

Attachment A12

**Economic Impact Assessment
187 Thomas Street, Haymarket**

187-189 Thomas St, Haymarket

Economic Impact Assessment

Greaton Development Pty Ltd

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Document Control

Project Manager: Robert Wilson
Email: robert.wilson@atlasurbaneconomics.com
Telephone: +61 2 8016 3864

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Client: Peter Jones
Client Contact: Greaton Development Pty Ltd

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Executive Summary

BACKGROUND

As the economic powerhouse of NSW, the Sydney CBD (referred to interchangeably as 'Central Sydney') plays an important role in Sydney's contribution to Australia's GDP. The Greater Sydney Region Plan identifies an emerging Innovation Corridor on the western edge of the Sydney CBD comprising universities, a major teaching hospital, international innovation companies and fast-growing start-ups.

The Eastern City District Plan notes the limited capacity of Sydney CBD to attract investment to support expansion with the constraints of small and fragmented lot ownership being expensive and time-consuming for new development. It further highlights the need for Sydney CBD planning controls to support commercial development, or there will be insufficient floorspace to accommodate the 45,000 to 80,000 jobs forecast.

The City of Sydney's draft Central Sydney Planning Strategy (draft Strategy) was released in 2016 with the overarching objective of unlocking an additional 2.9 million sqm of commercial floorspace to enable Central Sydney to grow sustainably and contribute to metropolitan Sydney as a globally competitive and innovative city. The draft Strategy recently received approval-in-principle from NSW Minister for Planning and Public Spaces in December 2019.

187-189 Thomas Street, Haymarket (the Site) is located within one of the four tower clusters identified for increased commercial floorspace potential in the draft Strategy. It is located within the 'Southern Precinct'.

The Site is strategically located in the Southern Precinct of the Sydney CBD (or Central Sydney), connecting with the Camperdown-Ultimo Collaboration Area which is part of a mature innovation corridor. While there is potential for expanding the innovation ecosystem in the collaboration area, there are impediments to this including a limited availability of employment land and affordable space for innovation, research, creative industries and collaborative projects.

Greaton Development are preparing a Planning Proposal to amend the planning controls applicable to the Site to allow a future development that will comprise an integrated community and destination for the innovation and technology sectors in the form of a vertical innovation village with an approximate GFA of 51,700sqm which is equivalent to FSR 22:1.

Atlas Urban Economics (Atlas) is engaged to prepare an Economic Impact Assessment (EIA) to consider the need for the Proposal and assess the economic impacts likely to result from planning controls amendments and redevelopment of the Site.

FACILITATING INNOVATION AND BUSINESS GROWTH

The Tech Sector and Innovation Economy

The Innovation Economy is an embodiment of new generations of technologies and business models emerging to disrupt business-as-usual and existing sectors, creating new products and processes and fostering high growth industries.

The 'technology sector' generally relates to research, development and distribution of technologically based goods and services. It could provide solutions to support manufacturing activity (e.g. food science, construction materials) or indeed any enterprise (e.g. financial services, digital media, consumer retail, media/entertainment, etc.).

As industry as a whole seeks to be innovative and implement more productive ways to remain competitive, other businesses emerge to create and develop solutions that disrupt conventional practices and transform business-as-usual. These "other" businesses are generically referred to as "the tech sector" who utilise technology and knowledge to develop solutions to businesses seeking to improve efficiencies and overall competitiveness.

In terms of floorspace requirements, the technology sector is no different to any other sector with specific requirements. Location and site selection factors for 'tech clusters' depend on the industries/ sectors they service, connections with external organisations (e.g. research institutions) and quality of overall amenity. They tend to favour co-location opportunities.

For innovation focused companies, locating within a functional cluster is increasingly vital. These companies hire specialist skill from all over the world and talent is their biggest asset. They are more willing than more conventional businesses to move locations in order to attract the best talent. An 'innovation community' is a global phenomenon.

The Flex Space Response

'Co-working' began in San Francisco in 2005, when a small group of individuals from creative industries came together to work alongside each other in an open space. Most co-working spaces are focused on creating a community of regular users who can build relationships with other users through a collaborative open plan layout.

A broader category of 'Flex Space' has now emerged, where space is configured and available in a variety of formats and tenure. Flex spaces are generally corporate style offices with a mix of open plan and private offices, boardrooms and meeting rooms with business support services, kitchen and end-of-trip. The concept of flex space has expanded to include co-working space. While co-working is an important part of the flex space offer, research indicates private offices are often more sought after.

The Australian office market has incorporated flex space models since the early 1980's, experiencing strong growth over the past five years. The take up of flex space was most prevalent in 2018, particularly in Melbourne and Sydney CBDs.

Based on our review of international markets, it is evident that Sydney CBD is a relatively young market with the total flex space foot print estimated to account for 1.2% of total office stock. This is low compared to London (6.3%) and Manhattan (3.6%). The rapid take-up and absorption of flex space is testament to Sydney's relative place on an upward growth trajectory.

Notably, while the flex space industry has evolved significantly over the past 10 years and continues to evolve in line with the modern workforce, much of the offer in Sydney is about office space solutions. The offer is however less about business growth and support that is targeted at facilitating innovation outcomes or the needs of start-up and scale-up companies.

Lack of Suitable Opportunities

It is an unfortunate reality that despite demand for space by technology occupiers and the City of Sydney's policy initiatives (Tech Startups Action Plan) to encourage and support growth of the technology sector, a large-scale tech cluster/ hub has not established. The Camperdown-Ultimo Collaboration Area is loosely a collection of various participants dispersed in the area.

In recent years and months there has been notable effort by the NSW Government to implement a technology and innovation precinct on government-owned lands. The Central to Eveleigh Corridor and the Bays Precinct are both locations planned for partnership opportunities with the tech industry to deliver an innovation precinct.

The delivery of the Central to Eveleigh Corridor and the Bays Precinct is complex. There are multiple stakeholders and complex issues that will need to be resolved for delivery of these proposed innovation precincts.

Aside from these government-owned lands, there is a dearth of suitable opportunities for a tech cluster of significant scale to establish and grow. Owing to strong investment conditions and limited supply opportunities in the Sydney CBD, there is fierce competition for development sites from various competing uses. It is therefore no surprise that tech occupiers are dispersed across the CBD and City fringe markets, not co-located in the true sense of a 'cluster' or 'innovation community'.

The Emerging Southern Precinct

The Southern Precinct is Central Sydney's southern-most precinct, bordering Chinatown and Haymarket. Employment activity is traditionally dominated by hospitality (15% compared to 7% in Sydney CBD) and retail-related activity. It also has a notable representation of Health and Education employment (28% compared to 5% in Sydney CBD).

In recent years (2011-2016), ABS data shows strong employment growth in Knowledge-intensive sectors, driven by strong employment gains in Financial & Insurance Services and Professional, Scientific & Technical Services. These observations are important as they signify an emerging role for the Southern Precinct for knowledge-intensive type employment activity.

Market dynamics in recent years (driven by tight supply and rising rents) has caused a spill over into markets previously considered secondary, with occupiers considering options in locations that are accessible. The Southern Precinct is one of these beneficiary markets (in particular to technology occupiers), emerging as an alternative to the City Core and Midtown precincts of the CBD. This is consistent with the employment growth observed in ABS data.

In the 'war for talent', businesses use their real estate decisions to attract and retain talent. Many businesses choose to occupy prime quality space in the CBD with some selecting City fringe markets due to a 'less corporate' and village-like environment.

While the Southern Precinct has gained popularity in recent years with technology occupiers and professional services (as evidenced by growing employment in ABS data), there is still a degree of resistance to this southern edge of the CBD due to the quality of urban realm and amenity. This effectively 'caps' the Southern precinct's potential as a business destination.

OPPORTUNITY FOR THE SITE

Providing for Start-ups, Scale-ups and Ramp-ups

There is currently a gap in the market where tech occupiers are generally scattered in disparate locations across the Sydney CBD and City fringe markets. The Sydney Startup Hub has assisted to meet the gap by providing an opportunity for accelerators, incubators and co-working providers to be accommodated in a single location.

The Site is located in a strategic location, connecting the Southern precinct and the Camperdown-Ultimo Collaboration Area. It is well placed to leverage market interest already evident in the precinct from technology occupiers. Vertical integration of various uses will cater to needs of companies at different stages of the business cycles, from start-up, scale-up and ramp-up.

Importantly, the Site envisages not only provision and availability of business support (tax/ accounting advice) and business infrastructure (wi-fi, conference rooms) but also facilitation of industry support (collaboration and mentoring with industry peers and leaders) to assist with business growth particularly through the early stages which are critical.

Broader than office space and business support, the globally mobile needs of the innovation community should be provided for. Provision of hotel accommodation within the Vertical Innovation Village specially for visitors to Sydney who have dealings with occupiers in the tech cluster contributes to the competitiveness of the offer.

Transforming the Urban Realm

Despite the emerging market and industry interest in the Southern precinct, the lack of public realm and tenant amenity is a major drawback to investment in the area. Knowledge-intensive businesses are generally more sensitive to the quality of their environment. Their employees have higher expectations of retail/ urban amenity.

The scale of the Proposal will facilitate a transformational change to the public realm in the Southern precinct.

ASSESSMENT OF ECONOMIC IMPACTS

To assess the economic impacts arising from the Proposal, a Base Case and Proposal Case are defined:

- **Proposal Case:** The Proposal Case assumes the existing buildings will be demolished and developed into a Vertical Innovation Village as proposed. The hybrid tower will comprise the following components:
 - Innovation tech hub (approx. 8,600sqm GFA) within the basement, podium and void tower;
 - Commercial office space (approx. 33,100sqm GFA) for the corporate tech sector;
 - 4-star tech hotel (approx. 9,800sqm GFA and 234 keys) within the sky rise tower with sky lobby, pool and bar;
 - Meeting, forum, gym, pool, hospitality and other spaces integrated throughout the building and shared between the Innovation hub, commercial tenancies and tech hotel;
 - Retail floorspace (approx. 220sqm GFA) including food and beverage on the ground level.

Base Case: The Base Case assumes existing planning controls remain; existing buildings are demolished and developed to an FSR of 9.9:1 as permissible under the Sydney LEP (2012). Hypothetically, the development is assumed to be of a smaller scale than the Proposal, comprising similar uses (but excluding the innovation tech hub):

The assessment distinguishes economic impacts during the construction period and those that are more permanent in nature following construction completion and commencement of operations on the Site.

Construction Phase

During construction, the Proposal is estimated to result in a **net increase in economic activity** in the order of:

- \$304.5 million in output (including \$269.6 million in direct activity).
- \$119.8 million contribution to GRP (including \$79.6 million in direct activity).
- \$69.6 million in incomes and salaries paid to households (including \$55.9 million in direct income).
- 767 FTE jobs (including 397 FTE directly employed in construction activity).

Operational Phase

Economic activity in the Base Case assumes the Site is developed under existing planning controls. The Base Case excludes the innovation tech hub and is hypothetically assumed to be on a smaller scale to that of the Proposal.

The Site is expected to generate ongoing economic operational activity through the following:

- Economic activity from businesses and employees accommodated within the Site.
- Direct turnover generated by the retail/ commercial operational activities on-site.
- Economic activity that would not otherwise occur in the Sydney LGA as a result of broader tourism expenditure of visitors facilitated within the community by the new hotel development.

In the Proposal Case, the project is additionally expected to facilitate broader business and industry growth through the fostering of innovation and start-up businesses. High level estimates of these impacts are also provided.

The Proposal is estimated to result in a **net increase in economic activity** through direct and indirect (flow-on) annually at:

- \$952.3 million additional in output (including \$486.7 million in direct activity).
- \$509.1 million additional in contribution to GRP (including \$251.9 million in direct activity).
- \$266.7 million additional in incomes and salaries paid to households (including \$147.3 million directly).
- 2,741 additional FTE jobs (including 1,357 additional jobs directly related to activity and direct tourism spend).

