# Design for a better *future /*



Mulpha Australia Limited

# Norwest Marketown Planning Proposal Economic Impact Assessment



#### Norwest Marketown Planning Proposal Economic Impact Assessment

Mulpha Australia Limited

WSP Level 27, 680 George Street Sydney NSW 2000 GPO Box 5394 Sydney NSW 2001

Tel: +61 2 9272 5100 Fax: +61 2 9272 5101 wsp.com

Rev Date		Details				
А	2023-08-01	2023-08-01		First document draft with internal quality review		
В	2023-08-28		Second document draft addressing client comments and feedback			
С	2023-08-30	2023-08-30		Finalised document addressing client comments and feedback		
Name			Date	Signature		
Prepared by Philip Z		Philip Zau	unders	2023-08-30	Tard	
Reviewed by Jack Unde		erwood	2023-08-30	fter		

WSP acknowledges that every pro	niect we work on takes place o	n First Peoples lands
wor acknowledges that every pre	oject we work on takes place o	in i nati copica iditua.

Ray Winn

We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

2023-08-30

Approved by

R-Win-

This document may contain confidential and legally privileged information, neither of which are intended to be waived, and must be used only for its intended purpose. Any unauthorised copying, dissemination or use in any form or by any means other than by the addressee, is strictly prohibited. If you have received this document in error or by any means other than as authorised addressee, please notify us immediately and we will arrange for its return to us.

# vsp

# Table of contents

Abbreviationsv				
Executive summary1				
1	Introduction4			
1.1	Purpose4			
1.2	Structure4			
2	Overview5			
2.1	Direct expenditure and employment6			
3	Methodology 11			
3.1	Socio-economic profile11			
3.2	Economic impact assessment11			
4	Socio-economic profile12			
4.1	Age			
4.2	Employment13			
5	Economic impact14			
5.1	Construction impact14			
5.2	Operation impact			
5.3	Other benefits			
6	Limitations 23			
6.1	Permitted purpose			
6.2	Qualifications and assumptions23			
6.3	Use and reliance			
6.4	Disclaimer			
6.5	Remplan limitations24			
6.6	IO model interpretation guidance24			
Appe	ndix			

#### List of tables

# wsp

Table 2-1 Indicative project timeline	6
Table 2-2 Construction expenditure by stage	
Table 2-3 Project expenditure by location	7
Table 2-4 Construction expenditure by industry	7
Table 2-5 Base case jobs Norwest Marketown	8
Table 2-6 Project case jobs Norwest City	9
Table 2-7 Change in jobs; Norwest Marketown (base case) to Norwest   City (project case)	9
Table 2-8 Operation employment allocation in study area and New     South Wales	10
Table 4-1 Per cent of usual residents employment by industry in study     area and NSW	13
Table 5-1 Construction output economic impact of the Norwest City     Masterplan	14
Table 5-2 Construction employment impact of the Norwest City     Masterplan	15
Table 5-3 Construction value-added economic impacts of the Norwest     City Masterplan	16
Table 5-4 Construction wages and salaries economic impact of the     Norwest City Masterplan	17
Table 5-5 Operation output impact of the Norwest City Masterplan	19
Table 5-6 Operation employment impact of the Norwest City     Masterplan	20
Table 5-7 Operation value-added impact of the Norwest City Masterplan	21
Table 5-8 Operation wages and salaries impact of the Norwest City Masterplan	22
Table 3-1 NSW Treasury I-O employment estimation interpretation guidance	

### List of figures

Figure 2-1 Norwest Marketown defined study area	5
Figure 3-1 Labour force size, million working residents1	12
Figure 4-2 Age distribution of resident labour force population in study	
area and NSW1	12

# Abbreviations

Term	Definition
ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
EIA	Economic impact assessment
FTE	Full-time equivalent
GFA	Gross floor area
GRP	Gross regional product
ю	Input-output
LGA	Local government area
NPV	Net present value
РР	Planning proposal

## **Executive summary**

#### Background

Mulpha engaged WSP to complete an Economic Impact Assessment (EIA) to accompany a planning proposal (PP) for the proposed redevelopment of Norwest Marketown into a new strategic town centre, Norwest City. The findings from the assessment are set out in the report and the highlights are summarised below.

#### Overview

Norwest Marketown is a shopping centre situated in The Hills Shire local government area (LGA) in Sydney. The site also contains a service station, car wash and swimming centre. These existing facilities are proposed to be demolished and replaced, in stages, with 11 buildings offering a mix of commercial, residential, and retail facilities, including a hotel, cinema, supermarket, and public space.

The study area around Norwest Marketown - the area where we assume the majority of operational employees will travel from to work, as well as where local construction materials and local construction employees will be sourced from - is defined as comprising the LGA's of Blacktown, Cumberland, Hawkesbury, The Hills, Hornsby, and Parramatta.

The project will require a total capital investment of \$2.14 billion across the 11-year construction phase, supporting an ongoing 6,370 direct FTE jobs once fully operational. The project is expected to deliver substantial ongoing economic benefits to the study area and State of New South Wales, creating a new source of employment to utilise a range of labour resources from the study area.

#### The socio-economic statistics relevant to the project are:

- the study area has a resident labour force of 0.56 million working residents, compared to 3.52 million working residents in New South Wales, contributing 15.8% of the resident labour force to New South Wales;
- the study area has a slightly lower proportion of residents working in the construction industry (8.4%) than in New South Wales (9.0%). The difference is small but indicates a slightly lower supply of construction employees within the region and may require sourcing these skills from outside of the study area;
- there is a greater proportion of residents working in the Professional, Scientific & Technical Services industry in the study area (10.6%) than in New South Wales (9.3%). This suggests that the new office space created by the redevelopment aligns with a comparatively large local industry that primarily uses offices to conduct business;
- there is a slightly greater proportion of residents working in the Retail Trade industry in the study area (9.7%) than in New South Wales (9.4%). This suggests that the new retail floor space created by the redevelopment aligns with a comparatively large local industry that primarily uses retail stores to conduct business;
- there is a greater proportion of younger working residents in the study area (ages 15 to 44; 62.9%) than in New South Wales (59.1%), and a lesser proportion of older working residents in the study area (ages 45 and over; 37.1%) than in New South Wales (40.9%). This suggests that the labour force in the study area is younger than in New South Wales, and that the impact of ageing is likely to be less pronounced in the study area.

#### The main quantified benefits of the project during the construction phase are:<sup>1</sup>

 \$3.32 billion in additional output (including direct, supply-chain and consumption flow-on effects) for the study area and up to a total of \$4.23 billion in additional output for the State (including the Norwest study area) during the 11year construction phase;

<sup>&</sup>lt;sup>1</sup> this report only assesses the economic benefits which are captured within the study area and NSW. A small proportion of construction costs (13.8%) are expected to be incurred outside of NSW, the benefits incurred from capital expenditure outside of NSW have not been assessed.

- in the study area at peak construction in 2034, the construction phase will support up to 1,187 full-time equivalent (FTE) jobs per annum (including direct, supply-chain and consumption flow-on effects). Over the 11-year construction period, when totalling the sum of the number of FTEs from each year, the project will support a total of 6,502 FTEs in the study area. In New South Wales at peak construction in 2034, the construction phase will support a total of up to 1,497 FTE jobs per annum for New South Wales, supporting a total sum of 8,352 FTE jobs over the total 11-year construction period;
- \$1.16 billion value-added for the study area and a total of \$1.49 billion value-added for the State;
- up to \$602.55 million in wages and salaries for the study area, and a total of \$776.92 million for the State.

