



Moore Point Precinct

Economic Impact Assessment

Leamac and Coronation

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Document Control

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Executive Summary

BACKGROUND

Moore Point (referred to as '**the Site**') is the largest privately led urban renewal project in Australia, led by a Joint Landowner Group (**JLG**) comprised of Coronation Property Co and Leamac Property Group.

The 31.4ha site, set within the Liverpool Collaboration (**LCA**), is a unique opportunity to deliver a model for urban renewal at a metropolitan scale consistent with the strategic priorities of Government. It will be a catalyst for Liverpool City Council (**Council**) to realise its objectives for the LGA and the Western Parkland City.

At a glance, Moore Point (**the Proposal**) will deliver:

- Approximately 11,000 dwellings set within distance of Liverpool CBD and LCA,
- A significant contribution of employment generating floorspace and associated jobs to complement the expansion of Liverpool CBD, and
- Over 10 hectares of publicly accessible open space supported by bridge crossings from Liverpool CBD to a fully accessible Georges River foreshore and Haigh Park.

The Proposal

The planning proposal seeks to amend the Liverpool Local Environmental Plan 2008 (the LEP) to rezone land from industrial to mixed-use and public recreation, including changes to floor space ratio, height of buildings and site-specific provisions.

In April 2023, the NSW Department of Planning, Housing and Infrastructure (**DPHI**) issued a Gateway Determination which recommended the Proposal proceed subject to conditions prior to exhibition. In response to the Gateway conditions, the planning proposal and supporting documents have been updated.

In particular, condition 8 of the Gateway Determination included a requirement for an updated EIA which:

- Addresses the ability and justification of delivering jobs in the Moore Point Precinct.
- Demonstrates that the Liverpool CBD will not be undermined.

Atlas Economics (**Atlas**) is engaged by the JLG to prepare an EIA (**the Study**) to examine the economic impacts of delivering the Proposal and address the required amendments to the previous EIA as raised in condition 8 of the Gateway Determination.

A summary of the lodged planning proposal and updates is summarised in **Table ES-1**.

Table ES-1: Proposed Land Uses within Updated Proposal and Masterplan (2024), The Site

Element	Endorsed Proposal and Masterplan (November 2020)	Updated Proposal and Masterplan (April 2024)
Land Use	B4 Mixed Use B6 Enterprise Corridor RE1 Public Recreation	MU1 Mixed Use RE1 Public Recreation
Floor Space Ratio (FSR)	4.2:1 and 3.5:1	4:1
Height	RL 108 and RL 136	various to a maximum RL 136
Public Open Space	24% (76,995sqm)	32.09% (101,000 sqm)
Gross Floor Area (GFA)	Non-residential - 249,364sqm Residential - 1,038,728sqm Total - 1,288,092sqm	Non-residential - 346,463sqm Residential - 912,985sqm Total - 1,259,448sqm
Dwellings	12,220	10,742
Population	26,884	21,484

Source JLG

SOCIO-ECONOMIC CONTEXT

This Study has considered the socio-economic context of Moore Point and the Liverpool LGA. Key observations include:

- Liverpool is benefitting from strong population growth which continues to outpace Greater Sydney.
- The Liverpool LGA is characterised by an increasingly affluent, educated and professional resident base.
- The health and education sectors are driving the growth of the Liverpool CBD.
- Liverpool's resident and worker population is set to boom in the coming 20-years.

Employment projections indicate that knowledge-intensive industries are expected to be an important driver of employment across the Liverpool LGA. Additionally, over 24,000 additional health and education jobs are expected across the LGA by 2041, with some of these likely to elicit demand for commercial floorspace. High-level floorspace estimates (at the LGA level) suggest the knowledge intensive and health and education sectors could generate demand for **~308,000sqm and ~490,000sqm of floorspace by 2041 respectively**.

A review of NSW Government employment projections (TZP2022) suggests the spatial distribution of future employment growth indicates much of the future knowledge intensive jobs is to be directed to the Western Sydney Aerotropolis. Whilst the Aerotropolis will become a large commercial hub in time, this is not expected to occur prior to 2041. This was outlined in the [Western Sydney Aerotropolis Market and Economic Feasibility Study](#) (2020), which found large scale office development would unlikely be viable in the Aerotropolis until post-2041.

Accordingly, much of the knowledge intensive employment growth anticipated to be generated in the Liverpool LGA over the 2021-2041 period is likely to instead be directed to existing centres like the Liverpool CBD. At ~160,000sqm of commercial floorspace, the Proposal would have the potential to accommodate some of the future demand for knowledge intensive employment across the LGA (equivalent to a total of 308,000sqm of knowledge intensive floorspace).

IMPACT ON THE LIVERPOOL CBD

Importance of Scale

CBDs require a multitude of factors in order to be successful. For instance, successful office precincts require investment in modern, quality accommodation. The rents or sale prices achievable for new office space will therefore need to be at a level to incentivise development. However, high office rents may result in limited opportunities for small or growing businesses to locate within a precinct and contribute to its character. Successful CBDs will therefore need to accommodate requirements from:

- **Businesses**, who value proximity to a skilled labour force or affordable rent;
- **Employees**, who value proximity to public transport and surrounding amenity; and
- **Developers and investors** who will require economic rents and values for development to be commercially viable.

A critical ingredient for successful CBDs is scale or 'critical mass'. When scale of business and resident activity is achieved, agglomeration economies can form. CBDs which lack critical mass struggle to achieve agglomeration economies and are not typically sustainable.

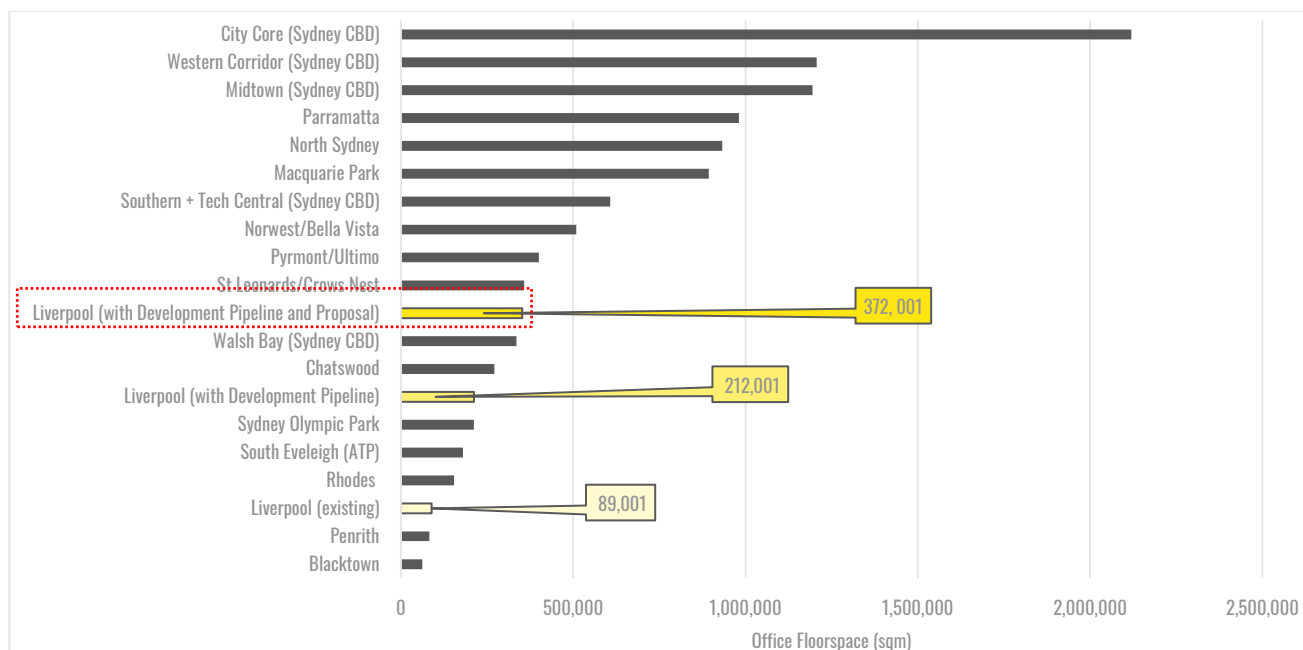
Role of the Proposal

It is clear that the CBD currently lacks a sufficient critical mass of commercial occupiers. At only 89,000sqm of commercial floorspace (with just ~20,000sqm of A-Grade stock), the Liverpool CBD is not a major office market. This lack of quality space is a key barrier to securing new jobs and investment, particularly as the Liverpool Innovation Precinct continues to grow and produce economic opportunities for the CBD.

The Proposal presents an opportunity for the Liverpool CBD to grow and achieve critical mass. When including the commercial floorspace envisaged in the Proposal (~160,000sqm), along with others in the pipeline, the Liverpool CBD would effectively become akin to the St Leonards/Crows Nest office market at ~372,000sqm. It could play a similar role to the St Leonards/Crows Nest office market which complements the St Leonards Health and Education Precinct.

Figure ES-1 illustrates the size of the Liverpool CBD office market (both with and without the Proposal) in the context of other CBDs and office markets across Greater Sydney.

Figure ES-1: Liverpool CBD (With/Without Proposal) and Greater Sydney's Office Markets (2023)



Source: Atlas Economics

A significant portion of the Site has been contemplated by Council since 2008 as a future extension of Liverpool CBD, as recognised in the LEP Key Sites Map as 'Liverpool City Centre'. The land use and planning framework of the Proposal will ensure complementary forms of commercial floor space are provided to support the long-term growth of the CBD.

ECONOMIC JUSTIFICATION FOR THE PROPOSAL

The development of the Proposal is shown to deliver significant and positive economic impacts to the Liverpool economy. When operational, the Proposal is estimated to result in an annual **net increase in economic activity** with:

- **\$6,843.5 million** additional in output (including \$3,781.0 million in direct activity).
- **\$3,957.7 million** additional in contribution to GRP (including \$2,255.3 million in direct activity).
- **\$2,479.4 million** additional incomes and salaries paid to households (including \$1,591.2 million directly).
- **23,503 additional FTE jobs** (including 15,300 additional FTE jobs directly related to activity on the Site).

The Proposal would also generate significant economic impacts during construction and from an increase in household expenditure. The economic impacts estimated demonstrate the Proposal has economic merit, having the ability to contribute significantly to the Liverpool economy. Relevantly, the Study finds Proposal will strengthen the existing role and offering of the Liverpool CBD and cater for the flow-on growth of the Liverpool Innovation Precinct.

The current footprint of the CBD is small (<90,000sqm) and does not have sufficient critical mass to support the various ingredient uses that are necessary for city centres to thrive (e.g. hospitality, leisure, short term accommodation, etc.). The Proposal offers the opportunity to expand the footprint of the CBD (playing a similar role to Pymont in the Sydney CBD).

The Proposal will assist in Liverpool emerging as Greater Sydney's 'third CBD'. The Proposal will deliver a mixed-use precinct that supports the Liverpool CBD in maintaining its status as a major employment market. Whilst the Proposal comprises commercial floorspace, this will be delivered as part of broader uses, including residential, education and public open space. This includes new connecting bridges linking the Liverpool CBD to Moore Point, providing workers with direct access to rich amenity delivered within the Proposal. This supports the vibrancy of the Liverpool CBD, rather than compete with it.

Overall, the Proposal meets the relevant Ministerial Direction 7.1 and is aligned with the District Plan and Local Strategic Planning Statement (LSPS). As such, the Study finds that the relevant requirements of Gateway Determination are met and it is recommended that the Proposal be supported, subject to other technical findings.

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1. Introduction

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In April 2023, the NSW Department of Planning, Housing and Infrastructure (DPHI) issued a Gateway Determination which recommended the Proposal proceed subject to conditions prior to exhibition. In response to the Gateway conditions, the planning proposal and supporting documents have been updated. Atlas Economics (**Atlas**) is engaged by the JLG to prepare an EIA (**the Study**) to examine the economic impacts of delivering the Proposal and address the required amendments to the previous EIA as raised in condition 8 of Gateway Determination.

The Study supersedes the previous EIA submitted as part of the 2023 Gateway Determination, which:

- Addresses the ability and justification of delivering jobs in the Moore Point Precinct.
- Demonstrates that the Liverpool CBD will not be undermined.

1.1 The Site

Moore Point is located east of Liverpool CBD across the Georges River in the suburb of Moorebank. It is located within the LCA and comprises 31.4 hectares of the 38-hectare Georges River North Precinct.

The Site is defined by the Georges River along the western and northern edge and Lake Moore along the eastern edge. Part of the site contains heritage items including the Former MM Cables Factory and Cable Makers Australia Factory Pty Ltd Group, including inter-war administration building, factory and interiors.

The land subject of the planning proposal relates to the land owned and under the control of the JLG in **Figure 1-1**.

Figure 1-1: Land Application



Source: JLG

1.2 Background

Moore Point has been the subject of extensive strategic planning investigations over the past decade. These investigations have consistently advocated for Moore Point as a future expansion of the CBD. It has both State and local level endorsement that has commenced since 2008.

Following adoption of the Liverpool Collaboration Area Place Strategy (**Place Strategy**) by the Greater Sydney Commission (**GSC**) in September 2018, Council indicated to landowners in Moore Point that it was prepared to consider a rezoning of land in the precinct that would meet the intention expressed in the Liverpool Collaboration Area Place Strategy.

Council's Local Strategic Planning Statement (**LSPS**) also established support for the rezoning of the area, stating that Council would 'Investigate amendments to rezone River precinct north of Newbridge Road (Moore Point) as a mixed-use zone to support the Liverpool CBD and Innovation Precinct, with an extensive open space system and cross-river linkages' over the short-to-medium term.

Council indicated to landowners that had previously submitted planning proposals that a precinct-wide approach to development of Moore Point should be undertaken, including a structure plan for the entire precinct.

On this basis, a planning proposal was lodged with Council on 15 April 2020 for the consolidated Moore Point site. The planning proposal replaced RZ-6-2015 and withdrew all other previous site-specific planning proposals that were submitted.

The Planning Proposal was endorsed by Council on 25 November 2020, subject to the following:

1. Notes the advice of the Liverpool Local Planning Panel;
2. Endorses in principle the planning proposal request with the following amendments:
 - a. An additional 1.5 hectares of open space marked as 'Open Space Investigation' adjacent to Haigh Park;
 - b. A minimum 40m RE1 – Public Recreation zone is provided along Lake Moore;
3. Endorses an Urban Design Study and Structure Plan for the Georges River North precinct, with the above amendments, to guide the assessment of future planning proposals in this area.

Figure 1-2 illustrates the endorsed structure plan.

Figure 1-2: Endorsed Structure Plan



Source: JLG

1.3 The Proposal

The planning proposal seeks to amend the Liverpool Local Environmental Plan 2008 (the LEP) to rezone from industrial to mixed-use and public recreation, including changes to floor space ratio, height of buildings and site-specific provisions.

In response to the Gateway conditions, the planning proposal and supporting structure plan has been updated. The planning proposal has enhanced and improved many of the key elements of the originally endorsed Structure Plan including:

- Celebrating heritage - Enhanced heritage response, including the retention of the heritage grid, Factory 1 and the Administration Building with retention of western wall of Factory 2 and adaptive reuse of additional outbuildings along the Georges River foreshore.
- Foreshore park - Embellishment of a new 7-hectare linear foreshore park and completing the missing link between Lighthorse Park and Haigh Park.
- Bridges and community anchors - Creation of new pedestrian bridges to Liverpool CBD and LCA, facilitating access from the wider area to a 1,000-capacity primary school, community facilities and retail amenity.
- Street hierarchy and boulevards - A new movement and access network to facilitate active transport from Georges River to Lake Moore and a ring road to support vehicular movement.
- Pedestrian lanes and pocket parks - Creation of a diverse range of pocket parks, passive open space areas and pedestrian laneways between blocks to enhance access to open space, views and access to the waterfront.

A summary of the lodged planning proposal and the updates are summarised in **Table 1-1**.

Table 1-1: Proposed Land Uses within Updated Proposal and Masterplan (2024), The Site

Element	Endorsed Proposal and Masterplan (November 2020)	Updated Proposal and Masterplan (April 2024)
Land Use	B4 Mixed Use B6 Enterprise Corridor RE1 Public Recreation	MU1 Mixed Use RE1 Public Recreation
Floor Space Ratio (FSR)	4.2:1 and 3.5:1	4:1
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Gross Floor Area (GFA)	Non-residential - 249,364sqm Residential - 1,038,728sqm Total - 1,288,092sqm	Non-residential - 346,463sqm Residential - 912,985sqm Total - 1,259,448sqm
Dwellings	12,220	10,742
Population	26,884	21,484

Source JLG

Overall, the Proposal envisages a broad range of land uses on the Site, including:

- Over **10,742 dwellings** in an indicative mix of:
 - ~2,148 studio units (20%).
 - ~3,223 one-bedroom units (30%).
 - ~4,296 two-bedroom units (40%).
 - ~1,075 three-bedroom units (10%).
- Some **328,520sqm of retail and commercial floorspace**, including:
 - Commercial office floorspace: ~160,000sqm of GFA.
 - Retail floorspace (general retail, hospitality, supermarket, event/showroom): ~167,420sqm of GFA.
- Other supporting land uses including **childcare, education and community uses**.

Collectively, the Site could deliver a total of some ~1,260,000sqm of GFA. This equates to a floor-space-ratio (FSR) of ~4:1.

1.4 Scope and Approach

The overarching objective of the Study is to investigate if there is an economic need for the Proposal. Particularly, the ability for the Proposal to deliver employment in Moore Point and complement the Liverpool CBD (rather than compete).

The Study accordingly examines the employment profile in the Liverpool LGA and the nature of employment activity in key precincts. The Study additionally estimates the economic impact resulting from the delivery of land uses in the Proposal.

To fulfill the requirements of the brief, the Study examines:

- Historical population growth and socio-demographic trends in the Liverpool LGA.
- The employment profile of Moore Point and surrounding employment areas.
- Structural trends that influence demand for retail and commercial floorspace.
- Population and employment projections and likely implications for retail/ commercial floorspace in Liverpool.
- Identification of key criteria for a sustainable office and mixed use precinct from business, tenant and development perspectives.
- Assessment of potential role for the Site to accommodate different land uses based on its inherent characteristics.
- The economic impact of the Proposal compared to a base case without the Proposal.

The Study observes the role of the Proposal in contributing to employment in Moore Point and the broader locality.

1.5 Assumption and Limitations

Atlas acknowledges several assumptions and limitations associated with this Study.