Table ES.1: Net Operational Impacts in Sydney LGA

Indicator	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTE)
Direct	\$486.7	\$251.9	\$147.3	1,357
Flow-on Type I (Production-induced)	\$194.7	\$99.2	\$53.0	534
Flow-on Type II (Consumption-induced)	\$270.8	\$158.0	\$66.4	850
Total	\$952.3	\$509.1	\$266.7	2,741

*reported impacts include estimates of operational activities on-site and induced tourism impacts

Source: Atlas

Longer-term Economic Impacts of Supporting Innovation

The Proposal Case represents a significant investment in the Sydney start-up ecosystem, with the potential to support employment and industry growth into the future beyond the direct activities undertaken within the innovation space. The proposed innovation space will support collaboration and clustering of talent, attract investors and strengthen the start-up community to create a pipeline of growing businesses and sustainable jobs.

Research indicates that for every job that is created within an innovation precinct, over the long term a further five are created elsewhere in the economy through subsequent growth and clustering, and technology adoption alongside traditional economic expenditure multipliers of industry purchases and household expenditure.

Applying this rule to the projected direct jobs created within the innovation space adjusted to the economic multipliers indicates the following broader economic impacts could be facilitated on an annual basis in the long run:

- \$706.0 million in output (including \$189.1 million in direct activity).
- \$618.1 million contribution to GRP (including \$95.1 million in direct activity).
- \$299.8 million in incomes and salaries paid to households (including \$54.1 million in direct income).
- 3,346 FTE jobs (including 478 directly employed).

Table ES.2: Estimated Long Term Economic Impacts of Facilitating Business Growth in Sydney LGA

Indicator	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTE)
Direct	\$189.1	\$95.1	\$54.1	478
Flow-on Type I (Production-induced)*	\$203.3	\$204.9	\$112.1	1,157
Flow-on Type II (Consumption-induced)*	\$313.6	\$318.1	\$133.6	1,711
Total	\$706.0	\$618.1	\$299.8	3,346

*Flow on impacts have been scaled to account for an estimated 5 flow-on jobs per direct innovation FTE over the long term and are indicative only.

CONCLUSION

The economic impacts estimated in the EIA demonstrate the Proposal has economic merit, having the ability to contribute immediately to the Sydney local economy and ensure the Harbour CBD metropolitan centre has the required capacity to grow. Importantly, the Proposal will support innovation and global competitiveness objectives and contribute to facilitation/nurture of business and industry growth to achieve the economic potential of the Eastern Economic Corridor.

The Site is strategically located in the Southern Precinct of the Sydney CBD (or Central Sydney) and within the Camperdown-Ultimo Collaboration Area which is part of a mature innovation corridor. While there is potential for expanding the innovation ecosystem in the collaboration area, there are impediments to this including a limited availability of employment land and affordable space for innovation, research, creative industries and collaborative projects.

The Site's proximity to transport nodes straddling Central Sydney and the Camperdown-Ultimo Collaboration Area puts it in a competitive and desirable position to respond to the need for facilities that accommodate and nurture innovation and technology in the Harbour City metropolitan centre.

Broader economic implications, such as impact on the Greater Sydney and NSW economies are beyond the scope of the EIA. If included, the Proposal will demonstrate an even more compelling proposition for consideration.

Uncertain Times

The outbreak of COVID-19 has raised uncertainty with respect to the Australian economy. Certain industry segments such as hotel and tourism have been severely impacted while potential fallout on the property market is less clear at this stage.

A federal government travel ban from China for non-residents has had a significant effect on the Chinese New Year in Sydney, which in recent years has seen a number of Chinese investors travelling to inspect and buy Sydney property.

Recent shutdown measures have resulted in multiple hospitality and retail businesses shut their doors and lay off staff. Hotel occupancy rates are conceivably in freefall.

The uncertainty of the COVID-19 issue will undoubtedly impact the ability of many projects in the development pipeline to be delivered.

The Proposal has the potential to facilitate valuable economic multiplier outcomes through its support and nurture of innovation and entrepreneurial activities. Furthermore, its scale and potential for transformational impact on the Southern Precinct are equally important particularly at a time when investment is critically needed in Sydney.

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Glossary of Terms

Accelerator	<p>A facility to 'accelerate' the growth of start-up companies, helping launch them toward rapid scale-up. Accelerator programmes typically have a finite timeframe. Start-up companies can take advantage of experienced mentors in their specific sector who may also provide them with seed funding in exchange for equity. Accelerators play an important role to assist start-ups in the initial round of funding.</p> <p>Accelerators typically involve a highly competitive application process and run for from one to six months by mentors such as CEOs, founders, investors and other professionals. Most accelerator programmes operate on 'capital for equity' agreements meaning start-ups receive an injection of funds to develop their idea or launch their business and in return, the investor receives a percentage of equity upon completion of the programme.</p>
Co-working Space	<p>Co-working space is a type of flex space designed to promote interaction, collaboration and networking between individuals who share an office space. There is no direct mentorship arrangement.</p>
Flex Space	<p>Flex space is any space that is available on a short-term basis, at variable prices or on a membership basis. The format of space could be desks in a shared open plan office or comprehensive private offices with the full suite of business support services.</p>
Incubator	<p>A facility that 'incubates' start-up companies in the early innovation stage. Unlike Accelerators, Incubators are not time-bound and generally rely on funding underwritten by a major backer (which could be a venture capitalist, large corporation or government institution. Space opportunities in Incubators can be heavily contested given there is no equity stake involved.</p> <p>Incubators provide collaboration opportunities, professional and administration support for eligible start-ups in either the early start-up or scale-up stage. Incubators are operated by business professionals and owners/ founders to support emerging businesses by providing business support, free or discounted rents and access to networking opportunities.</p>
Innovation	<p>Innovation is about doing things differently. It is about responding to change in a creative way, carrying out research and development to improve processes and/ or overhauling products and services.</p>

1. Introduction

1.1 Background

As the economic powerhouse of NSW, the Sydney CBD (referred to interchangeably as 'Central Sydney') plays an important role in Sydney's contribution to Australia's GDP. The Sydney CBD is identified as part of the Eastern Economic Corridor in strategic planning documents, specifically Greater Sydney Region Plan - A Metropolis of Three Cities and the Eastern City District Plan (GSC, 2018a, 2018b).

The Greater Sydney Region Plan (the Region Plan) identifies the Eastern Economic Corridor (which stretches from Macquarie Park to Sydney Airport) as NSW's greatest economic corridor, contributing two-thirds of the state's economic growth in 2015-16. Included in this economic corridor are Harbour CBD (comprised of Sydney and North Sydney CBDs), Macquarie Park, Chatswood, St Leonards, Green Square-Mascot, Randwick and Sydney Airport.

Accommodating more than 20% of Greater Sydney's jobs, the significance of the Harbour CBD to Greater Sydney's prosperity is clear. The Region Plan identifies an emerging Innovation Corridor on the western edge of the Harbour CBD comprising universities, a major teaching hospital, international innovation companies and fast-growing start-ups.

The Eastern City District Plan (District Plan) identifies the importance of growing a stronger and more competitive Harbour CBD and particularly highlights the role of the Camperdown-Ultimo Collaboration Area (which is part of the identified innovation corridor) in facilitating research and knowledge jobs in science-based technology, medicine, business and creative sectors.

The District Plan notes the limited capacity of Sydney CBD to attract investment to support expansion with the constraints of small and fragmented lot ownership being expensive and time-consuming for new development. It further highlights the need for Sydney CBD planning controls to support commercial development, or there will be insufficient floorspace to accommodate the 45,000 to 80,000 jobs forecast.

The City of Sydney's draft Central Sydney Planning Strategy (draft Strategy) was released in 2016 with the overarching objective of unlocking an additional 2.9 million sqm of commercial floorspace to enable Central Sydney to grow sustainably and contribute to metropolitan Sydney as a globally competitive and innovative city. The draft Strategy recently received approval-in-principle from NSW Minister for Planning and Public Spaces in December 2019.

The draft Strategy identifies four tower clusters in Central Sydney that will dramatically increase the commercial floorspace potential and opportunity in the Sydney CBD. 187-189 Thomas Street, Haymarket (the Site) is located within one of the four tower clusters contained in the draft Strategy. It is located within the 'Southern Precinct', the southern-most precinct in Central Sydney.

The Site is strategically located in the Southern Precinct of the Sydney CBD (or Central Sydney) and within the Camperdown-Ultimo Collaboration Area which is part of a mature innovation corridor. While there is potential for expanding the innovation ecosystem in the collaboration area, there are impediments to this including a limited availability of employment land and affordable space for innovation, research, creative industries and collaborative projects.

The Site's proximity to transport nodes and its location that connects Central Sydney and the Camperdown-Ultimo Collaboration Area puts it in a competitive and desirable position to respond to the need for facilities that accommodate and nurture innovation and technology in the Harbour City metropolitan centre.

1.2 Study Purpose and Scope

Greathon Development are preparing a Planning Proposal to amend the planning controls applicable to the Site to allow a future development that will comprise an integrated community and destination for the innovation and technology sectors in the form of a vertical innovation village with an overall maximum height of 49 storeys (RL 209.80), approximate commercial GFA of 51,700sqm which is equivalent to FSR 22:1.

Atlas Urban Economics (Atlas) is engaged to prepare an Economic Impact Assessment (EIA) to consider the need for the Proposal and thereafter to assess the economic impacts likely to result from the proposed planning controls amendments and subsequent redevelopment of the Site.

The Planning Proposal seeks to enable delivery of a Vertical Innovation Village which will accommodate approximately 51,714sqm GFA. The Proposal also envisages basement parking for 79 car spaces, 14 motor cycle spaces, 382 bicycle spaces and end-of-trip facilities.

To assess the economic impacts of the Proposal, a Base Case and Proposal Case are developed:

- **Base Case**

The Site currently accommodates a commercial building and a number of tenants and in the Base Case is assumed to be redeveloped to the existing planning controls (under the Sydney LEP 2012), that is, combining a range of land uses similar to the Proposal, however at a smaller scale.

- **Proposal Case**

The Site as envisaged under the Proposal developed into a Vertical Innovation Village, comprised of a hybrid tower with a mix of commercial uses that are vertically and functionally connected. The development will incorporate an innovation tech hub, hotel and commercial offices for corporate and tech sector with shared facilities between the tower components.

The purpose of the EIA is to:

1. Consider the merits of the Proposal from a strategic planning and market perspective, specifically the role of the Site in facilitating innovation and business growth in the Harbour CBD. The role of the Proposal in assisting to support the economic policy objectives of the Harbour CBD as part of the Eastern Economic Corridor is a key consideration.
2. Estimate the economic impacts of the Proposal through economic modelling and to understand the opportunity cost of the Base Case.

1.3 Structure of the Study

The EIA is structured in the following manner:

- **Site Context**

Chapter 2 provides an overview of the Site including its location and surrounds, its employment profile and composition and its planning context.

- **The Innovation Economy and Evolution of Floorspace**

Chapter 3 examines the innovation economy and specifically how it has influenced the evolution of floorspace in its form and utilisation.

The chapter examines the Sydney CBD land use markets, noting their current uses, market and development activity. The chapter additionally examines constraints and impediments to business and investment in the Sydney CBD and the implications for the Site.

- **The Proposal: Vertical Innovation Village**

Chapter 4 outlines the proposed Vertical Innovation Village and how it responds to economic and market need for the facilitation of business and industry growth.

- **Economic Impact Assessment**

Chapter 5 assesses the economic impacts of redevelopment of the Site in the following scenarios:

- Base Case: the economic impacts should the Site be redeveloped under existing planning controls.
- Proposal Case: the economic impacts should the Site be redeveloped as proposed into a Vertical Innovation Village.

