28-32 VICTORIA ST & 23-27 GEORGE ST, BURWOOD ECONOMIC IMPACT ASSESSMENT

VSD INVESTMENTS PTY LTD SEPTEMBER 2017



OUTCOME DRIVEN



DOCUMENT CONTROL

Job ID: J396

Job Name: 28-34 Victoria Street, Burwood EIA

Client: VSD Investments Pty Ltd

Client Contact: Pierre Sleiman
Project Manager: Esther Cheong

Email: esther.cheong@aecgroupltd.com

Telephone: 02 9283 8400

Document Name: 28-34 Victoria Street Burwood EIA final

Last Saved: 10/10/2017 12:49 PM

Version	Date	Reviewed	Approved
Draft	29/09/2017	EC	EC
Final	9/10/2017	EC	EC

Disclaimer:

Whilst all care and diligence have been exercised in the preparation of this report, AEC Group Pty Ltd does not warrant the accuracy of the information contained within and accepts no liability for any loss or damage that may be suffered as a result of reliance on this information, whether or not there has been any error, omission or negligence on the part of AEC Group Pty Ltd or their employees. Any forecasts or projections used in the analysis can be affected by a number of unforeseen variables, and as such no warranty is given that a particular set of results will in fact be achieved.



EXECUTIVE SUMMARY

BACKGROUND

City Plan Strategy and Development on behalf of VSD Investments Pty Ltd are preparing a planning proposal to increase the floor space ratio and building height development standards on 28-34 Victoria Street and 23-27 George Street, Burwood (collectively referred to as sp+ tp 4 The Site is expected to accommodate a mixed use development (of residential units, retail facilities and commercial space). Reservation of 10% of apartments is proposed for purchase by first home buyers at 5% deposit and with access to delayed settlement terms.

Under the Burwood Local Environmental Plan (2012), the Site is zoned B4 Mixed Use and is designated an FSR of 4.5:1 and maximum height of 60m. The Proposal seeks to amend the planning controls to permit greater permitted density of floorspace to FSR 8.5:1 and maximum height of 148m to enable development of 46,205sqm comprising of 436 residential units, 4,447qm retail floorspace and 5,849sqm commercial floorspace.

AEC Group (AEC) has been engaged by VD Investments Pty Ltd to prepare an Economic Impact Assessment (EIA) to analyse the economic impacts likely to result from the proposed planning control amendments and subsequent redevelopment of the Site.

STRATEGIC AND MARKET CONTEXT

Strategic Planning

In accordance with A Plan for Growing Sydney, the following priorities have been set for Burwood:

- Work with council to provide capacity for additional mixed-use development in Burwood including offices, retail, services and housing.
- Investigate a potential light rail corridor from Parramatta to Strathfield/Burwood via Sydney Olympic Park.

The draft Central Sydney District Plan identifies the importance of Burwood as a District Centre. Specifically, the draft District Plan implores a review of local planning instruments for the consideration of development initiatives that encourage the development of large floorplate mixed use buildings to strengthen the role of Burwood.

Market Demand

Buoyant market conditions and sustained price growth underlie a robust residential property market in Burwood. The capacity to provide housing close to transport and employment infrastructure is critical. Soaring and sustained price growth over the 2012-2017 period is reflective of a market that is inadequately supplied.

As a result of the significant increases in property values combined with historically weak wage growth, housing affordability within metropolitan Sydney has become a principal issue. In tandem with shrinking family sizes and lifestyle changes, higher density product has grown in popularity across many regions of Sydney, particularly within the Inner West of Sydney. Buyers struggling to enter the housing market as well as older couples seeking to downsize from existing housing are collectively driving the demand for higher density living.

Over the five year period of 2012-2017, average annual price growth in Burwood LGA has been 6.5%. Rental growth has also been strong, averaging 4.7% per annum. In comparison, wage growth over the 2006-2016 period has been more modest at circa 3.9% average annual growth. With dwelling price levels far outstripping wage growth it is no surprise housing affordability levels have deteriorated over the 2011-2016 period, the proportions of household income spent on housing increasing.

With regard to office uses, Burwood is a minor sub-market within the larger Inner West office market; investment grade office floorspace is relatively modest at 68,500sqm compared to the larger Inner West markets of Rhodes and Sydney Olympic Park.

Despite its relatively small scale, the Burwood office market is well located between the Sydney and Parramatta CBDs with existing heavy rail and road linkages providing good access hence strong demand is observed from government and private occupiers alike.



ECONOMIC IMPACTS

The Site currently accommodates three residential buildings held under strata title. For the purposes of the Assessment, the following scenarios are considered:

- Base Case: The Base Case assumes the Site is hypothetically redeveloped to existing planning controls under the Burwood LEP (2012).
- I +NI pE-Te+sp+ tp+ I +pop p po+ op +sp+ I + p opo+ I tr+n + +t n I p+ + mix of uses including retail facilities, commercial office floorspace and residential units.

Even though the Base Case could theoretically deliver 8,175sqm commercial GFA and 16,350sqm residential GFA (around 198 residential units), the cost to consolidate the Site from almost 50 strata unit holders requires a higher density than currently permitted to deliver redevelopment that is financially feasible. The Base Case is at best a theoretical proposition I of nn of r +sp+ +t p + np I t +t + p + q+Y +NsI r p.

L+Y +Nsl rp+npl t+pl ins the existing residential units held under strata title with no employment activity (and subsequent economic activity) that would result if the Site were redeveloped in the Proposal Case.

Net Economic Activity

The economic impacts/contribution can be traced through the economic system via:

- Direct impacts, which are the first round of effects from direct operational expenditure on goods and services.
- Indirect Impacts (Flow-on impacts), which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales.

Table ES.1: Additional Economic Activity, Base Case v Proposal Case

Impact	Output (\$M)	Gross Regional Product (\$M)	Incomes (\$M)	Employment (FTEs)
Base Case				
Direct	\$72.5	\$40.9	\$29.3	453
Type I Flow-On	\$28.2	\$14.6	\$8.5	92
Type II Flow-On	\$63.8	\$39.2	\$16.9	236
Total	\$164.5	\$94.7	\$54.7	781
Proposal Case				
Direct	\$94.4	\$53.5	\$38.9	559
Type I Flow-On	\$37.6	\$19.5	\$11.5	124
Type II Flow-On	\$85.1	\$52.4	\$22.6	315
Total	\$217.1	\$125.3	\$73.0	999
Increase in Econom	ic Activity			
Direct	\$21.9	\$12.6	\$9.6	106
Type I Flow-On	\$9.4	\$4.9	\$3.0	33
Type II Flow-On	\$21.3	\$13.1	\$5.7	79
Total	\$52.6	\$30.6	\$18.3	218

Source: AEC

The Proposal Case is estimated to support the following *net* annual economic activity through direct and indirect impacts:

- \$52.6 million in output (including \$21.9 million in direct activity).
- \$30.6 million contribution to GRP (including \$12.6 million in direct activity)/
- \$18.3 million in incomes and salaries paid to households.
- 218 full time equivalent (FTE) jobs, including 106 jobs directly related to activity on the Site.



The Site is presently improved with three apartment blocks held under strata title. Owing to subsisting uses, in order for the Site to be redeveloped to provide for contemporary retail and commercial floorspace, cross-subsidisation by residential uses is necessary.

In reality, but for the proposed changes to density controls, the Site is likely to remain in existing use as residential strata units, the current planning controls insufficient to incentivise redevelopment of a site consolidated from t p+ l l+ t+s op 9_st+Y+Nsl rp+npl t+ o+p+t+l+q pr p+ t+t npl p+sp+ employment and thereby economic activity in the Burwood District Centre.

Ultimately, providing a mix of retail, commercial and residential uses recognises the importance to grow Burwood as a District Centre, and provide a variety of different high density land uses within walking distance from the Burwood train station. The provision of investment grade commercial floorspace will serve to meet already strong demand and address an impending shortage of space in the market, strengthen the current Burwood office market and improve the existing sup + q+n p n1 + q+np+l p 7+l + p + l+q+M o + q+p+l + l+ m m1 + commercial office market.

Critically, the Proposal contemplates designating 10% of proposed dwellings for purchase by first home buyers. This reservation would allow a 5% deposit and delayed settlement terms if required. This is an important benefit, considering the cumulative impact of dwelling growth which year-on-year outstrips average wage growth, resulting in a larger affordability gap with the passage of time.



TABLE OF CONTENTS

DOC	CUMENT CONTROL	I
EXE	CUTIVE SUMMARY	II
TAB	LE OF CONTENTS	V
1.	INTRODUCTION	6
1.1	Background	6
1.2	Purpose of the Study	6
1.3	STRUCTURE OF THE STUDY	7
2.	OVERVIEW OF THE SITE AND PROPOSAL	8
2.1	LOCATION CONTEXT	8
2.2	EXISTING IMPROVEMENTS	9
2.3	PLANNING POLICY AND CONTEXT	9
2.4	THE PROPOSAL	11
3.	BASELINE RESEARCH	12
3.1	EMPLOYMENT PROFILE	12
3.2	POPULATION AND DWELLINGS	15
3.3	CURRENT MARKET ACTIVITY	16
3.4	NEED FOR THE PROPOSAL	20
4.	ECONOMIC IMPACT ASSESSMENT	22
4.1	DRIVERS OF ECONOMIC ACTIVITY	22
4.2	ECONOMIC ACTIVITY AND IMPACTS	25
5.	POLICY ASSESSMENT	30
5.1	NET ECONOMIC IMPACTS	30
5.2	Section 117 Direction	32
5.3	DRAFT CENTRAL DISTRICT PLAN	33
5.4	Conclusion	33
REFI	ERENCES	34
APPI	PENDIX A: INPUT-OUTPUT METHODOLOGY	35



1. INTRODUCTION

1.1 BACKGROUND

Burwood is defined as a Strategic Centre in o p metropolitan strategy, A Plan for Growing Sydney. However, more recently it has been identified as a District Centre in the Draft Central City District Plan, playing an important role with significant retail facilities and over 50,000sqm of floor space, incorporating health and education facilities that serve the district and the local community, benefitting from transport services and with 5,000-10,000 jobs.