#### The main quantified benefits of the project during the operation phase are:

- up to \$3.39 billion in additional operational output per annum (including direct, supply-chain and consumption flowon effects) for the study area, and up to a total of \$4.40 billion in additional output for New South Wales (including the Norwest study area) once peak employment is reached in 2038 (Year 12);
- in the study area, once peak employment has been reached in 2038, the operation phase will support up to 9,839 full-time equivalent (FTE) jobs per annum (including direct, supply-chain and consumption flow-on effects). In New South Wales once peak employment has been reached in 2038, the operation phase will support a total of up to 12,779 FTE jobs per annum for New South Wales;
- once peak employment is reached, the project will contribute \$1.69 billion value-added per annum to the study area and a total of \$2.20 billion value-added per annum for the State;
- up to \$983 million in wages and salaries per annum for the study area, and a total of \$1.28 billion per annum for the State.

#### Key economic benefits from the project, shown in Table ES-1, include:

- Mulpha's proposed capital investment of \$2.14 billion for Norwest City, of which an estimated \$1.44 billion will be incurred within the study area and \$1.84 billion within NSW (including the study area), will support a total of \$3.32 billion in economic output for the study area during the 11-year construction phase, and \$4.23 billion for NSW (including the study area). This will support a total of 6,502 FTE jobs in the study area, and 8,352 FTE jobs in NSW (including the study area), between 2028 and 2037;
- the 11-year construction phase is estimated to add a total of \$1.49 billion in additional value to the State;
- once construction is complete and full operational employment is achieved, assumed in FY2038, the Norwest City development is estimated to support an economic output of \$3.39 billion per annum for the study area, and \$4.40 billion per annum for NSW (including the study area). This Norwest City development will support 9,839 FTE jobs per annum within the study area (including direct, supply-chain and consumption flow-on effects), and 12,779 FTE jobs per annum within NSW (including the study area);
- once fully operational, Norwest City is estimated to add \$2.20 billion per annum in additional value to the State.

Table ES-1 Key economic benefits from the Norwest City development

	Study area	NSW (study area + rest of NSW)
During construction, 2028-2037		
Direct capital expenditure (\$m), total 2028-2037	\$1,442.8	\$1,843.0
Economic output supported (\$m) <sup>2</sup> , total 2028-2037	\$3,319.6	\$4,230.0
FTE jobs supported <sup>2</sup> , total 2028-2037	6,502	8,352
Value added (\$m) <sup>2</sup> , total 2028-2037	\$1,161.7	\$1,491.9
Wages and salaries supported (\$m) <sup>2</sup> , total 2028-2037	\$602.6	\$776.9
Post construction, 2038 onwards		
Economic output supported (\$m) <sup>2</sup> , per annum	\$3,384.5	\$4,395.5
FTE jobs supported <sup>2</sup> , per annum	9,839	12,779
Value added (\$m) <sup>2</sup> , per annum	\$1,693.9	\$2,199.8
Wages and salaries supported (\$m) <sup>2</sup> , per annum	\$983.0	\$1,276.6

Source: REMPLAN; WSP

<sup>&</sup>lt;sup>2</sup> including direct, supply-chain and consumption flow-on effects

# 1 Introduction

#### 1.1 Purpose

The purpose of this study is to identify potential socio-economic impacts of the proposed development plan for Norwest Marketown on affected local community around the proposed development and State of New South Wales (NSW). This includes an assessment of the economic impacts or benefits of the project for the study area and the State of NSW, as a whole. The assessment is both quantitative and qualitative.

#### 1.2 Structure

The remainder of the report is structured as follows:

- Section 2: Overview provides a description of the Project and outlines the key assumptions used to inform the impact analysis
- Section 3: Methodology describes the process used to estimate the impacts on the local and State economies
- Section 4: Socio-economic profile provides an overview of key socio-economic indicators for the study area compared to the State
- Section 5: Economic impact details the impact of the Project on the local and State economy during construction and operation.

# 2 Overview

This section outlines the key assumptions about the Project used to inform this analysis.

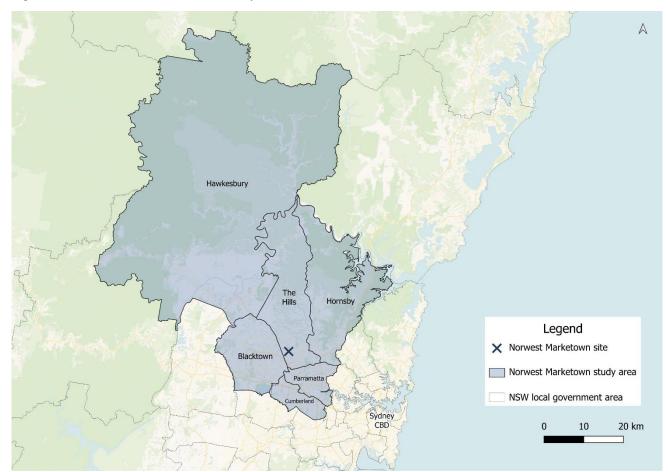
Figure 2-1 below shows the study area for this assessment. The Norwest study area comprises six LGAs:

- Blacktown
- Cumberland

- The HillsHornsby
- Hawkesbury Parramatta.

Economic impacts are reported for the Norwest study area, and for the State of New South Wales.

Figure 2-1 Norwest Marketown defined study area



Source: WSP

### 2.1 Direct expenditure and employment

The economic modelling is based on the following construction and operational data (e.g. costs and timing) provided by the client and quantity surveyor. These are the best available inputs but may change as the project progresses.

Table 2-1 shows the indicative schedule for each project phase by financial year. Each year refers to the ending financial year (e.g. 2027 refers to the financial year 2026-27 starting on 1 July 2026 and finishing on 30 June 2027.

The operation phase is assumed to begin when the first operational jobs are lost in 2027 as demolition in preparation for stage one construction begins.

Table 2-1	Indicative	project	timeline
-----------	------------	---------	----------

Phase	Length	Start	End
Construction phase	11 years	FY2027	FY2037
Construction stage 1	3 years	FY2027	FY2029
Construction stage 2	2 years	FY2030	FY2031
Construction stage 3	3 years	FY2032	FY2034
Construction stage 4	3 years	FY2035	FY2037
Operation phase	30 years	FY2027	FY2056

Source: Mulpha

#### 2.1.1 Construction phase

Table 2-2 displays the construction expenditure by stage. The REMPLAN analysis of the construction phase is based on projected expenditure derived from cost estimates. Each stage is independent and stages are assumed not to overlap. The costs are based on external cost estimation figures (Appendix A contains the detailed costing information).

Construction stage	Activities (non-exhaustive)	Total cost (\$m)
Stage 1	Building B1, building B2, building H, site preparation and earthworks	\$737.2
Stage 2	Site preparation and earthworks, roads and services infrastructure, landscaping	\$22.7
Stage 3	Building 3, building 4, building 6, building 7, building 8, building 9, building S, other construction	\$899.3
Stage 4	Building 5, basement car parking, works outside boundary, other construction	\$102.6
Margins and adjustments*	Contingency, design and consultant fees, authority fees	\$377.3
<u>Total</u>		<u>\$2,139.0</u>

Table 2-2 Construction expenditure by stage

Source: Rider Levett Bucknall Norwest Marketown Initial Estimate June 2023

\* Distributed evenly across stages 1 to 4

Table 2-3 show how the \$2.14 billion of construction expenditure is distributed across the study area (67.5%), NSW (67.5% + 18.7%), and internationally (67.5% + 18.7% + 13.8%). These estimates are based on:

client and quantity surveyor consultations

 an assessment of likelihood of local sourcing based on the complexity of components (e.g., highly specialised components are more likely to be sourced beyond the study area).

Table 2-3 Project expenditure by location

	Construction		
	Proportion of costs	Cost (\$m)	
Study area	67.5%	\$1,442.8	
New South Wales (including study area)	86.2%	\$1,843.0	
Total (local + NSW + outside NSW)	100.0%	\$2,139.0	

Source: WSP

Table 2-4 shows that the construction expenditure is expected to be incurred across five separate industries.<sup>3</sup> A breakdown of industry expenditure by stage is provided in Appendix A.

