St Marys Employment Development Strategy Review

SGS Economics & Planning

Final Report

Lend Lease

April 2015

Independent insight.

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EXECUTIVE SUMMARY

Introduction

The St Marys Development site was endorsed by the NSW Government for inclusion on the Urban Development Program (UDP) in 1993. It is located 45km west of the Sydney CBD, 5km north-east of the Penrith City Centre and 12km west of the Blacktown City Centre. The site has a total land area of 1,545 hectares.

The St Marys Employment Development Strategy (EDS) was prepared in 2003 to identify actions and initiatives to be implemented to meet the employment and business development performance objectives set for the St Marys Development site. Key targets of the strategy include:

- Development of over 5,000 ongoing new jobs, equating to one job for every resident worker
- An additional 8,600 jobs anticipated to be created during the construction phase

SGS Economics and Planning was engaged by Lend Lease to undertake a review of the St Marys EDS as required by Clause 18.9 of the St Marys Development Agreement. The review is required to determine the following:

- Whether the employment requirements generated by the St Marys site have changed as a result of current demographic and labour force trends
- The number of new jobs that have been created by the St Marys site
- Whether employment on the St Marys site is being generated at a satisfactory rate
- Whether market and policy trends in employment and business development at State and Local Government level will affect job creation efforts on the Site

In light of the outcomes of the above, the consultant is then required to:

- Outline any proposed amendments to strategies of the EDS
- Where target employment numbers have not been reached to identify reasons
- Identify measures to overcome any shortfall in employment creation

In the 2008 review of the St Marys EDS the findings recommended:

Keeping a 'watching brief' on prospects for the Central Employment Precinct

DLL should keep a 'watching brief' on prospects for the Central employment precinct. Progress in developing the Dunheved extension will provide an indication of future prospects for the other employment lands. It may be that by the time of the next review there is some justification for looking at alternative development approaches in the Central employment precinct. Future options could be to:

- *Develop the site as intended in the EDS,*
- *Develop the site with a higher office component;*
- *Relocate the Central Precinct Employment zone off-site; and*
- *Significantly reduce the employment lands area to a service industry area and centre for an expanded residential area*

In response to this, SGS Economics and Planning has examined the supporting evidence for a potential rezoning of the Central Precinct identified employment lands to residential. As a part of this review, the requirement for a 1:1 job to resident ratio has been tested with regard to the planning policy environment and industrial market trends. A series of residential and employment development case studies, as well as 'blue sky' employment initiatives, were examined to ascertain what development principles might apply to the St Marys ADI site. Lastly, an assessment was conducted to determine the level of housing affordability in the LGA; and hence whether there is merit from a housing perspective to rezone the Central Precinct identified employment lands. The major findings from the study are outlined below.

Key findings

From a policy perspective, decentralised and out-of-centre suburban employment lands are not supported (apart from business parks). New greenfield industrial development is encouraged in strategically located areas adjacent to major road infrastructure. There are no examples of other new release residential areas in Australia that have successfully implemented a 1:1 jobs to resident ratio. Instead, they have focussed on enhancing transport links to major employment centres – bringing residents closer to jobs, rather than jobs closer to residents.

The employment market assessment indicates that a weak demand environment persists for industrial development, while at the same time there is an abundant supply of industrial land in Western Sydney. What's more, the North Dunheved site is not desirable compared to other employment supply in the Western Sydney area. The Central Precinct is even less desirable from a supply attributes perspective than the North Dunheved site.

Given the challenge to affordability of dwellings in the area, the rezoning of the identified Central Precinct industrial lands to an urban zone would facilitate more residential development, and relieve pressure on housing supply, which contributes to housing affordability.

Based on the major findings from the report, there is sufficient evidence to indicate that the jobs to resident ratio should be revised and that future employment land development focus on existing sites in Jordan Springs, Ropes Crossing and the North Dunheved precinct.

A high job to resident ratio is a good planning principle to promote higher employment self-containment, with benefits for quality of life, transport infrastructure and the environment. However, the employment lands market has shifted since the original EDS, with a weaker industrial demand environment and more focus on strategic employment sites around the M4 and the Broader Western Sydney Employment Area (Broader WSEA). Therefore, the ratio of 1:1 is no longer appropriate for the St Marys ADI site; particularly in light of lower job to resident ratios of other masterplanned estates in Sydney and Queensland.

Given the potential for on-site employment, a new target for on-site jobs to resident workers ratio of around 0.4:1 should apply to the St Marys ADI site. While this is more than twice the observed rate of Glenmore Park and even higher than Springfield Lakes 0.3:1 (currently Australia's largest masterplanned community), we believe that it is an achievable target.

1 INTRODUCTION

Overview

This section outlines the project purpose and scope of work, as well as important background information on development of the St Marys ADI site.

1.1 Project purpose

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- The number of new jobs that have been created by the St Marys site
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- Whether market and policy trends in employment and business development at State and Local Government level will affect job creation efforts on the Site

In light of the outcomes of the above, the consultant is then required to:

- Outline any proposed amendments to strategies of the EDS
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As a part of this review, the following has been assessed:

- the number of new full-time jobs that have been associated with development at the St Marys site;
- whether the employment requirements for the St Marys site have changed as a result of supply and demand trends in the broader employment market;
- whether the policy environment for on-site employment generation has changed.

1.2 Background

The former Australian Defence Industries (ADI) site is a 1545 hectare site north of St Marys that was rezoned in 2001 under the Sydney Regional Environmental Plan No. 30 St Marys (SREP 30). The SREP was used to guide development due to the magnitude of the site as well as to alleviate any issues that may have been caused by its location in both the Penrith and Blacktown LGAs. The SREP permits development on the site for conservation, employment and residential uses. This came after the site was first endorsed for development by the NSW Government for inclusion in the Urban Development Program (UDP) in 1993.

The site has been developed by Lend Lease over the past decade. The site is being developed into three distinct precincts: Ropes Crossing (Eastern Precinct), Jordan Springs (Western Precinct) and the Central Precinct. Each precinct is planned to accommodate a residential area with an integrated village centre supplying retail, commercial and community services. The site has two large zoned employment precincts – North Dunheved and the Central Precinct – set aside for industrial land use, and a large proportion will be a dedicated conservation area in the form of a regional park.

Figure 1 shows a map of the site and the location of each of the precincts.

FIGURE 1. FORMER ADI PRECINCT AT NORTH ST MARYS

Source: Lend Lease, 2013.

In accordance with the employment generation requirements scheduled in SREP 30, Lend Lease commissioned SGS to develop an Employment Development Strategy (EDS) in 2002 to meet the outlined legislative requirements. Specifically, Clause 32 (1) of the SREP 30 states:

'The total number of jobs generated by development on land to which this plan applies (including jobs generated on the surrounding land) is to approximate the number of workers who will be resident on the land to which this plan applies after the development has been carried out.'

The SREP also includes requirements for the development of an employment zone within the site. The stated aim is to provide employment generating land uses which are compatible with the surrounding market. This requirement is influenced by the need to provide local employment opportunities to an area with an expanding population as well as utilise the potential clustering and agglomeration of employment from the existing employment lands at Dunheved Industrial Park, which are contiguous to the planned employment precinct in the south of the site (North Dunheved).Previous reviews

In 2003 SGS Economics and Planning finalised the Employment Development Strategy (EDS) for St Marys. The St Marys EDS identified actions and initiatives to meet the employment and business development performance objectives set for the St Marys Development Site. Key targets of the strategy included:

- development of over 5,000 ongoing new jobs, equating to one job for every resident worker;
- an additional 8,600 jobs anticipated to be created during the construction phase.

In 2008 SGS reviewed the 2003 Employment Development Strategy. While the findings in the first review generally supported the original targets set out in the 2003 EDS, certain changes were recommended. The new recommendations were based on the changing regional and wider macroeconomic market profile, particularly in regards to reduced demand for employment lands for traditional industrial uses and an increase in demand for logistics and warehousing as well as business park operations.