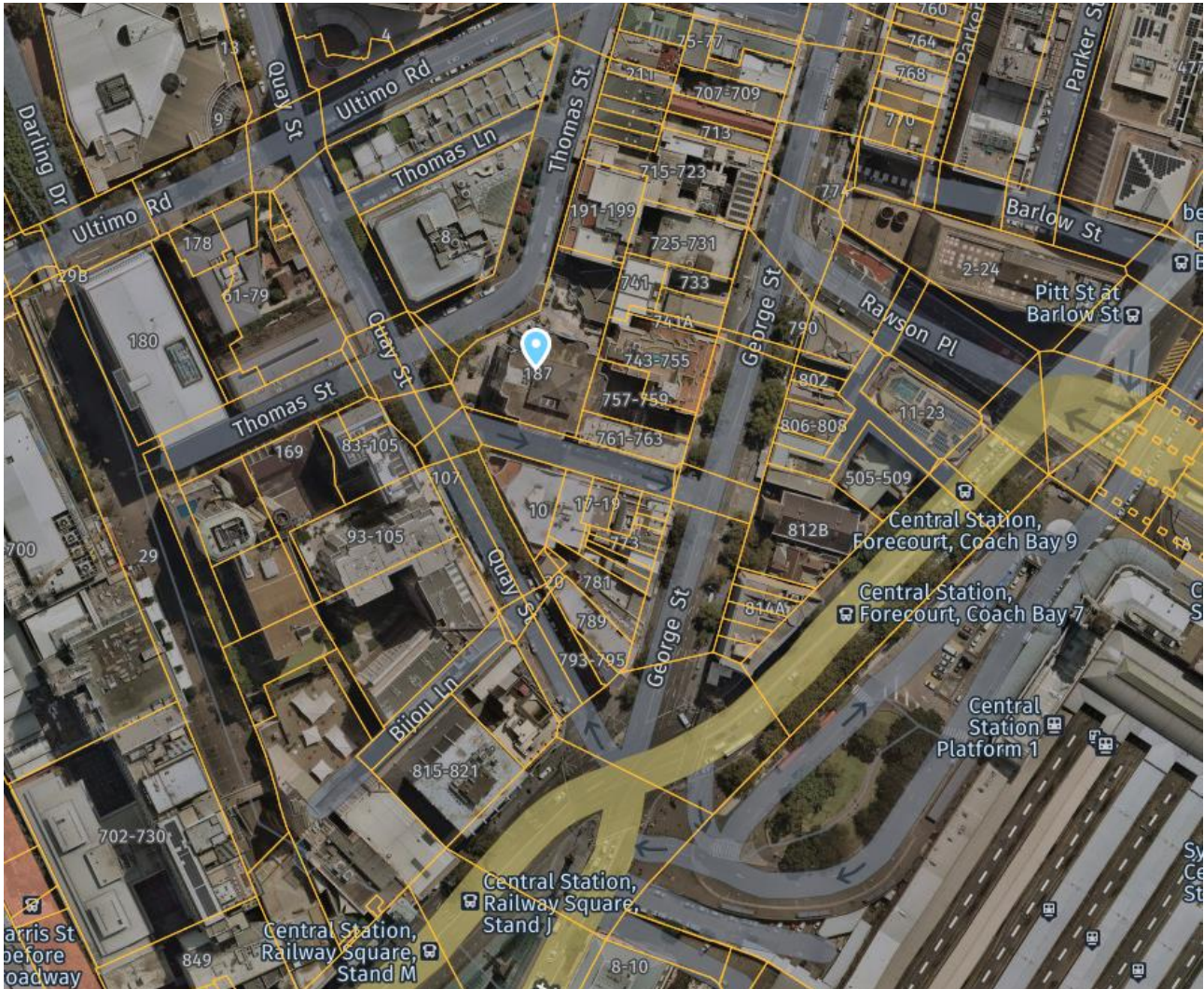
The EIA concludes if the Proposal has economic merit and summarises the economic impacts in the short and longer term.

2. Site Context

2.1 Location and Description

The Site is located at 187-189 Thomas Street in Haymarket in the Sydney Local Government Area. Located within the Sydney CBD approximately 500m north west of the Central train station and 350m west of Haymarket light rail stop, the Site is highly accessible.

Figure 1: Location Map



Source: Nearmap

The Site is zoned 'B8 Metropolitan Centre' and occupies 2,351 sqm in site area with street frontages to Thomas Street, Quay Street and Valentine Street.

The Site is at the southern edge of Central Sydney which is characterised by the B8 Metropolitan Centre. The immediate area is characterised by older style commercial terraces and low rise commercial buildings up to three storeys and medium to high rise commercial and mixed-use buildings up to ten storeys. Located just east of Chinatown, businesses in the immediate area typically comprise Asian style retailers and food outlets with the Market City Shopping Centre, Great Southern Hotel and Novotel Sydney Central in close proximity.

Existing improvements on the Site comprise of a circa early 1990's 10 storey retail/ commercial building over a single level of basement car parking. The building understood to be 100% occupied on a mix of expired/ holding over and current lease agreements. A major tenant is Insearch Limited which is a controlled entity of the University of Technology Sydney (UTS) and a registered private higher education provider of pathways to UTS.

2.2 Employment Profile

To understand employment context of the Site, the following data sets are examined:

- Employment composition from Australian Bureau of Statistics (ABS) Census data; and
- Occupancy patterns from the City of Sydney Floor Space and Employment Survey (FES).

The datasets are available at different geographies. The ABS geographies used are Destination Zone (DZ) geographies. DZs are selected to approximate the Southern precinct of Central Sydney.

The City of Sydney have based the FES on 'village' boundaries which differ from those used by the ABS. The Chinatown and CBD South Village Area is relevant for this analysis.

Broad Industry Classifications

The ABS categorises employment activity into 19 industry sectors referred to as ANZSICs (Australian New Zealand Standard Industry Classification). It can be useful to consider employment composition in broader industry terms. Broad industry classifications (BICs) group the 19 ANZSIC sectors into four main categories - Population-serving, Knowledge-intensive, Health & Education and Industrial employment.

Table 2-1: Broad Industry Classification (BIC) by 19-digit ANZSIC

Population Serving	Knowledge-Intensive	Health & Education	Industrial
<ul style="list-style-type: none"> • Construction • Retail Trade • Accommodation & Food Services • Arts & Recreation Services • Other Services 	<ul style="list-style-type: none"> • Information, Media & Telecommunications • Financial & Insurance Services • Rental, Hiring & Real Estate Services • Professional, Scientific & Technical Services • Administrative & Support Services • Public Administration & Safety 	<ul style="list-style-type: none"> • Education & Training • Health Care & Social Assistance 	<ul style="list-style-type: none"> • Agriculture, Forestry & Fishing • Mining • Manufacturing • Electricity, Gas, Water & Waste Services • Wholesale Trade • Transport, Postal & Warehousing

Source: ABS/Atlas

Employment Composition

To understand the employment profile of the Southern Precinct ('the Precinct'), ABS Census data (by Destination Zone, DZ) for 2016 is extracted and examined. The employment structure of the Precinct is benchmarked against the Sydney CBD.

Table 2-2: Southern Precinct and Sydney CBD Employment Structure (2011-2016)

Industry	Southern Precinct				Sydney CBD			
	2011	2016	2016 %	Avg. Ann. %	2011	2016	2016 %	Avg. Ann. %
Australia New Zealand Standard Industry Classification (ANZSIC)								
Agriculture, Forestry & Fishing	-	5	0.0%	-	114	246	0.1%	16.6%
Mining	21	-	0.0%	-100.0%	913	961	0.3%	1.0%
Manufacturing	84	106	0.7%	4.8%	2,686	2,505	0.8%	-1.4%
Electricity, Gas, Water & Waste Services	461	342	2.2%	-5.8%	2,296	2,097	0.7%	-1.8%
Construction	131	314	2.0%	19.1%	4,912	10,302	3.3%	16.0%
Wholesale Trade	117	82	0.5%	-6.9%	2,612	2,174	0.7%	-3.6%
Retail Trade	548	706	4.5%	5.2%	11,249	14,744	4.8%	5.6%

Industry	Southern Precinct				Sydney CBD			
	2011	2016	2016 %	Avg. Ann. %	2011	2016	2016 %	Avg. Ann. %
Accommodation & Food Services	1,474	2,428	15.4%	10.5%	15,962	21,599	7.0%	6.2%
Transport, Postal & Warehousing	1,700	1,030	6.5%	-9.5%	7,716	7,122	2.3%	-1.6%
Information, Media & Telecommunications	234	274	1.7%	3.2%	11,735	12,772	4.1%	1.7%
Financial & Insurance Services	410	1,069	6.8%	21.1%	73,280	83,358	27.0%	2.6%
Rental, Hiring & Real Estate Services	224	441	2.8%	14.5%	4,511	5,736	1.9%	4.9%
Professional, Scientific & Technical Services	1,120	1,707	10.8%	8.8%	49,620	61,656	19.9%	1.1%
Administrative & Support Services	506	811	5.1%	9.9%	21,161	32,094	10.4%	8.7%
Public Administration & Safety	2,070	2,666	16.9%	5.2%	19,608	23,876	7.7%	4.0%
Education & Training	1,081	1,846	11.7%	11.3%	6,618	9,551	3.1%	7.6%
Health Care & Social Assistance	300	441	2.8%	8.0%	5,428	7,187	2.3%	5.8%
Arts & Recreation Services	189	192	1.2%	0.3%	3,898	4,871	1.6%	4.6%
Other Services	563	630	4.0%	2.3%	4,970	6,244	2.0%	4.7%
Total	11,326	15,763	100.0%	6.8%	249,289	309,095	100.0%	4.4%
Broad Industry Categories (BIC)								
Knowledge-Intensive	4,602	7,279	46.2%	9.6%	12,046	219,492	71.0%	4.1%
Health & Education	1,392	2,389	28.3%	11.4%	16,337	16,738	5.4%	6.8%
Population-Serving	2,929	4,460	15.2%	8.8%	179,915	57,760	18.7%	7.1%
Industrial	2,403	1,635	10.4%	-7.4%	40,991	15,105	4.9%	-1.6%
Total	11,326	15,763	100.0%	6.8%	249,289	309,095	100.0%	4.4%

Source: ABS (2012, 2017)

Employment in the Precinct grew strongly over 2011-2016, averaging 6.8% per annum compared to Sydney CBD (4.4%).

The profile of employment in the Precinct is notably different to the Sydney CBD. Key observations include:

- Employment in **Food and Accommodation Services** is dominant in the Precinct (15% compared to 7% in Sydney CBD).
- The Precinct plays a more minor role for **Professional, Scientific & Technical Services** (11% in 2016) compared to Sydney CBD (20% in 2016), however this industry grew strongly over 2011-2016 in the Precinct.
- The Precinct is highly represented by employment in **Health & Education** (28% in 2016, compared to 5% in Sydney CBD), with growth in these industries averaging 11.4% over the 2011-2016 period.
- Overall, the Sydney CBD accommodates a high concentration of **Knowledge-intensive** jobs (>70%) while the Precinct accommodates less than 50% of its total. By comparison, the Precinct's employment profile is more diverse, with higher concentrations across **Health & Education** and **Population-serving** jobs.
- The Precinct's growth in **Knowledge-intensive** employment has been strong over 2011-2016 (average annual growth of 9.6%) compared to Sydney CBD (average annual growth of 4.1%).

2.3 Strategic Planning Policy Context

2.3.1 Greater Sydney Region Plan - A Metropolis of Three Cities (2018)

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

The Region Plan highlights the importance of global competitiveness and innovation to underpin continued growth.

- Objective 18 seeks to ensure the Harbour CBD (comprised of Sydney CBD and North Sydney CBD) is **stronger and more competitive**. It identifies the need to extend capabilities with emerging Innovation Corridor to the west of the Sydney CBD, and particularly support the growth of the Camperdown-Ultimo Collaboration Area.
- Objective 21 identifies the importance of **internationally competitive** health, education, research and innovation **precincts** and the use of technology to transition health and education clusters to innovation districts.
- Objective 22 seeks to **grow investment and business activity in centres**, recognising that centres are a key organising element to Greater Sydney's urban fabric.

The Region Plan affirms the economic significance of the metropolitan centres (the Harbour CBD) which continue to be a major focus of government investment.

2.3.2 Eastern City District Plan

Building on the strategic aims and objectives in the Region Plan, the Eastern City District Plan (District Plan) is a 20-year plan to manage growth in the context of economic, social and environmental matters.

