
MELROSE PARK ECONOMIC IMPACT ASSESSMENT

PAYCE

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EXECUTIVE SUMMARY

INTRODUCTION AND BACKGROUND

PAYCE are preparing a planning proposal to amend the planning controls pertaining to 38-42, 44 and 44A Wharf Road which are located within the Melrose Park Industrial Precinct (“the Site”). It is proposed the Site be rezoned from IN1 General Industrial to accommodate the following land use zones:

- R4 High Density Residential;
- B4 Mixed Use;
- B2 Local Centre; and
- RE1 Public Recreation.

The Planning Proposal will also seek amendments to the following planning controls:

- Building height from 12 metres to 2-18 storeys; and
- FSR from 1:1 to 1.90:1.

If the Site is rezoned the Masterplan could accommodate the following floorspace and development yields:

- 4,900 dwellings plus 150 affordable housing apartments (or 432,467sqm);
- Commercial - 15,000sqm GFA;
- Retail – 10,500sqm GFA;
- Community - 3,000sqm GFA; and
- Child Care - 1,500sqm GFA.

AEC Group has been engaged by PAYCE to prepare an Economic Impact Assessment (EIA) to analyse the economic impacts likely to result from the proposed planning controls amendments and subsequent redevelopment of the Site. The economic impacts that could result from a redevelopment of the Site are analysed in the context of the proposed Masterplan.

This report was originally commissioned in 2015, PAYCE have since (in 2017) updated the Masterplan for the Site. As a result, the economic modelling contained in Chapter 6 has been updated to reflect the updated Masterplan, however, the rest of the research contained in this report was undertaken 2015 when the report was originally commissioned.

MELROSE PARK EMPLOYMENT PROFILE

In 2011, the Melrose Park Precinct employed 2,690 employees with more than 70% of these employed in Manufacturing and 12% in Wholesale Trade.

In recent months, occupiers Reckitt Benckiser (health and hygiene products) and Big Sister Foods (bakery products) have transitioned off the Site and divested of their properties. These movements represent a significant loss of employment from the Precinct (562 jobs, or 21% of the total, based on 2011 Census information). Furthermore Pfizer announced in 2015 they were closing the manufacturing arm of their business (Manufacturing Chemist, 2015), however, are considering remaining in Melrose Park to carry out activities in support of its status as a leading provider of prescription medicines, subject to their new accommodation requirements being met.

Further to discussions with local business occupiers, a summary of known local employment movements (increase/decrease) since 2011 and future employment expectations are detailed below.

Table ES.1: Known Employment Movements in Melrose Park, 2011 to 2014

Business	Employees (2011)	Employees (2014)	Change (2011-2014)	Comments
Pfizer	1,110	767	-343	Since 2011 Pfizer has shed 343 jobs in manufacturing. It has been announced that the manufacturing arm at Melrose Park will cease by the end of 2015.
Big Sister	110	0	-110	Since 2011 the business has gone into liquidation.
Reckitt Benckiser	424	207	-217	Following reduction in manufacturing capacity and relocation of jobs off-shore, employee numbers have decreased to 207.
Eli Lilly	300	200	-100	Series of redundancies following worldwide contraction.
Ermington Industrial Centre	54	43	-11	A reduction of 11 jobs following the use of modern technology and automation.
Others (unknown)*	1,074	692	-	Information unavailable
Total Precinct	2,690	1,909	-781	Reduction of 29% jobs since 2011.

*Refers to employees of businesses that have not been interviewed
Source: AEC & Colliers

FUTURE EMPLOYMENT GROWTH PROFILE

The profile of Parramatta's employment is changing. Since 2006, both Health Care and Social Assistance and Public Administration and Safety have increased their share of total employment (and increased number of employees) while industries like Manufacturing and Wholesale Trade have reduced their share of total employment.

Parramatta's CBD is becoming a Government and service hub as Parramatta's health and education precinct continue to grow in response to strong demand for services from fast growing population in Parramatta and indeed Western Sydney.

Looking forward, employment growth in Parramatta LGA is projected to be driven by the following key industries:

- Health Care and Social assistance (10,099 additional jobs or 49% increase).
- Education and Training (4,826 additional jobs or 83% increase).
- Public Administration and Safety (3,953 additional jobs or 26% increase).
- Professional, Scientific and Technical Services (5,400 additional jobs or 75% increase).
- Retail Trade (4,727 additional jobs or 59% increase).
- Accommodation and Food Services (4,312 additional jobs or 87% increase).

The key growth industries are largely population driven and local business driven. Government expenditure drives growth in industries such as Health Care and Social Assistance, Education and Training, which are in turn underpinned by population growth and need. Typically these growth industries do not require as much industrial-type floorspace. As a consequence, floorspace demand in business zones is projected to outstrip that in industrial precincts.

Based on employment projections, growth of more than 4,300 jobs is projected in Parramatta's industrial precincts. In contrast, more than 26,000 new jobs are projected to 2031 to be accommodated in 'other employment precincts', i.e. those in business zones. These other employment precincts include Parramatta CBD, Granville, Westmead precinct and WSU (Parramatta campus).

A number of industrial precincts are projected to experience proportionally high employment growth, capturing a larger share of the 4,300 jobs projected. These include Rydalmere, Camellia/Rosehill and North Parramatta. Employment in these precincts grew between 2006 and 2011, and over the projection period to 2031 is expected to grow between 20% and 40%. This is in contrast the Melrose Park industrial precinct is expected to experience a decline in employment toward 2036.

IMPLICATIONS FOR FLOORSPACE REQUIREMENTS

As the face and nature of employment change, so too do the requirements for floorspace to accommodate future employment.

Although industrial lands play an important role in generating lower and semi-skilled jobs, structural changes in the economy have witnessed business consolidation and contraction as well as changing business models. These changes have in many instances meant that the nature of floorspace required has also changed, e.g. in some cases greater office context may be required and in other cases a reduction in office content.

Large clusters of industrial lands with good access and good buffer from sensitive land uses, are generally better able to mitigate against vacancy risk. Desirable characteristics of these industrial precincts underpin overall market appeal which is critical for the securing of replacement occupiers to occupy vacated space. By contrast, fragmented and 'orphaned' industrial precincts/sites can struggle to attract new occupiers if current occupiers vacate. This is due to challenges with access and land use conflicts.

THE CASE FOR CHANGE

While the Melrose Park Precinct is centrally located, the Precinct does not benefit from the following factors:

- Location directly off major arterial corridors facilitating unrestricted access.
- Ability to operate in a conflict-free environment with sufficient buffer from residential.
- Critical mass of lands to enable clustering activity of businesses.
- Diversity of occupiers (by industry) to mitigate against vacancy risk following structural changes in a particular industry.
- Generic buildings that can be easily re-purposed following relocation of occupiers.

These weaknesses becoming apparent in recent years following the departure of several large businesses and the cessation of manufacturing activities for pharmaceutical occupiers.

Owing to the dominance of pharmaceutical and hygiene products jobs in the Precinct (80%), structural changes in these industries have had significant impact on the future sustainability of the Precinct.

In its current form, the Precinct is not competitive due to its small scale and unsuitability of the existing precinct buildings for re-purpose. By virtue of its comparatively isolated location, limited public transport options and lack of worker amenity, market appeal as a business park and office precinct is conceivably limited. Furthermore the lack of direct access from major highways and location abutting residential uses makes it unattractive to industrial users, this already apparent from the lack of and muted interest in industrial space currently available in the Precinct.

The main challenge with Melrose Park is that the base locational characteristics required for each of the alternative use options (i.e. business park, office buildings, new industrial) are not present. These includes very little worker amenity. Furthermore its small size and scale severely limits the employment uses the Precinct can be put to. It is apparent from the analysis that employment uses that are 'population driven' have the best potential for success in the Precinct, leveraging its location close to existing residential uses.

The Masterplan will assist in meeting the changing employment needs of the Parramatta LGA by providing a range of uses including: retail, commercial, community uses and residential.

ECONOMIC IMPACT ASSESSMENT

Employment and Economic Activity Supported

Once completed and fully operational, the redeveloped Site is estimated to contribute annually to the Parramatta local economy as follows. The jobs directly generated on Site could be in the order of 1,500-1,900 (rounded), or an average of 1,700 jobs.

Table ES.2: Employment and Economic Activity (\$2017)

Impact	Output (\$M)	GRP (\$M)	Income (\$M)	Employment (FTE)
Low Scenario				
Direct Impact	\$395.8	\$206.9	\$126.0	1,478
Indirect Impact (Type I)	\$173.6	\$89.6	\$50.0	536
Indirect Impact (Type II)	\$301.1	\$179.9	\$73.5	931
Total Impact	\$870.5	\$476.4	\$249.5	2,945
High Scenario				
Direct Impact	\$514.8	\$267.5	\$162.3	1,873
Indirect Impact (Type I)	\$226.9	\$117.1	\$65.3	700
Indirect Impact (Type II)	\$389.4	\$232.7	\$95.0	1,204
Total Impact	\$1,131.0	\$617.3	\$322.6	3,777

Note: Totals may not sum due to rounding.

Source: AEC

Retail Demand and Impact

The Proposal envisages new retail space in the order of 10,500sqm to be dispersed across the Site.

According to a Retail Impact Assessment (Leysdon Consulting, 2017), it is considered that the proposed rezoning of PAYCE's land at Melrose Park to provide for a new retail Town Centre of some 10,000sqm GFA (plus 500sqm GFA of other convenience retail) is justified based on the existing demand for retail services in the area and substantial growth in demand which will occur if the residential components of the proposed development are approved.

The Assessment states that the impact of the proposed development in 2021 will not give rise to adverse economic impacts on existing centres.

The substantial growth in available resident spending associated with the residential component of the Melrose Park project will generate an estimated \$117 million of additional available retail spending (\$2016) after 2021. This will directly benefit not only the proposed centre but other existing centres at nearby Ermington, West Ryde and Top Ryde in particular.

ECONOMIC IMPACTS

The economic modelling conducted for this study indicates that the Proposal will make a significant contribution to the Parramatta LGA economy through its construction phase and the ongoing activities of the redeveloped Site.

Once the redevelopment is completed and fully operational, the Site will continue to provide a strong ongoing contribution to the Parramatta economy. When fully developed and operational, the redeveloped Site is estimated to support on an ongoing annual basis (this refers to both the direct and indirect impact):

- \$870.5 million - \$1.1 billion in output.
- A \$476.4 - \$617.3 million contribution to GRP.
- \$249.5 - \$322.6 million in incomes and salaries paid to local workers.
- 2,945 - 3,777 FTE jobs.

The redevelopment project represents a significant renewal opportunity for the Parramatta LGA. The proposed development has been identified as providing significant economic benefits both during construction and once fully operational.

The Proposal facilitates the transition of the Precinct to meet floorspace requirements of key growth industries of employment in Parramatta, as well as meet the evolving nature of floorspace requirements of pharmaceutical companies who would otherwise completely transition off the Site.

Responding to Industry Changing Floorspace Requirements

Owing to overwhelming dominance by the pharmaceutical industry in Melrose Park, structural changes and economic trends affecting this industry have had significant implications for the Precinct's ability to be sustainable as an employment precinct.

The Masterplan and Proposal will facilitate the development of floorspace that not only responds to the changing requirements of the pharmaceutical industry (by providing contemporary floorspace for Pfizer and Reckitt Benckiser as legacy occupiers) but also enable response to Parramatta's key industries of growth.

The Proposal will facilitate an intensification of employment uses in Melrose Park, ensuring that the Precinct can contribute meaningfully to the Parramatta economy.

This is in line with Council's adopted *Parramatta Employment Lands Strategy* (2016) which recommends given the Precinct's size and significance, and also the changing nature of the pharmaceutical industry that a Structure Plan be prepared for Melrose Park, which considers future uses in the precinct and opportunities for renewal.

TABLE OF CONTENTS

DOCUMENT CONTROL	I
EXECUTIVE SUMMARY	II
TABLE OF CONTENTS	VII
1. INTRODUCTION	9
1.1 BACKGROUND AND OVERVIEW	9
1.2 PURPOSE AND STRUCTURE OF THE STUDY.....	13
2. PLANNING AND POLICY CONTEXT	14
2.1 STATE PLANNING POLICY	14
2.2 LOCAL PLANNING POLICY/LEGISLATION	20
3. HISTORICAL AND FUTURE GROWTH OF PARRAMATTA	24
3.1 MACRO-ECONOMIC TRENDS AND DRIVERS	24
3.2 THE VISION FOR GREATER PARRAMATTA	24
3.3 GROWTH OF PARRAMATTA'S KEY EMPLOYMENT PRECINCTS.....	25
3.4 PARRAMATTA'S PROJECTED INDUSTRIES OF GROWTH.....	27
3.5 NEED FOR THE PROPOSAL.....	32
4. MELROSE PARK TODAY	33
4.1 LOCATION.....	33
4.2 EMPLOYMENT PROFILE	33
4.3 EXISTING OCCUPIER PROFILES	38
4.4 CHALLENGES AND ISSUES	40
5. MELROSE PARK IN THE FUTURE	42
5.1 INDUSTRIAL PROPERTY MARKET CONTEXT.....	42
5.2 COMPETITIVE ASSESSMENT	43
5.3 LOCATION SELECTION FACTORS	46
5.4 TRANSITION OF MELROSE PARK AND NEED FOR THE PROPOSAL	47
6. ECONOMIC IMPACT ASSESSMENT	48
6.1 INTRODUCTION AND APPROACH	48
6.2 MODEL DRIVERS	49
6.3 INDUSTRY CLASSIFICATIONS & ASSUMPTIONS	51
6.1 ECONOMIC IMPACT ASSESSMENT	52
6.2 SUMMARY OF KEY FINDINGS.....	55
6.3 ECONOMIC IMPACT	60
7. POLICY ASSESSMENT	61
7.1 SECTION 117 DIRECTION	61
7.2 STRATEGIC CHECKLIST FOR EMPLOYMENT LANDS	62



7.3 NET COMMUNITY BENEFIT TEST 63

REFERENCES..... 65

APPENDIX A: INPUT-OUTPUT MODELLING METHODOLOGY..... 67

1. INTRODUCTION

1.1 BACKGROUND AND OVERVIEW

Fronting Parramatta River, the Melrose Park Industrial Precinct (referred to as 'the Precinct') is situated on approximately 18km from Sydney CBD and is accessible via Victoria Road. The Precinct is located in the Local Government Area of Parramatta, within the suburb of Melrose Park.

A *Plan for Growing Sydney* (the Plan) designates Parramatta LGA for significant population and employment growth toward 2031. In particular, the Plan states that Greater Parramatta (which includes: Parramatta CBD and the precincts of Westmead Health, Parramatta North, Rydalmere Education and Camellia) has the potential to accommodate 100,000 jobs in the next 20 years.

Despite there being a significant amount of employment growth projected for the Parramatta LGA, there are challenges in accommodating this growth in existing industrial areas (such as the Precinct). Through a myriad of factors, global competitiveness is driving considerable change across the Australian industrial landscape. This transition has meant a move away from traditional manufacturing into more advanced, technology and knowledge intensive manufacturing that provides a higher valued product. This change is however not possible across all manufacturing sectors.

In the context of Melrose Park, pharmaceutical and ancillary healthcare products as well as food production are dominant industries, contributing to the majority of employment within the Precinct (around 80% of overall employment). In 2011, there were a total of 2,690 jobs recorded to be accommodated within the Melrose Park Precinct. A survey of select local businesses reveals that since 2011 significant job reductions have occurred. These known reductions total some 781 jobs (around 29% decline in employment since 2011).

Planning for Employment Growth

Looking forward, employment growth in Parramatta LGA is projected to be driven by the following key industries to 2031 (AEC, 2014a):

- Health Care and Social Assistance (10,099 additional jobs or 49% increase).
- Education and Training (4,826 additional jobs or 83% increase).
- Public Administration and Safety (3,953 additional jobs or 26% increase).
- Professional, Scientific and Technical Services (5,400 additional jobs or 75% increase).
- Retail Trade (4,727 additional jobs or 59% increase).
- Accommodation and Food Services (4,312 additional jobs or 87% increase).

The key growth industries are largely population driven and local business driven. Government expenditure drives growth in industries such as health care and social assistance, education and training, which are in turn underpinned by population growth and need. Typically these growth industries do not require as much industrial-type floorspace. As the face and nature of employment change, so too do the requirements for floorspace to accommodate future employment.

The value of the planned investment and potential job growth is significant, not just in economic terms, but in social and community terms as well. Ensuring that there is sufficient land to accommodate the industries of employment growth is critical. Equally, it is essential that planned land and floorspace match the requirements of those industries of growth. As such, suitable planning considerations that maximise the potential future economic benefits will be equally important as achieving them.

Background Research into the Future Role of Melrose Park

AEC Group (AEC) was commissioned by PAYCE to consider the Precinct's future sustainability as industrial lands, analysing its ability to accommodate a mix of uses and the implications for the wider Parramatta and West Central region. Three studies have been carried out to date:

- **Background Paper:** The Background Paper outlines the economic structure of Melrose Park, the issues that challenge its occupiers and what it means for Melrose Park's sustainability in the long term. This provides the background and evidence base for the Employment Lands Study.
- **Employment Lands Study:** The Employment Lands Study examines the role and function of Melrose Park in the context of other industrial precincts in the Parramatta LGA, investigating the likely nature and quantum of future demand for employment lands and the ability of those industrial precincts to accommodate future employment growth.
- **Alternate Use Options Study:** The Study examines the market capacity of Melrose Park to accommodate alternative uses that will allow it to transition and be economically viable in the future and accommodate some of the economic and population growth projected for the Parramatta LGA.

This report was originally commissioned in 2015, PAYCE have since (in 2017) updated the Masterplan for the Site. As a result, the economic modelling contained in Chapter 6 has been updated to reflect the updated Masterplan, however, the rest of the research contained in this report was undertaken 2015 when the report was originally commissioned.

The Proposal

In line with background research carried out, PAYCE has prepared a Masterplan in order to progress a planning proposal to amend the planning controls pertaining to 38-42, 44 and 44A Wharf Road, Melrose Park ("the Site"). The Site is within the northern part of the Precinct (refer to **Figure 1.1** below).

Figure 1.1: Melrose Park Precinct (2015)



Source: PAYCE (2015), AEC (2015)

It is proposed that the Site be rezoned from IN1 General Industrial to accommodate the following land use zones:

- R4 High Density Residential;
- B4 Mixed Use;
- B2 Local Centre; and
- RE1 Public Recreation.

The Planning Proposal will also seek amendments to the following planning controls:

- Building height from 12 metres to 2-18 storeys; and
- FSR from 1:1 to 1.90:1.

The Masterplan envisages the following floorspace and development yields (refer to **Figure 1.2** for the illustrated Masterplan):

- 4,900 dwellings plus 150 affordable housing apartments (or 432,467sqm);
- Commercial - 15,000sqm GFA;
- Retail –10,500sqm GFA;
- Community – 3,000sqm GFA; and
- Child Care – 1,500sqm GFA.

Figure 1.2: Proposed Masterplan (2017)



Source: AJC (2017)

1.2 PURPOSE AND STRUCTURE OF THE STUDY

AEC is engaged by PAYCE to prepare an Economic Impact Assessment (EIA) to analyse the economic impacts likely to result from the proposed planning controls amendments and subsequent redevelopment of the Site. The economic impacts that could result from a redevelopment of the Site are analysed in the context of the proposed Masterplan.

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. An economic impact that affects the level of economic or social activity generated in a defined area can be either positive or negative. The assessment of likely impacts resulting from a particular development proposal allows for the identification, prediction and where possible quantification, of impacts as either likely benefits or negative impacts.

Owing to the scale of the development and the nature of existing uses, development is expected to be staged over a 10 to 12 year period.

The EIA has been structured in the following chapters.

Chapter 2 analyses key State and local government policies as are relevant.

Chapter 3 considers Parramatta's historic and future growth expectations, the key industries likely to grow in the future and Parramatta's strategic employment precincts.

Chapter 4 reviews the Melrose Park Precinct and how employment in the precinct has transitioned over time. The chapter also considers the issues that challenge Melrose Park's future sustainability as an industrial precinct.