- At the time of writing, the fallout from the COVID-19 pandemic across the NSW economy is still playing out. The medium to long-term implications for population and employment growth are yet to be fully understood.
- The macro-economic outlook is currently subject to significant uncertainty given high levels of inflation, labour shortages and various global conflicts.
- The 2021 Census was administered during the COVID-19 pandemic and at a time of widespread lockdowns across Australia's east coast. Activity recorded at this time may not be accurately representative of employment levels.
- Growth projections relied upon do not necessarily reflect contemporary trends.
 - Population and dwelling projections (by DPHI) were released in early 2022 (post-COVID-19) but prior to release of Census 2021 data.
 - Employment projections by Transport for NSW's Transport, Planning and Analytics (TPA) division were released in 2022 and have not necessarily factored in emerging industry trends (e.g. working from home).
- Market research is carried out on a 'desktop' basis without the benefit of site surveys and internal inspections.
- Floorspace supply data is sourced from various third-party databases and subscriptions and is not validated.

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

2. Socio-Economic Context

This Chapter considers the socio-economic context of Moore Point and the broader Liverpool LGA. It includes a review of projected population and employment growth and analyses the likely implications for future floorspace demand. This provides context into the quantum of jobs being proposed in Moore Point as required in the Gateway Determination.

2.1 Socio-Demographic Profile

Understanding the current and historical socio-demographic profile of residents in the Liverpool LGA is critical to planning for future housing demand at Moore Point.

The Study carried out detailed socio-demographic profiling to understand historical demographic trends over 2011-2021. This analysis is detailed in SCHEDULE 1, with the key findings from this analysis indicating:

- The Liverpool LGA is **home to over 240,000 residents** (as at 2022).
- Liverpool is **one of the fastest growing municipalities in Australia**, with population growth over the past two decades outpacing that of Greater Sydney.
- The LGA is **characterised by younger and middle aged residents** (35 to 49 years and 25 to 34 years).
- **Couple families with children** remain the largest household cohort, though there is **strong growth in small households**.
- Residents in the Liverpool LGA are **increasingly more educated and affluent**.
- Employed residents are mainly **professionals, clerical and administrative workers and sales workers**, representing ~47% of local occupations.
- Most working residents also **work in the Liverpool LGA**, although an increasing number travel to the Sydney and Parramatta LGAs.
- Whilst high-density housing is beginning to emerge at scale (particularly in the Liverpool CBD), the LGA is **dominated by low-density housing formats** (over 70% of total housing stock).

Figure 2-1 illustrates some of the key socio-demographic characteristics of the Liverpool LGA.

Figure 2-1: Key Socio-Demographic Characteristics, Liverpool LGA



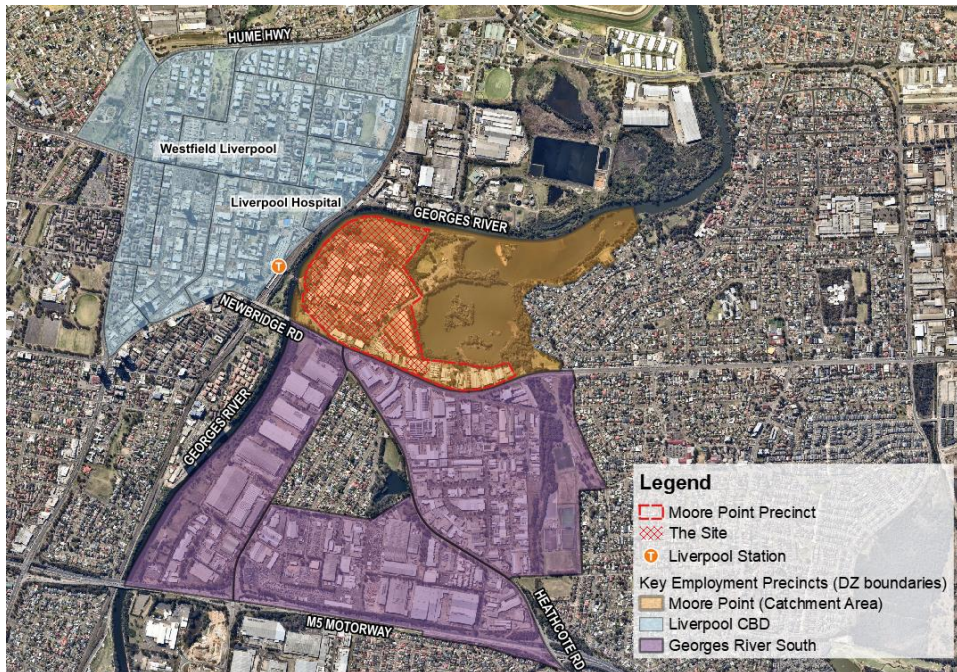
Source: ABS (2022)/Atlas Economics

2.2 Employment Profile

To understand the employment profile of Moore Point, historical employment Census data is analysed. The neighbouring precincts of Liverpool CBD and Georges River South Precinct ('Georges River South') were also included in the analysis.

Figure 2-2 illustrates the geographical boundaries of the precincts selected for the purposes of employment profiling.

Figure 2-2: Employment Precincts, Moore Point, Liverpool CBD and Georges River South



Source: Atlas

An overview of historical employment activity in these precincts is included SCHEDULE 2.

Moore Point is a Precinct in Transition

- In the last decade, employment in Moore Point has declined by some 15% to around 540 jobs.
- Much of this decline has been attributed to a contraction in manufacturing (notably on the Site).
- Over 2011-2021, employment growth was instead largely driven by a range of population-serving industries. This includes retail trade, food and accommodation services and other services.

These trends are mirrored in Georges River South, which also recorded a decline in industrial activity in the last decade. Employment growth was also mainly observed from population-serving and, in particular, health and education sectors. Nevertheless, Georges River South remains a highly attractive and well-functioning industrial precinct.

Health and Education Driving Growth of Liverpool CBD

The Liverpool CBD has steadily grown over the past decade, recording average growth of 3% per annum. With ~13,600 jobs, it is a sizeable commercial centre though still markedly smaller than peer centres like Parramatta CBD (~45,000 jobs).

It is clear that much of the new employment generated over the past decade has been generated by the growth of the Liverpool Innovation Precinct and State Government infrastructure investment. Of the additional ~3,600 jobs recorded over the 2011-2021 period, ~3,400 jobs were in health and education (96%).

Knowledge intensive industries, which are key sources of demand for commercial floorspace grew over the decade to 2021 with an additional ~850 jobs. This is despite a decline in employment over 2016-2021, though this is largely considered a relic of the COVID-19 pandemic (with the 2021 Census administered during Sydney's lockdown period).

Overall, employment trends in the Moore Point reflect an area in transition. The growth in health and education industries indicates synergies between the Liverpool CBD and surrounding employment precincts, where major investments in the health and education have occurred in recent years.

2.3 Population and Employment Projections

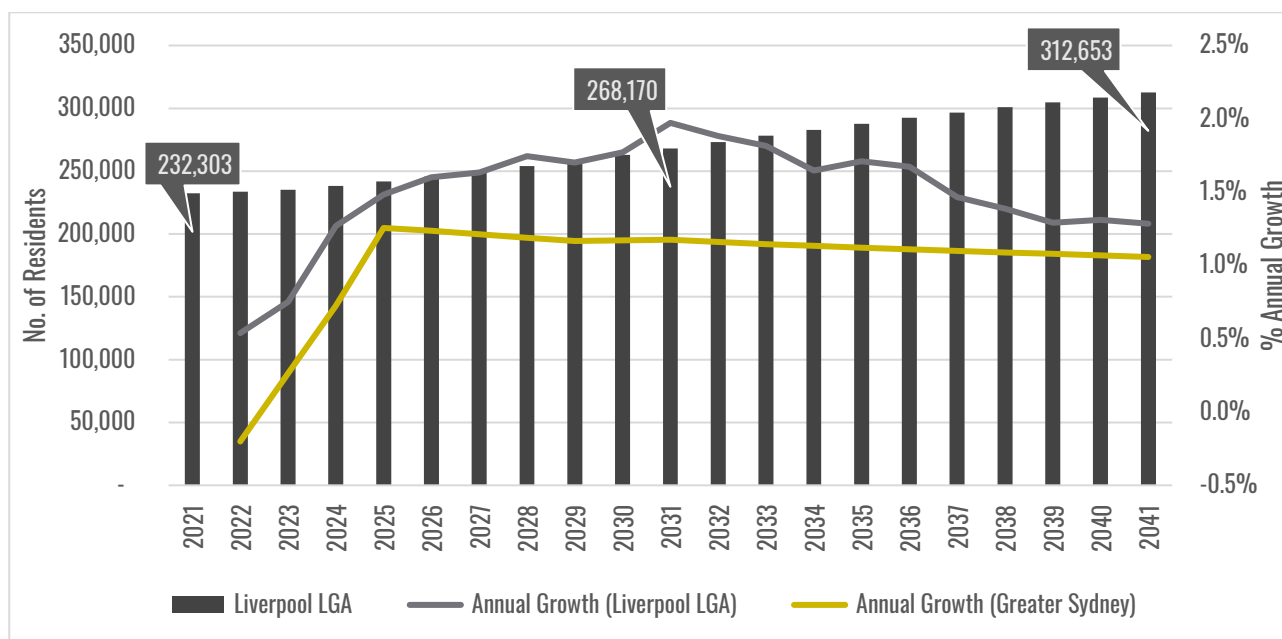
2.3.1 Population Projections

Official population and demographic projections in NSW are carried out by the NSW Department of Planning, Housing and Infrastructure (DPHI). DPHI's Demography and Research Unit project population growth on a variety of demographic assumptions, including birth and fertility rates, mortality rates, migration levels and household formation patterns. These projections of population growth are divided by projected household occupancy rates to arrive at the number of dwellings impliedly required to accommodate the projected population.

The most recent DPHI population projections were released in 2022, prepared prior to the release of the 2021 Census. Projections are examined at the Liverpool LGA level and benchmarked against Greater Sydney.

Figure 2-3 illustrates the projected population of the Liverpool LGA over the coming two decades.

Figure 2-3: Population Projections (2021-2041), Liverpool LGA and Greater Sydney



Source: DPE (2022)

Based on DPHI projections, the Liverpool LGA population is expected to grow at an average of 1.5% per annum to 2041. This is significantly higher than the 1% projected in Greater Sydney over the same period. Particularly, the Liverpool LGA is projected to grow by an additional ~35,900 residents by 2031, and a further ~44,500 residents over 2031-2041.

This rate of growth has significant implications for the role of Liverpool's centres in servicing the growing population and enabling employment opportunities.

2.3.2 Implied Dwelling Requirement

Based on the projected population growth in the Liverpool LGA, there is expected to be demand for an additional 33,300 dwellings over the 2021-2041 period. This equates to an average annual dwelling requirement of some 1,670 dwellings.

The projected implied dwelling needs for the Liverpool LGA are shown in Table 2-1.

Table 2-1: Implied Dwelling Requirement (2021-2041), Liverpool LGA

Indicator	2021	2026	2031	2036	2041	Change (2021-41)
Implied Dwelling Requirement	76,659	82,990	91,807	101,451	109,959	33,300
Change (5-yr)		6,330	8,818	9,644	8,508	
Avg. Annual Production Rate (No.)		1,266	1,764	1,929	1,702	
Avg. Annual Growth (%)		1.6%	2.0%	2.0%	1.6%	1.8%

Source: DPE (2022)

2.3.3 Employment Projections

Employment projections relied upon in this Study are prepared by Transport for NSW's Transport, Performance and Analytics (TPA) Division. These projections are carried out at a small area level in geographies known as Travel Zones (TZs).

Across the Liverpool LGA, an additional ~86,500 jobs are projected to 2041. This growth is expected to be relatively evenly spread across the four broad industry classifications (BIC):

- ~24,300 workers in health and education (28% of additional jobs).
- ~24,200 workers in population-serving (28% of additional jobs).
- ~22,600 workers in industrial industries (26% of additional jobs).
- ~15,400 in knowledge-intensive industries (18% of additional jobs).

Table 2-2 summarises the employment projections for the Liverpool LGA over the 2021-2041 period.

Table 2-2: Employment Projections (2021-2041), Liverpool LGA

Broad Industry Classification	2021	2026	2031	2036	2041	Change (No.)		
						2021-31	2031-41	2021-41
Population-Serving	26,730	31,887	35,201	41,537	50,944	8,471	15,744	24,215
Knowledge Intensive	16,650	20,761	23,099	24,381	32,031	6,450	8,931	15,381
Health and Education	22,914	28,767	32,831	40,931	47,260	9,917	14,429	24,346
Industrial	21,502	28,237	33,730	38,014	44,086	12,228	10,356	22,584
Total	87,796	109,652	124,860	144,863	174,320	37,065	49,460	86,525

Source: TPA (2022)

2.3.4 Demand for Employment Floorspace

The floorspace required to accommodate projected employment growth can be estimated at a high-level by converting employment into floorspace using workspace ratios (i.e. the amount of floorspace occupied per worker). The NSW Government provides a set of benchmark workspace ratios which can be used across Greater Sydney (Landcom, 2018).

The conversion of employment projections into floorspace suggest that over the decade to 2041, the Liverpool LGA could require an additional **~8.4 million square metres of floorspace**, comprising:

- ~6.7 million square metres for industrial industries;
- ~847,000sqm for population serving industries.
- ~487,000sqm for health and education.
- ~308,000sqm for knowledge-intensive industries.

Table 2-3 summarises the employment floorspace projections for the Liverpool LGA over 2021-2041.

Table 2-3: Potential Floorspace Demand (2021-2041), Liverpool LGA

BIC	2021	2026	2031	2036	2041	Change (No.)		
						2021-31	2031-41	2021-41
Population Serving	935,536	1,116,035	1,232,018	1,453,778	1,783,044	296,482	551,026	847,508
Knowledge Intensive	332,990	415,220	461,984	487,628	640,612	128,994	178,628	307,622
Health and Education	458,288	575,344	656,624	818,620	945,194	198,336	288,570	486,906
Industrial	6,450,600	8,471,100	10,118,850	11,404,110	13,225,680	3,668,250	3,106,830	6,775,080
Total	8,177,414	10,577,699	12,469,476	14,164,136	16,594,530	4,292,062	4,125,054	8,417,116

Source: Atlas/TPA (2022)

2.4 Summary of Key Findings

This Chapter has considered the socio-economic context of Moore Point and the broader Liverpool LGA. Several demographic and economic observations drawn from this analysis are outlined.

- **Strong Population Growth Outpacing Greater Sydney**
Liverpool is one of the fastest growing municipalities in Australia, with population growth over the past two decades outpacing that of Greater Sydney. Since 2006, the population has grown by more than 70,000 persons. This growth is driving a shift in local demographics, which has direct implications for land use.
- **An Increasingly Affluent and Educated Resident Base**
Liverpool's residents base is increasingly characterised by white-collar workers, many of whom are more educated and affluent than that which has historically been observed across the LGA. Whilst many residents still work locally in Liverpool, a growing cohort of residents need to travel to locations such as the Sydney and Parramatta LGAs for work.
- **Moore Point is in a Transitional Period**
In the last decade, employment in Moore Point has declined by some 15%, with much of this focused in traditional industrial sectors (e.g. manufacturing). Instead, growth has been largely attributed population-serving industries. This has been mimicked in the industrial area south of Moore Point (i.e. Georges River South).
- **Health and Education is Driving Growth of Liverpool CBD**
The Liverpool CBD has steadily grown over the past decade and with ~13,600 jobs, it is a sizeable commercial centre (though still markedly smaller than peer centres like Parramatta CBD). Much of the employment growth is observed to be generated by the growth of the Liverpool Innovation Precinct.
- **Resident and Worker Population Set to Boom**
Population growth in the Liverpool LGA is expected to remain strong in the coming decades. Over the 2021-2041 period, the Liverpool LGA is expected to accommodate over 80,000 additional residents. To accommodate the projected increase in population base, some 33,300 additional dwellings could be required by 2041.

The employment base is also expected to grow markedly- doubling by 86,000 jobs by 2041. Much of this growth is attributed to the health and education and knowledge intensive sectors.

Implications for the Proposal

Employment projections indicate that knowledge-intensive industries are expected to be a key driver of employment across the Liverpool LGA. This has direct implications on commercial floorspace requirements, with knowledge intensive industries typically occupying commercial floorspace. As Liverpool's principal commercial centre, the Liverpool CBD will play an important role in accommodating this growth.

Additionally, over 24,000 additional health and education jobs are expected across the LGA by 2041, with some of these likely to drive demand for commercial floorspace. Many of these jobs will likely cluster around the Liverpool CBD given it is anchored by the Liverpool Innovation Precinct.

High-level floorspace estimates (at the LGA level) suggest the knowledge intensive and health and education sectors could generate demand for ~308,000sqm and ~490,000sqm of floorspace by 2041 respectively.

A review of the spatial distribution of projected employment growth across Liverpool shows expectation that a large volume of knowledge intensive jobs to be directed to the future Western Sydney Aerotropolis. Whilst the Aerotropolis will become a large commercial hub *in time*, this is not expected to occur prior to 2041. This was outlined in the Western Sydney Aerotropolis Market and Economic Feasibility Study (2020), which found large-scale office development would unlikely be viable in the Aerotropolis until post-2041.

Accordingly, much of the knowledge intensive employment growth anticipated to be generated in the Liverpool LGA over the 2021-2041 period is expected to be captured by existing centres, particularly the Liverpool CBD.

At ~160,000sqm of commercial office floorspace, the Proposal would have the potential to accommodate some of the future demand generated by knowledge intensive and health and education industries by 2041.

3. Market Appraisal

This Chapter carries out a market appraisal of the Liverpool CBD to understand local demand and supply dynamics of commercial and retail floorspace. This provides important context for the Study when considering the potential impact of the Proposal on the Liverpool CBD.






3.1 Structural Trends and Drivers

Structural trends refer to a major shift in the way an industry, an economy or a society functions. Like all real estate sectors, offices are subject to structural changes that alter the type, location and quantum of space that is needed today and that will be needed in the future to meet occupier demand.

Whilst many of these trends were underway prior to the COVID-19 pandemic, the impact of enforced working from home has been to accelerate the realisation of these structural changes from perhaps 5-10 years to 12-24 months.

Table 3-1 identifies the five major structural trends that are impacting office occupier demand per worker.

