



# REALISING THE ECONOMIC BENEFITS OF REZONING

Economic Analysis to Underpin the Planning  
Proposal to Rezone 221-227 & 289-317  
Luddenham Road, Orchard Hills

Prepared for HB+B  
22 February 2022



# COVID-19 AND THE POTENTIAL IMPACT ON DATA INFORMATION

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# BENEFITS AT A GLANCE

## Benefits

1. **Key Finding:** The construction phase of the proposed development will create 571 jobs over four years.
2. **Key Finding:** The four-year construction period will generate \$355.2 million in Gross Value Added.
3. **Key Finding:** The ongoing operations will create 6,410 direct and indirect jobs.
4. **Key Finding:** The additional jobs that will be created by the proposed development will improve the low 39% share of Penrith LGA resident workers able to work within the LGA
5. **Key Finding:** Once fully developed and tenanted, the ongoing operations will directly and indirectly deliver ~\$1.2 billion per annum in real \$2021 dollars in Gross Value Added.
6. **Key Finding:** Western Sydney is in need of additional “shovel-ready” industrial land
7. **Key Finding:** The subject site is well suited for industrial uses being located adjacent to a future freight and motorway corridor. Further there is a planned Metro station at Orchard Hills.



**\$1.2 billion**

**Additional Gross Value Added Annually**



**232**

**Construction jobs**



**6,410**

**Additional ongoing direct and indirect jobs**

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# EXECUTIVE SUMMARY

Urbis has been appointed by HB+B in principle to conduct an economic analysis on the benefits of rezoning **221-227 & 289-317 Luddenham Road, Orchard Hills** from the current rural zoning (RU2) to industrial (IN1 and IN2).

The proposed development of 409,734 sq.m in GFA will comprise a mix of industrial warehouses and supporting ancillary office buildings. The developer is now seeking to convert the subject site's potential to address the growing demand for industrial facilities similar to the surrounding area.

## **The site will contribute to declining industrial land supply**

An assessment of the supply of undeveloped industrial land left within Western Sydney as of January 2020 shows limited years supply remaining:

- 2.2 years of zoned undeveloped serviced land
- 6.3 years of zoned undeveloped unserviced land
- 18.7 years of unconstrained potential industrial land.

These supply years are all below DPIE's stated supply standards as per the Employment Lands Development Monitor. The subject site is ideally located in close proximity to the Aerotropolis and WSEA, and presents a key opportunity to help address the need for additional "shovel-ready" industrial land.

## **The development will generate significant economic benefits**

REMPPLAN modelling shows the construction phase will generate 571 construction jobs over 4 years and provide a direct and indirect economic contribution of **\$355.2 million during the four-year construction period**. This activity will provide much needed boost for the economic recovery in New South Wales.

The ongoing operational phases will generate a further **6,410 jobs of which 3,660 are direct jobs** primarily in the wholesale/warehousing sector. This will help address a deficit in those sectors where there are more resident workers employed than there are jobs available in the Penrith LGA.

Once fully developed and tenanted, there is potential to deliver an additional **\$1.2 billion of direct and indirect gross value added** annually in real \$2021 dollars, of which \$718 million is direct value added.

## **The development will improve the low job containment in Penrith LGA**

An analysis of the employment profiles of Penrith LGA workers and resident workers who live in the LGA shows that there are more resident workers than jobs available in sectors that will benefit from the development's construction and ongoing operations. Based on ABS 2016 Census there is a shortage of jobs in the following sectors for local residents who are travelling outside the LGA for work. The gaps are:

- Deficit of 1,904 in construction jobs
- Deficit of 1,263 in wholesale trade jobs
- Deficit of 907 in transport, postal and warehousing jobs.

There is likely to be strong interest in construction jobs given the current economic conditions. Penrith City Council recognises the opportunity present to provide a substantial amount of jobs in an array of industries including manufacturing, freight and logistics.

# EXECUTIVE SUMMARY

**The site is strategically located close to key infrastructure:**

The site is located at the intersection of major proposed freight infrastructure and passenger rail namely:

- Proposed North South Rail Line
- Proposed Western Sydney Freight Line
- Proposed Outer Sydney Orbital
- The site benefits from existing infrastructure with access to the M4 Motorway via Mamre Road from Luddenham Road. In the future the site's connection strengths will be further enhanced by access to Western Sydney International Airport and intermodal facility, 13.6 km's to the South.

01

# SITE AND SUPPLY ANALYSIS





# INTRODUCTION

## Purpose of the Report

Urbis has been appointed by HB+B to identify the economic benefits associated with a planning proposal for the site at **221-227 & 289-317 Luddenham Road, Orchard Hills**.

A Planning Proposal seeks to rezone the land under the *Penrith Local Environmental Plan 2010* (PLEP 2010) RU2 Rural Landscape to IN1 General Industrial and IN2 Light Industrial. The development comprises a mix of warehouse buildings, 2-storey office buildings and parking areas.

The purpose of this report is to demonstrate the potential impact of the development on the local and State economy and job creation considering:

- The level of employment that can be delivered on the subject site through the proposed development
- The broader economic impact associated with the proposed development
- The boost of industrial land to Sydney' s diminishing supply.

An explanation of the Input-Output methodology used to calculate jobs and Gross Value Added (GVA) for the construction and ongoing operational phases is provided in the Appendix.

# SUBJECT SITE CONTEXT

## Key Findings

The subject site known as Alspec Industrial Business Park, **221-227 & 289-317 Luddenham Road, Orchard Hills**, has a total area of **146.61 hectares**.

The site is situated approximately 13.6 km north-east of the Western Sydney International (Nancy-Bird Walton) Airport, 30 km west of Parramatta CBD.

There is range of land uses in the broader context including a waste management facility currently under construction, an airstrip, residential dwellings and South Creek. Further to the East are the industrial precincts of Erskine Business Park and First Estate which are nearing completion.

The Orchard Hills Urban Investigation Area in which the site is located will facilitate the delivery of integrated land use and manage the relationship between urban and rural lands.

Further, the site is located within the **'Penrith Economic Triangle'** referred to in the Penrith Council Local Strategic Planning Statement. The function of the economic triangle will be to leverage off future economic opportunities as new industries with the operation of the Western Sydney (Nancy-Bird Walton) International Airport. Economic growth will be focused within Penrith's economic triangle and will rely on the management of existing and future industrial and urban services land.

Penrith will function as a central connection hub in Western Sydney between the Aerotropolis, north-west and south-west growth centres, as well as other centres including Blacktown, Liverpool and Wollondilly.