Role of the Central Precinct employment lands

The 2008 review revealed that since the EDS was prepared in 2003, a number of significant developments in the policy and development context had emerged. It was found that the original premise of a relatively decentralised approach to employment had shifted, and that concentrating employment in nominated centres and employment areas while enhancing access (particularly by public transport) to these areas for residents was now the more relevant focus.

Notwithstanding the comparatively poor transport infrastructure and increased competition from alternative employment lands within Western Sydney, the 2008 review indicated that the target employment generating uses identified in the EDS remained appropriate.

The 2008 review highlighted that progress in developing the Dunheved extension would provide an indication of future prospects for the other employment lands, including the Central Precinct. It further indicated that by the time of the next review there would be some justification for looking at alternative development approaches in the Central employment precinct. The recommendations for the Central Precinct from the 2008 review of the EDS were:

- develop the site with a higher office component, recognising the shifting profile of employment in industrial and business park areas;
- contemplate relocating the Central Precinct Employment zone off-site / consolidation of employment lands from the Central Precinct into the North Dunheved precinct;
- significantly reduce the employment lands area to a service industry area and centre for an expanded residential area.

2 DEVELOPMENT CONTEXT

Overview

This section provides the context for employment development at the St Marys former ADI site. Initially, the policy and strategic framework applying to the site is discussed. Then a series of case studies of recent greenfield residential and employment precincts is provided to identify success factors associated with the development of employment precincts at such sites. 'Blue sky' employment initiatives have been explored with the aim of distilling employment generating ideas for the site.

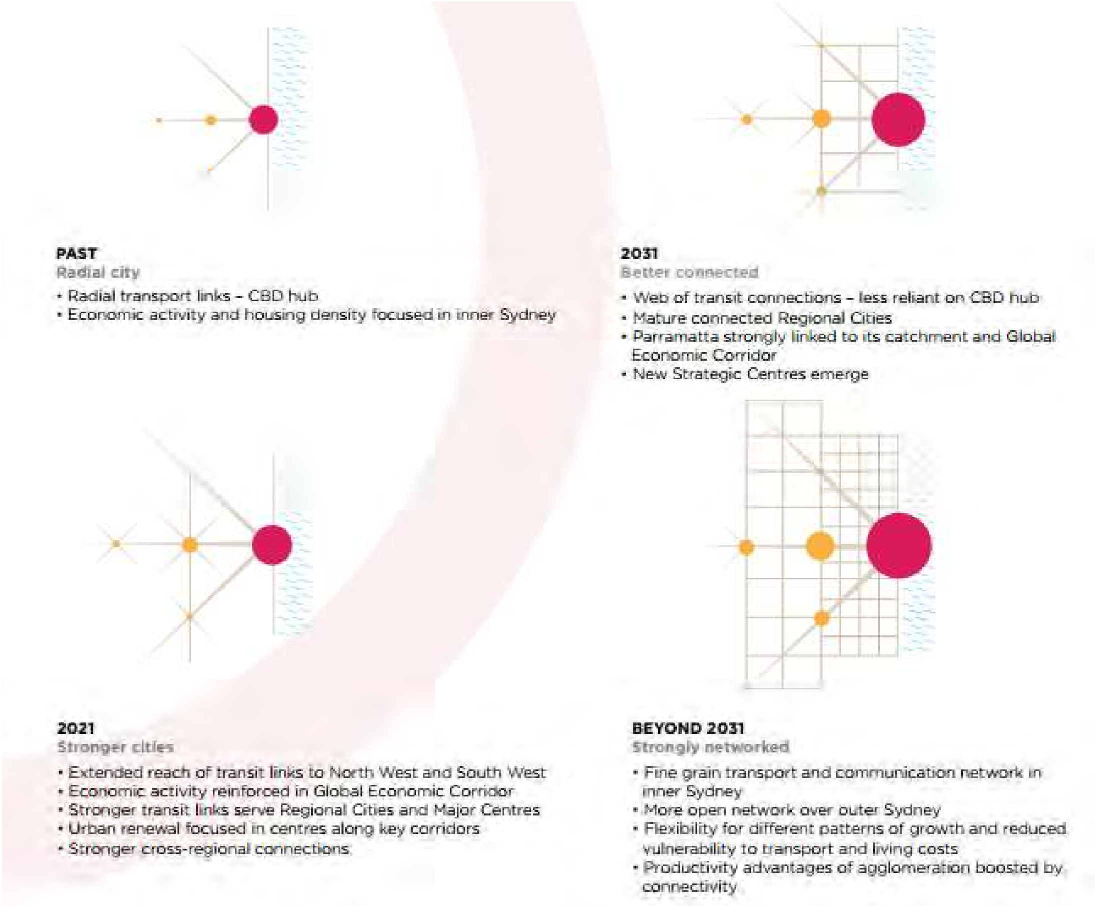
2.1 Policy and strategy framework

Draft Metropolitan Strategy for Sydney to 2031 (2013)

One of the objectives of the draft Strategy is "balanced growth," including the need to "strengthen and grow Sydney's centres...to create places with housing, public spaces and increased job densities that benefit from access to transport". Under the draft Strategy, existing centres will be the focus of new development and renewal, although the draft Strategy also allows for strategic greenfield releases appropriately supported by infrastructure. The strategy of strengthening Sydney's centres through infill development and coordinated infrastructure is reflected in policies to plan for medium to high density housing and business and commercial growth in centres, as well as expanding the commercial core areas of both Global Sydney and Regional Cities such as Penrith. Larger commercial premises will also be encouraged to locate in existing centres. The identification of Urban Activation Precincts, City Shapers and specialised precincts as focal points for future development will also push commercial development into existing centres, rather than suburban or relatively inaccessible locations such as a residential development at the St Marys ADI site.

As seen in, the draft Strategy envisions a networked city, with a reduced focus on the CBD and improved cross-city transport links that will increase the importance and accessibility of regional cities such as Penrith, Liverpool and Parramatta. The draft Strategy makes little mention of decentralising employment opportunities and increasing suburban employment, as suggested for the St Marys site. A suburban employment centre located at the St Marys ADI site may not be compatible with the vision of the draft Strategy, which is driven by the concept of balanced growth and urban consolidation.

FIGURE 2. TOWARDS A NETWORKED CITY



Source: DP&I, Draft Metropolitan Strategy for Sydney to 2031, 2013.

The draft Strategy also outlines the Western Sydney Employment Area, a planned employment precinct up to 10,000 hectares in size located on the intersection of the M7 and M4 motorways near Eastern Creek. This area has been designated as future employment lands, and improvements to the infrastructure and transport connections in the WSEA are currently being investigated by the Department of Planning and Infrastructure.

Draft North West Subregional Strategy (2007)

The draft North West Subregional Strategy (the strategy) prepared by the DP&I in 2007 outlines the vision and long term strategic planning goals for the subregion to 2031. The North West subregion incorporates five councils including Penrith and Blacktown. The strategy is an important component in the planning and implementation of the *Metro Strategy for Sydney: City of Cities* (2006), the *Metropolitan Plan for Sydney 2036* (2010) and the *New South Wales State Plan* (2004).

According to the Subregional Strategy, the North West subregion is expected to experience high population and employment growth over the next three decades, with a targeted 140,000 new dwellings and 130,000 new jobs by 2031. Much of the new development in the region will take place in the North West Growth Centre and Western Sydney Employment Area.

Blacktown and Penrith LGAs are forecast to accommodate more than half of the new jobs, with 45,000 and 28,000 new jobs respectively. The major new source of jobs will be through increase in existing employment areas, opportunities in new and future designated employment lands, and job creation in the existing centres including the major centre of Blacktown and the regional city of Penrith.