Table 3-1: Rapid Change: Structural Trends and Impact on per worker office space demand

Structural trend		per worker Demand	Characteristics
	Hybrid Working	Negative	<ul style="list-style-type: none">Fewer working days in the office/weekChanging physical workspace needs
	De-densification	Positive	<ul style="list-style-type: none">Greater space allowance for amenity like kitchens, cafés & social/ collaboration areasAwareness that higher space provision is healthier
	Changing Corporate Structures	Negative	<ul style="list-style-type: none">A rising share of fully remote roles and companies reducing office demand
	Health & Wellbeing	Positive	<ul style="list-style-type: none">More space for additional facilities such as exercise and outdoor areasSuitable social distances
	Sustainability	Neutral	<ul style="list-style-type: none">Focus on resource efficient workspaces with higher sustainability ratings

Source: Atlas Economics

Hybrid (Flexible) Working

Hybrid working refers to a working arrangement in which office-based workers split their working week between the office, their home and in some cases a third space such as a co-working facility, library or local coffee shop.

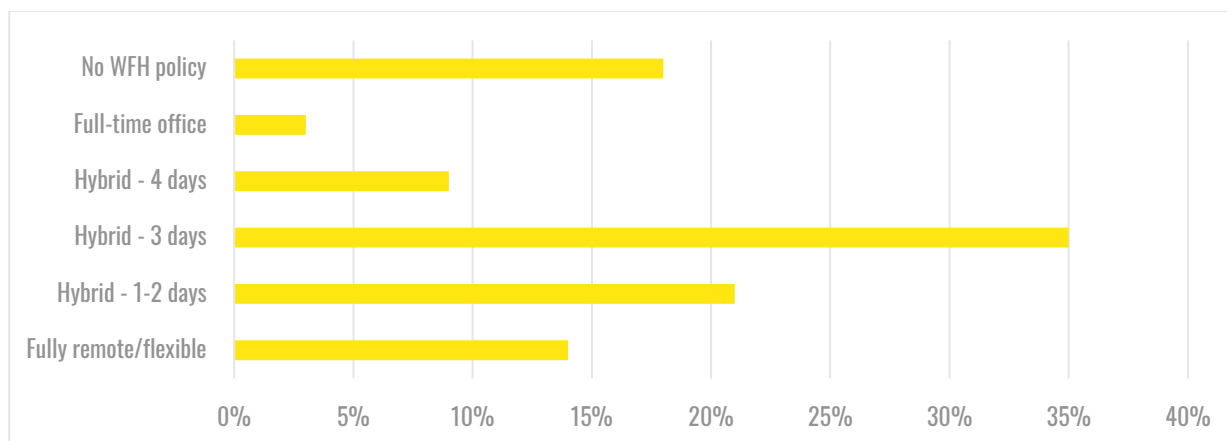
Government mandates during the COVID-19 pandemic (the pandemic) to contain the spread of the virus obligated all workers who could work from home (**WFH**) to do so. Millions of formerly office-based employees instantly gave up their daily commutes and workplaces. Hybrid working was a trend already underway prior to the pandemic, however the pandemic accelerated the realisation of this structural change from perhaps 5-10 years to 12-24 months.

Rather than leading to a collapse in output which had been feared, WFH led to the following outcomes:

- Organisations realised how some tasks could be performed at home with either neutral or positive productivity impacts.
- Employees valued the travel time and cost savings that WFH provided and its greater flexibility.
- Employers accepted the employee engagement benefits of hybrid working arrangements and the financial benefits achievable through reducing or consolidating their physical office footprint.

Hybrid working is now the default position for Australian corporates with office-based workers (**Figure 3-1**). Two-thirds of corporate occupiers have a hybrid working policy and 14% are fully remote. Only 3% of office workers are in the office 5 days a week. The average Australian worker now spends over a quarter of their working week (27%) outside the office.

Figure 3-1: Australian Corporate Working-from-home (WFH) Policies Breakdown



Source: The Aussie Corporate, March 2023

Overall, hybrid working has a negative impact on per person office demand as occupiers do not need to provide space for all full-time employees to have a permanent desk.

Shift Towards High Quality Space

Structural trends such as hybrid working are altering the demand for office space at a macro level. At a micro level, the characteristics of office demand are changing too with critical implications for submarkets and individual office assets.

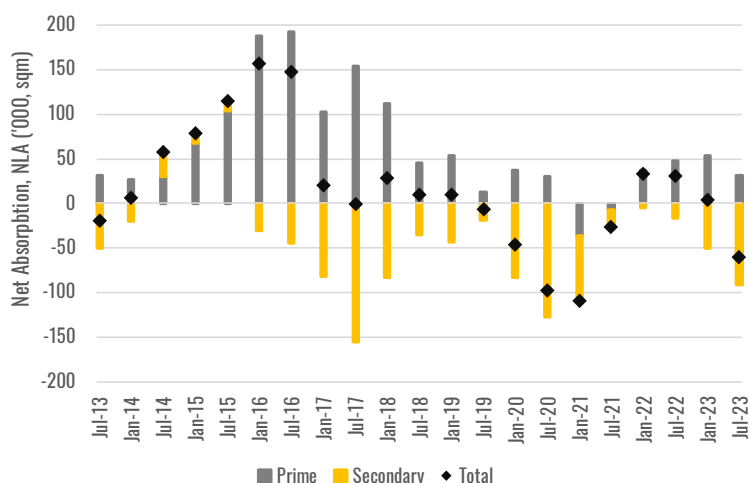
In a post-COVID-19 market, occupier demand is focusing on a specific type of office space which provides:

- Flexible spaces that can be adapted to accommodate a wide variety of activities.
- High-quality sustainability credentials.
- Quiet spaces for phone calls or working.
- An abundance of meeting spaces and places for collaboration.
- Good access to public transportation.
- Food and beverage amenities such as an on-site café, health and wellness facilities.

To meet these requirements, demand is focusing on the best quality contemporary space at the expense of older-style buildings. This can be directly observed in recent net absorption data.

Net absorption measures the space 'taken-up' through stock audit adjustments, i.e. the balance of occupier demand. Prior to the pandemic the Sydney CBD market recorded next positive absorption every year, but since Q4 2019 it has been negative in all but three quarters (**Figure 3-2**). Secondary space has not seen net positive absorption since Q4 2018.

Figure 3-2: Net Absorption (2018-2023), Sydney CBD

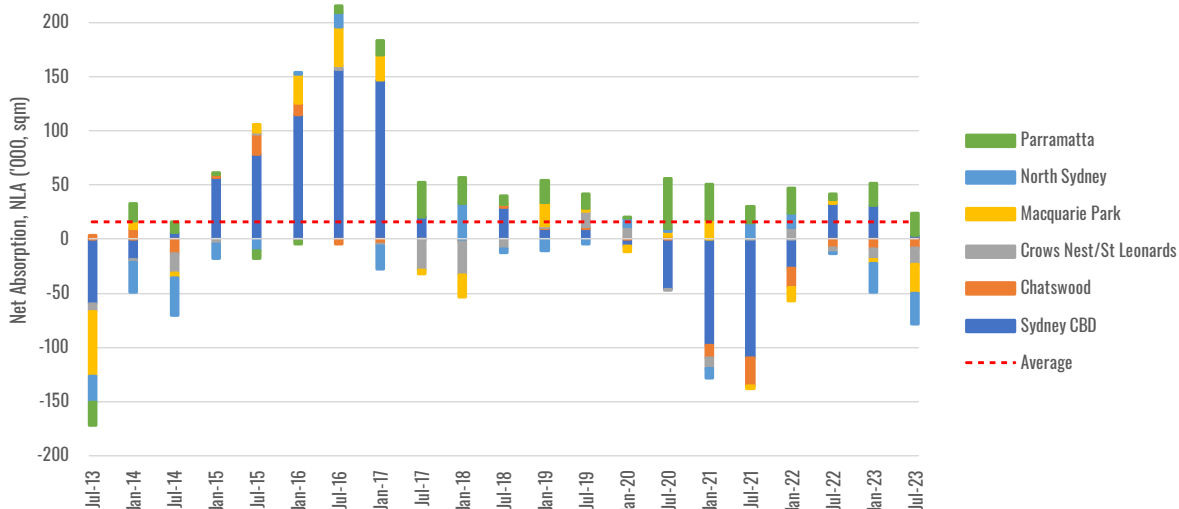


Source: PCA (2023)

A collapse in demand during the pandemic is understandable, given the inability to occupy offices and uncertainty over when the pandemic would end. However aggregate net absorption following the pandemic is much lower than the net contraction which occurred during the pandemic and it is concentrated only in prime space. This implies that overall office occupier demand today is much weaker than it was pre-pandemic, and it is targeted on the best quality space only.

Figure 3-3 shows that in the broader office markets, leasing velocity has followed the same trajectory. There was significant net negative absorption during the pandemic, a brief moderate recovery afterwards before absorption turned net negative

Figure 3-3: Net Absorption (2018-2023), Sydney Metropolitan Office Markets



Source: PCA (2023)

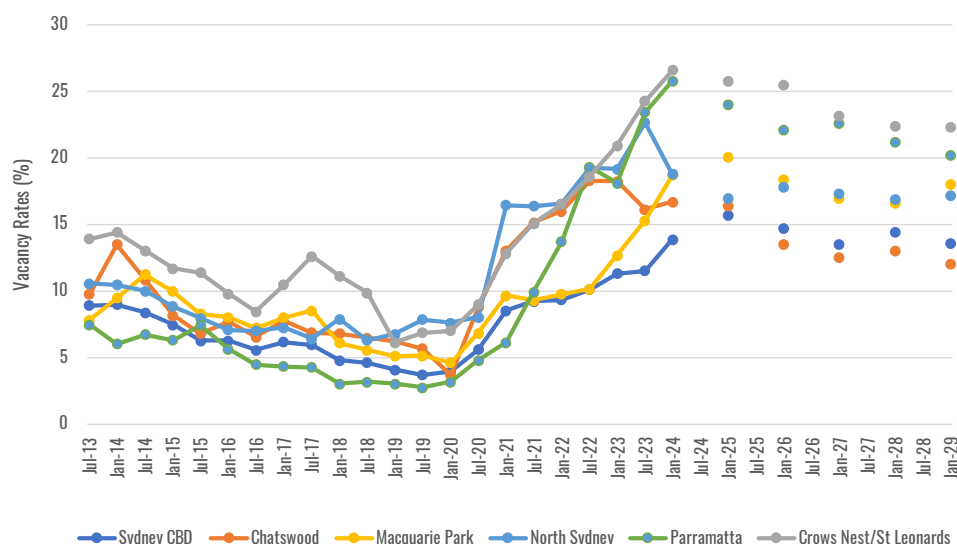
Vacancy Rates

The collapse in office demand during 2020-2021 at the height of uncertainty during the period of lockdowns resulted in a sharp spike in vacancy rates in all office markets. At the time there was speculation that post-pandemic there would be a 'bounce back' and occupancy rates would return to their pre-pandemic levels.

Since that time, flexible office working arrangements have become entrenched in many businesses, with the take-up (or net absorption) of office floorspace well below pre-pandemic levels. This has had a corresponding impact on vacancy rates which have remained elevated in all office markets.

Figure 3-4 shows historical vacancy rates in Macquarie Park and other metropolitan office markets to Q2 2023. These vacancy rates are expected to remain elevated for the decade to 2028 (allowing for new completions and commitments over that period). In Macquarie Park, vacancy rates are expected to hover between 15% and 20%.

Figure 3-4: Vacancy Rates (Historical and Forecast), Sydney Metropolitan Office Markets



Source: PCA (2023), various

The reduction in aggregate demand for commercial office floorspace and the shift in market expectations for the quality of office floorspace is relevant for commercial centres such as Liverpool.

Until vacancy rates return to 'normal' levels (5%-10%), effective rents will remain depressed which negatively impacts on development feasibility and the viability of new office development in all markets. This presents challenges to the viability of development of standalone or large scale office developments in commercial centres.

This challenge is particularly evident in centres such as the Liverpool CBD where site consolidation is expensive and high risk due to fragmented lot and landownership patterns.

3.2 Liverpool CBD

Office Land Uses

The Liverpool CBD is considered Sydney's third largest CBD, after the Sydney and Parramatta CBDs respectively. It is the largest city centre in southwestern Sydney, approximately 17km east of the future Western Sydney International Airport. It is the primary retail, commercial and civic hub of the Liverpool LGA and the largest office market west of Parramatta.

The Liverpool CBD is also anchored by the Liverpool Innovation Precinct, which accommodates a mix of major health, research and academic institutions.

As at June 2023, the Liverpool CBD comprised approximately 89,000sqm of office floorspace as identified in the Property Council of Australia's Office Market Report (PCA, 2023). This excludes 'ungraded' office stock (i.e. small 2-3 storey buildings), which is characteristic of the Liverpool office market. When including this stock, a much higher quantum of floorspace is identified at 280,000sqm (Arealytics, 2023).

Of the 89,000sqm of graded floorspace identified by PCA, only 20,600sqm is categorised as 'A-Grade' stock. A-Grade office accommodation is the typical requirement for most Government agencies and corporate occupiers. At 20,600sqm, this only represents around 23% of total supply.

Given the traditional low-rise built form of commercial buildings, most office buildings across the CBD comprise sub-10,000sqm of floorspace. Only 4 existing buildings in the Liverpool CBD comprise more than 10,000sqm, including:

- **33 Moore St (Fairfax Building):** ~21,000sqm of GFA.
- **23 Moore St (NSW Family Services):** ~15,000sqm of GFA.
- **100 Macquarie St (Ngara Ngara Building, Western Sydney University):** ~13,000sqm of GFA.
- **25-35 Scott St (circa 2018, A-grade office building):** ~11,000sqm of GFA.

Figure 3-5 illustrates a mix of commercial office buildings in the Liverpool CBD.

Figure 3-5: Select Mix of Commercial Buildings in the Liverpool CBD



Source: Realcommercial.com.au

The trends at play across Greater Sydney's largest office markets are also observed in the Liverpool CBD. As at October 2023, the Liverpool City Centre recorded an overall office vacancy rate of 4.3% (Arealytics, 2023). Vacancy is highest in secondary assets (i.e. B Grade and lower), with vacancy levels above 10% compared to 1.6% in the A-grade market (Arealytics, 2023). This is illustrative of the 'flight to quality' and highlights the challenges facing older, secondary assets.

Retail Land Uses

Retail uses in the Liverpool CBD are mostly clustered in the southern end of the precinct, concentrated around the Westfield shopping centre. Overall, the Liverpool CBD comprises over 180,000sqm of retail floorspace. Nearly 50% of retail floorspace is within the Westfield shopping centre (~84,000sqm of floorspace) on Macquarie Street. Westfield provides a range of basic and higher order retail uses, servicing a broad catchment.

The Liverpool Plaza is a smaller-scale, big-box retailer situated opposite Westfield (~7,900sqm of floorspace). Anchored by Aldi supermarket, it mainly caters to the needs of local residents.

Other retail uses are predominantly located along retail strip of Macquarie Street and Moore Street. Building typologies are mostly 1-2 storey, attached shops of a fine grain nature. Anchor retailers include Australia Post and Commonwealth Bank.

Overall, the retail market is diverse and includes restaurants, independent grocery stores and clothing stores. Retail uses are also interspersed with commercial occupiers providing professional services along the main retail strip. Given the fine grain nature of these retail stores, many comprise sub-300sqm of floorspace each.

Figure 3-6 illustrates examples of retail uses along main shopping strip Macquarie Street, in the Liverpool CBD.

Figure 3-6: Example Retail Uses, Liverpool CBD



Source: Realcommercial.com.au

3.3 Development Activity

In 2018, a large portion of the Liverpool CBD (~25ha) was rezoned to enable mixed-use development in the commercial core. This led to a flurry of mixed use and commercial development applications. Many of these developments have yet to be delivered. Market investigations suggest this has been attributed to a mix of factors; COVID-19 induced supply chain issues, soft office demand across Greater Sydney and building cost inflation.

A review of the development pipeline shows there are several proposals for commercial floorspace in the Liverpool CBD. These uses will be mostly delivered as a component within mixed use developments including residential/hotel uses. There is limited standalone commercial development in the pipeline. This reflects recent land use rezoning in the locality to MU1 Mixed Use, enabling the delivering of a broader range of uses in the commercial core.

Table 3-2 identifies notable commercial developments in the pipeline in the Liverpool CBD.

Table 3-2: Development Pipeline for Commercial Uses, Liverpool CBD

Project/ Address	Commercial Floorspace (sqm)	Description
Macquarie Place 431 Macquarie St	~38,500sqm	DA approved, 26-level commercial building with retail and restaurant uses in the lower levels. Office uses are proposed across Levels 5 to 25. Total approved GFA of ~49,400sqm, of which ~38,500sqm is office. Site is currently on the market for sale.
Liverpool Civic Place 44-52 Scott St	~35,000sqm	A new civic hub centred around Council's new office facilities. Stage 1 comprises a new 11-storey commercial building for Council offices and chambers (13,000sqm GFA), community facilities and civic plaza fronted by retail uses. Completion is imminent. Stage 2 is to deliver two buildings comprising a 24-storey A-grade commercial tower (44 Scott St) and a 9-storey hotel with ground floor retail. Commercial uses will comprise 21,660sqm of floorspace over 19 levels. Construction has not yet progressed, with the project scope subject to change based on market interest. Marketing commenced circa 2020, with no pre-commitments secured.
Liverpool Quarter 277 Bigge St	~24,200sqm	Located opposite the Liverpool Station, the proposed development will deliver a 23-storey A-grade office tower, ground level retail precinct and a restored 1800s hotel. Pre-leasing activity/ construction not yet commenced.
Westfield Commercial Tower 99 Macquarie St	~9,000sqm	Proposed 7-storey commercial tower above Westfield shopping centre. Floorplates range between 1,060sqm to 1,500sqm. DA approved however construction yet to commence, lacking sufficient pre-commitment levels.
Illoura Place 28 Elizabeth St	~8,000sqm	Proposed 34-storey mixed use development. Commercial and retail uses will be accommodated within a 5-storey podium, with 312 residential apartments located above. The development will comprise a total of ~360,000sqm of GFA, of which ~8,000sqm is commercial floorspace. Expected completion is late 2024.
The Liverpool 21-26 Elizabeth St	~6,500sqm	Set to be the tallest tower in Liverpool, the proposed 36-storey development will comprise a 113-room hotel, 193 residential apartments, some 6,500sqm of A-grade office space and rooftop restaurant. Completion is expected circa 2026.
1-5 Speed St	~2,150sqm	Approved concept plan for a 30-storey mixed use development, comprising childcare facilities, 190 residential apartments (Levels 4 to 29) and some 2,150sqm of commercial floorspace (ground floor and Level 3). Development progress is uncertain, with the DA approved site last advertised for sale in 2020. Pre-leasing activity/ construction not yet commenced.
Total	~123,350sqm	

Source: BCI (2023)

The development pipeline indicates the delivery of up to 124,000sqm of commercial floorspace in the Liverpool CBD. Of the seven major projects being proposed, three are under construction. This includes the Liverpool Civic Place, where the nearly completed Stage 1 is to be occupied by Liverpool City Council whilst the construction of Stage 2 has not commenced.