## Subject Site Aerial

Map 1.1



Source: Urbis



# THE SITE IS STRATEGICALLY LOCATED AT THE NEXUS OF FUTURE KEY RAIL INFRASTRUCTURE

## Key Findings

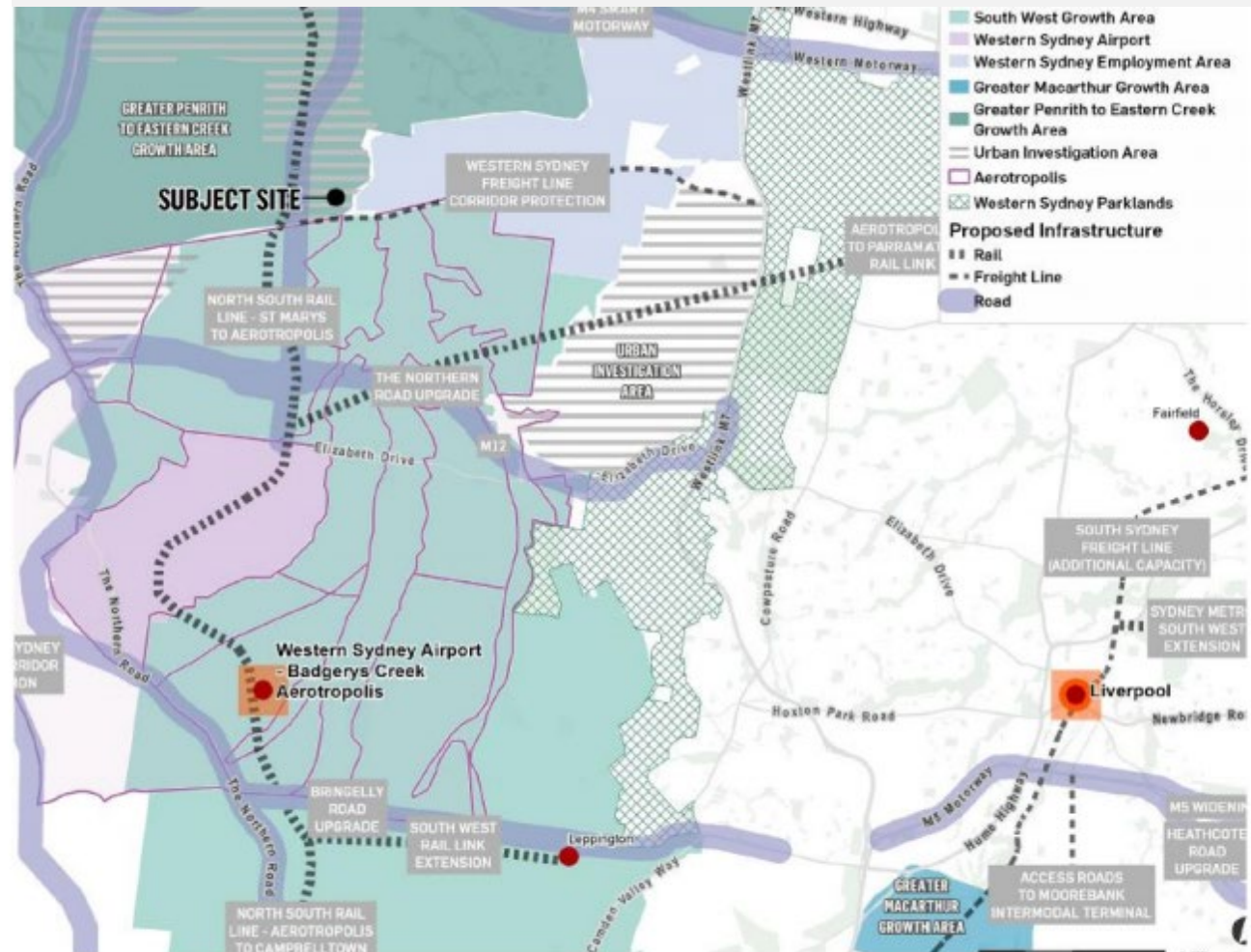
The site is strategically located directly north of land identified as a future motorway and freight rail line (Outer Sydney Orbital Corridor).

The corridor will link the North West and South West Growth Areas connecting with the future Western Sydney International Airport and Aerotropolis. It will support future growing communities, businesses and facilitate efficient freight movements by rail.

At a local level It fronts Luddenham Road which provides direct access to Mamre Road and the M4 Motorway, Great Western Highway and Elizabeth Drive. The site is also within close proximity to the future Orchard Hills Metro station which will provide access to St Mary's and Western Sydney.

## Proposed Infrastructure

Map 1.2



Source: Urbis



# THE DEVELOPMENT CONCEPT WILL DELIVER SUBSTANTIAL INDUSTRIAL FLOORSPACE

## Key Details

The development comprises a total GFA of 409,734 sq.m, developed across three stages as follows:

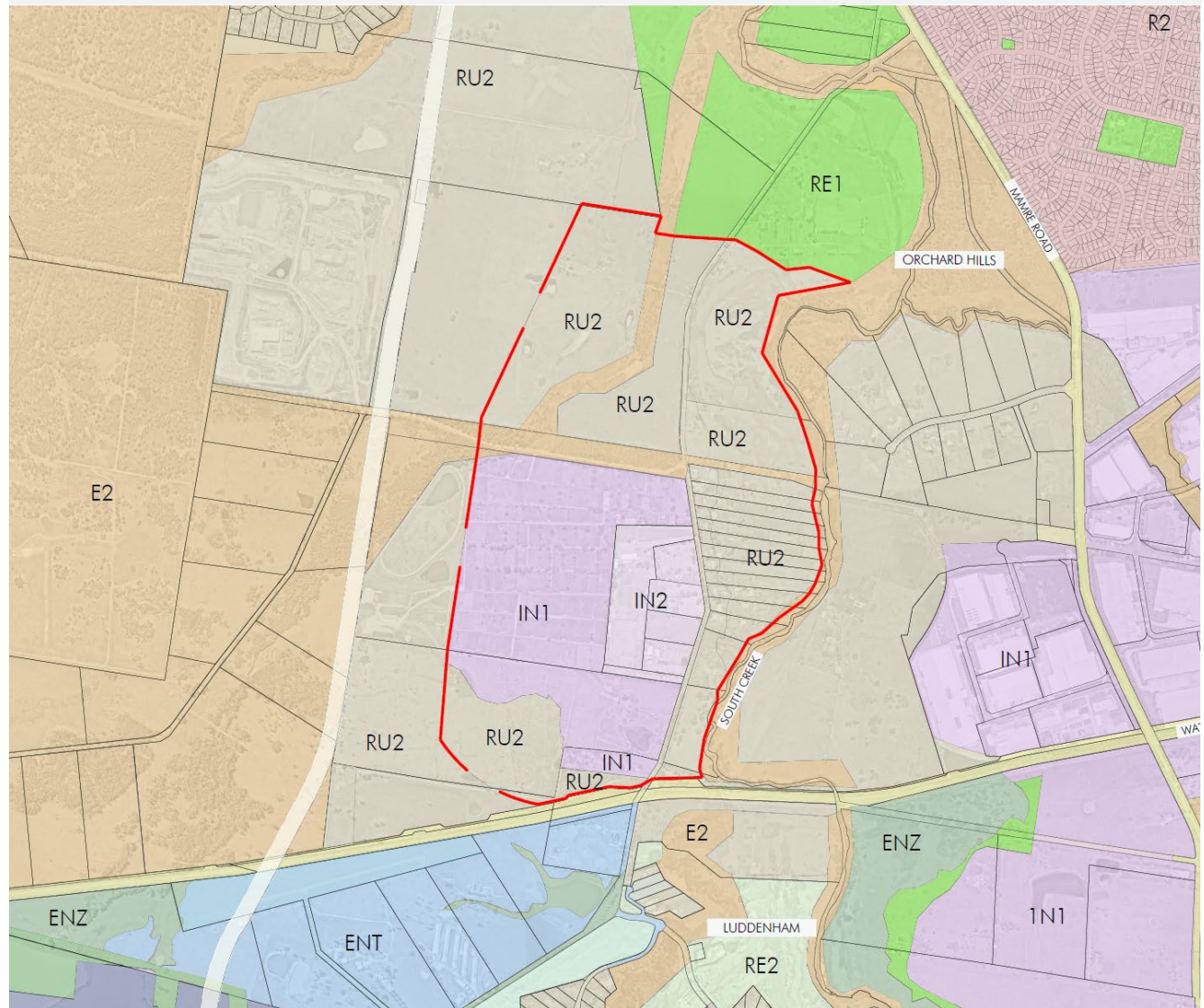
- Stage 1 proposes the construction of 5 warehouse buildings and 6 offices with car parking
- Stage 2 proposes the construction of an additional 6 warehouse buildings and 6 offices with car parking
- Stage 3, which includes the Additional Land and Southern Land parcels, proposes the construction of at least 21 warehouse buildings and 21 offices.

The plan shown here is the Structure Plan that includes the subject site (IN1 and IN2 land).

In addition to this industrial-zoned land, the structure plan also proposes ~122 ha of RU2 Rural Landscape land to the north, east and south, and ~17 ha of E2 Environmental Conservation land spread across the structure plan area.

## Structure Plan

Image 1.1



Source: Nettletontribe

# THE REZONING WILL DELIVER MUCH NEEDED INDUSTRIAL LAND TO WESTERN SYDNEY

## Key Findings

The subject site is ideally located in close proximity to the Aerotropolis and Western Sydney Employment Area, and presents a key opportunity to help address the need for additional “shovel-ready” industrial land.

According to data published by the NSW Department of Planning, Industry and Environment (DPIE) in the Employment Lands Development Monitor published in December 2020, there are currently ~405 ha of zoned serviced land (excluding Business-zoned land), ~1,450 ha of zoned unserviced land (excluding Business-zoned land), and ~6,480 ha of potential future industrial land within the Western Sydney catchment (i.e. LGAs of Penrith, Liverpool, Blacktown, Camden and Fairfield) as of January 2020.

The Aerotropolis accounts for approximately 92% of the catchment’s potential future industrial land supply.

While the Employment Lands Development Monitor records approximately 6,480 ha of potential future land supply in the Western Sydney catchment, not all of this land will be suitable for development.

Based on analysis of flooding constraints and future infrastructure corridors, we estimate up to 25% of the potential future land supply in the Western Sydney catchment could be affected and therefore would not be suitable for development.

This is considered a conservative estimate as we have not accounted for other constraints such as land fragmentation and slope. Both of these constraints will further limit which land is actually suitable for development.

Western Sydney Catchment Industrial Land Supply, 2020

Table 1.1

	Unit	Aerotropolis	Remainder of Catchment	TOTAL
Zoned Undeveloped Serviced Industrial Land Supply	ha	-	404.7	<b>404.7</b>
Zoned Undeveloped Unserviced Industrial Land Supply	ha	-	1,449.2	<b>1,449.2</b>
Potential Future Industrial Land Supply	ha	5,977.2	506.3	<b>6,483.5</b>

*\*The Mamre Road Precinct has been counted in the Proposed Land Supply  
Source: NSW DPIE; Urbis*

# THE REZONING WILL DELIVER MUCH NEEDED INDUSTRIAL LAND TO WESTERN SYDNEY

## Key Findings

The recent release of the Draft Mamre Road Precinct Development Control Plan (DCP) also has important implications for industrial development in the Western Sydney catchment, particularly the lands within the Aerotropolis. Under the existing DCP, developers are generally able to achieve a site efficiency of ~80-85%. In other words, 80-85% of Gross Land Area can be converted to Net Developable Area (NDA). This is broadly consistent across Sydney.

However, the proposed DCP implements a number of additional requirements that reduce the ability to convert Gross Land Area to NDA. These requirements include increased on-site stormwater detention, water quality treatment, trunk drainage, road widths, riparian corridors, and tree canopy. As a result of these proposed requirements, site efficiency is likely to be reduced to approximately 65-70%.

While these new requirements have only just been drafted for the Mamre Road Precinct at this stage, we understand that similar requirements are intended for the remainder of the Aerotropolis. As such, the potential future industrial land supply in the Aerotropolis is expected to yield less NDA than previously anticipated.

As the Employment Lands Development Monitor does not account for land constraints or site efficiency in its quantification of land supply, it does not provide an accurate account of the actual quantum of undeveloped industrial land supply.

We have therefore applied appropriate assumptions regarding land constraints and achievable site efficiency to convert the Employment Lands Development Monitor supply estimates for the catchment to unconstrained net land supply (refer Table 1.2).

As shown in Table 1.2, we estimate there is currently a total of 5,005.9 ha of unconstrained net land supply available for industrial development in the catchment. Of this 5,005.9 ha, ~405 ha are zoned and serviced (i.e. shovel-ready), ~1,159 ha are zoned but not yet serviced, and ~3,442 ha represent potential future industrial land supply.