Chapter 5 investigates the role Melrose Park Precinct will play in the future and considers its competitive standing in the market and likely alternate uses as the Precinct transitions.

Chapter 6 assesses the economic impacts of the Masterplan by investigating two scenarios, these include:

- The Base Case: the economic impacts of the Site in its existing use (i.e. no change to planning controls).
- Proposal Case: this scenario assumes that the Site's planning controls are amended and it is redeveloped in the manner as proposed by the Masterplan.

Chapter 7 translates the key findings from Chapters 2 to 6 and applies them in the assessment of the Masterplan against policy considerations.

2. PLANNING AND POLICY CONTEXT

2.1 STATE PLANNING POLICY

There are a number of strategic policy documents which relate to City of Parramatta and the Melrose Park Precinct. A review of the NSW policy framework as relevant to the Precinct is provided below.

2.1.1 NSW 2021

The NSW 2021 Plan (NSW DPC, 2011) aims to rebuild the NSW economy, provide quality services, renovate infrastructure, restore government accountability and strengthen NSW's local environment and communities.

The Plan comprises five sub-strategies. The main sub-strategy of relevance to this Study is 'Rebuild the Economy'. The following goals are of particular importance:

Goal 1: Improve the Performance of the NSW Economy - states that a strong economy generates opportunities for fulfilling jobs, choices and financial security. The target of the Plan is to grow employment by an average of 1.25% per year to 2020; and

Goal 4: Increase the Competitiveness of Doing Business in NSW – states that there should be an increase in business innovation. Furthermore, it is put forward that high performing businesses should be supported to innovate in order to further enhance productivity through Industry Action Plans. The plans will identify innovation drivers and barriers within key sectors (professional services, manufacturing, digital economy, tourism and events, and education and research).

Goal 5: Place Downward Pressure on the Cost of Living – the aim of the goal is to reduce the pressure on household budgets where possible by providing support to people in need and dealing with the underlying causes of rising household costs. The State government plans to increase the supply of land for housing and provide incentives to help make housing in NSW more affordable and housing stock more appropriate for people's needs. The objective of this is to place as much downward pressure as possible on household electricity bills through greater energy efficiency and more cost-effective energy supply.

2.1.2 A Plan for Growing Sydney (2014)

A Plan for Growing Sydney (DP&E, 2014) (the Plan) sets the strategic direction for Sydney towards 2031. The overarching vision is that by 2031, Sydney will be "a strong global city, a great place to live". The Plan is built 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.

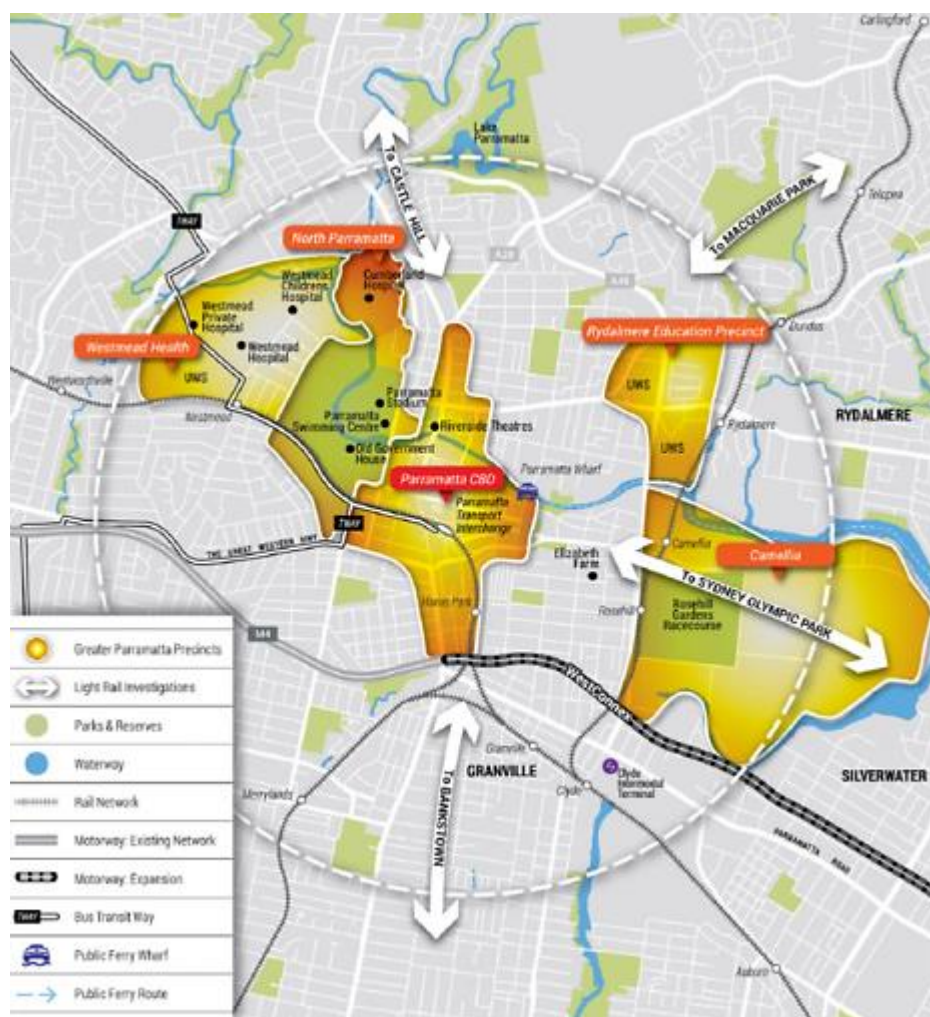
Goal 1: A competitive economy with world-class services and transport

Of particular relevance to this Study is Goal 1 "a competitive economy with world class-services and transport". One of the key directions/actions of this goal is:

- Direction 1.2: Grow Greater Parramatta – Sydney's Second CBD
 - Grow Parramatta as Sydney's second CBD by connecting and integrating Parramatta CBD, Westmead, Parramatta North, Rydalmere and Camellia.
 - Grow the specialised health and education precincts at Westmead and Rydalmere.
 - Renew Parramatta North to create a vibrant mixed-use precinct.

The Plan states that Greater Parramatta has the potential to reach 100,000 jobs over the next 20 years. Greater Parramatta is identified in **Figure 2.1**.

Figure 2.1: Strategic Context of Greater Parramatta



Source: DPE (2014)

Another key action associated with this goal is *Support Key Industrial Precincts with Appropriate Planning Controls (Action 1.9.2)*.

This action sets out the *Industrial Lands Strategic Assessment Checklist* to guide the assessment of proposed rezonings of industrial lands. It poses questions about whether the site is near or within direct access to key economic infrastructure, how it contributes to a significant industry cluster, and how the proposed rezoning would impact on industrial land stocks and employment objectives in each subregion. The Checklist allows for evidence-based decisions and aims to prevent encroachment on important industrial sites.

The Plan states the Government will:

- Undertake an analysis of Sydney's stock of industrial zoned land to identify key industrial Precincts and use the findings to:
 - Determine where improved planning controls are required to better protect industrial land from conversion to other uses;
 - Identify where improved and innovative planning controls will allow for the ongoing evolution of industrial activities to more intensive commercial activities; and
 - Update the Industrial Lands Strategic Assessment Checklist.

- Assess new proposals to convert existing industrial zoned land to other uses under the Industrial Lands Strategic Assessment.

The Plan also states the following intentions in regard to the Rydalmere Education Precinct and Camellia.

Rydalmere Education Precinct

- Plan Rydalmere Education Precinct as Western Sydney's premier higher education precinct.
- Investigate the potential for a business park around the Western Sydney University at Rydalmere linked to the specialisations of the University.
- Support education-related land uses and infrastructure around the Western Sydney University.
- Improve transport connections between the Western Sydney University and Rydalmere train station to enhance connections for pedestrians.

Camellia

Camellia has been identified as a priority location for revitalisation. The Plan states that urban renewal options should be investigated in Camellia and a structure plan should be developed to guide future development.

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.

- **Accelerate housing supply and local housing choice** (Direction 2.1/Action 2.1.1)

The Plan states the Government is working to achieve its target of an additional 664,000 new dwellings by 2031. The Plan acknowledges that increasing housing supply and addressing housing affordability and choice will assist in reaching the target.

Working with the market to deliver new housing

Importantly the Plan acknowledges that Government and local councils need to understand and respond to the housing market in each and every Local Government Area. The housing market reflects consumer demand and willingness to pay for particular types of housing in particular locations.

It is the role of the private sector to build new houses. The private sector will only develop housing on rezoned sites where there is sufficient consumer demand for it, at a price that provides a return to the developer. Local councils should assist housing production by identifying and rezoning suitable sites for housing.

- **Accelerate urban renewal across Sydney – providing homes closer to jobs (Direction 2.2/Action 2.2.2)**

A Plan for Growing Sydney focuses new housing in centres which have public transport that runs frequently and can carry large numbers of passengers.

Improve housing choice to suit different needs and lifestyles (Direction 2.3)

The Plan states as the population ages, many people will choose to downsize their homes. Most people will prefer to remain in their communities – around 50 per cent of people looking to purchase a new house stay within their current Local Government Area. To respond to these issues, the Government will introduce planning controls that increase the number of homes in established urban areas.

Action 2.3.3 Deliver more opportunities for affordable housing recognises the need meet the housing needs of people on very low, low and moderate incomes. People in lower income brackets that spend more than 30 per cent of their gross income on rent are said to be experiencing rental stress.

The Plan states that in order to respond to these issues, the Government will introduce planning controls that increase the number of homes in established urban areas to take advantage of public transport, jobs and services.

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 Sydney's established suburbs brings real benefits to communities and makes good social and economic sense. This type of development lowers infrastructure costs; reduces the time people spend commuting to work or travelling between places.

Furthermore, *Direction 3.2 Create a network of interlinked, multipurpose open and green spaces across Sydney*. A Plan for Growing Sydney aims to improve the quality of green spaces and create an interconnected network of open spaces and parks, tree-lined streets, bushland reserves, riparian walking tracks and National Parks.

2.1.3 Draft Metropolitan Strategy for Sydney to 2031 (2013)

The Industrial Lands Strategic Assessment Checklist sits within the previous *Draft Metropolitan Strategy for Sydney 2031* (NSW DP&I, 2013). The checklist provides some guidance for assessing the impact of a rezoning on the subregional or regional supply of employment land. The checklist is set out below.

- Is the proposed rezoning consistent with State and/or council strategies on the future role of industrial lands?
- Is the site: near or within direct access to key economic infrastructure; and, contributing to a significant industry cluster?
- How would the proposed rezoning impact the industrial land stocks in the subregion or region and the ability to meet future demand for industrial land activity?
- How would the proposed rezoning impact on the achievement of the subregion/region and LGA employment capacity targets and employment objectives?
- Is there a compelling argument that the industrial land cannot be used for an industrial purpose now or in the foreseeable future and what opportunities may exist to redevelop the land to support new forms of industrial land uses such as high-tech or creative industries?
- Is the site critical to meeting the need for land for an alternative purpose identified in other NSW Government or endorsed council planning strategies?

2.1.4 Employment Lands Development Program (2016)

The Employment Lands Development Program (2016), provides information on total employment lands for the Sydney Region.

The stock of employment lands below compares total stock, as well as the split between developed and undeveloped employment lands between January 2015 and January 2016 by the six districts.

The table demonstrates that the West Central Subregion (where the Precinct is located) contains a total of 5,452ha of employment lands. As a proportion of the West Central subregion's total industrial lands, Parramatta LGA accounts for approximately 10% or 563.5ha (DP&E, 2016).

Table 2.1: Stock of Employment Lands (ha)

District	Jan-15 (Ha)			Jan-16 (Ha)			2015-2016
	Undeveloped	Developed	Total	Undeveloped	Developed	Total	Change 2015-2016
Central	61	1,382	1,443	45	1,406	1,450	7
North	43	524	567	40	531	572	5
South	113	786	898	116	784	900	2
South West	711	2,686	3,397	678	2,704	3,382	-15
West	722	1,065	1,787	733	1,088	1,821	34
West Central	1,380	4,076	5,456	1,316	4,136	5,452	-4
Sydney Metropolitan Area Total	3,030	10,518	13,548	2,928	10,649	13,576	28

Source: DP&E (2016)

2.1.5 Section 117 Direction

Under Section 117(2) (S117(2)) of the Environmental Planning and Assessment Act 1979 the Minister for Planning and Infrastructure provides directions to planning authorities regarding proposals lodged with the DP&E.

Of relevance to this EIA is Section 1.1 Business and Industrial Zones which stipulates the objectives of S117(2) which are as follows:

- Encourage employment growth in suitable locations.
- Protect employment land in business and industrial zones.
- Support the viability of identified strategic centres.

Given that S117 (2) applies in this case, Council must:

- Give effect to the objectives of this direction.
- Retain the areas and locations of existing business and industrial zones.
- Not reduce the total potential floor space area for employment uses and related public services in business zones.
- Not reduce the total potential floor space area for industrial uses in industrial zones.
- Ensure that proposed new employment areas are in accordance with a strategy that is approved by the Director-General of the Department of Planning.

2.1.6 NSW Draft Centres Policy, Net Community Benefit Test (2009)

The NSW Draft Centres Policy (2009) states that a 'net community benefit' is deemed to arise when the sum of the benefits of a rezoning are greater than the sum of all costs from a community welfare perspective (i.e. welfare effects).

The requirements of a NCBT are that it evaluates the external costs and benefits of the proposal to the community which should be assessed against a base case or cases (i.e. retaining the existing zoning or locating the development on appropriately zoned land in a centre).

The Draft NSW Centres Policy (DoPI, 2009) specifies criteria which should be used to examine the merits of proposed rezonings which would facilitate the development of retail and commercial floorspace compared to the base case. Although the Proposal would not result in significant retail or commercial floorspace being developed, a review of this guidance still provides a useful informative of the type of aspects that the NCBT should consider. The criteria are as follows:

- Will the LEP be compatible with agreed State and regional strategic direction for development in the area (e.g. land release, strategic corridors, development within 800 metres of a transit node)?
- Is the LEP located in a global/regional city, strategic centre or corridor nominated within the Metropolitan Strategy or other regional/subregional strategy?
- Is the LEP likely to create a precedent or create or change the expectations of the landowner or other landholders?
- Have the cumulative effects of other spot rezoning proposals in the locality been considered? What was the outcome of these considerations?
- Will the LEP facilitate a permanent employment generating activity or result in a loss of employment lands?
- Will the LEP impact upon the supply of residential land and therefore housing supply and affordability?
- Is the existing public infrastructure (roads, rail, utilities) capable of servicing the proposed site? Is there good pedestrian and cycling access? Is public transport currently available or is there infrastructure capacity to support future public transport?

- Will the proposal result in changes to the car distances travelled by customers, employees and suppliers? If so, what are the likely impacts in terms of greenhouse gas emissions, operating costs and road safety?
- Are there significant Government investments in infrastructure or services in the area whose patronage will be affected by the proposal? If so, what is the expected impact?
- Will the proposal impact on land that the Government has identified a need to protect (e.g. land with high biodiversity values) or have other environmental impacts? Is the land constrained by environmental factors such as flooding?
- Will the LEP be compatible/complementary with surrounding land uses? What is the impact on amenity in the location and wider community? Will the public domain improve?
- Will the proposal increase choice and competition by increasing the number of retail and commercial premises operating in the area?
- If a stand-alone proposal and not a centre, does the proposal have the potential to develop into a centre in the future?
- What are the public interest reasons for preparing the draft plan? What are the implications of not proceeding at that time?"

2.1.7 Draft West Central District Plan

The Plan divides Greater Sydney into three cities, the Eastern City, Central Sydney and Western Sydney. The metropolis of three cities acts as a central organising strategy in the planning for Greater Sydney as an eight million-strong metropolis by 2056. It will guide future decision-making and the priorities of government and industry to a more productive, sustainable and equitable city.

The Draft Plan depicts the Central City as the developing city which is anchored by Greater Parramatta and the Olympic Peninsula (GPOP) in the West Central District. The West Central District sits within the Central City. The Precinct falls within the West Central District.

The Draft West Central District Plan sets out a 20-year vision, priorities and actions for the West Central District. The Draft Plan sets 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.

A Productive City

This Draft Plan outlines the productivity priorities and actions for the West Central District, those which are relevant to this Study are listed below.

- Driving the growth of the Central City
 - GPOP
 - Strategic centres support the Central City
 - Identifying economic development opportunities for the Central City
 - Enhancing connections to the emerging Western City
- Planning for job targets in strategic and district centres
 - Plan for the growth of centres
- Growing West Central District's economy with smart jobs
 - Planning priorities for strategic and district centres

- Manage growth and change in strategic and district centres and, as relevant, local centres
- Grow a vibrant Parramatta City with productive and diversified economy
 - Plan for a growing and vibrant Parramatta City
- Planning for retail floorspace provision and demand in the West Central District
 - Prioritise the provision of retail floorspace in centres
- Improving access to a greater number of jobs and centres within 30 minutes

A Liveable City

This Draft Plan outlines the liveable city priorities and actions for the West Central District, those which are relevant to this Study are listed below.

- Improve housing choice
 - Prepare local housing strategies
 - Understand the Greater Sydney housing market and demand
 - Deliver West Central District's five-year housing supply target
 - Deliver West Central District's five-year housing supply targets
 - Establish West Central District's 20-year strategic targets
 - Create housing capacity in the West Central District.
- Improve housing diversity and affordability
 - Plan for housing diversity
 - Delivery of housing diversity
 - Support planning for adaptable housing and aged care
 - Deliver Affordable Rental Housing
 - Support social housing
- Foster cohesive communities
 - Create opportunities for more recreation and community facilities
 - Support planning for shared spaces
- Respond to people's need for services
 - Plan for the provision of early education and child care facilities

The Masterplan devised for the Site is in line with the abovementioned priorities and actions in that it will, provide jobs, increase retail floorspace, improve housing choice and affordability and provide child care facilities.

2.2 LOCAL PLANNING POLICY/LEGISLATION

There are a number of local policy documents and legislation which relate to City of Parramatta and the Precinct. A full review of the local policy framework and legislation relevant to the Precinct is provided below.

2.2.1 Parramatta Employment Lands Strategy (2016)

The Parramatta Employment Lands Strategy was adopted by Council in July 2016.

The Strategy provides a consolidated set of land use planning actions and recommendations to guide the future of Parramatta's 21 employment lands precincts.

The Strategy finds that if Parramatta's existing industrial lands are well utilised and aligned with demand, the precincts could manage a net reduction of 10-15% of existing zoned employment lands over the long term. The reasons for this are as follows:

- 1 Parramatta has strong drivers for growth around the Parramatta CBD, the adjacent Rydalmere campus of Western Sydney University and the Westmead Health Precinct. The dynamics of economic growth, combined with the relative accessibility to Sydney's major employment and cultural destinations, is spurring faster than expected population growth. This is increasing demand for housing and better utilisation of existing land resources;
- 2 Employment projections indicate that employment will continue to decline in some traditional manufacturing industries resulting in some surplus lands, and
- 3 Some existing employment lands are poorly located, surrounded by residential activities and not located on arterial roads.

Furthermore the employment projections in the Strategy demonstrate that sectors traditionally located on industrial lands are projected to marginally increase towards 2031, whereas other non-industrial based sectors (i.e. retail, finance, professional, public administration and health care) are projected to increase significantly. The Strategy states that this highlights the need to transition some employment lands to support higher intensity employment uses.

With regard to the Melrose Park Precinct, the Strategy acknowledges that the major restructuring that is currently occurring will affect the land use needs of this precinct's future. Given its size and significance, and also the changing nature of the pharmaceutical industry, it is recommended that a Structure Plan be prepared for Melrose Park, which considers future uses in the precinct and opportunities for renewal.