Burwood is located about 9.5km west of Sydney CBD and 11.5km east of Parramatta and is centrally located in o p +Inner West. As a District Centre, Burwood accommodates a mix of land uses within walking distance from the Burwood train station. It is one of the few district centres within the locality and services the broader subregional population of approximately 330,000 people (Inner West LGAs).

Many urban centres are transforming to accommodate a range of uses, i.e. housing, retail, entertainment and leisure uses, etc. Allowing for a mix of uses to occur in the centre allows it to be self-sustaining, i.e. residents who live there have all their day-to-day needs met including employment, shopping, services and recreation needs. Facilitating a mix of residential, shopping, entertainment and commercial uses can ensure a critical mass of residents and local jobs to support a vibrant urban core. Notwithstanding the range of economic benefits associated with population and employment growth, there are challenges with accommodating growth in established/ infill areas.

City Plan Strategy and Development on behalf of VSD Investments Pty Ltd are preparing a planning proposal to permit a mixed use development on 28- ?+a th the pp 7+M o+3 sp+ the 4-6,205sqm comprised of residential units, retail facilities and commercial space.

Under the Burwood Local Environmental Plan (2012), the Site is zoned B4 Mixed Use and is designated an FSR of 4.5:1 and maximum height of 60m. The Proposal seeks to amend the planning controls to permit greater permitted density of floorspace to FSR 8.5:1 and maximum height of 148m.

1.2 PURPOSE OF THE STUDY

AEC Group (AEC) has been engaged by VSD Investments Pty Ltd to prepare an Economic Impact Assessment (EIA) to analyse the economic impacts likely to result from the proposed planning control amendments and subsequent redevelopment of the Site.

In order to assess the economic impact of the Proposal, a Base Case and Proposal Case are developed.

- Base Case: The Site is currently improved with three aged residential buildings. The Base Case assumes the Site is hypothetically redeveloped to existing planning controls under the Burwood LEP (2012).
- I +NI pETep+sp+ tp+ I +pop p po+ op +sp+ I + p opo+ I t r+n + +t n I p+ + mix of uses including retail facilities, commercial office floorspace and residential units.

The purpose of the EIA is two-fold:

- To carry out property market research and feasibility modelling to consider the appropriateness of the Proposal, as well as the employment and market profile of Burwood as a mixed use, residential and employment area.

 _st +t + + op | o+sp+ | p + p| + o+sp+np | p+ o+sp+t | p ts o+o+sp+ t | p + pop | p + pn + under existing planning framework.
- 2 To carry out economic modelling to assess the economic impacts of the Proposal.



1.3 STRUCTURE OF THE STUDY

The purpose of the EIA is to consider whether the direct economic impacts of the proposed planning proposal and Masterplan are net positive compared to the existing uses.

Chapter 2 reviews the Site, its current context within Burwood and describes the Proposal.

Chapter 3 analyses the socio-demographic profile of Burwood District Centre benchmarked to Burwood LGA to understand historical housing and population growth.

This chapter also carries out an analysis of the employment profile of Burwood, providing insight into the profile of current employment that subsists.

The chapter also examines the trends and influencing factors that affect employment and population growth in Burwood, additionally gathering market intelligence to investigate land use opportunities for the Site.

Chapter 4 assesses the economic impacts of the Proposal by investigating two scenarios:

- Base Case: The Site is assumed to be redeveloped under existing planning controls.
- Proposal Case: The economic impacts following implementation of changes to planning controls as envisaged by the Proposal.

Chapter 5 translates the key findings from Chapters 2 to 4 and applies them in the assessment of the Proposal against policy considerations.

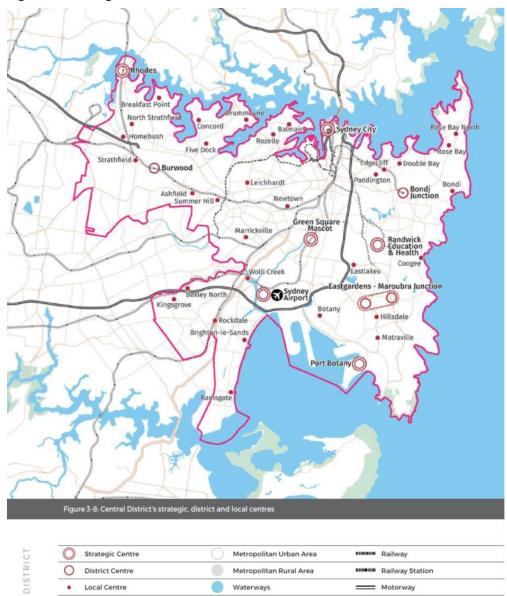


2. OVERVIEW OF THE SITE AND PROPOSAL

2.1 LOCATION CONTEXT

The Site is situated at 28-34 Victoria Street and 23-27 George Street in Burwood within the local government area of Burwood, about 9.5km from the Sydney CBD and 11.5km from Parramatta. Burwood is centrally located in o p +Inner West and is serviced by the Airport, Inner West & South Line railway line and contains Burwood I t + I t 9Q + sp+ p + q+ sp+PT7 M o + I o+ M o+Ot th +Np p + I p+ po+t p nsl r pl m 7 however, both refer to Burwood District Centre.

Parramatta Road sits to the north of Burwood and has been identified for urban renewal and transformation by UrbanGrowth NSW. The Burwood Precinct as identified in the Parramatta Road Urban Transformation Strategy (UrbanGrowth, 2016) is intended to be is a northern extension of Burwood. Burwood Precinct will be a commercial gateway to Burwood based around an enlivened spine of Burwood Road which is envisaged to offer improved amenity for new residents.



National Parks and Reserves

Highway

Figure 2.1: Strategic Context and Location of Burwood

Source: Greater Sydney Commission (2016)

District Boundary



Burwood has a strong street-based shopping offer focused on Burwood Road and complemented by a major shopping centre at Westfield. The Burwood retail/commercial core performs well (in and around the Burwood train station and Westfield Burwood), however fringe areas particularly approaching Parramatta Road are patchy.

Burwood continues to grow strongly, continuing to transform to incorporate a mix of uses in the centre so that it becomes increasingly self- It tr7499 pp tr+p top + o+ p +ol -to-day needs. Key retail anchor in Burwood is Westfield Burwood. Many large corporations and government departments occupy commercial floorspace including Land and Housing Corporation, Road and Maritime Services, NSW Trustee & Guardian and Family and Community Services.

2.2 EXISTING IMPROVEMENTS

At present the Site is occupied by three residential flat buildings.

The area located to north of the Site contains Victoria Road; the area to the east of the Site contains residential flat buildings; the area of the south of the Site contains residential flat buildings and the area to the west of the Site contains residential flat buildings and Burwood Westfield.

2.3 PLANNING POLICY AND CONTEXT

This section considers strategic planning policy documents applicable to the Site by virtue of its location in Burwood.

2.3.1 A Plan for Growing Sydney (2014)

A Plan for Growing Sydney (DPE, 2014a) (the Plan) sets the strategic direction for Sydney towards 2031. The overarching t t +t +sl +m +; <7+ o p + t +mp+l + r +r ml +nt 7H +r pl + l np+ +t p 9_sp+ l +t +m t + around four key goals:

- Goal 1: A competitive economy with world-class services and transport.
- Goal 2: A city of housing choice with homes that meet our needs and lifestyles.
- Goal 3: A great place to live with communities that are strong, health and well connected.
- **Goal 4**: A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources.

Goal 1: A Competitive Economy with World-class Services and Transport

Of particular relevance to the EIA is $Goal\ 1$: A competitive economy with world-class services and transport. One of the associated directions Direction 1.7: Grow Strategic Centres by providing more jobs closer to home states sl+p tr+t ns+t tt+l nnp tt+l pt+l pt+l

The public transport network connecting these centres provides many people with direct access to a range of job locations, as well as access to education facilities, health centres and hospitals, and sporting, cultural and entertainment facilities. Delivering more housing through targeted urban renewal around centres on the transport network will provide more homes closer to jobs and boost the productivity of the city.

Goal 2: A City of Housing Choice

Another goal of relevance is *Goal 2: A city of housing choice, with homes that meet our needs and lifestyles*. The following key directions/actions are of relevance to this Assessment.

In line with Direction 2.1 to accelerate housing supply across Sydney, the Government will continue to focus urban renewal activities to provide additional housing especially around centres with good public transport access and amenity.

Direction 2.2 focuses new housing in centres which have public transport that runs frequently and can carry large numbers of passengers.



Goal 3: Sydney's Great Places to Live

Goal 3 and the associated *Direction 3.1: Revitalise existing suburbs* emphasises that focusing new housing within opplometry by lmt spo+ mm+mtr+pl+mppd++m ttp+l+n+ ttp+l+n+ o+lp+r+ o+nt+l+n+ pp+l+n+ pp+l+n

2.3.2 Draft Central District Plan

The Draft Central District Plan sets out a 20-year vision, priorities and actions for the Central District. The Draft Plan sets outs out three goals:

- A Productive City (Goal 1)
- A Liveable City (Goal 2 and Goal 3)
- A Sustainable City (Goal 3 and Goal 4)

Of particular relevance to this Study is a productive city and a liveable city.

Related to the goals of a productive city, the draft Central District Plan notes the following:

- Planning for job targets in strategic and district centres
- Growing economic activity in centres
 - Manage growth and change in strategic and district centres and, as relevant, local centres.
 - Planning for and prioritising retail floor space provision in centres.
- Improve 30 minute access to jobs and services.

Burwood District Centre

The Draft Plan sets job targets for the strategic and district centres, the Draft Plan states Burwood has a baseline target of 12,000 and a higher job target of 14,000 towards 2036.

The Draft Plan states the following priorities for Burwood:

- Review local planning instruments and consider development initiatives that encourage the development of large floorplate mixed use buildings.
- Improve connections across the centre over the rail line.
- Expand the function and type of land uses in the centre.
- Investigate opportunities to enhance the night time economy.

The Draft Plan outlines several liveability priorities and actions for the Central District. Of relevance to this Study are the following priorities and actions:

- Improve housing choice
- Improve housing diversity and affordability
- Create great places

_sp+ I +s t r+I r p +cpr Burwood LGA is 2,600 additional dwellings between 2016 and 2021.