Overall, whilst there appears to be a notable volume of commercial floorspace proposed in the Liverpool CBD, most of these large-scale projects are subject to pre-commitment prior to construction progress. Therefore, a far more modest volume of commercial floorspace is likely to be delivered in the Liverpool CBD in the coming years. This is estimated at 14,500sqm of floorspace by 2026, delivered through mixed use projects such as Illoura Place (8,000sqm commercial floorspace) and The Liverpool (6,500sqm commercial floorspace).

3.4 Summary of Key Findings

This Chapter carried out a detailed review of the future drivers likely to influence demand for office and retail floorspace over the coming decades, along with the market dynamics in the Liverpool CBD office market.

Existing and Future Trends

Several key factors are expected to influence future demand for office space in the Liverpool CBD.

- Demand for office space will remain resilient, as businesses and workers recognise the importance of office-working in performing higher order tasks, collaborating, mentoring/learning and building corporate culture.
- A permanent 'flight to quality' is expected as tenants demand more value from their office space. Accordingly, office buildings will need to 'work harder' to effectively compete with entrenched WFH habits. Services, end-of-trip facilities and other amenities that were once 'nice-to-haves' are now 'standard'. This presents challenges for older buildings.
- Office buildings will need to include a greater mix of communal and recreation spaces.

- The decline in work space ratios will likely to be arrested by the requirement for more 'non-desk' space.
- Given the long-term structural shift toward flexible working (including WFH), the Atlas house view is that the rise of flexible working arrangements will result in a structural fall in office demand of 5%-10% over the long-term.
- A structural reduction in office demand will likely be borne out in the withdrawal of secondary grade buildings that are no longer competitive, with these buildings re-purposed for other uses or redeveloped.
- A withdrawal of economically obsolete secondary buildings will translate into a greater role by contemporary and new office space in meeting tenant demand (notwithstanding a decline in overall demand).

Role of Liverpool CBD

The Liverpool CBD is a key asset of Liverpool LGA's economy and its principal commercial, civic and retail hub. It is well serviced by public transport and the proposed Fifteenth Avenue Smart Transit (FAST) Corridor will further improve access, providing rapid bus services between the Liverpool CBD and future Western Sydney International Airport.

Liverpool's office market has historically accommodated government occupiers, non-government organisations and small, locally based professional services. This has expanded over the past decade with the growth of the Liverpool Innovation Precinct, with the CBD now accommodating a broad mix of medical research, tertiary education and other ancillary health and education uses.

Existing office supply in the Liverpool CBD is predominantly comprised of older style, secondary and ungraded stock. In order to remain competitive and attract new commercial occupiers, particularly those with synergies to the Liverpool Innovation Precinct, it is important that new, A-grade office floorspace is available and supported by rich retail amenity. This is critical to ensure the long-term economic sustainability of the CBD.

Several large-scale commercial developments are in the pipeline in the Liverpool CBD, however as shown in section 3.3, many have yet to progress. Whilst this is partly a reflection of soft market conditions in the commercial office market, it also reflects the challenges of development feasibility in existing urban centres where existing properties are often valuable and fine grain in nature.

As was demonstrated in Chapter 2, *high-level* floorspace estimates that the knowledge intensive and health and education sectors could generate demand for ~308,000sqm and ~490,000sqm of floorspace by 2041 respectively across the LGA. While a large volume of this demand could seek to be met within the Liverpool CBD, the vast majority of existing office stock in the CBD would not fulfil these requirements. It is therefore critical that the Liverpool CBD grow and meet the modern requirements of commercial occupiers.

The Proposal will deliver a mixed-use precinct that supports the Liverpool CBD in maintaining its status as a major employment market. Whilst the Proposal comprises commercial floorspace, this will be delivered as part of broader uses, including residential, education and public open space. This includes new connecting bridges linking the Liverpool CBD to Moore Point, providing workers with direct access to rich amenity delivered within the Proposal. This supports the vibrancy of the Liverpool CBD, rather than compete with it.

The next chapter considers in greater detail the role and impact of the Proposal in the context of the Liverpool CBD.

4. Impact on the Liverpool CBD

This Chapter investigates the potential impact of the Proposal on the neighbouring Liverpool CBD. The ingredients of successful commercial/ office precincts are firstly considered, followed by an assessment on the existing size of the Liverpool CBD in relation to its peers. An assessment on the likely impact of the Proposal is subsequently made.

4.1 Successful Central Business Districts

CBDs require a multitude of factors to be successful. For instance, successful office precincts will require investment and development in order to provide modern, quality accommodation. The rents or sale prices achievable for new office space will therefore need to be at a level to incentivise development. However, high office rents may result in limited opportunities for small or growing businesses to locate within a precinct and contribute to its character.

Successful office precincts will therefore need to accommodate requirements from:

- **Businesses**, who value proximity to a skilled labour force and affordable rent;
- **Employees** who value proximity to public transport and surrounding amenity; and
- **Developers and investors** who require economic rents and values for development to be commercially viable.

These various requirements are discussed in turn.

4.1.1 Business Requirements

The factors that attract a business to a given location are linked to strategic and operational requirements of that business. Whilst every business is unique, many key location and site selection criteria are common across different sectors.

Office-based businesses are arguably most sensitive to location and amenity. Skilled labour is valuable which businesses actively seek to attract and retain through their property decisions. Key location criteria for commercial occupiers include:

- **Critical Mass** – Businesses gravitate to where there is a critical mass of occupiers. A critical mass of employees, residents and/or visitors is needed to support the range of facilities considered 'essential' for office workers, including a mix of retail and hospitality operators and local services such as dry cleaning, shoe repairs, etc. Critical mass enables businesses the opportunity to locate proximate customers/suppliers and achieve agglomeration benefits.
- **Public Transport** – Access to public transport is important for business as it connects the area to labour pools throughout Greater Sydney, providing greater access to skilled talent. Businesses recognise the importance of public transport to office workers who view locations with multiple public transport options as a key requirement.
- **Co-location with Other Uses** – Some businesses avoid precincts that can detract from the corporate or 'prestige' image of a precinct. Office buildings that overlook residential buildings with laundry on balconies are a common example. Well-designed mixed-use precincts mitigate land use conflicts through astute design and layout of uses.
- **Affordability** – the cost of accommodation is a key consideration for all businesses. Some industries and/or businesses spend a large proportion of operating costs on accommodation to attract and retain staff. This 'prestige' requirement is commonly observed in top-tier law, accounting, and consultancy firms. Successful office markets have a sufficient diversity of stock to provide a range of spaces at various price points.
- **Proximity to Clientele** – Businesses will gravitate to locations proximate their key customer and supplier pools. Whilst this requirement has somewhat diminished in a post-COVID environment, the ability to physically meet with clients will remain a key requirement for office-based business.
- **Labour Force Pool** – Business who depend on skilled labour will select locations that enable them to recruit. Residents in Western Sydney are becoming more educated, thereby forming a broad pool for local businesses to recruit from.
- **Employee Amenity** – Employee amenity is a critical selection factor for many office-based businesses, particularly those in industries where they must compete for talent. Access to a variety of retail and hospitality uses, recreational facilities and other key services is a commonplace expectation of skilled employees. Businesses located in areas lacking in amenity can struggle to attract and retain skilled labour.

- **Short-Term Accommodation and Events Space** – larger businesses value locating within office precincts with hotels and function facilities that enable them to accommodate visiting clients, suppliers, visitors and employees.

Business and employee requirements have common threads, with businesses driven by their employee expectations.

4.1.2 Employee Requirements

The workspace expectations of office workers have been steadily rising over the past decade as technological, social and occupational changes have spurred demand for higher quality office space in well-located locations. These higher expectations have been well-documented by various workspace tenant surveys conducted across Australia, the UK and US.

A summary of recent office worker surveys (CBRE, 2019; Clutch; 2020; JLL; 2020; Savills; 2019; Staples; 2019) shows a number of common locational criteria is sought by office workers. Some of these include:

- **Public Transport Options** - Research suggests the availability of train station access can form a key job consideration for employees with bachelor degree qualifications or greater. Whilst this has historically been less important in suburban office markets where private vehicle has been the primary mode of transport, growing traffic congestion and work-life balance is making high-quality public transport options a key requirement for office workers.
- **Proximity to Home** – all studies note the importance of working in close proximity to home or in areas where commute times can be minimised in order to achieve work-life balance.
- **Retail and Services Offering** - proximity to surrounding retail, hospitality and other services is critical to the desirability and sustainability of office precincts. This includes proximity to gyms, fitness studios and allied health services.
- **Modern Design and Tech Integration** – with most office workers intending on partly working from home on a permanent basis, the amenity offering of office buildings is even more important in a post-COVID environment. Offices are no longer just a workspace – those with high quality fitout, interior design and tech-integrated features are becoming increasingly important to office workers.
- **Parking** – the availability of carparking, either on-site or nearby, remains an important consideration for office workers, though the quantum of spaces offered can be heavily reduced if strong public transport connections are available.
- **Access to Green Spaces** – the availability of nearby green spaces such as parks or eating areas is an important drawcard for office precincts with desirable office precincts typically comprising multiple green spaces for workers to utilise.
- **Other Amenity Sources** – the importance of amenity-rich locations is paramount to the success of office precincts. Unique amenity sources are becoming even more important in a post COVID-19 market.

4.1.3 Development Requirements

In order for office precincts to be initially developed, or for redevelopment and revitalisation of existing precincts to occur, development must be a commercially viable proposition.

At its simplest, development is considered feasible where the potential revenues of the completed development exceed *all* development costs, including the cost of land and an allowance for profit and risk. The existing value of land or property is critical, as this represents the 'opportunity cost' which development must exceed in order to be considered viable.

In office markets, rental income is the primary revenue stream which drives capital value. A minimum level of rental income, known as '**economic rent**', is therefore required to offset total development costs and a profit/risk margin.

In many lower order suburban office markets across Greater Sydney, comprehensive redevelopment for commercial office buildings is not viable as the market rents do not represent the economic rents required for viable redevelopment.

In the Liverpool CBD, economic rents are generally sufficient enough to cover building operating costs, though the cost of land is a major hurdle (which is subject to fragmented landownership patterns and valuable existing uses) which limits the areas where commercial-only development is viable.

4.2 Importance of Scale

Businesses and industry display a strong tendency to locate in specific geographic areas due to various firm-level opportunities and constraints. Shorter distances between firms generates economic advantages because of the agglomeration of economic activity (Rosenthal & Strange, 2003). Agglomeration economies are readily observed in dense employment precincts such as CBDs and health and education precincts.

Agglomeration facilitates positive impacts for a variety of reasons, including knowledge spillovers, efficient utilisation of infrastructure, proximity to customers, and a better matching of job opportunities and skills between firms and workers.

Agglomeration benefits are the key driver behind the success of cities and employment precincts and illustrative of the importance for employment precincts to have sufficient 'critical mass' to be economically sustainable.

4.2.1 Impacts of Insufficient Critical Mass

Office precincts which lack critical mass can struggle to achieve agglomeration economies and are not typically able to sustain economic activity over the long-term.

A recent example of this in Greater Sydney is at Rhodes. The Rhodes office market is not a major office market – it comprises about 150,000sqm of office floorspace across five properties (comprising a total of 12 buildings).

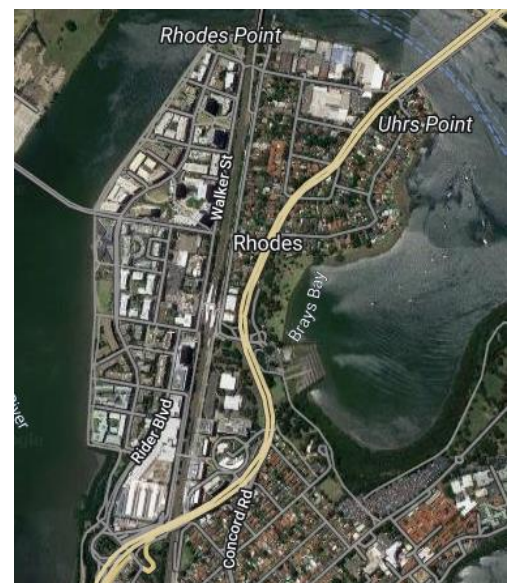
On the back of the headwinds facing the office sector and growing competition from the Parramatta CBD (which is over 6 times the size of Rhodes in floorspace terms), the market has suffered significant and sustained vacancies over the past two years.

Smaller office precincts are most at risk by large tenant movements. If unable to secure new anchor tenants, a 'downward spiral' can often ensue:

- A major anchor relocates, resulting in a major uptick in vacancy levels and loss of jobs;
- Sustained periods of office vacancy detract from marketability;
- Supporting retail and services in the precinct suffer due to lower worker numbers, forcing their closure;
- Further tenants relocate, exacerbating vacancy levels.

These trends have been observed in various market cycles across many other of Australia's smaller office markets (e.g. Sydney Olympic Park, Chatswood, Southbank, etc).

Office markets with significant scale are much more resilient to tenant movements and economic downturns, and produce the agglomeration economies needed to be sustainable. Importantly, their scale also supports the urban amenity and services typically sought after by knowledge workers. This is particularly important in a post-COVID-19 environment.



4.2.2 Comparison with Other CBDs

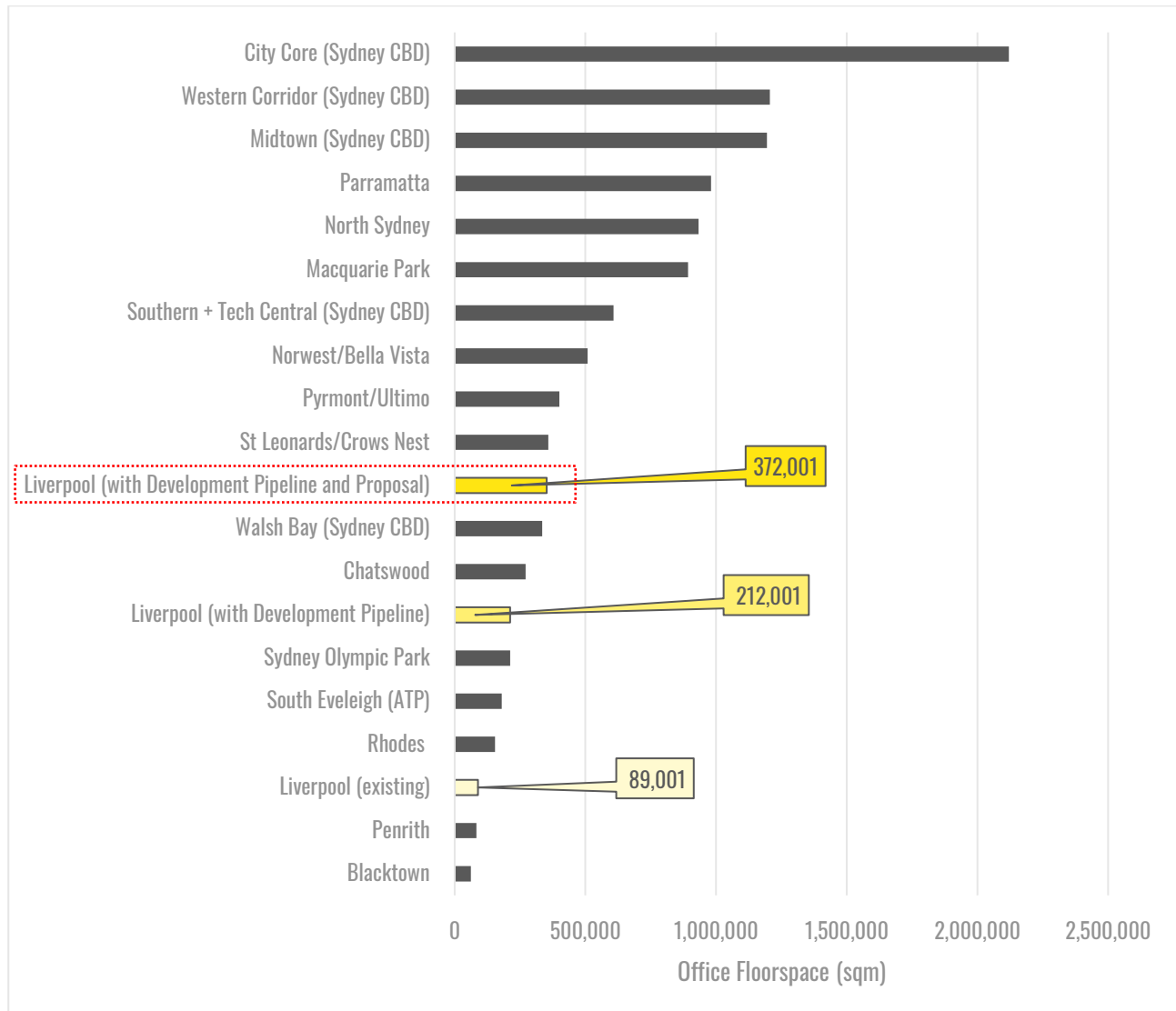
To enable an appreciation of the scale and 'critical mass' of CBDs/office markets across Greater Sydney, a benchmarking exercise has been undertaken. At ~89,000sqm of commercial floorspace, the Liverpool CBD is one of Greater Sydney's smallest office markets and akin to that of Penrith and Blacktown (~83,000sqm and ~62,000sqm respectively).

If the assumed ~123,000sqm of commercial office floorspace proposed in the development pipeline proceeded to delivery, Liverpool's overall office stock would increase to ~212,000sqm – equivalent to that of Sydney Olympic Park. It would remain a minor market at the Greater Sydney level, and smaller than the individual markets of the North Shore (e.g. Chatswood, St Leonards/Crows Nest).

When including the commercial floorspace envisaged in the Proposal (~160,000sqm), the Liverpool CBD office market would effectively become akin to the St Leonards/Crows Nest office market at ~372,000sqm. Notably, St Leonards/Crows Nest is also anchored by a health and education precinct, which has a network of synergies with industries occupied throughout the surrounding office market.