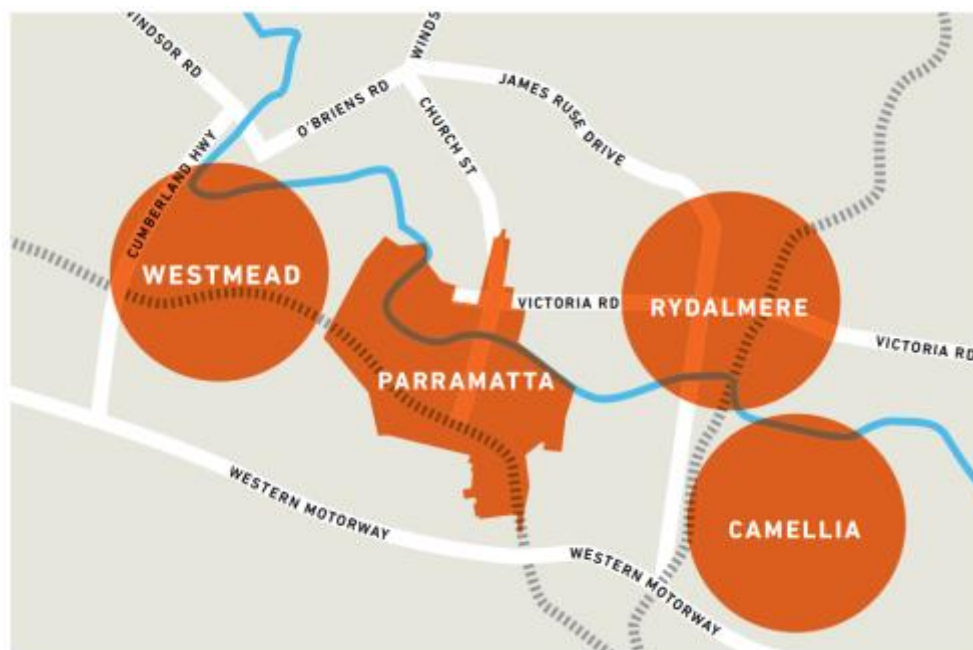
The Strategy also states that there are currently 2,546 employees in Melrose Park. This is conceivably based on 2011 Census data. Refer to Chapter 4 of this EIA which outlines significant employee reductions since the BTS published this data.

2.2.2 Parramatta Economic Development Strategy (2011-2016)

This Strategy was prepared in response to the vision contained in the Government's 'NSW 2021' State Plan and the employment goals of the Metropolitan Plan seeking the creation of 280,000 net additional jobs in Western Sydney including 27,000 new jobs in Parramatta CBD and 7,000 in Westmead by 2036.

Of particular relevance the Strategy states that by 2036 Parramatta will consist of four specialised and interconnected employment centres, these include: Parramatta CBD, Westmead, Rydalmere and Camellia. It envisages that these centres will accommodate the majority of jobs in the Parramatta LGA.

Figure 2.2: 4 Specialised Employment Precincts for Increased Knowledge Employment



Source: PCC (2011)

The Strategy identifies six priorities, of particular relevance is the priority area “to promote and accommodate jobs growth and house the workforce of the future”. The priority area has three strategies, two of these are of relevance to this Study.

- **Activating the CBD property market:**

Recognising the significant amount of Council owned land in the CBD, Council plans to convert them to valuable residential, commercial and public open space in the next 5-10 years. These sites include: Civic Place alongside the station, a series of city centre carpark sites and large parcels of the Parramatta River foreshore.

- **Renewing three specialist employment precincts:**

The Strategy identifies that treating Rydalmere, Camellia and Westmead as potential ‘specialised centres’ will give Parramatta the best chance of exceeding job targets, maximising the city’s university asset, broadening the city’s economic base and projecting a knowledge-based identity to the outside world. It will also provide an advantage for Sydney by increasing employment in one of Sydney’s most highly accessible locations.

2.2.3 Parramatta Local Environmental Plan (2011)

The Site is zoned IN1 General Industrial in accordance with the Parramatta Local Environmental Plan (2011).

The objectives of the IN1 General Industrial zone are:

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To facilitate a range of non-industrial land uses that serve the needs of workers and visitors.

The IN1 General Industrial Zone permits the following uses: building identification signs, business identification signs, depots, food and drink premises, freight transport facilities, garden centres, general industries, hardware and building supplies, horticulture, industrial training facilities, kiosks, landscaping material supplies, light industries, liquid fuel depots, neighbourhood shops, plant nurseries, roads, rural supplies, timber yards, vehicle sales or hire premises and warehouse or distribution centres.

The maximum building height on the portion of the Site zoned IN1 General Industrial is 12 metres. The FSR which applies to this portion of the Site is 1:1.

3. HISTORICAL AND FUTURE GROWTH OF PARRAMATTA

3.1 MACRO-ECONOMIC TRENDS AND DRIVERS

A broad spectrum of factors influences industrial activity in Parramatta LGA. While some of these are internal factors over which the local area have control, many are not. Significant influences on industrial activity come from outcomes at the global and national level. Understanding the broader context in which Parramatta's industrial sector operates is essential in modelling future demand for industrial lands.

The following global factors have significant implications for industrial activity and likely influence the demand for local industrial land:

- **Globalisation and Globalised Competition:** Increased global interconnectedness, particularly over the last two decades, has facilitated the integration of markets and supply chains on a global level. As Australian businesses benefit from branching out into new markets, the vulnerability of local business to global economic trends and international competition has also increased.

Local businesses involved in manufacturing and processing of goods face fierce competition on the global market. Cheap imports (produced with significantly lower wage costs and often very large economies of scale) have been further supported by low tariffs and the recent high value of the Australian dollar.

Examples of such vulnerabilities have been witnessed at the local level with the Precinct set to feel the decidedly large impacts from the exit of Reckitt Benckiser and Big Sister Foods from pharmaceutical/hygiene product and food product manufacturing respectively.

- **Productivity:** Productivity gains come in several forms, most notably those associated with technological growth, capital investment, improved workforce skills and effective industrial relations. Productivity is inherently associated with globalisation and exchange rates as businesses capture productivity gains by utilising global supply chains. It accordingly plays a key role in determining profit margins and the ability of businesses to engage in industrial activity in Australia.

While some businesses find productivity gains by offshoring production, others gain from the competitive advantage Australia has to offer through higher workforce skills, state of the art technology, relatively stable industrial relations (and traditionally low sovereign risk) and ease of establishing businesses making capital investment more feasible. However, generally for Australia, slow productivity growth (ABS, 2013a) across the nation in recent times has placed pressure on the industrial sector.

Australian Industrial Sector Overview

Australian industry is undergoing the most significant transition since its birth over 100 years ago. Embracing this transition at a local level requires firstly the need to identify national trends which will likely shape the demand for specific types of industrial land.

Preparing for and anticipating national influences is an important part of economic development and land planning. Businesses which continue to undertake industrial activity in Australia must do so by leveraging competitive advantages. These are often high value-added operations, which utilise advanced technology and draw from Australia's relatively large pool of skilled labour.

ABS (2013b) data highlight the manufacturing sector continues to invest more than any sector in Australia towards Research and Development (R&D) (\$4.4 billion or 24% of total business expenditure on R&D in 2011-12). Such large investment into R&D has given the industry access to a high level of technology, which provides a solid base for the manufacturing sector to transition towards more advanced technologies.

3.2 THE VISION FOR GREATER PARRAMATTA

The *A Plan for Growing Sydney* (DP&E, 2014) identifies Parramatta as Sydney's second CBD. It also states that Greater Parramatta has the potential to reach 100,000 jobs over the next 20 years.

Greater Parramatta is defined to include the following precincts in Parramatta: Parramatta CBD, North Parramatta, Westmead, Rydalmere Education Precinct and Camellia. The overarching priorities for Greater Parramatta are:

- Recognise and plan Greater Parramatta's a transformational place.
- Plan Greater Parramatta as Sydney's second CBD and Western Sydney's number one location for employment and health and education services, supported by a vibrant mixture of land uses and cultural activity, with the Parramatta River foreshore as a focus for recreational activities.
- Provide capacity for long-term employment growth in Greater Parramatta, particularly in its CBD.
- Provide capacity for additional mixed-use development in Parramatta CBD and surrounding precincts including offices and retail in Parramatta CBD, health services in Westmead, an education hub around the new Western Sydney University, a technology and education precinct in Rydalmere, arts and culture in Parramatta, a sports precinct around Parramatta Stadium and housing in all precincts.
- Improve transport connections between Greater Parramatta and other Western Sydney centres and precincts, commencing with Macquarie Park via Carlingford, Castle Hill via Old Northern Road, Bankstown and Sydney Olympic Park.

3.3 GROWTH OF PARRAMATTA'S KEY EMPLOYMENT PRECINCTS

In line with the above priorities, in the last five years there has been significant growth particularly in Parramatta CBD, Western Sydney University and Westmead Hospital.

Parramatta CBD

There has been a significant recent growth in planned commercial development activity, the completion of the Eclipse Tower marking the beginning of a supply response to acutely low vacancy levels and pent up demand that have prevailed for prime grade commercial space in the CBD.

While there is significant aspirational growth envisaged for Parramatta, growth potential in the B3 Commercial Core underlies a strong demand and indicates scope for greater densification in the area. There is more than 100,000sqm of commercial space either approved or submitted for approval, with future capacity identified for further 200,000sqm of lettable area. This demonstrates that Parramatta CBD will continue to grow and be a catalyst for employment growth.

Table 3.1: Commercial Development Pipeline, Parramatta CBD

Address	Description
Parramatta Square	Parramatta Square is a three-hectare mixed use redevelopment precinct that will include a new Western Sydney University Parramatta Campus in 2017, several thousand square metres of A-grade commercial office and retail space, the City of Parramatta's community and civic space, a 90 storey residential building and 20,000 square metres of public space.
Lennox Bridge Car Park site	The Lennox, a \$400m residential development project led by property firm LIDIS and EQProjects, will transform the old Lennox Bridge car park site into a world-class riverfront precinct. Residents will have access to a club floor with a lap pool, gym, an enclosed sun terrace with river views, gardens with barbeque facilities and lounge spaces. Upgrades to 4,400m ² of public domain and foreshore land are also planned.
Macquarie Street Car Park site	Council has entered into a Project Delivery Agreement with Toplace, the preferred development company for the Macquarie Street car park site. With an expected completion date of May 2017, the council will receive approximately 700 spaces to address their car parking strategy.
Riverbank	Located on the foreshore of the Parramatta River, the \$1.2b Riverbank urban renewal project will create globally recognised riverfront precinct and become the City's cultural heart. It has been selected as the location for the new Museum of Applied Arts and Sciences also known as the Powerhouse Museum. Once established, the Museum has the potential to draw up to a million visitors a year to Parramatta.
Commercial Developments	In addition to Parramatta Square, there are a number of commercial developments in the city that are at various stages of planning, development and delivery. <ul style="list-style-type: none"> • 20-22 Macquarie Street: floor space of 27,744m² • 89 George Street: floor space of 13,000m² • Justice Precinct: floor space of 50,000m² • Westfield Tower: additional floor space of 35,000m²

Source: PCC

There is more than 100,000sqm of commercial space either approved or submitted for approval.

Westmead Health Precinct

The *A Plan for Growing Sydney* (DP&E, 2014) identifies the Westmead Health Precinct as Sydney's most significant concentration of biotechnology, pharmaceutical and medical device companies. It states that investment in the precinct will support jobs growth and recognise the important health contribution the precinct makes to Sydney. It also highlights the opportunities to grow knowledge jobs by building on the strengths of the Western Sydney University at Rydalmere will make a valuable contribution to Greater Parramatta's diversity and strengths.

The Draft Metropolitan Strategy for Sydney 2031 (DP&I, 2013) identifies Westmead as a Specialised Precinct, specifically a Health and Education Precinct. The Strategy states that it is expected that the Parramatta CBD will grow beyond its boundaries into surrounding precincts, one of these being the Westmead Precinct. The Strategy identifies an employment target of 7,000 additional new jobs by 2031.

The Westmead centre/precinct has a predominant focus on health and educational uses. It provides for a sizable amount of nursing accommodation and seniors living. Commercial uses within the precinct are focused on health-related activities with localised retail facilities also located close by. There are some private consulting rooms within the hospital facilities.

Focused around the Westmead train station, demand for commercial floorspace in the centre is driven by health-related uses, with non-health users not generally drawn to this centre. Demand for non-health occupants is modest, often a second preference location to the Parramatta CBD.

The Westmead Shopping Village adjacent to the train station provides for about 1,400sqm of retail floorspace. A new marketplace development on Darcy Street provides for 4,600sqm of retail floorspace including a full-line Coles supermarket and several specialty retailers.

The following major developments are in the pipeline:

- **Westmead Hospital**

A major redevelopment is planned, including co-location of all complex and critical care services into a multi-storey comprehensive care centre.

The preferred Masterplan for the precinct envisages a facility of more than 750,000sqm of staged floorspace, comprising approximately 380,000sqm of additional floorspace, Stage 1 involving a cost in the order of \$400m.

- **Millennium Institute**

The seven storey purpose-built research facility (24,000sqm of building area) is a joint initiative between three medical research institutes and University of Sydney.

There are also understood to be plans to expend the Westmead Private Hospital and Sydney Children's Hospital network. Western Sydney University (WSU) has recently obtained rezoning of a 4ha site to the south of the centre, planned for a new town centre, commercial uses and key worker housing.

Recent development in the Westmead precinct has predominantly been focused around mixed use, multi-unit residential and retail uses. Given the strong and predominant health focus of the precinct, it is conceivable there would be limited demand from non-health related uses for commercial floorspace in the centre. This suggests the Westmead precinct is transitioning to a greater mix of medical, retail, residential, educational and student accommodation with limited emphasis on commercial. Westmead will undoubtedly continue to grow and be a catalyst for employment growth.

There is more than 400,000sqm of floorspace space either approved or submitted for approval, with future capacity identified. Planning for the additional floorspace suggests Westmead is well placed to accommodate future growth.

Western Sydney University

The Draft Metropolitan Strategy for Sydney 2031 (DP&I, 2013) states that it is expected that the Parramatta CBD will grow beyond its boundaries into surrounding precincts, one of these being the Western Sydney University. It is important to note that there are two Western Sydney University campuses within the LGA, namely Westmead

Campus and the Parramatta Campus. The Strategy identifies the Parramatta Campus located at Rydalmere for future employment growth.

In 2013 the Western Sydney University (WSU) recorded 41,980 students enrolled, representing 4.3% increase from 2009 (35,461). Furthermore in 2013, 3,049 staff were employed by the university, representing a 2.3% increase since 2009 (2,551).

There are no other universities within Western Sydney and therefore in order to accommodate future growth the WSU will need to develop in order to accommodate future growth. Recognising the need to accommodate growth WSU is undertaking the following projects:

- **Westmead redevelopment:**

The rezoning of the site to allow a mixed use development was achieved in September 2013. A preferred development model and project delivery plan was presented to, and approved by, the Board of Trustees in December 2013.

- **Parramatta CBD campus:**

To support more flexible and accessible teaching locations and overcome short term capacity issues at the Rydalmere campus, the University has entered into a short term lease for 2,600sqm of floor space in the Parramatta CBD. This facility will focus on postgraduate programs and will house the Sydney Graduate School of Management and other programs. It commenced operations at the beginning of 2014.

Like the Westmead Hospital, Western Sydney University will continue to grow and play an important role for employment growth in Parramatta.

3.4 PARRAMATTA'S PROJECTED INDUSTRIES OF GROWTH

This section profiles Parramatta LGA's employees by industry and projects their growth toward 2031. This section also projects floorspace demand by different employment precincts toward 2031.

The employment precincts have been categorised as 21 industrial precincts (in line with the Employment Lands Development Program 2015) with "other" employment precincts to include Parramatta CBD, Granville, North Parramatta & Cumberland, Westmead Hospital & WSU and WSU Parramatta.

In order to understand and plan for future floorspace requirements, it is necessary to understand those industries projected to grow and the commensurate floorspace required to accommodate those industries to ensure that land use zones can accommodate future employment growth.

3.4.1 Employment Projections by Industry

The profile of Parramatta's employment is changing. Since 2006, both health care and social assistance and public administration and safety have increased their share of total employment (and increased number of employees) while industries like manufacturing and wholesale trade have reduced their share of total employment.

Parramatta's CBD is becoming a government and service hub as Parramatta's health and education precinct continue to grow in response to strong demand for services from fast growing population in Parramatta and indeed Western Sydney.

Looking forward, employment growth in Parramatta LGA will be driven by the following key industries:

- Health care and social assistance (10,099 additional jobs or 49% increase).
- Education and training (4,826 additional jobs or 83% increase).
- Public administration and safety (3,953 additional jobs or 26% increase).
- Professional, scientific and technical services (5,400 additional jobs or 75% increase).
- Retail trade (4,727 additional jobs or 59% increase).
- Accommodation and food services (4,312 additional jobs or 87% increase).

Table 3.2: Employment Projections by Industry, Parramatta LGA

Industry	2011	2016	2021	2026	2031	Change 2011-2031
Agriculture, Forestry and Fishing	110	73	67	61	56	-54
Mining	106	122	125	131	137	31
Manufacturing	11,443	11,275	10,980	10,617	10,350	-1,093
Electricity, Gas, Water and Waste Services	2,289	2,047	1,805	1,755	1,705	-584
Construction	7,344	7,996	9,143	10,068	10,948	3,604
Wholesale Trade	4,700	4,455	4,210	4,229	4,254	-446
Retail Trade	8,006	9,371	10,507	11,555	12,733	4,727
Accommodation and Food Services	4,972	6,580	7,542	8,379	9,284	4,312
Transport, Postal and Warehousing	5,750	5,723	5,703	6,072	6,508	757
Information Media and Telecommunications	1,411	2,061	2,300	2,420	2,562	1,151
Financial and Insurance Services	9,975	10,444	11,029	11,666	12,418	2,443
Rental, Hiring and Real Estate Services	1,736	1,700	1,913	2,180	2,476	741
Professional, Scientific and Technical Services	7,149	8,082	9,509	10,946	12,550	5,400
Administrative and Support Services	4,160	4,562	4,939	5,322	5,697	1,537
Public Administration and Safety	15,119	16,112	17,083	18,123	19,071	3,953
Education and Training	5,804	6,708	7,935	9,245	10,629	4,826
Health Care and Social Assistance	20,374	22,633	25,092	27,769	30,473	10,099
Arts and Recreation Services	1,273	1,774	1,998	2,199	2,420	1,147
Other Services	4,066	4,039	4,305	4,627	4,958	892
Total Projected Employment	115,787	125,759	136,183	147,363	159,229	43,441

Source: ABS (2013a, 2013b, 2013c, 2014a, 2014b, 2014c, 2014d), BTS (2014).

Different industries have different accommodation and floorspace requirements. The next section examines the amount of floorspace likely to be required as a result of projected employment growth.

3.4.2 Floorspace Demand Projections

Demand for floorspace has been estimated in Gross Floor Area (GFA) terms, using ratios of GFA per employee for each of the 72 industries modelled. This is summarised across 19 industries in the table below.

Demand for an additional 1,489,471sqm of GFA is projected between 2011 and 2031 in Parramatta LGA, which equates to around 74,473sqm GFA per annum.

Key industries demanding floorspace are projected to be education and training, health care and social assistance, construction and professional, scientific and technical services.