2.3.3 Local Planning Policy

Burwood Local Environment Plan (2012)

The objectives of the B4 Mixed Use zone are:

- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.



The B4 Mixed Use zone permits the following uses: attached dwellings, boarding houses, childcare centres, commercial premises, community facilities, educational establishments, entertainment facilities, function centres, group homes, home industries, hostels, hotel or motel accommodation, information and education facilities, medical centres, passenger transport facilities, recreation facilities (indoor), registered clubs, residential flat buildings, respite day care centres, restricted premises, seniors housing and shop top housing.

The maximum building height of the Site is 60m. The maximum FSR for the Site is 4.5:1. Clause 4.4A of the LEP requires that residential accommodation on the Site must not exceed FSR 3:1.

2.3.4 Implications for the Site

In accordance with A Plan for Growing Sydney, the following priorities have been set for Burwood:

- Work with council to provide capacity for additional mixed-use development in Burwood including offices, retail, services and housing.
- Investigate a potential light rail corridor from Parramatta to Strathfield/Burwood via Sydney Olympic Park.

The draft Central Sydney District Plan identifies the importance of Burwood through its designation as a District Centre. Specifically, the draft District Plan implores a review local planning instruments for the consideration of development initiatives that encourage the development of large floorplate mixed use buildings to strengthen the role of Burwood.

2.4 THE PROPOSAL

The Proposal proposes +plt+sp+tp +n p +M?+Xtpo+ p+ tr7/s pp7/4 p o+sp+tp +m totr+spts+and FSR controls.

Specifically, this will include amendments in the order of:

- Building height from 60 metres to a maximum of 148 (AHD) metres.
- FSR from 4.5:1 to 8.5:1.

The key features of the Proposal include:

- A vibrant mix of uses, including high density residential (with approximately 436 apartments) to create an extended hours urban retail offering for this strategic site within Burwood.
- Reservation of 10% of apartments for purchase by first home buyers at 5% deposit and with access to delayed settlement terms.
- Commercial floorspace of 5,849sqm.
- Retail floorspace of 4,447sqm.
- Retail activation at ground level of Victoria Street.
- Location of car parking and loading in the basement (no above ground car parking).
- Victoria Street George Street through-site link improving connectivity to Burwood train station.

Table 2.1 outlines the mix and quantum of uses envisaged by the Proposal.

Table 2.1: Proposal Scheme

Mix of Uses	Gross Floor Area (GFA)			
Retail	4,447sqm			
Commercial	5,849sqm			
Total Non-Residential	10,296sqm			
Residential	35,909sqm			
Total	46,205sqm			

Source: Architectus



3. BASELINE RESEARCH

3.1 EMPLOYMENT PROFILE

In order to understand the employment and economic activity occurring in Burwood (where the Site is located) ABS Census data for 2006 and 2011 was analysed (2016 Census data for employment characteristics was not released at time of writing), using data by Travel Zone (TZ) from BTS (2014). Figure 3.1 depicts the area analysed.

Travel zone boundaries (910, 913, 915 and 917) broadly align with B4 Mixed Use zone that comprises Burwood. The employment profile provides a contextual indication of the employment structure of Burwood.

This section considers the employment profile of workers in the centre by analysing types of employment categorised under Australian and New Zealand Standard Industrial Classification (ANZSIC). The ANZSIC has been developed jointly by the Australian Bureau of Statistics and Statistics New Zealand to improve the comparability of industry statistics between the two countries and the rest of the world.

The ANZSIC is a hierarchical classification of industry with four levels, namely Divisions (the broadest level), Subdivisions, Groups and Classes (the finest level). At the Divisional level (referred to as 1-digit ANZSIC), the main purpose is to provide a limited number of categories which provide a broad overall picture of the economy.



Figure 3.1: Precinct Employment Analysis

Employment Profile

Key employment data for Burwood Strategic Centre highlights that:

- Estimated employment of approximately 10,297 people in 2011.
- Retail trade (19.2%), health care and social assistance (14.6%) and transport, postal and warehousing (12.7%) are the largest employers.
- Key occupations include professionals (25.9%), clerical and administrative workers (18.5%) and sales workers (17.9%) reflective of its industry profile.



Table 3.1: Employment Profile Overview, Burwood

Indicator	Burwood SC
Total Employment	
2011	10,297
2006	9,302
Key Industries (2011)	
Retail Trade	19.2%
Health Care and Social Assistance	14.6%
Transport Postal and Warehousing	12.7%
Key Occupations (2011)	
Professionals	25.9%
Clerical and Administrative Workers	18.5%
Sales Workers	17.9%

Source: ABS (2011)

The following sections investigate at a fine grain the composition of employment.

3.1.1 Employment by Industry

There were 10,297 workers employed in Burwood in 2011. Retail trade (19.2%), health care and social assistance (14.7%) and transport, postal and warehousing (12.6%) are the largest employers. Other sectors represented in Burwood included professional, scientific and technical services (7.2%); education and training (6.6%), public administration and safety (6.4%) and wholesale trade (6.2%). This highlights a broad industry mix, comprising both primary and service based industries.

Table 3.2 demonstrates that between 2006-2011 the number of jobs in Burwood increased by 995 or 10.7%. The largest growth industries by number of jobs were: transport, postal and warehousing (+1,149 jobs), wholesale trade (+524), healthcare and social assistance (+280) and administrative and support services (+105 jobs).

Table 3.2: Employment by Industry, 2006-2011 (19 Sector – 1 Digit ANZSIC)

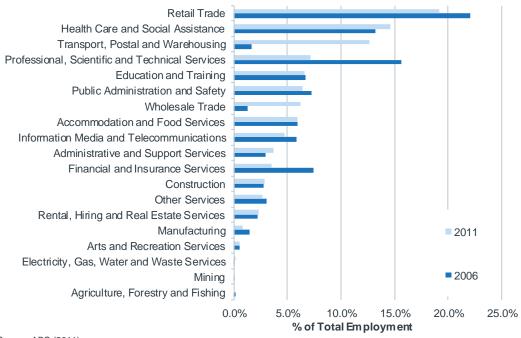
Industry	20	2006 2)11	Change 2006-2011	
	#	%	#	%	#	%
Agriculture, Forestry and Fishing	9	0.1%	0	0.0%	-9	-100.0%
Mining	5	0.1%	4	0.0%	-1	-26.1%
Manufacturing	134	1.4%	81	0.8%	-53	-39.6%
Electricity, Gas, Water and Waste Services	4	0.0%	14	0.1%	11	298.4%
Construction	253	2.7%	290	2.8%	37	14.6%
Wholesale Trade	115	1.2%	639	6.2%	524	454.7%
Retail Trade	2,056	22.1%	1,980	19.2%	-76	-3.7%
Accommodation and Food Services	549	5.9%	612	5.9%	63	11.5%
Transport, Postal and Warehousing	156	1.7%	1,305	12.7%	1,149	736.8%
Information Media and Telecommunications	540	5.8%	484	4.7%	-56	-10.4%
Financial and Insurance Services	695	7.5%	362	3.5%	-333	-47.9%
Rental, Hiring and Real Estate Services	207	2.2%	239	2.3%	32	15.7%
Professional, Scientific and Technical Services	1,454	15.6%	739	7.2%	-715	-49.2%
Administrative and Support Services	273	2.9%	378	3.7%	105	38.6%
Public Administration and Safety	676	7.3%	662	6.4%	-13	-2.0%
Education and Training	620	6.7%	680	6.6%	60	9.7%
Health Care and Social Assistance	1,227	13.2%	1,507	14.6%	280	22.8%
Arts and Recreation Services	45	0.5%	50	0.5%	5	10.7%
Other Services	285	3.1%	271	2.6%	-14	-4.8%
Total	9,302	100.0%	10,297	100.0%	995	10.7%

Note: totals may not add up to other BTS tables due to different databases utilised and rounding

Source: ABS (2011)



Figure 3.2: Employment by Industry, 2006-2011



Source: ABS (2011)

3.1.2 Employment by Occupation

The employment profile of Burwood primarily comprises professionals (25.9%), clerical and administrative workers (18.5%) and sales workers (17.9%).

Table 3.3: Employment by Occupation, 2011 (1-digit ANZSIC)

Occupation	No.	%
Managers	1,214	11.8%
Professionals	2,667	25.9%
Technicians and Trades Workers	933	9.1%
Community and Personal Service Workers	1,062	10.3%
Clerical and Administrative Workers	1,907	18.5%
Sales Workers	1,846	17.9%
Machinery Operators and Drivers	177	1.7%
Labourers	492	4.8%
Total	10,297	100.0%

Note: totals may not add up to other BTS tables due to different databases utilised and rounding Source: BTS (2014)

Burwood comprises a broad industry mix. Census data demonstrates the major industries of growth between 2006 and 2011 were: transport, postal and warehousing (+1,149 jobs), wholesale trade (+524), health care and social assistance (+280) and administrative and support services (+105 jobs).

There is a higher proportion of white collar occupations in Burwood, such as professionals and managers. The occupation mix provides good growth prospects for employment, with many white collar sectors forecast to grow significantly in Australia over the medium to long term. These have implications for commercial floorspace requirements.

Significantly, the ability to attract and retain a skilled local labour force is crucial in promoting investment and attracting additional such businesses to Burwood.

aecgroupltd.com 14



3.2 POPULATION AND DWELLINGS

This section provides a summary of the key demographic indicators for residents of Burwood (the LGA), using Central District (which includes the LGAs of Bayside, Burwood, Canada Bay, Inner West, Randwick, Strathfield, Sydney, Waverley, Woollahra) and Sydney Metropolitan Area (the Metropolitan area) as benchmarks.

3.2.1 Population Growth

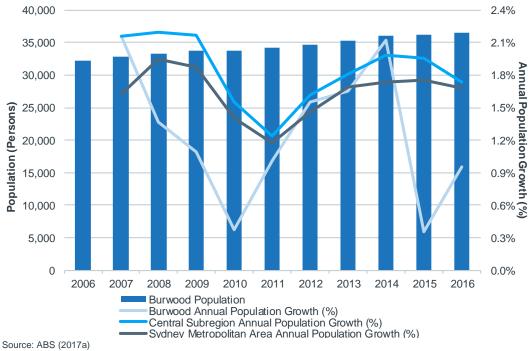
Burwood LGA had an estimated population of 36,505 people in 2016, representing an increase of approximately 4,306 people (or 1.3% annual average growth) between 2006 and 2016. In comparison, the Central District and metropolitan area reported slightly higher annual average growth, at 1.8% and 1.6% respectively, over the same 10 year period.