Table 2-4 Construction expenditure by industry

	Study area total (\$m)	New South Wales (\$m)
Non-Residential Building Construction	\$982.0	\$1,225.9
Residential Building Construction	\$165.5	\$201.0
Professional, Scientific & Technical Services	\$143.4	\$210.9
Construction Services	\$125.7	\$166.0
Heavy & Civil Engineering Construction	\$26.1	\$39.2
Total	<u>\$1,442.8</u>	<u>\$1,843.0</u>

Source: WSP, Rider Levett Bucknall Norwest Marketown Initial Estimate June 2023

#### 2.1.2 Operation phase

The REMPLAN analysis of the operation phase is based on jobs supported by the Norwest City development. The employment data is based on additional jobs created (i.e., jobs that would otherwise not be supported if the masterplan did not eventuate; project case employment less base case employment):

- base case employment is derived from the current tenants occupying the Norwest Marketown precinct
- the project case employment is derived from floorspace use estimates provided in the indicative yield schedule
- the change in full time employment (FTE) is calculated by subtracting the project case employment from the base case employment. The tables below outline the methodology
- the operation scheduling assumes the base case jobs are lost when construction begins on each building (i.e., June 30), and the new jobs begin at the beginning of the year following construction end (i.e., July 1).

<sup>&</sup>lt;sup>3</sup> Industry classifications per Australian and New Zealand Standard Industrial Classification (ANZSIC); see ABS. (2013). Australian and New Zealand Standard Industrial Classification (ANZSIC). Retrieved on 22 August 2023 from https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/latest-release

Table 2-5 displays the base case jobs at Norwest Marketown. Norwest Marketown currently has 48 tenants and supports 718 total jobs, equivalent to 499 FTE.<sup>4</sup> The majority of jobs are related to food and beverage services and retail trade.

Table 2-5 Base case jobs Norwest Marketown

Description of jobs	ANZSIC category	No. of current tenants	Base case jobs	Base case jobs (FTE equivalent)
Restaurant, cafe, and other food services	Food & Beverage Services	21	313	189
Retail services, supermarkets, and convenience stores	Retail Trade	8	217	154
Swimming school education	Arts, Sports, Adult, Community & Other Education	1	83	47
Banking branches and services	Finance	3	40	45
Personal services, e.g., hairdressers, nail salons	Personal Services	7	31	31
Early childhood education and care facility	Pre-School, Primary, Secondary & Special Education	1	15	14
Physiotherapy services	Health Care Services	2	10	9
Other services, e.g., car washing, tailoring, repairs	Other Services	4	7	8
Tax accounting and human resourcing	Professional, Scientific & Technical Services	1	2	2
Hotel services	Accommodation	0	0	0
Cinema services	Motion Picture & Sound Recording		0	0
Total		<u>48</u>	<u>718</u>	<u>499</u>

Source: data supplied by client, correct at 24 April 2023

Table 2-6 displays the estimated number of future jobs supported by the Norwest City development. The number of future jobs supported by the redevelopment was determined by:

- assessing the gross floor area (GFA) of the development

- applying a jobs index ratio to estimate the number of jobs associated with each GFA.

<sup>&</sup>lt;sup>4</sup> To determine the change in operational jobs supported by the proposed redevelopment, job estimates were converted to FTE. Current employees for Norwest Marketown were provided as a total figure, with no details regarding the number of full-time, part-time, or casual employees. To determine the FTE equivalent of current total employees, the weekly hours worked for each industry within the Norwest Destination Zone (112915942) were extracted from ABS Tablebuilder and compared against the ABS full-time hours worked benchmark of 35 hours. This comparison provided a ratio for total hours to FTE equivalent hours for each industry. Total current employees within each industry were compared against the relevant industry ratio to determine the current number of FTE within Norwest Marketown.

#### Table 2-6 Project case jobs Norwest City

Project case land use	GFA (sqm)	GFA to jobs index	Project case jobs
Retail and supermarket	27,095.2	30.20	897
Office	82,154.4	16.20	5,071
Hotel	8,584.8	30.20	284
Cinema	3,548.5	30.20	118
Total	<u>121,382.9</u>	-	<u>6,370</u>

Source: data supplied by client, job index ratios supplied by Ethos Urban

Note: it is assumed project case job estimates are FTE equivalent

Table 2-7 shows the estimated change in jobs as the difference between base case and project job estimates. There is a reduction in jobs in one industry due to the demolition of the swimming centre. The incremental change in jobs has been used to estimate the output, value-added, and wages and salaries in the operation phase in REMPLAN.

The industry proportions for project case jobs assigned to the proposed retail and supermarket land uses are assumed to utilise the same industry proportions as the base case, excluding swim school employment as no swim school was indicated within the project case development plans (i.e., the project case retail and supermarket GFA will include 41.8% food & beverage service employees and 34.2% retail trade employees).

Description of jobs	ANZSIC category	Norwest Marketown jobs (base case)	Norwest City jobs (project case)	Change in jobs
Food services	Food & Beverage Services	189	375	186
Retail trade	Retail Trade	154	307	152
Swimming school	Arts, Sports, Adult, Community & Other Education	47	0	-47
Bank branches	Finance	45	88	44
Personal services	Personal Services	31	62	31
Childhood education and care	Pre-School, Primary, Secondary & Special Education	14	29	14
Physiotherapy services	Health Care Services	9	17	8
Other services	Other Services	8	16	8
Commercial and office services	Professional, Scientific & Technical Services	2	5,076	5,073
Hotel services	Accommodation	0	284	284
Cinema services	Motion Picture & Sound Recording	0	118	118
Total		<u>499</u>	<u>6,370</u>	<u>5,871</u>

Table 2-7 Change in jobs; Norwest Marketown (base case) to Norwest City (project case)

Source: WSP analysis

Note: values may not sum due to rounding (e.g., commercial and office services)

Table 2-8 shows how the employment estimates are allocated between the study area and the wider state.

The operational employment is considered in the study area and in New South Wales. The employment allocations were determined by analysing ABS Journey to Work statistics and determining the proportion of persons who worked in the Norwest destination zone (112915942) and resided in the six study area LGAs, or New South Wales.

The results show that 77% of the additional FTE positions are assumed to reside in the study area and the remaining 23% of FTE positions created are assumed to be outside of the study area but within the State of NSW.

Table 2-8 Operation employment allocation in study area and New South Wales

	Operation		
	Proportion of employment	No. additional employees	
Study area	77%	4,521	
New South Wales (including study area)	100%	5,871	

Source: WSP

# 3 Methodology

This section describes the approach to estimating the economic impacts by:

- completing a socio-economic profile of the local study area to understand local needs and supply chain potential
- estimating the economic impacts, in terms of jobs and other economic metrics for the study area, and for New South Wales.

### 3.1 Socio-economic profile

The socio-economic profile summarises the current conditions of the area surrounding the Project. It focuses on the study area, compared to New South Wales, and is primarily based on the results of the 2021 Census of Population and Housing, scaled to 2022 estimates.

### 3.2 Economic impact assessment

Estimates for the contribution of the Project to the study area and New South Wales economy are based on REMPLAN's input-output (IO) model.

#### 3.2.1 Input-output modelling

REMPLAN's input-output (IO) model quantifies economic linkages between 114 industry sectors across the economy. The model can assess the impact of an industry on the overall economy and how much the economy relies on the identified industry.

The impacts are measured through:

- direct impacts, the first round of effects from direct expenditure on goods and services
- flow-on impacts through the second and subsequent round effects of the increased level of purchases by suppliers in response to increased sales. Flow-on impacts are disaggregated into:
  - supply chain effects (Type I), which represent the production induced support activity as a result of additional expenditure on goods and services, and subsequent round effects of increased purchases by suppliers in response to increased sales – also referred to as 'indirect' impacts
  - consumption effects (Type II), the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economy – also referred to as 'induced' impacts.