Job increases are expected in the following service areas:

- Freight and logistics
- Local industry
- Manufacturing – light
- Manufacturing – heavy
- Utilities/ urban services
- Business/ office parks.

The strategy identifies employment lands precincts in close proximity to St Marys, namely the North Dunheved precinct in Blacktown LGA and the Dunheved / St Marys ADI precinct in Penrith LGA. It indicates that the proximity of these employment lands to each other presents an important opportunity for clustering.

The subregional strategy notes the strategic importance of facilitating clustering and linkages between existing employment lands and new employment areas. The rationale for consolidating the existing parcels of dispersed employment lands to form a larger precinct at the Dunheved precinct is consistent with the strategy. This would mean a larger single precinct of new employment lands contiguous with existing employment lands in Dunheved.

Local Council Plans

Both Penrith and Blacktown Councils have released plans and employment strategies that indicate their attitude towards suburban employment centres and employment lands within the LGA.

Penrith City Council

Employment generation is a major focus for the Council. In the *City Strategy* (2013), Council noted that they have tried to counter low employment self-containment by introducing a policy requiring the developers of new housing areas to generate permanent jobs in a 1:1 ratio to residents of the new development. The Strategy argues that this policy has been very successful.

A major aim of Penrith's current *City Strategy* (2013) is to increase employment opportunities in the area, and the strategy identifies "the dispersed nature of employment centres and the distance of employment centres from public transport" as critical issues for the city. The *City Strategy* aims to:

- Diversify Penrith's employment base, as Penrith residents are over represented in lower and middle skilled occupations
- Drive innovation across the business, education, health, cultural, social and digital sectors to increase skilled employment in the area
- Increase the self-containment ratio of the area (the Council target is to increase the ratio from 63 jobs for every 100 residents in 2006 to 80 jobs for every 100 residents by 2031)
- Plan employment land uses to integrate with the existing and proposed transport network and reduce dependence on long-distance road transport.

To facilitate employment generation, and achieve the aims identified above, Council established and continues to fund the Penrith Business Alliance (PBA) to facilitate increased employment opportunities in the area. The PBA works with other partners including the University of Western Sydney, the Western Sydney Institute of TAFE, the Penrith City and District Business Advisory Centre, the Penrith Valley Chamber of Commerce and the new Penrith and St Marys management corporations.

In 2007 Penrith Council adopted the *Employment Planning Strategy*. The Strategy focused on employment planning principles including facilitating renewal of existing town and neighbourhood centres within an agreed retail hierarchy, and facilitating the creation of well-planned and sustainable new communities including new employment areas in appropriate locations. It also includes the following aim: "Ensure the timely planning and delivery of new employment lands at the Western Sydney Employment Hub, Dunheved and the remainder of the ADI site, North Penrith, WELL Precinct, South Glenmore Park, Penrith Lakes and Waterside" (2007, p.6).

Taken together, these strategies from Penrith Council suggest a strong emphasis on employment generation and self-containment within the LGA, but does not limit these employment lands to existing areas. As well, to the extent that the City Strategy identifies "the dispersed nature of employment centres and the distance of employment centres from public transport" as a critical issue, then employment land in the Central Precinct is not a desirable outcome.

Blacktown City Council

Blacktown City 2030 aims to promote Blacktown and Mount Druitt city centres as commercial and employment centres that are attractive, active and safe. The strengthening of these centres as focal points of the LGA will be supported by improving transport, digital infrastructure and community infrastructure in the centre. This will facilitate the accessibility of these existing employment centres to other areas in the LGA. This strategy would not support an out-of-centre suburban employment development.

Other Local job initiatives

Penrith Council established the Penrith Business Alliance (PBA) to facilitate increased employment opportunities in the area, and PBA has identified a number of employment-generating developments in the area, in an effort to leverage investment:

- Penrith CBD
- Penrith Health and Education Precinct
- Panthers Penrith
- Penrith Lakes Development, which is envisioned as an integrated working and residential community

These are explored in further detail below.

Penrith Health and Education Precinct

Future developments in the Penrith Health and Education Precinct will deliver specialised, higher order employment for the Penrith area. The Precinct has been formally endorsed by the NSW Department of Premier and Cabinet, and is centred on the growing Nepean Hospitals, Hospital Specialist Clinic, the Kingswood Campus of the TAFE NSW, UWS and the University of Sydney's Sydney Medical School Nepean.

The Nepean Hospital campus currently covers 15 hectares with lands suitable for a range of scales of health developments, including acute and sub-acute services, surgery, operating theatres, outpatient facilities, medical specialist suites and research. Similarly, the TAFE located in the area is seeking to increase its current capacity at Nepean College to create specialised facilities for nursing training and medical training in new areas, including dental and optical dispensing, audiometry and sterilisation.

Planned developments in the area include the Mental Health Centre at Nepean Hospital, part of a $137 million federal and state investment in healthcare in the Nepean Blue Mountains Local Health District and the Nepean Telehealth Technology Centre, and a University of Sydney-led initiative that aims to provide digital support for health services. A $40 million Nepean Medical Research Institute Building has also been planned, which will create space for more than 250 researchers.

Riverlink Precinct/Penrith Panthers

Led by the Panthers Group, the Riverlink Precinct development aims to deliver a mixed use precinct in Penrith that will generate 5000 jobs during staged development over the next ten years, with 2100 post-construction. The development will offer a mix of:

- Entertainment, including a vertical wind tunnel, cinemas, bowling, restaurants, events, serviced apartments, a hotel and the Panthers Club
- Sports, including a rugby league academy, sporting fields, an indoor sports hall, walking and cycling tracks and open space
- Retail, including 12,500 square metres of general retail and 25,000 square metres of outlet shops
- Campus style office park of 25,000 square metres
- Residential, including 500 residential units
- Aged care, including 250 seniors living units and 80 aged care beds.

Rezoning for the project has been approved by Council and gazetted by the DP&I, and the end value of the project is expected to be $850 million.

The development has already attracted a high profile tenant. In February 2013, James Packer proposed a $10 million training facility in the Panthers development, where staff for his $2 billion Crown Sydney Hotel Resort at Barangaroo will be trained. The training centre will create 1250 jobs, and under the terms of the memorandum of understanding, the training centre will create pathways for students to complete traineeships and apprenticeships with Crown.

Werrington Park Corporate Centre

Werrington Park Corporate Centre is currently under construction, and will be completed by early 2015. The nearly $30 million business park/innovation campus aims to provide cost-effective workspaces for established and emerging businesses and will be delivered by a consortium of the University of Western Sydney (UWS), Penrith Business Alliance and Penrith Council. The project aims to deliver 5 Green Star workspace for up to 400 workers, with a net lettable area of 5500 square metres and potential to expand.

Werrington Park Corporate Centre aims to accommodate a broad range of businesses, from leading firms to SMEs, with an emphasis on the following areas of local expertise:

- Healthcare: biomedical, eHealth and allied health services
- Intelligent civil engineering infrastructure – ICT design, integration and management services
- Communication, the arts and digital media – software, gaming, media, entertainment, design and arts management.

FIGURE 3. WERRINGTON PARK CORPORATE CENTRE

Source: UWS, 2013.

This initial stage of development is seen as the first step in creating a full-scale business park/campus that supports the wider Penrith Health and Education precinct, with 8000 additional jobs over the next 20 to 30 years.

Werrington Park is co-funded by the federal government's Suburban Jobs Program, which aims to support employment opportunities in suburban areas of major Australian capital cities that are experiencing high rates of growth as well as other pressures. These pressures could include low levels of employment self-containment, long travel times and a labour force dominated by jobs in industries with low growth prospects.