**Unconstrained Net Land Supply - Western Sydney Catchment** Table 1.2

	Zoned Undeveloped Serviced Industrial Land Supply	Zoned Undeveloped Unserviced Industrial Land Supply	Potential Future Industrial Land Supply		TOTAL
			Aerotropolis	Remainder	
Total Gross Industrial Land (ha)	-	-	5,977.2	506.3	-
Unconstrained (%)	-	-	75%	75%	-
<b>Unconstrained Gross Industrial Land (ha)</b>	-	<b>1,449.2</b>	<b>4,482.9</b>	<b>379.7</b>	-
Efficiency (%)		80%	70%	80%	-
<b>Unconstrained Net Industrial Land (ha)</b>	<b>404.7</b>	<b>1,159.4</b>	<b>3,138.0</b>	<b>303.8</b>	<b>5,005.9</b>

Source: NSW DPIE

Note: \*Western Sydney Catchment comprises Penrith, Liverpool, Blacktown, Camden and Fairfield LGAs.



# THE REZONING WILL DELIVER MUCH NEEDED INDUSTRIAL LAND TO WESTERN SYDNEY

## Key Findings

We have projected the future demand for industrial land in the Western Sydney catchment using a market share approach.

As part of this approach, we have first projected the demand for industrial land in Greater Sydney over the next 40 years. This projection is based on historical take-up rate trends over the last 5-10 years and employment projections published by DPIE for the Manufacturing and Transport, Postal and Warehousing sectors. On this basis, we project an average annual net industrial land take-up rate for Greater Sydney of ~215 hectares per annum between 2021 and 2061.

We then applied a market share to the projected Greater Sydney take-up to project industrial land take-up in the Western Sydney catchment. Therefore, we project an average annual net industrial land take-up rate for the Western Sydney catchment of ~184 hectares per annum between 2021 and 2061.

Table 1.3, reconciles the projected demand for industrial land in the catchment between 2021 and 2061 with the catchment's unconstrained net industrial land supply.

Comparing the average annual take-up rate for the catchment of ~184 ha per annum against the ~5,006 ha of land supply indicates that the catchment has only:

- 2.2 years of zoned undeveloped serviced land supply
- 6.3 years of zoned undeveloped unserviced land supply
- 18.7 years of unconstrained potential industrial land supply.

These supply years are all below DPIE's stated supply standards of 5-7 years for zoned serviced land, 8-10 years for zoned unserviced land, and 20 years for potential future land supply as per the Employment Lands Development Monitor. This therefore indicates a need for additional industrial land in the Western Sydney catchment, particularly "shovel-ready" land that is zoned and serviced.

Years of Remaining Land Supply, Western Sydney Catchment		Table 1.3
	Western Sydney Catchment	Supply Standards
Zoned Undeveloped Serviced Industrial Land Supply	404.7	-
Zoned Undeveloped Unserviced Industrial Land Supply	1,159.4	-
Potential Industrial Land Supply	3,441.8	-
<b>Total Unconstrained Net Land Supply</b>	<b>5,005.9</b>	<b>-</b>
Average Forecast Take-up rate (2021-61)	183.6	-
Years of Zoned Undeveloped Serviced Net Industrial Land Supply	2.2 years	5-7 years
Years of Zoned Undeveloped Unserviced Net Industrial Land Supply	6.3 years	8-10 years
Years of Unconstrained Net Potential Future Industrial Land Supply	18.7 years	20 years
<b>Years of Total Unconstrained Net Land Supply</b>	<b>27.3 years</b>	<b>-</b>

Source: NSW Department of Planning, Industry and Employment

**The subject site is ideally located in close proximity to the Aerotropolis and WSEA, and presents a key opportunity to help address the need for additional "shovel-ready" industrial land**

# 02

## EMPLOYMENT AND ECONOMIC BENEFITS





# THE CONSTRUCTION PHASE WILL GENERATE 571 JOBS IN WESTERN SYDNEY OVER 4 YEARS

## Key Findings

The construction of the proposed development has an estimated construction cost of **\$483 million** over a four-year period starting in 2022.

The project will deliver much needed substantial number of direct and indirect jobs on the ground almost immediately from construction. The construction of the proposed development would generate **a total of 571 jobs over the four-year construction period.**

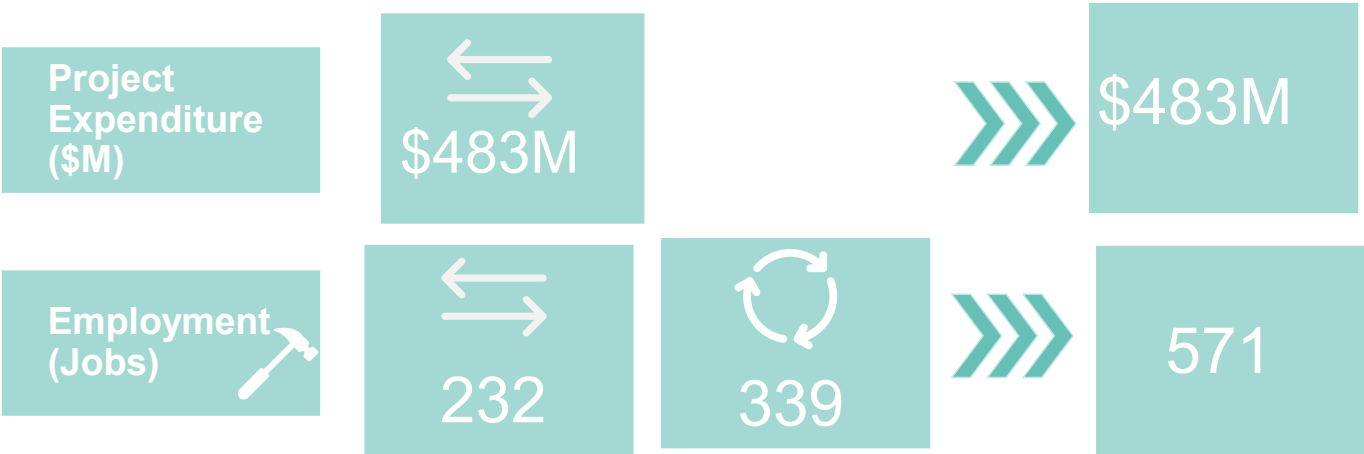
- Direct jobs = 232 jobs over 4 years
- Indirect jobs = 339 jobs over 4 years.

Initially all the new jobs will be in the Construction sector, an important focus in the COVID-19 economic recovery.

Around one in four indirect jobs associated with the construction will be in manufacturing, professional, scientific and technical services.