The effects can be identified through the examination of four key measures:

- output: The total value of all goods and services produced within the year (the final value of the good/service)
- value-added: The value of output after deducting the cost of goods and services inputs in the production process
- jobs: Level of employment supported by the industry, expressed as full-time equivalent (FTE) positions
- wages and salaries: Level of wages and salaries paid to employees in each industry.

For the purpose of this analysis, the Project's economic contribution is measured through projected construction expenditure and projected operational employment. The estimated spend or employment is entered into REMPLAN's IO model for the study area and New South Wales to identify the flow-on indirect and total contributions.

Limitations of and guidance for interpreting input-output modelling are detailed in 6.5.

# 4 Socio-economic profile

The Norwest Marketown study area (defined in Chapter 2: Overview) has different socio-economic characteristics to New South Wales. These differences have important implications on the Masterplan redevelopment. This chapter compares the resident labour size, age, and industries of employment.

The study area has a resident labour force of 0.56 million working residents, compared to 3.52 million working residents in New South Wales (see Figure 3-1). The study area contributes 15.8% of the resident labour force to New South Wales.

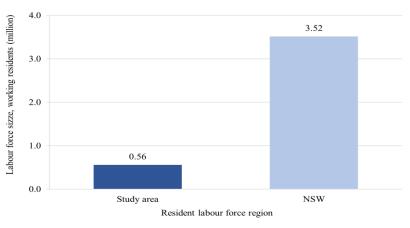


Figure 3-1 Labour force size, million working residents

Source: REMPLAN, ABS 2021 Census Place of Work Employment (scaled) Note: data is place of usual residence, employment may not be in study area or NSW

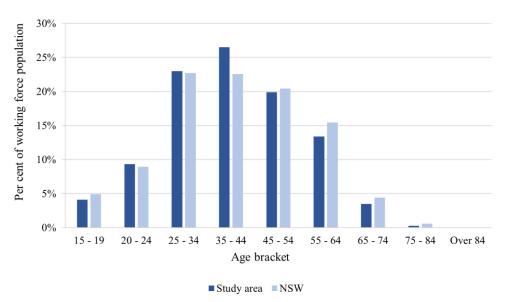
#### 4.1 Age

Figure 4-2 shows the age distribution of the resident labour force in the study area and New South Wales:

- there is a greater proportion of younger working residents in the study area than NSW (15 to 44; 62.9% vs 59.1%)
- there is a lower proportion of older working residents in the study area than NSW (45 and over; 37.1% vs 40.9%).

The labour force locally is younger than in NSW and the impact of ageing on the future labour supply is likely to be less pronounced locally.

Figure 4-2 Age distribution of resident labour force population in study area and NSW



Source: REMPLAN, ABS 2021 Census Place of Work Employment (scaled)

Note: data is based on place of usual residence, place of employment may not be in study area or NSW

Project No PS134427 Norwest Marketown Planning Proposal Economic Impact Assessment Mulpha Australia Limited

### 4.2 Employment

Table 4-1 displays employment for usual residents by industry in the study area and in New South Wales. The values are based on Place of Usual Residence (the area in which a person usually lives). The employment by industry in the study area is similar to New South Wales. In summary:

- the study area has a slightly lower proportion of residents working in the construction industry (8.4%) than for New South Wales (9.0%). The difference is small but indicates a slightly lower supply of construction employees within the region and may point to sourcing these skills from outside of the study area;
- there is a slightly greater proportion of residents working in the Professional, Scientific & Technical Services industry in the study area (10.6%) than in New South Wales (9.3%). This suggests that the study area is likely to have a demand for the office space created by the development;
- there is a slightly greater proportion of residents working in the Retail Trade industry in the study area (9.7%) than in New South Wales (9.4%). This suggests that the study area is likely to provide many of the employees required for the retail aspects of this new development.

Industry sector	Study area	New South Wales
Health Care & Social Assistance	15.0% (83,613)	15.1% (529,200)
Professional, Scientific & Technical Services	10.6% (58,810)	9.3% (326,581)
Retail Trade	9.7% (54,045)	9.4% (331,482)
Education & Training	8.6% (47,979)	9.2% (322,233)
Construction	8.4% (46,697)	9.0% (315,520)
Financial & Insurance Services	7.3% (40,526)	5.5% (193,689)
Manufacturing	6.6% (36,683)	5.7% (201,583)
Transport, Postal & Warehousing	5.8% (32,328)	4.8% (169,630)
Public Administration & Safety	5.6% (31,074)	6.3% (222,900)
Accommodation & Food Services	5.1% (28,161)	6.5% (227,447)
Wholesale Trade	4.1% (22,842)	2.9% (103,456)
Administrative & Support Services	3.3% (18,203)	3.4% (117,997)
Other Services	3.2% (17,907)	3.6% (125,366)
Information Media & Telecommunications	2.3% (12,991)	1.9% (68,060)
Rental, Hiring & Real Estate Services	1.7% (9,474)	1.8% (62,640)
Arts & Recreation Services	1.1% (6,148)	1.5% (51,788)
Electricity, Gas, Water & Waste Services	1.0% (5,539)	1.0% (35,562)
Agriculture, Forestry & Fishing	0.6% (3,219)	2.1% (74,735)
Mining	0.2% (916)	1.0% (35,412)

Table 4-1 Per cent of usual residents employment by industry in study area and NSW

Source: REMPLAN, ABS 2021 Census Place of Work Employment (scaled)

Note: data is place of usual residence, employment may not be in study area or NSW

# 5 Economic impact

This section discusses the impact of the construction and operation phases of the project on the study area and on the New South Wales economy in terms of output, employment, value-add and wages and salaries.<sup>5</sup>

### 5.1 Construction impact

For the 11-year construction phase, there is a total \$3.32 billion additional output for the study area, increasing to a total \$4.23 billion in increased output when the area of impact is expanded to include all of New South Wales. Up to 1,187 jobs (peak in 2034; including direct, supply-chain and consumption flow-on effects) are supported per annum in the study area and up to 1,497 jobs (peak in 2034) per annum in New South Wales (including the study area). Summing the annual FTE jobs required for the 11-year construction phase, a total of 6,502 FTE jobs will be supported in the study area, and 8,352 FTE jobs in NSW (including the study area).

There is a total \$1.16 billion value-added economic impact in the study area, increasing to a total \$1.49 billion valueadded economic impact in New South Wales. There is a total \$603 million wages and salaries economic impact in the study area, increasing to a total of \$777 million wages and salaries economic impact in New South Wales.

Table 5-3 shows the output economic impact from the 11-year construction phase. There is a total of \$3.32 billion additional output for the study area, increasing to a total \$4.23 billion in increased output when the area of impact is expanded to include all of New South Wales.

	Direct effect (\$m)	Supply chain flow-on effect (\$m)	Consumption flow- on effect (\$m)	Total effect (\$m)
Study area				
2027 (Year 1)	\$173.5	\$163.3	\$65.8	\$402.6
2028 (Year 2)	\$173.5	\$163.3	\$65.8	\$402.6
2029 (Year 3)	\$224.9	\$213.9	\$84.4	\$523.2
2030 (Year 4)	\$24.2	\$15.2	\$11.9	\$51.3
2031 (Year 5)	\$30.5	\$20.2	\$14.4	\$65.2
2032 (Year 6)	\$207.8	\$195.8	\$77.3	\$480.9
2033 (Year 7)	\$207.8	\$195.8	\$77.3	\$480.9
2034 (Year 8)	\$270.6	\$257.3	\$99.7	\$627.5
2035 (Year 9)	\$40.9	\$31.4	\$17.4	\$89.7
2036 (Year 10)	\$40.9	\$31.4	\$17.4	\$89.7
2037 (Year 11)	\$48.1	\$38.1	\$19.9	\$106.0
Total 2027 - 2037	\$1,442.9	\$1,325.6	\$551.1	\$3,319.6

Table 5-1 Construction output economic impact of the Norwest City Masterplan

<sup>&</sup>lt;sup>5</sup> A key assumption underpinning the economic outcomes is the allocation of supply to local sources (see section 2.1.1: Construction phase). Alternative scenarios with different local supply allocations can be modelled to understand different scenarios (e.g., low local responsibility, high local project involvement).