Table 3.3: Additional Floorspace Demand Projections by Industry ('000 sqm), Parramatta LGA

Industry	2011-16	2016-21	2021-26	2026-31	Change 2011-2031
Agriculture, Forestry and Fishing	-22.1	-3.6	-3.6	-3.1	-32.4
Mining	3.6	0.5	1.5	1.4	6.9
Manufacturing	-23.2	-37.3	-46.9	-34.5	-142.0
Electricity, Gas, Water and Waste Services	-29.0	-29.0	-6.0	-6.0	-70.0
Construction	49.6	86.6	70.4	67.3	273.9
Wholesale Trade	-29.4	-29.4	2.3	3.0	-53.6
Retail Trade	41.0	34.1	31.4	35.3	141.8
Accommodation and Food Services	55.1	33.0	28.8	31.1	148.0
Transport, Postal and Warehousing	-3.7	-3.1	35.2	41.5	69.8
Information Media and Telecommunications	65.0	23.8	12.1	14.2	115.1
Financial and Insurance Services	10.8	13.4	14.7	17.3	56.2
Rental, Hiring and Real Estate Services	-1.5	6.3	7.9	8.6	21.3
Professional, Scientific and Technical Services	21.5	32.8	33.0	36.9	124.2

Industry	2011-16	2016-21	2021-26	2026-31	Change 2011-2031
Administrative and Support Services	21.9	21.2	22.2	22.4	87.7
Public Administration and Safety	26.2	25.7	27.4	24.8	104.1
Education and Training	58.0	79.3	83.8	87.7	308.9
Health Care and Social Assistance	52.0	56.5	61.6	62.2	232.3
Arts and Recreation Services	27.7	12.8	11.7	12.9	65.2
Other Services	-1.5	8.6	12.6	12.4	32.0
Total Projected Additional Floorspace	321.9	332.3	399.9	435.4	1,489.5

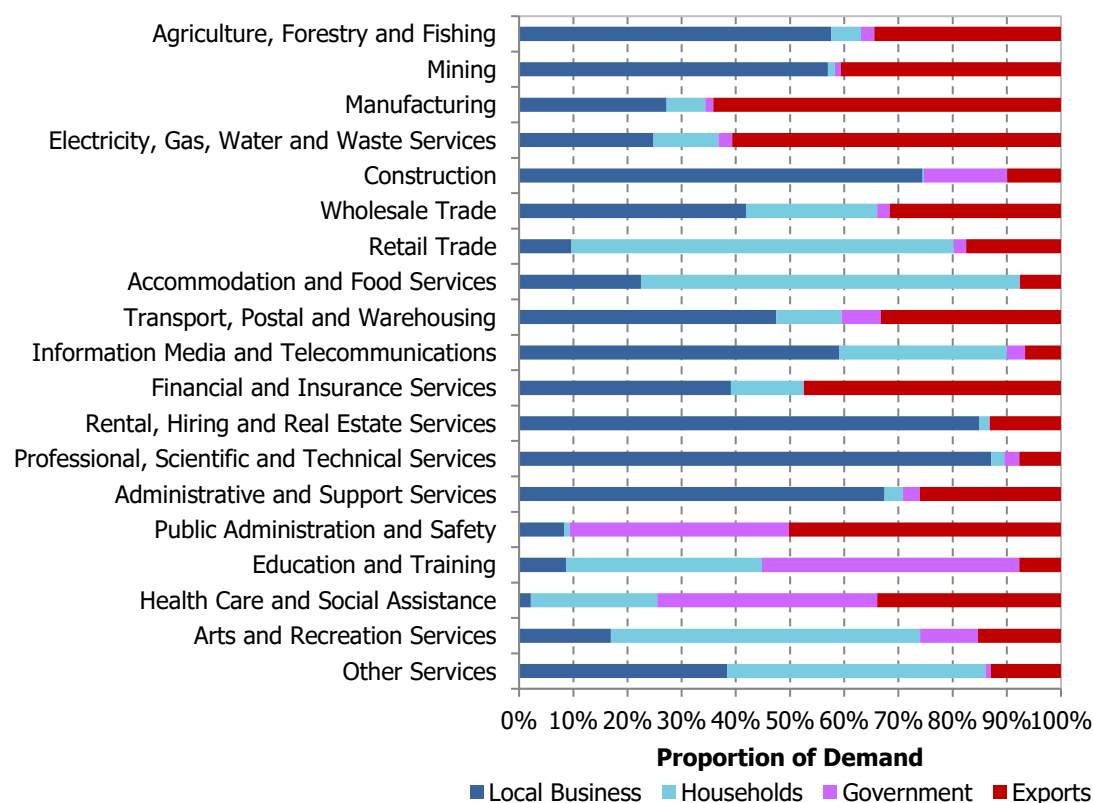
Source: ABS (2013a, 2013b, 2013c, 2014a, 2014b, 2014c, 2014d), BTS (2014).

Note that the above floorspace demand projections are with respect to the *whole* Parramatta LGA, the industrial precincts detailed in Table 3.4 only capturing a proportion of the growth. A precinct-by-precinct assessment is contained in the section 3.4.3.

Drivers of Employment Growth

Figure 3.1 provides an indicative breakdown of the drivers of industry demand in Parramatta LGA, for each of the 19 ANZSIC 1-digit industries¹. It shows for each industry what proportion of goods/services produced are sold to other local businesses, to households, to government (or other public enterprises), or exported to an area outside Parramatta LGA.

Figure 3.1: Drivers of Industry Demand, Parramatta LGA



Source: ABS (2013a, 2012).

¹ Estimates based on the 2009-10 national transaction table from the ABS (2013a), localised to Parramatta LGA using the average of two processes: cross industry location quotients and demand-supply pool functions (as per West, 1993). Employment by industry data from the 2011 Census (ABS, 2012) was used to derive the local functions as a proportion of the national transaction table.

Exports include goods and services sold outside Parramatta LGA, including overseas, other Australian states, or any other LGA in NSW. As such they can be considered a reasonable estimation of what proportion of industry demand (and thereby growth) is historically related to demand generated outside the Parramatta LGA. However, it should be noted that the approaches used to localise the transaction table (cross-industry location quotients and demand-supply pool functions) has a tendency to overstate the level of local demand compared to demand generated from outside the region.

The analysis shows that:

- Demand from outside the Parramatta LGA is an important demand driver for more industrial style industries such as mining, manufacturing, electricity, gas, water and waste services, wholesale trade, and transport, postal and warehousing.
- Most commercial type activities, such as professional, scientific and technical services, rental, hiring and real estate services, administrative and support services, are typically reliant on local business as a generator of demand for their services. A notable exception is financial and insurance services, which is more reliant on demand from outside the LGA.
- Household consumption, which can be equated to local population driven growth, is a key driver of industry demand in the industries of retail trade and accommodation and food services. It is also an important contributor, though to a lesser extent, for the industries of education and training, health care and social assistance, arts and recreation services, and other services.
- Government expenditure is a key driver of demand for most public services, such as public administration and safety, education and training, and health care and social assistance. Underlying this demand by government are the needs of the local population and business, which drives government expenditure on these services.

Parramatta is projected to experience significant population growth to 2031 (average of 1.9% annual average compounding growth). As a natural consequence of population growth, local businesses will also grow, notably those in the industries identified in Figure 3.1 to be closely associated with household consumption as well as government expenditure which is underscored by population need. The directly benefitting industries include:

- Accommodation and food services (e.g. hotels, restaurants, pubs, food and beverage establishments).
- Retail trade (this includes large format retailing).
- Health care and social assistance (e.g. hospitals, allied health practitioners, respite day centres, etc.).
- Education and training (e.g. schools, vocational and community education providers, etc.).
- Arts and recreation services (e.g. performing arts centre, sporting and recreational activities, etc.)

3.4.3 Floorspace Demand Projections by Precinct

The industrial precincts (Precincts 1-21) examined are projected to account for around 9% of total additional floorspace demand in Parramatta LGA between 2011 and 2031 (or approximately 175,791sqm).

In line with the distribution of projected employment growth, the precincts of Rosehill/Camellia, Clyde and Rydalmere are projected to record the highest increase in GFA demand. In contrast, precincts such as Melrose Park, South Clyde and Chester Hill/South Granville are projected to record negative demand for floorspace over the projection period.

It is important to note that the other employment precincts investigated (Precincts 22-27) are projected to absorb a greater amount of growth in comparison to the areas zoned for industrial uses (Precincts 1-21). Combined these precincts are projected to account for around 69% (or 1,026,189sqm) of total additional GFA demand between 2011 and 2031.

Table 3.4: Floorspace Demand Projections by Precinct ('000 sqm), Total

Precinct	2011-16	2016-21	2021-26	2026-31	Change 2011-31
Precinct 1, 7, 16 - Alfred Street, Gregory Place (in Harris Park), River Road West	0.6	0.5	0.5	0.6	2.1
Precinct 2 - Rosehill/ Camellia	2.0	0.8	6.8	8.4	18.0
Precinct 3 - North Parramatta	0.2	-0.1	3.3	3.9	7.3
Precinct 4 - Clyde	-0.1	2.5	6.2	7.4	15.9
Precinct 5 - Melrose Park*	-6.5	-5.7	-5.9	-3.0	-21.1
Precinct 8 - Guildford South	2.1	3.1	3.3	3.3	11.7
Precinct 9, 25 - Guildford/ Merrylands	2.1	2.1	2.0	2.1	8.3
Precinct 11- Old Windsor Road, Old Toongabbie	-0.3	0.1	-0.5	0.2	-0.5
Precinct 12 - Northmead	2.3	0.7	1.5	2.5	6.9
Precinct 13 - Pendle Hill	-0.8	-0.6	0.2	0.8	-0.4
Precinct 14 - Pharmacia	0.5	0.6	0.9	1.0	3.1
Precinct 17 - Rydalmere	10.7	17.1	26.4	29.4	83.6
Precinct 18 - Seven Hills Windsor Road	0.2	0.2	0.4	0.5	1.3
Precinct 19 - South Clyde	-3.0	-3.7	0.4	0.2	-6.0
Precinct 20 - Chester Hill/ Sth Granville	-4.4	-3.6	-0.6	0.7	-7.8
Precinct 21 - Victoria Rd Nth Parramatta	3.2	2.7	2.8	2.9	11.6
Industrial Precincts Sub-Total	8.6	16.7	47.8	60.9	134.1
Precinct 22 - Parramatta CBD	136.4	119.2	137.5	148.0	541.1
Precinct 23 - Granville	13.1	13.0	17.3	18.8	62.1
Precinct 24 - North Parramatta & Cumberland	8.9	9.6	10.4	10.9	39.8
Precinct 26 - Westmead Hospital & WSU	32.0	36.6	39.3	40.0	148.0
Precinct 27 - WSU Parramatta	8.3	10.0	11.8	12.6	42.7
Other Employment Precincts Sub-Total	198.7	188.5	216.3	230.2	833.7
Total Employment Precincts	207.4	205.2	264.1	291.2	967.8
Rest of Parramatta LGA	114.6	127.1	135.8	144.3	521.7
Total Parramatta LGA	321.9	332.3	399.9	435.4	1,489.5

*Employment growth projections do not reflect employment movements since 2011. Industry contraction and business closures occurring post 2011 have not been taken into account. As a result floorspace demand is overstated too.
Source: ABS (2013a, 2013b, 2013c, 2014a, 2014b, 2014c, 2014d), BTS (2014).

Note that employment growth projections for Melrose Park do not consider most recent industry/employment movements occurring post 2011. As a result, the net change between 2011 and 2031 (39 jobs) overstates reality as these projections merely consider historic employment trends pre-2011.

Notwithstanding the overstatement of future jobs growth and marginal net positive job growth (39 jobs), demand for floorspace in Melrose Park is projected to reduce. This is due to the expectation that jobs in manufacturing and wholesale trade proportionally decline, these jobs typically occupying large amounts of floorspace.

Implications for Future Demand for Employment Floorspace

As depicted in **Figure 3.1**, the key growth industries are largely population driven and local business driven. Government expenditure drives growth in industries such as health care and social assistance, education and training, which are in turn underpinned by population growth and need. Typically these growth industries do not require as much industrial-type floorspace. As a consequence, floorspace demand in business zones is projected to outstrip that in industrial precincts.

Based on employment projections, growth of more than 4,300 jobs is projected in the 21 industrial precincts (notwithstanding the overstatement in Melrose Park, for reasons earlier discussed). In contrast, more than 26,000 new jobs are projected to 2031 to be accommodated in 'other employment precincts', i.e. those in business zones. These other employment precincts include Parramatta CBD, Granville, Westmead precinct and WSU (Parramatta campus).

A number of industrial precincts are projected to experience proportionally high employment growth, capturing a larger share of the 4,300 jobs projected. These include Rydalmere, Camellia/Rosehill, Clyde and Victoria Road, North Parramatta. Employment in these precincts grew between 2006 and 2011, and over the projection period to 2031 is expected to grow between 20% and 40%. This is in contrast to other industrial precincts where growth is either modest or negligible.

As the face and nature of employment change, so too do the requirements for floorspace to accommodate future employment.

Although industrial lands play an important role in generating lower and semi-skilled jobs, structural changes in the economy have witnessed business consolidation and contraction as well as changing business models. These changes have in many instances meant that the nature of floorspace required has also changed, e.g. in some cases greater office context may be required and in other cases a reduction in office content.

Large clusters of industrial lands with good access and good buffer from sensitive land uses, are generally better able to mitigate against vacancy risk. Desirable characteristics of these industrial precincts underpin overall market appeal which is critical for the securing of replacement occupiers to occupy vacated space. By contrast, fragmented and 'orphaned' industrial precincts/sites can struggle to attract new occupiers if current occupiers vacate. This is due to challenges with access and land use conflicts.

3.5 NEED FOR THE PROPOSAL

The profile of Parramatta's employment is changing. Since 2006, both health care and social assistance and public administration and safety have increased their share of total employment (and increased number of employees) while industries like manufacturing and wholesale trade have reduced their share of total employment.

Employment projections show that while jobs in industrial precincts are projected to grow (by around 4,300 jobs), most of this will be absorbed by Rosehill/Camellia, Clyde and Rydalmere. 'Other employment' precincts such as Parramatta CBD, Westmead and WSU are projected to experience significantly greater population growth (around 26,000 jobs to 2031). This demonstrates that the nature and type of employment in Parramatta is changing.

As such, many industrial areas in a state of transition and will transform from providing purely industrial uses to accommodate a range of uses i.e. housing, a mix of business including retail, entertainment and leisure uses etc. Allowing for a mix of uses to occur in declining industrial areas allows it to become 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 precinct.

The proposed Masterplan will assist in meeting the changing employment needs of the Parramatta LGA by providing a range of uses including: retail, commercial, community uses and residential.

4. MELROSE PARK TODAY

4.1 LOCATION

Fronting Parramatta River, the Melrose Park Industrial Precinct is situated approximately 18km from Sydney CBD and is accessible via Victoria Road.

The Precinct is bounded on both sides (east and west) by residential uses with southern frontage to Parramatta River and Victoria Road forming the northern boundary.

There are over 20 allotments in the Precinct, comprised of a number of large specialised facilities occupied by businesses within the pharmaceutical industry, bakery product manufacturing as well as in cleaning compound/toiletry preparation manufacturing.

Figure 4.1: Aerial Photograph of Melrose Park Precinct (2014)



Source: Nearmap (2014)

4.2 EMPLOYMENT PROFILE

In order to better understand employment and activities occurring in the Melrose Park Precinct, Australian Bureau of Statistics Census data (ABS, 2012) and Bureau of Transport Statistics data (BTS, 2012) was examined using statistical geographic boundaries of Destination Zone (DZ) area.

The Precinct is comprised entirely of DZ 114773998 and is graphically represented in the figure below.

Figure 4.2: Melrose Park Precinct Statistical Area Definition

Source: ABS (2011)

The Precinct imports over 89% of its labour from outside of the Parramatta LGA. Occupational groups which are sourced locally include managers, technicians and trades workers and community and service workers.

Table 4.1. Melrose Park Employment Profile Overview

Indicator	Outcome
<u>Total Employment (Number)</u>	
2011 (stated*)	2,690
2011 (inadequately describe or not stated**)	203
2011 (not stated***)	324
2011 Total	3,217
2006	2,282
<u>Key Sectors (2011, % of Total Employment)</u>	
Manufacturing	69.1%
Wholesale Trade	11.9%
Financial and Insurance Services	5.1%
<u>Average Incomes (2011)</u>	
Average Annual Income	\$74,702
<u>Resident Population (2011)</u>	
Population	4
<u>Key Occupations (2011, % of total)</u>	
Professionals	23.7%
Managers	21.6%
Labourers	11.4%

Source: ABS (2012), BTS (2012), AEC

*total number of employees that stated their location of employment (used for the purposes of Melrose Park analysis).

**total number of employees who stated the location of their employment (Melrose Park) but did not state the type.

***total numbers of employees in NSW who did not state their location or type of employment (used for the purposes of NSW state employment projections).

In 2011, the Precinct contributed to 2.6% of total employment in the Parramatta LGA. While manufacturing in the Precinct makes the highest contribution to the LGA's total employment (17.8%), the broader LGA has a much more diverse economy than the Precinct, which has nearly 70% of its employment in manufacturing.

It should be noted that while the employment has been identified in the manufacturing sector, given the nature of the manufacturing in the precinct, it is highly likely that many of the employees are actually conducting office based activities such as engineering, research, sales/marketing or other corporate functions (as opposed to actual manufacturing activities). The following sections investigate at a finer grain the composition of employment within the Precinct, historical growth and future expectations.

Employment by Industry

In 2011, the Melrose Park Precinct employed 2,690 employees with more than 70% of these employed in manufacturing and 12% in wholesale trade.

Table 4.2: Employment by Industry, 2006-2011 (19 Sector – 1-Digit ANZSIC)

Industry	2006		2011	
Agriculture, forestry and fishing	1	0.0%	6	0.2%
Mining	0	0.0%	3	0.1%
Manufacturing	1,651	72.3%	1,859	69.1%
Electricity, gas, water and waste services	0	0.0%	0	0.0%
Construction	21	1.0%	28	1.0%
Wholesale trade	279	12.2%	321	11.9%
Retail trade	36	1.6%	38	1.4%
Accommodation and food services	45	2.0%	27	1.0%
Transport, postal and warehousing	37	1.6%	98	3.6%
Information media and telecommunications	8	0.4%	3	0.1%
Financial and insurance services	67	2.3%	138	5.1%
Rental, hiring and real estate services	0	0.0%	0	0.0%
Professional, scientific and technical services	46	2.0%	34	1.3%
Administrative and support services	46	2.0%	52	1.9%
Public administration and safety	8	0.4%	24	0.9%
Education and training	13	0.6%	20	0.7%
Health care and social assistance	4	0.2%	6	0.2%
Arts and recreation services	3	0.1%	0	0.0%
Other services	17	0.7%	33	1.2%
Total*	2,282	100%	2,690	100%
Inadequately described or not stated**			203	
Not stated***			324	
Total			3,217	

Source: BTS (2012)

*total number of employees that stated their location of employment (used for the purposes of Melrose Park analysis).

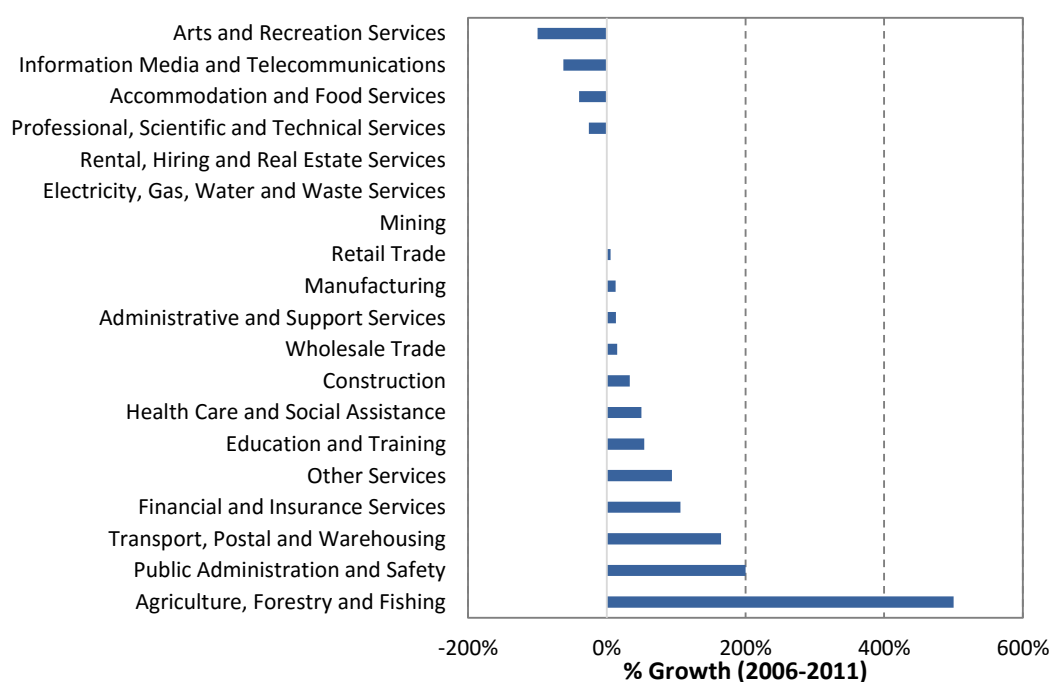
**total number of employees who stated the location of their employment (Melrose Park) but did not state the type.