Penrith CBD

The Penrith Progression (a project of the Penrith Business Alliance in partnership with Penrith City Council) aims to attract development and employment to the Penrith CBD in the short term. The project will include commercially realistic urban renewal projects with public and private funding. The project aims to generate 10,000 additional jobs and 4500 additional dwellings in the Penrith CBD.

Summary

Neither state nor local policy appear to support out-of-centre suburban employment lands outside of a business park setting. The draft Metropolitan Strategy reinforces the role of existing centres as the focus of new development and renewal, while also emphasising strategic greenfield releases appropriately supported by infrastructure such as the planned WSEA.

Major policies for the St Marys area focus on renewing the local Penrith and Blacktown city centres. Infrastructure is planned at both state and local level to increase the accessibility of these areas and strengthen their role as centres.

Outside of these centres, employment generation is being sought through a number of strategic initiatives including the Penrith Progression and Werrington Park Corporate Centre.

2.2 Case study analysis

In order to uncover current industry best practice and any innovative approaches, recent greenfield residential developments and associated employment generation have been reviewed using both Australian and overseas examples. Greater Springfield and North Lakes in Queensland were examined, Ørestad in Denmark and Zuidas in Netherlands were chosen as Northern European examples. The European examples were chosen as they were qualitatively different to the Australian case studies. Not only is the urban context different – being based in denser cities, but also these developments were employment-led, rather than residential-led developments as in the Australian examples.

A review of "blue sky" employment generating initiatives such as incubators and pop-up shops (i.e. Renew Newcastle) was also undertaken.

Greater Springfield, QLD

At 2860 hectares, Greater Springfield is the largest master planned city and community development project in Australia. Since inception in 1992, 13% ($3.2 billion) of the total land area has been developed by the Springfield Land Corporation with support from the Queensland Government and Ipswich City Council. Greater Springfield is already home to 23,000 residents and developed is planned to deliver a population of 105,000 residents by 2030, in line with South East Queensland's Regional Plan objectives. The estimated cost of the development, upon completion, is $23 billion.

The Greater Springfield CBD is the core of the development, and the area is approved for over 1.4 million square metres of mixed use space. The Springfield CBD occupies 390 hectares, includes a university campus, health and wellness precinct, technology park and large scale shopping centre that will provide an employment base for 30,000 workers (a jobs to resident ratio of around 0.3:1). Springfield Central has already attracted investment from Lend Lease, Mirvac, Citec, Australand, University of Southern Queensland, Dalkai Energy Services, Cardno, Mater Health Services and The Bremer Institute of TAFE.

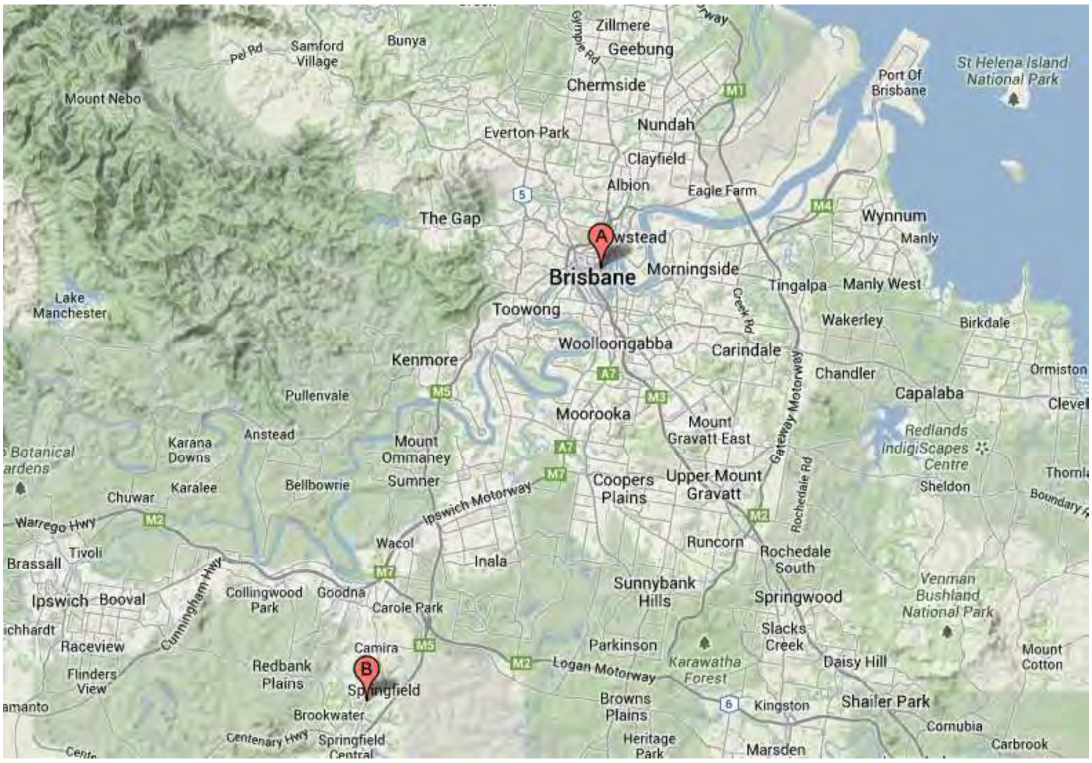
The Springfield Technology Park is located in close proximity to Education City, the lifelong learning precinct, offering schooling, training and childcare services. The Park only began development in 2011 and currently has 13,000 square metres of occupied space. Stage one of the development accounted for 24,000 square metres. There is approval for up to 232,000 square metres of development within the park.

Some other key points about the Education City and Springfield Technology Park are:

- The first tenants were Dalkai Energy Services (energy services branch Veolia Environment and EDF Electricite de France), and Queensland Ambulance Services
- There are no advertised business support services or incubator floorspace in Springfield as a part of the Education City or Springfield Technology Park

While the university and TAFE are co-located and the Springfield Technology Park is nearby, there does not appear to be any deliberate cultivation of an integrated working relationship between these facilities and there is no evidence of any research links or cross-fertilisation of ideas between them. There are no obvious synergies at play between the university and business park at the moment.

FIGURE 4. SPRINGFIELD AND BRISBANE



Source: Google Maps, 2013.

FIGURE 5. PRECINCTS OF GREATER SPRINGFIELD

Source: Google Earth, 2013.

The target ratio of residents to employment opportunities was one job for every three residents (0.3:1). However, the development is close to Brisbane and has access to 83% of Brisbane's metropolitan workforce within a 32 minute drive (Urbis Springfield Population and Employment Estimates, September 2010). The Parkside business precinct has provision for over 252,300 square metres of commercial office, hotel and other commercial uses, including a premium-grade 10 storey office tower at 154 Sinnathamby Boulevard and 10 storey Springfield Tower, with 9,300 square metres GLA.

The development is located 29 kilometres from the Brisbane CBD, but there has been a commitment by the Queensland government to both deliver two new train stations (Springfield Central and Springfield) and to upgrade the main highway in the area. The Springfield rail line opened on Monday 2 December 2013, and the road component will be completed early 2014. In a presentation to the Planning Institute of Australia, the Springfield Land Corporation claimed that Greater Springfield is "currently positioned and performing as Australia's fastest growing master planned city and community development project (3.3 families a day moving to Greater Springfield)" (Springfield Land Corporation, PIA Presentation).

Consultation with the commercial division of the Springfield Land Corporation revealed that between 2001 and 2012, 6802 direct jobs have been created on site. Springfield contributed 45 per cent to total jobs growth in the Ipswich LGA over the past decade, and the greatest share of the employment is in the areas of retail trade (34%) and construction. There have been 6516 dwellings built in Springfield since 2013, and the current population is approximately 26,000. This represents 15% of the total development required to complete Springfield.

