis highlights that it is not only employment growth that contributes to the value of an industry to the area.

The area's shift towards white-collar sectors is reflected in the decline in economic contribution from blue-collar sectors such as transport, manufacturing and wholesale trade. In 2007, these three sectors contributed about 35% of the Study Area's economic output. By 2017, this share fell to 13%. The decline was most marked between 2012 and 2017. Productivity gains were achieved in some blue-collar sectors, particularly in wholesale trade, but were more than offset by falls in employment. It's not just their *shares* that have declined; the dollar value *levels* of each of these sectors was lower in 2017 than 10 years ago.

Fig. 7. Share of Gross Value Added by industry over time (%), Sydney metropolitan area (LHS) and Sydney-Haymarket SA2 (RHS)

2007

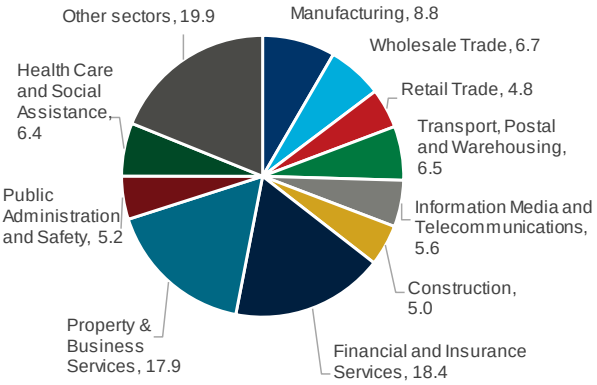


Source: BIS Oxford Economics, ABS

2006

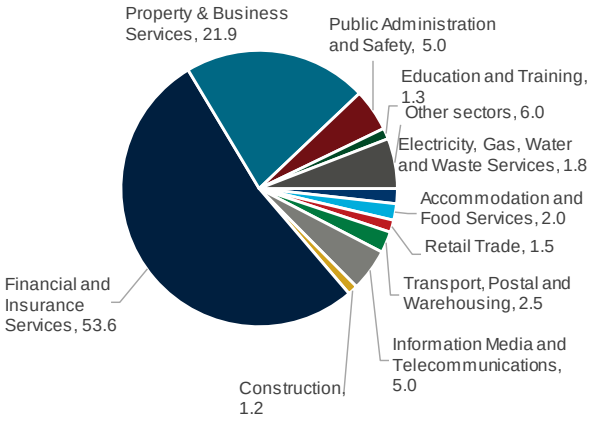
Not available due to boundary changes between Census editions

2012



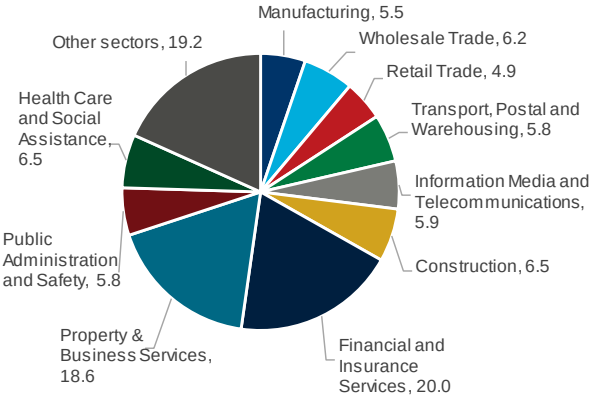
Source: BIS Oxford Economics, ABS

2011



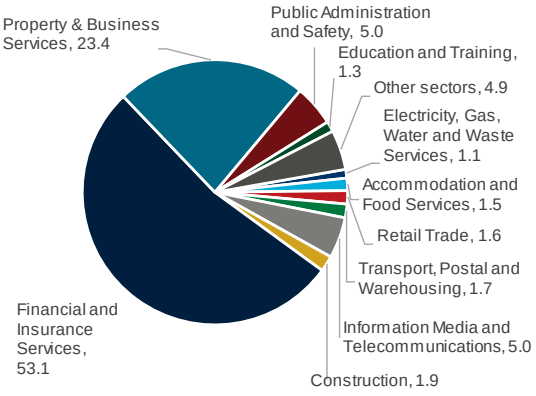
Source: BIS Oxford Economics, ABS

2017



Source: BIS Oxford Economics, ABS

2016



Source: BIS Oxford Economics, ABS

Fig. 8. Gross Value Added, Study Area, CBD and metropolitan area ($2015-16m)

	Study Area	Sydney Haymarket SA2	Sydney metro	Study Area as % of SHSA2	Study Area as % of metro
2007	658	n/a	225,496	n/a	0.29
2011/12	854	43,873	259,236	1.95	0.33
2016/17	1,143	56,655	307,302	2.02	0.37
% ch 2007-2017	74	n/a	36		
% ch 2011/12-2016/17	34	29	19		

Source: BIS Oxford Economics, ABS, City of Sydney FES

As with employment, the exception to blue-collar decline is the construction sector. However, with an economic contribution of less than 2% to the Study Area total, it is too small to be separately identified in Fig 6.

2.5.3 Economic contribution of Sydney metropolitan area and CBD

In order to better understand the trends in economic contribution within the Study Area, this section places it into context by analysing the trends in economic contribution across the Sydney metropolitan area and the CBD.

Current economic contribution

The GVA of the Sydney metropolitan area (or Greater Capital City Statistical Area) is estimated at over $300 billion as at 2017 (Our methodology is discussed in 2.4.2). Sydney CBD (using the Sydney-Haymarket SA2 as a proxy) accounts for close to 20% of this (almost $57 billion). From Fig. 8, it is apparent that the Study Area makes up a very small share of the city's economic contribution – it is only 2% the size of the CBD and accounts for 0.4% of the metropolitan total.

Like the Study Area, the greatest economic contribution to the metropolitan area in 2017 came from white-collar sectors, but the mix varied. Finance & insurance (20%) dominated (a sector that barely features in the Study Area) and property & business services (a combination of rental, hiring, professional & technical services and administration & support services) (18%) were the most dominant for the metropolitan area, followed by construction (7%) and health (7%).

The CBD has a much more skewed distribution of economic contribution by industry, with over 50% in 2016 coming from the finance and insurance sector – which is the most productive industry sector by value. Professional, scientific and technical services was the next largest contributor at 14%, with rental, hiring & real estate services, information media and public administration well behind at 5% each (see Fig. 9).

Note that the estimates for the Sydney CBD use Sydney-Haymarket SA2 (SHSA2) place-of-work employment data from the 2016 and 2011 Censuses. The comparison years vary slightly from those used in the Study Area and metropolitan estimates. However, the differences are unlikely to be material. More comparable data from the City of Sydney FES for the CBD was not available at the time of our study.

Fig. 9. Share of Gross Value Added by industry 2016/17

Study Area		Sydney Haymarket SA2		Sydney metro	
Information Media and Telecommunications	16.2	Financial and Insurance Services	53.1	Financial and Insurance Services	20.0
Professional, Scientific and Technical Services	16.0	Property & Business Services	23.4	Property & Business Services	18.6
Administrative and Support Services	15.4	Public Administration and Safety	5.0	Health Care and Social Assistance	6.5
Public Administration and Safety	10.8	Information Media and Telecommunications	5.0	Construction	6.5
Transport, Postal and Warehousing	7.8	Construction	1.9	Wholesale Trade	6.2

Source: BIS Oxford Economics, ABS, City of Sydney FES

The boundary of the SHSA2 is slightly larger than the traditional CBD, but the employment and industry structure is dominated by the CBD. For our analyses, we have removed imputed workers included by the ABS where the SA2 was not stated to avoid over counting responses. Furthermore, our analyses excludes the 2006 census because of substantial boundary changes.

Change in economic contribution since 2007

Although the Study Area accounts for a very small part of Sydney's GVA, it has been growing at a faster rate, resulting in a slight increase in share over the last decade.

From 2007 to 2017, we estimate that the GVA in the metropolitan area increased by 36% (Fig. 8), while the Study Area enjoyed more than twice the rate of growth. For the period 2011/12 to 2017, the Study Area recorded stronger growth in economic contribution than either the CBD or metropolitan area.

In all three jurisdictions, the same broad trend towards increased white-collar and reduced blue-collar relative contributions is in evidence. As in the Study Area, the one clear exception to this is construction, where there has been a marked increase in (relative and absolute) economic contribution.

2.5.4 Floorspace use in the Study Area

The analysis of floorspace used in the Study Area is based on the City of Sydney's FES, using the ANZSIC industrial classification and floorspace use.

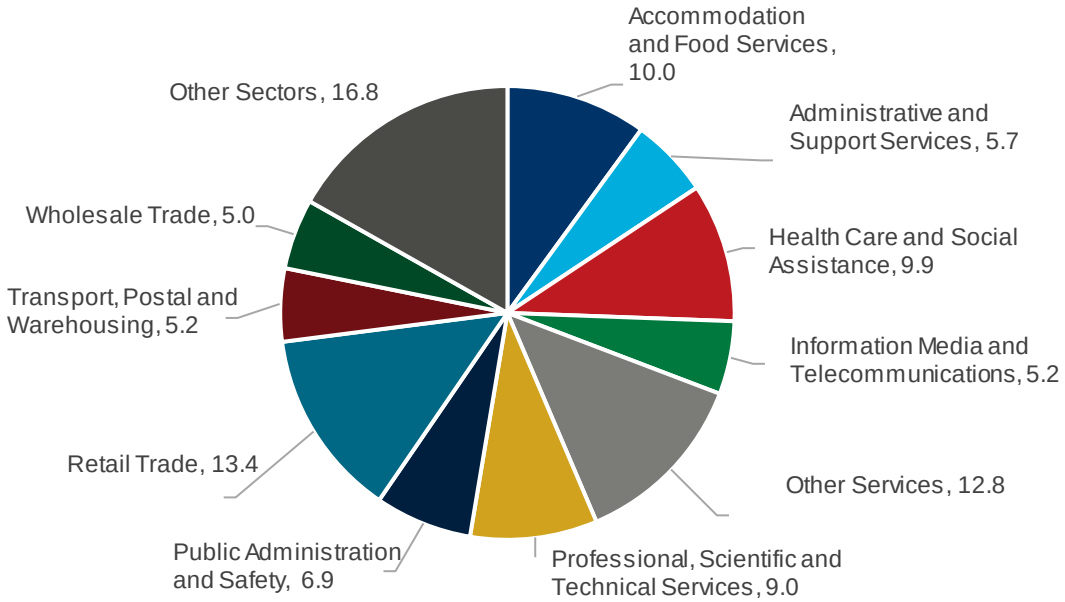
Floorspace by 'industry'

As at 2017, the Study Area contained a little under 2 million square metres of floorspace. The most dominant user of floorspace was households (i.e. residential use), which accounted for 75% of the total. The second-largest category was vacant space, with 89,000 square metres, followed by 'other' at 64,000 square metres.

Of the remaining space (around 345,000 square metres), three industry sectors represented over 10% of floorspace: retail trade, other services and accommodation & food services. Fig. 10 shows a breakdown. Note the

relatively small floorspace use by the larger employing industry sectors: professional, scientific & technical, administrative & support services, public administration & safety and information media and telecommunications, each accounting for less than 9% of the total floorspace. This reflects higher employment densities of the predominately white collar industries.

Fig. 10. Share of floorspace by industry, 2017, Study Area



Note: Share excluding vacant, housholds & other

Source: BIS Oxford Economics, City of Sydney FES

Floorspace per business (excluding vacant, household and other floorspace) averaged 419 square metres, but ranged widely, between 153 square metres (rental, hiring & real estate services) and 2,040 square metres (transport).

Workers occupied an average 35 square metres per person, again with a range – from 13 square metres (rental, hiring & real estate services) to 125 (education & training).

'City-Based Industry' analysis

In terms of floorspace occupied, households dominated in 2012, accounting for around 70%. Vacant space made up 4%. Excluding these, 'other' industries dominated floorspace use, making up 27% of the total. The other leading uses were: 'transport & logistics' (13%); and 'tourist, cultural & leisure' (10%), 'social capital' (10%), 'creative industries' (9%); and 'community' (also 9%). The remaining approximately 22% floorspace was accounted for by 15 different use groups. 2017 data was not provided for city based industries.

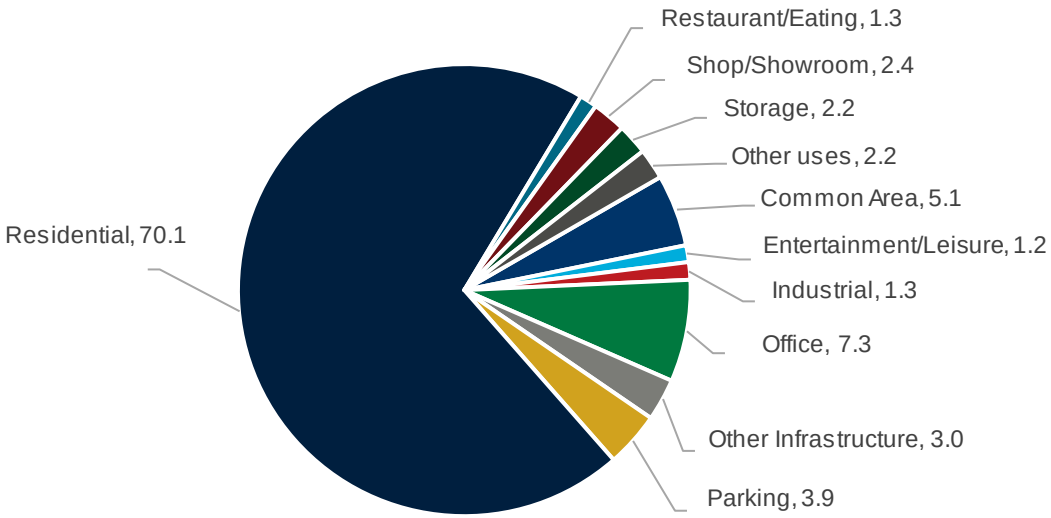
Floorspace by 'space use'

Looking at floorspace by space use, around 70% of the near 2 million square metres of floorspace is classed as residential in the 2017 FES. The next highest use is office space at 145,000 square metres (or a 7.3% share), followed by common area (5.1%).

Collectively, almost 85% of the floorspace (1.66 million square metres) in the Study Area is accounted for by uses which accommodate little to no employment. These include residential, parking, common areas, other infrastructure, transport, utilities and visitor accommodation.

Of the remaining 330,000 square metres (which accommodated the most employment generating uses), office accounted for almost 45%, shop/showroom 15% and storage 13%. Restaurant/eating and industrial accounted for 8% each, followed by entertainment & leisure (7%) and community at 5%.

Fig. 11. Share of floorspace by space use, 2017 Study Area



Source: BIS Oxford Economics, City of Sydney FES

Change in floorspace use since 2007

Overall, floorspace in the Study Area changed little in the 10 years from 2007 to 2017, increasing by just 5% or 90,406 square metres to a total 1,991,704 square metres. However, this figure masks divergent patterns within different space uses.

Most of the growth was in 'households' floorspace i.e. residential use, which increased by 8 to 10% (depending on whether measured by industry or floorspace use categories). The dominance of residential floorspace in the Study Area increased to between 70 and 75% over the decade to 2017.

Industry by industry, changes in floorspace profile over the decade reflect the changes in employment discussed earlier i.e. from a largely manufacturing and wholesale trade area (with some other significant uses) to one where white-collar industries have risen to the fore.

The contrast between rising employment and falling floorspace (excluding vacant, household and other) implies that floorspace use has become more employment-intensive. This is seen in workspace ratios (WSRs), which declined from an average of 56 square metres/person in 2007 to 35 by 2017.

Two factors were at play. WSRs fell in most industries so that even with no change in industry structure away from blue-collar, there would have been a reduction in the average WSR. The reduction in the average was exacerbated by the shift to white-collar sectors, which have the lowest WSRs i.e. are the most employment-intensive uses.

The shift away from blue collar uses is also confirmed by floor space use data with manufacturing and wholesale trade space experiencing the largest declines over the 10 years to 2017.

2.5.5 Key employment clusters adjacent to the Study Area

The preceding discussion of the history of the Study Area and current employment, economic and floorspace profile reveals that, while there has been a strong shift towards white-collar industries, there are no dominant employment clusters within the Study Area. This may in part reflect the presence of three key users adjacent to the Study Area: the Australian Technology Park, Royal Prince Alfred Hospital and University of Sydney.

The Australian Technology Park (ATP)

The Australian Technology Park is a significant employment precinct surrounded by the Study Area but excluded because its planning controls reside with the state government. It is considered below because of its potential to influence employment within the Study Area.

The ATP had 96 businesses employing over 3,400 total workers in 2017 and occupied just over 166,000 square metres of floorspace. It was roughly one-third of the size of the Study Area (comprising around 30% as much non-household floorspace and a somewhat higher 36% of employment).

The white-collar sector dominated both employment and floorspace in the ATP as at 2017. Within this, there was considerable variation between, for example, the information, media and telecommunications sector, which had few, but large, businesses, and the professional sector, which was characterised by a much larger number of small businesses.

Average business size was much larger in the ATP than in the Study Area as at 2017, with an average of 36 workers (compared with 11 in the Study Area) and 985 square metres (versus 419 square metres).

A comparison of Fig. 12 with Fig. 4 reveals a much more concentrated employment distribution in the ATP than in the Study Area. Indeed, at 2017, the ATP was dominated by six large businesses in the information media and telecommunications sector, which occupied over 28,000 square metres, or almost 30% of floorspace (excluding household/vacant/other floorspace). Notable occupiers include Seven West Media, NEP and Data 61.

Other significant space users were: public administration and safety (also with six businesses, making up some 20,000 square metres); and professional, scientific and technical services (where 55 small businesses – average size 300 square metres – occupied over 16,000 square metres).