Key planning priorities of relevance to the EIA are detailed below:

- Planning Priority E7 seeks to ensure the **Harbour CBD** (Sydney CBD, North Sydney CBD, Barangaroo, Darling Harbour, Sydney East, Innovation Corridor) is **stronger and more competitive** but recognises the enduring tension between residential and commercial office uses.
- Planning Priority E8 emphasises the importance of **growing and investing in health and education precincts and the Innovation Corridor**. The importance of the Camperdown-Ultimo Collaboration Area is identified as part of the Innovation Corridor. Steps are recognised as necessary to establishing, enhancing and promoting *inter alia*, the growth of innovation, start-up and creative industries.
- Planning Priority E13 recognises the importance of certain sectors to drive productivity and global competitiveness. The **visitor economy is a target sector** acknowledged to be valuable, its importance is emphasised to cater to and add opportunities that enhance the tourist and visitor economy in the Eastern City District. This is of direct relevance to the Proposal.

2.3.3 Camperdown-Ultimo Place Strategy

The Camperdown-Ultimo Place Strategy (the Place Strategy) is designed to establish a vision and narrative for the Camperdown-Ultimo Collaboration Area. It identifies impediments and opportunities to the vision, it sets priorities and identifies actions to deliver the vision for the collaboration area.

While Camperdown-Ultimo Collaboration Area is part of a mature innovation corridor, there are complex challenges to achievement of the vision to be Australia's innovation and technology capital by 2036. These challenges include:

- Lack of a cohesive identify, narrative or objectives;
- Unequally distributed public transport, pedestrian and cycling links;
- Heavily congested roads and limited transport modal options;
- The conversion of industrial and commercial stock to residential or mixed use, limiting availability of employment land and affordable spaces for innovation, research, creative industries and artists, and collaborative projects.

- Lack of affordable housing for the community.
- The need for investment in public and private infrastructure.
- The lack of and growing demand for local open space and community facilities and services and limited capacity to provide these services and facilities.

The Place Strategy develops an action framework to deliver on the vision and shared objectives, including to prepare and implement an economic development strategy that, *inter alia*:

- Reinforces the strengths and local identity of Haymarket, Camperdown and Eveleigh activity nodes.
- Retains existing and attracts new businesses and industries, including cultural and creative industries and artists.
- Links industry, researchers and investors, and encourages their collaboration and interaction.
- Supports convergence, attracts tech start-ups, encourages research and innovation clusters and supports scaleups to reach commercial aspirations.
- Builds the entrepreneurial, business and commercial skills of talented people.
- Attracts investment and drives jobs growth.
- Supports commercialisation and translation of research into practice.
- Improves the destination experience and grows the Collaboration Area's global economic prosperity.

These actions are in addition to, and build on the objectives and priorities of the Region Plan and the District Plan.

2.3.4 Draft Central Sydney Planning Strategy

The draft Central Sydney Planning Strategy (draft Strategy) was released in 2016 with the overarching objective of unlocking an additional 2.9 million sqm of commercial floorspace to enable Central Sydney to grow sustainably and contribute to metropolitan Sydney as a globally competitive and innovative city. The draft Strategy recently received approval-in-principle from NSW Minister for Planning and Public Spaces in December 2019.

The draft Strategy identifies four tower clusters in Central Sydney that will dramatically increase the commercial floorspace potential and opportunity in the Sydney CBD.

2.3.5 Tech Startups Action Plan

In 2016 the City of Sydney developed the Tech Startups Action Plan (the Action Plan) to encourage technology entrepreneurs to start and grow global businesses to strengthen Sydney's economy, global connection and to enhance the city as a desirable place to live, work and visit.

The Action Plan recognises the Sydney's tech start-up ecosystem is immature and in the early stages of development. It also recognises the needs of tech start-ups are different to the needs of small businesses. Importantly, the Action Plan identifies that entrepreneurs and tech start-up companies need a local environment that provides supports networks, business and entrepreneurship education, infrastructure and financing opportunities.

The Action Plan's focus is on creating an ecosystem that facilitates knowledge-based, innovation-driven businesses to succeed and flourish.

2.4 Implications for the Site

Employment Profile

The Southern Precinct has traditionally been dominated by the hospitality sector (accommodation and food services) with health and education and public administration also major employers. Over the recent census period (2011-2016) however, the employment structure of the Precinct showed signs of a shift in favour of Knowledge-intensive and Health and Education sectors. These sectors grew strongly (average annual growth of 9.6% and 11.4% respectively) compared to the Sydney CBD (average annual growth of 4.1% and 6.8% respectively).

More specifically, the strong growth in Knowledge-intensive employment was driven by strong employment gains in Financial & Insurance Services and Professional, Scientific & Technical Services.

These observations are important as they signify an emerging role for the Southern Precinct for knowledge-intensive type employment activity.

Strategic Planning Policy Objectives

The importance of office markets in the Harbour CBD is recognised in the District Plan which also highlights the difficulties of commercial office development which then limits the Sydney CBD's capacity to accommodate future demand for office space and business expansion.

The Camperdown-Ultimo Place Strategy (Place Strategy) examines the Camperdown-Ultimo Collaboration Area and identifies the valuable opportunities associated with nurturing and growing world-leading health, education, training and research institutions to facilitate the convergence of employment, knowledge and skills for greater innovation outcomes. Despite the maturity of the innovation corridor, there are factors that constrain and inhibit collaboration and activities between participants. The challenges include, *inter alia*, limited availability of employment land opportunities.

The Place Strategy identifies the need for an economic development strategy to help the curation of businesses and activities that will leverage the benefits of co-location.

The Site is an important site that is in a highly accessible location that connects Central Sydney and the Camperdown-Ultimo Collaboration Area. It is strategically located within the identified Haymarket Activity Node and Camperdown-Ultimo Collaboration Area and at the point of confluence between:

- The health, education and research axis along Parramatta Road and Broadway;
- The information, communications and technology cluster of Ultimo and Pyrmont;
- The financial and professional heart of the city through the CBD; and
- The creative and design district across Surry Hills, Chippendale and Eveleigh.

Development of the Site as proposed will support both the NSW state government and City of Sydney's vision for the growth of an innovation ecosystem within the Camperdown-Ultimo Collaboration Area as an innovation district.

3. The Innovation Economy & Evolution of Floorspace

3.1 Technology and Innovation

The Innovation Economy is an embodiment of new generations of technologies and business models emerging to disrupt business-as-usual and existing sectors, creating new products and processes and fostering high growth industries. (NSW Innovation and Productivity Council, 2018).

The 'technology sector' generally relates to research, development and distribution of technologically based goods and services. It could provide solutions to support manufacturing activity (e.g. food science, construction materials) or indeed any enterprise (e.g. financial services, digital media, consumer retail, media/entertainment, etc.).

As industry as a whole seeks to be innovative and implement more productive ways to remain competitive, other businesses emerge to create and develop solutions that disrupt conventional practices and transform business-as-usual. These "other" businesses are generically referred to as "the tech sector" who utilise technology and knowledge to develop solutions to businesses seeking to improve efficiencies and overall competitiveness.

In terms of floorspace requirements, the technology sector is no different to any other sector with specific requirements. Though, the tech sector tends to gravitate to co-location opportunities with other 'tech' players. Location and site selection factors for technology clusters depend on the industries/ sectors they service, connections with external organisations (e.g. research institutions) and quality of overall amenity.

Sectors which are focused on innovation are reliant on specialist talent. Each specialist worker brings a unique set of skills that often cannot be easily replicated. Businesses within highly talent-competitive sectors are observed to be using their real estate as a recruitment tool to attract talent. This is done by clustering in distinct 'hubs' and ensuring their workspaces are flexible, collaborative, user focused environments where specialist and valued workers want to spend time.

For innovation focused companies, locating within a functional cluster is increasingly vital. These companies hire specialist skill from all over the world and talent is their biggest asset. They are more willing than more conventional businesses to move locations in order to attract the best talent. An 'innovation community' is a global phenomenon.

3.2 Office Floorspace and 'Flex Space'

Evolution

Growth in the innovation and tech sectors has triggered a change in working styles and office needs. Technology such as cloud computing, high speed internet and VPNs have allowed employees to redefine the workspace for 'office' work. Employees can now work from home, in transit, at cafés or in serviced offices and co-working facilities.

Serviced offices were established in the 1980's in response to the needs of entrepreneurs, consultants and SMEs who could not commit to a traditional commercial property lease. These serviced offices provided a flexible and low-cost solution such as a single desk or more comprehensive office setup on a short-term basis at variable prices and membership levels according to specific needs.

Flex spaces are generally corporate style offices with a mix of open plan and private offices, boardrooms and meeting rooms along with business support services, kitchen and end-of-trip facilities. The concept of flex space has expanded to include co-working space. While co-working is an important part of the flex space offer, research indicates private offices are generally the most sought after.

'Co-working' began in San Francisco in 2005, when a small group of individuals from creative industries came together to work alongside each other in an open space. Most co-working spaces offer a similar level of amenities to a serviced office and a similar membership based financial structure however, are more focused on creating a community of regular users who can build relationships with other users through a collaborative open plan layout.

A broader category of 'Flex Space' has now emerged, where office space is configured and made available in a variety of prices, formats and tenure. Flex space is not limited to co-working space. Rather, it is the combination of a range of space solutions, from co-working space to serviced private offices.

The International Experience

Flex space has become a global phenomenon although is far more established in Europe and the United States. The US office market has experienced strong growth in the flex space sector. Total supply of flex space has reportedly grown by an average of 26% per annum since 2010 across 40 markets with growth projections being 34% for the current financial year. The strongest performing markets are generally tech-focused locations in Atlanta, Boston, Denver, Manhattan, San Francisco, Seattle and Washington accounting for 64% of the 71 million square feet of office space (6.6 million sqm). Manhattan is the largest flex space market in the US reaching 15 million square feet in 2019 (1.4 million sqm) with market penetration reported at 3.6% of total office stock in 2019, almost double the national average of 1.8% (CBRE, 2019).

San Francisco is another dominant market with market penetration reported at 4% of total office space in 2019 (CBRE, 2019). The city is ranked 6th in the US top ten flex space markets and is the third fastest growing market driven by its tech centric economy base, low vacancy and high-rent market characteristics.

In the UK, the take up of flex space has rapidly increased over the past 10 years with Central London being the largest and most established market, second only to Manhattan. The arrival of WeWork in London in 2014 marked the beginning of a strong growth period with take up averaging around 1.7 million square feet (160,000sqm) between 2014 and 2018 compared to just 252,000 square feet (23,000sqm) over the previous five years. Total flex space is reported to be 14.7 million square feet (1.4 million sqm) in 2019 reflecting 6.3% of total office space (JLL, 2019a).

The increased competition has seen many operators expand into the larger regional areas such as Birmingham, Bristol, Edinburgh, Glasgow, Leeds and Manchester. Approximately 3.9 million square feet of office space (360,000sqm) was added to the London office market in 2018 with the flex space foot print growing to 25%, a similar rate to the previous year. Birmingham and Manchester were the second largest markets with more than 100,000 square feet (9,000sqm) of flex space added in 2018. A further 10 million square feet (930,000sqm) of commercial space is proposed for the UK office market with flex space predicted to account for about 8.5% of total office stock by 2023 (JLL 2019a).

The Australian Market

The Australian office market has incorporated flex space models since the early 1980's, experiencing strong growth over the past three to five years generally in major capital cities of Sydney and Melbourne where more than 60% of flex space was leased (Commercial Real Estate, 2019a). Brisbane CBD although experienced strong growth between 2017-2018 following successful take-up over previous years in Sydney and Melbourne.

Table 3.1: Take-up of Flex Space (sqm), Key Australian Capital Cities (2015-2018)

Capital City	2015	2016	2017	2018	Total (2015-2018)
Melbourne CBD	8,200	6,900	7,500	31,700	54,300
Sydney CBD	3,000	15,100	1,600	21,700	41,400
Brisbane CBD	-	3,600	4,700	10,800	19,100
Perth CBD	-	-	-	1,100	1,100
Adelaide CBD	1,100	-	-	1,300	2,400
Canberra CBD	-	-	2,000	1,400	3,400
Total	12,300	25,600	15,800	68,000	121,700

Source: Commercial Real Estate (2019a)

The take up of flex space was most prevalent in 2018, particularly in Melbourne and Sydney CBDs. An additional 31,200sqm of flex space was provided in the Melbourne CBD in 2019 with major operators WeWork, JustCo and Hub Australia opening a combined seven new offices (JLL, 2019b).