Figure 4-1 illustrates the size of the Liverpool CBD office market (both with and without the Proposal) in the context of other office markets across Greater Sydney.

Figure 4-1: Liverpool CBD (With/Without Proposal) and Greater Sydney's Office Markets (2023)



Source: Atlas Economics

4.2.3 Potential Impact on the Liverpool CBD

The Liverpool CBD comprises a broad mix of established uses, including hotels, health/ medical facilities, tertiary institutions, large-format retail and retail strip shopping. Many of these are represented by anchor assets such as Meriton/ Quest hotels, Westfield shopping centre, TAFE and the Liverpool Hospital.

These diverse establishments accommodate a broad range of uses which already attract tourists, businesses (and workers) and residents to the Liverpool CBD. The CBD is further supported by the presence of several high schools and civic/ cultural facilities including places of worship. The Liverpool CBD has the weight of incumbency; anchor assets such as the hospital, regional shopping centre and educational establishments will continue to provide the gravitational pull for businesses (and workers), visitors and residents.

Notwithstanding the weight of incumbency, the CBD currently lacks a sufficient critical mass of commercial floorspace. This includes limited A-Grade office stock (~20,000sqm), a key barrier to securing new occupier investment. The Proposal presents an opportunity for the Liverpool CBD to grow and achieve critical mass. A significant portion of the Site has been contemplated by Council since 2008 as a future extension of Liverpool CBD, as recognised in the LEP Key Sites Map as 'Liverpool City Centre'. The land use and planning framework of the Proposal will ensure complementary forms of commercial floor space are provided to support the long-term growth of the CBD.

The delivery of new, quality office floorspace (amongst other new land use opportunities) on the Site would expand the CBD's footprint eastward, enabling it to play a complementary role like Pyrmont plays to the Sydney CBD. The Site presents an opportunity for redevelopment and renewal of the Liverpool CBD by expanding its footprint. Without the Proposal, there would be limited opportunity for new business investment given the challenges of development feasibility in the CBD. The Proposal will therefore support and augment the capacity of the Liverpool CBD, rather than undermine it.

Notwithstanding, the Proposal is building capacity for employment over 30 years (up to 2056). The future employment floorspace provision would be progressively delivered in tandem with the growth of Liverpool CBD. During this time, Council could decide to undertake a review of its planning framework to support employment opportunities within the CBD in line with strategic planning priorities.

4.3 Role of the Proposal

This Chapter explored the 'ingredients' for successful commercial and mixed use precincts. It is evident that the Liverpool CBD benefits from many of these factors, which will be crucial in it solidifying as Greater Sydney's 'third CBD'.

It is however clear that the CBD currently lacks a sufficient critical mass of commercial occupiers. At only 89,000sqm of commercial floorspace (with just ~20,000sqm of A-Grade stock), the CBD is not a major office market. This lack of quality space is a key barrier to securing new jobs and investment, particularly as the Liverpool Innovation Precinct continues to grow and produce economic opportunities for the CBD.

Insufficient critical mass is a major issue for suburban office markets in a post-COVID-19 market. As Chapter 3 explored, urban amenity is critical to attract both occupiers and employees to the office. A critical mass of workers, residents and visitors is needed to ensure this urban amenity (e.g. local cafes, personal services, hospitality, etc.) can be viably sustained.

The Proposal presents an opportunity for the Liverpool CBD to grow and achieve critical mass. Assuming that all projects in the development pipeline proceed, together with the Proposal, the Liverpool CBD could reach a size comparable to that of St Leonards/Crows Nest (~370,000sqm office floorspace). This would provide the Liverpool CBD the opportunity to accommodate spillover demand from the Liverpool Innovation Precinct, similar to the role of the St Leonards/Crows Nest office market plays to complement the St Leonards Health and Education Precinct.

The Proposal will also deliver a significant increase in the local resident population, comprising over 10,000 dwellings. This will contribute to the critical mass of the CBD and its ability to support a vibrant mix of amenities and services.

Accordingly, the Proposal will deliver positive benefits for the broader Liverpool CBD – effectively expanding its existing footprint. The Proposal will also provide waterfront open space and activation, including adaptive reuse of heritage buildings, enhancing the commercial image of the Liverpool CBD. This will be important to deliver upon the strategic objectives for Liverpool moving forward.

The next Chapter examines the specific economic impacts (both during construction and upon completion) of the Proposal for the Liverpool LGA.

5. Economic Impact Assessment

5.1 Overview and Approach

This chapter examines the economic activity and impacts that could be facilitated through progression of the Proposal during construction and upon completion. The analysis estimates the economic activity supported in the following scenarios:

- **Base Case**
 - The Site continues to accommodate industrial uses as per its existing E4 General Industrial land zoning.
- **Proposal Case**
 - Residential yield of 10,742 apartments.
 - Commercial office floorspace of 161,093sqm.
 - Retail floorspace of 167,423sqm, including general retail, hospitality, supermarket, event and showroom uses.
 - Childcare facility comprising 2,807sqm of GFA.
 - Community and education facilities comprising 15,140sqm of GFA.

The economic impacts are assessed at the Liverpool LGA level. An Input-Output model (including the development of specific regional Input-Output transaction tables) was developed to reflect the economic structure of the Liverpool LGA (see SCHEDULE 3 for further detail).

Input-Output modelling considers economic activity through examining four types of impacts as 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.
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

Types of Economic Impacts

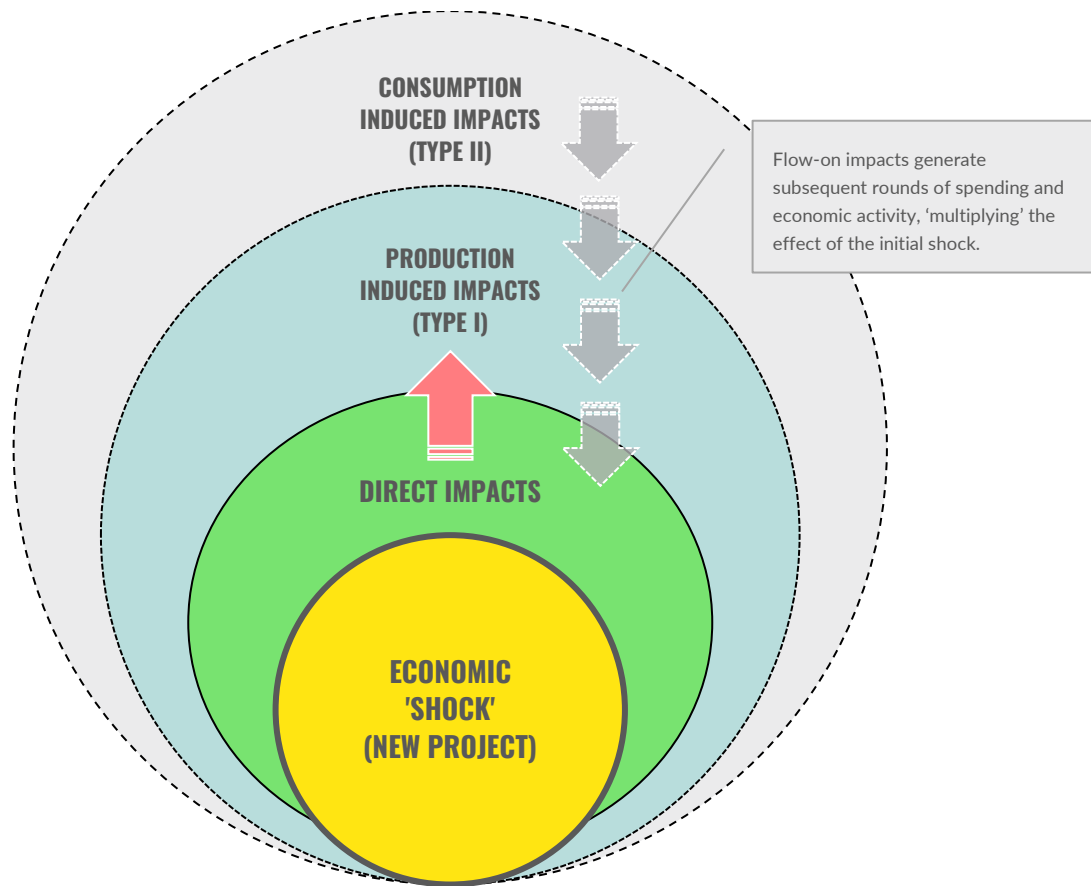
Input-Output modelling traces the economic impact resulting from a 'shock' to a local economy through measuring a series of impacts – referred to as 'Direct' and 'Flow-on' impacts.

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

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

Figure 5-1 illustrates the types of economic impacts and their subsequent rounds of impacts.

Figure 5-1: Types of Economic Impacts (Direct and Flow-on)



Source: Atlas Economics

5.2 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 to long run averages.

- **Construction Phase:** Construction activity will draw resources from and thereby generate economic activity in the Liverpool economy as well as from outside Liverpool LGA.

Assumptions are made on the proportion sourced from within and from outside Liverpool. The construction phase is assessed for the Proposal Case only.

- **Operational Phase:**
 - **Base Case:** The Site will continue to accommodate industrial uses in accordance with the existing land zoning.
 - **Proposal Case:**
 - The Site will generate additional ongoing employment activity on-site.
 - The Site will accommodate 'dispersed employment' (i.e. persons working from home) in the 10,742 new dwellings.
 - The Site will facilitate additional household expenditure through the 10,742 new dwellings.

Refer to SCHEDULE 3 for a description of the drivers and assumptions that underpin the assessed economic impacts.

5.3 Economic Activity and Impacts

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

5.3.1 Construction Phase

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

- **\$9,449.8 million** in output (including \$5,473.5 million in direct activity).
- **\$3,387.2 million** contribution to GRP (including \$1,442.1 million in direct activity).
- **\$1,935.9 million** in incomes and salaries paid to households (including \$959.4 million in direct income).
- **20,454 FTE jobs** (including 10,394 FTE directly employed through on-site activities).

Economic impacts during construction are summarised in **Table 5-2**. It should be noted that construction impacts are reported in total for the construction phase, and do not represent an average annual estimate.

Table 5-2: Construction Impacts in Liverpool LGA, Proposal Case

Indicator	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTE)
Direct	\$5,473.5	\$1,442.1	\$959.4	10,394
Flow-on Type I (Production-induced)	\$2,441.4	\$1,038.7	\$605.3	5,847
Flow-on Type II (Consumption-induced)	\$1,534.9	\$906.4	\$371.3	4,212
Total	\$9,449.8	\$3,387.2	\$1,935.9	20,454

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

5.3.2 Operational Phase

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

- **\$7,317.6 million** in output (including \$4,063.2 million in direct activity).
- **\$4,164.3 million** contribution to GRP (including \$2,363.2 million in direct activity).
- **\$2,589.2 million** in incomes and salaries paid to households (including \$1,754.4 million in direct income).
- **24,523 ongoing FTE jobs** (including 15,835 FTE directly related to activity on the Site).

Table 5-3 summarises the estimated economic impacts during the operational phase in both the Base and Proposal Case.

Table 5-3: Operational Impacts in Liverpool LGA, Base Case and Proposal Case

Indicator	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTE)
Base Case				
Direct	\$282.2	\$107.9	\$63.2	534
Flow-on Type I (Production-induced)	\$101.1	\$45.1	\$24.7	237
Flow-on Type II (Consumption-induced)	\$90.8	\$53.6	\$22.0	249
Total	\$474.1	\$206.6	\$109.8	1,020
Proposal Case (Direct Employment)				
Direct	\$3,089.6	\$1,899.2	\$1,469.4	13,465
Flow-on Type I (Production-induced)	\$748.8	\$368.0	\$224.6	2,496

Indicator	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTE)
Flow-on Type II (Consumption-induced)	\$1,787.4	\$1,055.5	\$432.4	5,754
Total	\$5,625.9	\$3,322.7	\$2,126.4	21,716
Proposal Case (Dispersed Employment)				
Direct	\$973.6	\$463.9	\$285.0	2,369
Flow-on Type I (Production-induced)	\$335.6	\$151.7	\$85.3	787
Flow-on Type II (Consumption-induced)	\$382.6	\$226.0	\$92.6	1,050
Total	\$1,691.8	\$841.6	\$462.9	4,206
Proposal Case (Total)				
Direct	\$4,063.2	\$2,363.2	\$1,754.4	15,835
Flow-on Type I (Production-induced)	\$1,084.4	\$519.7	\$309.9	2,734
Flow-on Type II (Consumption-induced)	\$2,170.0	\$1,281.4	\$524.9	5,955
Total	\$7,317.6	\$4,164.3	\$2,589.2	24,523
Net Operational Impacts				
Direct	\$3,781.0	\$2,255.3	\$1,691.2	15,300
Flow-on Type I (Production-induced)	\$983.3	\$474.6	\$285.2	2,497
Flow-on Type II (Consumption-induced)	\$2,079.2	\$1,227.8	\$502.9	5,706
Total	\$6,843.5	\$3,957.7	\$2,479.4	23,503

Note: Totals may not sum due to rounding.

Source: Atlas

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

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

- **\$6,843.5 million** additional in output (including \$3,781.0 million in direct activity).
- **\$3,957.7 million** additional in contribution to GRP (including \$2,255.3 million in direct activity).
- **\$2,479.4 million** additional incomes and salaries paid to households (including \$1,591.2 million directly).
- **23,503 additional FTE jobs** (including 15,300 additional FTE jobs directly related to activity on the Site).

The economic impacts estimated in this section clearly demonstrates the Proposal has economic merit, having the ability to contribute significantly to the local economy.

5.3.3 Household Expenditure Impacts

In addition to the commercial activity estimated above, the Proposal Case is projected to generate additional household expenditure supported through new dwellings within the Liverpool LGA. This activity is estimated to support on an ongoing annual basis (once fully developed and occupied):

- **\$1,477.4 million** in total output (\$917.6 million in direct activity).
- **\$854.1million** contribution to GRP (\$551.9 million in direct activity).
- **\$398.3 million** in wages and salaries to local workers (\$258.3 million in direct activity).
- **4,792 FTE jobs** (3,316 direct FTEs).

Table 5-4 shows the estimates of economic activity associated with household expenditure. It should be noted that operational and household impacts are not additive, due to potential for double counting of economic impacts (for example, household spending will result in direct and flow-on activity for businesses that are operating within the Site).

Table 5-4: Household Expenditure Impacts in Liverpool LGA, Proposal Case

Indicator	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTE)
Direct	\$917.6	\$551.9	\$258.3	3,316
Flow-on Type I (Production-induced)	\$230.5	\$107.8	\$60.4	572
Flow-on Type II (Consumption-induced)	\$329.3	\$194.4	\$79.6	904
Total	\$1,477.4	\$854.1	\$398.3	4,792

Note: Totals may not sum due to rounding.

Source: Atlas

5.4 Other Economic Impacts

Beyond the economic impacts generated by the Proposal during construction and upon becoming operational, other more indirect economic and social impacts is expected to result.

- **Deliver a Vibrant, Riverfront Precinct**

The Proposal envisages the delivery of a broad range of integrated land uses within a riverfront locality. This cluster of uses significantly improves the level of amenity and services for workers in Moore Point and the Liverpool CBD.

As the demand for commercial uses continues to be driven by the 'flight to quality', this will increase the attractiveness of the Liverpool CBD and increase its overall appeal.

- **Support Housing Affordability and Diversity**

There is growing demand for smaller housing typologies in the Liverpool LGA in response to both affordability constraints and declining household sizes. The Proposal envisages delivering some 10,941 apartments which will partly contribute to improving housing diversity and affordability across the Liverpool LGA.

- **Increased Urban Intensification**

Intensifying the use of urban lands has multiple economic benefits and is a well-founded principle of urban planning. Urban intensification promotes economic sustainability by supporting the financial viability of public transport networks and can reduce the cost of energy, water and waste systems maintenance through reducing urban sprawl.

- **Leveraging and Providing Additional Local Infrastructure**

The Proposal will deliver two new active linkages across the Georges River, increasing the connectivity of Moore Point and the Liverpool CBD. This facilitates synergies between both precincts, where the Liverpool CBD and Moore Point collectively benefit from a larger local workforce population through the delivery of new dwellings.

Additionally, access to a large and diverse range of retail amenity in Moore Point. New residents and workers in Moore Point will also have convenient access to the Liverpool Station, leveraging existing public transport infrastructure.

- **Increase in Rates and Taxation Revenues**

Along with greatly increased economic activity, the Proposal will support significant taxation revenues to all levels of government including Council rates, payroll tax, stamp duty, and income tax.

5.5 Economic Justification for the Proposal

The development of the Proposal is shown to deliver significant and positive economic impacts to the Liverpool economy.

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

- **\$6,843.5 million** additional in output (including \$3,781.0 million in direct activity).
- **\$3,957.7 million** additional in contribution to GRP (including \$2,255.3 million in direct activity).
- **\$2,479.4 million** additional incomes and salaries paid to households (including \$1,591.2 million directly).
- **23,503 additional FTE jobs** (including 15,300 additional FTE jobs directly related to activity on the Site).

Beyond these economic impacts, the Proposal will importantly strengthen the existing role and offering of the Liverpool CBD and cater for the flow-on growth of the Liverpool Innovation Precinct. Building 'critical mass' will:

- Deliver economic agglomeration benefits;
- Cater for the projected knowledge intensive and health and education employment growth across the LGA; and
- Improve the economic resilience of the CBD.