***total numbers of employees in NSW who did not state their location or type of employment (used for the purposes of NSW state employment projections).

Of the 1,859 jobs in manufacturing, 1,556 are in basic chemical and chemical product manufacturing (refer to Table 4.3 for more detailed discussion).

Of the 321 jobs in wholesaling trade, 263 are in pharmaceutical and toiletry goods and wholesaling. Companies in the Precinct engaged in this type of activity include Pfizer, Eli Lilly, GlaxoSmithKline and Reckitt Benckiser.

Notable proportional increases in employment are observed in financial and insurance services, public administration and safety, transport, postal and warehousing (Figure 4.3). As highlighted, manufacturing employment was static.

Figure 4.3: Change in Employment by Industry, 2006 to 2011

Note: Small areas can experience volatile changes in employment over 5 year periods. Outcomes should be read with caution.
Source: BTS (2012)

Further disaggregation of manufacturing (refer to Table 4.3) shows that basic chemical and chemical product manufacturing represents over 80% of manufacturing employment. Food product manufacturing represents nearly 12% of manufacturing employment.

Table 4.3: Employment by Industry, 2006-2011 (Manufacturing 2-Digit ANZSIC)

Industry	2006		2011	
Food Product Manufacturing*	245	14.8%	217	11.7%
Beverage and Tobacco Product Manufacturing	0	0.0%	0	0.0%
Textile, Leather, Clothing and Footwear Manufacturing	0	0.0%	0	0.0%
Wood Product Manufacturing	0	0.0%	0	0.0%
Pulp, Paper and Converted Paper Product Manufacturing	0	0.0%	0	0.0%
Printing (including the Reproduction of Recorded Media)	17	1.0%	4	0.2%
Petroleum and Coal Product Manufacturing	0	0.0%	0	0.0%
Basic Chemical and Chemical Product Manufacturing**	1,337	81.0%	1,556	83.7%
Polymer Product and Rubber Product Manufacturing	3	0.0%	7	0.4%
Non-Metallic Mineral Product Manufacturing	0	0.0%	4	0.2%
Primary Metal and Metal Product Manufacturing	0	0.0%	0	0.0%
Fabricated Metal Product Manufacturing	0	0.0%	0	0.0%
Transport Equipment Manufacturing	0	0.0%	0	0.0%
Machinery and Equipment Manufacturing	40	2.4%	64	3.4%
Furniture and Other Manufacturing	9	0.5%	7	0.4%
Total Employed	1,651	100.0%	1,859	100.0%

Source: BTS (2012)

*The majority of food product manufacturing employment (258) is engaged in by Big Sister and George Weston Foods.

**The 1,556 jobs in basic chemical product manufacturing are engaged in Pfizer (with 1,110 total employees in 2011) as well as other pharmaceutical companies in the Precinct including Reckitt Benckiser (with 424 total employees in 2011), GlaxoSmithKline and Eli Lilly.

In 2011, the Melrose Park Precinct employed 2,690 employees with more than 70% of these employed in manufacturing and 12% in wholesale trade.

The above statistics are representative of pharmaceutical and hygiene product manufacturing that occurs in the Precinct, and the associated wholesale trade activity that occurs in conjunction with these businesses.

The Precinct is absolutely dominated by a small number of very large businesses, the majority of which are engaged in the pharmaceutical industry. While large firms can have a significant impact on a local economy through the large number of employees and the significant supply chains that are attached to their activities, there is a danger associated with reliance on only a small number of firms in one industry.

If the industry or one of the firms were to undergo a structural transition or face a significant downturn, then it could have devastating impacts for the Precinct. This danger is amplified when the facilities are customised to these uses and ill-suited for any other economic activity.

Economic Trends of Key Industry in Melrose Park

At this juncture it is necessary to explore some industry-specific trends that affect the sustainability of the Precinct, owing to the domination of a small number of very large businesses, most of whom are engaged in the pharmaceutical and food production industries.

Trends across specific industries located within Melrose Park are summarised below:

- **Pharmaceutical:** Businesses in Australia's pharmaceutical product manufacturing industry are increasing limiting their involvement to the latter stages of the manufacturing process, i.e. packaging and dispensing. Over the five years through 2014-2015, a number of players have closed down manufacturing plant capacity in favour of locations in China and Singapore. One of the latest closures was GlaxoSmithKline's tablet facility in Boronia, VIC in 2013 (IBISWorld, 2014d).

Major companies in the pharmaceutical industry include Pfizer, GlaxoSmithKline, AstraZeneca, Aspen and Merck Sharp & Dohme. Two of these companies (Pfizer and GlaxoSmithKline) are located in the Precinct.

The industry in Australia is a net importer of completed product, given the globally competitive industry and cuts to local manufacturing base capacity.

As with its global counterparts, the Australian pharmaceutical industry is contending with the fallout associated with the patent cliff, where some of the world's highest selling drugs have lost or are due to lose patent protection.

- In the short term, industry revenue is expected to contract by 2.6% over 2014-15 as the industry continue its transformation. This is expected to occur amid marginal revenue growth, declining research and development (R+D) productivity, increasing competitive pressures and rising safety concerns. Global industry rationalisation will continue to have implications for the level of pharmaceutical manufacturing and R+D in Australia (IBISWorld, 2014d). These trends have been witnessed in VIC where Merck exited and sold its site in Kilsyth while Sigma Pharmaceuticals also divested of its site in Croydon following acquisition by South African business Aspen.
- **Bread Production:** Similar to the Australian pharmaceutical industry, the bread production industry in Australia has been faced with a number of challenges over the past five years.

Changing consumer preferences towards specialty and artisan bread products as well as growing competition from supermarkets as they push into the fresh food sector has caused the industry's overall market share to decline. The major players in this industry are Goodman Fielder and George Weston Foods (a subsidiary of Associated British Foods plc).

The industry is in a decline stage of its economic life cycle, characterised by a mature domestic market, well established range of products and intense competitive and cost pressures over the past five years. As a result, players have sought to increase production efficiency by altering cost structures (e.g. increasing automation) - bakeries have also been closed in a bid to optimise operating efficiencies. Both Goodman Fielder and George

Weston have closed a number of bread factories over the past five years. Over the five years through 2014-15 further bread production factories are expected to close (IBISWorld, 2014a).

The industry's prospects are considered modest, albeit some niche growth opportunities available. The functional and fortified bread segment is expected to drive future demand, fierce competition from instore supermarket bakeries nevertheless restraining industry growth.

- **Cake and Pastry Manufacturing:** This industry consists of those businesses engaged in the manufacture of cakes, pastries and similar bakery products. Major players in Australia include Patties Foods, George Weston Foods (subsidiary of Associated British Foods plc) and McCain Foods.

The industry is in the decline stage of its life cycle, characterised by a saturated domestic market, range of established products and declining number of players (IBISWorld, 2014c). Fierce competition from a few large producers and the proliferation of supermarket in-store bakeries is a threat expected to increase in significance.

To combat the threats of competition, businesses will seek to increase the use new technology and adoption of greater automation, which will inevitably reduce the role of labour in the production process.

Australian manufacturing is currently under considerable pressure from numerous global factors, which is resulting in employment declining across Australia. These trends are well established and likely to continue.

Specifically for Melrose Park, the key industries (i.e. pharmaceutical, related health, bakery products) are expected to continue to face growing pressures in regards to their competitiveness in Australia. The challenges faced by these industry sectors and the businesses in Melrose Park specifically will raise the threat of their viability in the precinct into the future and the sustainability of the jobs within this precinct.

4.3 EXISTING OCCUPIER PROFILES

Key businesses located in the Precinct are:

- **Pfizer Australia** is a subsidiary of Pfizer Inc., and is a leading provider of prescription medicines and animal health products and they employ approximately 1,200 people across the country. Pfizer have manufacturing sites based in Perth and Melrose Park, Sydney.
- **GlaxoSmithKline (GSK)** is a global research-based pharmaceutical and healthcare company they manufacture medicines, vaccines and over the counter healthcare products. GSK provide over 1,700 jobs across Australia working with researches and doctors to discover new ways of treating and preventing disease.
- **George Weston Foods (GWF)** is one of Australia and New Zealand's largest food manufacturer employing over 6,500 people across 58 sites.
- **Eli Lilly** are manufacturers of medicines and vaccines and is an organisation which is growing a portfolio of pharmaceutical products.

Contrary to the Draft Parramatta Employment Lands Strategy (Cox Architects et al, 2015), our analysis demonstrates that in recent months, occupiers Reckitt Benckiser (health and hygiene products) and Big Sister Foods (bakery products) have transitioned off the site and divested of their properties. These movements represent a significant loss of employment from the Precinct (562 jobs, or 21% of the total, based on 2011 Census information). Furthermore Pfizer announced they were closing the manufacturing arm of their business by the end of 2015 (Manufacturing Chemist, 2015), however, are considering remaining in Melrose Park to carry out wholesaling and related activities, subject to their new accommodation requirements being met.

Further to discussions with local business occupiers, a summary of **known** local employment movements (increase/decrease) since 2011 and future employment expectations are detailed below.

A full description interview results is contained in the Background Paper (AEC, 2014b).

Table 4.4: Known Employment Movements in Melrose Park, 2011 to 2014

Business	Employees (2011)	Employees (2014)	Change (2011-2014)	Comments
Pfizer	1,110	767	-343	Since 2011 Pfizer has shed 343 jobs in manufacturing.
Big Sister	110	0	-110	Since 2011 the business has gone into liquidation.
Reckitt Benckiser	424	207	-217	Following reduction in manufacturing capacity and relocation of jobs off-shore, employee numbers have decreased to 207.
Eli Lilly	300	200	-100	Series of redundancies following worldwide contraction.
Ermington Industrial Centre	54	43	-11	A reduction of 11 jobs following the use of modern technology and automation.
Others (unknown)*	1,074	692	-	Information unavailable
Total Precinct	2,690	1,909	-781	Reduction of 29% jobs since 2011.

*Refers to employees of businesses that have not been interviewed
Source: AEC & Colliers

Based on discussions with select local businesses, over the next 24 months, the following employment movements are expected.

Table 4.5: Projected Employment in Melrose Park 2014 to 2016

Business	Employees (2014)	Employees Expected (2016)	Change (2014-2016)	Comments
Pfizer	767	617	-150	The loss of 150 manufacturing jobs has been announced as the site will no longer carry out manufacturing. The remaining 617 jobs will be in office/administration.
ETP Electron Multipliers	25	0	-25	ETP expects to relocate their business to Granville.
Nuss Removals Justice Health ETP Electron King & Wilson	39	0	-39	The property at 4 Hope Street is currently on the market for sale. Discussions with the owner suggests consolidation into one location with tenants expected to vacate the premises.
Ermington Industrial Centre	43	0	-43	The property is currently on the market for sale. The businesses within the estate could conceivably relocate following sale.
Reckitt Benckiser	207	0	-207	The remaining employees at the Reckitt site will depart following facility closure.
Eli Lilly	200	250	+50	Through the acquisition of Novartis, Eli Lilly expects to accommodate additional 50 jobs on-site.
Others (unknown)*	628	628	-	Information unavailable
Total	1,909	1,495	-414	Reduction of 40% jobs since 2014.

*Refers to employees of businesses that have not been interviewed
Source: AEC & Colliers

The above employment movements do not consider the other major occupiers in the Precinct GlaxoSmithKline and George Weston Foods, which combined, are estimated to accommodate jobs in the order of 400-500.

Media Announcements

Information has been gleaned from media articles on the pharmaceutical industry that cite employee expectations from 2011.

- **GlaxoSmithKline**

Toothpaste making operations located in Ermington (Melrose Park) was to shut by December 2011, resulting in a shedding of 55 jobs (Daily Telegraph, 2010).

A tablet-packaging facility in Melbourne was shut with the consequent loss of 120 jobs, the capacity to be transferred to plants in Spain and Poland (FirstWord Pharma, 2014).

- **Eli Lilly**

Facing severe financial pressures, Eli Lilly announced plans to cut employees worldwide by 5,500 (or about 13%) by the end of 2011, as part of a move to slash \$1b in costs. Patent loss was cited to be a major driver of the cost-cutting exercise, expected to be the most significant in the company's modern history (Indianapolis Star, 2009).

In 2014, Eli Lilly continued to suffer from earlier patent losses and reportedly froze salaries in 2014 after shedding 1,000 jobs in 2013. In July 2014 it announced it would cut 100 production jobs in its home city of Indianapolis and move some manufacturing to its facilities in Spain and Puerto Rico (FiercePharma, 2014).

- **Pfizer**

It has been announced that Pfizer is to shut down its manufacturing plant in West Ryde, Sydney. The firm said it will phase out operations of the plant, which makes capsules and tablets, by the end of 2015 (Manufacturing Chemist, 2015).

In line with the trends in the Australian pharmaceutical industry identified in previous sections, the impacts of these structural changes has resulted in hundreds of job losses confirmed in the final months of 2012 for Pfizer, GlaxoSmithKline, Eli Lilly and MSD Australia (Sydney Morning Herald, 2013). Cutbacks in federal funding for the pharmaceutical benefits scheme, expiry of patent protection and stiff competition from generic brands have cumulatively affected financial profitability of these companies.

Based on the above media announcements, it is conceivable that Eli Lilly and GlaxoSmithKline have also shed a large number of jobs (over and above the 55 known cut jobs at GlaxoSmithKline at the end of 2011).

Discussions with Pfizer indicate that some 343 jobs were shed since 2011. Despite this anecdotal evidence suggests that Pfizer intend to stay in the precinct in the short term, however, will cease manufacturing from 2017 onwards. They are potentially looking at staying on the Site in the long term as a legacy occupier provided the provision of space is appropriate and there is adequate amenity.

Over the next few years the Precinct is therefore likely to witness reduction in manufacturing employment; offset by employment in administration, marketing and R+D. However, it should be noted that the increase in employment in administration, marketing and R+D is not likely to be at the same scale as the manufacturing jobs losses, thereby creating a net reduction in employment.

The floorspace requirements of these types of employment will therefore be different and **the precinct must find a way to evolve and adapt to this very challenging economic environment.**

4.4 CHALLENGES AND ISSUES

Precincts such as Melrose Park evolve over time and in a location like Parramatta, various conflicts often arise over time. When most of these precincts were started, the local population was much smaller and not as densely developed. These precincts were often separated from residential and commercial activities and were developed in these locations because of this separation.

Overtime, the surrounding areas become developed and residential activities often begin to encroach on these industrial precincts (as is the case with Melrose Park). At the same time, the overall area of the precinct is relatively small, which would have been common when the estate was first started. However, today, the small scale nature of it makes it difficult for revitalisation or redevelopment for its originally intended industrial purpose.

In the context of Melrose Park, over time it has become a hub of the pharmaceutical and related health products industry in Sydney, with major, global companies operating therein. Many of these businesses located to the area some decades earlier and have since redeveloped and augmented their facilities as demand and capacity increases emerged over time. Today, many of these facilities would not offer the cutting edge technology or efficiency that is required to remain globally competitive, several large occupiers departing the Precinct in recent times.

The main challenge for the Precinct will be to manage the reliance the Precinct has on the pharmaceutical industry (for employment) with global competitive pressures and recent trends of pharmaceutical companies reducing manufacturing capacity in Australia. Given the specialisation of these facilities, it would be difficult to replace the economic activity if the remaining companies were to vacate the Precinct. The key danger is that the Precinct becomes sterilised from an economic perspective, with the jobs being relocated elsewhere and no other business being able to move into the facilities to replace the jobs.

The next chapter explores potential land use options that could be considered for the Precinct.

5. MELROSE PARK IN THE FUTURE

AEC's Alternate Use Options study explored the suitability of various land use options for the Precinct.

5.1 INDUSTRIAL PROPERTY MARKET CONTEXT

Melrose Park is located within the Central West subregion, along with Chullora, Homebush, Silverwater, Granville and Auburn.

The changing nature of industry drivers and a shift from manufacturing to supply chain logistics has resulted in changing requirements for industrial floor space. Growing demand for warehouse and distribution facilities has focused activity in regions like the Outer West and South West where large allotments are available at competitive prices.

In comparison to the broader Sydney market, price and rent levels in the Central West region are higher.

Table 5.1: Key Market Indicators

Region	Prime		Secondary		Land Values	
	Avg. Net Rent (/sqm)	Market Yield	Avg. Net Rent (/sqm)	Market Yield	>5,000sqm (/sqm)	1-5ha (/sqm)
Outer West	111	3.1%	95	0.7%	483	400
Inner/ Central West	123	0.5%	105	0.0%	573	410
South West	103	1.9%	84	3.1%	377	290
North	166	2.3%	139	2.8%	725	555
South	166	8.2%	147	11.4%	1,625	1,225
Sydney Average	134	3.2%	114	3.6%	478	367

Prime: Asset with modern design, good condition and utility with an office component 10-30%. Located in an established industrial precinct with good access.

Secondary: Asset with an older design, in reasonable/poor condition, inferior to prime stock, with an office component 10%-20%.

Source: Knight Frank (2016)

The hierarchy of rents and prices in Table 5.1 has implications for investment and development activity, with land values in the South West and Outer West among the most competitive, varying from \$377/sqm to \$483/sqm of site area.

Discussions with selling agents suggest that notional unimproved land values in Melrose Park are between \$500/sqm and \$700/sqm (sites at 5,000sqm or less). This broadly accords with research in Table 5.1 with price movements generally in tandem with the rest of the Central West region. This assessment is academic though, as *there are no unimproved sites* in Melrose Park.

When considered *with* existing buildings, overall land values (improved) approach circa \$1,200/sqm of overall site area². This is slightly lower than the Rydalmere industrial area to the west which achieves between \$1,300/sqm and \$1,500/sqm of overall site area.

By comparison, an 8,000sqm vacant block of land in the Norwest Business Park is currently on the market at an asking price of \$595/sqm of site area. Zoned B7 Business Park and designated with an FSR of 1:1, this site is opposite the Norwest Private hospital.

Discussions with local agents indicate existing leases within the Precinct achieve circa \$125/sqm (gross) for older style accommodation and circa \$185/sqm (gross) for good quality stock. Efforts to lease space (sub-5,000sqm) on the Reckitt Benckiser site have been poorly received, quoting rents in the order of \$65/sqm (gross).

The combination of poor market interest and soft rental rates are indicators of the Precinct's overall desirability.

Based on enquires to active agents, the following capital values are anecdotally thought to apply in the Precinct:

² 31 Hope Street (1,676sqm) sold in February 2015 for almost \$2m, equivalent of \$1,144/sqm of site area.

- Functional warehouse/factory space - circa \$1,000/sqm of building area;
- Older style, basic workshop space - \$800/sqm to \$900/sqm of building area.

While the above capital values (dollar per building area) are generally in line with, albeit at the lower end, compared to other industrial areas in the Central West region (including Auburn, Silverwater and Homebush), in comparison to the cost to construct new industrial (circa \$1,000/sqm of building area³), there is clearly no benefit in a 'demolition and replacement with like' scenario.

As the above 'hierarchy' of capital values suggests, redevelopment of existing space into industrial space is not feasible. A significant intensification is required for new development to displace the existing use.

5.2 COMPETITIVE ASSESSMENT

The competitive assessment considers Melrose Park and the identified alternative uses in relation to other existing destinations and precincts.

The competitive assessment considers in the first instance Melrose Park's locational advantages and disadvantages, and thereafter its suitability for each of the identified alternative uses.

5.2.1 Strengths and Weaknesses

A local business occupier survey was carried out in the Background Paper (AEC, 2014b) wherein select occupiers and landowners within the Precinct were asked about advantages and disadvantages perceived with the Precinct.

A key observation of benefit within the Precinct is its:

- Proximity to employees, suppliers, supplies and key local markets.

Challenges/difficulties that face business occupiers were identified to include:

- Traffic congestion, making access to the Precinct difficult in peak times.
- Limited public transport access making it difficult to attract and retain staff.
- No amenity closeby for employees, e.g. cafés, restaurants and shopping facilities.
- Limited hours of operation (even though vehicle access after-hours and weekend hours are permitted) considering surrounding residential uses.
- Less suitable for businesses that serve a broader catchment (e.g. intrastate or interstate markets).