We have used the REMPLAN model to assess the potential jobs.

## Construction Phase



Source: REMPLAN Economy; Urbis



# THE DEVELOPMENT WILL GENERATE AN IMMEDIATE BOOST TO THE NSW ECONOMY

## Key Findings

The construction of the proposed development requires substantial capital investment, which has positive implications for contribution to the NSW economy. The development will provide much needed boost to economic production and value add.

The construction phase will generate **a total Gross Value Added (GVA) of \$355.2 million during the four-year construction period.**

- Direct GVA = \$141.4 million
- Indirect GVA = \$213.9 million.

We have used the REMPLAN model to assess the potential jobs and the economic contributions of the proposed development in terms of Gross Value Added (GVA).

## Construction Phase



Source: REMPLAN Economy; Urbis

# THE DEVELOPMENT WILL PROVIDE ADDITIONAL ONGOING EMPLOYMENT

## Key Findings

Upon completion of the development, the ongoing operations will support new jobs and generate value added to the economy.

The ongoing phase will generate **a total of 6,410 jobs**.

- Direct jobs = 3,660 jobs
- Indirect jobs = 2,750 jobs

The majority of the direct jobs associated with the future intended uses on the subject site are likely to be in the Wholesale sector. Floorspace is estimated to generate ~2,588 jobs for those workers. Jobs will also likely be generated in other sectors including:

- Professional, Scientific and Technical Services
- Retail trade
- Public Administration and Safety
- Other services.

Indirect jobs will be generated in most industry sectors, with the largest numbers estimated to be in the following sectors (subject to tenant occupancy):

- Professional, Scientific and Technical Services (696 jobs)
- Transport, Postal, Warehousing (326 jobs)
- Administrative and Support Services (299 jobs)
- Rental, Hiring and Real Estate Services (214 jobs).

## Operational Phase



3,660

2,750



6,410

Source: REMPLAN Economy; Urbis

# THE DEVELOPMENT WILL PROVIDE AN ONGOING ECONOMIC CONTRIBUTION

## Key Findings

Upon completion of the development, the ongoing operations will support new jobs and generate value added to the economy. As such, the development will continue to make a significant contribution to value add in the State economy once the development is complete from ongoing operations. Once complete and fully tenanted, the operation of the proposed development also has the potential to deliver **\$1.2 billion in direct and indirect gross value added** to the economy each year in real \$2021 dollars comprising:

- Direct average GVA per annum = \$718.0 million
- Indirect average GVA per annum = \$482.9 million.

## Operational Phase



Source: REMPLAN Economy; Urbis



03

## **JOBS CONTAINMENT**



# THE PROJECT WILL IMPROVE EMPLOYMENT RETENTION IN THE AREA

## Key Findings

In the Penrith LGA there is a gap of 8,706 jobs meaning that there are these many more local residents than jobs available in the LGA. The table shows the employment profile of Penrith LGA resident workers and the jobs available in the LGA by industry sector. It shows there is a total of 80,182 jobs in the LGA and 89,518 Penrith LGA resident workers.

The most significant gaps are in wholesale trade, transport, postal and warehousing.

The more notable changes in the gap (surplus / deficit) between 2011 and 2016 occurred in the manufacturing, construction, wholesale trade, transport, postal and warehousing sectors. The deficit trend has continued for warehousing jobs, albeit a lower deficit in 2016. The changes in construction from surplus in 2011 to deficit in 2016 reflects the different economic cycles for construction.

Based on the resident employment profile in 2016 there is good alignment with the needs of the proposed development for construction and operational phases.

Penrith City Council recognises the opportunity to provide a substantial number of jobs in an array of industries, including agribusiness and in particular manufacturing, freight and logistics.

## Jobs and Resident Workers Gap by Industry Sector

Table 3.1

Industry	2011			2016		
	Jobs	Resident Workers	Gap	Jobs	Resident Workers	Gap
Agriculture, Forestry and Fishing	704	506	+198	886	715	+171
Mining	227	148	+79	232	184	+48
Manufacturing	7,949	10,067	-2,118	8,072	7,451	+621
Electricity, Gas, Water and Waste Services	1,156	1,258	-102	1,434	1,329	+105
Construction	6,775	6,218	+557	9,121	11,025	-1,904
Wholesale Trade	2,424	4,633	-2,209	2,388	3,651	-1,263
Retail Trade	9,094	9,742	-648	9,894	9,989	-95
Accommodation and Food Services	5,393	4,750	+643	5,522	5,566	-44
Transport, Postal and Warehousing	4,260	6,028	-1,768	5,793	6,700	-907
Information Media and Telecommunications	482	1,185	-703	468	1,205	-737
Financial and Insurance Services	1,009	3,774	-2,765	1,046	4,040	-2,994
Rental, Hiring and Real Estate Services	1,125	1,272	-147	1,443	1,531	-88
Professional, Scientific and Technical Services	2,562	3,429	-867	3,300	4,080	-780
Administrative and Support Services	1,879	2,325	-446	2,423	3,090	-667
Public Administration and Safety	5,216	6,346	-1,130	5,140	6,726	-1,586
Education and Training	6,884	5,640	+1,244	7,615	6,821	+794
Health Care and Social Assistance	9,528	8,649	+879	11,667	10,380	+1,287
Arts and Recreation Services	1,066	1,053	+13	1,235	1,278	-43
Other Services	3,102	3,437	-335	3,132	3,757	-625
<b>Total</b>	<b>70,833</b>	<b>80,460</b>	<b>-9,627</b>	<b>80,812</b>	<b>89,518</b>	<b>-8,706</b>

Source: ABS 2016 Census, Urbis

# THERE IS A GAP IN THE AVAILABLE JOBS FOR RESIDENTS ACROSS MULTIPLE SECTORS

## Key Findings

The chart shows the total jobs and resident workers gap in the Penrith LGA across the industry sectors in 2011 and 2016. There are still fewer jobs than resident workers in Penrith LGA with the gap reducing by 10% between 2011 and 2016.