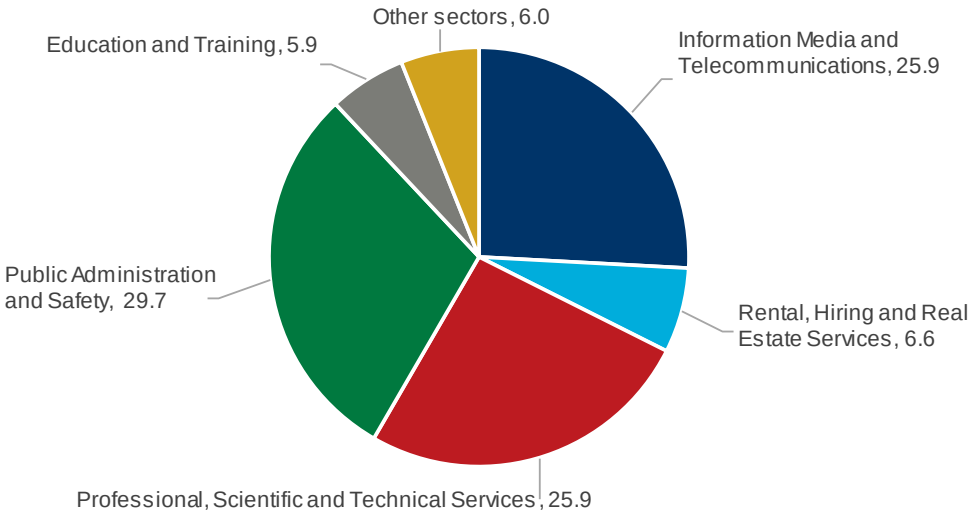
As in the Study Area, manufacturing was small, accounting for less than 1% of floorspace; while there were no businesses at all in wholesale trade.

The ATP experienced a similar decline as the Study Area in manufacturing and wholesaling and rise of the white-collar sector over the decade to 2017, against

the backdrop of a fairly stable total business count. In 2007, manufacturing accounted for 7% of floorspace in the ATP; by 2017 it was less than 1%. Wholesale trade similarly declined, from 8% to 0% over the same period.

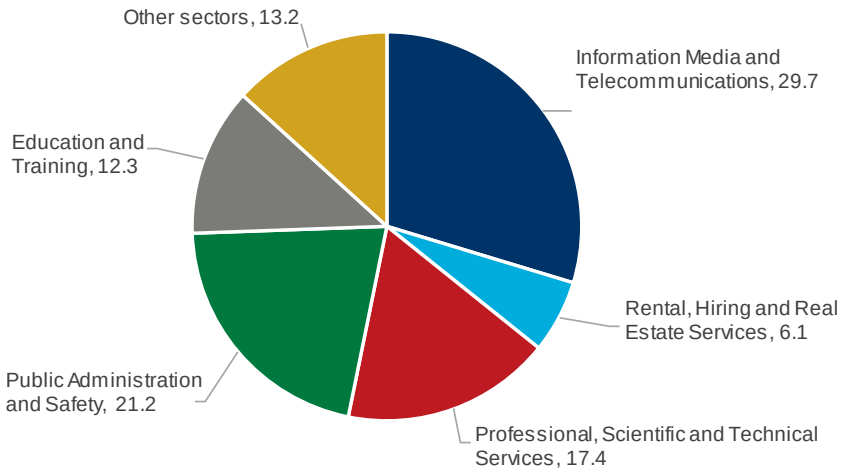
Both the information media and telecommunications sector and (to a lesser extent) public administration and safety saw a considerable shift in company size over the decade to 2007, moving from a larger number of small companies to fewer, much larger, occupiers.

Fig. 12. Share of employment by industry, 2017, ATP



Source: BIS Oxford Economics, City of Sydney FES

Fig. 13. Share of floorspace by industry, 2017, ATP



Note: Share excluding vacant, households & other

Source: BIS Oxford Economics, City of Sydney FES

The Royal Prince Alfred Hospital

The Royal Prince Alfred Hospital (RPA) lies to the north-west of the Study Area, separated by the University of Sydney. However, being a large employer in the area, it has the potential to influence how the Study Area evolves.

City of Sydney FES data for the RPA is only available for 2007 and 2012. Employment comparisons using 2016 Census data are difficult because of the different measurements adopted and other statistical variations. Nevertheless, discussions with the Hospital reveal an estimated 6,500 full time equivalent workers are currently employed at Camperdown.

The RPA occupied over 250,000 square metres in 2012, including some 45,000 square metres of vacant space. It was substantially larger than the ATP.

As expected, floorspace and employment was dominated by the health and professional, scientific and technical services sectors, which accounted for almost 100% of the 4,453 persons employed and some 88% of non-vacant floorspace. The average workspace ratio was 47 square metres per person of occupied floorspace – similar to the Study Area but higher than in the ATP.

When considered in terms of 'Space Use', rather than industry, there were several significant occupiers of floorspace. Topping the list was office space, followed by common area, community, parking and other infrastructure space.

The University of Sydney

The University of Sydney is a major employer located just outside the north-west boundary of the Study Area and has significant potential to influence employment growth within the Study Area.

As with the RPA, City of Sydney FES data for Sydney University is only available for 2007 and 2012. 2016 employment data measurements from the Census are incompatible with the City of Sydney data.

Sydney University's Camperdown/Darlington campus occupied some 1.1 million square metres in 2012 including a substantial amount of floorspace occupied by households and other infrastructure. Some 11,000 persons were employed, much more than in the Study Area, ATP or RPA.

Excluding households and other (which accounted for 12% and 11% of floorspace respectively), floorspace was dominated by the education and training industry (52%). The transport and arts and recreation services sectors were also significant, with 19% and 15% of floorspace respectively.

The distribution of employment was even more strongly concentrated in education and training (77%). The other significant employment sector was professional, scientific and technical services, while the transport and arts industries accounted for little employment.

In terms of 'Space Use', other infrastructure dominated by far, followed by common area, office, community and parking floorspace.

Sydney University has a major 'Campus Improvement Project' under way that has already seen numerous refurbishments and new buildings, such as the University of Sydney Business School's 33,000 square metres Abercrombie

Building. It is unknown whether, or to what extent, this has resulted in a net increase in floorspace since 2012.

2.5.6 Demand for commercial space in the Study Area

Earlier analysis has revealed that employment-generating space use is concentrated in the commercial sector (office, retail and industrial/storage uses). This section focuses on demand for these uses in the Study Area.

No quantitative demand data is available for industrial and retail uses, with qualitative feedback from real estate agents operating in the area provided below. For office space, commercial real estate agents split the Study Area between the City Fringe and South Sydney. The Study Area makes up less than 10% of the combined City Fringe and South Sydney office floorspace.

Demand for office space

Demand for office space in the City Fringe and South Sydney is difficult to quantify, but agents report the vacancy rates in both these areas fell significantly over the last five years, after hovering around 7% to 8% over the previous five. At the end of 2017, the vacancy rates had fallen to between 3% and 5.5%, reflecting a similar low rate to the CBD's 4.6%. As in the CBD, part of the reason behind the significant vacancy rate reductions in South Sydney and the City Fringe was the withdrawal of existing office buildings for residential conversion. Anecdotally, agents report solid demand for office space within the Study Area in recent times, with low vacancies and limited supply constraining companies' expansion options.

Falling vacancies in the City Fringe and South Sydney office markets over the last five years underpinned substantial escalations in rents, with average A grade gross stated rents in both areas climbing by over one-third to range between $500 and $650 per square metre. This compares to $1,100 to $1,200 per square metre for similar quality office space in the CBD. Nevertheless, agents commented that the significant increase in occupancy costs is acting as a barrier to office based businesses looking to move into or expand within the Study Area.

Demand for industrial space

The 2017 FES showed industrial/storage floorspace made up around 3%, or around 70,000 square metres, of the total floorspace in the Study Area. Most of this space is located along Young Street and spread out along Botany Road. Agents reported strong demand for the remaining vacant industrial space in the area with very low vacancies for both precincts. The biggest hurdle to meeting demand for industrial space in the Study Area at present is the shortage of existing available stock. Over the ten years to 2017, industrial stock fell by about 40,000 square metres. The B4 mixed use zoning applied to the existing industrial precincts in the Study Area permits the ongoing redevelopment to higher and better uses, with residential uses mixed with compatible business uses such as office and retail posing a threat to the existing industrial stock. Industrial property rents in the broader South Sydney area reflect the encroachment from residential uses, with average secondary net stated rents climbing by around 25% since 2007. Along with rising market rents, increases

in outgoings have also added to occupancy costs for industrial users in the area. In particular, land tax has risen as a result of the mixed use zoning.

The reduction in industrial space in the Study Area has forced some occupiers out of the area, with redevelopment displacing existing users. Most businesses that have been forced out are small operations with no dominant relocation areas. One larger recent example was Edgar Bragg and Sons Printers, who occupied about 1,500 square metres on Cope Street which was acquired by the state government to make way for the Metro Waterloo Station. The printers plan to re-establish their business in the future, but face delays because of difficulties sourcing alternative affordable premises.

Demand for retail space

According to the City of Sydney FES, retail and restaurant/eating space accounted for around 4% (or around 73,000 square metres) of the Study Area's total floorspace in 2017, marking a lower representation than office space but similar to industrial space. Reflecting different employment densities, retail employment was more than four times that of industrial, but only 20% that of office.

The most significant retail precincts within the Study Area are clustered along Redfern Street, interspersed along Botany Road and Regent Street as well as on Cleveland Street, including Surry Hills Shopping Village (which is to be redeveloped).

Site inspections along Redfern Street revealed older low density (predominately one or two story) buildings. Most retailers are focused on providing services to local residents, businesses, pedestrians from Redfern Train Station or those working at the Australian Technology Park or University of Sydney. Few shops were vacant, suggesting solid demand from retailers. Retailers included cafes, hairdressers, accountants, personal services and medical providers as well as indigenous service providers.

The Regent Street and Botany Road retail strip has a similar mix of retailers as those found on Redfern Street. Most of the shops on Regent Street are currently occupied suggesting strong demand from retailers. However, agency feedback points to higher vacancies and churn within retail space on Botany Road, suggesting weaker demand than other precincts.

Cleveland Street, (to the east of Prince Alfred Park) has a mixture of retailers, either in a cluster (around the Surry Hills Shopping Centre) or interspersed amongst old residential terraces. Again, the focus of retailers is on servicing surrounding residential areas, with uses ranging from hotels to day surgeries to vets. Most shops are occupied, but there are numerous vacancies, suggesting weaker demand than Redfern and Regent Streets. Interview responses from agents confirm current demand for retail space is quite weak along Cleveland Street.

There are very limited retail uses on Cleveland Street (to the west of Prince Alfred Park) with the area dominated by residential. Indeed, the most prominent retailers can be found on the ground floor of residential buildings or corner shops providing convenience services. Most appear to be currently occupied, suggesting steady demand.

According to retail agents active within the Study Area, market rent is difficult to determine, influenced by how keen owners are to lease space and localised pockets of oversupply. Furthermore, some retail rents have been significantly subsidised in mixed use buildings by the residential component of the building.

2.5.7 Emerging industry sectors in the Study Area

The analysis of employment, floorspace and economic contribution above highlights the growth of white-collar sectors, with many of them seeing a trebling or more in employment over the 10 years to 2017. In particular, we identify the following industries as emerging sectors:

- Information, media and telecommunications increased its share of employment from 3% (around 180 people) to 8% (almost 800 people), with the number of businesses rising from 21 to 38.
- The professional, scientific and technical sector increased its employment share, accounting for 16% (or almost 1,600 people) in 2017, compared to 11% (about 700 people) in 2007. At the same time, the number of businesses increased from 74 to 111.
- Administrative and support services saw its share of employment rise by the greatest amount from just 2% (160 people) to 12% and 1,200 people.
- Other services saw its employment share rise from 8% (500 people) to 12% (1,200 people).
- The only other sectors which saw an increase in their share of employment over the 10 years to 2017 were construction arts and recreational services. Both these sectors share rose from 1% to 2%, but accounted for less than 32 individual businesses each in 2017.

A comparison of the employment profile of the Study Area with that of the CBD (Sydney-Haymarket SA2) reveals a number of similarities. Over the five years to 2016, professional, scientific and technical services increasing its share of CBD employment to about 24%, with rental, hiring & real estate services rising to just over 3%. Construction employment also accounted for a larger share at just over 3%.

Unlike the Study Area, accommodation & food services also looks like an emerging sector in the CBD, increasing its share of employment to about 7%. Looking at the other key differences, whilst administration & support and information media & telecommunications appear to be emerging sectors in the Study Area, they are not in the CBD, with their share of employment falling between 2011 and 2016. All other sectors in the Study Area and CBD not mentioned above, saw their employment share fall over the last five or 10 years and were not classified as ‘emerging sectors’.

We are not aware of any significant infrastructure improvements within the Study Area over the last 10 years that would have contributed to the growth of the emerging industry sectors discussed above. It is likely that a number of these sectors (such as information media and telecommunications and professional scientific and technical) emerged to service expanding operations at University of Sydney and the ATP, which could be classified as social infrastructure.

3. FUTURE GROWTH DRIVERS

3.1 KEY POINTS

Looking ahead, the Redfern-Waterloo study area is well located to benefit from future population and economic growth across the entire Harbour City.

Its attractions include proximity to the CBD, access to a large workforce via existing and future transport infrastructure, proximity to the ATP and four universities and the opportunity to service a growing population, locally at nearby Green Square.

However, in its current form/under current conditions/zoning its ability to accommodate such demand is limited. There is no identifiable office precinct and a general shortage of both office and industrial space and the absence of a retail hub/major amenity for workers. Most importantly, the dominant land-use is residential, property ownership is highly fragmented and development favours residential as the highest and best use. Moreover, there are concerns that Redfern Station will become a bottleneck with the inflow of 10,000 Commonwealth Bank workers into the ATP from 2019.

The best prospect to accommodate growth within the Study Area lie along the Regent Street/Botany Road corridor and the Metro Waterloo State Significant Precinct with other UR and SSP sites adjacent seemingly locked into residential development or too far away.

3.2 ATTRACTIONS AND BARRIERS FOR BUSINESSES TO LOCATE IN THE STUDY AREA

BIS Oxford Economics conducted a series of interviews with existing and potential space users (both owners and tenants) in the Study Area, exploring their views of attractions and barriers to future locational choices over the longer term. The attractions and barriers vary industry by industry, but there are some common threads.

Attractions of the Study Area

Proximity to the CBD. The northern boundary of Study Area is located less than 2.5 kilometres from the Sydney GPO, while the distance to its farthest point is around 4 kilometres. This is a critical factor for office-based businesses that provide services to CBD businesses.

Proximity of the workforce. Proximity to a large workforce in the southern and inner western suburbs remains an attraction for the remaining industrial businesses in the Study Area. For the remainder, accessibility (via public transport) is of far greater importance.

Transport links. The Study Area is serviced by Sydney Trains' Redfern Station to the North-west (and within the Study Area) and Green Square Station to the South (approximately 500 metres beyond the southern boundary of the Study Area), both within walking distance of large parts of the Study Area. Redfern Station is the principal attraction for space users given that 5 out of 8 Sydney Train lines stop there, as well as being just one stop from Central.
However, Redfern Station is also viewed as a potential threat to future growth

by space users with interview respondents concerned about the stations capacity to handle rising patronage – particularly several thousand patrons from the Commonwealth Bank. There appears to be no plan by Sydney Trains/Transport for NSW for investment to boost capacity.
Buses servicing the area provide connections to the CBD, the Eastern Suburbs and the train network.

Close *proximity to the Australian Technology Park*. Office leasing agents suggest that a range of secondary office users are attracted to locate in the Study Area because they have linkages and provide services to businesses located within the Australian Technology Park.

The development of the *Sydney Metro and Waterloo Station* is seen as an attraction for the Study Area over the long term, but is perceived too far into the future to influence occupants' locational choices now. Most commercial leases in the area have a term of three to five years and the Metro is not due to be completed until 2024. Even so, the Metro is seen as a positive for commercial users located within comfortable walking distance. Retail agents believe the increased accessibility created by the Metro station will create the conditions for a retail hub, servicing commuters and nearby residents.

Providing amenity to growing population and employment hubs. The main attractions for retailers looking to locate in the Study Area is high levels of passing foot traffic generated by local population and employment growth. The areas which are most sought after are the southern end of Botany Road close to Green Square (outside the Study Area) and in close proximity to the Australian Technology Park, particularly in anticipation of the arrival of Commonwealth Bank and its 10,000 workers in 2019 and 2020.

Proximity to four universities, including University of NSW, University of Sydney, University of Technology Sydney and University of Notre Dame Australia. In addition, the study area is close to two major teaching and research hospitals, including Royal Prince Alfred and Prince of Wales, which are expected to see continued demand for services drive expansion in the future.

Office rental differential to the Sydney CBD. Office rents in the Study Area are seen as both an attraction and barrier. The main attraction is that rents within the City Fringe South Sydney are around half the level per square metre of comparable office buildings in the CBD, but both have increased significantly in recent years acting as a barrier to some companies budgets (discussed below).

Barriers to locating in the Study Area

Lack of an identifiable office precinct. There are no obvious office precincts with the Study Area, although the Australian Technology Park adjacent to the Area will become a (fully developed) precinct with the arrival of Commonwealth Bank. Other existing office users are dispersed across the Area. Many office users have a strong preference to be located in precincts for the business synergies and amenities they provide.

There has been no significant office development outside the Technology Park apart from the Australia Post headquarters and the former TNT Towers at Redfern station, both of which have remained isolated sites. In fact, office stock declined over the past 10 years due to the withdrawal of one of the two former

TNT Towers. During previous periods when office space in the CBD ran into capacity constraints, office development occurred around South Sydney and Surry Hills – the Study area was regarded as too distant. Today, the Study Area has few sites large enough for an office precinct to develop. Potential locations include the site above the Sydney Metro Train Station and the former 'The Block' on Caroline Street (now known as the Pemulwuy Project). However, plans for both sites are predominately residentially focused.