One of the landowners surveyed indicated a difficulty in attracting tenants who seek a prominent address (like that of Rydalmere and Silverwater). It was also noted that while the Precinct is centrally located within a middle ring suburb, the Precinct is a distance away from unskilled and semi-skilled labour that is typically located in Western Sydney.

The Precinct's weaknesses are generally a function of its evolution over time. Precincts such as Melrose Park evolve over time and in a location like Parramatta, various conflicts inevitably arise over time. When most of these precincts were started, the local population was much smaller and not as densely developed. Over time, surrounding areas become developed and residential activities often begin to encroach on these industrial precincts, as is the case with Melrose Park.

In addition to its locational disadvantages, the limited availability of vacant, unimproved land in the Precinct is a constraint to growth, particularly when the feasibility of developing existing stock is in many cases challenging.

5.2.2 Alternative Land Uses

The availability of Greenfield sites in the Outer West and South West at competitive prices (<\$300/sqm) appeals to large multinationals and blue chip tenants when they make locational decisions, which in turn drives investment

³ Composite cost including allowance for professional fees, contingencies and statutory fees, Rawlinsons (2014)

activity by institutional investors. Most developers are customer-led, building a minimum proportion of the site to pre-lease commitment requirements and the remainder to be speculatively built.

Across metropolitan Sydney, the feasible development of Greenfield/vacant industrial sites is driven by competitive prices of land. In contrast, owing to the high cost to assemble a brownfield/infill site, large scale urban renewal/redevelopment is not feasible unless there is a change in use or development is to a 'higher and better use'.

The following sections explore the suitability and competitiveness of the Precinct for redevelopment into identified alternative employment land uses.

Business Parks

Due to the smaller size of the site and various landholders in the Melrose Park Precinct redevelopment to a business park would be challenging.

Macquarie Park and Norwest are well established business parks (both >200ha) in the Sydney Metropolitan region. Norwest still has Greenfield land for future development, which is somewhat limited at Macquarie Park. Both precincts have strong existing brands in the market place and are accepted (and at times highly sought after) locations for numerous businesses and industries.

Market investigations demonstrate there is strong demand for large floorplate, campus style development (AEC, 2014d). Case study analysis indicates successful business parks are predicated on:

- **Size and scale**

The nature of business parks requires land of a size and scale to facilitate the characteristic large floorplate buildings in a campus style setting that offers worker amenity amid a pleasant landscaped environment.

- **Existing land uses**

This is an important factor for development on brownfield sites as the cost of site assembly is much higher. In most of the case studies business parks have developed from Greenfield locations. In instances where brownfield sites have been developed into business parks they have been where they were in single landownership (in most cases State government).

- **Lot and landownership patterns**

In established urban areas in close proximity to transport networks and major centres, site amalgamation and assembly are arguably the largest challenge for development and renewal. Land use and intensity of use generally underpins the feasibility of new development. In some instances redevelopment into higher order uses is sufficient to displace existing uses and facilitate site assembly for development.

- **Public transport and worker amenity**

This is critical for the success of business parks and is linked to the requirements for size and scale. The availability of public transport, proximity to retail and local services all contribute to the quality and standard of worker amenity in a location. These are key factors that drive the desirability of the business park product.

In considering its development prospects, the competitive position of Melrose Park has both cost and revenue implications:

- **Cost implications**

Melrose Park could be attractive for this type of use, however, its small size and brownfield status would make the Precinct challenging from a development cost perspective. The cost of land in business parks are typically in the order of \$600/sqm of site area whereas land values in the Precinct approach \$1,200/sqm.

- **Revenue implications**

Business parks and office precincts require 'critical mass' in order to facilitate the clustering of services (cafés, drycleaners, child care centre, etc.) that will provide and contribute to worker amenity.

The lack of public transport for workers as well as a lack of amenity (i.e. restaurants, cafés, services, etc.) have revenue implications for development in the Precinct. Considering the amenity offer of competing business parks there is a limited ability for the Precinct to command the prices/rents required for feasible development, as witnessed in Macquarie Park and Norwest.

Suburban Office Buildings

Melrose Park does not offer the scale nor access to encourage redevelopment to accommodate a large scale suburban office precinct as tenants typically require specific market dynamics which attract high profile organisations.

Market analysis shows strong demand for A Grade office space in Parramatta CBD, by offering smaller office suites as an alternative to the large spaces available in Parramatta and Sydney Olympic Park there may be an opportunity for Melrose Park to transition to accommodate market demand. Office suites appeal to smaller businesses as a cost-effective alternative for organisations that do not require large floorplates and immediate access to clients, customers and employees.

Notwithstanding, it would be difficult for Melrose Park to replicate the built up environment of Parramatta CBD or Sydney Olympic Park in terms of amenity and transport access (public transport), factors which are required for a suburban location to be successful.

There are numerous examples of office buildings developed in isolated locations (e.g. off Parramatta Road) that have suffered from market resistance and accordingly modest rents and high vacancies. Office buildings in Melrose Park would likely suffer from the same challenges.

New Industrial Development

New industrial development requires large land parcels (e.g. minimum 20ha) in order to facilitate the large scale nature of the warehouses and distribution centres required as well as sufficient hardstand space to move containers and trucks. Additionally, easy access to major highways is critical for these types of logistics operations.

Melrose Park lacks the sufficient size and direct access to major highways to be appealing to this market segment. Areas such as Eastern Creek, Erskine Park and the broader Outer West and South West are much more suitable and competitive for these uses.

As identified in previous research (AEC, 2014d) Greenfield development opportunities in close proximity to major arterials are the preference for new industrial development. That said, in select inner city locations (e.g. Green Square) in response to the high cost of land, development types which typically have been pursued include:

- Those with a hybrid of uses (e.g. industrial strata, high-tech industrial, warehouse/ storage, retail showroom) that would allow a higher rate per square metre to be achieved. In many instances 'creative' uses in adaptively reused space are also incorporated.
- Refurbishment of existing industrial space into quality leasable space, usually intensifying use of the space (whether increasing output per square metre of building area or the employee per square metre ratio).
- Boutique retail and entertainment uses to service the growing residential population.
- The above redevelopment types are generally confined to premier/core industrial precincts where market demand (and pricing) is sufficient to justify developer interest and investment. The viability of these 'premier/core' industrial precincts for continued industrial use is underpinned by their ability to:
- Be directly accessed off major arterial roads and highways.
- Operate in a conflict-free environment (e.g. unrestricted truck access and sufficiently buffered from residential).
- Cluster with other business/industry.

In premier/core industrial precincts like Silverwater, Rydalmere and Green Square that benefit from the above characteristics, renewal and redevelopment will occur over time in response to industry's evolving need for floorspace. This is underpinned by strong demand for floorspace by a wide range of industry.

On the other hand, industrial precincts which are small and where access issues and land use conflicts are not able to be resolved will in the long term struggle to be competitive. Market signals are an excellent indicator of functional performance and market appeal in an area. Poor market response in Melrose Park indicate poor market appeal, which is crucial for the ability of a precinct to renew over time and be competitive and sustainable.

Medical Focused Mixed Use

There are a number of medical focused mixed use precincts and areas throughout the Parramatta LGA and others across the Sydney Metropolitan Region. All of these destinations are characterised by common locational factors – a large local resident population (market catchment) and easy access via main road transport. These types of uses focus primarily on servicing health requirements of the ‘every day’ population. As such, these centres tend to service a very local catchment. Melrose Park is placed amongst a large immediate population catchment with 5km radius of the Precinct. Additionally, with population set to continue its rapid expansion, there will be considerable future demand for health and medical services.

Melrose Park can effectively compete as a medical focused mixed use precinct. Its size is ideal for a mix of uses and will play a distinctly different service role from those of medical precincts focused around a hospital.

Given the limitations of its scale, future commercial, medical or retail uses will not be of a comparable size to major centres (such as the CBD or Westmead Hospital Precinct). A medical focused mixed use precinct will enable residents to link what would otherwise be multi-trips to various service providers.

5.3 LOCATION SELECTION FACTORS

There are many factors that influence decisions for business relocation and investment attraction. Depending on the specific business, industry and nature of the operations will often dictate the specific requirements for its location selection.

It is critical to understand tenant and business requirements as these underpin the selection of location for future development. Many of these same factors can be used to evaluate the alternative land use options identified for Melrose Park.

The following location selection factors were developed to evaluate the alternative uses for Melrose Park (AEC, 2014d):

- **Property requirements:** sufficiently large enough land area in order to achieve scale for intended redevelopment.
- **Amenity:** restaurants, shops, parking, landscaping, etc.
- **Access:** for customers/clients and workers.
- **Costs:** eventual achievable lease rates/sales price (would be cost for tenants).
- **Market catchment:** local catchment of customers/clients.

It should be noted that many of these are the same that actual tenants would use to evaluate locations. Various factors have been amended to consider the Precinct from a redevelopment perspective.

The table below provides a scoring in terms of the market appeal of Melrose Park for each of the various location factors:

- 1 = unsuitable for alternative use
- 3 = average for alternative use
- 5 = ideal for alternative use

Table 5.2: Market Appeal of Melrose Park for Various Alternative Uses

Location Selection Factors	Business Park	Suburban Office	New Industrial	Medical Focused Mixed Use
Property Requirements	3	2	2	4
Amenity	2	2	4	3
Access	4	3	2	4
Costs	3	3	2	4
Market Catchment	3	2	3	5
Total	15	12	13	20

Note: Higher scores denote stronger market appeal. Highest possible score is 25.
Source: AEC

The Precinct's small scale and poor worker amenity are less of an issue for a medical focused mixed use precinct. Health/medical services are population driven and accordingly service a local market catchment.

5.4 TRANSITION OF MELROSE PARK AND NEED FOR THE PROPOSAL

While the Melrose Park Precinct is centrally located, the Precinct is challenged by an absence of the following factors:

- Location directly off major arterial corridors facilitating unrestricted access.
- Ability to operate in a conflict-free environment with sufficient buffer from residential.
- Critical mass of lands to enable clustering activity of businesses.
- Diversity of occupiers (by industry) to mitigate against vacancy risk following structural changes in a particular industry.
- Generic buildings that can be easily re-purposed following relocation of occupiers.

These weaknesses becoming apparent in recent years following the departure of several large businesses and the cessation of manufacturing activities for pharmaceutical occupiers.

Owing to the dominance of pharmaceutical and hygiene products jobs in the Precinct (80%), structural changes in these industries have had significant impact on the future sustainability of the Precinct.

In its current form, the Precinct is not competitive due to its small scale and unsuitability of the existing precinct buildings for re-purpose. By virtue of its comparatively isolated location, limited public transport options and lack of worker amenity, market appeal as a business park and office precinct is conceivably limited. Furthermore the lack of direct access from major highways and location abutting residential uses makes it unattractive to industrial users, this already apparent from the lack of and muted interest in industrial space currently available in the Precinct.

The main challenge with Melrose Park is that the base locational characteristics required for each of the alternative use options (i.e. business park, office buildings, new industrial) are not present. These include a lack of public transport options and worker amenity. Furthermore its small size and scale severely limits the employment uses the Precinct can be put to.

It is apparent from the analysis that employment uses that are 'population driven' have the best potential for success in the Precinct, leveraging its location close to existing residential uses.

The Master Plan will assist in the transition and sustainability of the Precinct to accommodate a range of uses i.e. housing, mixed business including retail, entertainment and leisure uses etc. Allowing for a mix of uses to occur in declining industrial areas allows them to become 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 precinct.

6. ECONOMIC IMPACT ASSESSMENT

After establishing the need for the Proposal, this chapter seeks to quantify the economic impacts of the Proposal.

This chapter assesses the economic impacts of the Masterplan by investigating two cases, these include:

- **The Base Case:** the current economic impacts of the Site and existing use as a means for comparison with the Proposal Case.
- **The Proposal Case:** this scenario assumes that the Site's planning controls are amended and the Site is redeveloped as envisaged in the Masterplan.

Please note: both the assumptions about the Base Case and the Proposal Case only take into consideration those properties owned by PAYCE. Furthermore, the Proposal Case only considers the portion of the Masterplan which relates to PAYCE owned properties, it does not consider the potential redevelopment of the entire precinct.

6.1 INTRODUCTION AND APPROACH

The following sections examine the estimated economic activity supported through the construction phase of the proposed development options. The economic impacts have been assessed at the Parramatta 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 Parramatta 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 6.1: 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.

6.2 MODEL DRIVERS

6.2.1 Construction Phase

For modelling purposes, construction costs (including contingency) 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 as highlighted in the table below.

Table 6.2: Construction Costs Allocation (Incl. Contingency)

Item	ANZSIC Allocation	Construction Cost Incl. Contingency (\$M)
Demolition and temporary works	Construction Services	\$11.8
Retail	Non-Residential Building Construction	\$27.1
Commercial	Non-Residential Building Construction	\$44.6
Residential	Residential Building Construction	\$1,340.7
Community	Non-Residential Building Construction	\$7.0
Child Care	Non-Residential Building Construction	\$3.5
Car Parking (spaces)	Non-Residential Building Construction	\$352.3
Professional Fees	Professional, Scientific and Technical Services	\$218.0
Total	n.a.	\$2,005.0

Source: AEC

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

- Approximately 75% 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 construction-related businesses sourced from outside the Parramatta 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 Parramatta 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 Parramatta LGA).

6.2.2 Operational Phase

Estimates of existing direct operational phase activity in the Base Case have been developed utilising a survey of known employment numbers on the Site, which are then split proportionally across industries of employment that are observed in the Precinct.

Estimates of direct operational phase activity for the Proposal Case have been developed utilising employment density ratios as per the assumptions in **Table 6.4** to arrive at estimates of employment numbers.

Based on these respective employment levels, estimates for direct output were developed using the output to employment ratios outlined in the I-O transaction table developed for Parramatta LGA as part of this project (see Appendix A for methodology).

In developing the estimates of activity for the redeveloped site, a 'steady state' of operations (whereby all facilities have been developed and long-term average utilisation rates prevail) has been assumed across High and Low occupancy scenario outcomes (predicated on different intensity of occupancy ratios, see **Table 6.4**).

Table 6.3: Operational Turnover Estimates (Existing Site*)

ANZSIC Sector	Employment (FTE)
Employment, Travel Agency and Other Administrative Services	16
Professional, Scientific and Technical Services	43
Building Cleaning, Pest Control and Other Support Services	15
Wholesale Trade	792
Human Pharmaceutical and Medicinal Product Manufacturing	5
Road Transport	84
Retail Trade	19
Total	974

Note: The above mentioned employment numbers and industries relate to Pfizer and Reckitt Benckiser as these are the only two companies operating on the Site owned by PAYCE. Totals may not sum due to rounding.
Source: AEC

Table 6.4: Operational Turnover Estimates (Redeveloped Site)

Use Type	GFA (sqm)	FTE/sqm	ANZSIC Allocation	Employment (FTE)
Low Scenario				
Retail	10,500	25	Retail Trade	420
Commercial	4,000	16	Health Care Services	42
			Employment, Travel Agency and Other Administrative Services	42
			Building Cleaning, Pest Control and Other Support Services	42
			Finance	42
			Insurance and Superannuation Funds	42
			Professional, Scientific and Technical Services	42
Commercial (Pfizer*)	7,800	16	Wholesale Trade	488
	80	16	Human Pharmaceutical and Medicinal Product Manufacturing	5
	120	16	Professional, Scientific and Technical Services	8
Commercial (RB*)	3,000	16	Professional, Scientific and Technical Services	188
Community	3,000	40	Heritage, Creative and Performing Arts	38
			Arts, Sports, Adult and Other Education Services	38
Child Care	1,500	33	Child Care	45
Total	30,000			1,478
High Scenario				
Retail	10,500	22	Retail Trade	477
Commercial	4,000	12	Health Care Services	56
			Employment, Travel Agency and Other Administrative Services	56
			Building Cleaning, Pest Control and Other Support Services	56
			Finance	56
			Insurance and Superannuation Funds	56
			Professional, Scientific and Technical Services	56
Commercial (Pfizer*)	7,800	12	Wholesale Trade	650
	80	12	Human Pharmaceutical and Medicinal Product Manufacturing	7
	120	12	Professional, Scientific and Technical Services	10
Commercial (RB*)	3,000	12	Professional, Scientific and Technical Services	250
Community	3,000	30	Heritage, Creative and Performing Arts	50
			Arts, Sports, Adult and Other Education Services	50
Child Care	1,500	33	Child Care	45
Total	30,000	n.a.	n.a.	1,873

Note: Totals may not sum due to rounding. *If possible to be occupied by Pfizer and Reckitt Benckiser as legacy occupiers.
Note: The employment ratio used for child care is the same in both the low and high scenario, this is because there are legislative requirements around child care to educator ratios. For example, a child care centre which contains 500sqm of floorspace would accommodate approximately 66 children. Educator to child ratios for centres which cater for children from birth to 24 months, require 1 educator per 4 children – as such 17 educators would be required for this centre. This is what has been factored into the employment figures above.
Source: AEC

Depending on the eventual uses and occupancy ratios, employment numbers could fall between the Low and High scenarios.

6.3 INDUSTRY CLASSIFICATIONS & ASSUMPTIONS

6.3.1 Australian Bureau of Statistics (ABS) ANZSIC Industry Classifications

In accordance with the ABS ANZSIC Industry Classifications, a business is classified according to the largest single income earning activity of that business (ABS, 2006). In some cases a business may derive its income from numerous sources. For example:

- 60% of its income is derived from activities of wholesaling motor vehicle parts;
- 20% of its income is derived from retailing motor vehicles; and
- 20% of its income is derived from retailing motor vehicle parts.

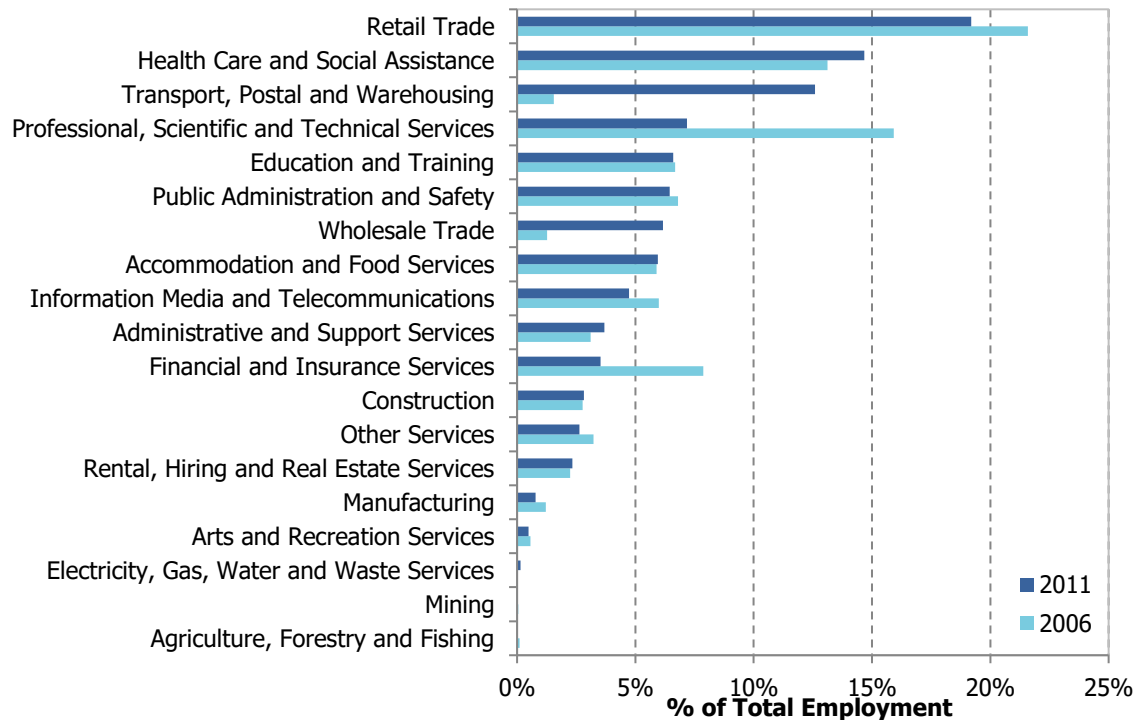
In this case the business would be classified to Wholesale Trade, as this is the Division where most activity occurs (i.e. 60% of the business's income is derived from its wholesaling activities, compared with 40% from retail activities).