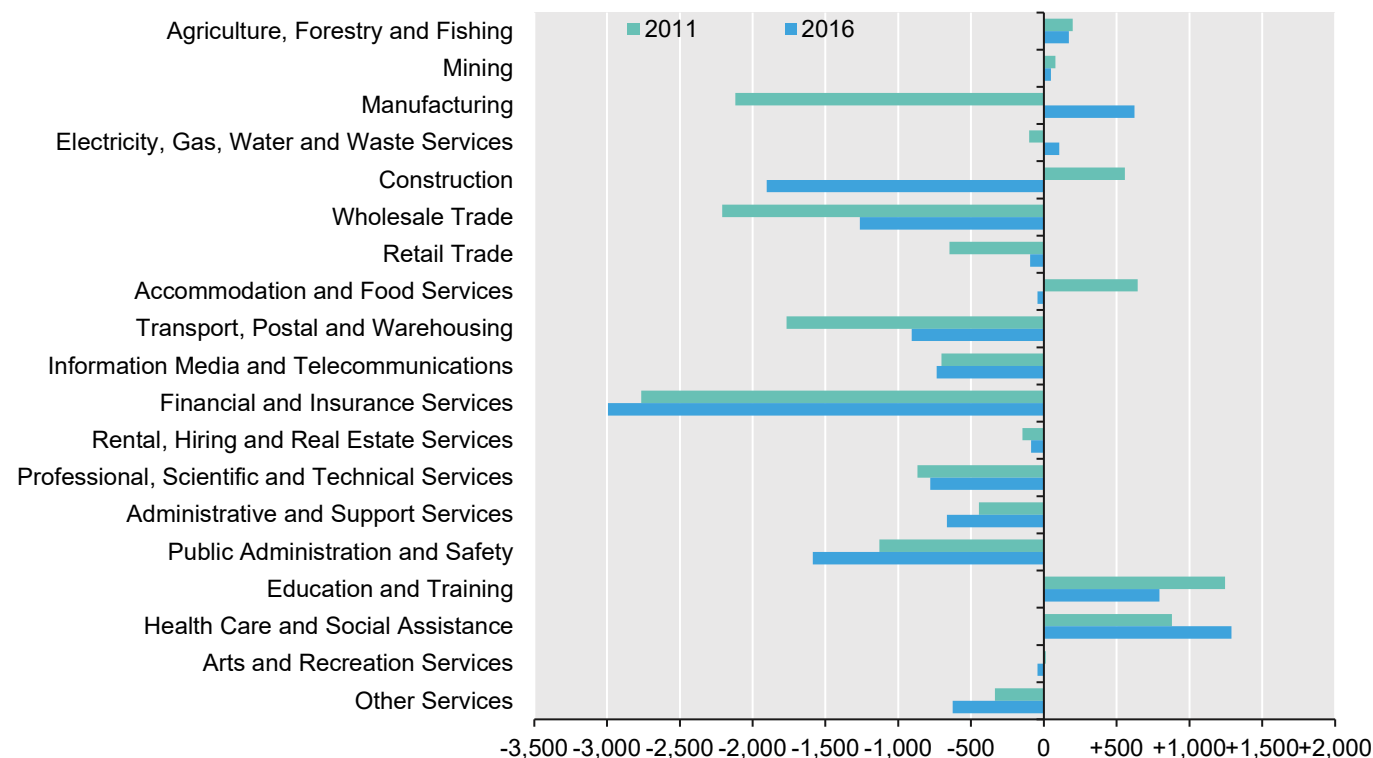
The most notable gaps where the number of resident workers outstrips jobs in the Penrith LGA based on 2016 Census are in:

- Financial and Insurance Services – deficit of -2,994
- Construction – deficit of -1,904
- Wholesale trade – deficit of 1,263
- Transport, Postal and Warehousing – deficit of -907.

The proposed development's operations would contribute to delivering more than half of the existing gap for the relevant sectors.

## 2016-2011 Jobs Deficit in Penrith LGA

Chart 3.1





# EMPLOYMENT SELF-CONTAINMENT HAS DETERIORATED FOR PENRITH LGA RESIDENTS

## Key Findings

Chart 3.3 illustrates the proportion of resident workers employed in Penrith LGA in 2011 and 2016. The employment containment has declined to 39% in 2016 as a higher proportion of resident workers travel outside of the LGA for work. Containment is shown below as a percentage that reflects the proportion of resident workers in the LGA who work in the LGA in the specified sectors.

Containment (2016) is at its lowest for:

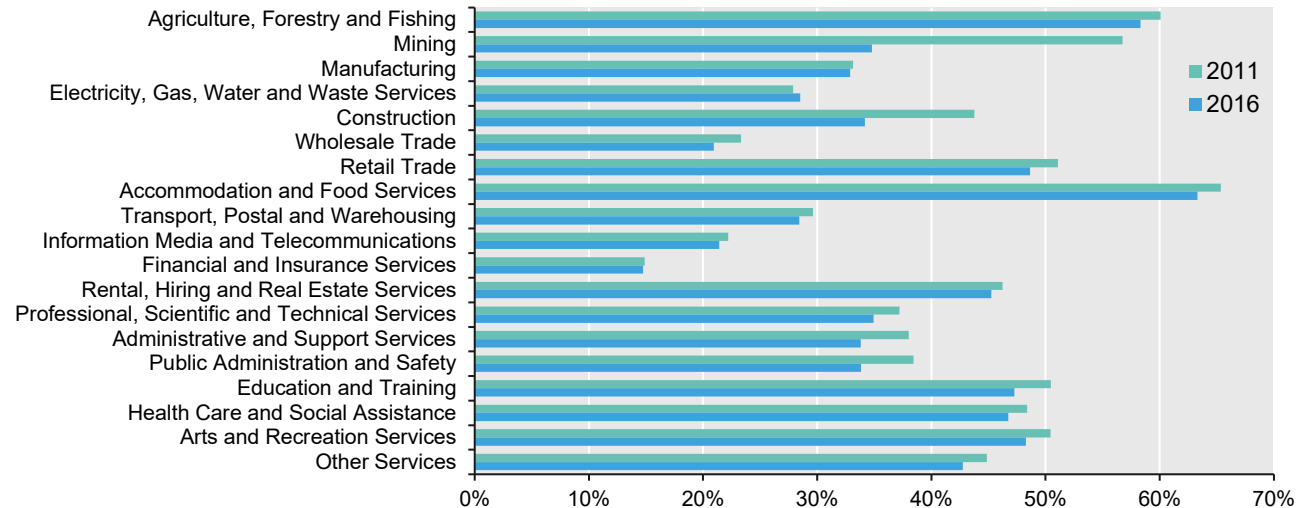
- Manufacturing (33% containment)
- Electricity, Gas, Waste Services (29% containment)
- Wholesale Trade (21% containment)
- Financial and Insurance Services (15% containment).

Chart 3.4 shows the decline in containment rates by sector between 2011 and 2016. The most notable changes to containment occurred in the mining and construction sectors. For construction jobs containment, there was a decline of 9.6%, indicating more construction workers had to leave the LGA for work.