	Direct effect (\$m)	Supply chain flow-on effect (\$m)	Consumption flow- on effect (\$m)	Total effect (\$m)
New South Wales				
2027 (Year 1)	\$222.0	\$207.2	\$84.8	\$514.0
2028 (Year 2)	\$222.0	\$207.2	\$84.8	\$514.0
2029 (Year 3)	\$286.9	\$271.0	\$108.3	\$666.2
2030 (Year 4)	\$33.8	\$20.8	\$16.8	\$71.4
2031 (Year 5)	\$42.2	\$27.6	\$20.1	\$89.9
2032 (Year 6)	\$262.0	\$245.1	\$98.1	\$605.2
2033 (Year 7)	\$262.0	\$245.1	\$98.1	\$605.2
2034 (Year 8)	\$340.2	\$321.6	\$126.0	\$787.8
2035 (Year 9)	\$54.3	\$40.8	\$23.5	\$118.6
2036 (Year 10)	\$54.3	\$40.8	\$23.5	\$118.6
2037 (Year 11)	\$63.3	\$49.1	\$26.6	\$139.0
Total 2027 - 2037	\$1,843.0	\$1,676.3	\$710.6	\$4,230.0

Table 5-2 displays the construction employment impact of the Norwest City Masterplan. Over the 11-year construction phase, up to 1,187 FTE jobs (peak in 2034; including direct, supply-chain and consumption flow-on effects) may be supported per annum in the study area, and up to 1,497 jobs per annum throughout New South Wales in total. Summing the annual FTE jobs required for the 11-year construction phase, a total of 6,502 FTE jobs will be supported in the study area, or 8,352 FTE jobs if the area of impact is expanded to include all of New South Wales.

Table 5-2 Construction em	mployment impact of the	Norwest City Masterplan
---------------------------	-------------------------	-------------------------

	Direct effect	Supply chain flow- on effect	Consumption flow- on effect	Total effect
Study area				
2027 (Year 1)	245	366	164	775
2028 (Year 2)	245	366	164	775
2029 (Year 3)	307	479	210	996
2030 (Year 4)	68	37	30	135
2031 (Year 5)	83	49	36	167
2032 (Year 6)	284	441	193	917
2033 (Year 7)	284	441	193	917
2034 (Year 8)	360	578	248	1,187
2035 (Year 9)	84	74	43	201
2036 (Year 10)	84	74	43	201
2037 (Year 11)	92	89	49	231
Total 2027 - 2037	2,136	2,994	1,373	6,502

	Direct effect	Supply chain flow- on effect	Consumption flow- on effect	Total effect
New South Wales				
2027 (Year 1)	319	465	211	995
2028 (Year 2)	319	465	211	995
2029 (Year 3)	398	607	270	1,275
2030 (Year 4)	95	51	42	188
2031 (Year 5)	115	66	50	232
2032 (Year 6)	365	552	245	1,161
2033 (Year 7)	365	552	245	1,161
2034 (Year 8)	459	723	314	1,497
2035 (Year 9)	114	97	59	269
2036 (Year 10)	114	97	59	269
2037 (Year 11)	125	116	66	307
Total 2027 - 2037	2,789	3,792	1,772	8,352

Table 5-3 shows the value-added economic impact from the construction phase. There is a total \$1.16 billion value-added economic impact in the study area, increasing to a total \$1.49 billion value-added economic impact in New South Wales over the 11-year construction phase (including the study area).

	Direct effect (\$m)	Supply chain flow- on effect (\$m)	Consumption flow- on effect (\$m)	Total effect (\$m)
Study area				
2027 (Year 1)	\$45.6	\$58.8	\$34.7	\$139.1
2028 (Year 2)	\$45.6	\$58.8	\$34.7	\$139.1
2029 (Year 3)	\$58.0	\$76.8	\$44.5	\$179.3
2030 (Year 4)	\$10.3	\$6.2	\$6.3	\$22.7
2031 (Year 5)	\$12.4	\$8.0	\$7.6	\$28.0
2032 (Year 6)	\$53.3	\$70.8	\$40.7	\$164.7
2033 (Year 7)	\$53.3	\$70.8	\$40.7	\$164.7
2034 (Year 8)	\$68.1	\$92.8	\$52.5	\$213.4
2035 (Year 9)	\$13.7	\$12.1	\$9.2	\$35.0
2036 (Year 10)	\$13.7	\$12.1	\$9.2	\$35.0
2037 (Year 11)	\$15.4	\$14.6	\$10.5	\$40.5
Total 2027 - 2037	\$389.4	\$481.8	\$290.5	\$1,161.7

	Direct effect (\$m)	Supply chain flow- on effect (\$m)	Consumption flow- on effect (\$m)	Total effect (\$m)
New South Wales				
2027 (Year 1)	\$59.3	\$74.8	\$44.7	\$178.8
2028 (Year 2)	\$59.3	\$74.8	\$44.7	\$178.8
2029 (Year 3)	\$74.9	\$97.5	\$57.1	\$229.5
2030 (Year 4)	\$14.5	\$8.5	\$8.9	\$31.8
2031 (Year 5)	\$17.3	\$11.0	\$10.6	\$38.9
2032 (Year 6)	\$68.1	\$88.8	\$51.7	\$208.5
2033 (Year 7)	\$68.1	\$88.8	\$51.7	\$208.5
2034 (Year 8)	\$86.7	\$116.1	\$66.4	\$269.2
2035 (Year 9)	\$18.7	\$15.9	\$12.4	\$47.0
2036 (Year 10)	\$18.7	\$15.9	\$12.4	\$47.0
2037 (Year 11)	\$20.9	\$18.9	\$14.0	\$53.8
Total 2027 - 2037	\$506.4	\$611.0	\$374.5	\$1,491.9

Table 5-4 shows the wages and salaries economic impact from the construction phase. There is a total \$603 million output economic impact in the study area, increasing to a total \$777 million output impact in New South Wales (including the study area) over the 11-year construction phase.

Table 5-4 Construction wages and salaries economic impact of the Norwest City Masterplan

	Direct effect (\$m)	Supply chain flow- on effect (\$m)	Consumption flow- on effect (\$m)	Total effect (\$m)
Study area				
2027 (Year 1)	\$24.8	\$33.1	\$14.0	\$71.9
2028 (Year 2)	\$24.8	\$33.1	\$14.0	\$71.9
2029 (Year 3)	\$31.1	\$43.1	\$18.0	\$92.3
2030 (Year 4)	\$6.9	\$3.6	\$2.5	\$13.0
2031 (Year 5)	\$8.1	\$4.6	\$3.1	\$15.8
2032 (Year 6)	\$28.2	\$39.8	\$16.5	\$84.5
2033 (Year 7)	\$28.2	\$39.8	\$16.5	\$84.5
2034 (Year 8)	\$35.6	\$52.1	\$21.3	\$109.0
2035 (Year 9)	\$8.4	\$7.0	\$3.7	\$19.0
2036 (Year 10)	\$8.4	\$7.0	\$3.7	\$19.0
2037 (Year 11)	\$9.1	\$8.3	\$4.2	\$21.7
Total 2027 - 2037	\$213.6	\$271.4	\$117.6	\$602.6

	Direct effect (\$m)	Supply chain flow- on effect (\$m)	Consumption flow- on effect (\$m)	Total effect (\$m)
New South Wales				
2027 (Year 1)	\$32.5	\$42.1	\$18.1	\$92.7
2028 (Year 2)	\$32.5	\$42.1	\$18.1	\$92.7
2029 (Year 3)	\$40.5	\$54.8	\$23.1	\$118.4
2030 (Year 4)	\$9.8	\$5.0	\$3.6	\$18.4
2031 (Year 5)	\$11.3	\$6.4	\$4.3	\$22.0
2032 (Year 6)	\$36.4	\$49.9	\$20.9	\$107.2
2033 (Year 7)	\$36.4	\$49.9	\$20.9	\$107.2
2034 (Year 8)	\$45.6	\$65.2	\$26.9	\$137.8
2035 (Year 9)	\$11.6	\$9.1	\$5.0	\$25.7
2036 (Year 10)	\$11.6	\$9.1	\$5.0	\$25.7
2037 (Year 11)	\$12.6	\$10.8	\$5.7	\$29.1
Total 2027 - 2037	\$280.8	\$344.5	\$151.6	\$776.9

### 5.2 Operation impact

The operation phase is assumed to begin when the first operational jobs are lost in 2027, as demolition begins in preparation for stage one construction. This initial decrease in operational employment is estimated to have a negative \$4.0 million output impact on the study area, or a negative \$4.9 million output impact on New South Wales (including the study area). Once peak employment is reached in 2038, the project will support up to \$3.39 billion in additional economic output per annum for the study area, and up to \$4.40 billion in additional economic output per annum in New South Wales (including the study area).