Shortage of available office and industrial space. As noted above, the supply of office space in the Study Area has not increased over the last 10 years. With vacancy rates in the broader South Sydney/City Fringe at less than 5.5%, agents report businesses are having difficulty finding suitable space to move or expand into forcing them to look outside the area. Industrial space in the Study Area has also declined over the last decade, being gradually redeveloped to higher and better uses. The only industrial precincts that remain are located on Young Street and parts of Botany Road. Agents report strong demand for industrial space held back by low vacancies.

Rising office and industrial property occupancy costs. The Study Area sits with the broader metropolitan office hierarchy, with rents rising and falling through the cycle. Over the last four to five years, office vacancy rates across the metropolitan area have fallen appreciably, underpinning an upswing in rents across many of the sub-markets, with the CBD leading the way and the City Fringe and South Sydney following suit. Agents suggest that rents in the Study Area have climbed by more than 30% over the past five years, hitting the budget constraints of price-sensitive tenants and forcing some to consider alternative locations that have lower occupancy costs.

In the industrial market, agents report that outgoings have climbed in recent years, adding to occupancy costs and acting as a barrier to those looking to move into the area. Rising land tax costs have been passed through to tenants and reflect planning controls which permit higher and better commercial and residential uses.

Absence of a retail hub for amenity. The interview process revealed a shortage of retail amenity – as opposed to a shortage of retail floorspace – in the Study Area, in particular the absence of a clearly identifiable retail hub. Sydney University and the Australian Technology Park either have provided or are planning to provide increased on-site retail amenity to service employees and students. Existing retail strips along Redfern Street and Surry Hills Shopping Village (which is to be redeveloped as a mixed use, but largely residential, development) are considered too far away for many users to frequent. Agents commented that the provision of an accessible retail hub in the Study Area would drive employment and boost the appeal for commercial users. However, there is a surplus of existing retail floorspace – and hence low rents – and good retail provision just outside the Study Area, including Moore Park Supacentre

Insufficient passing traffic for retailers in parts of the Study Area. A key ingredient for successful retail businesses is sufficient passing trade. Pedestrian traffic is higher closer to the transport hubs of Redfern and Green Square Train Station and around the Australian Technology Park. But many retailers struggle in other areas along Botany Road and parts of Cleveland

Road because of a lack of passing trade, limited parking and noise/air pollution from heavy traffic.

Safety concerns. Even though Redfern/Waterloo's reputation is changing as the area is gentrified, safety concerns remain related to the area's provision of public housing. Interview feedback suggests some high end retailers will not move into the Study Area because of crime and safety concerns.

Fragmented (private) property ownership preventing redevelopment. Commercial space within the Study Area is primarily controlled by private owners. The multitude of owners is a barrier to site amalgamations needed to facilitate construction of larger commercial buildings.

Land scarcity and competing uses. Most of the land within the Study Area is built out. Extra capacity requires the redevelopment of existing space, which generally occurs when it is financially feasible to do so. There is potential for redevelopment along the Botany Road Corridor, which is currently zoned mixed-use. Commercial and residential markets are highly cyclical with the highest and best use changing over time. Over recent years, mixed-use has by default meant residential, but this may change in the future.

Social and institutional uses also compete for sites and can be shut out by competing uses. Sydney University has expressed the desire to expand at North Eveleigh. However, the University cannot compete with the prices paid by high density residential developers and it is planning to expand elsewhere once its Camperdown/Darlington campus reaches capacity.

Transport bottlenecks. Several major space users expressed concerns about Redfern Station's capacity to accommodate the projected growth in passenger numbers. Of particular concern are the several thousand Commonwealth Bank staff that are likely to use station on their way to and from work during peak periods. Major employers in the area are pushing for the NSW Government to upgrade the station, with the Metro Station at Waterloo not scheduled to come on-line until late 2024 and also being beyond comfortable walking distance for many workers/students.

3.3 STUDY AREA COMPARISON WITH OTHER LOCAL AND INTERNATIONAL PRECINCTS

Both globally and in Australia, interest in and actual urban renewal[2] has largely focused on large-scale 'marquee' projects in big, mostly mature cities. Most start with (very) large sites and (with exceptions) single ownership, more often than not one or multiple tiers of government, and typically involve the transformation or re-purposing of outdated industrial estates, infrastructure installations such as railways and docks, or outdated public housing estates.

Although much has been written about the success or otherwise of the projects, most of the focus has been on procedure, e.g. best practice in decision making and project delivery[3] . There is very little empirical evidence of success beyond

[2] The term 'urban renewal' is used here as an umbrella term for a wide range of expressions describing the transformation of older urban spaces into a more contemporary form, including changes of purpose

[3] SGS Economics & Planning (2014), Best Practice Urban Renewal, report prepared for the City of Sydney

the increase in residents or the number of jobs located at the site after completion.

Australian examples commonly cited include Docklands in Melbourne and Barangaroo in Sydney, while further afield King's Cross and Elephant and Castle in London (United Kingdom), the Brooklyn Navy Yards in New York (United States) and Hafencity in Hamburg (Germany) are often mentioned. All of these projects are characterised by a single, powerful delivery authority and land that was – with the exception of King's Cross – initially in public hands.

This model of large-scale project would lend itself to the Redfern to Eveleigh corridor – including the Carriageworks – and, possibly, the Redfern and Waterloo public housing estates. However, a more granular (i.e. smaller scale) approach is required for the Study Area, whose characteristics – i.e. scale and ownership – are different from the above projects. Nonetheless, the Redfern-Waterloo Study Area and adjacent state government-owned ATP, housing estates and Redfern to Eveleigh Corridor are functionally connected and would benefit from a coordinated planning approach between the different tiers of government.

At the granular level, there is a dearth of empirical data on the success or otherwise of different projects. A location or suburb may have been largely left to its own devices, with a minimal amount of intervention in terms of planning, changes to planning instruments or infrastructure investment. The term 'urban renewal' is used here as an umbrella term for describing the transformation of older urban spaces into a more contemporary form, including changes of purpose.

While there are no exact matches for the Study Area, there are examples of partial matches. Two relevant examples are found in the neighbouring suburb of Surry Hills and, a little further afield, in Marrickville.

Unsurprisingly, **Surry Hills –** which was in a comparable situation 25 to 30 years ago – is the closest match to Redfern-Waterloo. Starting in the 1990s, Surry Hills attracted new residents who were attracted by the area's historic ambience and lower cost of accommodation compared with the CBD, both for purchase or rent. The suburb also offered a wide range of industrial premises which had in many cases become obsolete to the point of being derelict, thereby presenting opportunities for businesses who could not afford to pay the rent typically charged for newer premises. Over the years, the early trendsetters were joined by a more affluent young urban population who set in train the 'gentrification' of Surry Hills.

The existing stock of old industrial buildings attracted new businesses to the area – a mix of small ventures for whom the low rent of such premises was the prime factor, as well as architects, fashion designers and a range of operators loosely termed creative industries. In combination with the growing resident population, they provided the critical mass for follow-up service providers such as cafés, restaurants, hair dressers, etc. Overall, population and employment in Surry Hill grew at the same time and transformed the suburb from a somewhat run-down location into a thriving residential and business community.

However, there is a risk that Surry Hills could become a victim of its own success. Low building vacancy rates – both locally and in the inner Sydney

area as a whole – have caused big increases in rents and property prices, which is causing difficulties for price-sensitive business operators and residents alike.

Being in a similar starting position in the early 1990s, Surry Hills provides a pointer to how the Study Area may develop in future if it were largely left to its own devices; that means no further changes to zoning and resisting the urge to summarily, or ad-hoc, increase building heights to allow multi-storey residential development. Given that Surry Hills is getting ever more expensive, Redfern-Waterloo could catch some of the overflow of occupiers pushed out when accommodation cost exceed their budgets.

In contrast to Surry Hills – where businesses are more scattered across the area – **Marrickville** serves as an example of a successful cluster of creative industries developing within an older-style, inner-western industrial precinct. The cluster was analysed in detail by Gibson et al in 2017 as part of an international research project[4] funded by the Australian Research Council.

The authors report on the success of the Carrington Road cluster of creative industries and small-scale manufacturing, some of which were displaced from Pyrmont/Ultimo by strong rental growth after the area's redevelopment. The cluster has a high local multiplier effect, employing a total of 1,800 people across 223 enterprises within a mix of older, low rent buildings that suits occupiers' needs in terms of size, location and access.

Businesses cluster together in premises that are affordable for their type of operations; individually, they would not be able to afford the rent in stand-alone industrial buildings. Other advantages of the location include the proximity to both clients and suppliers, as well as the freedom to choose operating hours. Within the cluster there are dense networks of inter-business relations, which the authors conclude would threaten the survival of individual businesses were they forced to leave the cluster.

Clusters such as Carrington Road are rare and are under threat from changes in land use patterns and policies of urban densification. Unless they are protected from encroaching residential redevelopment, the resultant loss of local jobs would counter the very objectives policy makers are trying to achieve by setting employment targets.

Redfern-Waterloo has little pure industrial space left after the demolition of an entire block – bounded by Botany, Raglan, Cope and Wellington Streets – to make way for the new Metro station. The remaining properties are mostly dispersed across the area and are likely to be too small on their own to provide the scale required to establish a successful cluster. Moreover, many have already been re-purposed – particularly along Botany Road – for quasi-retailing functions. The small industrial precinct along Young Street consists of relatively modern stock that commands rents above what businesses like those resident at Carrington Road would be able to afford.

[4] Gibson, C, Grodach, C, Lyons, C, Crosby, A and Brennan-Horley, C (2017) Made in Marrickville: Enterprise and cluster dynamics at the creative industries-manufacturing interface, Carrington Road precinct. Report DP170104255-2017/02, Australian Research Council Discovery Project: Urban Cultural Policy and the Changing Dynamics of Cultural Production, QUT, University of Wollongong and Monash University

While the Study Area already has a large number of businesses (13.5% of the total in 2012) classified as 'creative', a cluster like the Carrington Road example is unlikely to develop due to lack of suitable premises.

There are several other areas/projects that hold some relevance for the Study Area.

The above-mentioned **Pyrmont/Ultimo** region witnessed significant renewal activity through the 1990s and 2000s, and development continues to this day. In the 1980s, the NSW Government drew up plans to revitalise the area which had suffered several decades of decline. It formed the City West Development Corporation – which later became the Sydney Harbour Foreshore Authority – to oversee development.

The task was highly complex, with fragmented ownership of much of the area. However, several large sections were held in single ownership by various tiers of government and listed company CSR. The model employed used Commonwealth funding and land disposals to fund infrastructure, a light rail corridor and affordable housing.

Since its inception, the program has achieved a nearly 50/50 split between residential and office/business development in the area. Development activity was largely left to market forces: the ups and downs of the office and residential property cycles determined what was/is being built based on highest-and-best-use calculations at any given time.

Pyrmont/Ultimo serves as an example of what can be achieved with a combination of common purpose, policies, plans and funding – in this case from the Commonwealth government via its 'Building Better Cities' program.

In Brisbane, **Fortitude Valley** – and parts of neighbouring Teneriffe, Newstead and Bowen Hills – have, since the 1990s, undergone a transformation from an outdated and disused former industrial precinct into a vibrant, medium to high-density area with accompanying large increases in both population and employment.

The transformation was led by Brisbane City's 'Urban Renewal Taskforce' which was set up in 1991 (later to become Urban Renewal Brisbane). It drew up plans for the revitalisation of derelict industrial areas and drew up masterplans for the redevelopment of large individual sites. They included a former tram/bus depot, a Coca-Cola bottling plant, the site of the former Brisbane Gas Company and others.

Today, the Valley contains major commercial, retail and entertainment precincts serving a fast growing population. In common with Pyrmont/Ultimo, property development was largely left to market forces. Part of the area's success as an employment precinct is due to the boom in resources investment in the mid-to late 2000s and, again, in the early parts of this decade. As the CBD ran out of office space to accommodate a fast growing office-based workforce, developers acquired sites in Fortitude Valley and Newstead to build accommodation for companies desperate for space. The area became a centre for civil and mining engineers and project managers, as well as other tenants forced out of the CBD by the combination of space shortages and surging rents.

When the mining investment boom started to bust, the pendulum swung towards residential construction. Strong population growth during the boom years had driven up housing prices, which made dwelling construction highly lucrative. With its proximity to the CBD and existing train line, the Valley, Newstead and Bowen Hills saw the construction of thousands of new apartments until the cycle started turning down in 2017.

The model of Fortitude Valley is only partially relevant for the Study Area. Redevelopment largely occurred away from existing residential areas, which themselves only experienced infill activity. Heritage-listed warehouses were converted to apartments right from the start, particularly along the river. What both have in common is proximity to the CBD, as well as the fact that the city and inner suburbs at times suffer from an acute shortage of vacant sites to accommodate a growing office workforce and residential population.

In Melbourne, **Fishermans Bend** is currently Australia's largest urban renewal project. It covers an area of 480 hectares that, at its closest point, is located less than one kilometre from the south-west corner of the Melbourne CBD.

In terms of relative distance from the GPO, its nearest boundary is much closer than that of the Study Area. However, the Employment Precinct is a similar distance from the centre to the northern boundary of the Study Area. At 2.3 square kilometres, Redfern-Waterloo covers an area less than half the size of the Fishermans Bend renewal area. More importantly, at the time of its conception the Fishermans Bend area had virtually no pre-existing residential uses, whereas the latter is the dominant land use in the Study Area.

Planning documents for Fishermans Bend show that less than half of the original area will be retained for employment purposes, with the remainder to become residential precincts. Targets released by the Victorian Government include lifting the population from currently (2017) 200 to 80,000 by 2050, and more than doubling the number of jobs to 80,000 over the same time frame – much stronger than can be reasonably expected for the Study Area.

The Fishermans Bend project more closely resembles the **Green Square/Zetland** renewal area, where former industrial premises were demolished to make way for mostly high density residential uses. It may also act as a guide for the future development of the Eveleigh to Central Corridor, but otherwise offers little guidance for the Study Area.

In conclusion, the case studies provide examples of what is achievable and how it has been done. No single example exactly matches the Study Area, but each case has aspects that are applicable. If the projects – particularly the larger ones – have one common feature it is the importance of significant sites under common ownership to kick-start the renewal process. Consequently, this suggests that any future strategies for the Redfern-Waterloo area should be made:

- In conjunction with plans for the Redfern to Eveleigh Corridor, the existing public housing estates, potential land on the southern side of the railway corridor and Green Square.
- With close coordination not just between different levels of government, but particularly between different agencies in the NSW government.

- Acknowledging that the sites with the highest potential for employment creation/accommodation lie just outside the boundaries of the Study Area.
- Recognising that the Study Area faces particular challenges in terms of accommodating additional employment due to the dominance of residential uses as the most financially attractive option and fragmented ownership.

3.4 KEY INFLUENCES ON FUTURE DEMAND

Land use zones

Future employment uses within the Study Area have already been, and will continue to be, influenced by land use zoning. Land use zones dictate what uses are permissible within precincts and for individual sites and act as a supply side constraint (but can be an opportunity as well – they are only a constraint on demand for a particular use if they restrict or prohibit that use) on demand. As already discussed, 70% of the existing floor area within the Study Area involves residential uses. Once areas are zoned residential and built on, it is extremely difficult to rezone for employment uses. As a result, future employment uses within the Study Area will be severely restricted.

Furthermore, large tracts of the business zones are classified 'mixed use' which allows for residential uses when combined with employment uses. Mixed use zones risk further erosion of already limited employment zoned land (although they do offer the opportunity to provide medium/high rise offices, which could considerably boost the employment density of the Study Area).

Industry growth prospects

Future demand for employment space within the Study Area will reflect growth prospects by industry at a New South Wales and metropolitan Sydney level, and the allocation of that employment growth between locations – itself dependent on the availability of accommodation, cost constraints and the presence of major existing employers.

Over the next ten years, BIS Oxford Economics forecasts that five industry sectors will outpace total metropolitan employment growth: property and business services (incorporating rental, hiring & real estate services, professional, scientific & technical services and administration & support services); health; accommodation and food services; education and arts and recreation services. The Study Area has notable employment representations in three out of five of these industries (property and business services, health and accommodation and food services – the latter two accounting for 7 to 9% each), indicating solid growth prospects. Property & business services providers in the Study Area will benefit from servicing emerging clusters that sit just outside the Study Area. i.e. the Australian Technology Park and potentially Sydney University. Growth in the health industry is expected to be driven by the aging and growing population and the expansion of Outreach Services in the Study Area by Royal Prince Alfred Hospital. Accommodation and food services employment will be boosted by servicing the growing resident and commuter growth expected within the Study Area.

Employment allocation

The allocation of where businesses choose to locate depends on a number of factors such as access to a suitable workforce, ease of access to customers, space availability and cost considerations. The Study Area is located within the Eastern Economic Corridor, in the section between the Harbour CBD, Mascot Airport and Port Botany. Existing employment clusters, infrastructure and accessibility are key attractors for businesses to locate in the corridor. The Study Area itself has few employment drivers within its boundaries, but given its location in the Eastern Economic Corridor, office users faced with space shortages in the CBD and at Green Square may consider the Area more favourably.

Employment drivers near the Study Area

Employment within the Study Area will be influenced to different degrees by nearby employment drivers, in particular the Australian Technology Park, the University of Sydney, RPA, Urban Renewal Precincts, the CBD, Green Square, Surry Hills, Chippendale and population growth. Each driver and its impact on the Study Area is discussed below:

The Australian Technology Park

The Australian Technology Park (ATP) is located outside the Study Area to the West. The extent to which the ATP influences future demand within the Study Area depends on the Study Area's ability to capture overflow demand or to provide services/amenity to, or collaborate with, businesses within the ATP.