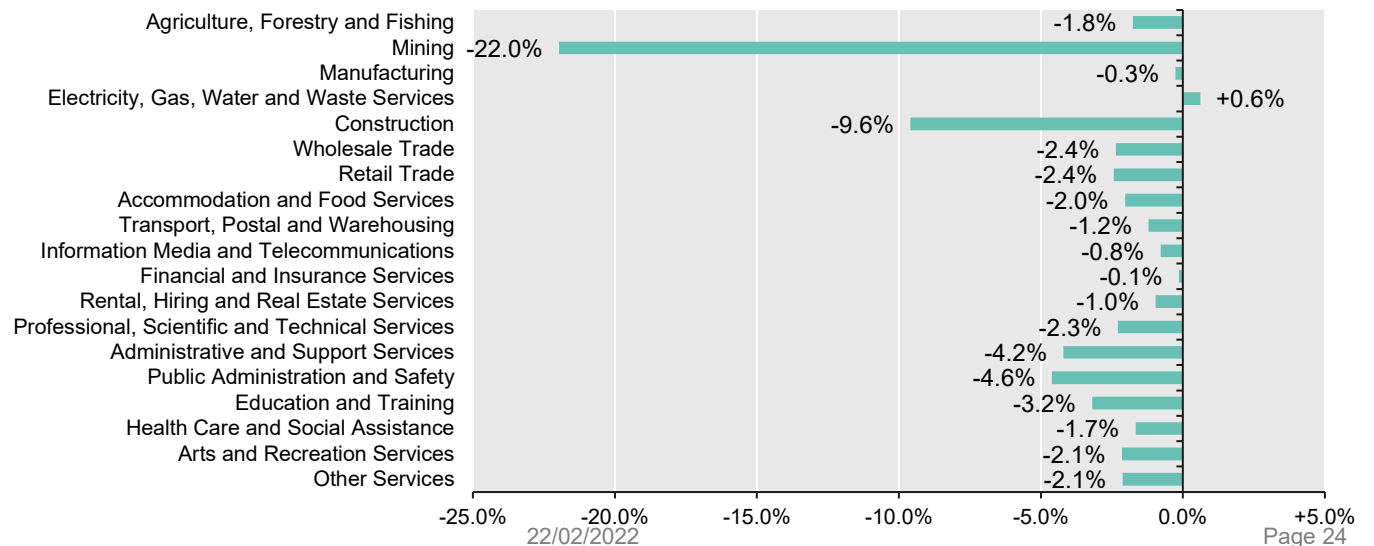
The subject site as well as other new developments has a valuable role to play through providing jobs for local residents in sectors most at risk of further self-containment deterioration.

Proportion of Resident Workers Employed in Penrith LGA

Chart 3.3



Change in Proportion of Resident Workers Employed in Penrith LGA: 2011-2016 Chart 3.4



# 04

## INDUSTRIAL DEMAND DRIVERS AND TRENDS



# MORE MODERN INDUSTRIAL BUILDS ARE DEMANDED IN RESPONSE TO GLOBAL TRENDS

## Implications for Greater Sydney

Agglomeration and Consolidation of industrial floorspace is occurring globally. Ultimately, these changes in the nature of industrial land in Greater Sydney are expected to result in:

- An overall lower floorspace requirement for industrial businesses
- Fewer but larger industrial precincts where multiple businesses within the supply chain are co-located
- A higher density of jobs per square metre of industrial floorspace.

The implication for the subject site is that the release of new sites and developments to the market is important to support the drive towards increasing efficiencies and use of technology in the logistics sector. Modern applications such as those listed below are critical to market competitiveness.

### INDUSTRIAL TREND: AGGLOMERATION AND CONSOLIDATION

Agglomeration and consolidation of industrial floor space is a trend currently being experienced in global cities, which is driving a higher density of workers per square metre of industrial floorspace.

Dense developments can create extensive ecosystems and create advantages and incentives for companies to locate if they see synergies with their business. Being close to suppliers, clients and competitors helps businesses adapt and develop new solutions.

This global trend has resulted in the following effects on industrial land in Greater Sydney:

1. More outsourcing of supply chain and logistics to **specialist third-party logistics** (3PL) providers that have buying power and cost and efficiency benefits of scale
2. **High-bay automation** is increasing and is driving different built form requirements due to the heights required
3. Changes in technology and expansion of **robotics** supported by AI algorithms into logistics will drive demand for more **dark warehouses** (likely to cause a shift away from square metres to cubic metres as a measure of space).



# THE DEVELOPMENT CAN ATTRACT BUSINESSES ATTRACTED TO OPERATION CLUSTERS

## Insight

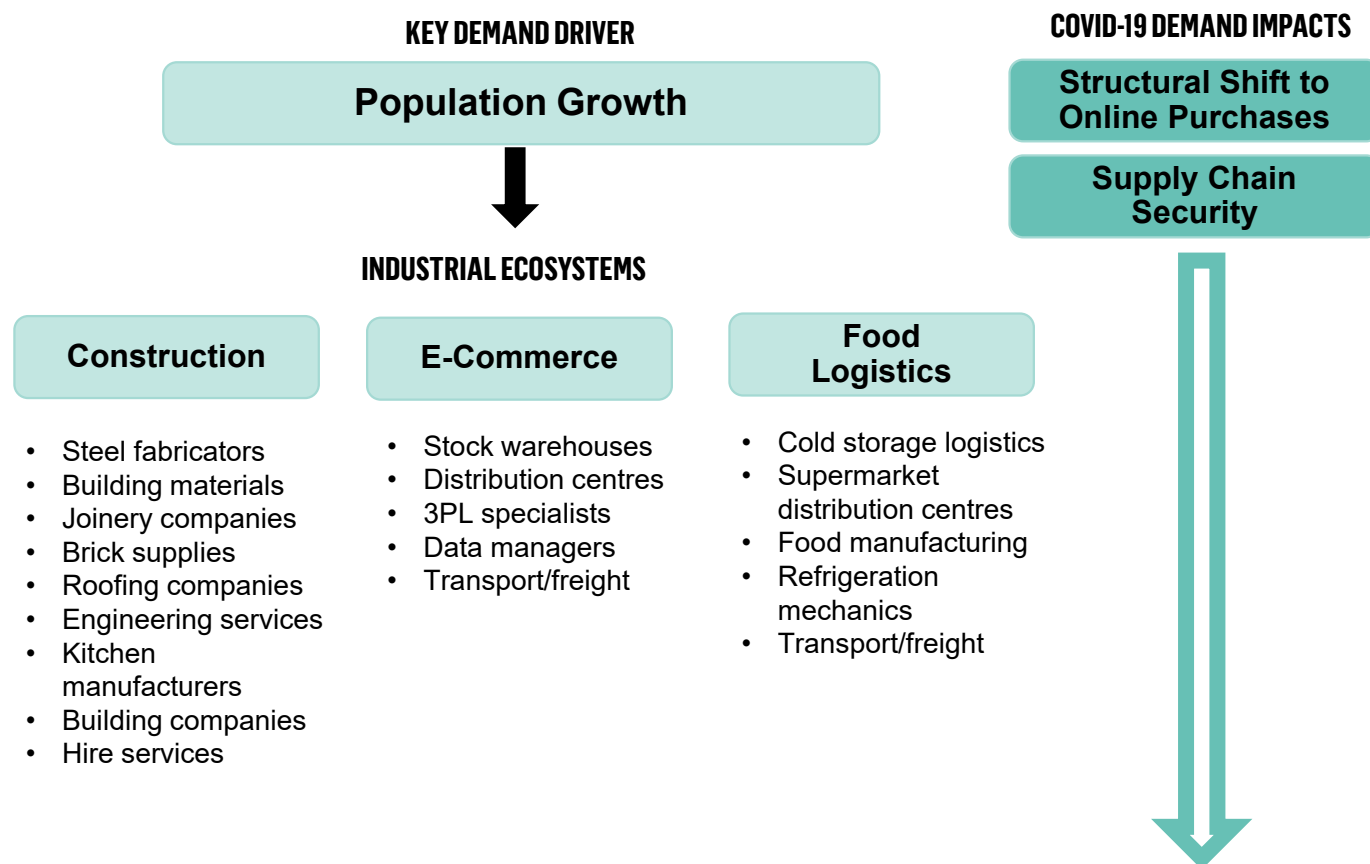
The development will attract businesses to the local area seeking a more contemporary property and strengthen the competitive position of other businesses linked to their supply chain.