Table 3.4: Population Growth, Burwood and Comparison Regions, 2006-2016

Year	Historical Population (No.)			Annual Population Growth (%)		
	Burwood LGA	Central District	Sydney Metropolitan Area	Burwood LGA	Central District	Sydney Metropolitan Area
2006	32,199	841,577	4,256,082	1.3%	1.6%	0.9%
2007	32,893	859,748	4,325,446	2.2%	2.2%	1.6%
2008	33,343	878,592	4,409,484	1.4%	2.2%	1.9%
2009	33,708	897,646	4,492,303	1.1%	2.2%	1.9%
2010	33,835	911,569	4,555,440	0.4%	1.6%	1.4%
2011	34,176	922,857	4,608,874	1.0%	1.2%	1.2%
2012	34,707	937,731	4,676,076	1.6%	1.6%	1.5%
2013	35,282	954,733	4,754,989	1.7%	1.8%	1.7%
2014	36,030	973,716	4,837,617	2.1%	2.0%	1.7%
2015	36,159	992,748	4,922,513	0.4%	2.0%	1.8%
2016	36,505	1,009,980	5,005,305	1.0%	1.7%	1.7%
2006-2016	4,306	168,403	749,223	1.3%	1.8%	1.6%

Source: ABS (2017a)

Figure 3.3: Population Growth, Burwood and Comparison Regions, 2006-2016



bource. ADS (2017a)



3.2.2 Household Composition

An analysis of household structure is important to understand the household types that are attracted to Burwood LGA in comparison to other regions.

- In 2016, Burwood was comprised primarily of family households (65.5% of all households). The Central District comprised of a relatively lower proportion of family households as a total of overall households (56.4% in 2016) compared to both Burwood and Sydney metropolitan area.
- Family households declined as a share of total households in Burwood between 2011 and 2016 (was 68.1% in 2011 and 65.5% in 2016). Conversely, the proportion of family households in the Central District and the metropolitan area rose between 2011 and 2016.
- The Central District comprised of a higher proportion of non-family households (i.e. lone person households, group households and other households) compared to Burwood and Sydney metropolitan area. Between 2011 and 2016 the proportion of lone person households decreased across all three regions.
- In terms of household ownership, Burwood reported a greater proportion of households fully owned (31.2% in 2016), compared to Central District (25.0%) and the metropolitan area (29.9%). Between 2011 and 2016 though, household ownership declined as a proportion in all three areas.
- In line with the Metropolitan area, Burwood has traditionally reported a lower proportion of households who rent compared to Central District. However, Burwood reported a greater increase in renter households as proportion of total households between 2011 and 2016 than in the Central District and Metropolitan area, where renting as a proportion of total households only increased marginally.

3.2.3 Dwelling Structure

Burwood LGA has a different dwelling structure mix compared to Central District and metropolitan area:

- In 2016, Burwood reported a significantly higher proportion of separate houses (38.8%) compared to Central District (21.9%), while lower than the metropolitan area (55.3%). The proportion of separate houses in Burwood reduced substantially between 2011 and 2016 (from 51.4% in 2011 to 38.8% in 2016).
- The inverse is true for flats, units and apartments in 2016, which accounted for 44.5% of all dwellings in the LGA. This was considerably lower than Central District (57.9%), while higher than the metropolitan area (30.0%). The proportion of flats, units and apartments in Burwood increased considerably between 2011 and 2016 (from 36.7% in 2011 to 44.5% in 2016).
- Burwood reported 16.1% semi-detached or row dwellings in 2016, lower than Central District (19.0%) and higher than the metropolitan Area (14.0%).
- Growth across dwelling structures for all three areas were characterised by similar trends between 2011 and 2016, with only the separate houses type reporting a decline over the period. Flats, units and apartments grew as a proportion of total dwellings in all three areas between 2011 and 2016, as did semi-detached or row housing.

3.3 CURRENT MARKET ACTIVITY

3.3.1 Trends and Future Influences

This section outlines key macro and micro trends that influence demand for commercial floorspace in Burwood. A review of these trends and their potential implications is important in assisting with understanding if and how the Proposal would complement the Burwood commercial market.

Sydney metropolitan commercial markets have been performing strongly with notable yield compression in the last 6 months. Demand for investment opportunities has been strong as interest rates remain low and this has been reflected in strong sales results. The strong demand for commercial investment properties continues with many investors priced out of the Sydney CBD market seeking fringe locations where floorspace are comparatively affordable.



The central location of Burwood midway between Sydney and Parramatta CBDs positions it as a desirable suburban office market. Commercial office buildings have a significant market presence in Burwood as many corporate headquarters and government agencies locate in the area, thereby underpinning demand for commercial office space from large and smaller businesses.

The market for commercial floorspace has primarily been underpinned by strong fundamentals including:

- Population growth which drives demand for commercial and support services.
- Employment activity commensurate with business and economic growth.
- Low interest rates driving the commercial investor market.
- Withdrawal of commercial office space from other suburban markets, thereby resulting in a shrinking of office stock.
- An increasing amenity-rich environment making Burwood an attractive place to do business.

As populations grow, so too does the demand for, *inter alia*, white collar services, accordingly driving demand for commercial floorspace. These fundamentals ultimately form the core drivers to demand for commercial floorspace.

Benefiting from strong transport links, various sites are planned for redevelopment for mixed use and provide investment grade commercial floorspace to meet ongoing demand in Burwood.

Evolving Occupier/Tenant Requirements

As a proportion of total business cost, property occupancy costs (e.g. rents, outgoings, etc.) represent a small proportion, suggested to be in the region of 5%-10%. A key component of business cost is employees. As a consequence, despite the importance of cost in the location and building selection process, research suggests that the extent and quality of worker amenity is an increasingly important factor in location selection as employers seek to minimise employee cost by optimising employee productivity and retention.

Overwhelmingly, occupier needs are focused on cost-cutting and achieving workspace efficiencies. That said, there is increasing importance placed on location selection for attracting and retaining staff and with a focus on staff health and employee wellbeing. As a consequence, for businesses who seek a non-CBD location expectedly target suburban office environments which are rich in transport and retail amenity. Burwood is one of those markets.

3.3.2 Employment Land Uses

The Inner West suburban office market is distinguished as north of Bankstown and Marrickville, east of Pyrmont/Ultimo, south of the Parramatta River and to the west of Parramatta CBD. Major suburban sub-markets identified include Sydney Olympic Park, Rhodes, Homebush, Strathfield, Burwood and Ashfield with total commercial floorspace circa 468,000sqm GFA (Knight Frank, 2017).

The Inner West sub-market performed strongly over the course of 2016 in line with other major suburban office precincts within metropolitan Sydney. Tenant demand for large floorplates (1,000sqm-3,000sqm) is primarily observed from government departments and tertiary education providers with smaller tenant demand typically observed from SMEs and professional firms.

Demand for commercial premises within the Inner West market was strong throughout 2016 and has continued into 2017; enquiries understood to range from government departments seeking to relocate to suburban locations while other occupiers are seeking affordable premises in well-located areas as a result of upswing in Sydney CBD and City fringe rents over the course of 2016.

Burwood is a minor sub-market within the larger Inner West office market; investment grade office floorspace is relatively modest at 68,500sqm compared to the larger Inner West markets of Rhodes and Sydney Olympic Park.

Despite its relatively small scale, the Burwood office market is well located between the Sydney and Parramatta CBDs with existing heavy rail and road linkages providing good access hence strong demand is observed from government and private occupiers alike.



Nature of Demand

Demand for office floorspace in Burwood is established in nature, with existing occupiers ranging from large government departments (LAHC, RMS, NSW Trustee & Guardian, FACS), legal and accounting firms, health and medical consultants and other small professional firms. Large occupiers in turn provide an incentive for other smaller businesses to locate within the market to service the large white-collar workforce.

Demand for commercial office floorspace is primarily driven by three elements: location, amenity and affordability.

Location

The geographical location of Burwood from the Sydney and Parramatta CBDs strategically places it in a unique location close to two of the largest commercial centres in metropolitan Sydney.

Strong existing public transport linkages via the existing heavy rail and roads provides the Burwood market access to a wide employee catchment pool; a variety of state government agencies position themselves in Burwood as part of the decentralisation of departments.

Amenity

Wnl t +T +p +top top +Burwood is a major retail destination within the Inner West with the Burwood Plaza (south of the rail line) and Westfields Burwood (north of the rail line) offering a strong mix of prominent national chains and anchor retailers, specialty retailers and food retailers in addition to strip retail. This strong retail presence provides a range of options for workers within the surrounding office buildings with anecdotal evidence from local agents noting this is a major factor in the success of the local commercial market.

Affordability

The growth in Sydney CBD rents over the course of 2016-2017 has resulted in a variety of occupiers opting to relocate to suburban office markets to more affordable premises. Burwood remains an affordable alternative for such occupiers compared to the Sydney CBD as well as the major office markets of Rhodes and Sydney Olympic Park within the Inner West market. With rents within the Sydney CBD and City fringe expected to continue rising over 2017 while vacancy rates contract, Burwood remains a financially viable alternative option for many occupiers.

Anecdotal evidence from local leasing agents indicates demand for premises remains strong from traditional sectors - government agencies, healthcare and social services, accounting and engineering firms as well as other professional services.

Pipeline Supply

The current commercial development pipeline in Burwood is strong - a total of 20,384sqm of commercial floorspace is currently under construction or in the planning stage.

There are several major mixed use developments of varying quantities of commercial floorspace currently under construction or in the pipeline. On-going and proposed development is clustered around the Burwood train station, particularly along Railway Parade, George Street and Burwood Road.

No stand-alone office developments are currently observed within the development pipeline - all new commercial floorspace is to be delivered as part of mixed use projects.