According to the City of Sydney 2017 FES, the ATP is home to about 3,400 employees, spread across 96 businesses. The FES showed employment growth increased significantly between 2007 and 2012, but stagnated to 2017. BIS Oxford Economics' interviews with a sample of major users and leasing agents within the ATP indicate that there is a low vacancy rate and many businesses want to grow but are constrained by a lack of available space.

Employment levels at the ATP will increase dramatically when CBA moves around 10,000 staff to the area in 2019 and 2020 into around 100,000 square metres of office space. Along with the CBA employees, additional employment will be provided by way of services within a 4,000 square metre community centre, which is under construction. The new community centre will include cafes, bars, restaurants, gymnasium, food market and supermarket. Moreover, Mirvac plans to refurbish about 2,500 square metres within an existing historical workshop to accommodate further retailers to service employees at the ATP. It remains to be seen whether this may negatively impact on existing retailers in the Study Area.

However, once the CBA buildings are completed in 2020, the ATP will be effectively built out with no vacant sites left. For the ATP to expand further, overflow sites adjacent to the Park need to be available. In the immediate surrounds, the railway corridor constrains the ATP to the north, with a narrow strip of mixed use B4 zoned land on the south side of Henderson Road (within the Study Area) allowing the potential for limited expansion here. To the west of the ATP, the South Eveleigh Urban Renewal Area's plans focus on housing with limited employment opportunities. Overflow demand could flow to the east of the ATP, into the Study Area and into the Botany Road Corridor.

Redevelopment here would require the consolidation of sites and demolishing existing lower density buildings. It has been reported that a Mirvac led consortium has approached the State Government to acquire the historical locomotive workshops at North Eveleigh, which would extend the Park north of the rail corridor. Further expansion to the north would be limited beyond this due to the residential zoning north of Wilson Street.

The University of Sydney

The University of Sydney sits outside the Study Area to the north-west. It is the largest employer in close proximity to the Study Area and has significant potential to drive employment in the Study Area. Our discussions with the University reveal that the Camperdown Campus is site constrained. The University reports strong growth across the faculties located at the Camperdown Campus, particularly the Engineering and Business faculties. Based on projected student and staff numbers, the University Campus will hit capacity within the next 10 years.

The University has a strong preference to expand its Camperdown Campus, but is constrained by existing residential estates to the north, the Royal Prince Alfred Hospital to the west and Victoria Park to the east. The natural expansion area for the University is towards the rail corridor to the south, but this is complicated by an existing residential strip to Wilson Street (within the Study Area). The University has a strong preference to expand into the North Eveleigh Urban Renewal precinct governed by the State government.

Redevelopment within the current University grounds are planned under the Campus Improvement Plan, but this is constrained by heritage restrictions across some of the buildings.

The University of Sydney has plans to grow student numbers appreciably over the next 20 years, with a commensurate increase in teaching/research staff to support the growth. If the University is unable to expand to cater for growth at Camperdown, it will look to channel expansion into other locations outside the City of Sydney.

Royal Prince Alfred Hospital

The Royal Prince Alfred Hospital is a major employer, but is also located outside the Study Area, separated by the University of Sydney. Future growth at RPA will be driven by servicing population growth within its catchment area. The Hospital has indicated future hospital based growth can be catered for within the existing hospital footprint at Camperdown. The most significant hurdle for this expansion is funding. The Hospital's future direct impact on the Study Area is expected to be limited to outreach services, which are planned within the next five years. No employment impact for these services were provided but they are likely to be modest at best. The Hospital is involved in a numerous collaboration initiatives with other health services and universities, but none are located within the Study Area. Furthermore, beyond a shuttle service to Redfern station, reportedly few hospital staff frequent the Study Area as it is too far away.

Urban Renewal Areas

The New South Wales Government and the Council for the City of Sydney have identified three Urban Renewal Areas within the Study Area, with a further five located nearby (see text box). The three Urban Renewal Areas within the Study Area have been identified as State Significant Precincts (Waterloo Metro Quarter, Waterloo Estate and Elizabeth Street, Redfern). Based on current plans, the three precincts have a high residential component which is not expected to generate much employment when completed.

URBAN RENEWAL AND STATE SIGNIFICANT PRECINCTS

Redfern Station Upgrade: Incorporates land between Redfern Station and part of the carriage works at North Eveleigh (East). Outside the Study Area. Under the control of the NSW Government. No firm plans have been released to date.

North Eveleigh (West): Not within the Study Area. Located within the Redfern-Waterloo Authority *State Significant Precinct* on Wilson Street. 2.9 hectare site owned by Transport for NSW. Original plans for the site focused on housing, but the plans are being reviewed with the potential for substantial mixed use development (including residential and non-residential uses).

Elizabeth Street Redfern, *State Significant Precinct*: A 1 hectare site bounded by Elizabeth, Kettle, Walker and Phillip Streets. This precinct sits within the Study Area. Initial plans for this site focus on residential redevelopment.

Waterloo Estate, *State Significant Precinct*: An 18 hectare site bounded by Phillip, McEvoy, Pitt and Cope Streets. The site sits within the Study Area and mostly owned by the NSW Land and Housing Corporation. The site is currently being master planned with a focus on social, affordable and market housing and supporting community services.

Waterloo Metro Quarter, *State Significant Precinct*: The Waterloo Metro Quarter comprises a 1.9 hectare site (bounded by Raglan, Botany, Wellington and Cope Streets) that will accommodate the new Waterloo Metro station (part of the Sydney Metro Southwest rail line) when completed in 2024. This site is currently vacant and Metro construction work is underway. The NSW Government controls the Metro Quarter site and has released concept plans incorporating around 4,000 square metres of retail space, 8,000 square metres of commercial space and up to 700 apartments.

The Ashmore Precinct: A 17 hectare site outside the Study Area bounded by Ashmore Street, Mitchell Road, Coulson Street and the Bankstown railway line. The City of Sydney plans up to 6,000 residents to be accommodated with local shops and a small supermarket.

South Eveleigh: Site to the immediate west of the Australian Technology Park bounded by the rail corridor. Existing uses are predominately residential. Not within the Study Area. The area is likely to remain residential with the possibility of a small amount of employment uses.

Redevelopment of Central Station: Outside the Study Area, but on the northern boundary. Currently no plans have been confirmed regarding the redevelopment of the Central Train Station precinct, beyond construction works associated with the Sydney Metro platforms. Suggested redevelopment plans include high rise commercial and hotel buildings. If these plans were pursued over the next 20 years, it would provide a connection between the CBD commercial cluster and the Study Area and potentially generate ‘overflow demand’.

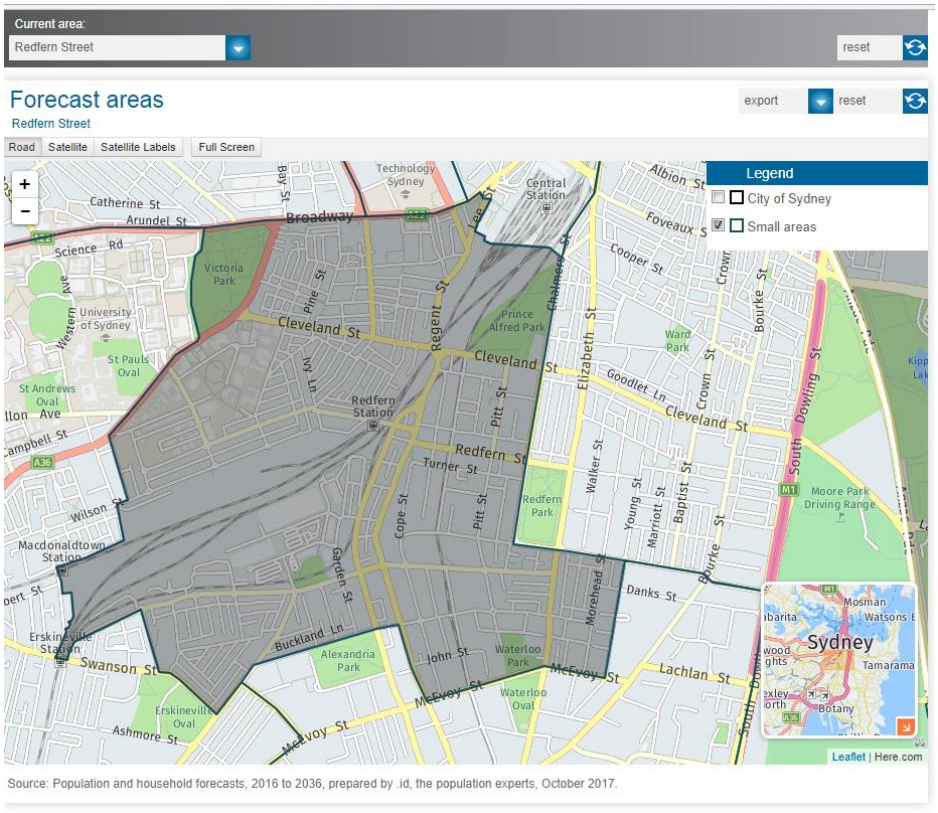
Only the Metro Quarter includes plans for around 8,000 square metres of commercial space and 4,000 square metres of retail. This will not result in substantial employment in the Study Area. At present, the 1.9 hectare Metro Quarter site offers the greatest potential of developing into an employment precinct but this would need to be supported by the NSW State Government, who control the site.

Local population growth

According to .id, the Redfern Street area (shown in Fig. 14) is the closest match for the Study Area. Its population is forecast to grow from 32,200 people in 2018 to 48,700 people by 2036, representing an increase of 50%. As the population grows, demand for local amenity will increase, underpinning the need for more retailers and other service providers.

Redevelopment of individual sites. There are few vacant sites within the Study Area. Most redevelopment would involve demolishing existing buildings. Furthermore, to have a significant impact of employment, substantial sites are required, often involving amalgamation. For larger businesses, one of the attractions of the Australian Technology Park is its ability to offer buildings with large floorplates. It is possible that individual sites could be amalgamated to establish employment precincts over the next 20 years, but this is difficult to predict. A planned capacity study by the City of Sydney using the current zoning will provide guidance on redevelopment potential, but was not available for this report.

Fig. 14. Study Area, Redfern Street precinct



Looking at the stock of currently vacant privately held sites, few have proposals for employment space – most focus on residential development. As far as redevelopment is concerned, the sites with the greatest potential for future employment uses within the Study Area are contained in the designated Urban Renewal Areas and State Significant Precincts (discussed above). One example of a large private redevelopment proposal is the Surry Hills Shopping Centre on the corner of Cleveland and Baptist Streets. Plans for this 1.2 hectare site include apartments and around 9,000 square metres of commercial/retail space.

In summary, the redevelopment of individual sites has the potential to boost employment, but unless a co-ordinated approach is taken to encourage the establishment of precincts of scale, any impact is likely to be limited.

Overflow demand . . .

. . . from the CBD . . .

The Sydney CBD is highly site constrained, with longer term expansion dependent on higher density development and/or new development moving in a southerly direction. The City of Sydney has facilitated higher density development with recent planning amendments, but ultimately height limitations are governed by the flight path restrictions from Kingsford Smith Airport. As a result, long term expansion is likely to move south.

The CBD sits at the top of the metropolitan office hierarchy as the preferred location for office based industries. It also makes it the most expensive location, particularly within the financial core. However, occupancy costs are highly cyclical. While many office users need to be in the CBD and will pay what it costs to be there, others are more price sensitive. They will move into the CBD when it becomes affordable, but are forced out when rents exceed their budgets. Nonetheless, for many of these companies a location close to the CBD is critical for their business. When is gets too expensive, they either have to downgrade to a lower quality building in the CBD or move to a cheaper location in the CBD fringe, thereby creating ‘overflow demand’.

Within the CBD, the southern precinct contains a lot of smaller/underdeveloped office buildings. This precinct is likely to be redeveloped (when it is financially feasible to do so) first, before the ‘overflow’ reaches the Study Area. Over the next 20 years, the Sydney office market will move through several development phases, with the appeal of the Study Area as an office location increasing with every wave as the size of the CBD grows and accommodation becomes ever more expensive.

. . . and from Surry Hills and Chippendale

In a similar manner to the CBD, the Study Area is likely to capture some ‘overflow employment demand’ from Surry Hills and Chippendale. Over the next 20 years, some ‘price sensitive’ users such as day traders, fashion designers and creative industries etc. may be priced out of Surry Hills and Chippendale. They will need to look for more affordable accommodation, with the Study Area a logical extension southwards. The emergence of a number of co-working office/creative spaces on Eveleigh Street, Great Buckingham Street and Cleveland Street is an indicator of the types of flexible floorspace that suits creative industries. However, the cost of accommodation within the Study Area

is also going to increase, which could see price sensitive users from Surry Hills and Chippendale bypass the Redfern-Waterloo area for locations such as Marrickville.

Service provision to Green Square

Green Square is a designated Strategic Centre close to the Study Area's southern boundary. Green Square is undergoing major urban renewal, accompanied by a large increase in its population, which has the potential to boost employment growth within the Study Area from businesses servicing Green Square's anticipated population growth. According to .id forecasts, the population of Green Square–City South is expected to almost double by 2036 to about 71,000 people. Some of the demand for services and amenity employment is expected to be catered for within the Green Square–Mascot area, with the Eastern City District Plan projecting a 26% increase in jobs over the 20 years to 2036 to about 75,000. However, it is likely that some of the demand will also be catered for by existing or new businesses in the Study Area.

Infrastructure

The Study Area is serviced by three existing train stations at Redfern, Macdonaldtown and Erskineville – all of which lie just outside the Study Area boundary. Redfern Station, most notably, enables parts of the Study Area to be accessed by a large proportion of the Sydney labour market, as it is directly connected to most Sydney Trains. The future Waterloo Metro Station (which recently commenced construction and which is due for completion in late 2024) lies in the centre of the Study Area. Moreover, the Area is also serviced by a number of bus routes, both north–south and east–west.

Future capacity of the public transport network will have a major influence on employment growth and distribution over the next 20 years. For a location to be attractive to business, infrastructure needs to provide efficient connectivity with other major centres within the metropolitan area for staff and clients/customers.

Previous survey-based work undertaken by BIS Oxford Economics revealed a comfortable walking distance to public transport hubs for workers is 500 metres or less, with 800 metres viewed as too far. Based on this, the part of the Study Area located to the north of the rail corridor is well serviced by the Redfern Train Station, as is a significant portion of the eastern section. However, the eastern half of the Study Area, particularly towards the Eastern Distributor, is not well serviced by existing heavy rail. The Waterloo Metro station will extended coverage up to Young Street, leaving only the area to the east of Young Street to rely on buses and private transport.

Based on sample Opal Card data from Transport for NSW (for one working week in November 2016), Redfern is the 11th busiest train station on the Sydney Trains network and feedback from interviews indicates that it is operating close to or also above capacity during morning peak periods. Significant investment is needed at Redfern Station to cater for employment growth to the south of the rail corridor. If this does not occur, the station will act as a barrier to future employment growth.

The Metro Economic Impact Statement provides preliminary forecasts of 3,700 customers entering the Waterloo Train Station per hour during the morning

peak with around 2,350 exiting by 2036. However, its capacity appears much higher. The business case suggested that capacity across the CBD and South-West Metro will increase by 60%, with the ability to accommodate 92,000 passengers per hour. The Metro Waterloo Train Station will do nothing to ease capacity pressures at Redfern Train Station over the next 6 years. Once it opens, the Metro will help to ease pressures on the existing rail network, though with limitations to its relatively small catchment area. Moreover, locations to the East of Young Street and to the West of the existing rail corridor can be regarded as being too far to benefit from the Metro Station at Waterloo. However, the Metro has the potential to induce behavioural change and change in activities for residents and workers – the 21-hr operating cycle could provide opportunities for night-time and creative uses within its catchment.

3.4.1 Threats to productive capacity of the Study Area

To boost productive capacity requires increased employment and/or increased output per employee (Gross Value Added). As previously discussed, the Study Area's past growth and future growth prospects rely more heavily on employment for output growth than a shift to higher value-adding work. In either case, a sufficient number of sites is required to accommodate future growth and/or a shift to more highly productive types of work. For this to occur, enough sites need to be protected from being redeveloped to other uses. We note that employment density has increased significantly in recent times as businesses use space more efficiently. However, there is a limit to how much further space efficiencies can be pushed under current planning controls and changes to controls may be required over the longer term.

The problem is that the expansion is being constrained by the encroachment of residential uses, which has seen its floorspace increase to 70% of the total floorspace in the Study Area. For most of the residential development cycle, high density dwellings (where permitted) is the highest and best use and employment uses are unable to compete. Once land use changes to residential, it is lost for employment-generating activities. Land use zones within the Study Area are predominately residential, with much of the business zoning permitting 'mixed use' development which allows for further residential encroachment.

Moreover, as highlighted above, the areas offering the most potential for accommodating future employment uses are the Urban Renewal Areas and the State Significant Precincts – development proposals for which are dominated by residential uses.

Transport bottlenecks pose a further threat to the productive capacity of the Study Area, reducing accessibility and its appeal as a current and future location for business. The stakeholder interviews highlighted capacity issues at Redfern Station which are expected to worsen with the arrival of thousands of additional workers at CBA and Channel 7, both at the ATP. A major upgrade of Redfern Station is required as demand will only be partially relieved by Waterloo Metro Station and only from late 2024.

3.4.2 Industry sectors that will best take advantage of infrastructure in the Study Area

There are no obvious industry sectors that will best take advantage of current and planned transport infrastructure within the Study Area. We expect that the industry sectors with the strongest growth prospects (health, property and business services (incorporating rental, hiring & real estate services, professional, scientific & technical services and administrative & support services), accommodation and food services as discussed in 3.4) to increase their share of transport infrastructure usage. However, the interview process revealed that staff/clients from across all industries use the existing infrastructure to get to and from work. Public transport, and in particular trains, was highlighted as the primary mode of travel due to limited car parking within the Study Area. Respondents highlighted access to public transport as a key factor which drove their decision to locate within or close by the Study Area.