Norwest City may support up to 9,839 jobs (including direct, supply-chain and consumption flow-on effects) per annum in the study area once peak employment is reached in 2038, and up to 12,779 jobs (including direct, supply-chain and consumption flow-on effects) in New South Wales (including the study area). There is a \$1.69 billion total value-added economic effect per annum in the study area, increasing to a \$2.20 billion total effect per annum in New South Wales. There is a \$983 million total wages and salaries economic effect per annum in the study area, increasing to a \$1.28 billion total wages and salaries effect per annum in New South Wales.

Table 5-5 displays the output economic impact of the Norwest City Masterplan during the operation period.

Table 5-5 Operation output impact of the Norwest City Masterplan

	Direct effect (\$m)	Supply chain flow-on effect (\$m)	Consumption flow-on effect (\$m)	Total effect (\$m)
Study area			1	
2027 (Year 1)	-\$1.6	-\$1.1	-\$1.4	-\$4.0
2028 (Year 2)	-\$1.6	-\$1.1	-\$1.4	-\$4.0
2029 (Year 3)	-\$1.6	-\$1.1	-\$1.4	-\$4.0
2030 (Year 4)	\$954.7	\$645.8	\$876.7	\$2,477.3
2031 (Year 5)	\$954.7	\$645.8	\$876.7	\$2,477.3
2032 (Year 6)	\$954.7	\$645.8	\$876.7	\$2,477.3
2033 (Year 7)	\$954.7	\$645.8	\$876.7	\$2,477.3
2034 (Year 6)	\$954.7	\$645.8	\$876.7	\$2,477.3
2035 (Year 6)	\$1,309.5	\$874.4	\$1,181.3	\$3,365.2
2036 (Year 10)	\$1,309.5	\$874.4	\$1,181.3	\$3,365.2
2037 (Year 11)	\$1,309.5	\$874.4	\$1,181.3	\$3,365.2
2038-2056 (Year 12 until end of modelling period)	\$1,317.8	\$879.1	\$1,187.6	\$3,384.5
New South Wales				-
2027 (Year 1)	-\$1.9	-\$1.3	-\$1.7	-\$4.9
2028 (Year 2)	-\$1.9	-\$1.3	-\$1.7	-\$4.9
2029 (Year 3)	-\$1.9	-\$1.3	-\$1.7	-\$4.9
2030 (Year 4)	\$1,240.0	\$838.8	\$1,138.5	\$3,217.3
2031 (Year 5)	\$1,240.0	\$838.8	\$1,138.5	\$3,217.3
2032 (Year 6)	\$1,240.0	\$838.8	\$1,138.5	\$3,217.3
2033 (Year 7)	\$1,240.0	\$838.8	\$1,138.5	\$3,217.3
2034 (Year 6)	\$1,240.0	\$838.8	\$1,138.5	\$3,217.3
2035 (Year 6)	\$1,701.0	\$1,135.9	\$1,534.4	\$4,371.3
2036 (Year 10)	\$1,701.0	\$1,135.9	\$1,534.4	\$4,371.3
2037 (Year 11)	\$1,701.0	\$1,135.9	\$1,534.4	\$4,371.3
2038-2056 (Year 12 until end of modelling period)	\$1,711.4	\$1,141.8	\$1,542.2	\$4,395.5

Source: REMPLAN; WSP

Table 5-6 displays the employment economic impact of the Norwest City Masterplan. Over the 30-year operation period, up to 9,839 FTE jobs (including direct, supply-chain and consumption flow-on effects) are supported per annum in total in the study area, and up to 12,779 FTE jobs (including direct, supply-chain and consumption flow-on effects) are supported per annum in total in New South Wales (including the study area).

	Direct effect	Supply chain flow-on effect	Consumption flow-on effect	Total effect
Study area		1	1	1
2027 (Year 1)	-9	-3	-3	-15
2028 (Year 2)	-9	-3	-3	-15
2029 (Year 3)	-9	-3	-3	-15
2030 (Year 4)	3,140	1,766	2,161	7,067
2031 (Year 5)	3,140	1,766	2,161	7,067
2032 (Year 6)	3,140	1,766	2,161	7,067
2033 (Year 7)	3,140	1,766	2,161	7,067
2034 (Year 6)	3,140	1,766	2,161	7,067
2035 (Year 6)	4,481	2,380	2,912	9,773
2036 (Year 10)	4,481	2,380	2,912	9,773
2037 (Year 11)	4,481	2,380	2,912	9,773
2038-2056 (Year 12 until end of modelling period)	4,520	2,391	2,927	9,839
New South Wales	·	<u>.</u>		-
2027 (Year 1)	-11	-3	-4	-18
2028 (Year 2)	-11	-3	-4	-18
2029 (Year 3)	-11	-3	-4	-18
2030 (Year 4)	4,078	2,294	2,806	9,179
2031 (Year 5)	4,078	2,294	2,806	9,179
2032 (Year 6)	4,078	2,294	2,806	9,179
2033 (Year 7)	4,078	2,294	2,806	9,179
2034 (Year 6)	4,078	2,294	2,806	9,179
2035 (Year 6)	5,821	3,092	3,782	12,695
2036 (Year 10)	5,821	3,092	3,782	12,695
2037 (Year 11)	5,821	3,092	3,782	12,695
2038-2056 (Year 12 until end of modelling period)	5,871	3,106	3,802	12,779

Table 5-6 Operation employment impact of the Norwest City Masterplan

Source: REMPLAN; WSP

Table 5-7 shows the value-added economic impact from the operation phase. There is a \$1.69 billion total value-added economic effect per annum in the study area, increasing to a \$2.20 billion total effect per annum in New South Wales.