Table 3.5: Development Pipeline (Major Commercial Projects)

Address	Stage	Commercial GFA	Description
11-15 Deane St 18-20 George St	Construction	3,760sqm	Construction of 22 storey mixed use building comprising 3,760sqm of commercial floorspace, 2,640sqm of retail floorspace, 105 apartments and 76 serviced apartments.
16 Railway Pde	Development Approval	2,996sqm	Construction of 20 storey mixed use building comprising 4,615sqm commercial floorspace, 45 apartments and 9 serviced apartments.
9-15 George St	Development Application	1,867sqm	Development Application lodged in July 2016 for construction of 19 storey mixed use building comprising 1,867sqm of commercial floorspace across 3 levels and 58 apartments. DA is currently under assessment by Burwood Council.



Address	Stage	Commercial GFA	Description
7-9 Burleigh St 180-186 Burwood Rd	Development Application	5,681sqm	Development Application lodged in July 2016 for demolition of existing 2 storey commercial buildings for construction of 18 storey commercial tower & a 20 storey tower containing 15 serviced apartments and 57 apartments. DA is currently under assessment by Burwood Council.
42-50 Railway Pde 52-60 Railway Pde	Gateway Approval Implementation with Council	43,600sqm (15,100sqm commercial office)	Planning Proposal received Gateway approval in early 2017. The proposal envisages 15,100sqm commercial office, 28,500sqm retail with 4 residential towers incorporating circa 1,050 apartments. Proposal is currently pending implementation with Burwood Council.

Source: Cordell Connect

Commercial development is largely dependent on pre-commitments and quality covenants from future occupiers. Given the quantum of commercial floorspace currently being proposed in several mixed-use developments at varying development stages, it is evident developers are confident in take-up of commercial floorspace within Burwood given the current market dynamics.

It is useful to consider the current quantum of commercial development underway in Burwood in comparison to nearby Inner West sub-markets.

Table 3.6: Commercial Pipeline, Inner West Office Market

Sub-Market	Commercial GFA
Ashfield	6,572sqm
Burwood	35,484sqm
Homebush	11,535sqm
Strathfield	9,287sqm
Sydney Olympic Park	46,058sqm

Source: Cordell Connect

As evidenced in **Table 3.6**, Sydney Olympic Park is poised to deliver the greatest amount of commercial GFA over the coming years compared to Burwood and other neighbouring markets. This is representative of the hierarchy of the Inner West Office market; commercial development occurring where market demand and economic rents achievable facilitate a market response.

The 20,384sqm of commercial GFA poised to be delivered in Burwood illustrates the strong demand within Burwood with commercial developers seeking to capitalise on the strong demand and rents achievable.

Market Activity

Office buildings have a significant market presence in Burwood as many corporate headquarters and government agencies locate in the area which then underpins demand for commercial office space from other businesses who seek to locate close to other services. Office floorplates within Burwood are comparatively small compared to other office markets which limits the attractiveness of Burwood to occupiers with large floorspace requirements.

The Burwood CBD office market is distinctly tiered - A-Grade commercial buildings are subject to higher levels of demand from occupiers compared to poorer quality assets as evidenced by differing rents achieved in both tiers.

Sales and leasing activity over the course of 2016 and into 2017 has been robust; commercial office space is tightly held with vacancy rates currently 3.5% according to anecdotal evidence from local agents. Office rents in investment grade buildings are currently circa \$400/sqm-\$460/sqm gross. A recent deal for a 200sqm office suite is understood to have achieved a rent \$600/sqm which highlights the strength of the market for quality stock.

There have been two notable sales transactions which have occurred at 14 Railway Parade and 52-60 Railway Parade, Burwood in the past 18 months both of which have achieved over \$5,000/sqm of floor area with passing initial yields of just over 8%.

Commercial space located closer to Parramatta Road achieves lower rents (\$350/sqm-\$400/sqm gross) due to the distance to the station and shopping centre in addition to the lower quality and aged buildings in comparison to those in the core. Cheaper commercial office space is popular with commercial services such as real estate agents and other financial services or businesses starting up or relocating to more affordable premises.



3.3.3 Residential Land Uses

_sp+ p r s+q+ p tl + o p +p top tl + p + l p+sl +mpp + top +n p po+ 9Despite much of the recent public commentary regarding a potential pullback in property prices in some residential markets, the long-term outlook for the Sydney residential market remains positive underpinned by strong fundamentals:

- Strong population growth.
- · Low interest rates.
- Relatively low unemployment rates.
- Historic undersupply resulting in significant housing shortfall and pent up demand.

These core fundamentals ultimately form the primary drivers of demand for residential property and resulted in the sharp increases in property prices across Sydney over the 2013-16 period. Whilst tempering slightly over the course of 2015-16, capital growth has continued unabated in the Burwood LGA.

Table 3.7 outlines how median dwelling prices in the Burwood LGA have grown over the last five years. Price growth was particularly marked in the 2014-15 period to exceed 15% per annum. Over the five year period of 2012-2017, average annual price growth has been 6.5%. Rental growth has also been strong, averaging 4.7% per annum. In comparison, wage growth over the 2006-2016 period has been more modest at circa 3.9% average annual growth.

Table 3.7 Median Dwelling Prices and Rents, Burwood LGA (2012-17)

Burwood LGA	2012-13	2013-14	2014-15	2015-16	2016-17	Average Annual Change (2012-17)
Median Dwelling Prices	8.3%	6.9%	15.1%	-0.3%	3.1%	6.5%
Median Dwelling Rents	8.7%	0.0%	0.0%	13.6%	2.1%	4.7%

Source: FACS (2017)

As a result of the significant increases in property values combined with historically weak wage growth, housing



 M_{p} p + ψ n t +q pnl +sl +M o +r wth will occur in a number of key industries. These are:

- Retail trade (+32%);
- Accommodation and food services (+33%);
- Education and training (+29%);
- Health care and social assistance (+30%).

This growth profile is in line with national employment trends. The Proposal will facilitate development of floorspace required to accommodate these jobs in growth. More specifically the expanded retail offering is likely to incorporate a greater range of retailers and food catering businesses, medical and health related occupiers as well as non-retail service occupiers.

Contemporary commercial office space in Burwood is in demand, with much of the existing stock well occupied however older and dated in functional utility. Cumulatively, limited existing stock and a relatively modest supply t p t p + qtn p ntl + qtnp+sl p+sp+ p tl + +s l + nstp p p + qtM o +q +pn tn+ p tl 9

Commercial office space located within mixed-use developments in Burwood are well-regarded by smaller professional users such as consultants, real estate agents, accountants and the like who do not require a corporate location and benefit from co-locating with residential and retail uses. The commercial development pipeline in Burwood is without exception in a mixed use development setting.

Notwithstanding demand from small scale commercial occupiers, non-purpose built office buildings in non-corporate locations and that offer smaller commercial suites can struggle to secure pre-commitments from large anchor tenants if mandated by financiers. Many mixed use developments therefore rely on residential pre-sales (off-the-plan) to meet financier requirements.

The Proposal to I r p +M o + p I t+ qp +I o+I nn ol p+small scale commercial occupiers and residential would be well-met given current market conditions.

Residential Uses

Buoyant market conditions and sustained price growth underlie a robust residential property market in Burwood. The capacity to provide housing close to transport and employment infrastructure is critical. Soaring and sustained price growth over the 2012-2017 period is reflective of a market that is inadequately supplied.

The Site is presently improved with three apartment blocks held under strata title. Owing to subsisting uses, in order for the Site to be redeveloped to provide for contemporary retail and commercial floorspace, cross-subsidisation by residential uses is necessary.

Ultimately, providing a mix of retail, commercial and residential uses recognises the importance to grow Burwood as a District Centre, and provide a variety of different high density land uses within walking distance from the Burwood train station. The provision of investment grade commercial floorspace will serve to strengthen the current Burwood office market and improve the p t t r + + qn p nt + qtnp+ p 7t + p t + tq+M o + qtp+ as a suburban commercial office market.

The next chapter investigates the economic implications of the proposed change to planning controls to facilitate development as envisaged by the Proposal.



4. ECONOMIC IMPACT ASSESSMENT

The following sections examine the estimated economic activity supported through the operations of the Site if it was redeveloped under the:

- Base Case: if the Site was redeveloped under the existing planning controls (it is estimated this would equate to approximately 8,175sqm of commercial/ retail floorspace).
- **Proposal Case:** if the Site was redeveloped in accordance with the proposed mixed-use development, including: 5,849sqm of commercial/health-related floorspace and 4,447sqm of retail floorspace.

The economic impacts have been assessed at the Burwood Local Government Area (LGA) level. An Input-Output model, including the development of a series of specific regional Input-Output transaction tables, was developed to reflect the economic structure of the Burwood LGA (refer to **Appendix A**). Input-Output modelling describes economic activity through the examination of four types of impacts which are defined and described in the table below

Table 4.1. Economic Indicators

Indicator	Description
Output	Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.
Gross Product	Refers to the value of output after deducting the cost of goods and services inputs in the production process. Gross product (e.g., Gross Regional Product) defines a true net economic contribution and is subsequently the preferred measure for assessing economic impacts.
Income	Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the Project.
Employment	Refers to the part-time and full-time employment positions generated by the economic shock, both directly and indirectly through flow on activity, and is expressed in terms of Full-Time Equivalent (FTE) positions. One FTE job is defined as one person working full time for a period of one year.

Source: AEC.

Input-Output multipliers can be derived from open (Type I) Input-Output models or closed (Type II) models. Open models show the direct effects of spending in a particular industry as well as the indirect or flow on (industrial support) effects of additional activities undertaken by industries increasing their activity in response to the direct spending. Closed models re-circulate the labour income earned as a result of the initial spending through other industry and commodity groups to estimate consumption induced effects (or impacts from increased household consumption).

The following estimates consider both Type I and Type II flow on impacts though it should be noted that Type II impacts are commonly considered to overstate economic activity.

4.1 DRIVERS OF ECONOMIC ACTIVITY

In order to understand the economic impacts likely to result from the Proposal, it is necessary to distinguish economic impacts during the construction phase and those economic impacts that will be more permanent in nature following construction completion and operations commencement. A comparison with the economic impact of the Site if it was redeveloped under the existing planning controls (referred to as the Base Case) is also presented.

Operational Phase

The Base Case: Assumes the Site is redeveloped under the existing planning controls. The precinct is estimated to generate economic activity through direct turnover generated by the retail and commercial opportunities assumed under existing planning controls. This is a hypothetical scenario with the same assumptions of breakdown between commercial and retail space as used in the proposal case.