The area's commercial activities are underpinned by a number of supporting factors (Springfield Land Corporation, 2010):

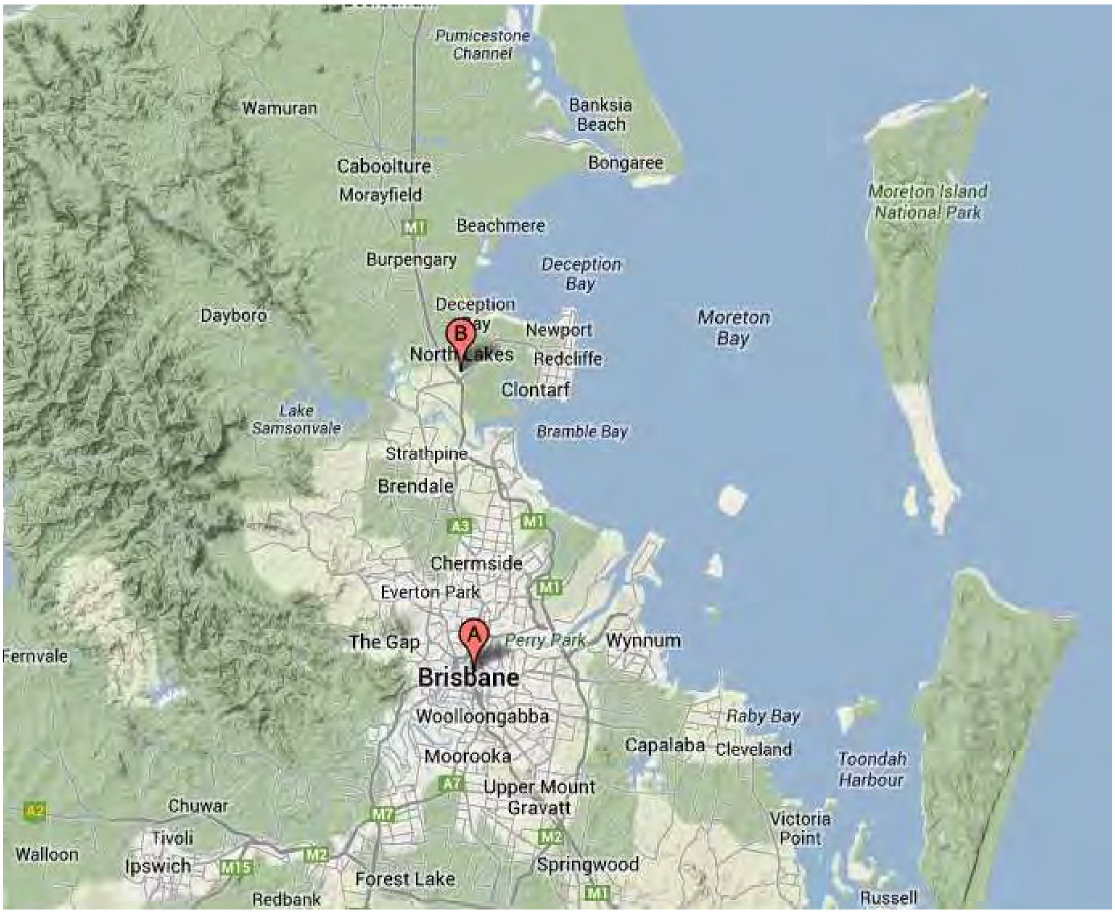
- Access to high bandwidth services (using dark fibre optic network connectivity) and the development of the Tier 3+ Polaris Data Centre, which offers high-availability, high-security data storage and co-location hosting services
- 30 – 40% lower occupation costs than the Brisbane CBD and fringe areas. Occupancy cost is defined as any cost or charge incurred by a tenant relating to its lease, including rent, parking charges, moving expenses and remodelling costs.
- Current tenants include construction, engineering and property development businesses (Lend Lease, Mirvac, Thiess, LandPartners, Australand, Cardno), information and technology businesses (NEC, Strategic Directions), energy services (Dalkai, New Hope Coal) and finance services (Suncorp)
- Opportunity for large floor plate office buildings 2500 – 8000 square metres, and the choice of immediate occupancy space or a purpose built office building
- Location in a high growth corridor
- When the upgrade of Centenary Highway is complete, Springfield will have excellent access to motorways and highways connecting the area to Brisbane.
- Opportunity to achieve 4 to 6-star Green Star ratings
- Access to qualified workforce of over 706,000 people within a 32 minute drive of the Greater Springfield CBD.

North Lakes, QLD

North Lakes is a master planned community located in South East Queensland (see Figure 6 for location). The original developer, Lend Lease & Lensworth Group, aimed to develop the area as residential with a regional centre and employment area. Covering more than 1000 hectares, the development is a mixed-use site, including 7400 home sites, a retirement village and an independently owned town centre.

Figure 7 highlights the different precincts and uses of the master planned community. The area, once completed, will be home to over 24,000 people. The North Lakes community currently has just over 7000 residents.

FIGURE 6. BRISBANE CBD AND NORTH LAKES



Source: Google Maps, 2013.

FIGURE 7. NORTH LAKES PRECINCT MAP

Source: Stockland.com.au, 2012.

Approximately 300 hectares of the site has been dedicated to employment generating business uses, including an 85 hectare business park. Construction on the business park began in 2007 and upon completion is estimated to provide 5000 new jobs in Brisbane's Northern growth corridor. Currently, there are over 6500 people employed at North Lakes, with many in the trade, management and retail sectors. The most significant employers in the Moreton Bay region will be Moreton Bay Rail Link (8000 jobs), Costco (410 jobs), Bunnings North Lakes (160 jobs, opened its doors in October 2013), Bunnings Brendale (420 jobs) and Super Retail Group's Distribution Centre at Brendale and ultimately 13,500 people will be employed in the master planned estate (0.56:1 jobs to resident ratio).

Current tenants in North Lakes Business Park include:

- Bulky goods retail (Snowdonia air conditioning installation, Reece, Depot Storage, Tradelink bathroom goods)
- Automobile and transport services (Goodyear, Bridgestone, UltraTune, Hornibrook Bus Lines depot)
- Recreation activities (Monkey Business Indoor Playgrounds, Sk8Mania, Aquatic Achievers Swim School)
- Supermarkets and shopping centres – (Cornetts IGA, Westfield North Lakes).

The current employment self-containment rate of the Moreton Bay region is 43.1% (Moreton Bay Regional Council, Economic Development Strategy Report, p.10). The strategy aims to increase the employment self-containment rate of the region to 70% by 2031. It is the intention of planners that the Northlakes and the Deception Bay-Burpengary areas will 'buoy' growth in the Moreton Bay region, with young populations, good transport to Brisbane and nearby commercial lands for residents.

A regional shopping centre (Westfield North Lakes) and office centre were integral parts of the original development plan. There were initially concerns about the viability of a business park, which forced the local council (Pines River Council, now Moreton Bay Council) to consider whether it was looking for a dormitory area with a high quality of life, or a self-contained development with employment opportunities (Minnery & Bajracharya 1999, p.6).

The *SEQ Regional Plan 2009 – 2031* notes the need for office-based businesses, government and community services and manufacturing and logistics employment in areas outside the Brisbane CBD, particularly in high-growth areas such as the Moreton Bay LGA (p.111). North Lakes is located close to the Bruce Highway and Anzac Avenue interchange, and is 30 minutes north of Brisbane's CBD and 20 minutes from the airport. Moreton Bay Council's Economic Development Strategy notes that North Lakes has emerged as a thriving residential centre with a youthful population, "good transport linkages to Brisbane and development of nearby commercial lands opening opportunities for local residents." The area hosts a playgroup, six childcare centres, state and private schools catering for both primary and secondary students. The area is already served by a bus service, and the Mango Hill train station nearby is under construction as part of the new Moreton Bay Rail Link.