The key to the appeal of the public transport infrastructure is proximity to places of work or clusters of industry clusters along the transport line (i.e. within a comfortable walking distance of 500 metres). Redfern Station was nominated as the primary transport hub for the northern and western parts of the Study Area, with Green Square used by those on the southern edge. Redfern Station is the favoured transport connection because of its direct linkages to the broader metropolitan market.

Businesses located within a 500 metre radius of the planned Waterloo Metro station view it as a positive, expecting their staff to use it once completed. Connections to the CBD and Sydney's north-west and south-west suggest a broad catchment, benefitting industries across all sectors within the Study Area.

High density employment uses (such as office space) will best take advantage of the rail and Metro infrastructure if they can be encouraged to develop within close proximity to stations. Lower density building uses will still take advantage of infrastructure providing they are in close proximity, but they are not able to accommodate the same number of workers.

4. FORECAST SCENARIOS

4.1 KEY POINTS

The Redfern-Waterloo Study Area has the potential to attract substantial employment growth over the long term. Based on the current employment mix, known employment-generating building projects, population growth forecasts and overflow demand, the Study Area's employment growth rate is forecast to outpace that of the metropolitan area between 2017 and 2036 (1.9% compared to 1.3% average annual growth respectively), and over the longer term to 2066 (1.2% compared to 1.1%). By 2036, total employment within the Study Area is projected to increase to 14,400, reflecting an increase of about 4,400 from 2017 levels. By 2066, employment is forecast to be almost double 2017 levels, reaching 17,600. This is our base case.

The strongest employment growth within the Study Area between 2017 and 2066 is forecast to come from the health, education, professional scientific & technical, accommodation & food services and retail sectors. The growth rates forecast in all these sectors are generally consistent with those for the broader metropolitan area, with the exception of the retail sector. Retail employment growth within the Study Area is expected to receive a boost from servicing strong local and Green Square population growth. Conversely, employment in industrial-based industry sectors (manufacturing, transport, wholesale) is expected to contract over the long term as current users are displaced from the Study Area. Similarly, employment in the information media sector is forecast to contract as technology advances impact on employment.

Alternative scenarios have been tested based on a stronger or weaker average annual growth rate for professional, scientific & technical employment as well as stronger population growth, both at the Sydney Inner City SA3 level. Under these scenarios, total employment by 2036 within the Study Area ranged from 14,260 to 15,090, reflecting an increase in employment (from 2017) of between 4,280 and 5,110. By 2066, total employment ranged between 17,000 and 21,100, reflecting an increase in employment over the 49 year time horizon of between 7,000 and 11,100. Based on these results, the Study Area has the potential to contribute between 2.6 and 3.1% towards the Harbour CBD's lower (or baseline) target of 165,100 additional jobs by 2036, as set out within the Eastern City District Plan.

The potential for the Study Area to capture the forecast employment growth to 2066 depends on whether it can be accommodated under current planning and development controls. BIS Oxford Economics conducted an exercise applying space use ratios for community, entertainment & leisure, industrial, office, restaurants, shops, storage and other low employment space based on the data provided by the City of Sydney 2007 to 2017 Floorspace and Employment Surveys.

Applying space use ratios to employment, the base case (scenario 1) suggests around 400,000 square metres (of the employment uses mentioned above) will be needed by 2036—an increase of almost 125,000 square metres from 2017 levels. All floorspace uses are expected to expand by 2036 except entertainment & leisure and storage, which will remain steady. Under the

alternative scenarios tested, the additional required floorspace to meet employment growth outcomes is between 123,000 and 138,000 square metres. By 2066, the additional floorspace required increases to between 163,000 and 240,000 square metres, depending on the scenario. Until the City of Sydney completes a Capacity Study, however, we cannot say if there is sufficient permissible floorspace to meet future demand.

There's no doubt that it's a challenging task to allow for sufficient space to accommodate projected employment given the current built form which is dominated by residential land uses. However, if sufficient space is not available, growth will go elsewhere.

Recommended policy responses include:

- Protecting existing mixed-use business zones from further residential encroachment by using instruments available to Council, particularly along Regent Street/Botany Road and in the industrial precinct around Young Street.
- Advocate delivery of significant employment space in urban renewal areas (current and planned) threatened by residential encroachment and State Significant Precincts that have not already been locked into residential uses. The best prospects lie in the vacant 1.9 hectare Metro Quarter site and Botany Road corridor where infrastructure investment and future urban renewal can be focused on productivity and employment.
- Ensuring a co-ordinated approach from state and local government to support employment growth.
- Consider the development capacity under current FSR and height controls to meet forecast employment growth. However, attracting users to a particular location by simply raising FSRs/height limits in non-established centres is unlikely to succeed on its own. Commercial space users require a combination of criteria (including – amongst others – access to transport links for staff and clients, retail amenity, existing clusters of related industries and buildings with floorplates of sufficient size) to be fulfilled before choosing a particular location.
- Investigate retail space design. Respondents suggested that many modern ground floor retail premises within mixed use buildings have design shortcomings (such as low ceiling to floor heights) which limit the type of retailer that can use the space.

Infrastructure that facilitates accessibility is crucial for employment growth. The Sydney Metro, which will deliver a new station at Waterloo in 2024, will expand the rail catchment of the Study Area as will the Moore Park station for the CBD and South East Light Rail. However, the proposed White Bay station associated with the West Metro is likely to be too far away from the Study Area to directly boost employment. Critically, stakeholder feedback suggests Redfern Railway Station is a bottleneck in need of an upgrade to capacity to support continued employment growth.

4.2 FORECAST SCENARIOS

Within this section we provide the results of our base case forecasts of total employment by industry for the Study Area from 2017 to 2066, as well as the

results of our testing of three alternative scenarios, which were developed in consultation with the City of Sydney. The results of our base case (Scenario 1) are presented in Fig 16, with the alternative scenarios (Scenarios 2 to 4) presented in Figs 17 to 19. A detailed methodology and forecast limitations are provided in Appendix 1. Key assumption differences for the scenarios, as well as a summary of the forecast methodology, are outlined below.

Key assumption differences, Scenarios 1 to 4

(1) Scenario 1 (Base Case). Professional, technical and scientific (PTS) sector employment is projected to grow at 1.8% per annum for the Sydney Inner City SA 3.
(2) Scenario 2 (Low PTS employment growth). Reduces PTS average annual employment growth by 0.5% per annum, to 1.3% per annum.
(3) Scenario 3 (High PTS employment growth). Projects PTS growth of some 1.5% higher than under the base case (or 3.3% per annum in total), which reflects stronger recent growth in the Study Area.
(4) Scenario 4 (Higher population growth). Tests the long term implications for the Study Area's employment if the population in the SA 3 region was growing at 2.4 % per annum compared to the base case growth rate of 1.4% (i.e. growing by an additional 1.0% per annum).

The results of the alternative scenarios on employment are presented in Figs 15 to 19.

Fig. 15. Study Area total employment forecast scenarios

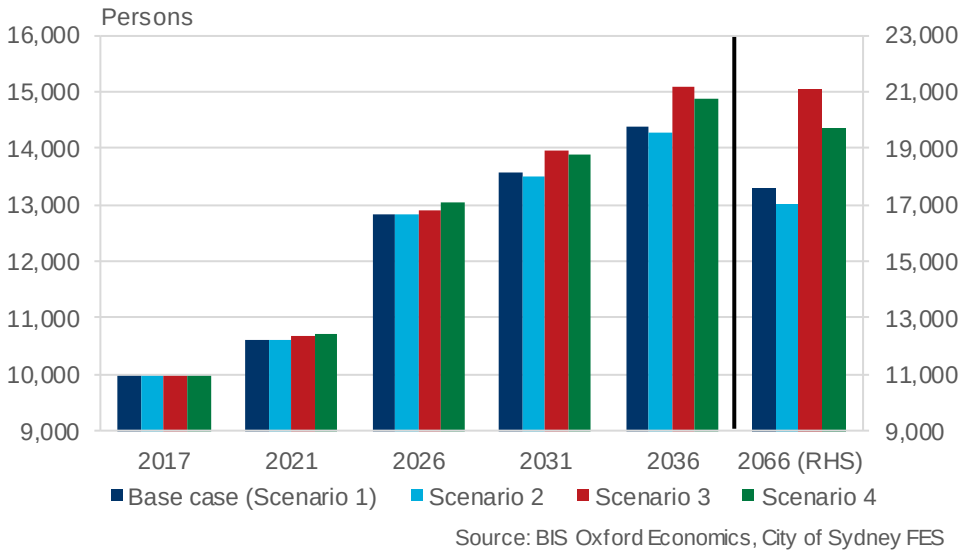


Fig. 16. Study Area employment forecasts, Scenario 1 – Base Case

Industry	Total employment (persons)					
	2017	2021	2026	2031	2036	2066
Mining	0	0	0	0	0	0
Manufacturing	287	302	299	297	292	243
Electricity, Gas, Water and Waste Services	0	0	0	0	0	0
Construction	173	185	194	207	223	297
Wholesale Trade	161	164	164	164	161	107
Retail Trade	782	838	1,567	1,651	1,735	1,574
Accommodation and Food Services	864	924	1,033	1,141	1,262	1,753
Transport, Postal and Warehousing	620	625	681	692	706	473
Information Media and Telecommunications	795	882	974	1,012	1,051	559
Financial and Insurance Services	25	26	31	33	34	24
Rental, Hiring and Real Estate Services	145	163	192	202	212	204
Professional, Scientific and Technical Services	1,579	1,691	2,086	2,195	2,335	3,610
Administrative and Support Services	1,227	1,296	1,538	1,604	1,670	1,891
Public Administration and Safety	1,036	1,095	1,251	1,308	1,365	1,539
Education and Training	169	182	375	383	390	530
Health Care and Social Assistance	708	788	952	1,119	1,326	3,056
Arts and Recreation Services	180	197	216	241	269	375
Other Services	1,233	1,240	1,287	1,304	1,337	1,370
Total	**9,984**	**10,598**	**12,840**	**13,553**	**14,368**	**17,605**

Source: BIS Oxford Economics, ABS, City of Sydney FES

Fig. 17. Study Area employment forecasts, Scenario 2 – Low PTS employment growth

Industry	Total employment (persons)					
	2017	2021	2026	2031	2036	2066
Mining	0	0	0	0	0	0
Manufacturing	287	302	299	297	292	243
Electricity, Gas, Water and Waste Services	0	0	0	0	0	0
Construction	173	185	194	207	223	297
Wholesale Trade	161	164	164	164	161	107
Retail Trade	782	838	1,567	1,651	1,735	1,574
Accommodation and Food Services	864	924	1,033	1,141	1,262	1,753
Transport, Postal and Warehousing	620	625	681	692	706	473
Information Media and Telecommunications	795	882	974	1,012	1,051	559
Financial and Insurance Services	25	26	31	33	34	24
Rental, Hiring and Real Estate Services	145	163	192	202	212	204
Professional, Scientific and Technical Services	1,579	1,688	2,070	2,155	2,231	2,996
Administrative and Support Services	1,227	1,296	1,538	1,604	1,670	1,891
Public Administration and Safety	1,036	1,095	1,251	1,308	1,365	1,539
Education and Training	169	182	375	383	390	530
Health Care and Social Assistance	708	788	952	1,119	1,326	3,056
Arts and Recreation Services	180	197	216	241	269	375
Other Services	1,233	1,240	1,287	1,304	1,337	1,370
Total	**9,984**	**10,595**	**12,824**	**13,513**	**14,264**	**16,991**

Source: BIS Oxford Economics, ABS, City of Sydney FES

Fig. 18. Study Area Employment forecasts, Scenario 3 – High PTS employment growth

Industry	Total employment (persons) 2017	2021	2026	2031	2036	2066
Mining	0	0	0	0	0	0
Manufacturing	287	302	299	297	292	243
Electricity, Gas, Water and Waste Services	0	0	0	0	0	0
Construction	173	185	194	207	223	297
Wholesale Trade	161	164	164	164	161	107
Retail Trade	782	838	1,567	1,651	1,735	1,574
Accommodation and Food Services	864	924	1,033	1,141	1,262	1,753
Transport, Postal and Warehousing	620	625	681	692	706	473
Information Media and Telecommunications	795	882	974	1,012	1,051	559
Financial and Insurance Services	25	26	31	33	34	24
Rental, Hiring and Real Estate Services	145	163	192	202	212	204
Professional, Scientific and Technical Services	1,579	1,771	2,152	2,585	3,059	7,086
Administrative and Support Services	1,227	1,296	1,538	1,604	1,670	1,891
Public Administration and Safety	1,036	1,095	1,251	1,308	1,365	1,539
Education and Training	169	182	375	383	390	530
Health Care and Social Assistance	708	788	952	1,119	1,326	3,056
Arts and Recreation Services	180	197	216	241	269	375
Other Services	1,233	1,240	1,287	1,304	1,337	1,370
Total	**9,984**	**10,678**	**12,906**	**13,943**	**15,092**	**21,081**

Source: BIS Oxford Economics, ABS, City of Sydney FES

Fig. 19. Study Area employment forecasts, Scenario 4 – Higher population growth

Industry	Total employment (persons) 2017	2021	2026	2031	2036	2066
Mining	0	0	0	0	0	0
Manufacturing	287	302	299	297	292	243
Electricity, Gas, Water and Waste Services	0	0	0	0	0	0
Construction	173	194	216	244	278	461
Wholesale Trade	161	164	164	164	161	107
Retail Trade	782	870	1,567	1,651	1,735	1,996
Accommodation and Food Services	864	943	1,084	1,233	1,399	2,182
Transport, Postal and Warehousing	620	656	759	818	886	799
Information Media and Telecommunications	795	882	974	1,012	1,051	559
Financial and Insurance Services	25	26	31	33	34	24
Rental, Hiring and Real Estate Services	145	166	192	202	213	247
Professional, Scientific and Technical Services	1,579	1,691	2,086	2,195	2,335	3,610
Administrative and Support Services	1,227	1,296	1,538	1,604	1,670	1,891
Public Administration and Safety	1,036	1,095	1,251	1,308	1,365	1,539
Education and Training	169	187	375	383	390	619
Health Care and Social Assistance	708	802	993	1,195	1,444	3,578
Arts and Recreation Services	180	199	222	252	286	434
Other Services	1,233	1,240	1,287	1,304	1,337	1,370
Total	**9,984**	**10,713**	**13,038**	**13,895**	**14,876**	**19,659**

Source: BIS Oxford Economics, ABS, City of Sydney FES

Employment forecasting approach

BIS Oxford Economics regularly prepares long term employment forecasts for NSW and the Sydney Greater Capital City Statistical Area. Industry sector employment forecasts are influenced by the outlook for investment and economic cycles, as well as productivity changes driven by technological and workplace changes. Our 10 year forecasts have been extended to 2066 using long run trend growth forecasts by industry sector.

Our small area employment forecasts for the Study Area are consistent with the Greater Capital City Statistical Area industry sector employment forecasts, but with local influences based on:

- *Operational and construction employment generated by the development pipeline within the Study Area*, which shapes the employment composition in the near term. For this forecasting study, we combined our own development pipeline of non-dwelling construction projects with the City of Sydney's Development Applications (exceeding $5 million)—encompassing around 20 projects with an estimated cost of $840 million likely to be completed within the next five to six years. Amongst the projects, we included the current development concept plan for the site above the Metro Waterloo Station—the only State Significant Precinct or Urban Renewal Area within the Study Area with plans for a notable increase in employment space.
- *Population projections by small area.* Beyond the next five years, our employment projections for the Study Area are influenced by solid growth in population projections at an SA3 level produced by the NSW Department of Planning. The overlaying assumption is that employment is generated by population growth.
- *Overflow demand from nearby areas*. Earlier analysis suggested employment growth in the Study Area will be influenced by businesses unable to secure space in the (Southern) CBD, Surry Hills and Chippendale. The primary overflow from these areas is likely to be amongst office-based employment industries.
  However, the Study Area's capacity to accommodate this demand may be limited by the existing built form and lack of vacant sites. In preparing our forecasts, we have assumed the Study Area maintains its share of non-CBD office employment to 2066, which is expected to grow faster than the CBD.
  We have also allowed for some employment growth in the Study Area from businesses servicing projected population growth at Green Square. In our view, direct employment growth within the Study Area that can be attributed to Sydney University, Australian Technology Park or Royal Prince Alfred Hospital—all located outside the Study Area—is likely to be limited for the foreseeable future with their expansion plans discussed in section 3.4.

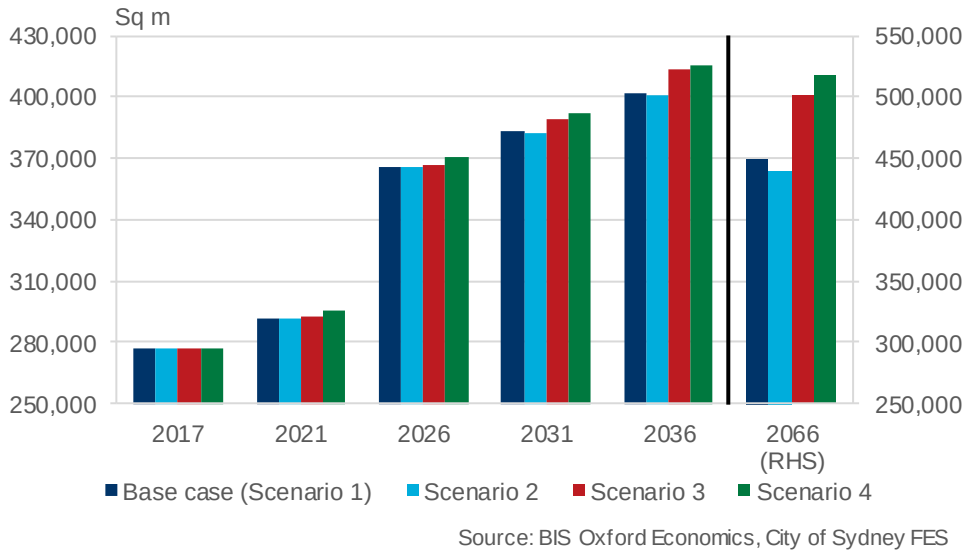
Study Area floor space projections

Floorspace projections by use are presented in Fig 20, and Figs 21, 23 and 24 for the base case and alternative employment scenarios. Space use ratios and long term efficiencies or expansion are shown in Fig 22. The amount of floorspace assume no constraints on supply within the Study Area and that it is feasible to build the required floorspace when it is needed. However, verification as to whether the Study Area can accommodate the various floorspace outcomes requires a Capacity Study to be completed by Council under prevailing planning controls. Without a Capacity Study, our floorspace projections are hypothetical.