A business doesn't necessarily need to perform an activity i.e. wholesaling (which from a land use perspective traditionally takes the form of large storage facilities and distribution centres) on a site in order to generate income from that classification. It may perform a function which is office-based, however, is part of an organisation that generates income from the classification of a particular industry i.e. Wholesale Trade.

6.3.2 ABS ANZSIC Industry Classifications vs LEP Land Use Definitions

ABS ANZSIC Industry definitions are not necessarily aligned with the Standard LEP Instrument land definitions. For example, the ABS industry profile of Burwood Strategic Centre which is entirely zoned B4 Mixed Use, demonstrates industries like Transport, Postal & Warehousing and Wholesale Trade are prevalent.

Figure 6.1: Burwood Strategic Centre Employment Profile



Note: Place of Work Data.
Source: ABS (2012)

The 'typical' land use implication for "Wholesale Trade" is warehousing and storage space. Yet, among the prohibited uses in the B4 land use zone are "warehouse or distribution centres" as well as "wholesale supplies". The reason for this is the ABS ANZSIC Industry definitions don't differentiate between land use and built form types like the Standard LEP Instrument does. For example, there could be an office in the Burwood CBD that generates its income from Warehousing or Wholesaling activities.

Industry Classifications and Masterplan Land Use Assumptions

Table 6.4 depicts the assumptions used in determining the operational turnover estimates of the redeveloped Site/Masterplan.

Once the Site is redeveloped and operational it has been assumed that income will be generated from the following industry classifications: Wholesale Trade, Manufacturing and Professional Services. This is not to say new occupier operations on Site will take the form of what is traditionally considered Wholesale Trade or Manufacturing from a land use zoning perspective i.e. built form that is ordinarily accommodated in an IN1 or IN2 zone. It is more likely their on-site operations will take the form of an office based activity which is permissible in accordance with the B4 Mixed Use zone in the Parramatta LEP, however, the above mentioned industry classifications have been apportioned to Pfizer's operations due to the consequent income and economic activity which will result from their activities.

6.1 ECONOMIC IMPACT ASSESSMENT

6.1.1 Construction

The construction phase associated with the development is expected to support the following economic activity through direct and flow on impacts:

- \$3.3 billion in additional output.
- A \$1.3 billion in contribution to Gross Regional Product (GRP).
- \$707.6 million in incomes and salaries paid to households.
- 8,792 FTE jobs.

The breakdown of modelling outcomes is provided in the table below.

Table 6.5: Construction Phase Impacts (\$2017)

Impact	Output (\$M)	GRP (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$1,503.7	\$362.6	\$244.1	3,172
Indirect Impact (Type I)	\$995.1	\$444.9	\$255.9	2,991
Indirect Impact (Type II)	\$850.8	\$515.4	\$207.6	2,630
Total Impact	\$3,349.6	\$1,322.9	\$707.6	8,792

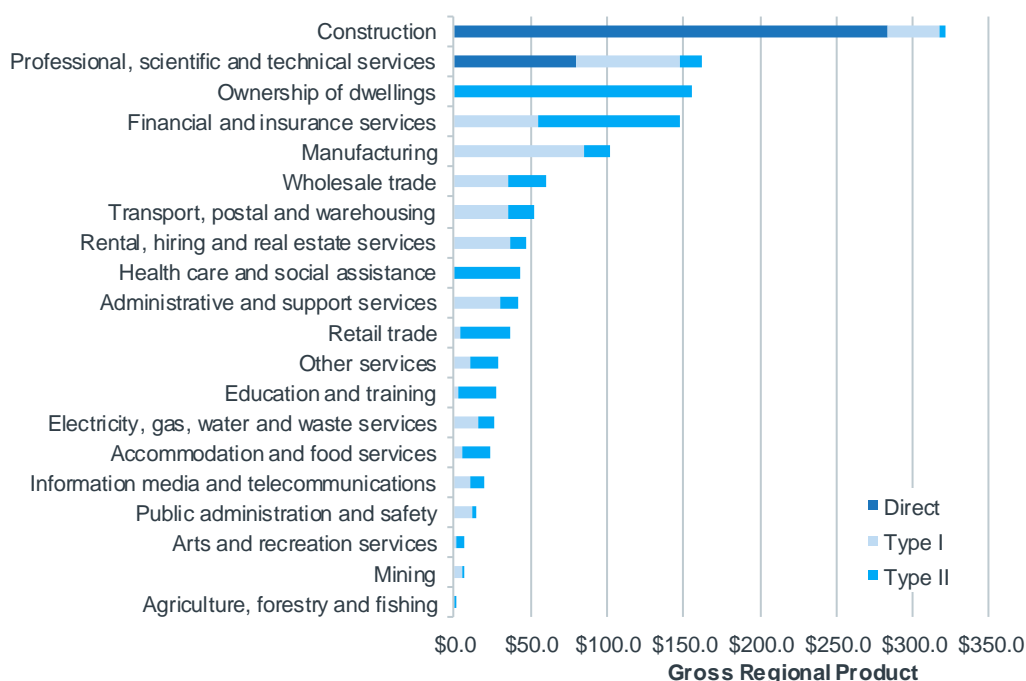
Note: Totals may not sum due to rounding.

Source: AEC

Major industry beneficiaries of the construction phase of the redevelopment within the Parramatta LGA include:

- Construction (GRP \$321.7 million).
- Professional, Scientific and Technical Services (\$161.9 million).
- Ownership of Dwellings (\$154.9 million).
- Financial and Insurance Services (\$147.4 million).
- Manufacturing (\$102.5 million).

Figure 6.2: GRP Impacts by Industry (\$M)



Source: AEC

6.1.2 Operational Phase

Existing Operations

Current activity supported at the Site is estimated to support (including direct and indirect activity) annually:

- \$745.5 million in output.
- A \$387.6 million contribution to GRP.
- \$204.6 million in incomes and salaries paid to local workers.
- 2,218 FTE jobs.

Table 6.6: Operational Economic Activity Supported (\$2017)

Impact	Output (\$M)	GRP (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$341.2	\$163.1	\$102.0	974
Indirect Impact (Type I)	\$157.3	\$77.0	\$42.4	481
Indirect Impact (Type II)	\$247.0	\$147.6	\$60.3	763
Total Impact	\$745.5	\$387.6	\$204.6	2,218

Note: Totals may not sum due to rounding.

Source: AEC

Redeveloped Site

Once established and in steady state operations (i.e., whereby all facilities have been developed and long-term average utilisation rates prevail), the redeveloped Site is expected to continue to make a significant contribution to the local economy.

Predicated on High and Low occupancy ratios, the redeveloped Site is estimated to support on an ongoing annual basis:

- \$870.5 million - \$1.1 billion in output.
- A \$476.4 - \$617.3 million contribution to GRP.
- \$249.5 - \$322.6 million in incomes and salaries paid to local workers.
- 2,945 - 3,777 FTE jobs.

Table 6.7: Redeveloped Site Operational Economic Activity Supported (\$2017)

Impact	Output (\$M)	GRP (\$M)	Income (\$M)	Employment (FTE)
Low Scenario				
Direct Impact	\$395.8	\$206.9	\$126.0	1,478
Indirect Impact (Type I)	\$173.6	\$89.6	\$50.0	536
Indirect Impact (Type II)	\$301.1	\$179.9	\$73.5	931
Total Impact	\$870.5	\$476.4	\$249.5	2,945
High Scenario				
Direct Impact	\$514.8	\$267.5	\$162.3	1,873
Indirect Impact (Type I)	\$226.9	\$117.1	\$65.3	700
Indirect Impact (Type II)	\$389.4	\$232.7	\$95.0	1,204
Total Impact	\$1,131.0	\$617.3	\$322.6	3,777

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

6.1.3 Net Change

Analysis of the net change in economic activity suggests the following potential increases in activity supported by the Site:

- \$125.0 - \$385.5 million in output per annum.
- \$88.8 - \$229.7 million contribution to GRP.
- \$44.9 - \$118.0 million in incomes and salaries paid to local workers.
- 727 - 1,559 FTE jobs.

It should be noted that this analysis does not consider the potential for either the transfer of activity from other Parramatta LGA centres into the redeveloped site or the transfer of existing Site activity to alternative centres within the Parramatta LGA as a result of the redevelopment.

Table 6.8: Redeveloped Site Change in Operational Economic Activity Supported (\$2017)

Impact	Output (\$M)	GRP (\$M)	Income (\$M)	Employment (FTE)
Low Scenario				
Direct Impact	\$54.6	\$43.8	\$24.0	504
Indirect Impact (Type I)	\$16.3	\$12.6	\$7.6	55
Indirect Impact (Type II)	\$54.1	\$32.3	\$13.2	168
Total Impact	\$125.0	\$88.8	\$44.9	727
High Scenario				
Direct Impact	\$173.6	\$104.4	\$60.3	899
Indirect Impact (Type I)	\$69.6	\$40.1	\$22.9	219
Indirect Impact (Type II)	\$142.4	\$85.1	\$34.7	441
Total Impact	\$385.5	\$229.7	\$118.0	1,559

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

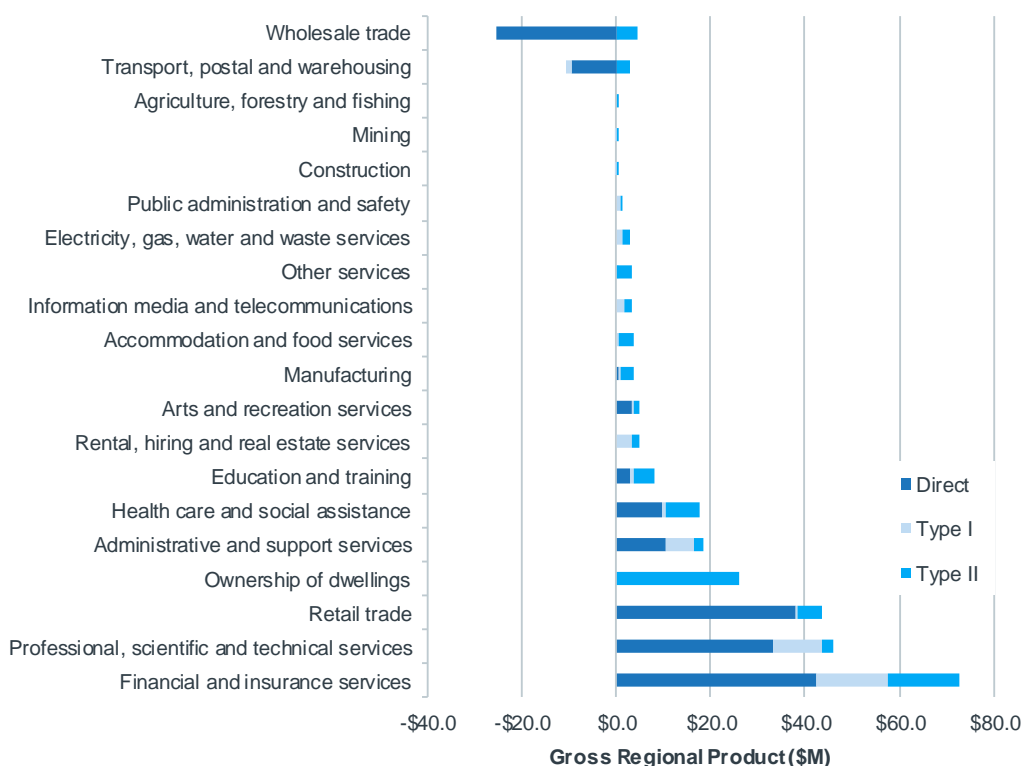
Industries within Parramatta LGA likely to benefit significantly from the operational phase of the redevelopment include:

- Financial and Insurance Services (up to \$72.8 million GRP per annum).
- Professional, Scientific and Technical services (up to \$46.1 million).
- Retail Trade (up to \$43.8 million).

Industries estimated to incur reduced activity within the redeveloped Site⁴ include:

- Wholesale Trade (-\$21.0 million GRP per annum).
- Transport, Postal and Warehousing (-\$7.5 million).

Figure 6.3: Net Operational GRP Impacts by Industry (High Scenario) (\$2017)



Source: AEC

6.2 SUMMARY OF KEY FINDINGS

The modelling conducted for this study indicates that the proposed redevelopment will make a significant contribution to the Parramatta LGA economy through its construction phase and the ongoing activities of the redeveloped centre.

In impacts to the Parramatta LGA economy, the total construction phase of the redevelopment is estimated to support:

- \$3.3 billion in additional output.
- A \$1.3 billion in contribution to Gross Regional Product (GRP).
- \$707.6 million in incomes and salaries paid to households.

⁴ Based on comparison with the high scenario.

- 8,792 FTE jobs.

Once the redevelopment is completed and fully operational, the Site will continue to provide a strong ongoing contribution to the Parramatta economy. When fully developed and operational, the redeveloped Site is estimated to support on an ongoing annual basis:

- \$870.5 million - \$1.1 billion in output.
- A \$476.4 - \$617.3 million contribution to GRP.
- \$249.5 - \$322.6 million in incomes and salaries paid to local workers.
- 2,945 - 3,777 FTE jobs.

The redevelopment project represents a significant development for the Parramatta LGA. The proposed development has been identified as providing significant economic benefits both during construction and once fully operational.

Retail Impact

The Proposal envisages new retail space in the order of 10,500sqm to be dispersed across the Site.

According to a Retail Impact Assessment (Leyshon Consulting, 2017), it is considered that the proposed rezoning of PAYCE's site at Melrose Park to provide for a new retail centre of 10,000sqm GFA (plus 500sqm GFA of other convenience retail) is justified based on the existing demand for retail services in the area and substantial growth in demand which will occur if the residential components of the proposed development are approved.

The Assessment states that the impact of the proposed development in 2021 will not give rise to adverse economic impacts on existing centres.

The substantial growth in available resident spending associated with the residential component of the Melrose Park project will generate an estimated \$117 million of additional available retail spending (\$2016) after 2021. This will directly benefit not only the proposed centre but other existing centres at nearby Ermington, West Ryde and Top Ryde in particular.

6.2.1 Housing Impacts

A direct benefit of the Masterplan is the development of approximately 5,050 residential units, including 150 affordable housing apartments.

Contribution to Housing

The Sydney metropolitan area is experiencing significant demand for housing and growing housing affordability issues, largely as a result of population growth. As a response State government is focused on ensuring that the planning system facilitates increased housing development.

A Plan for Growing Sydney sets out State government objectives for the Sydney metropolitan area over the period of the Plan (2011 to 2031). The Plan states have the accelerated delivery of new housing is a major goal with approximately 664,000 additional homes required in the 20 year period, equivalent to 33,200 new homes per annum. This is in response to population growth of 1.58 million.

The priority for new housing delivery is established areas, particularly those with access to transport infrastructure and in particular centres. This maximises the use of existing infrastructure and lowers the need to develop new greenfield land. New housing delivery is recognised as boosting economic activity, supporting the viability of infrastructure and stimulating business investment opportunities.

The Draft West Central District Plan details the key objectives for housing, of most relevance the Draft Plan outlines the importance of improving housing choice, understanding market demand and creating housing capacity. The Plan's housing target for Parramatta is 21,650 by 2021.

The provision of approximately 5,050 residential units on the Site constitutes a strong positive economic impact.

Contribution towards Easing Housing Affordability

The Sydney metropolitan area is in the midst of a housing affordability crisis. The Plan recognises that house prices in Sydney are high comparative to other Australian capitals and that government can assist to place downwards pressure on price rises through facilitating greater volumes of supply. In particular, additional units are noted as ensuring more people can access residential product which matches their lifestyle and budget.

Parramatta is slightly more affordable compared to the wider Sydney metropolitan area. The latest Housing Sales and Rent Report (FACS, 2016) indicates that the median price of a unit in Parramatta LGA in June quarter 2016 was \$572,000 compared to a Greater Sydney median of \$670,000 and a Sydney Middle Ring (within which Parramatta LGA is situated) of \$690,000.

Increasing the volume of housing supply is a government imperative because it assists to ensure affordability by tempering the pace of house price growth. The provision of dwellings on the Site would help to achieve this and constitutes a strong positive economic impact.

Affordable Housing

Affordable housing is housing that is appropriate for the needs of a range of very low to moderate income households and priced so that these households are also able to meet other basic living costs such as food, clothing, transport, medical care and education. As a rule of thumb, housing is usually considered affordable if it costs less than 30 percent of gross household income.

People described as being on a very low income are those earning less than 50 percent of the NSW or Sydney median income, depending on where they live (median income in Sydney is \$1,444 per week/\$75,088 per annum, ABS 2014b). They include workers in a range of lower paid occupations, particularly in areas such as retail or manufacturing, as well as people earning the minimum wage (the minimum wage in Australia is \$606.40 per week or \$31,512 per annum) who are on an aged or disability pension or other government benefit.

People earning more than 50 percent but less than 80 percent of the NSW or Sydney median income are described as earning a low income. They include many people working in jobs such as a child care worker, secretary or cleaner.

People described as being on a moderate income are those earning between 80 - 120 percent of the NSW or Sydney median income. They may include people working in occupations such as teaching, policing or nursing (nurses at average salary of \$63,440 per annum, ABS 2014b).

Table 6.9 demonstrates housing affordability based on different income bands. The highlighted rows indicate the affordability thresholds associated with the Parramatta LGA's average household income band (\$66,976). Based on this income band, households have the capacity to purchase dwellings which are between \$337,210 and \$363,150. This well below the median unit price in the Parramatta LGA which is \$572,000 (FACS, 2016).

At these income levels, the analysis demonstrates there is a clear need for affordable housing options for both workers and residents of Parramatta LGA.

As part of the proposed Masterplan, a minimum of 150 affordable housing apartments are to be provided. This is in line with action 2.3.3 of *A Plan for Growing Sydney* which aims to deliver more opportunities for affordable housing recognises the need meet the housing needs of people on very low, low and moderate incomes. People in lower income brackets that spend more than 30 per cent of their gross income on rent are said to be experiencing rental stress. Furthermore, the Draft West Central District Plan states that housing affordability should be improved.