Table 5-7 Operation value-added impact of the Norwest City Masterplan

	Direct effect (\$m)	Supply chain flow-on effect (\$m)	Consumption flow-on effect (\$m)	Total effect (\$m)
Study area			1	1
2027 (Year 1)	-\$0.9	-\$0.5	-\$0.7	-\$2.1
2028 (Year 2)	-\$0.9	-\$0.5	-\$0.7	-\$2.1
2029 (Year 3)	-\$0.9	-\$0.5	-\$0.7	-\$2.1
2030 (Year 4)	\$472.7	\$307.4	\$454.1	\$1,234.2
2031 (Year 5)	\$472.7	\$307.4	\$454.1	\$1,234.2
2032 (Year 6)	\$472.7	\$307.4	\$454.1	\$1,234.2
2033 (Year 7)	\$472.7	\$307.4	\$454.1	\$1,234.2
2034 (Year 6)	\$472.7	\$307.4	\$454.1	\$1,234.2
2035 (Year 6)	\$657.7	\$413.7	\$611.9	\$1,683.3
2036 (Year 10)	\$657.7	\$413.7	\$611.9	\$1,683.3
2037 (Year 11)	\$657.7	\$413.7	\$611.9	\$1,683.3
2038-2056 (Year 12 until end of modelling period)	\$663.0	\$415.8	\$615.1	\$1,693.9
New South Wales				-
2027 (Year 1)	-\$1.1	-\$0.6	-\$0.9	-\$2.5
2028 (Year 2)	-\$1.1	-\$0.6	-\$0.9	-\$2.5
2029 (Year 3)	-\$1.1	-\$0.6	-\$0.9	-\$2.5
2030 (Year 4)	\$614.0	\$399.2	\$589.7	\$1,602.9
2031 (Year 5)	\$614.0	\$399.2	\$589.7	\$1,602.9
2032 (Year 6)	\$614.0	\$399.2	\$589.7	\$1,602.9
2033 (Year 7)	\$614.0	\$399.2	\$589.7	\$1,602.9
2034 (Year 6)	\$614.0	\$399.2	\$589.7	\$1,602.9
2035 (Year 6)	\$854.3	\$537.3	\$794.8	\$2,186.4
2036 (Year 10)	\$854.3	\$537.3	\$794.8	\$2,186.4
2037 (Year 11)	\$854.3	\$537.3	\$794.8	\$2,186.4
2038-2056 (Year 12 until end of modelling period)	\$860.9	\$540.0	\$798.9	\$2,199.8

Source: REMPLAN; WSP

Table 5-8 displays the wages and salaries economic impact of the Norwest City Masterplan during the operation period. There is a \$983 million total wages and salaries economic effect per annum in the study area, increasing to a \$1.28 billion total effect per annum in New South Wales (including the study area).

Table 5-8 Operation wages and salaries impact of the Norwest City Masterplan

	Direct effect (\$m)	Supply chain flow-on effect (\$m)	Consumption flow-on effect (\$m)	Total effect (\$m)
Study area				
2027 (Year 1)	-\$0.6	-\$0.3	-\$0.3	-\$1.1
2028 (Year 2)	-\$0.6	-\$0.3	-\$0.3	-\$1.1
2029 (Year 3)	-\$0.6	-\$0.3	-\$0.3	-\$1.1
2030 (Year 4)	\$350.4	\$184.8	\$190.4	\$725.7
2031 (Year 5)	\$350.4	\$184.8	\$190.4	\$725.7
2032 (Year 6)	\$350.4	\$184.8	\$190.4	\$725.7
2033 (Year 7)	\$350.4	\$184.8	\$190.4	\$725.7
2034 (Year 6)	\$350.4	\$184.8	\$190.4	\$725.7
2035 (Year 6)	\$474.4	\$246.8	\$256.6	\$977.8
2036 (Year 10)	\$474.4	\$246.8	\$256.6	\$977.8
2037 (Year 11)	\$474.4	\$246.8	\$256.6	\$977.8
2038-2056 (Year 12 until end of modelling period)	\$477.2	\$247.9	\$257.9	\$983.0
New South Wales				
2027 (Year 1)	-\$0.7	-\$0.3	-\$0.4	-\$1.4
2028 (Year 2)	-\$0.7	-\$0.3	-\$0.4	-\$1.4
2029 (Year 3)	-\$0.7	-\$0.3	-\$0.4	-\$1.4
2030 (Year 4)	\$455.0	\$240.1	\$247.3	\$942.4
2031 (Year 5)	\$455.0	\$240.1	\$247.3	\$942.4
2032 (Year 6)	\$455.0	\$240.1	\$247.3	\$942.4
2033 (Year 7)	\$455.0	\$240.1	\$247.3	\$942.4
2034 (Year 6)	\$455.0	\$240.1	\$247.3	\$942.4
2035 (Year 6)	\$616.2	\$320.6	\$333.3	\$1,270.0
2036 (Year 10)	\$616.2	\$320.6	\$333.3	\$1,270.0
2037 (Year 11)	\$616.2	\$320.6	\$333.3	\$1,270.0
2038-2056 (Year 12 until end of modelling period) Source: REMPLAN; WSP	\$619.7	\$321.9	\$335.0	\$1,276.6

Source: REMPLAN; WSP

### 5.3 Other benefits

For retail impacts, refer to the Market Potential and Retail Impact Review conducted by Ethos Urban.

# 6 Limitations

This Report is provided by WSP Australia Pty Limited (*WSP*) for Mulpha Australia Limited (*Client*) in response to specific instructions from the Client and in accordance with WSP's proposal dated 12 October 2022 and agreement with the Client dated 24 October 2022 (*Agreement*).

## 6.1 Permitted purpose

This Report is provided by WSP for the purpose described in the Agreement and no responsibility is accepted by WSP for the use of the Report in whole or in part, for any other purpose (*Permitted Purpose*).

## 6.2 Qualifications and assumptions

The services undertaken by WSP in preparing this Report were limited to those specifically detailed in the Report and are subject to the scope, qualifications, assumptions and limitations set out in the Report or otherwise communicated to the Client.

Except as otherwise stated in the Report and to the extent that statements, opinions, facts, conclusion and / or recommendations in the Report (*Conclusions*) are based in whole or in part on information provided by the Client and other parties identified in the report (*Information*), those Conclusions are based on assumptions by WSP of the reliability, adequacy, accuracy and completeness of the Information and have not been verified. WSP accepts no responsibility for the Information.

WSP has prepared the Report without regard to any special interest of any person other than the Client when undertaking the services described in the Agreement or in preparing the Report.

### 6.3 Use and reliance

This Report should be read in its entirety and must not be copied, distributed or referred to in part only. The Report must not be reproduced without the written approval of WSP. WSP will not be responsible for interpretations or conclusions drawn by the reader. This Report (or sections of the Report) should not be used as part of a specification for a project or for incorporation into any other document without the prior agreement of WSP.

WSP is not (and will not be) obliged to provide an update of this Report to include any event, circumstance, revised Information or any matter coming to WSP's attention after the date of this Report. Data reported and Conclusions drawn are based solely on information made available to WSP at the time of preparing the Report. The passage of time; unexpected variations in ground conditions; manifestations of latent conditions; or the impact of future events (including (without limitation) changes in policy, legislation, guidelines, scientific knowledge; and changes in interpretation of policy by statutory authorities); may require further investigation or subsequent re-evaluation of the Conclusions.

This Report can only be relied upon for the Permitted Purpose and may not be relied upon for any other purpose. The Report does not purport to recommend or induce a decision to make (or not make) any purchase, disposal, investment, divestment, financial commitment or otherwise. It is the responsibility of the Client to accept (if the Client so chooses) any Conclusions contained within the Report and implement them in an appropriate, suitable and timely manner.

In the absence of express written consent of WSP, no responsibility is accepted by WSP for the use of the Report in whole or in part by any party other than the Client for any purpose whatsoever. Without the express written consent of WSP, any use which a third party makes of this Report or any reliance on (or decisions to be made) based on this Report is at the sole risk of those third parties without recourse to WSP. Third parties should make their own enquiries and obtain independent advice in relation to any matter dealt with or Conclusions expressed in the Report.

### 6.4 Disclaimer

No warranty, undertaking or guarantee whether expressed or implied, is made with respect to the data reported or the Conclusions drawn. To the fullest extent permitted at law, WSP, its related bodies corporate and its officers, employees and agents assumes no responsibility and will not be liable to any third party for, or in relation to any losses, damages or expenses (including any indirect, consequential or punitive losses or damages or any amounts for loss of profit, loss of revenue, loss of opportunity to earn profit, loss of production, loss of contract, increased operational costs, loss of business opportunity, site depredation costs, business interruption or economic loss) of any kind whatsoever, suffered on incurred by a third party.

### 6.5 Remplan limitations

The REMPLAN approach is subject to the same constraints as any IO model. As a result of these assumptions, the results involve a certain degree of uncertainty.