Research indicates that Sydney CBD overtook Melbourne as the top performing market in with the rapid expansion of major operators and the launch of Sydney Start-up Hub and with a total of 21 flex space operators based in the Sydney CBD, taking up approximately 78,350sqm of office space.

Table 3.2 summarises the proportion of flex space against total office stock in Sydney CBD against the capital cities of London and Manhattan.

Table 3.2: Total Office Stock and Proportion of Flex Space (Jan 2020)

Capital City	Total Office Stock (sqm)	Estimated Flex Space (sqm)	% Flex Space (to Total Office)
Sydney CBD	4,952,281	78,350	1.2%
London, UK	21,677,381	1,365,675	6.3%
Manhattan, NY	38,709,611	1,393,546	3.6%

Source: Property Council Australia (2020), CBRE (2019), JLL (2019a), Atlas

Based on our review of international markets, it is evident that Sydney CBD is a relatively young market with the total flex space footprint accounting for less than 2% of total office stock.

The rapid take-up and absorption of flex space is testament to Sydney's relative place on an upward growth trajectory.

3.3 Flex Space and the Sydney CBD Market

Continued growth in the flex space sector is anticipated for Sydney CBD in line with increasing demand from larger corporations and the expansion and diversification of international local independent operators. In comparison with global cities examined, the growth cycle of flex space in the Sydney CBD market is therefore likely to have a distance to run given its relatively low proportion (~1.2%) of total stock.

Research indicates that while not all businesses require flex space, many companies are increasingly considering flex space in the first instance rather than as a last resort. This allows companies to scale-up or scale-down in a timely manner as well as outsource provision of tenant amenity and supporting business services.

This section summarises the findings of an extensive audit of the current state of play in the Sydney CBD and City fringe areas.

3.3.1 Flex Space Operators

Operators are a key player of the flex space industry - they secure the space, create office solutions and influence trends which shape the industry.

The Sydney CBD has seen an influx of international and domestic operators enter the market, taking up approximately 41,400sqm of space between 2015 and 2018 (Commercial Real Estate, 2019a).

Commercial Operators

There are around 30 key flex space operators in the Sydney CBD and CBD fringe areas, comprising predominantly international major players. Expansion of these major operators continued throughout 2019 with Singaporean based operator JustCo opening two locations at 175 Pitt Street (4,200sqm) and 60 Margaret Street (2,700sqm).

US based operator WeWork also expanded in 2019 opening a new office at 320 Pitt Street in Midtown (11,000sqm over 10 floors) and an entire building (10,000sqm) in Barangaroo. WeWork now have 7 office locations throughout Sydney CBD totalling 29,600sqm whilst Hub Australia opened their fourth office at Customs House (2,340sqm).

Table 3.3 lists the major flex space operators in Sydney CBD.

Table 3.3: Major Flex Space Operators, Sydney CBD

Operator	Floorspace (sqm)	No. of Offices
Regus	14,500	8
WeWork	55,200	7
The Executive Centre	8,600	5
Servcorp	7,300	5
Victory Offices	4,800	3
Clarence Professional Group	3,100	3
Ultimate Office Solutions	2,100	3
JustCo	6,600	2
Tank Stream Labs	2,700	2
Compass	2,700	2
Work Club	2,400	2

Source: Commercial Real Estate/Cushman Wakefield (2019b), Atlas

Sydney is also home to several independent Australian operators who offer a mix of flex space solutions. Atlas have identified just over 30 operators, also with the majority based in the CBD.

Christie Spaces (founded 1980) is privately owned with one site in the Sydney CBD along with five sites in Melbourne and Brisbane. All of Christie spaces sites have undergone internal renovations in recent years. Hub Australia (founded 2011) has expanded to six sites across four cities including its recently opened site at Customs House in Sydney CBD. Wotso Workspace is a subsidiary of the property fund, BlackWall and is a fringe location operator with a site in Pyrmont along with 12 other sites throughout Australia.

Education, Industry and Not-for-profit Operators

Flex space operators also originate from government or universities although these operators are typically geared towards the start-up sector. Government and university-based operators are typically not-for-profit with objectives to support economic development and growth.

NSW Government recognise the importance of innovation and envisions Sydney as the start-up capital of Australia and to achieve this, actively support eligible start-ups, scale-ups and small businesses through various initiatives and grants.

The Sydney Startup Hub is a recent addition to Sydney's flex space market, launched in 2018 by NSW Government in partnership with City of Sydney. The hub is a hybrid offer which contains co-working, incubator and accelerator space specifically for innovation and technology businesses at the start-up and scale-up phases of their respective fields.

There are approximately 2,500 occupants at Sydney Startup Hub, accommodated in WeWork Labs, Tank Stream Labs, Fishburner's, Stone & Chalk, Antler, Remarkable and H2 Ventures. These operators provide a mix of Incubator, Accelerator and Co-working opportunities across fields including fintech, proptech, fashion/design and media.

Incubators play an important role, providing collaboration opportunities, professional and administration support for eligible start-ups in either the early or scale-up stage. Accelerators are equally important, providing mentoring for a fixed period and seed funding to eligible companies.

In the Sydney Startup Hub, Stone & Chalk is an accelerator for technology in insurance, agriculture, science and finance while Antler helps to transform professional, experts and technologies into start-up founders. They build companies from the ground up, helping to remove barriers preventing professionals from starting their own business. Antler provides participants with seed investment of \$100,000 for a six-month programme. Remarkable is a 16-week disability tech accelerator providing seed funding of \$35,000 in return for 3.5% equity.

Outside of Sydney Startup Hub, RealTechX offers real estate technology businesses a five-month, part time programme with a minimum of \$500,000 seed funding. Bluechilli offers health related start-ups and scale-ups support in breaking into global markets. Both these are based in the Sydney CBD.

The City of Sydney also support Sydney Landing Pad at Haymarket HQ which aims to boost international investment. Sydney Landing Pad is a programme aimed at attracting promising start-ups from Asia to explore Australia as a market for expansion. The programme is facilitated by Haymarket HQ who provide office space, business support and networking opportunities.

University funded operators typically service students, teachers and alumni of the university. The University of Sydney is one example. The University of Sydney's Incubate Program is the first of its kind accelerator founded by USyd in 2012. The programme supports early stage start-ups with 115 launching over the past seven years returning over \$35 million in investment and creating more than 400 jobs worldwide (Incubate, 2020). Genesis is another programme offered by University of Sydney with \$25,000 in prize money made available to winning start-ups.

In addition to Government and university-based programmes, large corporations such as Qantas, HCF and Coca-Cola offer in-house corporate innovation programmes to staff. The EY Foundry Incubator is an example, facilitated in-house by Ernst & Young dedicated to support accounting, tax, fintech, legal tech and regulatory early stage start-ups.

3.3.2 Location Dynamics and Requirements

The CBD is the preferred location for flex space operators with more than 80% based in the Sydney CBD followed by the emerging market of Barangaroo at 10%. A large proportion of operators' businesses involve occupation of Premium and A-Grade space. The CBD holds the concentration of Premium and A-Grade buildings followed closely by Barangaroo.

Sydney CBD Generally

The Sydney CBD office market provides desirable location options for multi-national companies seeking prime grade accommodation. However, limited supply and delivery of prime grade stock in recent years has limited expansion and growth opportunities. This has resulted in tenant relocation to City fringe areas.

Whilst market conditions remain tight, vacancy rates in the CBD increased slightly from 3.7% to 3.9% in the six months to January 2020. This is the first increase in rates since January 2017 when vacancy rates were above 4%. The increase in vacancy rates is attributable to the continued negative net-absorption and stock withdrawals.

Net absorption was negative through 2019 with -47,747qm withdrawn as at January 2020 (PCA, 2020). The CBD had negative net absorption over the past three years, reflective of secondary grade office buildings withdrawn from the market for the Sydney Metro development or withdrawn for full/ partial refurbishment for re-positioning as prime grade office space.

Yields have tightened across Sydney CBD over the past 12 months. Market yields typically range between 4.25% and 5.00% for prime assets and 5.00% to 5.50% for secondary grade assets. The limited supply of investment grade stock has resulted in competitive market conditions and contributed to tighter yields. The Sydney CBD is a desirable investment destination, with low interest rates and strong growth in face rents driving demand from offshore and domestic investors alike.

Southern Precinct

Rising rents and tight supply of office space in the Sydney CBD have in recent years increased the appeal of the CBD South/ Haymarket (also referred to as “Southern precinct”) office market, in particular to technology occupiers. This precinct has in recent years emerged as an alternative to the City Core and Midtown precincts of the Sydney CBD.

The tightening of office supply in the CBD has also resulted in City fringe markets growing in popularity with vacancy rates at record lows. The growing role of the CBD South has resulted in City fringe markets also playing a role to accommodate professional services businesses who service clients in CBD South/ Haymarket locations.

Market dynamics in recent years (driven by tight supply and rising rents) has caused a spill over into markets previously considered secondary, with occupiers considering options in locations that are accessible. The CBD South/ Haymarket is one of these beneficiary markets. This is consistent with the employment growth observed in ABS data (section 2.2).

In the ‘war for talent’, businesses use their real estate decisions to attract and retain talent. Many businesses choose to occupy prime quality space in the CBD with some selecting City fringe markets due to a ‘less corporate’ and village-like environment.

While the Southern Precinct has gained popularity in recent years with technology occupiers and professional services (as evidenced by growing employment in ABS data), there is still a degree of resistance to this southern edge of the CBD due to the quality of urban realm and amenity. This effectively ‘caps’ the Southern precinct’s potential as a business destination.

3.3.3 Operating Arrangements

The premise of a flex space business is to provide office solutions to members; the operator typically assuming a lease for the whole or part floors of a building at market rent for terms up to 15 years. Operators will refurbish the space and curate flexible office solutions targeted to a broad market or specific industry.

Flex space operators offer memberships which allow access to office space and available services and amenities. Membership levels vary however are typically based on:

- Frequency of access, e.g. full-time, part-time or casual;
- Type of space, e.g. permanent desk or hot desk;
- Availability of additional services, e.g. after-hours access, specific technology requirements, mail and reception services.

The rise of this industry has seen an increase in the number of operators enter markets around the world. The Sydney flex market is reaching new levels of maturity and operators must continually update their service offerings to remain competitive.

A review of operator pricing structures indicates variations depending on the location, level of fitout, services and amenities offered. Operators promote monthly memberships although daily and weekly passes are also available.

Table 3.4: Types of Membership Arrangements

Membership level	\$ per day range	\$ per week range	\$ per month range
Day pass	\$50-\$60	-	-
Casual	-	-	\$660
Virtual office	\$5-\$6	-	\$100
Hot desk	\$26	-	\$150-\$1,100
Dedicated desk	-	\$95	\$250-\$950
Private office	\$25-\$29	-	\$2,480-\$3,200

Source: Atlas

Research indicates that prices at the upper end of the range are for Premium Grade space, offering an extensive range of services and amenities such as reception and mail services, business and IT support, stocked kitchen, end-of-trip facilities, etc.

3.3.4 Target Market

Flex space has traditionally appealed to freelancers, entrepreneurs and contractors within professional services or creative industries and until recent years, were seen as the primary target market of flex space solutions.

Flex space is however observed to increasingly appeal to established companies who seek out flexible space in the first instance over a traditional lease. This allows them to scale-up or scale-down without the constraints of a fixed lease. This also allows them to outsource the curation of tenant amenity to flex operators with specific expertise.

With the transformation and rebranding of flex space, operators are targeting a wider market. In addition to professional services, demand is understood to have broadened to include developers, real estate agencies and architects. Table 3.5 shows the top industries taking-up flex space in 2018-2019.

Table 3.5: Flex Space, Industry Take-up (2018-2019)

Industry	Proportion
Professional Services	22.6%
IT, Computing and Software	15.8%
Property, Real Estate and Construction	11.2%
Sales and Recruitment	9.7%
Creative and Media	8.7%
Healthcare, Medical and Beauty	7.8%
Engineering and Architecture	3.9%
Education and Training	3.7%
Charity and Not-for-profit	1.3%
Government	0.8%
Other	14.5%

Source: Office Hub (2019)

The vast array of occupier services and amenities now on offer has driven the rapid growth of flex space with users not just limited to start-ups, freelancers and SME's but also larger corporations from a diverse range of industries.