In undertaking floorspace projections, BIS Oxford Economics conducted an exercise applying space use ratios per person for community, entertainment &

leisure, industrial, office, restaurants, shops, and storage space uses based on the data provided by the City of Sydney 2007 to 2017 FES' (See Fig 22). Employment projections were allocated to the predominant space use in each industry or weighted across a number of major uses. A proportion of floorspace was then added to incorporate low employment space uses (including common area, other infrastructure and utilities). Non-employing uses including parking, vacant space, transport, visitor accommodation and residential were excluded from the space use ratio analysis.

Fig. 20. Study Area total floorspace requirements by employment scenario



Source: BIS Oxford Economics, City of Sydney FES

Between 2007 and 2017, FES data suggested significant space use efficiency gains for community, entertainment and leisure and office uses with increased space per employee for industrial, shop/showroom and storage. The floor space usage ratios patterns also varied by how different industries used types of floor space. Annual space efficiencies or expansions were added to employment by industry to project future floorspace use. BIS Oxford Economics made adjustments where it was evident space use efficiencies or expansions over the 10 years to 2017 could not continue at the same annual pace. For the same reason, BIS Oxford Economics applied their long term forecasts for office space use efficiencies from our latest Sydney office market studies.

Fig. 21. Study Area floorspace requirements, employment Scenario 1

Industry/Space Use Category	Internal Area (Sq m) 2017	2021	2026	2031	2036	2066
Education and Training	6,354	6,636	13,158	12,933	12,674	13,683
Health Care and Social Assistance	3,974	4,287	4,981	5,630	6,416	11,694
Total Community	**10,328**	**10,923**	**18,139**	**18,563**	**19,090**	**25,377**
Arts and Recreation Services	8,724	8,818	8,753	8,841	8,934	6,856
Total Entertainment/Leisure	**8,724**	**8,818**	**8,753**	**8,841**	**8,934**	**6,856**
Manufacturing	6,032	6,455	6,526	6,620	6,647	6,275
Other Services	8,694	8,892	9,425	9,752	10,211	11,870
Retail Trade	1,625	1,770	3,381	3,638	3,904	4,018
Total Industrial	**16,350**	**17,117**	**19,332**	**20,010**	**20,762**	**22,162**
Accommodation and Food Services	1,400	1,472	1,610	1,740	1,883	2,295
Administrative and Support Services	12,295	12,880	15,130	15,619	16,096	17,142
Arts and Recreation Services	2,115	2,228	2,330	2,479	2,638	2,765
Construction	3,143	3,334	3,461	3,655	3,897	4,882
Education and Training	2,810	3,002	6,122	6,189	6,238	7,973
Financial and Insurance Services	481	496	586	617	629	418
Health Care and Social Assistance	10,856	11,711	13,605	15,378	17,524	31,939
Information Media and Telecommunications	11,040	12,149	13,280	13,658	14,040	7,023
Manufacturing	5,578	5,639	5,309	5,015	4,689	2,886
Other Services	13,393	13,359	13,724	13,764	13,969	13,463
Professional, Scientific and Technical Services	20,612	21,895	26,735	27,845	29,320	42,634
Public Administration and Safety	12,924	13,549	15,322	15,857	16,380	17,370
Rental, Hiring and Real Estate Services	1,580	1,762	2,054	2,139	2,222	2,011
Retail Trade	5,117	5,439	10,067	10,498	10,920	9,318
Transport, Postal and Warehousing	8,709	8,707	9,391	9,446	9,539	6,011
Wholesale Trade	3,136	3,061	2,902	2,752	2,561	1,237
Total Office	**115,191**	**120,682**	**141,627**	**146,651**	**152,547**	**169,366**
Accommodation and Food Services	15,910	17,015	19,022	21,011	23,239	32,280
Total Restaurant/Eating	**15,910**	**17,015**	**19,022**	**21,011**	**23,239**	**32,280**
Other Services	2,303	2,253	2,258	2,210	2,189	1,822
Retail Trade	27,474	30,132	58,000	62,905	68,048	73,449
Wholesale Trade	5,528	5,766	5,939	6,118	6,186	4,911
Total Shop/Showroom	**35,305**	**38,150**	**66,197**	**71,233**	**76,423**	**80,183**
Construction	1,029	1,121	1,203	1,313	1,447	2,210
Wholesale Trade	15,294	15,579	15,579	15,579	15,294	10,164
Total Storage	**16,323**	**16,699**	**16,781**	**16,891**	**16,741**	**12,374**
Common Area, Other Infrastructure, Utilities	58,826	61,994	75,982	79,875	84,326	100,686
Low employment uses (All industries)	**58,826**	**61,994**	**75,982**	**79,875**	**84,326**	**100,686**
Sub-Total	**276,957**	**291,398**	**365,832**	**383,075**	**402,061**	**449,286**
Non-employing uses (Parking, Transport, Visitor Accomodation, Residential and Vacant)	**1,714,747**					
Total	**1,991,704**					

Source: BIS Oxford Economics, City of Sydney FES

Fig. 22. Space use ratios by industry

Industry/Space Use Category	Space use (Sq m per person) 2017	A%ch
Education and Training	99	-0.8%
Health Care and Social Assistance	37	-0.8%
Total Community	**68**	**-0.8%**
Arts and Recreation Services	97	-2.0%
Total Entertainment/Leisure	**97**	**-2.0%**
Manufacturing	51	0.4%
Other Services	71	0.4%
Retail Trade	42	0.4%
Total Industrial	**54**	**0.4%**
Accommodation and Food Services	16	-0.4%
Administrative and Support Services	10	-0.2%
Arts and Recreation Services	24	-0.9%
Construction	19	-0.2%
Education and Training	27	-0.2%
Financial and Insurance Services	19	-0.2%
Health Care and Social Assistance	18	-0.8%
Information Media and Telecommunications	14	-0.2%
Manufacturing	33	-1.0%
Other Services	14	-0.2%
Professional, Scientific and Technical Services	13	-0.2%
Public Administration and Safety	12	-0.2%
Rental, Hiring and Real Estate Services	11	-0.2%
Retail Trade	22	-0.2%
Transport, Postal and Warehousing	14	-0.2%
Wholesale Trade	26	-1.1%
Total Office	**18**	**-0.4%**
Accommodation and Food Services	20	0.0%
Total Restaurant/Eating	**20**	**0.0%**
Other Services	19	-0.7%
Retail Trade	54	0.6%
Wholesale Trade	173	0.6%
Total Shop/Showroom	**82**	**0.2%**
Construction	257	0.5%
Wholesale Trade	1,699	0.0%
Total Storage	**978**	**0.2%**

Source: BIS Oxford Economics, City of Sydney FES

Fig. 23. Study Area floorspace requirements, employment Scenario 2

Industry/Space Use Category	Internal Area (Sq m) 2017	2021	2026	2031	2036	2066
Education and Training	6,354	6,636	13,158	12,933	12,674	13,683
Health Care and Social Assistance	3,974	4,287	4,981	5,630	6,416	11,694
Total Community	**10,328**	**10,923**	**18,139**	**18,563**	**19,090**	**25,377**
Arts and Recreation Services	8,724	8,818	8,753	8,841	8,934	6,856
Total Entertainment/Leisure	**8,724**	**8,818**	**8,753**	**8,841**	**8,934**	**6,856**
Manufacturing	6,032	6,455	6,526	6,620	6,647	6,275
Other Services	8,694	8,892	9,425	9,752	10,211	11,870
Retail Trade	1,625	1,770	3,381	3,638	3,904	4,018
Total Industrial	**16,350**	**17,117**	**19,332**	**20,010**	**20,762**	**22,162**
Accommodation and Food Services	1,400	1,472	1,610	1,740	1,883	2,295
Administrative and Support Services	12,295	12,880	15,130	15,619	16,096	17,142
Arts and Recreation Services	2,115	2,228	2,330	2,479	2,638	2,765
Construction	3,143	3,334	3,461	3,655	3,897	4,882
Education and Training	2,810	3,002	6,122	6,189	6,238	7,973
Financial and Insurance Services	481	496	586	617	629	418
Health Care and Social Assistance	10,856	11,711	13,605	15,378	17,524	31,939
Information Media and Telecommunications	11,040	12,149	13,280	13,658	14,040	7,023
Manufacturing	5,578	5,639	5,309	5,015	4,689	2,886
Other Services	13,393	13,359	13,724	13,764	13,969	13,463
Professional, Scientific and Technical Services	20,612	21,856	26,530	27,338	28,014	35,383
Public Administration and Safety	12,924	13,549	15,322	15,857	16,380	17,370
Rental, Hiring and Real Estate Services	1,580	1,762	2,054	2,139	2,222	2,011
Retail Trade	5,117	5,439	10,067	10,498	10,920	9,318
Transport, Postal and Warehousing	8,709	8,707	9,391	9,446	9,539	6,011
Wholesale Trade	3,136	3,061	2,902	2,752	2,561	1,237
Total Office	**115,191**	**120,643**	**141,422**	**146,144**	**151,241**	**162,114**
Accommodation and Food Services	15,910	17,015	19,022	21,011	23,239	32,280
Total Restaurant/Eating	**15,910**	**17,015**	**19,022**	**21,011**	**23,239**	**32,280**
Other Services	2,303	2,253	2,258	2,210	2,189	1,822
Retail Trade	27,474	30,132	58,000	62,905	68,048	73,449
Wholesale Trade	5,528	5,766	5,939	6,118	6,186	4,911
Total Shop/Showroom	**35,305**	**38,150**	**66,197**	**71,233**	**76,423**	**80,183**
Construction	1,029	1,121	1,203	1,313	1,447	2,210
Wholesale Trade	15,294	15,579	15,579	15,579	15,294	10,164
Total Storage	**16,323**	**16,699**	**16,781**	**16,891**	**16,741**	**12,374**
Common Area, Other Infrastructure, Utilities	58,826	61,984	75,930	79,748	83,998	98,867
Low employment uses (All industries)	**58,826**	**61,984**	**75,930**	**79,748**	**83,998**	**98,867**
Sub-Total	**276,957**	**291,349**	**365,576**	**382,441**	**400,427**	**440,214**
Non-employing uses (Parking, Transport, Visitor Accomodation, Residential and Vacant)	**1,714,747**					
Total	**1,991,704**					

Source: BIS Oxford Economics, City of Sydney FES

Fig. 24. Study Area floorspace requirements, employment Scenario 3

	Internal Area (Sq m)					
Industry/Space Use Category	**2017**	**2021**	**2026**	**2031**	**2036**	**2066**
Education and Training	6,354	6,636	13,158	12,933	12,674	13,683
Health Care and Social Assistance	3,974	4,287	4,981	5,630	6,416	11,694
Total Community	**10,328**	**10,923**	**18,139**	**18,563**	**19,090**	**25,377**
Arts and Recreation Services	8,724	8,818	8,753	8,841	8,934	6,856
Total Entertainment/Leisure	**8,724**	**8,818**	**8,753**	**8,841**	**8,934**	**6,856**
Manufacturing	6,032	6,455	6,526	6,620	6,647	6,275
Other Services	8,694	8,892	9,425	9,752	10,211	11,870
Retail Trade	1,625	1,770	3,381	3,638	3,904	4,018
Total Industrial	**16,350**	**17,117**	**19,332**	**20,010**	**20,762**	**22,162**
Accommodation and Food Services	1,400	1,472	1,610	1,740	1,883	2,295
Administrative and Support Services	12,295	12,880	15,130	15,619	16,096	17,142
Arts and Recreation Services	2,115	2,228	2,330	2,479	2,638	2,765
Construction	3,143	3,334	3,461	3,655	3,897	4,882
Education and Training	2,810	3,002	6,122	6,189	6,238	7,973
Financial and Insurance Services	481	496	586	617	629	418
Health Care and Social Assistance	10,856	11,711	13,605	15,378	17,524	31,939
Information Media and Telecommunications	11,040	12,149	13,280	13,658	14,040	7,023
Manufacturing	5,578	5,639	5,309	5,015	4,689	2,886
Other Services	13,393	13,359	13,724	13,764	13,969	13,463
Professional, Scientific and Technical Services	20,612	22,931	27,580	32,793	38,411	83,686
Public Administration and Safety	12,924	13,549	15,322	15,857	16,380	17,370
Rental, Hiring and Real Estate Services	1,580	1,762	2,054	2,139	2,222	2,011
Retail Trade	5,117	5,439	10,067	10,498	10,920	9,318
Transport, Postal and Warehousing	8,709	8,707	9,391	9,446	9,539	6,011
Wholesale Trade	3,136	3,061	2,902	2,752	2,561	1,237
Total Office	**115,191**	**121,718**	**142,473**	**151,599**	**161,638**	**210,417**
Accommodation and Food Services	15,910	17,015	19,022	21,011	23,239	32,280
Total Restaurant/Eating	**15,910**	**17,015**	**19,022**	**21,011**	**23,239**	**32,280**
Other Services	2,303	2,253	2,258	2,210	2,189	1,822
Retail Trade	27,474	30,132	58,000	62,905	68,048	73,449
Wholesale Trade	5,528	5,766	5,939	6,118	6,186	4,911
Total Shop/Showroom	**35,305**	**38,150**	**66,197**	**71,233**	**76,423**	**80,183**
Construction	1,029	1,121	1,203	1,313	1,447	2,210
Wholesale Trade	15,294	15,579	15,579	15,579	15,294	10,164
Total Storage	**16,323**	**16,699**	**16,781**	**16,891**	**16,741**	**12,374**
Common Area, Other Infrastructure, Utilities	58,826	62,254	76,194	81,117	86,607	110,989
Low employment uses (All industries)	**58,826**	**62,254**	**76,194**	**81,117**	**86,607**	**110,989**
Sub-Total	**276,957**	**292,694**	**366,890**	**389,265**	**413,434**	**500,639**
Non-employing uses (Parking, Transport, Visitor Accomodation, Residential and Vacant)	**1,714,747**					
Total	**1,991,704**					

Source: BIS Oxford Economics, City of Sydney FES

Fig. 25. Study Area floorspace requirements, employment Scenario 4

	Internal Area (Sq m)					
Industry/Space Use Category	**2017**	**2021**	**2026**	**2031**	**2036**	**2066**
Education and Training	6,354	6,818	13,158	12,933	12,674	15,981
Health Care and Social Assistance	3,974	4,364	5,196	6,013	6,987	13,692
Total Community	**10,328**	**11,182**	**18,354**	**18,946**	**19,661**	**29,673**
Arts and Recreation Services	8,724	8,907	8,996	9,244	9,498	7,935
Total Entertainment/Leisure	**8,724**	**8,907**	**8,996**	**9,244**	**9,498**	**7,935**
Manufacturing	6,032	6,455	6,526	6,620	6,647	6,275
Other Services	8,694	8,892	9,425	9,752	10,211	11,870
Retail Trade	1,625	1,838	3,381	3,638	3,904	5,095
Total Industrial	**16,350**	**17,184**	**19,332**	**20,010**	**20,762**	**23,240**
Accommodation and Food Services	1,400	1,502	1,689	1,880	2,087	2,856
Administrative and Support Services	12,295	12,880	15,130	15,619	16,096	17,142
Arts and Recreation Services	2,115	2,251	2,395	2,592	2,805	3,200
Construction	3,143	3,496	3,853	4,308	4,859	7,578
Education and Training	2,810	3,084	6,122	6,189	6,238	9,312
Financial and Insurance Services	481	496	586	617	629	418
Health Care and Social Assistance	10,856	11,919	14,191	16,423	19,083	37,395
Information Media and Telecommunications	11,040	12,149	13,280	13,658	14,040	7,023
Manufacturing	5,578	5,639	5,309	5,015	4,689	2,886
Other Services	13,393	13,359	13,724	13,764	13,969	13,463
Professional, Scientific and Technical Services	20,612	21,895	26,735	27,845	29,320	42,634
Public Administration and Safety	12,924	13,549	15,322	15,857	16,380	17,370
Rental, Hiring and Real Estate Services	1,580	1,794	2,054	2,139	2,233	2,435
Retail Trade	5,117	5,646	10,067	10,498	10,920	11,816
Transport, Postal and Warehousing	8,709	9,139	10,467	11,165	11,971	10,153
Wholesale Trade	3,136	3,061	2,902	2,752	2,561	1,237
Total Office	**115,191**	**121,860**	**143,825**	**150,322**	**157,881**	**186,917**
Accommodation and Food Services	15,910	17,365	19,961	22,705	25,762	40,180
Total Restaurant/Eating	**15,910**	**17,365**	**19,961**	**22,705**	**25,762**	**40,180**
Other Services	2,303	2,253	2,258	2,210	2,189	1,822
Retail Trade	27,474	31,282	58,000	62,905	68,048	93,142
Wholesale Trade	5,528	5,766	5,939	6,118	6,186	4,911
Total Shop/Showroom	**35,305**	**39,301**	**66,197**	**71,233**	**76,423**	**99,875**
Construction	1,029	1,175	1,339	1,547	1,804	3,431
Wholesale Trade	15,294	15,579	15,579	15,579	15,294	10,164
Total Storage	**16,323**	**16,754**	**16,918**	**17,126**	**17,097**	**13,595**
Common Area, Other Infrastructure, Utilities	58,826	62,841	77,472	82,429	88,067	115,448
Low employment uses (All industries)	**58,826**	**62,841**	**77,472**	**82,429**	**88,067**	**115,448**
Sub-Total	**276,957**	**295,393**	**371,054**	**392,015**	**415,152**	**516,862**
Non-employing uses (Parking, Transport, Visitor Accomodation, Residential and Vacant)	**1,714,747**					
Total	**1,991,704**					