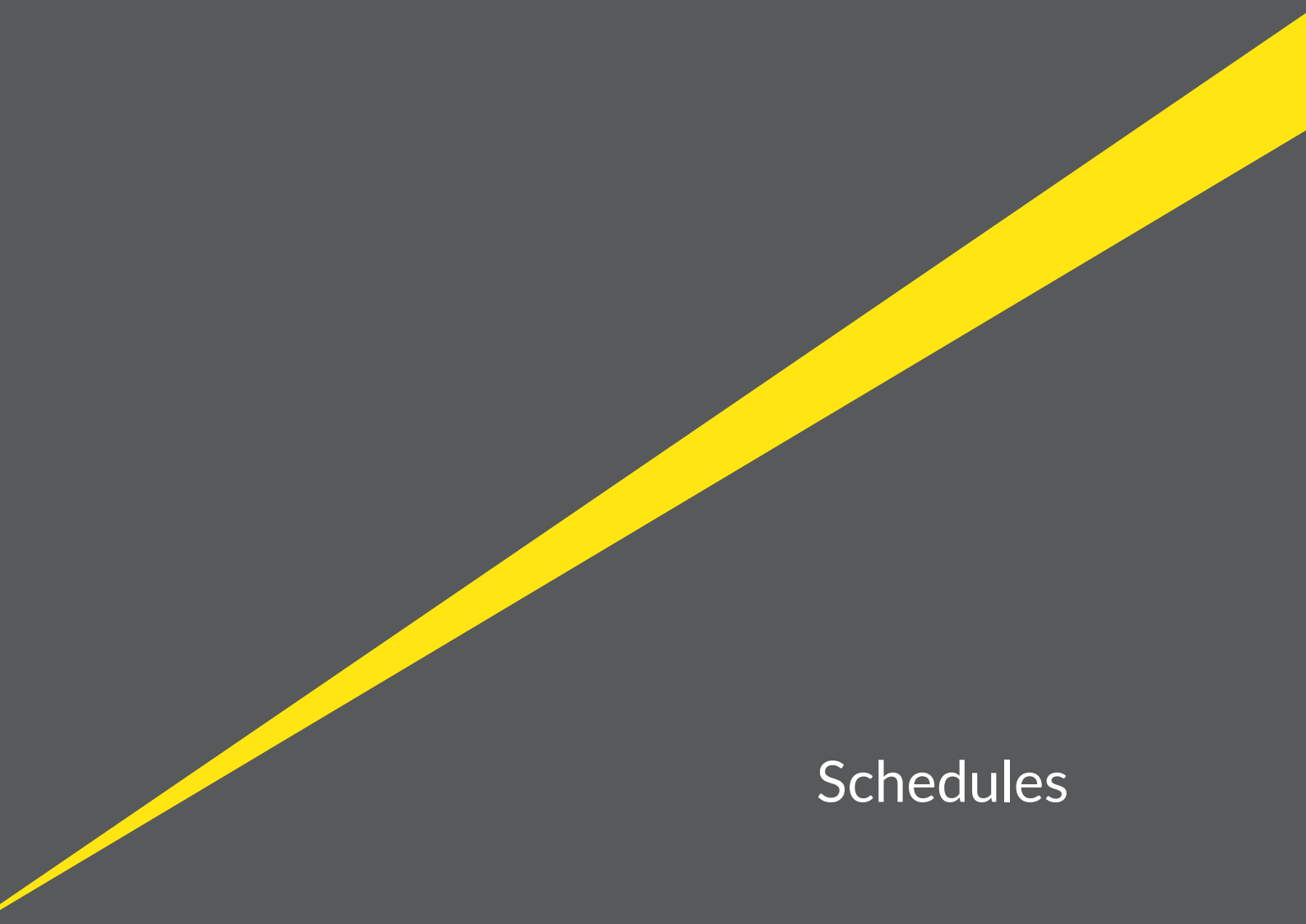
The current footprint of the CBD is small (<90,000sqm) and does not have sufficient critical mass to support the various ingredient uses that are necessary for city centres to thrive (e.g. hospitality, leisure, short term accommodation, etc.). The Proposal offers the opportunity to expand the footprint of the CBD (playing a similar role to Pyrmont in the Sydney CBD).

The Proposal will assist in Liverpool emerging as Greater Sydney's 'third CBD'. The Proposal will deliver a mixed-use precinct that supports the Liverpool CBD in maintaining its status as a major employment market. Whilst the Proposal comprises commercial floorspace, this will be delivered as part of broader uses, including residential, education and public open space. This includes new connecting bridges linking the Liverpool CBD to Moore Point, providing workers with direct access to rich amenity delivered within the Proposal. This supports the vibrancy of the Liverpool CBD, rather than compete with it.

Overall, the Proposal meets the relevant Ministerial Direction 7.1 and is aligned with the District Plan and Local Strategic Planning Statement (LSPS). As such, the Study finds that the relevant requirements of Gateway Determination are met and it is recommended that the Proposal be supported, subject to other technical findings.

References

- ABS (2023a). *Australian National Accounts: Input-Output Tables, 2020-21*. Cat. No. 5209.0.55.001. ABS, Canberra.
- ABS (2022b). *Consumer Price Index, Australia*. Cat. No. 6401.0. ABS, Canberra.
- ABS (2022). *Census of Population and Housing, 2021*. ABS, Canberra.
- DPE (2022). *Population, Household and Implied Dwelling Projections by LGA*. Accessible from:
<https://www.planning.nsw.gov.au/Research-and-Demography/Population-projections/Projections>.
- Greater Cities Commission (2018). *Liverpool Collaboration Area Place Strategy*. Accessible from:
<https://greatercities.au/strategic-planning/collaboration-areas#referenced-section-2>.
- Kronenberg, T. (2009). Construction of Regional Input-Output Tables Using Nonsurvey Methods: The Role of Cross-Hauling. *International Regional Science Review*, 32(1), 40–64.
- Landcom (2019). *Productive Places: Common Planning Assumptions – Workspace Ratios*. Accessible from:
<https://www.landcom.com.au/approach/sustainability/productive-places/>.
- Norbert, S. (2015). Methods for Regionalising Input-Output Tables. *Regional Statistics*, 5(1), 44-65.
- Property Council of Australia (2023). *Office Market Report July 2023*. Property Council of Australia, Sydney.
- Rosenthal, S. S., & Strange, W. C. (2003). *Geography, industrial organization, and agglomeration*. *Review of Economics and Statistics*, 85(2), 377-393.
- Transport, Performance and Analytics (2022). *TZP22 Employment by industry and travel zone 2016-2056*. Accessible from:
<https://www.transport.nsw.gov.au/data-and-research/reference-information/travel-zone-projections-2022>.



Schedules

Socio-Demographic Profile

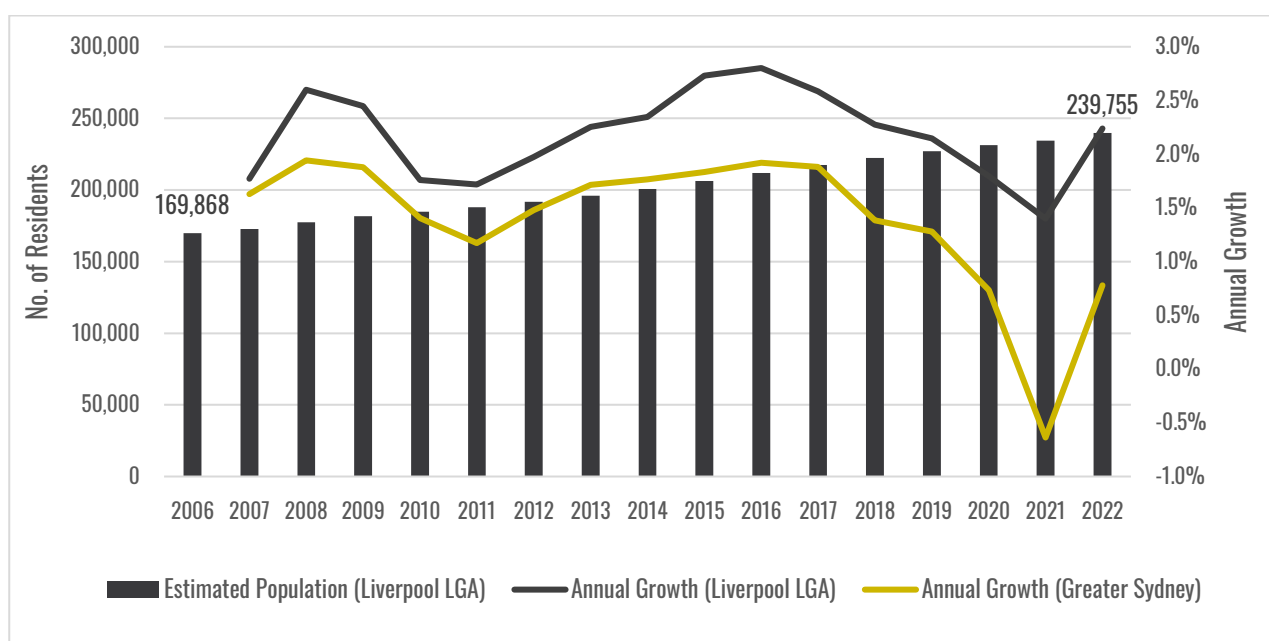
The basis of demographic analysis is the Australian Bureau of Statistics (ABS) Census. Socio-demographic Census data (2011, 2016, 2021) can be extracted to understand local resident profiles. For the purposes of the Study, the resident profiles of the Liverpool LGA and Greater Sydney were analysed.

Historical Population Growth

The Liverpool LGA recorded strong population growth in the last two decades. In 2006, there were some 170,000 residents in the Liverpool LGA. In 2022, this grew to some 240,000 residents, reflecting average annual growth of 2.2% over the 2006-2022 period. This was significantly higher than the 1.4% recorded in Greater Sydney.

Figure S1-1 shows historical population growth in the Liverpool LGA and Greater Sydney over the 2006-2022 period.

Figure S1-1: Historical Population Growth (2006-2022), Liverpool LGA and Greater Sydney



Source: ABS (2022)

Whilst population growth trends in the Liverpool LGA and Greater Sydney are broadly aligned, population growth in Liverpool outpaced Greater Sydney consistently in the last two decades.

Age Profile

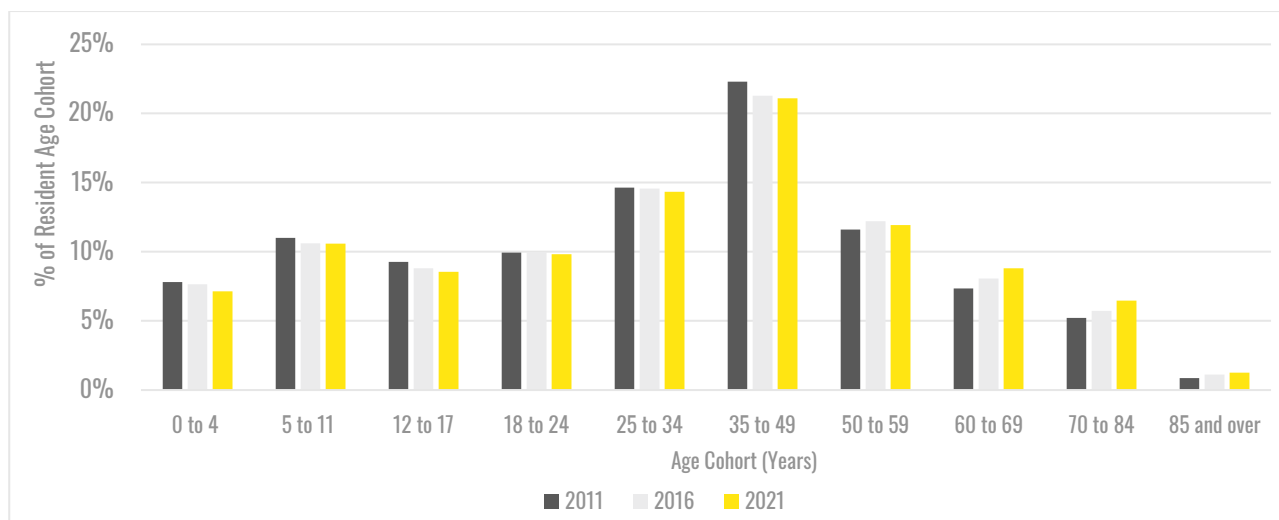
In 2021, a 21% majority of residents in the Liverpool LGA were aged 35-49 years, followed by 14% of those aged 25-34 years. This indicates a large proportion of young and middle-aged residents in the Liverpool LGA.

Over the 2011-2021 period, the number of young and middle-aged residents fell in proportional share. In 2011, approximately 37% of residents in the Liverpool LGA were aged between 25-49 years (~66,550 residents). In 2021, this fell to 35% of residents (~82,740 residents).

Conversely, older residents have become increasingly represented. In 2011, some 13% of residents in the Liverpool LGA were aged 60 years and older (~24,220 residents), growing to 17% in 2021 (~38,580 residents).

Whilst the Liverpool LGA has continued to accommodate a large workforce population in the last decade, the declining proportion of young and middle aged residents indicate that many are relocating to other places of residence. This has significant economic implications for the Liverpool LGA. Figure S1-2 illustrates the composition of resident age cohorts in the Liverpool LGA over the 2011-2021 period.

Figure S1-2: Resident Age Profile (2011-2021), Liverpool LGA



Source: ABS (2022)

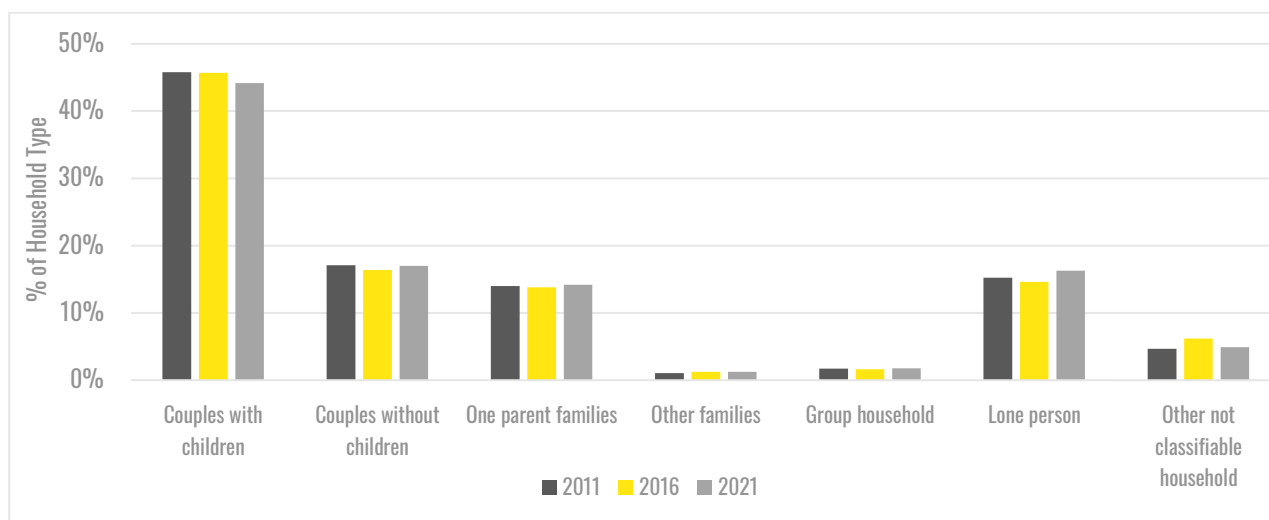
Household Composition

In 2011, there were nearly 56,500 households in the Liverpool LGA. In 2021, this grew to some 73,300 households. In the last decade, the composition of household types remained largely unchanged, dominated by couple families with children.

There has however been a shift in household trends, characterised by declining household sizes. This includes a growing proportion of smaller households, including lone person households (15% in 2011 to 16% in 2021) and one parent families (14% in 2011 to 14.2% in 2021). In contrast, there was a declining proportion of larger households (i.e. couples with children households) from 46% in 2011 to 44% in 2021.

Figure S1-3 illustrates the composition of household types in the Liverpool LGA over the 2011-2021 period.

Figure S1-3: Household Composition (2011-2021), Liverpool LGA



Source: ABS (2022)

Occupation Profile

In 2011, residents in the Liverpool LGA held diverse occupation types, including a mix of white- and blue-collar occupations. Of the ~74,600 of working residents in the LGA in 2011, a 18% majority were clerical and administrative workers. This was followed by the 16% of technicians and trades workers and 15% of professionals.

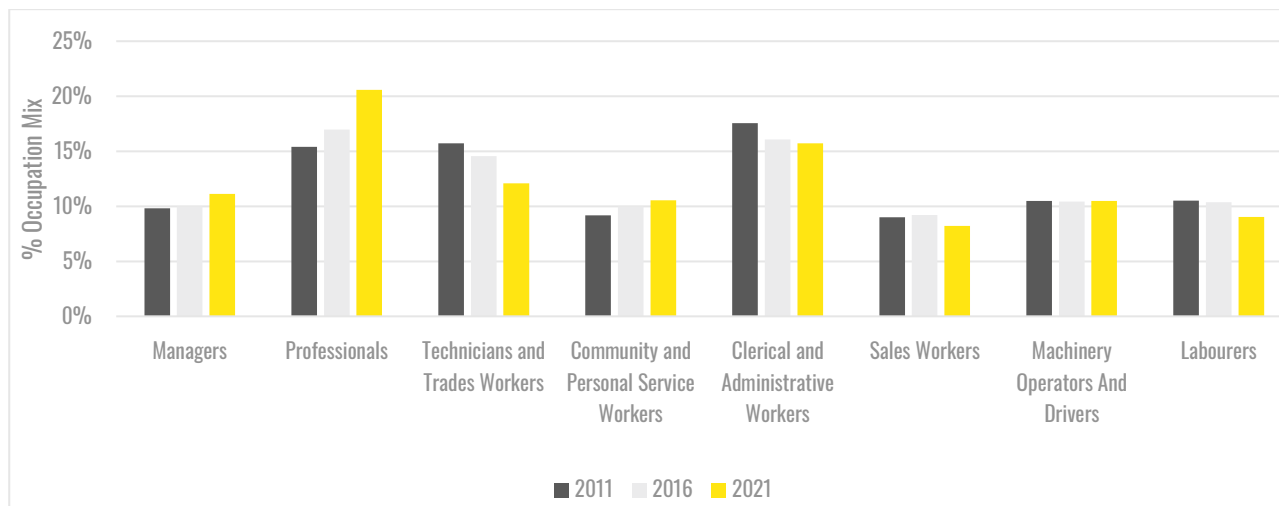
In 2021, there were nearly 90,000 working residents in the Liverpool LGA, a notable 21% of whom were professionals. Other common resident occupations included clerical and administrative workers (16%) and technicians and trades workers (12%). Whilst dominant occupation types remained unchanged in the last decade, there was a proportional shift in the mix of resident occupations.

In the Liverpool LGA, the proportion of residents employed in traditional white collared jobs (i.e. managers, professionals and sales workers) grew notably from 43% in 2011 to 47% in 2021. This was driven by the large increase in professionals.

Conversely, the proportion of blue-collared workers (i.e. technicians and trades workers, machinery operators and drivers and labourers) declined from 37% in 2011 to 32% in 2021.

This has important implications for employment land use planning in the Liverpool LGA. As the LGA accommodates a growing proportion of residents employed in white-collared jobs, it is critical that local employment opportunities are aligned with residents' occupation profile. This enables more residents to work close to where they live.