3.4 Opportunity for the Site

Facilitation of Innovation Economy

The benefits of co-location within a cluster of businesses are long recognised, with research indicating the potential for strong multiplier impacts associated with clusters that facilitate innovation and business growth (NSW Innovation and Productivity Council, 2018).

Business clusters help create an eco-system where participants can benefit from collaboration, support and knowledge-sharing. Occupier benefits include:

- Collaboration opportunities and knowledge-sharing with other businesses, research organisations and universities.
- Access to business support (e.g. tax/ accounting advice on grants, finance, etc.) and shared resources.
- Access to talent pool and investors.
- Sharing of social and leisure infrastructure.

The flex space industry appeals to occupiers with key benefits offered including lower overheads and start-up costs and flexible membership options. Flex space enables companies to adapt workspace trends and meet cultural expectations of employees driven by innovation and technology. The modern workforce has evolved from a traditional 9 to 5 concept and is now characterised by the integration of digital technology, health, fitness and social events into the daily routine resulting in an 'always on' approach. Key features and amenities employees look for include 24/7 access, high speed wi-fi, customised office layout, business support, end-of- trip facilities and easily accessible public transport links.

Operators are globally investing in real estate to create a specialist working environment for a specific industry in order to attract likeminded members, allowing them to charge more and increase their return on investment. Operators are additionally targeting sector-specific businesses (e.g. PropTech, FinTech), as evident by the increasing number in Asia embracing this trend along with operators targeting gender-specific and not-for-profit industries around the world.

Many global trends are observed to be reflected in local markets. Importantly, the proportion of flex space to overall stock in Sydney at < 2% indicates the industry and submarket is on the upward trajectory of the growth curve, with more maturity to occur. Looking ahead to 2020 and the next decade, growth in the flex space industry is anticipated to continue in line with technology advancements and as businesses become more selective in their search for office space solutions.

While the flex space industry has evolved significantly over the past 10 years and continues to evolve in line with the modern workforce, much of the offer in Sydney is about office space solutions and less about business growth and support or targeted at the Innovation economy or catered to the needs of start-up and scale-up companies.

Lack of Suitable Opportunities

It is an unfortunate reality that despite demand for space by technology occupiers and the City of Sydney's policy initiatives to encourage and support growth of the technology sector, a large-scale tech cluster/ hub has not established. The Camperdown-Ultimo Collaboration Area is loosely a collection of various participants dispersed in the area.

In recent years and months there has been notable effort by the NSW Government to implement a technology and innovation precinct on government-owned lands. The Central to Eveleigh Corridor and the Bays Precinct are both locations planned for partnership opportunities with the tech industry to deliver an innovation precinct. Atlassian, one of Australia's high-profile technology companies has agreed in-principle to anchor a new innovation precinct at the Central to Eveleigh Corridor.

The delivery of the Central to Eveleigh Corridor and the Bays Precinct is complex. There are multiple stakeholders and complex issues that will need to be resolved for delivery of these proposed innovation precincts.

Aside from these large government-owned lands, there is a dearth of suitable opportunities for a tech cluster of significant scale to establish and grow. Owing to the desirability of the Sydney CBD and limited supply opportunities, there is fierce competition for development sites from competing uses (residential, retail, office, hotel). It is therefore no surprise that tech occupiers are dispersed across the CBD and City fringe markets, not co-located in the true sense of a 'cluster' or 'innovation community'.

An opportunity therefore exists for the Site to respond to global trends of flex space but also facilitate business growth and innovation outcomes.

Providing for Start-ups, Scale-ups and Ramp-ups

While flex space has emerged as its own submarket within the Sydney office market, tight supply and rising rents have constrained business expansion opportunities. City fringe locations are increasingly considered for more price-competitive offerings, however many of these markets lack public transport amenity.

There is currently a gap in the market where tech occupiers are generally scattered in disparate locations across the Sydney CBD and City fringe markets. The Sydney Startup Hub has assisted to meet the gap by providing an opportunity for accelerators, incubators and co-working providers to be accommodated in a single location.

Broader than office accommodation, the globally mobile needs of the innovation community should be provided for. Visitors to Sydney who have dealings with occupiers in the tech cluster who are additionally able to be accommodated within the development contributes to the competitiveness of the offer.

The Site is located within a strategic location, straddling the Southern precinct and the Camperdown-Ultimo Collaboration Area and is well placed to leverage market interest that is already evident in the precinct from technology occupiers. Vertical

integration of various uses within the development will cater to various needs of companies at different stages of the business cycles, from start-ups to scale-ups and then to ramp-up.

Importantly, the Site envisages not only provision and availability of business support (tax/ accounting advice) and business infrastructure (wi-fi, conference rooms) but also facilitation of industry support (collaboration and mentoring with industry peers and leaders) to assist with business growth particularly through the early stages which are critical.

Despite the emerging market and industry interest in the Southern precinct, the lack of public realm and tenant amenity is a major drawback to investment in the area. Knowledge-intensive businesses are generally more sensitive to the quality of their environment. Their employees have higher expectations of retail/ urban amenity.

The scale of the Proposal will facilitate a transformational change to the Southern precinct of the CBD, contributing to public domain works and upgrades to the general area.

4. The Proposal: Vertical Innovation Village

4.1 Overview

The Proposal seeks to amend planning controls applying to the Site to allow a future development that will comprise an integrated community and destination for the innovation and technology sectors in the form of a vertical innovation village with an overall maximum height of 49 storeys (RL 209.80) and approximate commercial GFA of 51,700sqm.

The Site is ideally suited to the proposed use being strategically located within the identified Haymarket Activity Node and Camperdown-Ultimo Collaboration Area and at the point of confluence between the health, education and research axis along Parramatta Road and Broadway, the information, communications and technology cluster of Ultimo and Pyrmont, the financial and professional heart of the city through the CBD, and the creative and design district across Surry Hills, Chippendale and Eveleigh. Its development as proposed will support both the State government and City of Sydney vision for the growth of the collaboration area as an innovation district.

Vision

The vision for the Site is to establish a community of innovators who recognise the potential and possibility presented by leveraging future technologies. The integrated vertical innovation village will be a home for people and businesses working in technology-driven growth industries, offering a mix of spaces, services and equipment to encourage convergence, collaboration and cross-disciplinary research and development. More than just a workplace, it will be an inclusive and energetic destination, anchored by Sydney's first publicly accessible technology fabrication lab, and complemented by a mix of practical and lifestyle amenity. It will be a place that nurtures talent and scales up new ideas by offering a variety of workspaces, tools and equipment, skills, knowledge and support, for a like-minded community.

The proposed Vertical Innovation Village will comprise a bold new proposition for a mixed-use building, bringing together on a single site a world-class co-working hub and fabrication laboratory for innovation and technology, a diverse range of commercial space for emerging, growing and established technology businesses, a hotel tailored to tech workers, as well as a range of retail, hospitality and service amenities to support the community working, staying and visiting the site.

Proposed Development

Within a hybrid tower the concept will deliver approximately 51,700sqm GFA to a maximum height of RL 207. As illustrated in the reference scheme the hybrid tower will comprise flexible interconnected floorplates of approximately:

- 1 000sqm on the ground level;
- 1,700sqm within the podium;
- 610sqm to 760sqm within the void tower;
- 1,200sqm within the low and high rise tower;
- 900sqm within the sky rise tower thereby catering to the full range of enterprises within the sector.

Key components of the reference scheme for the hybrid tower include:

- **Innovation tech hub** (approximately 8,600sqm GFA) within the basement, podium and void tower with lobby off Valentine Street including:
 - Tech workshop with shared equipment, facilities and services (including education, business support, programming, safety management and training);
 - Co-working space for the innovation industries that utilise provided technology and equipment, that changes in space and floor plate design to accommodate growing businesses;
 - Terrace on Level 4 of the Void Tower providing an indoor / outdoor workspace;
 - Facilities and services shared with the tech hotel.

- **Commercial office** space (approximately 33,100sqm GFA) for the corporate tech sector within the low and high rise tower with lobby off Quay Street.
- **Tech hotel**, 4 star (approximately 9,800sqm GFA / 234 keys with 26 rooms per floor) within the sky rise tower with sky lobby, pool and bar with drop off and lobby off Thomas Street.
- Meeting, forum, gym, pool, hospitality and other spaces integrated throughout the building and shared (and co-managed) between the innovation hub, commercial tenancies and tech hotel.
- A **retail offering** of approximately 220sqm GFA, including food and beverage which will be located on the ground level.
- Upgraded (and widened) through site connection connecting Thomas Street to the west with George Street to the east via an activated retail arcade connection.
- Redeveloped public space on Thomas, Quay and Valentine Street including an expanded pedestrian plaza at the corner of Thomas and Quay Streets and widening of the Valentine Street footpath.
- Integration with the proposed Quay Street public domain works to accommodate increased pedestrian movement from existing and future pedestrian connections to various modes of transport.
- Five (5) basement levels beneath the building with access off Thomas Street in the north west of the site.

The proposed basement levels will provide:

- Reduced car park provision totalling 79 car parking spaces¹ (including 23 small car spaces, 2 car share spaces and 1 electric charging station).
- 14 motorbike parking spaces.
- 382 bicycle parking spaces for staff and visitors as well as end-of-trip facilities.
- Hotel back-of-house areas.
- Loading dock and waste storage room.
- Plant and equipment areas.

While the reference scheme represents one design for the proposed hybrid tower, the project will be subject to a full competitive design process in accordance with the requirements of Sydney LEP (2012).

The proposal also includes a public benefit offer representing approximately \$18.3 million community public benefit infrastructure contribution in accordance with Council's Draft Guideline for Site Specific Planning Proposals in Central Sydney (undated). A Voluntary Planning Agreement will be entered into in accordance with the offer subject to agreement with Council.

A more detailed breakdown of proposed uses throughout the reference scheme building is provided in Table 4-1.

Table 4-1: Detailed Description of Proposal

Component	Description	Accommodation
Tech Hotel SKY Tower	Hotel room levels, Sky Arrival Lobby and Roof-top facilities including restaurant, bar, lounge, gym, pool The 4 star Hotel is to be branded as a "Tech Hotel" (there are a number of International operators that are now positioning one of their models as a "tech hotel") connected functionally and practically to the Innovation Tech Hub	10 levels total 9 levels hotel rooms Approx. 9,800sqm GFA
Commercial Office Tower (High-rise and Low-rise)	Promoted for large companies that operate in the innovation / technology sector to complement and benefit from co-location with the Innovation Tech Hub including flexible floor plates to accommodate large and scale up ventures	27 levels total 26 levels office 1,120 / 1,160sqm NSA typical floors Approx. 33,100sqm GFA

¹ Maximum parking allowed is 107 car spaces however reduced provision proposed due to transport demand strategy

Component	Description	Accommodation
Innovation Tech Hub Void Tower (reduced floors adjacent to Void)	Bookable project rooms, bookable meeting rooms, tech workshop and fabrication lab with shared access equipment and tools, common space for access and reception, co-working space with communal desks and private offices	5 levels total 4 levels Innovation 580 / 700sqm NSA Approx. 2,750sqm GFA
Innovation Tech Hub Podium	Outdoor workspace, shared flexible 'forum' space, bookable project rooms, bookable meeting rooms, tech workshop and fabrication lab with shared access equipment and tools, common space for access and reception, co-working space with communal desks and private offices	3 levels total 1,100 / 1,600sqm NSA Approx. 4,600sqm GFA
Tech Hotel Facilities and Services Mezzanine	Lobbies and plant	1 level total Approx. 300sqm GFA
Lobbies and Retail Ground	Innovation Tech hub lobby, Commercial lobby, Hotel lobby, hospitality – café / bar / restaurant, retail – convenience, retail – concept tech store	1 level total 200sqm NSA plus lobbies and though site link Approx. 1,000qm GFA

Source: FJMT

4.2 Sydney CBD Development Pipeline

The Sydney CBD market is the largest in Australia underpinned by business growth, a strong tourism sector and major infrastructure projects either recently completed or in the pipeline.