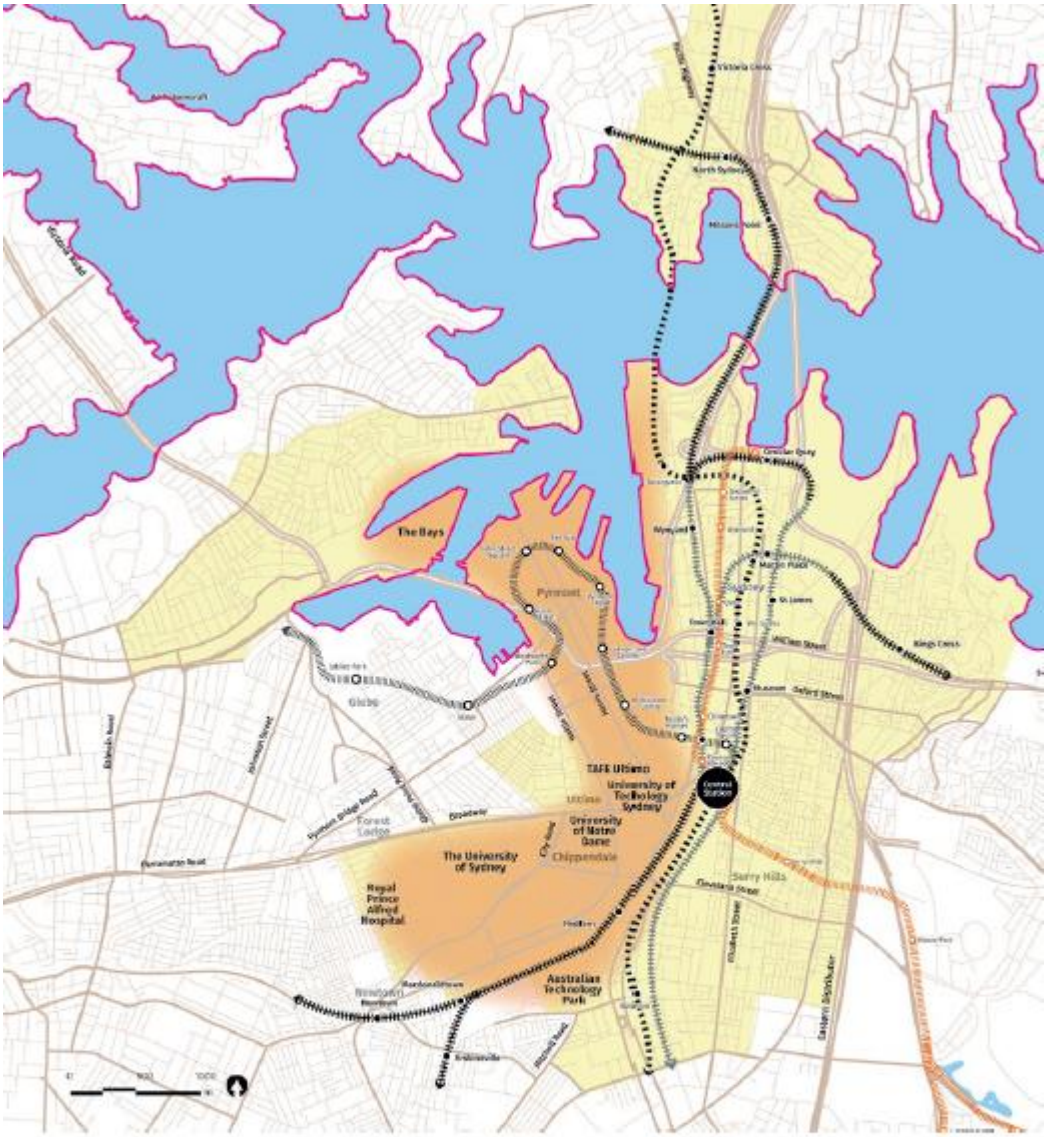
Key conclusions for the base case and alternative scenarios

Based on our forecasts of employment to 2066, the Study Area has the potential to capture higher concentrations of retail, professional scientific & technical, accommodation & food services, education and health employment. Between 2017 and 2036, employment in the wholesale, manufacturing and transport, and information media sectors is expected to remain steady or increase but decline longer term in line with our broader state forecasts which incorporate long term anticipated structural changes (brought about by technological advancements). As a result, the broader shift towards white collar employment seen over the last 10 years is expected to continue.

The amount of floorspace required by use type (i.e. community, entertainment & leisure, industrial, office, restaurants, shops, and storage space uses) is sensitive to both the employment and space use efficiencies assumed. Our scenario analysis suggests an additional 123,000 to 138,000 square metres of employment space will be required between 2017 and 2036 and 163,000 to 240,000 square metres by 2066, with the largest requirements for office and shop/showroom space. All other space uses are expected to maintain or increase their space requirements by 2036, but requirements for storage and entertainment space use will decline by 2066. By 2036, we estimate that the Study Area will accommodate a total of between 400,000 and about 415,000 square metres of employment space, depending on the scenario used, increasing to between 440,000 and 515,000 square metres by 2066. The strongest requirements for future space are likely to align with strength of employment growth, with the greatest office space demand to come from professional, scientific & technical, education and health industries, and with demand for shop/showroom space driven by retail employment growth.

The planning challenge is to protect enough employment space to accommodate the higher end estimates or run the risk of losing employment growth to other locations.

Fig. 26. Harbour CBD - Greater Sydney Commission, Eastern City District Plan



Comparison against state and local employment targets

It is difficult to directly compare our employment forecasts for the Study Area to the broader Sydney District Employment jobs targets because they cover different areas. Within the Greater Sydney Commission's *Eastern Sydney District Plan*, released in March 2018, the Redfern/Waterloo Study Area covers areas within the *Harbour CBD* and *Innovation Corridor'* shown in Fig 26. The area is also covered by the *Eastern Economic Corridor*.

The *Eastern City District Plan* sets a baseline target of 662,000 jobs and a higher target of 732,000 jobs for 'Harbour Central Business District (CBD)' by 2036. These represent an increase of 165,100 to 235,100 jobs respectively, compared to the estimated 496,900 jobs in 2016. No specific jobs target is provided for the *Innovation Corridor and the Eastern Economic Corridor*. Based on our forecast scenarios, the Study Area will contribute between 2.6 and 3.1% of the Harbour CBD's 'lower' jobs target of 165,100 extra jobs by 2036.

Current and future conditions likely to support or threaten employment growth

We have discussed key influences on employment growth within the Study Area (both positive and negative) in Sections 3.2 and 3.4. On the positive side, these include proximity to the CBD, the Australian Technology Park and four universities, transport links and providing amenity to growing population and employment hubs. Threats include lack of an office precinct, absence of a retail hub for amenity and land scarcity as well as competing uses. In addition, building requirements and future (additional) infrastructure will impact upon employment prospects over the medium to long term.

Building requirements by building type

Based on our forecasts of floorspace requirements, there will be demand for a substantial amount of office and shop/showroom space within the Study Area over the period to 2066, with more moderate demand for other uses. If this space cannot be provided, demand will likely go elsewhere.

In undertaking this research project, BIS Oxford Economics interviewed stakeholder representatives from technology companies, education providers, telecommunications, scientific and finance services, as well as retail, office and industrial real estate agents located within the Study Area and within surrounding employment clusters. The types of buildings used/required by these industries varied significantly depending on the end user and what the space was being used for.

Focusing on large user examples, the Commonwealth Bank has committed to a campus-style office development up to nine storeys high with building floorplates exceeding 5,000 square metres. Sydney University prefers purpose built or refurbished buildings that allow plenty of space for their research facilities. Seven West Media occupies floors within a building boasting 5,000+ square metre floorplates catering for their production/studio requirements. CSIRO Data 61 occupies several floors in a building with approximately 2,000 square metre floorplates, providing the room they require for research.

At the smaller end of the scale, start-up tech companies housed within the Australian Technology Park and Cicada Innovations prefer small office suites in

repurposed heritage buildings that have the connectivity infrastructure they need. A common theme amongst small tech-based businesses was a preference for character buildings that foster creativity and innovation.

For retail users, agents suggested that the over-riding preference is buildings located with ground floor exposure to high passing traffic that is easily accessible and convenient for their customers. Like office buildings, retail buildings within the Study Area vary significantly both in age and use. However, respondents suggested that many modern ground floor retail premises within mixed use buildings have design shortcomings (such as low ceiling to floor heights) which limit the type of retailer that can use the space.

Industrial users within the Study Area are already confined to small clusters. They face an uncertain future, with the gradual contraction likely to continue as redevelopment to other uses displace occupiers. Most occupiers are likely to stay in their existing premises whilst they remain functional, with redevelopment to newer industrial facilities unlikely given high land values within mixed use business zones.

Additional infrastructure required to cater for expected industry sector growth in the Study Area

BIS Oxford Economics is not a transport consultant/expert. We provide the following recommendations based on qualitative interview feedback and logical improvements to boost employment appeal of the Study Area.

The key recommended infrastructure upgrade for the Study Area to cater for expected employment growth is to provide additional capacity at Redfern Station. Feedback from respondents regarding the proposed Sydney Metro West was positive, but only if stations were located within comfortable walking distance of the Study Area. Under current plans, we understand that the closest station is planned to be at White Bay. The City of Sydney's submission to the Sydney Metro West project supports consideration of stations at Green Square/Zetland and Redfern East. However, a decision on a capacity upgrade at Redfern Station and the location of Sydney Metro West Stations rests with the NSW Government rather than the City of Sydney.

As previously analysed in Section 3.4, the Study Area is currently serviced by three existing train stations, with Redfern the only station providing direct connections to a large proportion of the Sydney labour market. This station's catchment covers only part of the Study Area. Once the Waterloo Metro Station opens in six years' time, it will expand the rail catchment of the Study Area but again, will not service the entire Study Area. In the meantime, confirmed employment growth associated with the Commonwealth Bank's relocation of approximately 10,000 employees to the Australian Technology Park (by 2020) will stretch Redfern Station's capacity. Indeed, interview responses suggest that the Station is already close to capacity during peak periods.

As noted above, the Sydney Metro West is currently at the 'consultation and design' phase of planning, with funding yet to be confirmed. The project is scheduled for completion in the late 2020s. Current plans do not provide for a station close to the Study Area, with the nearest station precinct at White Bay. Unless a closer station is nominated, this project will have a minimal impact on employment within the Study Area.

The New South Wales Government's *Future Transport Strategy 2056* and Infrastructure NSW's *State Infrastructure Strategy 2018 to 2038* set broad, long term infrastructure directions across the state. The only committed public transport projects that will impact on the Study Area are the Sydney Metro *City and South West* and the CBD and South East Light Rail (discussed in section 3.4). Private transport accessibility will be boosted by the completion of WestConnex in 2023 but the impact will be constrained by limited parking within the Study Area and associated loss of amenity.

The above strategies propose upgrades to the existing infrastructure to create a *Harbour CBD to Greens Square Mass Transit Link* and *Eastern Suburbs to Inner West Rapid Bus Link* but little supporting detail is provided. Any initiative to boost the accessibility of the Study Area would serve to support forecast employment growth. However, this needs to be balanced by the impact of increased traffic on local amenity.

Beyond 2026, new infrastructure projects are limited within the Strategies mentioned above. Proposed projects under investigation include a light rail to the Bays precinct and a rail corridor to service the Badgery's Creek Airport. Any impact on the Study Area would require interchanges within comfortable walking distance.

Policy recommendations and further research required

There's no doubt that it's a challenging task to allow for or retain/protect sufficient space in Redfern/Waterloo to accommodate projected employment given the current built form and development trend, which is dominated by residential uses. History has shown that it is very difficult to overcome market forces. The challenge for planning is to balance competing housing and employment priorities. Enough space needs to be protected to allow employment space to grow when it is required by the market and feasible to build. Otherwise, demand and new supply will go elsewhere, losing proximity to the CBD as well as established clusters within or adjacent to the Study Area.

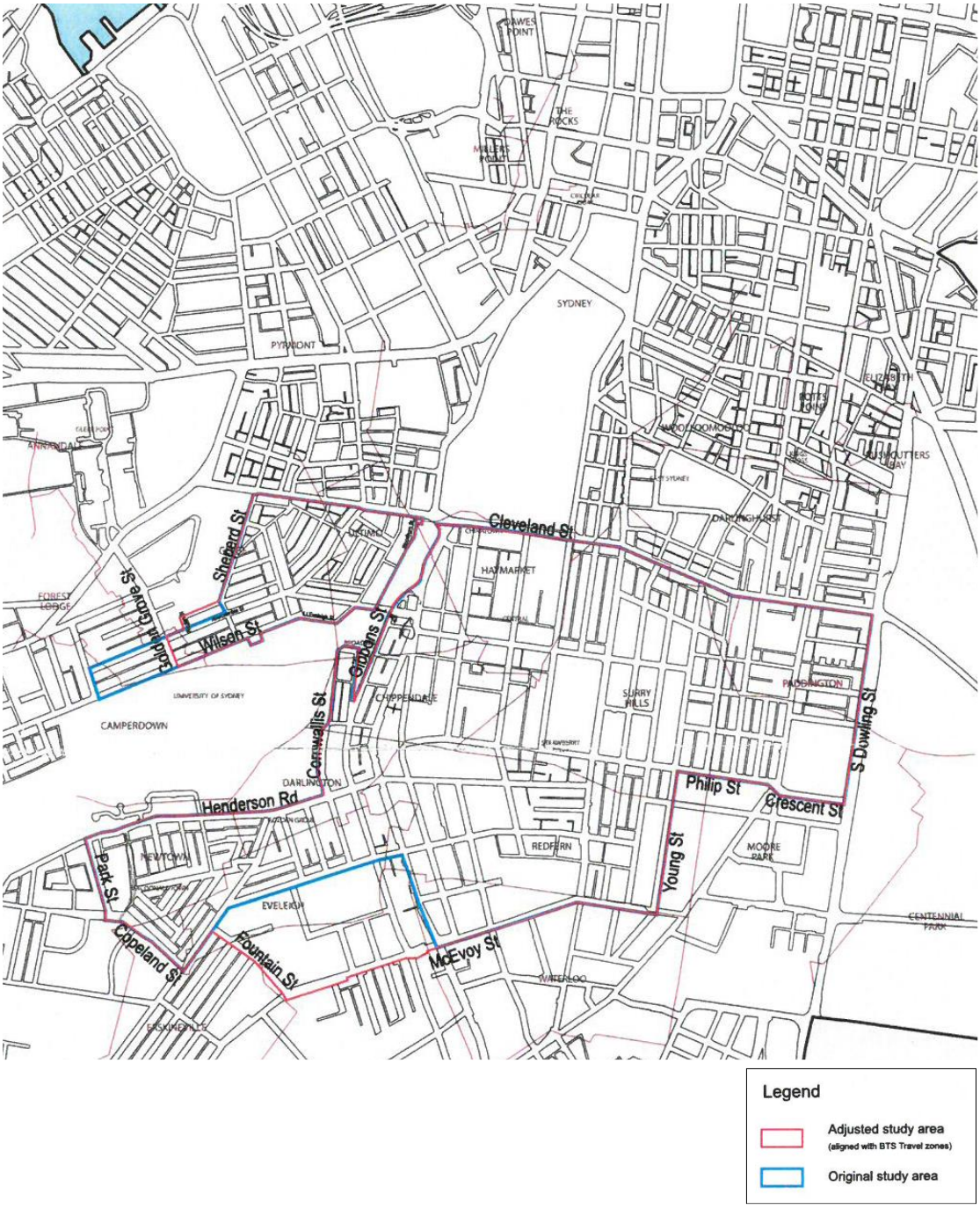
There are several tools that can be used from a planning perspective to remove barriers and encourage the growth of employment space in the Study Area, including:

- Protecting existing mixed-use business zones from further residential encroachment by using instruments available to council, particularly along Regent Street/Botany Road, the industrial precinct around Young Street.
- Advocate delivery of significant employment spaces in urban renewal areas (current and planned) threatened by residential encroachment and State Significant Precincts that have not already been locked into residential uses. The best prospects lie in the vacant 1.9 hectare Metro Quarter site and Botany Road corridor where infrastructure investment and future urban renewal can be focused on productivity and employment.
- Ensuring a co-ordinated approach from state and local government to support employment growth.

- Consider the development capacity under current FSR and height controls to meet forecast employment growth. However, attracting users to a particular location by simply raising FSRs/height limits in non-established centres is unlikely to succeed on its own. Commercial space users require a combination of criteria (including – amongst others – access to transport links for staff and clients, retail amenity, existing clusters of related industries and buildings with floorplates of sufficient size) to be fulfilled before choosing a particular location.
- Investigate retail space design. Respondents suggested that many modern ground floor retail premises within mixed use buildings have design shortcomings (such as low ceiling to floor heights) which limit the type of retailer that can use the space.

APPENDIX 1: METHODOLOGY AND FORECAST LIMITATIONS

Fig. 27. Study Area map



A1.1 FORECAST METHODOLOGY

Study Area employment

To produce employment forecasts for the Redfern/Waterloo Study Area, BIS Oxford Economics have used a combination of employment and population projections, as well as a detailed list of employment generating non-residential building projects. Additional 'overflow' demand is overlaid. The methodology is summarised below.

In-house population growth forecasts to 2066, which incorporate internal views on international and interstate migration form the starting point. (Our population forecasts are broadly in line with the NSW Department of Planning and Environment's 'medium' projections) and ABS demographic forecasts under Series B).