REMPLAN incorporates an input-output methodology and the underlying assumptions of this approach need to be kept clearly in mind. Key assumptions are:

- 1 **fixed production coefficients.** That is to say that if we wanted to double output of a particular industry sector, we would have to double all of its inputs with no evidence of scale economies. This assumption implies constant returns to scale
- 2 **regional performance matches national and state average performance.** While this can vary between industries these differences are usually apparent in other aspects of the economy
- **3** input proportions will remain the same and there will be no change in technology. As long as the model is kept up to date this latter concern should not pose a threat to its effectiveness, except as a tool for long-term forecasting
- 4 **homogeneity among industries.** It is assumed that each industry sector produces a fixed set of products that are not produced by any other sector. It is however possible to have some overlap e.g. liquor sold in bottle shops (the Retail sector) and in cafes (the Accommodation, Cafes and Restaurants sector)
- 5 no supply constraints. It is assumed that the intermediate and household sectors are able to service any increases in final demand. This assumption could weaken the predictive capacity of the model in those cases where increases in overall demand could bring about input shortages and raise their prices in the short term. However, in most day-to-day cases increased input demand should not present a problem.

Source: REMPLAN – Economic Modelling and Planning System, Training Guide, pg. 30

### 6.6 IO model interpretation guidance

NSW Treasury provides guidance for interpreting employment estimates from I-O analysis.<sup>6</sup> Interpretation guidance includes:

<sup>6</sup> NSW Treasury. (2020). NSW Treasury Employment Calculator – User Guide. Retrieved from <u>https://www.treasury.nsw.gov.au/sites/default/files/2020-10/CEE%20IO%20User%20Guide%20-%20131020%20%28Web%20Final%29.pdf</u>, p. 20

Table 6-1 NSW Treasury I-O employment e	estimation	interpretation	guidance
---	------------	----------------	----------

Guidance	Correct interpretation example	Incorrect interpretation example
Employment estimates should be described as "jobs supported by" Government spending, instead of "created by".	This proposal is estimated to support approximately 1,000 jobs across Industries A-Z.	This proposal will create 1,000 jobs across Industries A-Z.
I-O multiplier-based estimates relate to annual full-time equivalent (FTE) jobs.	An estimated 500 jobs (annual FTE) would be supported from this proposal.	An estimated 500 permanent jobs would be supported from this proposal.
I-O estimation approaches do not provide any information on the timing of impacts.	It is estimated that an average of 330 jobs per year, for three years, would be supported from this proposal.	It was estimated that 1,000 jobs specifically in Year X would be supported from this proposal.
Direct or indirect (flow-on) employment supported may not be directly observed.	1,000 jobs are estimated to be supported in total, including direct and indirect employment.	1,000 jobs were created by company X, Y and Z.
Multiplier-based estimates for employment supported should not be reported specifically as occurring in a project's region. Direct or flow-on employment will not necessarily occur in the immediate vicinity of the project.	The infrastructure built in this region is estimated to support 1,000 jobs nationally.	The infrastructure built in this region is estimated to support 1,000 jobs in that specific region's economy.

# Appendix

#### Appendix A

Detailed stage data, including description of activities, ANZSIC category, study area per centage, New South Wales per centage, and the total cost per activity.

Stage	Description	ANZSIC category	Study area percentage	NSW percentage	Total co	ost
STAGE 1	Site Preparation / Earthworks	Construction Services	70%	100%	\$ 8,5	513,477
STAGE 1	Roads and Services Infrastructure	Heavy & Civil Engineering Construction	60%	90%	\$ 18,6	588,014
STAGE 1	Landscape Masterplan	Construction Services	70%	90%	\$ 7,1	115,052
STAGE 1	Works Outside Boundary	Construction Services	60%	100%	\$ 7,8	341,261
STAGE 1	Basement Car Parking / Loading	Non-Residential Building Construction	70%	100%	\$ 120,4	497,800
STAGE 1	Building B1 (retail/office)	Non-Residential Building Construction	70%	85%	\$ 227,7	766,784
STAGE 1	Building B2 (retail/office)	Non-Residential Building Construction	70%	85%	\$ 233,9	948,293
STAGE 1	Building H (retail/hotel)	Non-Residential Building Construction	70%	85%	\$ 70,0	)49,590
STAGE 1	Concourse retail etc.	Non-Residential Building Construction	70%	85%	\$ 42,7	768,395
STAGE 2	Site Preparation / Earthworks	Construction Services	70%	100%	\$ 5,3	308,080
STAGE 2	Roads and Services Infrastructure	Heavy & Civil Engineering Construction	60%	90%	\$ 1,9	938,282
STAGE 2	Landscape Masterplan / Foreshore	Construction Services	70%	90%	\$ 15,4	142,644
STAGE 3	Site Preparation / Earthworks	Construction Services	70%	100%	\$ 12,5	586,993
STAGE 3	Roads and Services Infrastructure	Heavy & Civil Engineering Construction	60%	90%	\$ 18,5	548,251
STAGE 3	Landscape Masterplan	Construction Services	70%	90%	\$ 13,4	470,462
STAGE 3	Basement Car Parking / Loading	Non-Residential Building Construction	70%	100%	\$ 92,2	248,700
STAGE 3	Building B3 (retail/office/residential)	Non-Residential Building Construction	70%	85%	\$ 160,8	324,220
STAGE 3	Building B4 (retail/office/residential)	Non-Residential Building Construction	70%	85%	\$ 146,4	143,773

Stage	Description	ANZSIC category	Study area percentage	NSW percentage	Total cost
STAGE 3	Building B6 (retail/cinema)	Non-Residential Building Construction	70%	85%	\$ 41,008,062
STAGE 3	Building B7 (public)	Non-Residential Building Construction	70%	85%	\$ 63,366,599
STAGE 3	Building B8 (retail/residential)	Residential Building Construction	70%	85%	\$ 157,268,045
STAGE 3	Building B9 (retail/office/residential)	Non-Residential Building Construction	70%	85%	\$ 149,078,124
STAGE 3	Concourse retail etc.	Non-Residential Building Construction	70%	85%	\$ 44,413,865
STAGE 4	Site Preparation / Earthworks	Construction Services	70%	100%	\$ 2,026,281
STAGE 4	Roads and Services Infrastructure	Heavy & Civil Engineering Construction	60%	90%	\$ 4,355,292
STAGE 4	Landscape Masterplan	Construction Services	70%	90%	\$ 1,485,145
STAGE 4	Basement Car Parking	Non-Residential Building Construction	70%	100%	\$ 10,453,100
STAGE 4	Building B5 (retail/residential)	Residential Building Construction	70%	85%	\$ 79,222,310
STAGE 4	Concourse retail etc.	Construction Services	70%	85%	\$ 5,040,900
MARGINS & ADJUSTMENTS	Design & Consultants Fees	Professional, Scientific & Technical Services	50%	75%	\$ 149,746,015
MARGINS & ADJUSTMENTS	Authority Fees	Professional, Scientific & Technical Services	70%	90%	\$ 28,671,956
MARGINS & ADJUSTMENTS	Design Contingency	Professional, Scientific & Technical Services	50%	75%	\$ 97,006,788
MARGINS & ADJUSTMENTS	Construction Contingency	Construction Services	70%	90%	\$ 101,857,447
<u>Total</u>					\$ 2,139,000,000

#### About Us

WSP is one of the world's leading professional services consulting firms. We are dedicated to our local communities and propelled by international brainpower. We are technical experts and strategic advisors including engineers, technicians, scientists, planners, surveyors and environmental specialists, as well as other design, program and construction management professionals. We design lasting solutions in the Transport & Water, Property & Buildings, Earth & Environment, and Mining & Power sector as well as offering strategic Advisory, Engagement & Digital services. With approximately 6,100 talented people in more than 50 offices in Australia and New Zealand, we engineer future ready projects that will help societies grow for lifetimes to come. www.wsp.com/en-au/.

# wsp