Ørestad, Copenhagen, Denmark

Ørestad was conceived in the early 1990s as the link between Copenhagen in Denmark and the city of Malmo in Sweden, and takes its name from the Øresund, the strait that separates the two cities. Ørestad is a master-planned suburb with an employment emphasis located in a greenfield area between the history city centre of Copenhagen and Copenhagen Airport. It is an example of transit-oriented development, and is built around the metro. The area is 10 minutes from the Copenhagen CBD by metro, and 29 minutes by rail to Malmo. The linear development is oriented around the metro, and the sale of land at Ørestad was used to finance the transport infrastructure. The Copenhagen City and Port Authority, a foundation owned jointly by the City of Copenhagen and the Danish government, is responsible for the development, and the masterplan for the development was created by ARRKI, a Danish-Finnish architecture firm, the winners of an international design competition.

Ørestad was built with sustainability at its core. The metro, good bicycle lanes and deliberately low and expensive car parking provision is designed to minimise car dependence (Knowles, 2012). However, the cost and shortage of car parking has deterred some companies, including Topdanmark property, from investing in Ørestad (ibid.).

The massive investment in transport infrastructure to connect Ørestad to Copenhagen and Malmo has increased its accessibility and catchment, attracting 19,380 commuters a day into Greater Copenhagen from the Malmo area, 55 per cent of them by train (Knowles 2012). Ørestad has also relieved pressure on Copenhagen's traditional CBD by relocating major and expanding land uses such as the Danish Broadcasting Corporation (DR), campuses of University of Copenhagen and IT University and businesses such as Ferring, Ramboll, Kobenhavens Energi and Arkitema. Ørestad's new residential districts are located in pleasant natural environments and are much closer to the CBD than other outer suburbs (Knowles 2012).

FIGURE 8. ØRESTAD, COPENHAGEN

Source: Brink Serviced Offices, 2013. Source: Orestad.dk, 2013.

The Ørestad district is five kilometres long and 600 metres wide, and divided into four quarters, developed in stages, as seen in:

- Ørestad Nord – Ørestad North, the first precinct to be developed and occupied includes two universities, student housing and DR, the national Danish broadcaster. The presence of large institutions has changed the town into an international research and development centre for culture, media and communication technologies (Ørestad.dk, 2009).
- Amager Fælled Kvarteret – Amager Common, the location of Amager Hospital, residential areas and the day care centre.
- Ørestad City – this area contains the Field's shopping centre, Bella Centre hotel and convention centre and the bulk of office buildings in the development, including Nordea Bank offices
- Ørestad Syd – Ørestad South, the final stage of the development, including residential and recreational development. In 2012, a third of Ørestad South's development had been completed, with Ramboll Engineering, Telia communications, a Crowne Plaza hotel, Metro depot and over 1000 dwellings were completed. When completed, will be the most populated district of the area, with 10,000 residents and 15,000 workers.

FIGURE 9. EXTENT OF DEVELOPMENT IN ØRESTAD

Source: Lasse Lauridsen, 2012.

FIGURE 10. MAP OF ØRESTAD PRECINCTS IN CONTEXT OF COPENHAGEN

Source: Ørestad.dk, 2013.

The area was planned with a mix of uses:

- 1.8 million square metres of office space
- 400,000 square metres of housing
- 400,000 square metres of public facilities, including a music hall, university and school.

The site is narrow and long, covering a total of 310 hectares. The area was a former environmental reserve and had no pre-existing buildings. The first building was completed in 2001, and in approximately 15 to 20 years, the area is expected to have approximately 20,000 residents and 60,000 to 80,000 workers employed in the area. Ørestad is well-linked to the rest of Copenhagen by roads, canals, bicycle paths and six metro stations.

7,000 people currently live in Ørestad and 10,000 people are employed in businesses in the area, which tends to cater to the headquarters of multinational companies, including DELL, Ferring Pharmaceuticals, Medicon Valley Academy, Medtronic, Master Foods, Nikon, Accenture and Biogen. It is also the location of DR, the Danish Broadcasting Corporation, and two university campuses – the University of Copenhagen, Amager and the IT University of Copenhagen. The area is also home to Fields, Scandinavia's largest shopping mall, which already employs 3000 people.

Businesses are attracted to the Ørestad region for a number of reasons:

- Excellent infrastructure - including the metro, regional railway station, bicycle lanes and roads.
- Architectural quality – Ørestad is now a major architectural tourist attraction, with developments by 'starchitects' including Jean Nouvel, Henning Larsen and BIG
- Access to nature
- Access to both the Copenhagen airport and Malmo in Sweden

However, there have also been a number of barriers to development at the site (Knowles, 2013), including:

- Initial low demand from the private office market, who preferred waterfront sites in Copenhagen's traditional centre
- Lack of street life, local shops and amenities, reinforced by the controversial decision to build Field's, a huge American-style out of town indoor shopping centre
- High cost and shortage of car parking, in line with the area's sustainability goals.

Knowles (2012) notes that Ørestad's development is ahead of schedule for its 2025 completion date. By 2010, 59 per cent of Ørestad's development has been completed or was under construction. However, by mid-2010, Ørestad was well behind its jobs target, partly because of the GFC and competition from development sites on Copenhagen's regenerated waterfront and in Malmo. By 2010, only 12,000 jobs had been secured in Ørestad, but in contrast, Ørestad has fulfilled its target of education places in universities and schools. Meeting the employment targets of the development is heavily reliant on securing private sector investment to build the remainder of the suburb (Knowles 2012).

Zuidas Amsterdam

Zuidas ("South Axis") is one of the biggest and most complex urban projects in the Netherlands, aiming to transform an area around Amsterdam's southern road and rail corridor into a high-density, mixed use area with an equal proportion of offices, apartments and amenities. The location and development vision for Zuidas is shown in Figures 11 and 12. A master plan for the development, located between the international Schipol Airport and the Amsterdam city centre, was adopted in 1998, and is updated every few years in a Zuidas Vision Document. The completion date for the development is 2040.

FIGURE 11. ZUIDAS, AMSTERDAM

Source: Switchimage.org, 2009.

FIGURE 12. LOCATION OF ZUIDAS AND AMSTERDAM

Source: Google maps, 2013.

The development covers an area of approximately 270 hectares and is situated on the southern stretch of Amsterdam's A10 orbital motorway, and is well integrated with the city's existing public transport and bicycle networks. A new metro station is planned for the area.

Zuidas comprises 801,000 square metres of office space in 55 office buildings and is currently home to over 700 companies (as of September 2013), including Google, AkzoNovel, ING, Ernst & Young, Deloitte, Fonterra, Vimpelcom and ABN AMRO, with an average annual take up rate of 43,500 square metres of office space between 2007 and 2012. Zuidas is enjoying a tight office market, with continuing demand and steadily declining vacancies. Its vacancy rate was recently recorded as 7.4 % (CBRE, 2013). Although this is consistent with other prime office markets in Amsterdam, the Netherlands as a whole is comparatively pictured as a "vacancy ridden market with a high tenant mobility" (CBRE, 2013, p.14).The district's main focus is in the financial, legal and business services sector and over 70% are internationally oriented. The close proximity to the airport is a competitive advantage of Zuidas.

There are several factors that attract businesses to the area:

- The area was initially an extension of the traditional prime office districts of Amsterdam, and companies looking for larger floor plates and modern office space were able to move to Zuidas
- Concentration of financial and business services in Zuidas, companies which once occupied space in the traditional centre of Amsterdam. The initial presence of these sectors later attracted related enterprises to Zuidas as well as the Dutch branches of international financial and business services
- As it grows, Zuidas increasingly offers accessibility, leisure opportunities and a lively atmosphere as more population-driven businesses, such as cafes and restaurants, are drawn to the area

Only 600 apartments of a total 9,000 have been completed to-date. It is expected that 2000 further apartments will be built by 2020.