Figure S1-4: Resident Occupation Mix (2011-2021), Liverpool LGA



Source: ABS (2022)

Journey to Work

In 2011, a 29% majority of Liverpool LGA residents were employed locally within the LGA. This proportion increased gradually over the 2011-2021 period. In 2021, some 33% of residents in the Liverpool LGA also worked in the LGA.

This was followed by the 10% of Liverpool residents who travelled to the Sydney LGA for work in 2021. Other common LGAs of employment include Fairfield (9%), Canterbury-Bankstown (8%) and Parramatta (5%). The Fairfield and Canterbury-Bankstown LGAs adjoin the Liverpool LGA to its northern and western boundaries respectively.

As more Liverpool residents worked locally over the 2011-2021 period, an increasing proportion also travelled to the Sydney (+2%) and Parramatta (+1%) LGAs for work. These LGAs contain major commercial centres (i.e. Liverpool, Sydney and Parramatta CBDs) and play an important role in providing employment opportunities for Liverpool residents.

Table S1-1 lists the top five LGAs of employment amongst residents in the Liverpool LGA over the 2011-2021 period. This has remained largely unchanged since 2011.

Table S1-1: Top LGAs of Work, Liverpool LGA (2011-2021)

Place of Work (LGA)	2011	2016	2021	Change (2011-21)
Liverpool	29%	31%	33%	+4%
Sydney	9%	10%	10%	+2%
Fairfield	9%	9%	9%	0%
Canterbury-Bankstown	8%	8%	8%	0%
Parramatta	4%	6%	5%	+1%
Other LGAs	42%	36%	36%	-6%

Source: ABS (2021)

The proportion of Liverpool residents who also work in the Liverpool LGA has been gradually increasing over 2011-2021.

Employment Profile

To understand the employment profile of **Moore Point**, the ABS geography known as Destination Zone (DZ) was selected as the basis of analysis. DZ geographies are the smallest geography at which historical employment Census data is available. The DZ geography selected for analysis encompasses the Moore Point Precinct and contains the Site as well as surrounding independently owned allotments. This is referred to as the 'Catchment Area'.

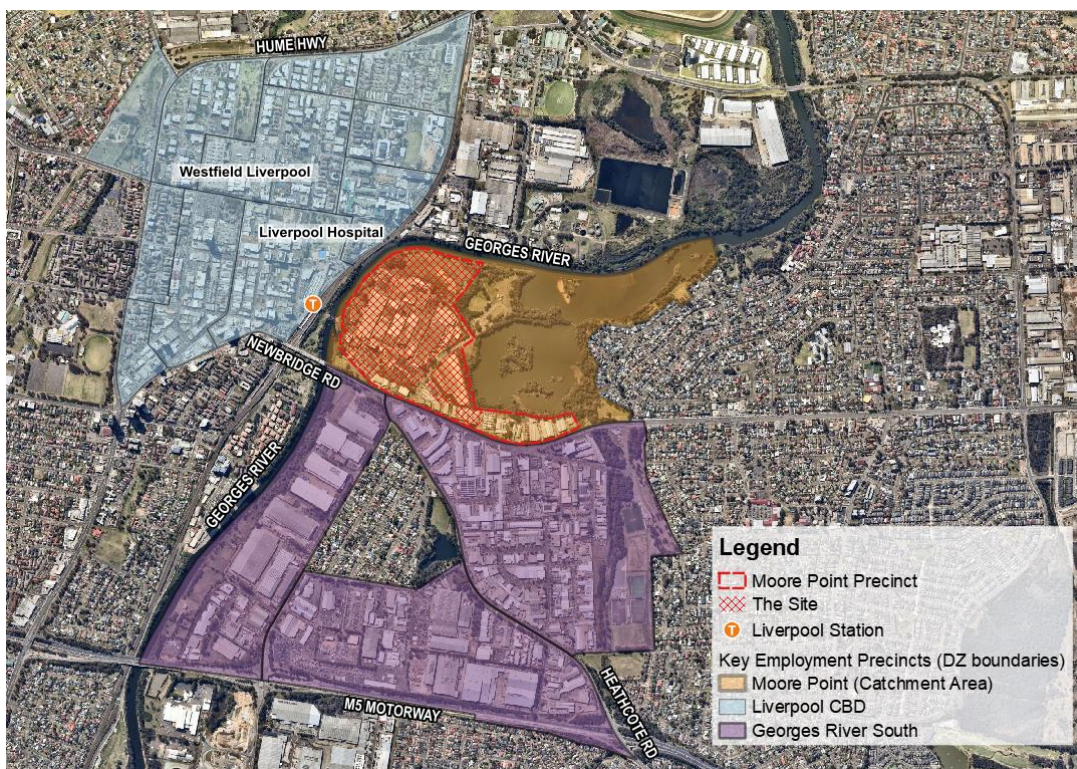
The employment profile of the **Liverpool CBD** and **Georges River South Precinct** ('Georges River South') were also analysed at a DZ level. These precincts were selected due to several attributes including their:

- Proximate distance to Moore Point.
- Existing role as key employment precincts in the locality.

Georges River South is an industrial precinct zoned E4 General Industrial, immediately south of Moore Point. It is broadly bound by Newbridge Road to its north, Georges River to its west and the M5 Motorway to its south. Collectively, the Catchment Area, Georges River South and Liverpool CBD are referred to as 'the Employment Precincts'. Analysis of their employment profile provides a nuanced understanding of their various roles in the broader Liverpool context.

Figure S2-1 illustrates the geographical boundaries of the Employment Precincts.

Figure S2-1: Geographical Boundaries, Catchment Area, Liverpool CBD and Georges River South



Source: Atlas

Historical Employment Growth

In 2011, there were some 620 jobs in the Catchment Area. In 2021, this fell to some 540 jobs, reflecting a nominal decline in employment in the last decade. Whilst the Catchment Area recorded steady employment growth over the 2011-2016 period, this was followed by a notable decline of some 240 jobs over the 2016-2021 period. This culminated in a net employment decline in the last decade, averaged at -1% per annum. This is illustrated in **Table S2-1**.

In contrast, the adjoining industrial precinct Georges River South recorded sustained employment growth in the last decade. In 2011, there were ~4,800 jobs, growing to ~6,000 jobs in 2021. This reflects an average annual growth of 2%.

Whilst the Catchment Area and Georges River South are industrial precincts within a similar locality, there are diverging employment trends with respect to job growth.

Table S2-1: Historical Employment Growth (2011-2021), Employment Precincts

Employment Precincts	2011	2016	2021	Change (2011-21)	
				Total (No.)	% Avg. per annum
Catchment Area	617	776	538	-79	-1%
Georges River South	4,765	5,690	5,963	1,198	2%
Liverpool CBD	12,252	16,257	15,817	3,565	3%

Source: ABS (2022)

In the Liverpool CBD, employment grew steadily over the 2011-2016 period, followed by a period of decline in the years to 2021. This is broadly aligned with that of the Catchment Area. Overall, the Liverpool CBD recorded an average annual employment growth of 3% in the last decade.

The Employment Precincts differ in size, which has implications on their employment capacity. To enable an understanding of the intensity of employment uses within each precinct, recent employment data is analysed on a job per hectare basis.

Table S2-2: Effective Job Densities (2021), Employment Precincts

Employment Precincts	Area (ha)	No. of Jobs (2021)	Job/ha (No.)
Catchment Area	97	538	6
Georges River South	224	5,963	27
Liverpool CBD	170	15,817	93

Source: Atlas/ABS (2022)

Unsurprisingly, employment is most concentrated in the Liverpool CBD, comprising some 93 jobs per hectare. This is attributed to its clustered and high density built forms, as observed in major commercial centres. The level of job density is significantly lower in Georges River South (27 jobs per hectare) and lowest in the Catchment Area (6 jobs per hectare).

This is generally aligned with the nature of commercial and industrial activity, where commercial uses are typically clustered in an area. Industrial uses, however, usually operate within large format facilities, with higher floorspace requirements per worker. The level of job density in the Catchment Area, however, is notably lower than that of Georges River South following the departure of legacy occupiers.

Industry Classifications

The ABS categorises employment activity into 19 industry sectors referred to as ANZSICs (Australian New Zealand Standard Industry Classification). These are the most commonly utilised categorises used when analysing an areas employment profile.

It is also useful to consider employment composition in broader industry terms. Broad industry classifications (**BIC**) group the 19 ANZSIC sectors into four main industry categories - population-serving, knowledge-intensive, health and education and industrial. These BIC groupings and their corresponding ANZSIC are shown in **Table S2-3**.

Table S2-3: Broad Industry Classifications by 19-Digit ANZSIC

Population Serving		Knowledge-Intensive		Health and Education		Industrial	
• Construction	•	Information, Media & Telecommunications	•	Education & Training	•	Agriculture, Forestry & Fishing	•
• Retail Trade	•	Financial & Insurance Services	•	Health Care & Social Assistance	•	Mining	•
• Accommodation & Food Services	•	Rental, Hiring & Real Estate Services	•		•	Manufacturing	•
• Arts & Recreation Services	•	Professional, Scientific & Technical Services	•		•	Electricity, Gas, Water & Waste Services	•
• Other Services	•	Administrative & Support Services	•		•	Wholesale Trade	•
	•	Public Administration & Safety	•		•	Transport, Postal & Warehousing	•

Source: ABS/Atlas Economics

Employment by Industry

Catchment Area

Whilst the Catchment Area recorded a decline in employment over 2011-2021, this decline was not uniform across all industries and BICs. **Table S2-4** provides a breakdown of employment by industry over the 2011-2021 period.

Table S2-4: Employment by Industry (2011-2021), Catchment Area

Industry (ANZSIC)	2011		2016		2021		Avg. Annual Growth (2011-2021)
	No.	%	No.	%	No.	%	
Agriculture, Forestry and Fishing	-	0%	0	0%	0	0%	-
Mining	-	0%	0	0%	3	1%	-
Manufacturing	411	67%	474	61%	267	50%	-4%
Electricity, Gas, Water and Waste Services	-	0%	4	1%	0	0%	-
Construction	11	2%	12	2%	7	1%	-4%
Wholesale Trade	32	5%	33	4%	31	6%	0%
Retail Trade	39	6%	32	4%	48	9%	2%
Accommodation and Food Services	-	0%	5	1%	9	2%	-
Transport, Postal and Warehousing	15	2%	23	3%	26	5%	6%
Information Media and Telecommunications	-	0%	0	0%	0	0%	-
Financial and Insurance Services	-	0%	0	0%	0	0%	-
Rental, Hiring and Real Estate Services	-	0%	3	0%	0	0%	-
Professional, Scientific and Technical Services	3	0%	9	1%	12	2%	15%
Administrative and Support Services	54	9%	68	9%	41	8%	-3%
Public Administration and Safety	3	0%	13	2%	0	0%	-100%
Education and Training	-	0%	0	0%	5	1%	-
Health Care and Social Assistance	-	0%	4	1%	4	1%	-
Arts and Recreation Services	-	0%	0	0%	3	1%	-
Other Services	23	4%	43	6%	41	8%	6%
Inadequately described/Not stated	13	2%	47	6%	37	7%	11%
Total	617	100%	776	100%	538	100%	-1%
Broad Industry Classification (BIC)							Change (2011-21)
Population-Serving	73	12%	92	12%	108	20%	8%
Knowledge-Intensive	60	10%	93	12%	53	10%	0%
Health and Education	-	0%	4	1%	9	2%	2%
Industrial	458	74%	534	69%	327	61%	-13%
Total	617	100%	776	100%	538	100%	

Source: ABS (2022)

Several key observations can be made:

- **Industrial activity** in the Catchment Area declined from 74% in 2011 (~460 jobs) to 61% in 2021 (~330 jobs).
- In contrast, **population-serving industries** recorded a growing share of employment, from 12% in 2011 to 20% in 2021. This was driven by a range of industries including retail trade, accommodation and food services and other services.
- The proportion of **knowledge-intensive jobs** remained relatively unchanged at 10% over 2011-2021.

The analysis shows a shift in employment in the Catchment Area in the last decade. This is characterised by a decline in traditional industrial activity (i.e. manufacturing), outpaced by growth in population serving industries.

Georges River South

Industry trends in Georges River South were also analysed over the 2011-2021 period to enable comparisons to be drawn with the Catchment Area. The analysis of employment by industry in Georges River South revealed key trends including:

- Employment in the industrial sector is historically driven by manufacturing activity. In 2011, it represented some 1,940 jobs (41%), falling to some 1,030 jobs in 2021 (17%). This reflects a significant decline of ~900 jobs in the last decade.
- Overall, employment in the industrial sector fell from 3,260 jobs (68%) in 2011 to 2,510 jobs (42%) in 2021.
- Conversely, employment in population-serving industries grew markedly, from ~640 jobs in 2011 to ~1,580 jobs in 2021. In 2011, these industries accounted for 13% of employment. In 2021, this grew to ~30% of jobs.
- Growth in population-serving employment was led by construction activity, which represented ~840 jobs in 2021. This reflects a notable ~670 increase in jobs, compared to the ~170 jobs recorded in 2011.
- Knowledge-intensive and health and education industries also grew in representation, albeit nominally. In 2011, these industries accounted for 16% of jobs collectively, growing to 21% in 2021.

Table S2-5: Employment by Industry (2011-2021), Georges River South

Industry (ANZSIC)	2011		2016		2021		Avg. Annual Growth (2011-2021)
	No.	%	No.	%	No.	%	
Agriculture, Forestry and Fishing	3	0%	17	0%	15	0%	17%
Mining	-	0%	-	0%	-	0%	-
Manufacturing	1,936	41%	1,590	28%	1,030	17%	-6%
Electricity, Gas, Water and Waste Services	43	1%	33	1%	41	1%	0%
Construction	174	4%	511	9%	842	14%	17%
Wholesale Trade	606	13%	745	13%	837	14%	3%
Retail Trade	220	5%	385	7%	426	7%	7%
Accommodation and Food Services	27	1%	35	1%	45	1%	5%
Transport, Postal and Warehousing	678	14%	628	11%	605	10%	-1%
Information Media and Telecommunications	68	1%	61	1%	244	4%	14%
Financial and Insurance Services	19	0%	5	0%	15	0%	-2%
Rental, Hiring and Real Estate Services	118	2%	151	3%	117	2%	0%
Professional, Scientific and Technical Services	100	2%	135	2%	104	2%	0%
Administrative and Support Services	371	8%	233	4%	293	5%	-2%
Public Administration and Safety	69	1%	149	3%	247	4%	14%
Education and Training	15	0%	33	1%	29	0%	7%
Health Care and Social Assistance	17	0%	28	0%	204	3%	28%
Arts and Recreation Services	15	0%	18	0%	24	0%	5%
Other Services	200	4%	343	6%	244	4%	2%
Inadequately described/Not stated	87	2%	586	10%	605	10%	21%
Total	4,765	100%	5,690	100%	5,963	100%	2%
Broad Industry Classification (BIC)							Change (2011-21)
Population-Serving	636	13%	1,292	23%	1,581	27%	13%
Knowledge-Intensive	745	16%	734	13%	1,020	17%	1%
Health and Education	32	1%	61	1%	233	4%	3%
Industrial	3,263	68%	2,996	53%	2,513	42%	-26%
Total	4,765	100%	5,690	100%	5,963	100%	

Source: ABS (2022)

Liverpool CBD

The Liverpool CBD encompasses the Liverpool commercial area and adjoining Health and Education Precinct. In 2021, there were over 15,800 jobs in the Liverpool CBD, including:

- ~8,870 jobs in health and education (56% of total).
- ~4,030 jobs in knowledge-intensive industries (25% of total).
- ~2,150 jobs in population-serving industries (14% of total).
- ~260 jobs in industrial activity (2% of total).

Over 2011-2021, employment growth in the Liverpool CBD was driven by health and education industries. In 2011, there were ~5,500 jobs in health and education (45% of jobs). In 2021, this grew to ~8,870 jobs (56% of jobs), led by major redevelopment projects. This includes the extensive Liverpool Hospital expansion in the last 5-years.

Whilst knowledge-intensive industries remained well-represented, they recorded decline in the last 5-years, where ~370 fewer jobs were recorded (4,400 jobs in 2016 to 4,030 jobs in 2021).

Table S2-6: Employment Profile (2011-2021), Liverpool CBD

Industry (ANZSIC)	2011		2016		2021		Avg. Annual Growth (2011-2021)
	No.	%	No.	%	No.	%	
Agriculture, Forestry and Fishing	-	0%	5	0%	3	0%	-
Mining	-	0%	4	0%	-	0%	-
Manufacturing	451	4%	168	1%	72	0%	-17%
Electricity, Gas, Water and Waste Services	103	1%	103	1%	6	0%	-25%
Construction	299	2%	323	2%	243	2%	-2%
Wholesale Trade	155	1%	39	0%	36	0%	-14%
Retail Trade	1,561	13%	1,737	11%	1,266	8%	-2%
Accommodation and Food Services	485	4%	694	4%	417	3%	-1%
Transport, Postal and Warehousing	143	1%	72	0%	141	1%	0%
Information Media and Telecommunications	118	1%	85	1%	50	0%	-8%
Financial and Insurance Services	373	3%	405	2%	336	2%	-1%
Rental, Hiring and Real Estate Services	317	3%	371	2%	246	2%	-3%
Professional, Scientific and Technical Services	603	5%	886	5%	699	4%	1%
Administrative and Support Services	693	6%	372	2%	309	2%	-8%
Public Administration and Safety	1,070	9%	2,276	14%	2,387	15%	8%
Education and Training	725	6%	910	6%	940	6%	3%
Health Care and Social Assistance	4,743	39%	6,689	41%	7,934	50%	5%
Arts and Recreation Services	27	0%	43	0%	17	0%	-5%
Other Services	292	2%	380	2%	202	1%	-4%
Inadequately described/Not stated	70	1%	667	4%	486	3%	21%
Total	12,252	100%	16,257	100%	15,817	100%	3%
Broad Industry Classification (BIC)							Change (2011-21)
Population-Serving	2,664	22%	3,177	20%	2,145	14%	-8%
Knowledge-Intensive	3,174	26%	4,395	27%	4,027	25%	0%
Health and Education	5,468	45%	7,599	47%	8,874	56%	11%
Industrial	852	7%	391	2%	258	2%	-5%
Total	12,252	100%	16,257	100%	15,817	100%	

Source: ABS (2022)

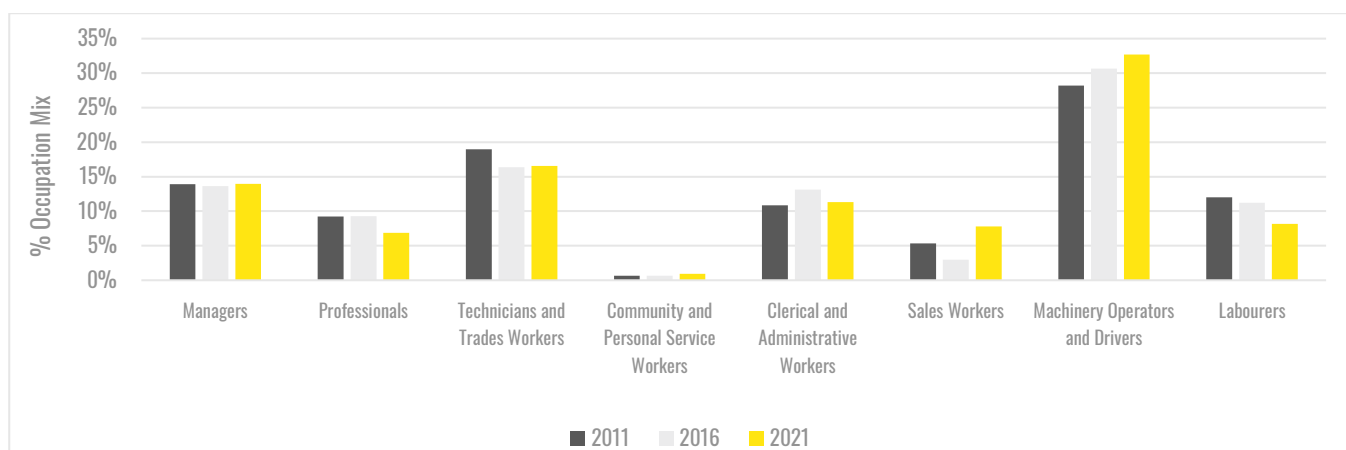
Employment by Occupation

Catchment Area

The majority of Catchment Area workers are employed in traditional blue-collar occupations (i.e. technicians and trades workers, machinery operators and drivers and labourers). Collectively, blue-collared workers represented nearly 60% of Catchment Area workers in 2021. This is aligned with the employment profile of the Catchment Area, largely composed of the Moore Point industrial precinct.