- The Proposal: On completion of development, the site is expected to generate ongoing economic/ operational activity through direct turnover generated by retail, food and beverage, commercial and health care operational activities.
- Construction Phase: Construction activity will draw resources from and thereby generate economic activity
 in Burwood LGA as well as from outside the LGA. Assumptions are made on the proportion sourced from
 within and from outside the LGA.

4.1.1 Operational Phase

The Base Case

For modelling purposes, operational employment levels (according to use based off based off current mixed-use zoning and current FSR and height) were broken down into their respective Australian and New Zealand Standard Industrial Classification (ANZSIC) industries. This breakdown was developed based on assumptions by AEC regarding the most appropriate ANZSIC industries for each activity.

Table 4.2. Operational Employment Allocation - The Base Case

Category	GFA (sqm)	FTE/sqm GFA	Employment	ANZSIC
Commercial	3,728	20	186	 Professional, Scientific and Technical Services (35%) Computer Systems Design and Related Services (5%) Employment, Travel Agency and Other Administrative Services (10%) Health Care Services (50%)
Retail	4,447	16.67	267	Retail Trade (50%),Food and Beverage Services (50%)
Total	8,175		453	

Source: City AEC

Employment by industry estimates were converted to an output value using a multiplier based on the national transaction table (ABS, 2017c; ABS, 2017d). The resultant estimates of output were modelled as the direct activity associated with the existing precinct.

Table 4.3. Operational Output Drivers - The Base Case

ANZSIC Sector	Output (\$m)
Professional, Scientific and Technical Services	\$16.3
Computer Systems Design and Related Services	\$2.6
Employment, Travel Agency and Other Administrative Services	\$7.0
Health Care Services	\$12.6
Retail Trade	\$17.2
Food and Beverage Services	\$16.8
Total	\$72.5

Source: AEC

The Proposal

For modelling purposes, estimated operational employment levels for the Proposal were broken down into their respective Australian and New Zealand Standard Industrial Classification (ANZSIC) industries. This breakdown was developed based on assumptions by AEC regarding the most appropriate ANZSIC industries for each activity.



Table 4.4. Operational Employment Allocation - The Proposal

Category	GFA (sqm)	FTE/sqm GFA	Employment	ANZSIC
Commercial	5,849	20	292	 Professional, Scientific and Technical Services (35%) Computer Systems Design and Related Services (5%) Employment, Travel Agency and Other Administrative Services (10%) Health Care Services (50%)
Retail	4,447	16.7	267	Retail Trade (50%),Food and Beverage Services (50%)
Total	10,296		559	

Source: Architectus, AEC

Employment by industry estimates were converted to an output value using a multiplier based on the national transaction table (ABS, 2017c; ABS, 2017d). The resultant estimates of output were modelled as the direct activity associated with the Proposal.

Table 4.5. Operational Output Drivers - The Proposal

ANZSIC Sector	Output (\$m)
Professional, Scientific and Technical Services	\$25.6
Computer Systems Design and Related Services	\$4.0
Employment, Travel Agency and Other Administrative Services	\$11.1
Health Care Services	\$19.8
Retail Trade	\$17.2
Food and Beverage Services	\$16.8
Total	\$94.4

Source: AEC

4.1.2 Construction Phase

For modelling purposes, construction costs (including contingency) were broken down into their respective ANZSIC industries. This breakdown was developed based on assumptions by AEC regarding the most appropriate ANZSIC industries for each activity.

Table 4.6. Construction Costs Allocation (Incl. Contingency) - The Proposal

Component	\$M	ANZSIC
Demolition	\$0.6	Construction Services (100%)
Retail/ Commercial	\$34.4	Non-Residential Building Construction (100%)
Residential	\$160.5	Residential Building Construction (100%)
Site works/ infrastructure	\$3.9	Construction Services (100%)
Landscaping	\$0.6	Construction Services (100%)
Professional Fees	\$20.0	Professional, Scientific and Technical Services (100%)
Total	\$220.0	

Source: Architectus, AEC

Only the construction activity expected to be undertaken within the Burwood LGA has been included in the economic impact assessment. For the purposes of this assessment it was assumed:

- Approximately 50% of the direct expenditure on construction activity would be sourced from local businesses and labour (including construction and professional services activity).
- Approximately 25% of purchases on goods and services (supply chain related activity) made by constructionrelated businesses sourced from outside the Burwood LGA would be spent within the local economy (i.e., 25%
 of the Type I flow on activity associated with non-local construction companies is assumed to represent
 additional local activity in Burwood LGA).



- Approximately 5% of wages and salaries paid to construction-related workers sourced from outside the region
 would be spent on local goods and services, such as food and beverages (i.e., 5% of the Type II flow on activity
 associated with non-local workers is assumed to represent additional local activity in Burwood LGA).
- Approximately 50% of the direct expenditure on professional, scientific and technical services activity would be sourced from local businesses and labour (including construction and professional services activity).

4.2 ECONOMIC ACTIVITY AND IMPACTS

The economic impacts/ contribution can be traced through the economic system via:

- Direct impacts, which are the first round of effects from direct operational expenditure on goods and services.
- Indirect Impacts (Flow-on impacts), which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:
 - Indirect Impact (Type I) represents the production induced support activity as a result of additional
 expenditure by the industry experiencing the stimulus on goods and services in the intermediate usage
 quadrant, and subsequent round effects of increased purchases by suppliers in response to increased
 sales.
 - Indirect Impact (Type II) represents the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economic system.

The premise behind Type I and Type II indirect impacts applies across both the construction and operational phase, except the impacts on industry will be different. For example, Type I impacts during the construction phase may include professional services (e.g. architects, engineers), manufacturing (steel, construction materials) while examples of Type I impacts during the operational phase may include manufacturing (food and beverage, food related), administrative and support services (e.g. building cleaning, employment services, travel agencies, etc.).

4.2.1 Operational Phase

The Base Case

The hypothetical activity associated with the site based off current mixed-use zoning and current FSR and height is estimated to support the following economic activity through direct and flow-on impacts (per annum):

- \$164.5 million in output (including \$72.5 million in direct activity).
- \$94.7 million contribution to Gross Regional Product (GRP, including \$40.9 million in direct activity).
- \$54.7 million in incomes and salaries paid to households.
- 781 full-time equivalent (FTE) jobs (including 453 direct employees of the site).

Table 4.7. Operational Impacts - The Base Case

Impact	oact Output (\$M) Gross Regional Product (\$M)		Incomes (\$M)	Employment (FTEs)	
Direct	\$72.5	\$40.9	\$29.3	453	
Type I Flow-On	\$28.2	\$14.6	\$8.5	92	
Type II Flow-On	\$63.8	\$39.2	\$16.9	236	
Total	\$164.5	\$94.7	\$54.7	781	

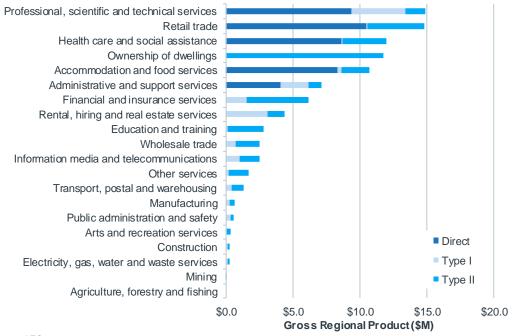
Source: AEC.

Major industry beneficiaries of the existing use of the site include:

- Professional, scientific and technical services (GRP of \$14.9 million)
- Retail trade (\$14.8 million)
- Health care and social assistance (\$12.0 million).



Figure 4.1. Gross Regional Product (GRP) Impacts by Industry - The Base Case



The Proposal

The Proposal is estimated to support the following annual economic activity through the direct and flow-on impacts associated (per annum):

- \$217.1 million in output (including \$94.4 million in direct activity).
- \$125.3 million contribution to GRP (including \$53.5 million in direct activity).
- \$73.0 million in incomes and salaries paid to households.
- 999 FTE jobs (including 559 directly related to activity from the site).

Table 4.8. Operational Impacts - The Proposal

Impact	Output (\$M)	Gross Regional Product (\$M)	Incomes (\$M)	Employment (FTEs)
Direct	\$94.4	\$53.5	\$38.9	559
Type I Flow-On	\$37.6	\$19.5	\$11.5	124
Type II Flow-On	\$85.1	\$52.4	\$22.6	315
Total	\$217.1	\$125.3	\$73.0	999

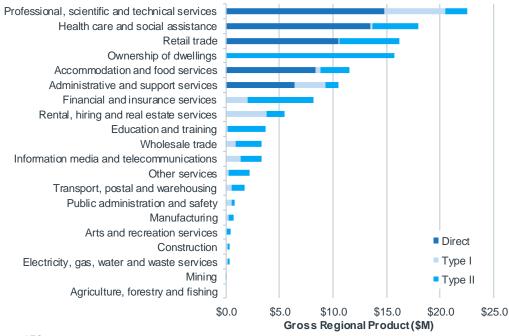
Source: AEC.

Significant industry beneficiaries of the Proposal include:

- Professional, scientific and technical services (GRP \$22.5 million per annum)
- Health care and social assistance (\$18.0 million)
- Retail trade (\$16.2 million).



Figure 4.2. Gross Regional Product (GRP) Impacts by Industry - The Proposal



4.2.2 Net Impact on Economic Activity

The potential increase in economic activity supported by the Proposal (compared to the Base Case) is presented in Table 4.9.

The Proposal is anticipated to result in a *net increase* in economic activity compared to what existing planning controls would be expected to support in the Base Case, assuming the permissible floorspace was used for a similar breakdown of use types (e.g. retail, commercial).