The increased number of residents has led to the recent establishment of both international and Dutch schools, cafes and restaurants, sports, exhibition and conference centres, hotels, convenience stores and gift shops, which seem to be mainly underpinned by the presence of offices and hotels in the Zuidas area, rather than external visitors. A new synagogue was opened in 2010, and dermatology, physiotherapy, dentistry and spa facilities have also recently been established in the area. It is important to note that there was initially a disconnect between the establishment of Zuidas as a commercial district with a small number of residential units and the growth of population-driven industries, such as childcare facilities. However, as more high profile companies were attracted to the area, Zuidas' retail sector grew.

Blue sky initiatives

In addition to the case study analysis, a review of "blue sky" employment generating initiatives including incubators and pop-up shops (i.e. Renew Newcastle) was also undertaken to determine whether any lessons could be gleaned and applied to employment generation at the St Marys ADI site.

Pop-up shops

Pop-up shops are temporary or part-time uses of existing vacant premises, usually in older main streets that are characterised by a lack of capital investment and run-down buildings that have experienced a decline in trade due to a shift in the retail landscape. They are usually occupied by start-up businesses that are attracted to the lower rents and short-term leases. Recent examples of successful pop-up shops have occurred as a part of the Renew Newcastle and Activate Oxford Street initiatives. Renew Newcastle is based in the Hunter Street mall area of Newcastle CBD, concentrated in the old David Jones building. The pop-up stores include creative, hand-made and unique fashion, furniture and artwork. Activate Oxford Street is a project sponsored by Woollahra Council and Paddington Business Partnership to improve the vitality and viability of a run-down section of Oxford Street in Paddington. So far the project has been successful with a recorded doubling of visitors to the area and a drop in the number of vacancies being reduced from a peak of 34 to 14.

Pop-up shops are also increasingly being used by larger brands such as HMV, eBay and European department store Liberty. Pop-up shops are attractive to larger retailers as they provide "high profile leverage to a brand" and a low-risk opportunity to test new products without long-term commitment, as well as explore new domestic and international markets (Thompson, 2012).

Pop-up shops are also attractive to landlords in rundown high streets. Temporary tenants provide short term rental income, but occupied shops are also less likely to become a target for antisocial behaviour and more likely to contribute to the overall atmosphere of the high street (Thompson, 2012).

It is unclear how much new employment pop-up shops generate, given that they are typically run by those that would have worked from home or elsewhere. And while they can be an innovative and successful way to revitalise stagnant main streets, they are not applicable for financially sustainable employment generation at St Marys Development site due to the establishment of new retail precincts.

Business Incubators

Business incubators are a way to provide cheap and often subsidised office space to fledgling businesses. As the name implies, they focus on providing a relatively cheap space for these businesses while they are establishing and can sometimes provide limited leases; after which tenants are encouraged to move on once they are self-sufficient. They are buildings that house several new businesses under one roof and are generally found in university campuses as well as existing employment centres.

They attract new businesses and start-ups, some of which are home-based businesses that have outgrown their existing premises. Their major attraction is lower rents associated with economies of scale. For example, business incubators typically have furnished office space, such as desks, chairs, and business support services such as shared receptionists, shared facilities such as meeting and conference rooms, common areas, shared office equipment such as printers and scanners, kitchen and meal room, high speed internet and telephone access. They often have business training programs and initiatives and encourage networking.

Examples of successful business incubator spaces include one at University of Newcastle's Ourimbah Campus on the Central Coast, an incubator focussed on computer science activities at the University of New South Wales, and an incubator space at Australian Technology Park, just south of the Sydney CBD, offering office and laboratory space.

There were no recorded instances of business incubators based in a residential estate. Given that they often serve businesses that have graduated from home offices or garages, it may be that an important attractive feature of incubators is their location in an existing commercial area with amenity, exposure to a greater number of potential customers / clients, suppliers and business networks.

Given the qualitative differences of a residential estate (lack of exposure, lack of interaction with specialist industries or knowledge present at universities, etc.), an incubator space at the St Marys Developmentsite would have to take a different form than the traditional business incubator. Instead, low cost shared office space, without the expense of shared receptionists or facilities, may attract some interest from existing home based businesses in the area. Working from home can be isolating and a shared work space could provide opportunities for interaction between workers of different industries. A potential candidate for a business incubator / low-cost office space worth investigating would be the old Thales office building located in Ropes Crossing; if this building would otherwise remain unused.

Key messages

There is a lag between residential development and population-driven employment development.

Some industrial developments can be supported by residential development alone. For example, the highest proportion of jobs created thus far in Springfield are in the retail and construction sectors, both of which are population-serving industries.

Many industrial uses rely on servicing surrounding businesses to underpin the viability of their operations and the larger, employment generating industries in the case studies are underpinned by regional, rather than local demand for uses. For example, bulky goods retailing in North Lakes is supported by the broader population of Brisbane's outer suburbs.

Apart from smaller convenience retail centres, employment areas are typically serviced by a regional or sub-regional labour force. Hence, it is reasonable to expect larger and more isolated developments (i.e. new towns) to have a relatively high self-containment rate, but smaller and integrated developments (i.e. new suburbs) to have a lower self-containment rate.

In his discussion of new towns in Britain, Cervero notes that the third generation of new towns, exemplified by Milton Keynes, which now has a population of over 200,000, have ultimately been the most self-contained, due to their large size and relative isolation (1999, p.1152). However, even larger recent developments in Australia (Greater Springfield will have a population of 105,000) have not attempted to implement a 1:1 ratio of residents to jobs, instead choosing to strengthen public transport and road links between the master planned development and existing centres to give residents access to a broader regional job market.

The developers of Ørestad have taken a slightly different approach. Ørestad will ultimately have a greater number of jobs than residents, but the development is well-connected to both Malmo and Copenhagen city centres, where the majority of workers will live, and therefore, the commercial and industrial space in the area services regional, rather than local demand. Again, the focus for employment land here is from a regional perspective.

Larger scale and isolated developments, such as new towns away from the urban fringe, should have a high self-containment rate, but smaller residential developments that are nearby to existing employment areas do not require a high self-containment rate if they are well connected to regional centres via sustainable transport means. This point is reinforced by Wardner (2011), who found in her survey of people involved in master planned communities with employment lands in SEQ, that few staff working in the master planned communities (MPC's) employment areas lived in the adjoining residential area. This may be because people tend to have a different set of preferences that determine their work and living locations.

Successful master planned employment and residential developments have access to excellent transport infrastructure, including arterial roads, airports and public transport, and reliable high speed broadband access

As smaller developments located close to regional centres are less likely to be self-contained than larger, more isolated developments, it is important for smaller master planned developments to be located close to excellent transport infrastructure and to be supported by adequate ICT, in order to attract employment.

Wardner (2011) lists a number of factors that contribute to the success of employment centres in MPCs, including:

- Provision of infrastructure services, which requires State government support
- Recognition that the creation of an MPC employment centre is two distinct projects, an urban development project and an economic development project. While developers can usually successfully deliver an urban development project, 'the MPC employment centre needs greater involvement from all levels of government to assist in the promotion of the region and other services to be able to attract investment capital to the region' (2011, p.7)
- Planning certainty involved with the recognition of MPCs as key activity centres in regional strategies and policies.
- Larger firms, such as Lend Lease, locating in the area can act as a catalyst for smaller firms to join the area, as it can 'signal to other investors that the area was a "safe" and worthwhile investment'. The presence of major public institutions, such as universities and hospitals is also desirable and underwrites 'the level of risk in a pioneering area' (Wardner 2011, p.8)
- Support from local governments is required to promote the area as an attractive business location

3 EMPLOYMENT MARKET ASSESSMENT

Overview

This section assesses the Western Sydney employment lands market and the competitive position of the St Marys ADI site as an industrial area. The employment implications of the provision of the Links Road in Dunheved and of a potential change in zoning at Central Precinct are examined.