NSW population is split between Greater Sydney and the rest of New South Wales based on the LGA age projections by 5-year age cohorts in the 2016 New South Wales State and Local Government Area Population Projections.

Using 2011 and 2016 Census data, the LGA age and population projections are matched to SA2 population projections.

Using the Commonwealth Government's 2015 Intergeneration Report outlook on labour force participation by age and gender, and the 2011 Census on the labour force participation by age and gender by SA2, we can infer projections of the labour force by place of residence for each SA2, Greater Sydney, and the Rest of New South Wales. Using a stable unemployment rate, this translates to employment by place of residence for Greater Sydney.

Analysing the Journey to Work data from the 2011 and 2016 Census', we convert employment by place of residence to employment by place of work for both Greater Sydney and the rest of New South Wales.

BIS Oxford Economics' in-house view on NSW employment by Industry share of total employment provides an estimate the employment by industry for New South Wales over the forecast horizon. This is then ascribed to either Greater Sydney or the rest of New South Wales using the 2016 Census of employment by SA3 (Statistical Area 3).

Employment in each SA3 by industry is calculated using three distinct steps:

1. Using a major project list of non-residential building
2. From population growth (local demand)
3. Distributed residuals (where additional employment growth is not ascribed to employment generating non-residential building projects or local demand is distributed as per the existing distribution of employment in that industry).

Employment growth in the Redfern/Waterloo Travel Zones, which encompass four different SA2s which fall within SA3 11703, is calculated using two different methods. Firstly, this is done by using a project list generated from DA Approvals provided by the City of Sydney (of greater than $5 million) and anticipated major developments from BIS Oxford Economics' list of non-residential building. Secondly, we use the growth rates of employment within 11703.

For the forecast to 2026, the primary method of forecasting employment growth in Redfern/Waterloo Travel Zones is by analysing the project lists and anticipated major developments. For the remainder of the forecasting horizon (2031, 2036 and 2066), projected organic employment growth (applying rates from SA3 1703) is the dominant method used.

Based on our previous analysis, the Study Area is expected to benefit from additional employment drivers to those described above. In particular, 'overflow demand' from the CBD, Surry Hills and Chippendale as well as businesses servicing part of the rapidly growing Green Square population.

Overflow employment will come from some existing (office based) businesses being gradually pushed out of the increasingly expensive (southern) CBD, Chippendale and Surry Hills areas into the Study Area.

BIS Oxford Economics' *Sydney Commercial Office Markets 2018 to 2028* study contains long term metropolitan office employment forecasts. Office employment is allocated between the CBD and non-CBD, with the latter growing at a faster pace as demand overflows from an increasingly site constrained and expensive CBD. We have assumed that the Study Area maintains its share of growing non-CBD office employment over the forecast period.

We have also made an allowance for businesses servicing Green Square population growth, which is likely to be predominately retail floorspace. This amounts to the Study Area servicing a greater proportion of the SA3 population growth that it otherwise would. BIS Oxford Economics extended the latest small area population forecasts published by Forecast i.d for Green Square City South to 2066. We then allowed for 10% of this increase to be serviced within the Study Area, applying the current ratio of retail employment to population for Redfern/Waterloo.

A1.2 FORECAST LIMITATIONS

Forecasting over any time horizon (and particularly longer term forecasting) is limited by various factors including:

- The quality of the data relied upon. Key inputs into our historical series are provided by the Australian Bureau of Statistics and the City of Sydney, whose data may be subject to some level of inaccuracy.
- Unforeseen events, be it catastrophic events, financial crises, wars or pandemics have the potential to dramatically alter the assumptions upon which forecasts are based.
- Our forecasts assume that market behaviour/interactions/relationships witnessed in the past will hold into the future, but this may not necessarily be so.

- Changes in the way we work may not be properly captured in the data e.g. full time/part time employment, which can impact upon employment and floor space demand. Furthermore, long term changes to workplace practices could turn out to be greater or less than allowed for.
- Magnitudes of demand cycles are difficult to forecast.
- Planning changes by governments at either the state or local level have the potential to increase or decrease the future capacity for development to accommodate employment and hence the Study Area's ability to accommodate forecast employment growth. Other government interventions, such as tax changes or business regulations have the potential to influence both the prospects for employment and development and can be difficult to anticipate.
- Floorspace estimates are sensitive to the internal area ratios applied. The City of Sydney data showed substantial intensification of use across numerous space types. On a number of occasions, we have assumed that such rapid declines will not continue into the future as the uses and users of these spaces mature. However, workplace efficiencies may occur faster than we expect.

BIS OXFORD ECONOMICS

REDFERN – WATERLOO STRATEGIC EMPLOYMENT STUDY

STAGE 4

JULY 2018

BIS Oxford Economics

Following the merger of Oxford Economics with BIS Shrapnel on March 1st 2017, BIS Oxford Economics is Australia's foremost independent economic advisors and provider of industry research, analysis and forecasting services.

BIS Oxford Economics applies local methodologies and international insights within a fully consistent modelling framework to help clients better understand the markets and sectors in which they operate, by providing reliable and detailed market data, analysis of developments and drivers, and thoroughly researched forecasts.

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5. WATERLOO METRO QUARTER DEVELOPMENT OPTIONS

5.1 KEY POINTS

Within the earlier stages of the study, we determined that the Redfern/Waterloo Study Area was expected to see employment grow to 17,600 people by 2066. This allowed for development on the Metro Quarter site as set out in the NSW Government's concept plan. We have tested alternative scenarios here that allow for higher commercial floorspace on the Metro Quarter site. Our analysis suggests that employment across the Study Area could increase by between 1,700 and 4,200 over the 2017 to 2066 horizon to a total of 19,300 to 21,800 jobs under these alternative scenarios.

Moreover, there is potential under current zoning for this 'pioneering site' to become part of a larger employment precinct within a defined area that incorporates the Australian Technology Park. In the process, this would help deliver a higher proportion of the *Eastern Sydney District Plan's* jobs target for the Harbour CBD. However, this opportunity does not seem to have been considered under the current concept plans from Urban Growth and Sydney Metro, with the additional employment growth going elsewhere.

The Waterloo Metro Quarter comprises a 1.9 hectare site (bounded by Raglan, Botany, Wellington and Cope Streets) that will accommodate the new Waterloo Metro station (part of the Sydney Metro Southwest rail line) when completed in 2024. This site is currently vacant and Metro construction work is underway. The NSW Government controls the Metro Quarter site and has released concept plans incorporating around 4,000 square metres of retail space, 8,000 square metres of commercial space and up to 700 apartments. Based on this development mix (incorporated in Scenario 1 in Section 4), the Study Area's total employment is forecast to grow from about 10,000 in 2017 to 14,400 in 2036 and then 17,600 by 2066. Changing the Metro Quarter's development mix to 35,000 square metres of commercial office space (Scenario 5a) (by reducing the number of apartments) increases employment to 19,200, with 70,000 square metres of commercial space and 6,000 square metres of retail (Scenario 5b) underpinning 21,800 jobs.

High density employment space above the Metro rail line (i.e. within comfortable walking distance) would appeal to a range of office (and retail) based industries forced out of the increasingly expensive (Southern) CBD. However, by only offering 35,000 to 70,000 square metres of office space, its success as a 'pioneering site' is not assured. Firstly, office development will only occur when it is feasible to build space and it is likely to require a large anchor tenant. Secondly, suburban office precincts in Sydney typically have at least 100,000 square metres of stock, allowing enough space for businesses to cluster, evolve and expand. Smaller examples include Rhodes and Norwest Business Park, whereas other smaller centres such as Burwood, Gordon and Pymble struggle to survive. For a self-sustaining office precinct to develop, the best chance lies in including the Metro Quarter in a protected corridor

extending to the Australian Technology Park from further residential encroachment, allowing the two smaller precincts to evolve and merge over time.

The development of the Metro Quarter site provides a rare opportunity for the NSW State Government to work with the City of Sydney to support an employment precinct in Redfern/Waterloo to accommodate forecast employment growth and targets set in the *Greater Sydney Region Plan* and *Eastern City District Plan*. Competing housing and employment priorities need to be carefully considered and balanced in order to accommodate growth and realise the area's role as part of the Harbour CBD and Innovation Corridor.

The potential for the Metro Quarter to be a pioneering site for employment

The Waterloo Metro Quarter site offers the opportunity to be developed as a pioneer employment site. As discussed in Section 3.3, the site has some of the ingredients to evolve into a thriving employment precinct:

- It has the benefit of being a large site under single ownership,
- It is vacant.
- It is in close proximity to the established employment hubs of the Australian Technology Park, the CBD and existing creative industries.
- Moreover, it will offer excellent access to the Metro station – with extended hours of operation encouraging night time employment opportunities.
- It is within 650 metres walking distance of Redfern Station and 1 kilometre of Green Square Station.
- The mixed use business zoning between the Metro Quarter and the Australian Technology Park, along both sides of Botany Road, offers the opportunity for the two to merge over time, creating a larger employment hub encompassing 270,000 to 300,000 square metres (or more) of commercial office space which, at a workspace ratio of 16.5 square metres per person, translates to between 16,000 and 18,000 jobs.

Metro Quarter development scenarios and methodology

Three development scenarios were tested for the Metro Quarter site (See Fig 1). The base case was incorporated into our employment forecasts for Scenario 1 in Section 4. The forecast methodology is described in detail in Appendix 1. The construction period for Scenarios 1 and 5a are assumed to stretch from 2023 to 2025, with the larger office project in 5b taking until 2026 to complete.

Fig. 1. Metro Quarter development scenarios

Space Use	
Scenario 1-Base case	
Retail	4,000 sq m (incl 1,200 sq m supermarket)
Office	8,000 sq m
Residential	700 apartments
Scenario 5a-Mixed use	
Retail	4,000 sq m (incl 1,200 sq m supermarket)
Office	35,000 sq m
Residential	300 apartments
Scenario 5b-Non-residential	
Retail	6,000 sq m (incl 1,800 sq m supermarket)
Office	70,000 sq m

For the Metro Quarter, employment metrics are listed in Fig 2. Ongoing operational (office and retail) employment is included after the building/s are complete. Direct construction jobs associated with the project have been excluded from our employment forecasts as it is difficult to determine how many are additional jobs above and beyond organic growth as workers move from one project to the next.

The employment metrics for the retail and supermarket space are sourced from industry sources relating specifically to specialty retail and supermarkets, which are the uses proposed in the Metro Quarter development scenarios. The retail usage ratios used in Section 4 are different as they cover a broader range of retail uses. The office ratio of 16.5 square metres per person is sourced from BIS Oxford Economics Sydney Commercial 2018 to 2028 publication. City of Sydney 2017 FES data, (also discussed in Section 4) was within close proximity, at an average 18 square metres across the main office using sectors. New office developments are often designed for even lower workspace ratios, but do not allow for underutilised space (or hidden vacancy).

Fig. 2. Employment metrics

Space Use	Employment metric
Retail	17 sqm per person
Supermarket	34 sq m per person
Office	16.5 sq m per person

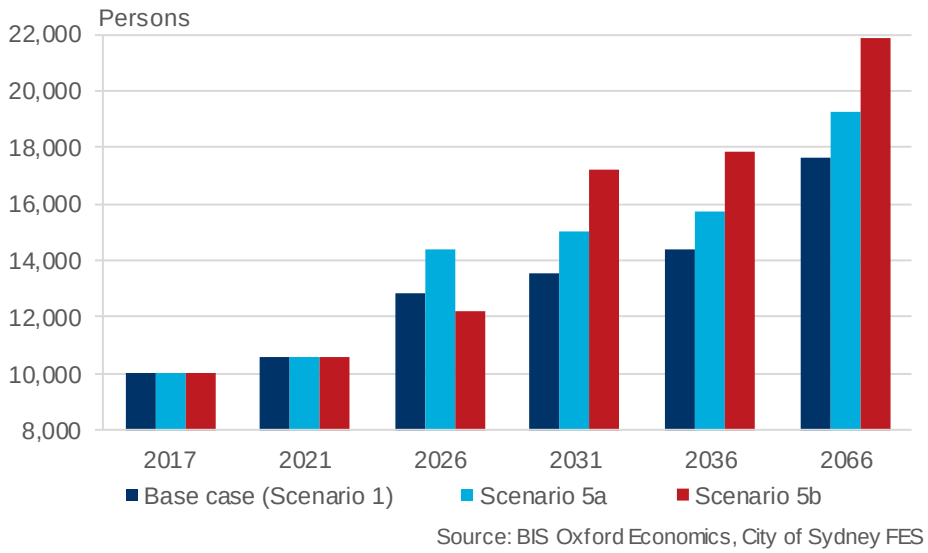
Source: BIS Oxford Economics andvarious industry sources

Employment scenario forecasts

The employment forecasts for the Study Area—including the development of higher non-residential space at Metro Quarter—under Scenarios 5a and 5b—are shown in Figs 3 to 5. Total base case employment (Scenario 1) is provided for comparison. Based on our forecasts for Scenario 5a, the Study Area's employment increases to almost 15,800 by 2036 and then 19,300 by 2066 compared to a base case of 14,400 and 17,600, respectively representing an additional 1,400 to 1,700 jobs for the different time periods. The additional employment is spread amongst the main office using sectors. For Scenario 5b, the Study Area's total employment growth increases to 17,800 by 2036 and 21,800 by 2066, reflecting additional employment of 3,400 and 4,200. This employment growth is captured by the main office employing and retail sectors. The additional employment generated when comparing the base case to

Scenarios 5a and 5b fluctuates a little over time reflecting the influences of the Metro Quarter projects' completion timing (when the space can be occupied) and longer term broader population and employment growth parameters.

Fig. 3. Study Area total employment forecast scenarios



Source: BIS Oxford Economics, City of Sydney FES

Fig. 4. Study Area employment forecasts, Scenario 5a

Industry	Total employment (persons) 2017	2021	2026	2031	2036	2066
Mining	0	0	0	0	0	0
Manufacturing	287	302	299	297	292	243
Electricity, Gas, Water and Waste Services	0	0	0	0	0	0
Construction	173	185	194	207	223	297
Wholesale Trade	161	164	164	164	161	107
Retail Trade	782	838	1,567	1,651	1,735	1,574
Accommodation and Food Services	864	924	1,033	1,141	1,262	1,753
Transport, Postal and Warehousing	620	625	681	692	706	473
Information Media and Telecommunications	795	882	1,163	1,201	1,239	659
Financial and Insurance Services	25	26	38	40	41	29
Rental, Hiring and Real Estate Services	145	163	242	252	262	252
Professional, Scientific and Technical Services	1,579	1,691	2,620	2,729	2,837	4,386
Administrative and Support Services	1,227	1,296	1,865	1,931	1,997	2,262
Public Administration and Safety	1,036	1,095	1,531	1,588	1,645	1,855
Education and Training	169	182	412	419	427	581
Health Care and Social Assistance	708	788	1,095	1,135	1,326	3,056
Arts and Recreation Services	180	197	216	241	269	375
Other Services	1,233	1,240	1,287	1,304	1,337	1,370
Total	**9,984**	**10,598**	**14,407**	**14,992**	**15,759**	**19,272**
Base case (Scenario 1)	**9,984**	**10,598**	**12,840**	**13,553**	**14,368**	**17,605**

Source: BIS Oxford Economics, ABS, City of Sydney FES

We view our forecasts as conservative, incorporating an office workspace ratio of 16.5 square metres per person. New office projects are often designed to accommodate people at much higher densities. Nevertheless, the potential employment uplift for the Study Area from the development of the Metro Quarter will be constrained by overall forecast metropolitan growth and

competition from other centres within Sydney. Nevertheless, the site has a competitive advantage of being located directly above the Waterloo Metro Train Station and has the potential to be a pioneering site.

As with our previous scenarios, our employment forecasts are hypothetical. A capacity study is required to determine if enough space could be built under prevailing planning regulations. However, development of more commercial and retail space at Metro Quarter increases the likelihood that forecast employment growth can be accommodated in the Study Area over the long term.

Fig. 5. Study Area employment forecasts, Scenario 5b

	Total employment (persons)					
Industry	**2017**	**2021**	**2026**	**2031**	**2036**	**2066**
Mining	0	0	0	0	0	0
Manufacturing	287	302	299	297	292	243
Electricity, Gas, Water and Waste Services	0	0	0	0	0	0
Construction	173	185	194	207	223	297
Wholesale Trade	161	164	164	164	161	107
Retail Trade	782	838	1,364	1,752	1,836	1,665
Accommodation and Food Services	864	924	1,033	1,141	1,262	1,753
Transport, Postal and Warehousing	620	625	681	692	706	473
Information Media and Telecommunications	795	882	918	1,446	1,484	790
Financial and Insurance Services	25	26	29	48	50	35
Rental, Hiring and Real Estate Services	145	163	177	316	326	314
Professional, Scientific and Technical Services	1,579	1,691	1,928	3,421	3,529	5,456
Administrative and Support Services	1,227	1,296	1,441	2,355	2,421	2,742
Public Administration and Safety	1,036	1,095	1,167	1,952	2,009	2,265
Education and Training	169	182	364	467	474	644
Health Care and Social Assistance	708	788	952	1,392	1,433	3,303
Arts and Recreation Services	180	197	216	241	269	375
Other Services	1,233	1,240	1,287	1,304	1,337	1,370
Total	**9,984**	**10,598**	**12,214**	**17,195**	**17,812**	**21,832**
Base case (Scenario 1)	**9,984**	**10,598**	**12,840**	**13,553**	**14,368**	**17,605**

Source: BIS Oxford Economics, ABS, City of Sydney FES

A predominantly residential mixed use development at Metro Quarter could act as a barrier for a successful broader employment precinct, with previous interviews of office users conducted by BIS Oxford Economics revealing office based companies prefer locations within designated commercial centres. Fragmented ownership along Botany Road and existing residential built form may pose additional challenges in delivering the broader employment precinct described earlier in 5.1.