Table 4.9. Estimated Annual Change in Economic Activity Supported within Burwood LGA

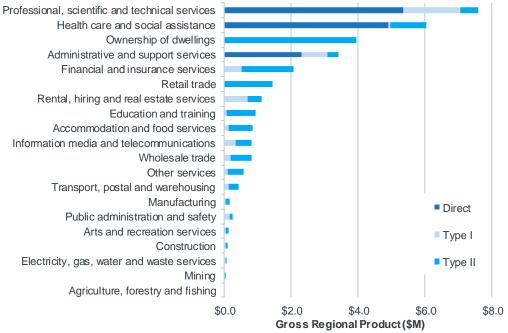
Net Impact	Output (\$M)	Gross Regional Product (\$M)	Incomes (\$M)	Employment (FTEs)
Direct	\$21.9	\$12.6	\$9.6	106
Type I Flow-On	\$9.4	\$4.9	\$3.0	33
Type II Flow-On	\$21.3	\$13.1	\$5.7	79
Total	\$52.6	\$30.6	\$18.3	218

Source: AEC.

aecgroupltd.com



Figure 4.3. Net Gross Regional Product (GRP) Impacts by Industry



4.2.3 Construction Phase

The construction phase associated with the Proposal is expected to support the following economic activity through direct and flow-on impacts (over the course of the construction phase):

- \$213.1 million in output (including \$110.0 million in direct activity).
- \$81.7 million contribution to GRP (including \$25.8 million in direct activity).
- \$40.5 million in incomes and salaries paid to households.
- 592 FTE jobs (including 234 directly employed in the construction activity).

Table 4.10. Construction Impacts - The Proposal

Impact	Output (\$M)	Gross Regional Product (\$M)	Incomes (\$M)	Employment (FTEs)	
Direct	\$110.0 \$25.8		\$12.4	234	
Type I Flow-On	\$54.2	\$25.8	\$15.1	177	
Type II Flow-On	\$49.0	\$30.1	\$13.0	182	
Total \$213.1		\$213.1 \$81.7		592	

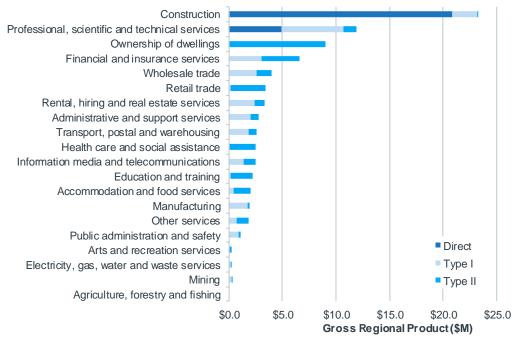
Source: AEC.

Major industry beneficiaries of the construction phase of the development include:

- Construction (GRP of \$23.3 million).
- Professional, scientific and technical services (\$11.9 million).
- Ownership of dwellings (\$9.1 million).



Figure 4.4. Gross Regional Product (GRP) Impacts by Industry - The Proposal





POLICY ASSESSMENT

The Proposal seeks to amend the Burwood LEP planning controls to facilitate a greater density of development which will deliver more than 10,000sqm of retail/commercial floorspace, 436 apartments including 10% of apartments reserved for first home buyers. This chapter examines the net economic impacts that are expected to result from realisation of the Proposal.

5.1 NET ECONOMIC IMPACTS

Economic Benefits

T p p l t + q+sp+ l + t+n tm p+ +M o + l q l t +t +l + tm l + t po+ p+np p+sl + accommodates an array of activities.

Provision of retail facilities and contemporary commercial office floorspace will be a major boon in a market where demand is strong. Market demand for commercial office floorspace in Burwood is diverse - accommodating both company headquarters and government agencies, as well as small scale commercial tenants who seek smaller format accommodation.

_sp+ I + t +n tm p+ +l p tl t r+ tnp+ p p+ +n p ntl +q I np 7p t r+M o +n t portole to provide affordable commercial floorspace to those occupiers who seek a suburban setting that is well connected and amenity- tns9_sp+t n I t + qH oott I + p I t+qI nt tp + th I np + pp t r+M o +r t r+ needs against ensuring any impact on existing retail centres is acceptable (Location IQ, 2017).

Burwood, Strathfield, Ashfield, Rhodes and Sydney Olympic Park represent the primary office precincts within the Inner West office market. Very little investment grade commercial office space is observed within Ashfield and Strathfield; floorplates are small and typically only attract SME occupiers with little government agency presence. Commercial stock within Rhodes and Sydney Olympic Park is modern and has performed well in recent times, the latter in particular attracting strong interest from private and government occupiers alike.

Anecdotal evidence from local agents suggests Burwood does not compete directly with the larger commercial centres of Rhodes and Sydney Olympic Park; the larger floor plates and greater number of investment grade commercial buildings observed therein attracting higher rents and thus appealing to a different market. Instead, Burwood competes with neighbouring markets of Strathfield and Ashfield and is understood to be observed as superior to both these localities given the virtual non-existence of investment grade commercial buildings therein.

The Proposal intends on the development of approximately 5,849sqm of investment grade commercial office space, responding to currently tight supply conditions. The Proposal strengthens the Burwood commercial market through the provision of space that will accommodate the modern expectations of commercial tenants. Given the strong demand for quality, modern office space within Burwood the Proposal is well suited to current market trends.

The rapid rise in the cost of housing has been widely commented upon. Specific to the Burwood Council area, dwelling price growth has been notably strong. Section 3.3.3 indicates average annual dwelling price growth of 6.5% and average annual rental growth of 4.7% in Burwood LGA over the last five years. Compared with wage growth (3.9% per annum over 2006-2016 period), the issue of housing affordability is deteriorating.

The proposed increase in dwellings will contribute towards creating a greater mix of housing locally, in a location close to a transport corridor and vibrant mixed use setting. In a locality where the household sizes are small and decreasing relative to metropolitan Sydney, there will be commensurate demand for units and multi dwelling product types. Units are the most affordable dwelling types so an increase in units is beneficial for affordability.

The availability of housing options close to employment centres (not just CBDs but also to suburban employment centres) has positive productivity benefits as it not only helps to reduce travel times but also alleviates pressure on infrastructure and transport networks.

Critically, the Proposal contemplates designating 10% of proposed dwellings for purchase by first home buyers. This reservation would allow a 5% deposit and delayed settlement terms if required. This is an important benefit, considering the cumulative impact of dwelling growth which year-on-year outstrips average wage growth, resulting in a larger affordability gap with the passage of time.



The Proposal would increase the potential for workers in the LGA to live locally and could increase job containment rates, reduce the negative time, cost and congestion externalities associated with commuting. In doing so it would also assist in ensuring that labour supply and population growth is not constrained by a lack of housing to accommodate workers locally.

Economic Costs

The provision of new dwellings has the potential to generate adverse externalities on traffic, travel times, congestion, etc. in the vicinity. Whilst we note this potential, it is not the purpose of this Assessment to assess traffic impacts which will be considered by a specialist consultant. As such for the purposes of this Assessment it is assumed that adverse traffic and transport impacts would be mitigated by appropriate provisions in the Proposal.

To compare the outcome of the Base Case versus the Proposal Case, each of the identified impacts compared to the Base Case are summarised and ranked based on the rating system outlined in **Table 5.1**.

Table 5.1: Economic Impact Rating Matrix

Severity of Impact	Score	Explanation
Strong Positive Impact	+3	The scenario would make a strong positive contribution towards this impact compared to the Base Case
Slight Positive Impact	+1	The scenario would make a slight positive contribution towards this impact compared to the Base Case
Neutral Impact	0	The scenario would make neither positive or a negative contribution towards this impact compared to the Base Case
Slight Negative Impact	-1	The scenario would make a slight negative contribution towards this impact compared to the Base Case
Strong Negative Impact	-3	The scenario would make a strong negative contribution towards this impact compared to the Base Case

Source: AEC

Table 5.2: Economic Impact of Base Case v Proposal Case

Impact	Base Case*	Rating	Proposal Case	Rating		
Employment & Economic Impact						
Output (\$M)	\$164.5	+1	\$217.1	+3		
GRP (\$M)	\$94.7	+1	\$125.3	+3		
Incomes (\$M)	\$54.7	+1	\$73.0	+3		
Employment (FTE)	781	+1	999	+3		
Commercial Demand						
Support Retail Demand	4,447sqm	+1	4,447sqm	+1		
Support Commercial Office Demand	3,728sqm	+1	5,849sqm	+3		
Housing Impact						
Housing Supply	16,350sqm	+1	35,909sqm	+3		
Homes Close to Jobs	198 units	+1	436 units	+3		
Construction						
Output (\$M)	N/A	0	\$213.1	+3		
GRP (\$M)	N/A	0	\$81.7	+3		
Incomes (\$M)	N/A	0	\$40.5	+3		
Employment (FTE)	N/A	0	592	+3		
Total						

Source: AEC

*Even though the Base Case could theoretically deliver 8,175sqm commercial GFA and 16,350sqm residential GFA (around 198 residential units), the cost to consolidate the Site from almost 50 strata unit holders requires a higher density than currently permitted to deliver redevelopment that is financially feasible. The Base Case is at best a theoretical proposition and accordingly the most t p + np | t +t + p+ q+Y +Ns| r p 9

aecgroupltd.com



The Proposal Case would deliver a clear, strong positive economic impact comparative to the Base Case. The Proposal Case has only allowed for the redevelopment of the Site as envisaged under the Proposal. As Burwood grows the economic impact identified in this Assessment would be even greater.

5.2 SECTION 117 DIRECTION

The Section 117(2) direction was previously considered in this Assessment with Section 1.1 Business and Industrial Zones identified as being relevant. The objectives are identified below together with their consideration in the context of the Proposal.