There is a significant amount of commercial floorspace proposed in the development pipeline. According to the City of Sydney's Commercial Monitor, as at June 2019 there was approximately 1.5 million sqm of commercial floorspace in the development pipeline across the Sydney LGA.

Central Sydney is broadly comprised of two village areas - Sydney CBD and Harbour village area and Chinatown and CBD South village area. Together, both village areas have 820,000sqm of commercial floorspace in the pipeline (710,000sqm in the Sydney CBD and Harbour village area, and 110,000sqm in Chinatown and CBD South village).

Approximately 40,000sqm of commercial floorspace was completed in 2018/19, with some 150,000sqm of commercial floorspace forecast to be completed in 2019/20. The majority of the commercial floorspace proposed is office floorspace.

The Sydney metropolitan hotel market has enjoyed a period of relative high average occupancy that peaked (year on year) in December 2017 at 86%, although has softened to 83.1% in the third and fourth quarters of 2019.

Table 4-2: Snapshot of Sydney Hotel Market, Q3 2019

Indicator	Q3 2019	YTD Growth
Occupancy	83.1%	-1.7%
Average Daily Rate (ADR)	\$214.53	-2.9%
Revenue per Average Room (RevPar)	\$176.28	-4.5%

Source: Ray White Valuations, Savills (2019)

The high occupancy rates and strong revenue per room reflects the continuing growth in international and domestic visitors however the increase in supply from the Mascot airport precinct is impacting the ability for Sydney CBD hotels to rate yields when occupancy compression occurs (typically above 90%).

The hotel rooms in the pipeline are generally comprised of conventional hotel models, with hotel operations standalone and separate to any other uses that may be within a mixed use development.

Uncertain Times

The outbreak of COVID-19 has raised uncertainty with respect to the Australian economy. Certain industry segments such as hotel and tourism have been severely impacted while potential fallout on the property market is less clear at this stage.

A federal government travel ban from China for non-residents has had a significant effect on the Chinese New Year in Sydney, which in recent years has seen a number of Chinese investors travelling to inspect and buy Sydney property.

Recent shutdown measures have resulted in multiple hospitality and retail businesses shut their doors and lay off staff. Hotel occupancy rates are conceivably in freefall.

The uncertainty of the COVID-19 issue will undoubtedly impact the ability of many projects in the development pipeline to be delivered.

4.3 Role for the Proposal

The Proposal will be Sydney's first vertically integrated innovation community, with occupiers able to move vertically within the development depending on their stage and requirements. Held by Greaton Development, the operations of the various components of the Vertical Innovation Village will be integrated.

The **Innovation Tech Hub** will accommodate a mix of flexible accommodation solutions - co-working space and private offices, accelerator and incubator facilities. The hub will also accommodate business support providers (e.g. tax/ accounting professionals), finance and venture capital advisers as well as facilities for lab/ product development. Given the trends and increasing preference of large corporations for flex space, it is conceivable that demand for space in the Innovation Tech Hub will originate from established companies as well as establishing companies.

The **Commercial Office** space will accommodate businesses wanting conventional lease arrangements and those companies wishing to co-locate with the Innovation Hub for collaboration opportunities.

The **Tech Hotel** will be positioned to accommodate visitors with business dealings with occupiers in the Innovation Tech Hub as well as occupiers in the commercial space. Common facilities focused on events, functions and collaboration opportunities will result in an integrated relationship between the various components of the vertical community.

The **Retail offer** (albeit minor in scale) is intended to complement the activities of the Innovation Tech Hub and could play a role to showcase technologies under research/ testing, whether in a pop-up store or as a scheduled interaction with the public to assist with product/ technology development.

The Proposal has the potential to facilitate valuable economic multiplier outcomes through its support and nurture of innovation and entrepreneurial activities. Furthermore, its scale and potential for transformational impact on the Southern Precinct are equally important particularly at a time when investment is critically needed in Sydney.

The next chapter examines the economic impacts that could result from development of the Proposal.

5. Economic Impact Assessment

5.1 Overview

The assessment of economic impacts is important to making the case for progression of the Site for development ahead of the contemplated sequence by the City of Sydney in the draft Central Sydney Planning Strategy.

This chapter examines the economic activity supported through the operations of businesses locating to the Site if it were redeveloped according to the Proposal compared to a Base Case.

The chapter additionally examines the economic activity and impacts that could be facilitated through employment and industry growth beyond the direct activities undertaken within the innovation tech hub.

Approach

This section estimates the economic activity supported in the following scenarios:

- **Proposal Case:** The Proposal Case assumes the existing buildings will be demolished and developed into a Vertical Innovation Village as proposed. The hybrid tower will comprise the following components:
 - Innovation tech hub (approximately 8,600sqm GFA) within the basement, podium and void tower;
 - Commercial office space (approximately 33,100sqm GFA) for the corporate tech sector;
 - 4-star tech hotel (approximately 9,800sqm GFA and 234 keys) within the sky rise tower with sky lobby, pool and bar;
 - Meeting, forum, gym, pool, hospitality and other spaces integrated throughout the building and shared between the Innovation hub, commercial tenancies and tech hotel;
 - Retail floorspace (approximately 220sqm GFA) including food and beverage on the ground level.
- **Base Case:** The Base Case assumes demolition of the existing buildings for redevelopment to an FSR of 9.9:1 (including design excellence) as permissible under the Sydney LEP (2012).

Hypothetically, the development is assumed to be of a smaller scale than the Proposal, comprising similar uses (but excluding the innovation tech hub):

- Commercial office space (approximately 19,500sqm GFA);
- Hotel (approximately 3,500sqm and 88 rooms);
- Ancillary retail floorspace (approximately 220sqm GFA).
- **Existing Use:** the existing building is understood to accommodate several tenants which altogether could, based on generic occupancy floorspace ratios, employ 400 workers. The buildings are estimated to be equivalent to FSR 4:1 to FSR 4.5:1. This scenario is modelled for the purposes of understanding the impact of the Proposal Case over a Do-Nothing scenario.

The economic impacts are assessed at the Sydney LGA level. An Input-Output (including the development of specific regional Input-Output transaction tables) was developed to reflect the economic structure of the Sydney LGA.

Input-Output modelling describes economic activity through the examination of four types of impacts which are defined and described in Table 5.1.

Table 5.1: Economic Indicators

Indicator	Description
Output	The gross value of goods and services transacted, including the cost of goods and services used in the development and provision of the final product. Care should be taken when using output as an indicator of economic activity as it counts all goods and services used in one stage of production as an input to later stages of production, thus overstating economic activity.

Indicator	Description
Gross Product	The value of output after deducting the cost of goods and services inputs in the production process. Gross product (e.g. Gross Regional Product (GRP)) defines a net contribution to economic activity.
Incomes	The wages and salaries paid to employees as a result of the Project either directly or indirectly.
Employment	Employment positions generated by the Project (either full time or part time, directly or indirectly). Employment is reported in terms of Full-time Equivalent (FTE) positions or person-years.

Source: Atlas

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

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

The estimates of economic impacts in this section consider both production and consumption-induced flow-on impacts. It should be noted that Type II impacts are commonly considered to overstate economic activity and therefore the types of flow-on impacts are reported separately.

Drivers of Economic Activity

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

- **Construction Phase**

Construction activity will draw resources from and thereby generate economic activity in the Sydney LGA as well as from outside the LGA. Assumptions are made on the proportion sourced from within and from outside the LGA. Construction activity is assessed for the Base Case and Proposal Case only.

- **Operational Phase**

The Site is expected to generate ongoing economic operational activity through the following:

- Direct turnover generated by the retail/ commercial operational activities on-site.
- Economic activity that would not otherwise occur in the Sydney LGA as a result of broader tourism expenditure of visitors facilitated within the community by the new hotel development.

The project will also facilitate broader business and industry growth through the fostering of innovation and start-up businesses. High level estimates of these potential impacts are also provided.

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

5.2 Economic Activity and Impacts

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

5.2.1 Construction Phase

Economic impacts in the Base Case are expectedly lower than in the Proposal Case due to the smaller scale of development.

Table 5.2 compares the economic impacts during construction and summarises the net economic impacts.

Table 5.2: Construction Impacts in Sydney LGA, Base Case and Proposal Case

Indicator	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTE)
Base Case				
Direct	\$87.3	\$26.5	\$18.6	186
Flow-on Type I (Production-induced)	\$30.0	\$15.2	\$8.5	88
Flow-on Type II (Consumption-induced)	\$30.2	\$17.6	\$7.4	95
Total	\$147.6	\$59.3	\$34.6	369
Proposal Case				
Direct	\$269.6	\$79.6	\$55.9	583
Flow-on Type I (Production-induced)	\$91.1	\$46.2	\$25.8	267
Flow-on Type II (Consumption-induced)	\$91.3	\$53.3	\$22.4	286
Total	\$452.0	\$179.0	\$104.1	1,136
Net Impacts				
Direct	\$182.3	\$53.1	\$37.3	397
Flow-on Type I (Production-induced)	\$61.1	\$31.0	\$17.3	179
Flow-on Type II (Consumption-induced)	\$61.1	\$35.7	\$15.0	191
Total	\$304.5	\$119.8	\$69.6	767

Source: Atlas

Net economic activity generated by businesses is expected to support direct and flow-on impacts during construction:

- \$304.5 million in output (including \$269.6 million in direct activity).
- \$119.8 million contribution to GRP (including \$79.6 million in direct activity).
- \$69.6 million in incomes and salaries paid to households (including \$55.9 million in direct income).
- 767 FTE jobs (including 397 FTE directly employed in construction activity).

5.2.2 Operational Phase

Following construction completion, a range of business activity can be accommodated in the development, both in Base Case and Proposal Case. This business activity is generally categorised into three activity types:

- **Business Operations Activity**
The economic activity that results from the range of businesses and tenants who occupy the completed floorspace.
- **Hotel Operations Activity**
The economic activity that is generated by the day-to-day operations of the hotel, including room service, hotel management and food and beverage retail in the hotel component of the development.
- **Induced Visitation Expenditure**
The value of consumption by visitors staying in the hotel who would otherwise not visit the LGA.

Additionally, the economic impacts resulting from the facilitation of business growth and innovation are estimated based on research carried out by NSW Innovation and Productivity Council (2018).

Operational Impacts

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

- \$1,776.1 million in output (including \$906.0 million in direct activity).
- \$955.9 million contribution to GRP (including \$473.0 million in direct activity).
- \$502.3 million in incomes and salaries paid to households (including \$278.9 million in direct income).
- 5,162 FTE jobs (including 2,576 directly related to activity on the Site and direct tourism spend).

Table 5.3 summarises the operational impacts estimated during the operational phase.

Table 5.3: Operational Impacts in Sydney LGA, Base Case and Proposal Case

Indicator	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTE)
Proposal Case				
Direct	\$906.0	\$473.0	\$278.9	2,576
Flow-on Type I (Production-induced)	\$360.6	\$185.3	\$98.4	985
Flow-on Type II (Consumption-induced)	\$510.1	\$297.6	\$125.0	1,601
Total	\$1,776.7	\$955.9	\$502.3	5,162
Base Case				
Direct	\$419.3	\$221.1	\$131.6	1,219
Flow-on Type I (Production-induced)	\$165.9	\$86.1	\$45.4	451
Flow-on Type II (Consumption-induced)	\$239.3	\$139.6	\$58.6	751
Total	\$824.4	\$446.8	\$235.6	2,421
Net Operational Impacts				
Direct	\$486.7	\$251.9	\$147.3	1,357
Flow-on Type I (Production-induced)	\$194.7	\$99.2	\$53.0	534
Flow-on Type II (Consumption-induced)	\$270.8	\$158.0	\$66.4	850
Total	\$952.3	\$509.1	\$266.7	2,741
Existing Use				
Direct	\$110.1	\$59.3	\$43.1	433
Flow-on Type I (Production-induced)	\$50.2	\$26.7	\$16.1	158
Flow-on Type II (Consumption-induced)	\$80.0	\$46.7	\$19.6	251
Total	\$240.3	\$132.7	\$78.7	842

*reported impacts include estimates of operational activities on-site and induced tourism impacts

Source: Atlas

Compared with the Base Case, the Proposal facilitates a significantly intensified use of the Site, accommodating more businesses and employment activity, and result in greater levels of output and contribution to the Sydney local economy.