Property and site attributes of importance to companies seeking to run operations that maximise efficiencies, the latest technologies and option to flex up or down are:

- Flexibility – provides the ability to customise requirements as demand change and increasingly manage reverse logistics
- Technology - high speed data NBN or fibre, and service back up
- Access – multiple egress points for different vehicle mediums and a mix of outgoing and incoming movements
- Amenity – has facilities for workers that are in line with a modern workplace and can help to attract talent particularly for professional and technical type roles.

The diagram on this page illustrates the potential for the development to attract businesses that are attracted to and benefit from ecosystems which are clusters of businesses that have synergies.

## The Demand Ecosystem



COVID-19 is predicted to have longer term impacts on demand for industrial space. The most notable dynamics are the structural shift that has occurred in the flight to online purchasing. The growth in e-commerce is largely expected to be sustained. This factor combined with the importance of maintaining adequate stock levels locally to mitigate against risk of not being able to access stock could also see increased demand of high quality flexible warehouse space.

# ADOPT A PEOPLE CENTRIC APPROACH TO INDUSTRIAL DEVELOPMENT

## Insight

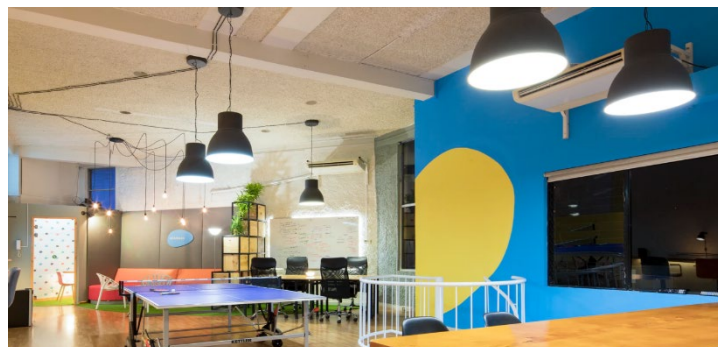
Next generation industrial estates that deliver desirable offices for administration and knowledge workers with outdoor areas, café, end of trip facilities and potentially exercise facilities. In addition to the core workforce of warehouse and transport workers, there are professional jobs in industrial precincts who could be:

- Purchasing procurement and inventory professionals
- Business development managers
- Technical specialists
- Data specialists.

The fundamentals of workplace wellbeing should be addressed, i.e.

- Fresh air and natural light
- Safe places to have breaks
- Exercise opportunities
- Places to purchase food and drinks.

## Worker Amenity





A white drone with a camera is flying in the foreground of a warehouse. In the background, a worker wearing a yellow hard hat and a high-visibility vest is holding a tablet. The warehouse has high ceilings and shelves filled with boxes.

# APPENDIX



# INPUT-OUTPUT METHODOLOGY

This Economic Analysis uses **REMPLAN** to model the potential economic benefits associated with the proposed development. REMPLAN is an Input Output model that captures inter-industry relationships within an economy. It can assess the area specific direct and flow on implications across industry sectors in terms of employment, wages and salaries, output and value added (Gross State Product).

The potential economic benefits of the proposed development have been quantified in terms of value added expenditure generation and employment generation:

- Expenditure Generation – Estimation of the direct and indirect expenditure impacts resulting from the proposed development. This estimates value added expenditure impacts to the regional and state economies during both the development and operating phases
- Employment Creation – Estimation of the direct and indirect employment impacts resulting from the proposed developments. This estimates employment impacts using standard industry jobs per sq.m benchmarks and regional employment multipliers for New South Wales.

Key points regarding the workings and terminology of the model are as follows:

- REMPLAN uses either the value of investment or employment generation as the primary input. For this analysis, the value of total upfront investment has been used as the key input to assess the benefits of the construction phase, whereas future employment at the centre is the input to assessing the ongoing economic benefits of the operational phase
- Outputs from the model include direct and indirect employment and value added (i.e. economic growth) generated through the project
- Employment generated includes all full-time and part-time jobs created over the life of the construction phase; or in terms of the on-going operations, total on-going jobs generated
- Both the direct and indirect benefits are modelled for employment and value added
- Direct refers to the effect felt within the industry where the investment is being made. For example, during the construction phase, new direct jobs are created within the construction industry

- Indirect effects are
  - Those felt within industries that supply goods to the industries directly affected (industry effects)
  - Those felt by industries that benefit from the wages that are earned and spent by those employed within the industries directly affected (consumption-induced effects).

For the purposes of this analysis, consumption-induced effects have been excluded. Consumption-induced effects are prone to overstate the benefits of a particular investment as they overestimate the impact of wage and salary increases in the local economy. This is accepted industry practice.