Table 5.3: Consistency with Section 117(2) Objectives

Objective	Proposal Case	
Encourage employment growth in suitable locations	The Site currently contains three residential buildings, as such no jobs are generated on the Site. Even though under the Base Case (existing planning controls), the Site could theoretically be redeveloped to accommodate 453 direct jobs it is not likely to be developed given the cost to consolidate the Site from multiple strata unit holders. The Proposal Case envisages development of the Site to accommodate: 4,447sqm of retail floorspace, 5,849sqm of commercial floorspace on the Site. This floorspace combined will generate 453 direct jobs on Site and a further 328 indirect jobs. The Proposal Case complies with this objective.	
Protect employment land in business and industrial zones	The planning amendment sought and subsequent development would lead to an increase in the quantum of floorspace potential for employment generating land uses in the Burwood LGA. The total number of direct jobs that could be accommodated in the Proposal is estimated at 559 jobs represents a many-fold increase over the existing Site which contains only residential buildings. The Proposal Case complies with this Objective.	
Support the viability of identified strategic centres	The Proposal Case would consolidate new homes, jobs and investment in Burwood in accordance with <i>A Plan for Growing Sydney</i> which states that Burwood could accommodate additional mixed-use development around train stations, including retail, services and housing. The Proposal Case responds to the draft Central District Plan in a number of key areas, specifically contributing to: Growing economic activity in Burwood centre. Facilitating development of large floorplate mixed use buildings. Expanding the function and type of land uses in the Burwood Centre, specifically by incorporating retail, commercial and residential accommodation. Improving housing choice by creating housing capacity in increased densities and heights. The Proposal Case would increase the quantum of retail expenditure generated by workers and residents and provide a net positive addition to the pool of expenditure available to be captured by local businesses. For these reasons, the Proposal Case would fulfil this Objective.	
	Encourage employment growth in suitable locations Protect employment land in business and industrial zones Support the viability of identified strategic	

Source: AEC

Section 117 Directions set out five requirements for planning authorities to consider when preparing a planning proposal that will affect land within an existing or proposed business or industrial zone. This are considered below in relation to the Proposal Case.

Table 5.4: Planning Authority Considerations

Consideration	Achieved?	Explanation
Give effect to the objectives of this direction	Yes	Table 5.3 has established that the objectives of the direction would be achieved via the Proposal Case.
Retain the areas and locations of existing business and industrial zones	Yes	The land use zone of B4 Mixed Use would remain unchanged. Overall the planning amendment sought would lead to an increase in the quantum of land zoned for employment generating land uses in the Burwood LGA. The existing improvements on Site provide no





REFERENCES

ABS (2007). Census of Population and Housing, 2006. Cat. No. 2068.0. ABS, Canberra.

ABS (2012). Census of Population and Housing, 2011. Cat. No. 2001.0, ABS, Canberra.

ABS (2017a). Regional Population Growth, Australia, 2016. Cat. No. 3218.0. ABS, Canberra

ABS (2017b). Census of Population and Housing, 2016. Cat. No. 2008.0, ABS, Canberra.

ABS (2017c). Australian National Accounts: Input-Output Tables, 2014-15. Australian Bureau of Statistics, Canberra.

ABS (2017d). Consumer Price Index, Australia. Cat. No. 6401.0, ABS, Canberra.

ABS (2015c). Tourism Accommodation, Australia, 2014-15. Cat. No. 8635.0, ABS, Canberra.

Burwood Council (2012). Burwood Local Environmental Plan (2012). Burwood Council, 2012.

BTS (2014a). Population Forecasts by Dwelling. Bureau of Transport Statistics, 2014

BTS (2014b). Employment Forecasts. Bureau of Transport Statistics, 2014

Colliers International (2012). Colliers International Office Tenant Survey 2012. Alternative Workplace Strategies.

DPE (2017a). Population Projections by LGA. DPE, Sydney.

DPE (2017b). Household and Dwelling Projections by LGA. DPE, Sydney.

Environmental Planning and Assessment Act (1979). Section 117(2) (S117(2)) Directions. Available from: http://www.planning.nsw.gov.au/Portals/0/LocalPlanning/Local-PlanningDirections-January-2015.pdf

Greater Sydney Commission (2016). Draft Central District Plan. Greater Sydney Commission. Available from:

https://gsc-public-1.s3.amazonaws.com/s3fs public/dp_central_amends_access_2016_12_21.pdf?5VvZDeT2.olRReQgb.G27CCuls_br_Rz.

NSW DP&E (2014a). *A Plan for Growing Sydney*. NSW Department of Planning and Environment (DP&E). Available from: http://www.strategy.planning.nsw.gov.au/sydney/the-plan/

Location IQ (2017). Retail Impact Assessment for 28-34 Victoria Street, Burwood. Prepared for VSD Investments Pty Ltd. August 2017.

UrbanGrowth NSW (2015). *Draft Parramatta Road Urban Transformation Strategy (UrbanGrowth NSW)*. Available from: https://newparrard.com.au/wp-content/uploads/2014/02/150923_DPR_Strategy.pdf.

West, G. R. (1993). User's Guide, Input-Output Analysis for Practitioners An Interactive Input-Output Software Package Version 7.1. Department of Economics. University of Queensland, 1993.



APPENDIX A: INPUT-OUTPUT METHODOLOGY

Input-Output Model Overview

Input-Output analysis demonstrates inter-industry relationships in an economy, depicting how the output of one industry is purchased by other industries, households, the government and external parties (i.e. exports), as well as expenditure on other factors of production such as labour, capital and imports. Input-Output analysis shows the direct and indirect (flow-on) effects of one sector on other sectors and the general economy. As such, Input-Output modelling can be used to demonstrate the economic contribution of a sector on the overall economy and how much the economy relies on this sector or to examine a change in final demand of any one sector and the resultant change in activity of its supporting sectors.

The economic contribution can be traced through the economic system via:

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

These effects can be identified through the examination of four types of impacts:

- Output: Refers to the gross value of goods and services transacted, including the costs of goods and services
 used in the development and provision of the final product. Output typically overstates the economic impacts
 as it counts all goods and services used in one stage of production as an input to later stages of production,
 hence counting their contribution more than once.
- **Gross Product:** Refers to the value of refers to the value of output after deducting the cost of goods and services inputs in the production process. Gross product (e.g. Gross Regional Product) defines a true net economic contribution and is subsequently the preferred measure for assessing economic impacts.
- **Income:** Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the project.
- **Employment:** Refers to the part-time and full-time employment positions generated by the economic shock, both directly and indirectly through flow-on activity, and is expressed in terms of full-time equivalent (FTE) positions.

Input-Output multipliers can be derived from open (Type I) Input-Output models or closed (Type II) models. Open models show the direct effects of spending in a particular industry as well as the indirect or flow-on (industrial support) effects of additional activities undertaken by industries increasing their activity in response to the direct spending.

Closed models re-circulate the labour income earned as a result of the initial spending through other industry and commodity groups to estimate consumption induced effects (or impacts from increased household consumption).



Model Development

Multipliers used in this assessment are derived from sub-regional transaction tables developed specifically for this project. The process of developing a sub-regional transaction table involves developing regional estimates of gross production and purchasing patterns based on a parent table, in this case, the 2014-15 Australian transaction table (ABS, 2017a).

Estimates of gross production (by industry) in the study area were developed based on the percent contribution to employment (by place of work) of the study area to the Australian economy (ABS, 2012), and applied to Australian gross output identified in the 2014-15 Australian table.

Industry purchasing patterns within the study area were estimated using a process of cross-industry location quotients and demand-supply pool production functions as described in West (1993).

Where appropriate, values were rebased from 2014-15 (as used in the Australian national IO transaction tables) to current values using the Consumer Price Index (ABS, 2017b).

Modelling Assumptions

The key assumptions and limitations of Input-Output analysis include:

- Lack of supply-side constraints: The most significant limitation of economic impact analysis using InputOutput multipliers is the implicit assumption that the economy has no supply-side constraints, so the supply of
 each good is perfectly elastic. That is, it is assumed that extra output can be produced in one area without
 taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to
 be dependent on the extent to which the economy is operating at or near capacity.
- Fixed prices: Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using Input-Output multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. The system is in equilibrium at given prices, and prices are assumed to be unaffected by policy and any crowding out effects are not captured. This is not the case in an economic system subject to external influences.
- Fixed ratios for intermediate inputs and production (linear production function): Economic impact analysis using Input-Output multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. That is, the input function is generally assumed linear and homogenous of degree one (which implies constant returns to scale and no substitution between inputs). As such, impact analysis using Input-Output multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount. Further, it is assumed each commodity (or group of commodities) is supplied by a single industry or sector of production. This implies there is only one method used to produce each commodity and that each sector has only one primary output.
- No allowance for economies of scope: The total effect of carrying on several types of production is the sum of the separate effects. This rules out external economies and diseconomies and is known simply as the loot t t + t 9_st + p p l + o p + +pqpn + p l + o + p l t 9
- No allowance for purchasers' marginal responses to change: Economic impact analysis using multipliers
 assumes that households consume goods and services in exact proportions to their initial budget shares. For
 example, the household budget share of some goods might increase as household income increases. This
 equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.

Despite these limitations, Input-Output techniques provide a solid approach for taking account of the interrelationships between the various sectors of the economy in the short-term and provide useful insight into the quantum of final demand for goods and services, both directly and indirectly, likely to be generated by a project.



In addition to the general limitations of Input-Output Analysis, there are two other factors that need to be considered when assessing the outputs of sub-regional transaction table developed using this approach, namely:

- It is assumed the sub-region has similar technology and demand/ consumption patterns as the parent (Australia) table (e.g. the ratio of employee compensation to employees for each industry is held constant).
- Intra-regional cross-industry purchasing patterns for a given sector vary from the national tables depending on
 the prominence of the sector in the regional economy compared to its input sectors. Typically, sectors that are
 more prominent in the region (compared to the national economy) will be assessed as purchasing a higher
 proportion of imports from input sectors than at the national level, and vice versa.



THIS PAGE INTENTIONALLY LEFT BLANK

BRISBANE

Level 5, 131 Leichhardt Street Spring Hill QLD 4000 Australia T:+61 (0)7 3831 0577

DARWIN

Level 1, 48-50 Smith Street Darwin NT 0800 Australia T: 1300 799 343

MELBOURNE

Level 13, 200 Queen Street Melbourne VIC 3000 Australia T: +61 (0)3 8648 6586

PERTH

Level 2, 580 Hay Street Perth WA 6000 Australia T:+61 (0) 8 6555 4940

SYDNEY

Level 14, 25 Bligh Street, Sydney NSW 2000 Australia T:+61 (0) 2 9283 8400

TOWNSVILLE

233 Flinders Street East Townsville QLD 4810 Australia T:+61 (0)7 4771 5550

BANGKOK

2024/129-130 Sukhumvit 50 Prakanong Klongtoey, Bangkok, Thailand 10260 T: +66 2 107 0189

SHANGHAI

46F Hongkong New World Tower 300 Huahai Road Central 200021 China T:+8621 6135 2310

aecgroupltd.com

OUTCOME DRIVEN