Compared with the Base Case, the Proposal is estimated to result in a net increase in economic activity through direct and indirect (flow-on) annually at:

- \$952.3 million additional in output (including \$486.7 million in direct activity).
- \$509.1 million additional in contribution to GRP (including \$251.9 million in direct activity).
- \$266.7 million additional in incomes and salaries paid to households (including \$147.3 million directly).
- 2,741 additional FTE jobs (including 1,357 additional jobs directly related to activity and direct tourism spend).

Comparison with Status Quo

The Site is understood to be occupied by four businesses. Comprising approximately 8,750sqm in lettable area, the existing buildings could conceivably accommodate 433 workers (at a generic occupancy ratio of 1 worker per 20sqm lettable area).

If compared with the 'As Is' or status quo of the Site, the Proposal represents an even more compelling proposition with a greater increase to economic activity and consequential positive net economic impact.

Facilitating Business Growth and Innovation

The Proposal Case represents a significant investment in the Sydney start-up ecosystem, with the potential to support employment and industry growth into the future beyond the direct activities undertaken within the innovation space. The proposed innovation space will support collaboration and clustering of talent, attract investors and strengthen the start-up community to create a pipeline of growing businesses and sustainable jobs.

This growth will be driven by companies when they grow rapidly to become "scale-up" companies, leaving the start-up space to expand or potentially achieving an exit in the form of a public listing or acquisition. Recent examples of Australian start-up successes stories in include Seek, Carsales.com, REA Group, and Atlassian. These operations have created thousands of new jobs directly and support many more through multiplier effects.

It is challenging to assess the growth and activity supported by any future businesses locating within the Site given the inherent risk and uncertainty associated with new ventures. However, research (NSW Innovation and Productivity Council, 2018; Moretti, 2012) has indicated that for every job that is created within an innovation precinct, over the long term a further five are created elsewhere in the economy through subsequent growth and clustering, and technology adoption alongside traditional economic expenditure multipliers of industry purchases and household expenditure.

Applying this rule to the projected direct jobs created within the innovation space adjusted to the economic multipliers indicates the following broader economic impacts could be facilitated on an annual basis in the long run:

- \$706.0 million in output (including \$189.1 million in direct activity).
- \$618.1 million contribution to GRP (including \$95.1 million in direct activity).
- \$299.8 million in incomes and salaries paid to households (including \$54.1 million in direct income).
- 3,346 FTE jobs (including 478 directly employed).

Table 5.4: Estimated Long Term Economic Impacts of Facilitating Business Growth in Sydney LGA

Indicator	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTE)
Direct	\$189.1	\$95.1	\$54.1	478
Flow-on Type I (Production-induced)*	\$203.3	\$204.9	\$112.1	1,157
Flow-on Type II (Consumption-induced)*	\$313.6	\$318.1	\$133.6	1,711
Total	\$706.0	\$618.1	\$299.8	3,346

*Flow on impacts have been scaled to account for an estimated 5 flow-on jobs per direct innovation FTE over the long term and are indicative only.

Source: NSW Innovation and Productivity Council (2018), Moretti (2012), Atlas

5.3 Summary of Economic Impacts

The Proposal will facilitate an increase to permitted density to respond to objectives for facilitating innovation and business growth in the Sydney CBD.

During construction, the Proposal is estimated to result in:

- \$452.0 million in output (including \$269.6 million in direct activity).
- \$179.0 million contribution to GRP (including \$79.6 million in direct activity).
- \$104.1 million in incomes and salaries paid to households (including \$55.9 million in direct income).
- 1,136 FTE jobs (including 583 FTE directly employed in construction activity).

When operational, the Proposal is estimated to support the following annual economic activity through direct and flow-on impacts associated with the redeveloped Site and facilitated tourism activity once operational:

- \$1,776.7 million in output (including \$906.0 million in direct activity).
- \$955.9 million contribution to GRP (including \$473.0 million in direct activity).
- \$502.3 million in incomes and salaries paid to households (including \$278.9 million in direct income).
- 5,162 FTE jobs (including 2,576 directly related to activity on the Site and direct tourism spend).

The Vertical Innovation Village will facilitate broader innovation and industry growth and has the potential to generate significant further economic activity. Long term benefits associated with the facilitation of innovation employment through the Site is estimated at:

- \$706.0 million in output (including \$189.1 million in direct activity).
- \$618.1 million contribution to GRP (including \$95.1 million in direct activity).
- \$299.8 million in incomes and salaries paid to households (including \$54.1 million in direct income).
- 3,346 FTE jobs (including the 478 directly employed on the Site).

The economic impacts estimated in this chapter demonstrate the Proposal has economic merit, having the ability to contribute immediately to the Sydney local economy and ensure the Harbour CBD metropolitan centre has the required capacity to grow. Importantly, the Proposal will support innovation and global competitiveness objectives and contribute to facilitation/ nurture of business and industry growth to achieve the economic potential of the Eastern Economic Corridor.

The Site is strategically located in the Southern Precinct of the Sydney CBD (or Central Sydney) and within the Camperdown-Ultimo Collaboration Area which is part of a mature innovation corridor. While there is potential for expanding the innovation ecosystem in the collaboration area, there are impediments to this including a limited availability of employment land and affordable space for innovation, research, creative industries and collaborative projects.

The Site's proximity to transport nodes straddling Central Sydney and the Camperdown-Ultimo Collaboration Area puts it in a competitive and desirable position to respond to the need for facilities that accommodate and nurture innovation and technology in the Harbour City metropolitan centre.

Broader economic implications, such as impact on the Greater Sydney and NSW economies are beyond the scope of the EIA. If included, the Proposal will demonstrate an even more compelling proposition for consideration.

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Schedules

Input-Output Methodology

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

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

Impacts are traced through the economy via:

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

Economic analysis considers the following four types of impacts.

Table S1-1: Economic Activity Indicators

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

Source: Atlas

REGIONAL MODEL DEVELOPMENT

Multipliers used in this assessment have been created using a regionalised Input-Output model derived from the 2016-17 Australian transaction table (ABS, 2019).

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

MODELLING LIMITATIONS AND ASSUMPTIONS

Input-Output modelling is subject to a number of key assumptions and limitations (ABS, 2019):

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

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

DRIVERS OF ECONOMIC IMPACT

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

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

Construction Phase

For modelling purposes, construction costs (including contingency) for the Proposal Case were broken down into their respective Australia and New Zealand Standard Industrial Classification (ANZSIC) industries. Drivers of the Construction phase were examined for the Base Case and Proposal Case only. This breakdown was developed based on the following assumptions by Atlas regarding the most appropriate ANZSIC industries for each activity.

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

Work Type	Base Case (\$M)	Proposal Case (\$M)	ANZSIC
Site Preparation and Demolition	\$6.3	\$6.3	Construction Services
Basement	\$15.6	\$48.9	Non-Residential Building Construction
Ground and Mezzanine Floors	\$0.7	\$17.1	Non-Residential Building Construction
Innovation Space		\$63.2	Non-Residential Building Construction
Commercial	\$27.4	\$208.5	Non-Residential Building Construction
Hotel	\$91.2	\$99.9	Non-Residential Building Construction
External Works	\$13.0	\$17.4	Non-Residential Building Construction
Design Works	\$24.6	\$77.7	Professional, Scientific and Technical Services
Total	\$178.8	\$539.1	

Source: Atlas

Of the above capital outlay, not all activity will be undertaken within the Sydney LGA economy. For the purposes of this assessment it was assumed:

- Approximately 50% of the direct expenditure on construction-related (i.e. Residential Building Construction, Non-Residential Building Construction and Construction Services) activity would be sourced from local businesses and labour. Of this:
 - Approximately 25% of purchases on goods and services (supply chain related activity) made by construction-related businesses sourced from outside the Sydney LGA would be spent within the local economy (i.e., 25% of the Type I flow on activity associated with non-local construction companies is assumed to represent additional local activity in Sydney LGA).
 - Approximately 5% of wages and salaries paid to construction-related workers sourced from outside the region would be spent on local goods and services, such as food and beverages (i.e., 5% of the Type II).

Only flow-on activity of locally sourced professional, scientific and technical services activity (50%) is included, as it is not anticipated professional, scientific and technical services businesses located outside of Sydney LGA would purchase goods/services locally.

Operational Phase

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

Employment by industry estimates were converted to a direct output value using a multiplier based on the national transaction table (ABS, 2019). The resultant estimates of output were modelled as the direct activity associated with the Base Case, Proposal Case and Existing Use.

Table S1-3: Operational FTE Allocation of Floorspace

Work Type	GFA (sqm)	Sqm GFA/ FTE	Estimated Jobs (FTE)	Direct Output (\$M)	ANZSIC
Existing Use					
Retail (newsagent)	63	27	2	\$0.3	Retail Trade
Café	62	22	3	\$0.4	Food and Beverage Services
Insearch UTS	8,502	22	383	\$101.1	Professional, Scientific and Technical Services
Workers Union Office	998	22	45	\$8.3	Other Services
Total	9,625	22.2	433	\$110.1	
Base Case					
Retail	219	27	8	\$1.1	Retail Trade
Commercial	19,529	17	1,172	\$410.8	Split across the catchment's existing employment mix by place of work (ABS, 2017)
Hotel	3,527 (88 rooms)	0.3 per room	26	\$5.2	Accommodation
Total	23,275	19.3	1,206	\$417.1	
Proposal Case					
Retail	219	27	8	\$1.1	Retail Trade
Innovation	7,429	16	478	\$167.4	Split across industry mix demanding flex space (see Table 3.5 for further detail)
Commercial	33,100	17	1,986	\$696.2	Split across the catchment's existing employment mix by place of work (ABS, 2017)
Hotel	10,966 (234 rooms)	0.3 per room	70	\$13.7	Accommodation
Total	51,714	20.3	2,542	\$878.5	

Source: Atlas

Tourism Expenditure Supported

To estimate the impacts of broader tourism expenditure within the Sydney LGA under the Base Case and Proposal Case an average occupancy rate of 80% was assumed. Destination NSW (2019) total visitor expenditure of \$194 per night was split across (TRA, 2019) national average expenditure items for domestic and international visitors and allocated to ANZSIC sectors as per the assumptions in the following table.

Of the \$194 per visitor night, direct visitor expenditure on some items (e.g. accommodation, airfares) were reduced or excluded to avoid either double counting expenditure expected to occur within the precinct directly or incorporating expenditure unlikely to be captured in the LGA as a result of the hotel stay.

Table S1-4: Tourism Expenditure Estimates

ANZSIC	Base Case (\$M)	Proposal Case (\$M)
Food and Beverage Services	\$0.4	\$1.1
Gambling	\$0.0	\$0.0
Heritage, Creative and Performing Arts	\$0.1	\$0.3
Other Services	\$0.1	\$0.2
Rental and Hiring Services (except Real Estate)	\$0.1	\$0.2
Retail Trade	\$1.0	\$2.6
Road Transport	\$0.1	\$0.3
Telecommunications Services	\$0.0	\$0.0
Vehicle Maintenance and Repairs	\$0.0	\$0.0
Water, Pipeline and Other Transport	\$0.3	\$0.9
Total	\$2.2	\$5.7

Source: Destination NSW (2019), TRA (2019), Atlas

Facilitating Business Growth and Innovation

Estimates of broader employment generated through the growth of start-up businesses and innovation have been developed based on NSW Innovation and Productivity Council (2018) and Moretti (2012) estimates of five broader long-term jobs created for every new job created within an innovation precinct.

For modelling purposes, direct employment was allocated to the same industry sectors as direct employment within the innovation space (see Table S1-3) and flow on multipliers were adjusted to account for the estimated indirect employment ratio.

SYDNEY

Level 17, 135 King Street
Sydney, NSW 2000
+612 8016 3864

MELBOURNE

Level 17, 40 City Road
Southbank, VIC 3006
+613 8554 4604