Table 6.9: Household Income and Housing Affordability

Household Income	Household Income (weekly)	Rental (% of income)	Weekly Rental	Ownership (% income)	Monthly	Principal Loan	Deposit	Home Affordability
\$20,000	\$385	25%	\$96	30%	\$500	\$70,743.45	\$7,074	\$77,818
\$25,000	\$481	25%	\$120	35%	\$729	\$103,168	\$10,317	\$113,484
\$30,000	\$577	26%	\$150	35%	\$875	\$123,801	\$12,380	\$136,181
\$35,000	\$673	27%	\$182	37%	\$1,079	\$152,688	\$15,269	\$167,957
\$40,000	\$769	28%	\$215	38%	\$1,267	\$179,217	\$17,922	\$197,138

Household Income	Household Income (weekly)	Rental (% of income)	Weekly Rental	Ownership (% income)	Monthly	Principal Loan	Deposit	Home Affordability
\$45,000	\$865	30%	\$260	40%	\$1,500	\$212,230	\$21,223	\$233,453
\$50,000	\$962	30%	\$288	40%	\$1,667	\$235,812	\$23,581	\$259,393
\$55,000	\$1,058	30%	\$317	40%	\$1,833	\$259,393	\$25,939	\$285,332
\$56,368	\$1,084	30%	\$325	30%	\$1,409	\$199,383	\$19,938	\$219,322
\$56,368	\$1,084	30%	\$325	40%	\$1,879	\$265,844	\$26,584	\$292,429
\$60,000	\$1,154	30%	\$346	40%	\$2,000	\$282,974	\$28,297	\$311,271
\$65,000	\$1,250	30%	\$375	40%	\$2,167	\$306,555	\$30,655	\$337,210
\$70,000	\$1,346	30%	\$404	40%	\$2,333	\$330,136	\$33,014	\$363,150
\$75,000	\$1,442	30%	\$433	40%	\$2,500	\$353,717	\$35,372	\$389,089
\$80,000	\$1,538	30%	\$462	40%	\$2,667	\$377,298	\$37,730	\$415,028
\$85,000	\$1,635	30%	\$490	40%	\$2,833	\$400,880	\$40,088	\$440,968
\$90,000	\$1,731	30%	\$519	40%	\$3,000	\$424,461	\$42,446	\$466,907
\$95,000	\$1,827	30%	\$548	40%	\$3,167	\$448,042	\$44,804	\$492,846
\$100,000	\$1,923	30%	\$577	40%	\$3,333	\$471,623	\$47,162	\$518,785
\$105,000	\$2,019	30%	\$606	40%	\$3,500	\$495,204	\$49,520	\$544,725
\$110,000	\$2,115	30%	\$635	40%	\$3,667	\$518,785	\$51,879	\$570,664
\$115,000	\$2,212	30%	\$663	40%	\$3,833	\$542,366	\$54,237	\$596,603
\$120,000	\$2,308	30%	\$692	40%	\$4,000	\$565,948	\$56,595	\$622,542
\$125,000	\$2,404	30%	\$721	40%	\$4,167	\$589,529	\$58,953	\$648,482
\$130,000	\$2,500	30%	\$750	40%	\$4,333	\$613,110	\$61,311	\$674,421
\$135,000	\$2,596	30%	\$779	40%	\$4,500	\$636,691	\$63,669	\$700,360
\$140,000	\$2,692	30%	\$808	40%	\$4,667	\$660,272	\$66,027	\$726,299
\$145,000	\$2,788	30%	\$837	40%	\$4,833	\$683,853	\$68,385	\$752,239
\$150,000	\$2,885	30%	\$865	40%	\$5,000	\$707,435	\$70,743	\$778,178
\$155,000	\$2,981	30%	\$894	40%	\$5,167	\$731,016	\$73,102	\$804,117
\$160,000	\$3,077	30%	\$923	40%	\$5,333	\$754,597	\$75,460	\$830,056

*Note that proportion of income for home ownership is increased for higher income bands, higher income households having the ability to contribute a larger proportion of their income to mortgage payments without compromising on their quality of life.
Source: ABS (2011), AEC assumptions: 10% deposit, 7% interest rate, 25 year loan term

Providing Housing Choice

A *Plan for Growing Sydney* identifies the need to accelerate housing supply and local housing choice (Action 2.1.1) and acknowledges that increasing housing supply and addressing housing affordability and choice will assist in reaching the target.

Importantly the Plan acknowledges that Government and local Councils need to understand and respond to the housing market in each and every Local Government Area. The housing market reflects consumer demand and willingness to pay for particular types of housing in particular locations. It is the role of the private sector to build new houses. The private sector will only develop housing on rezoned sites where there is sufficient consumer demand for it, at a price that provides a return to the developer. Local councils should assist housing production by identifying and rezoning suitable sites for housing.

Furthermore the Plan states that housing choice should be improved to suit different needs and lifestyles (Direction 2.3). The Plan acknowledges that research indicates a current shortage of semi-detached houses across Sydney and a shortage of apartments in the middle and outer areas of the city. This is affecting the capacity of people to buy or rent a home. The Plan states that in order to respond to these issues, the Government will introduce planning controls that increase the number of homes in established urban areas to take advantage of public transport, jobs and services.

In addition, one of the key aims of the Draft West Central District Plan is to improve housing choice. The Draft Plan sets out the following approach to improve housing choice:

- Delivery: creating conditions to support the supply of housing in well-planned locations served by sufficient local and regional infrastructure.

- Capacity: so that existing planning controls and new investigation areas are creating sufficient opportunity for housing supply targets by 2036.
- Diversity and adaptability: the diversity of housing types including small lot housing, terraces and apartments in a variety of configurations (one, two and three+ bedrooms) and more adaptable and accessible forms of housing for older people, people with disabilities and families.
- Affordability: building on the direction in *A Plan for Growing Sydney* by setting a target for the provision of affordable rental housing in new urban renewal and land release areas for the low and very low income households that are the most vulnerable.

The Masterplan would assist in the meeting these actions and directions by providing greater housing choice by increasing the supply of units in the Parramatta LGA, which is at present dominated by detached dwellings.

Providing Homes Close to Jobs and Infrastructure

Providing homes close to jobs, public transport, civic functions, retail and entertainment options is a community benefit. Doing so lowers the needs for residents to travel to access employment and the other services they require and promotes public transport use. As a result negative externalities of travel in terms of lost time commuting, monetary expenses of travel, pollution, congestion, traffic, noise and so on are minimised. For this reason *A Plan for Growing Sydney* aims to provide homes closer to jobs (Direction 2.2/Action 2.2.2) and focus new housing in centres which have public transport that runs frequently and can carry large numbers of passengers.

The Draft West Central District Plan states the importance of increasing the range of jobs and other opportunities that people can access within 30 minutes requires better transport connections and stronger major economic and employment centres.

Parramatta LGA is an ideal place to concentrate new housing development. Amendments to the planning controls of the Site and subsequent development as of approximately 5,050 apartments in this location in addition to new employment opportunities on site constitutes a strong positive economic impact.

6.2.2 Other Impacts

Efficient and Effective Use of Infill Land

By enabling a more economically efficient use of the Site to be achieved and by delivering much needed higher density residential development in close proximity to important transport nodes, the Proposal Case would maximise the development potential of this infill site. In doing so it would assist to achieve planning policy aims by concentrating new development on locations most capable of accommodating it. It may assist to alleviate pressure for new housing development in locations less suitable for such uses, such as outer lying suburbs or greenfield sites not well connected to public transport infrastructure, services, jobs and retail uses. The Proposal Case would ensure efficient and effective use of land.

Traffic Impacts

The provision of new residential uses on the Site will facilitate greater demand for public and private transport for future residents. In addition to the Site's proximity to Victoria Road Major Transport Corridor, it is also situated close to the major public transport node (Meadowbank/West Ryde Station) which offers extensive rail and bus connections which will reduce the requirement for new residents to have private vehicles.

The development application process will require detailed consideration of the traffic, transport and access implications by suitably qualified experts. Redevelopment would not proceed unless Council is satisfied that traffic, transport and access arrangements are acceptable and could be appropriately accommodated by the road network. It is assumed that steps would be taken to limit and/ or mitigate any potential adverse impacts identified. The overall economic impact for the purposes of this EIA is therefore assumed to be neutral – neither positive nor negative.

6.3 ECONOMIC IMPACT

The modelling conducted for this study indicates that the proposed redevelopment will make a significant contribution to the Parramatta LGA economy through its construction phase and the ongoing activities of the redeveloped Site.

In impacts to the Parramatta LGA economy, the total construction phase of the redevelopment is estimated to support:

- \$3.3 billion in additional output.
- A \$1.3 billion in contribution to Gross Regional Product (GRP).
- \$707.6 million in incomes and salaries paid to households.
- 8,792 FTE jobs.

Once the redevelopment is completed and fully operational, the Site will continue to provide a strong ongoing contribution to the Parramatta economy. When fully developed and operational, the redeveloped Site is estimated to support on an ongoing annual basis:

- \$870.5 million - \$1.1 billion in output.
- A \$476.4 - \$617.3 million contribution to GRP.
- \$249.5 - \$322.6 million in incomes and salaries paid to local workers.
- 2,945 - 3,777 FTE jobs.

The redevelopment project represents a significant development for the Parramatta LGA. The proposed development has been identified as providing significant economic benefits both during construction and once fully operational.

Responding to Industry Changing Floorspace Requirements

Owing to overwhelming dominance by the pharmaceutical industry in Melrose Park, structural changes and economic trends affecting this industry have had significant implications for the Precinct's ability to be sustainable as an employment precinct.

The Masterplan and Proposal will facilitate the development of floorspace that not only responds to the changing requirements of the pharmaceutical industry (by providing contemporary floorspace for Pfizer and Reckitt Benckiser) but also responds to Parramatta's key industries of growth.

The Proposal will facilitate an intensification of employment uses in Melrose Park, ensuring that the Precinct can contribute meaningfully to the Parramatta economy.

7. POLICY ASSESSMENT

This chapter considers the policy analysed in **Chapter 2** and assesses the Proposal Case against it. Policy considerations of particular relevance to the EIA are: Section 117 Direction, Strategic Checklist for Employment Lands and Net Community Benefit Test. Each of these is considered below in the context of the Proposal Case.

7.1 SECTION 117 DIRECTION

The Section 117(2) of Environmental Planning and Assessment Act 1979 provides directions to planning authorities regarding proposals, 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 7.1: Consistency with Section 117(2) Objectives

No.	Objective	Rezoning Scenario
1	Encourage employment growth in suitable locations	The Site currently contains three industrial buildings. Combined, the buildings currently located on Site accommodate approximately 974 jobs. The Proposal Case envisages development of the Site to accommodate: 15,000sqm of commercial floorspace, 10,500sqm of retail floorspace, 3,000sqm of community floorspace and 1,500sqm child care facilities. This floorspace combined could accommodate 1,478-1,873 direct jobs on Site. The Proposal Case complies with this objective.
2	Protect employment land in business and industrial zones	The planning amendment sought would lead to a decrease in the quantum of land zoned for employment generating land uses in the Parramatta LGA. However, the total number of jobs generated on the Site is estimated at 1,478-1,873 jobs, representing an intensification of land use. The Proposal Case complies with this Objective.
3	Support the viability of identified strategic centres	The Proposal Case would consolidate new homes, jobs and investment in Parramatta in accordance with <i>A Plan for Growing Sydney</i> which states that Greater Parramatta should “provide capacity for additional mixed-use development in Parramatta CBD and surrounding precincts including offices and retail in Parramatta CBD, health services in Westmead, an education hub around the new Western Sydney University, a technology and education precinct in Rydalmere, arts and culture in Parramatta, a sports precinct around Parramatta Stadium and housing in all precincts”. 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.

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 Rezoning Scenario.

Table 7.2: Planning Authority Considerations

Consideration	Achieved?	Explanation
Give effect to the objectives of this direction	Yes	Table 7.1 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 Proposal Case would reduce the quantum of land used for employment uses in Parramatta LGA, but as identified in this EIA, the proposed uses on the Site respond to the changing employment and floorspace requirements of industry. As an example, Pfizer and Reckitt Benckiser (both existing occupiers of the Precinct) no longer require floorspace in their existing layout and configuration. Yet these companies are poised to remain in the Precinct in redeveloped, contemporary office-type floorspace that meets with their changing requirements.
Not reduce the total potential floor space area for employment uses and related public services in business zones	Yes	The Proposal Case envisages development of the Site to accommodate: 15,000sqm of commercial floorspace, 10,500sqm of retail floorspace and 3,000sqm of community floorspace and 1,500sqm child care facilities. The Proposal Case would result in a greater intensification of employment uses on the Site.

Consideration	Achieved?	Explanation
Not reduce the total potential floor space area for industrial uses in industrial zones	No	The Proposal Case would result in a decrease of land zoned for industrial purposes, however would provide 15,000sqm of commercial floorspace, 10,500sqm of retail floorspace, 3,000sqm of community floorspace and 1,500sqm of child care facilities. The Proposal Case would result in a greater intensification of employment uses on the Site.
Ensure that proposed new employment areas are in accordance with a strategy that is approved by the Director-General of the Department of Planning	Yes	As established in this EIA, the Proposal Case is consistent with State and local government objectives to support jobs, economic development, efficient and effective use of land and accelerate housing supply in suitable locations. It complies with this condition.

7.2 STRATEGIC CHECKLIST FOR EMPLOYMENT LANDS

The Industrial Lands Strategic Assessment Checklist sits within the previous *Draft Metropolitan Strategy for Sydney 2031* (NSW DP&I, 2013). The checklist provides some guidance for assessing the impact of a rezoning on the subregional or regional supply of employment land.

The checklist is set out below and the Proposal Case has been assessed against it.

Table 7.3: Strategic Checklist for Employment Lands

Checklist	Consistency
Consistency with State or Council Strategies	<p>The Proposal Case would consolidate new homes, jobs and investment in Parramatta in accordance with <i>A Plan for Growing Sydney</i> which states that Greater Parramatta should “provide capacity for additional mixed-use development in Parramatta CBD and surrounding precincts including offices and retail in Parramatta CBD, health services in Westmead, an education hub around the new WSU, a technology and education precinct in Rydalmere, arts and culture in Parramatta, a sports precinct around Parramatta Stadium and housing in all precincts”.</p> <p>The Proposal is in line with the priorities and actions in the Draft West Central District Plan in that it will, provide jobs, increase retail floorspace, improve housing choice and affordability and provide child care facilities.</p> <p>The Proposal Case is also consistent with the Parramatta Employment Lands Strategy (2016) which acknowledges that major restructuring is occurring and will affect the land use needs of this precinct’s future and recommends that a Structure Plan is prepared for Melrose Park, which considers future uses in the precinct and opportunities for renewal.</p>
Location of the Precinct close to key economic infrastructure contributing to a significant industry cluster	<p>While the Melrose Park Precinct is centrally located, the Precinct is challenged by the following factors:</p> <ul style="list-style-type: none"> ▪ Location directly off major arterial corridors facilitating unrestricted access. ▪ Ability to operate in a conflict-free environment with sufficient buffer from residential. ▪ Critical mass of lands to enable clustering activity of businesses. ▪ Diversity of occupiers (by industry) to mitigate against vacancy risk following structural changes in a particular industry. ▪ Generic buildings that can be easily re-purposed following relocation of occupiers. <p>These weaknesses becoming apparent in recent years following the departure of several large businesses and the cessation of manufacturing activities for pharmaceutical occupiers.</p> <p>In its current form, the Precinct is not competitive due to its small scale and unsuitability of the existing precinct buildings for re-purpose. By virtue of its comparatively isolated location, limited public transport options and lack of worker amenity, market appeal as a business park and office precinct is conceivably limited. Furthermore the lack of direct access from major highways and location abutting residential uses makes it unattractive to industrial users, this already apparent from the lack of and muted interest in industrial space currently available in the Precinct.</p>
Impacts to industrial land stock in the Subregion / Region and ability to meet future demand for industrial lands?	<p>The Proposal Case will result in a reduction to industrial stock in the Subregion, however, the employment projections and employment land use projections demonstrate that precincts such as Melrose Park, South Clyde and Chester Hill/South Granville are projected to record negative demand for floorspace over the projection period. Whereas, the precincts of Rosehill/Camellia, Clyde and Rydalmere are projected to record the highest increase in GFA demand.</p> <p>Furthermore, it is important to note that the other employment precincts investigated (i.e. Parramatta CBD, Granville, North Parramatta, Westmead and WSU and WSU</p>

Checklist	Consistency
	<p>Parramatta) are projected to absorb a greater amount of growth in comparison to the areas zoned for industrial uses (Precincts 1-21). Combined these precincts are projected to account for around 69% (or 1,026,189sqm) of total additional GFA demand between 2011 and 2031.</p> <p>As such, the LGA and Subregion will be able to well cater to employment land demand in the future.</p>
Impact to Subregional / Regional employment targets and objectives?	The Proposal Case will result in 1,478-1,873 direct jobs. As such, the Proposal Case will be more favourable with regard to meeting employment targets.
Compelling argument that the industrial land cannot be used for industrial purposes now or in the foreseeable future? Are there opportunities to redevelop the land for high tech or creative industries?	<p>Chapter 5 of the EIA demonstrates why the industrial land cannot be used for industrial purposes now or in the foreseeable future.</p> <p>In its current form, the Precinct is not competitive due to its small scale and unsuitability of the existing precinct buildings for re-purpose. By virtue of its comparatively isolated location, limited public transport options and lack of worker amenity, market appeal as a business park and office precinct is conceivably limited. Furthermore the lack of direct access from major highways and location abutting residential uses makes it unattractive to industrial users, this already apparent from the lack of and muted interest in industrial space currently available in the Precinct.</p> <p>The main challenge with Melrose Park is that the base locational characteristics required for each of the alternative use options (i.e. business park, office buildings, new industrial) are not present. These include a lack of public transport options and worker amenity. Furthermore its small size and scale severely limits the employment uses the Precinct can be put to.</p> <p>It is apparent from the analysis that employment uses that are 'population driven' have the best potential for success in the Precinct, leveraging its location close to existing residential uses.</p> <p>The Master Plan will assist in meeting the changing employment needs of the Parramatta LGA by providing a range of uses including: retail, commercial, community uses and residential.</p>
Is the Precinct critical to meeting the need for land for an alternative purpose identified in other NSW Government or endorsed Council Strategies?	Rezoning the Site will be critical to ensuring that the industries which are forecast to growth the most overtime are adequately catered for.

7.3 NET COMMUNITY BENEFIT TEST

The Net Community Benefit Test set out below assesses the questions set out in the NSW Draft Centres Policy (2009). **Table 7.4** addresses questions of particular relevance to the EIA.

Table 7.4: Net Community Benefit Test

Consideration	Explanation
Will the LEP facilitate a permanent employment generating activity or result in a loss of employment lands?	The Proposal Case will result in 1,478-1,873 jobs. As such, the Proposal Case will be more favourable with regard to meeting employment targets.
Will the LEP impact upon the supply of residential land and therefore housing supply and affordability?	<p>'A Plan for Growing Sydney' (the Plan) sets out State government objectives for the Sydney metropolitan area over the period of the Plan (2011 to 2031). The Plan states have the accelerated delivery of new housing is a major goal with approximately 664,000 additional homes required in the 20 year period, equivalent to 33,200 new homes per annum. This is in response to population growth of 1.58 million.</p> <p>The Draft West Central District Plan highlights the need for improved housing choice and affordability.</p> <p>The provision of approximately 5,050 residential units on the Site constitutes a strong positive economic impact.</p>
Will the LEP be compatible/complementary with surrounding land uses? What is the impact on amenity in the location	Providing homes close to jobs, public transport, civic functions, retail and entertainment options is a community benefit. Doing so lowers the needs for residents to travel to access employment and the other services they require and promotes public transport use. As a result negative externalities of travel in terms of

Consideration	Explanation
and wider community? Will the public domain improve?	<p>lost time commuting, monetary expenses of travel, pollution, congestion, traffic, noise and so on are minimise. For this reason A Plan for Growing Sydney aims to provide homes closer to jobs (Direction 2.2/Action 2.2.2) and focus new housing in centres which have public transport that runs frequently and can carry large numbers of passengers. Furthermore, the Draft West Central District Plan highlights having a greater number of jobs and centres within 30 minutes of where residents live. Parramatta LGA is an ideal place to concentrate new housing development. Amendments to the planning controls of the Site and subsequent development as of approximately 5,050 apartments in this location in addition to new employment opportunities on site constitutes a strong positive economic impact.</p>
Will the proposal increase choice and competition by increasing the number of retail and commercial premises operating in the area?	<p>The Proposal envisages new retail space in the order of 10,500sqm to be dispersed across the Site.</p> <p>According to a Retail Impact Assessment (Leyshon Consulting, 2017), it is considered that the proposed rezoning of land at Melrose Park to provide for a new retail centre of some 10,000sqm GFA) plus 500sqm GFA of other convenience retail) is justified based on the existing demand for retail services in the area and substantial growth in demand which will occur if the residential components of the proposed development are approved.</p> <p>The Assessment states that the impact of the proposed development in 2021 will not give rise to adverse economic impacts on existing centres. The substantial growth in available resident spending associated with the residential component of the Melrose Park project will generate an estimated \$117 million of additional available retail spending (\$2016) after 2021. This will directly benefit not only the proposed centre but other existing centres at nearby Ermington, West Ryde and Top Ryde in particular.</p>

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APPENDIX A: INPUT-OUTPUT MODELLING 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.
- **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)**, 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.
 - **Indirect Impact (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.
- **Value added:** Refers to the value of output after deducting the cost of goods and services inputs in the production process. Value added defines the true net 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 2013-14 Australian transaction table (ABS, 2016).

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 2013-14 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 2013-14 (as used in the Australian national IO transaction tables) to 2017 values using the Consumer Price Index (ABS, 2017).

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 Input-Output 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 "additivity assumption". This generally does not reflect real world operations.
- **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 inter-relationships 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.

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