Most of these workers were machinery operators and drivers. In 2011, they accounted for 28% of Catchment Area workers, growing to 33% in 2021. Labourers, however, fell in proportional share from 12% in 2011 (74 workers) to 8% in 2021 (44 workers). **Figure S2-2** illustrates the occupation mix of Catchment Area workers over the 2011-2021 period.

Figure S2-2: Occupation Mix (2011-2021), Catchment Area



Source: ABS (2022)

Notably, the number of managers and professionals employed in the Catchment Area fell over the 2011-2021 period. In 2011, they represented 23% of Catchment Area workers collectively (~140 workers), declining to 21% of workers in 2021 (~110 workers).

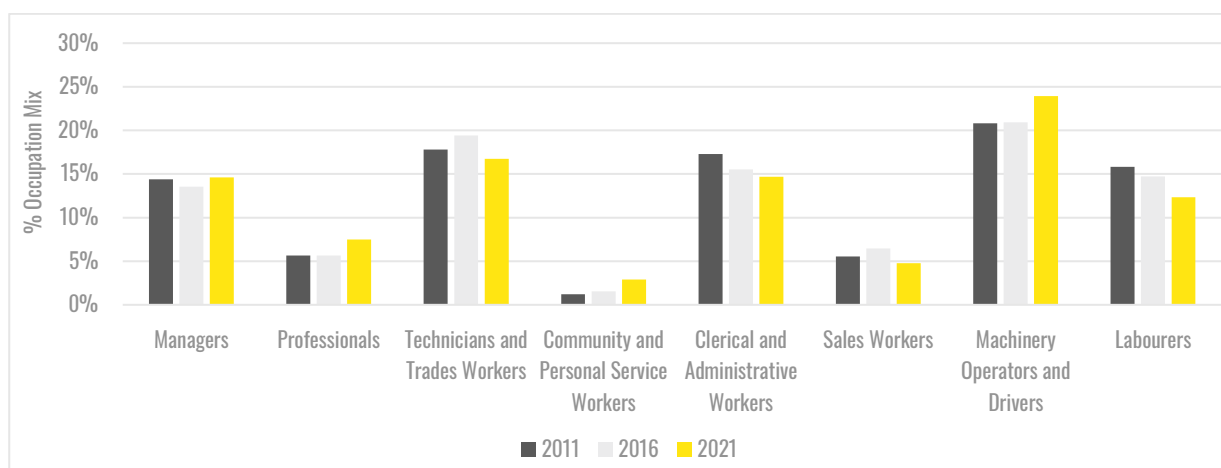
Georges River South

The majority of workers in Georges River South occupy blue-collar occupations, albeit in declining proportions. In 2011, some 54% of workers occupied blue-collar jobs (~2,600 workers). In 2021, this proportion fell to 53% (~3,160 workers).

This was driven by a decline in labourers and technicians and trades workers over the 2011-2021 period. Whilst this is aligned with that of the Catchment Area, Georges River South recorded growth in professionals and managers.

Figure S2-3 illustrates the occupation profile of workers in Georges River South.

Figure S2-3: Occupation Mix (2011-2021), Georges River South



Source: ABS (2022)

Key occupation trends over the 2011-2021 period include:

- An additional ~190 **managers**, from 690 workers in 2011 to some 870 workers in 2021.
- An additional ~180 **professionals**, from some 270 workers in 2011 to some 450 workers in 2021.

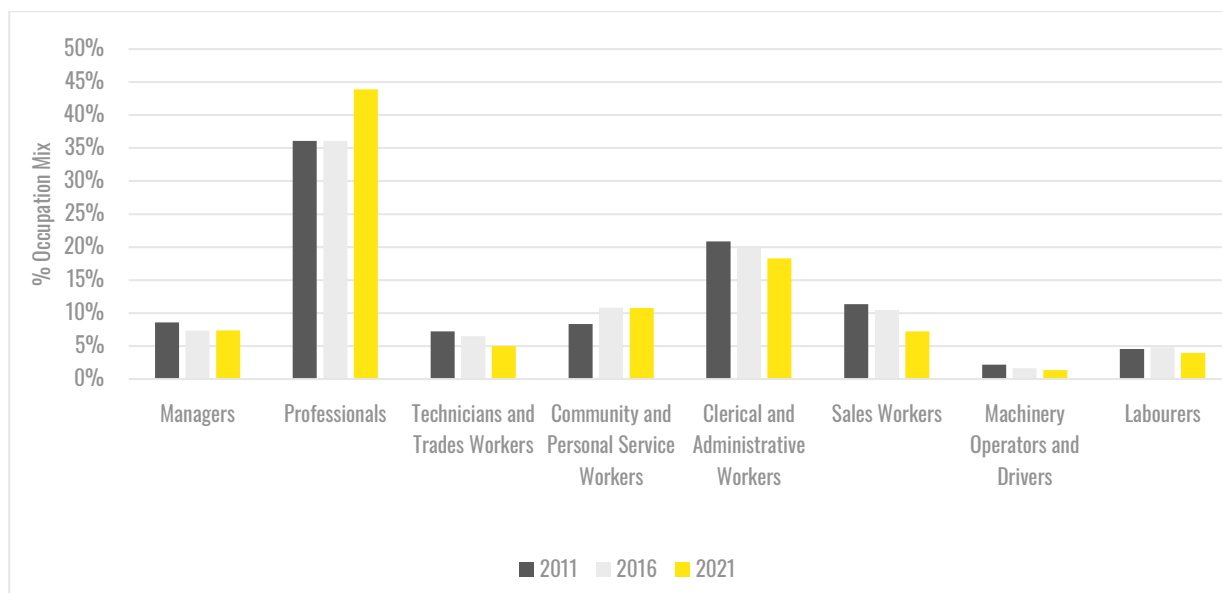
Collectively, the proportion of managers and professionals in Georges River South grew from 20% in 2011 to 22% in 2021. This is aligned with its industry profile, with growth in knowledge-intensive industries over the same period. This enables the Georges River South precinct to attract a local workforce, including Liverpool residents who are professionals/ managers.

Liverpool CBD

In 2021, a 44% majority of workers in the Liverpool CBD were professionals. This was followed by the 18% of clerical and administrative workers. Overall, employment in the Liverpool CBD is dominated by white-collar occupations (i.e. professionals, clerical and administrative workers and managers). This reflects its role as a commercial hub and health and education precinct.

Figure 5-2 illustrates the occupation mix in the Liverpool CBD over the 2011-2021 period.

Figure 5-2: Occupation Mix (2011-2021), Liverpool CBD



Source: ABS (2022)

Key occupation trends over the 2011-2021 period include:

- An additional ~2,520 **professionals** (from ~4,430 workers in 2011 to ~6,940 workers in 2021). In 2011, the proportion of professionals in the Liverpool CBD was 36%. In 2021, this grew to 44%.
- An additional ~680 **community and personal service workers** (from ~1,030 workers in 2011 to ~1,700 workers in 2021). These workers grew in proportional representation from 8% in 2011 to 11% in 2021.

This demonstrates the role of the Liverpool CBD as a key employment centre for Liverpool residents, many of whom are professionals. These may reflect health professionals or other 'white-collar' professionals who seek employment in health and education/ knowledge-intensive industries.

Industry trends in the Liverpool CBD indicate a decline in knowledge-intensive employment in the last 5-years and a growing health and education sector. This may indicate that the growth in professionals reflect those employed in health and education, rather than those in traditional commercial centres.

More Detailed Description of Occupation (Professionals)

Of the ~6,940 professionals employed in the Liverpool CBD, nearly 70% were health and education professionals. This affirms that the growth in professionals recorded in the Liverpool CBD in the last decade was driven by health and education industries. This implies that some 30% of professionals in the Liverpool CBD were employed in traditional knowledge-intensive industries (professional, scientific and technical services, etc.).

Table S2-7 compares the 2-digit professional jobs in the Liverpool CBD against the occupation profile of residents in the Liverpool LGA.

Table S2-7: 2-digit Professionals (2021), Liverpool CBD and Liverpool LGA

2-Digit Professionals	Liverpool CBD (jobs)		Liverpool LGA (residents)	
	No.	%	No.	%
Professionals, nfd	45	1%	163	1%
Arts and Media Professionals	10	0%	223	1%
Business, Human Resource and Marketing Professionals	620	9%	4,684	25%
Design, Engineering, Science and Transport Professionals	347	5%	1,927	10%
Education Professionals	580	8%	4,019	22%
Health Professionals	4,168	60%	4,168	23%
ICT Professionals	127	2%	1,978	11%
Legal, Social and Welfare Professionals	1,039	15%	1,354	7%
Total	6,936	100%	18,516	100%

Source: ABS (2022)

Several key observations can be made:

- In the Liverpool LGA, there were over **18,500 residents** who were professionals in 2021. A 56% majority of these professionals worked in traditional knowledge-intensive industries (~10,330 residents).
- In the Liverpool CBD, most professional jobs were those in health and education (~4,750 jobs). In contrast, there were only **2,190 jobs** in knowledge-intensive industries.
- This indicates that professionals who typically work in knowledge-intensive industries, have limited employment opportunities in the Liverpool CBD.

Furthermore, the industry profile of the Liverpool CBD indicates a decline in knowledge-intensive industries. This indicates that there is a need to stem the decline and retain knowledge-intensive employment in the Liverpool CBD.

Input-Output Modelling 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 S3-1: 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 or Proposal either directly or indirectly.
Employment	Employment positions generated by the Project or Proposal (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 2020-2021 Australian transaction table (ABS, 2023a).

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, 2022) using the Flegg Location Quotient and Cross Hauling Adjusted Regionalisation Method (CHARM). See Norbert (2015) and Kronenberg (2009) for further details. Where required, values were indexed to current dollar values using CPI (ABS, 2023b).

Modelling Limitations and Assumptions

Input-Output modelling is subject to a number of key assumptions and limitations (ABS, 2023a):

- **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 following construction completion.

- **Construction Phase:** Construction activity will draw resources from and thereby generate economic activity in the Liverpool economy as well as from outside the Liverpool LGA.

Assumptions are made on the proportion sourced from within and from outside Liverpool. The construction phase is assessed for the Proposal Case only.

- **Operational Phase:**
 - **Base Case:**
 - The Site will continue to accommodate industrial uses in accordance with the existing land zoning.
 - **Proposal Case:**
 - The Site will generate additional ongoing employment activity on-site.
 - The Site will accommodate 'dispersed employment' (i.e. persons working from home) in the 10,742 new dwellings.
 - The Site will facilitate additional household expenditure through the 10,742 new dwellings.

Construction Phase

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

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

Table S3-2: Construction Cost Allocation (including Contingency)

Item	Cost (\$M)	ANZSIC
Site Preparation	\$8.3	Construction Services
Residential Construction	\$4,512.1	Residential Building Construction
Office	\$465.2	Non-Residential Building Construction
General retail/hospitality	\$390.0	Non-Residential Building Construction
Supermarket	\$23.7	Non-Residential Building Construction
Event/showroom	\$25.8	Non-Residential Building Construction
School/University	\$47.7	Non-Residential Building Construction
Community Use	\$4.5	Non-Residential Building Construction
Child Care	\$11.8	Non-Residential Building Construction
Basement parking	\$716.7	Non-Residential Building Construction
Site Costs	\$310.3	Heavy and Civil Engineering Construction
Professional Fees	\$781.9	Professional, Scientific and Technical Services
Total	\$7,298.0	

Note: numbers may not sum due to rounding
Source: Atlas

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

- Approximately 75% of the direct expenditure on construction-related 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 Liverpool 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 Liverpool).
 - Approximately 5% of wages and salaries paid to construction-related workers sourced from outside the region would be spent on local goods and services, such as food and beverages (i.e. 5% of the Type II).

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

Operational Phase

In order to model the economic impacts, operational employment levels for the economic activity occurring in Base and Proposal Case were categorised into the ANZSIC industries. In the Base Case, employment was based on the existing industry profile of Moore Point (**Table S3-3**).

In the Proposal Case, employment was estimated through converting the envisaged floorspace in each scenario based on industry standard workspace ratios (Landcom, 2019, Atlas estimates). Estimates were also generated for potential dispersed employment (i.e. residents working from home). This is illustrated in **Table S3-4**.

In the Proposal Case, employment by industry estimates were converted to a direct output value using a multiplier based on the transaction tables developed for this assessment (ABS, 2023a). The resultant estimates of output were modelled as the direct activity associated with the Base Case and Proposal Cases.

Table S3-3: Operational FTE Allocation of Floorspace, Base Case

Use/ANZSIC	Employment (FTE)	Output (\$M)
Agriculture, Forestry and Fishing	2	\$1.0
Mining	5	\$3.7
Manufacturing	269	\$191.1
Electricity, Gas, Water and Waste Services	2	\$1.8
Construction	9	\$5.3
Wholesale Trade	33	\$16.3
Retail Trade	50	\$9.4
Accommodation and Food Services	11	\$2.4
Transport, Postal and Warehousing	28	\$11.8
Information Media and Telecommunications	2	\$1.5
Financial and Insurance Services	2	\$1.3
Rental, Hiring and Real Estate Services	2	\$1.5
Professional, Scientific and Technical Services	14	\$4.3
Administrative and Support Services	43	\$16.4
Public Administration and Safety	2	\$1.4
Education and Training	7	\$1.3
Health Care and Social Assistance	6	\$1.1
Arts and Recreation Services	5	\$1.6
Other Services	43	\$9.0
Total	534	\$282.2

Source: Atlas

Table S3-4: Operational FTE Allocation of Floorspace, Proposal Case

Use/ANZSIC	GFA (sqm)	Floorspace (sqm/FTE)	Employment (FTE)	Output (\$M)
Retail Trade	88,228	30-100	2,706	\$511.4
Accommodation and Food Services	37,138	30	1,238	\$214.3
Professional, Scientific and Technical Services	40,273	20	2,014	\$642.6
Public Administration and Safety	40,273	20	2,014	\$478.0
Health Care and Social Assistance	43,080	20-100	2,042	\$359.4
Education and Training	53,254	20-100	2,165	\$609.9
Arts and Recreation	7,078	100	49	\$7.6
Other Services	37,138	30	1,238	\$264.6
Dispersed Employment (ANZSIC split as per Liverpool LGA Place of Usual Residence Employment)	37,700 workers ¹	8% work from home ²	2,369	\$973.6
Total	346,463		15,835	\$4,063.2

Notes: Totals may not sum due to rounding. ¹ Calculated assuming an average 2% vacancy, 1.5 FTE workers per household. ² A conservative estimate considering post-COVID trends.

Source: Atlas

Household Expenditure

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

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

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

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

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

This data was converted to 2023 values (ABS, 2023b), annualised and allocated into their respective ANZSIC industries. The breakdown to ANZSIC industries was developed based on assumptions by Atlas regarding the most appropriate ANZSIC industries for each activity. **Table S3-5** shows the household expenditure estimates for the Liverpool LGA under the Proposal Case.

Table S3-5: Household Expenditure Estimates (Proposal Case)

ANZSIC	Total Spend (\$M)	% Spent in Liverpool LGA	Local Spend (\$M)
Ownership of Dwellings	\$234.7	100%	\$234.7
Retail Trade	\$222.2	80%	\$177.7
Food and Beverage Services	\$117.3	80%	\$93.8
Personal Services	\$64.2	75%	\$48.2
Other Services	\$70.1	70%	\$49.1
Telecommunication Services	\$38.4	60%	\$23.1
Road Transport	\$107.1	80%	\$85.7
Rail Transport	\$53.6	50%	\$26.8
Air and Space Transport	\$17.9	20%	\$3.6
Sports and Recreation	\$91.1	75%	\$68.3
Primary and Secondary Education Services (incl Pre-Schools and Special Schools)	\$12.6	75%	\$9.5
Technical, Vocational and Tertiary Education Services (including Undergraduate and Postgraduate)	\$10.1	75%	\$7.6
Arts, Sports, Adult and Other Education Services (including Community Education)	\$2.5	75%	\$1.9
Health Care Services	\$60.2	80%	\$48.2
Heritage Creative and Performing Arts	\$39.0	80%	\$31.2
Electricity Transmission, Distribution, On Selling and Electricity Market Operation	\$14.0	60%	\$8.4
Total	\$1,155.0	79%	\$917.6

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

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