3.1 Economic trends

General industrial trends

Traditional industrial jobs in Australia are in decline due to globalisation, technological development and increasing mechanisation. Manufacturing and supply chain processes are being offshored to cheaper locations such as China and Indonesia, while those that remain onshore tend to be increasingly advanced. The shift towards online retailing has resulted in a decline in demand for factory space relative to freight and logistics.

These worldwide trends have impacted the industrial land market in Sydney. In order to meet modern industrial needs, investors seek large parcels of land on which to develop their own specialised facilities and consolidate their operations. At the same time, demand for smaller sites in highly accessible locations for satellite distribution has increased. Ideally, these land parcels will be close to transport and a skilled local workforce, and to other companies with which they can create productive synergies.

Across Sydney, several business parks have been developed over the last 10 to 20 years. Successful examples in Sydney are Norwest and Macquarie Park. The success of a business park location is reliant on numerous factors including a high quality external and internal environment, motorway and multi-modal access and services, proximity to skills and supply chains, high quality digital connectivity and a variety of onsite support services and facilities.

Many technology parks also offer co-location or proximity to university activities. However, a range of different business park forms are evolving. A successful peri-metropolitan example is the Wollongong Innovation Campus, which is being developed by the university with seed funding provided by state government. A range of factors have contributed to the success of Norwest as a prime business location.

These can be summarised as:

- Single ownership structure, allowing for targeted and restricted access for operators and industries that were allowed to locate on the site
- Location and labour force skills – offers access to a large, appropriately skilled labour force
- Access – the park is strategically located close to a network of major arterial roads, providing access to the greater metropolitan region of Sydney and the Sydney CBD
- Relatively low property prices – the result of low levels of speculative purchases due to a high proportion of owner-occupiers, as well as commercial only zoning

State trends

In absolute terms, NSW has been experiencing economic growth. The Gross State Product (GSP) grew by 2.4% in the year from June 2011 – 12. Unemployment is the fourth lowest of the states and territories (Haylen, 2013), in a context where Australia as a whole is performing significantly better than most other developed economies. Exports have largely recovered from the drop caused by the global financial crisis (NSW Trade and Investment, 2013).

However, on other indicators NSW is being outperformed by other states. Queensland and WA experienced 4% and 6.7% GSP growth respectively over the same period, largely off the back of income from the mining boom. These states also had higher levels of private business investment than NSW, which ranked third out of Australian states and territories. Weekly earnings in NSW lagged behind these states as well as the ACT and the Northern Territory (Haylen, 2013).

A NAB survey of the industrial property market indicates mostly optimistic sentiments among NSW investors and property professionals. NSW respondents were the most optimistic out of all states and territories about market conditions. They also had the highest gross rental expectations, although they also expect to be overtaken by Queensland and WA within the next two years. However, not all signs are positive. The industrial vacancy rate in NSW was the highest of all states in the third quarter of 2013. Investors believe the market is currently approaching oversupply compared to WA and Queensland (National Australia Bank, 2013).

3.2 Western Sydney employment lands market

Recent market trends

The market demand for industrial space in Sydney has been mixed. Overall, real estate reports have indicated that demand for prime industrial assets was strong in the year to September 2012, driven by both domestic and international investors. This was reflected in rental prices, which grew by more than 4% in the second half of that year. Secondary industrial assets experienced much lower levels of demand[1]. The total value (primary and secondary) of industrial property transactions fell by 6.7% in 2012 in nominal terms compared to the previous year, while the median sale price fell from $1.05 million to $868,000 (Propell, April 2013). This is a significant decline, though given that the sample size (number of sales) was not described it is difficult to ascertain whether this is a broader sector trend or simply a blip in the data. The nominal decline in the value of property transactions and median price does not account for inflationary growth. Notwithstanding uncertainties about the accuracy of the data, the real fall (accounting for inflation) would be even greater.

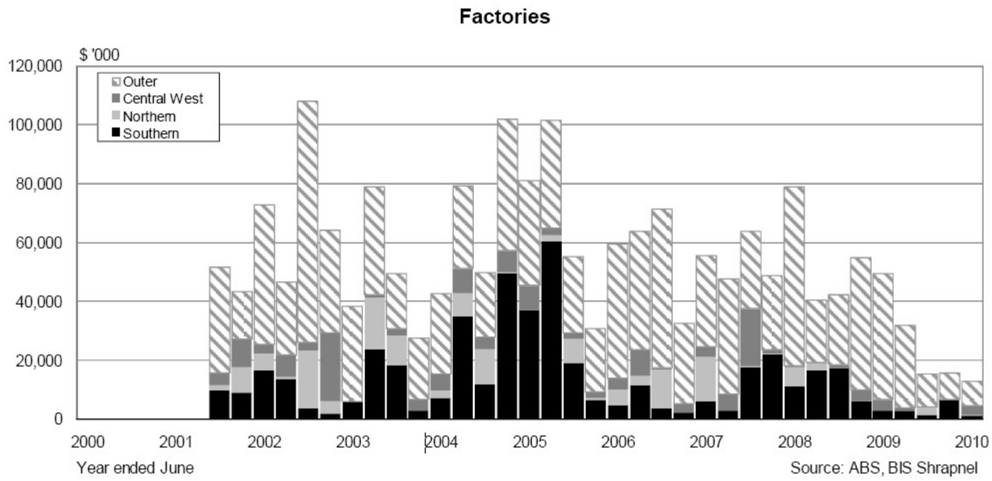
These citywide trends were evident in Western Sydney. While rental prices for prime properties increased by 4%, rents for secondary properties remained static, and the total number of sales transactions fell by 20% (Propell National Valuers, 2013). In percentage terms, though, secondary properties delivered a higher rate of return. For example, in North Western Sydney, the sub region closest to our study area, investors in prime industrial land could expect an average market yield from 8-8.5% in the third quarter of 2013 while secondary properties had average yields of 9-10% (Savills Research, 2013).

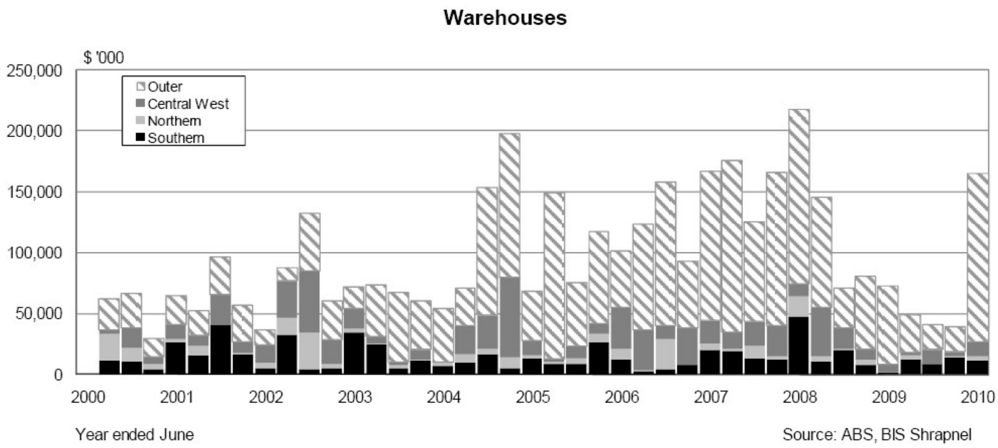
In strategic terms, many industrial tenants are seeking to concentrate their activities in places well serviced by existing infrastructure in order to take advantage of supply chain and other efficiencies. This has resulted in the concentration of demand in sub-regions including the Outer South West, particularly on sites where tenants may design and construct their own premises rather than adapting to a pre-existing building. Large sites with access to transport, particularly along the major motorways of the M4, the M5 and the M7, are especially in demand by major retailers (m3 Property Strategists, 2013).

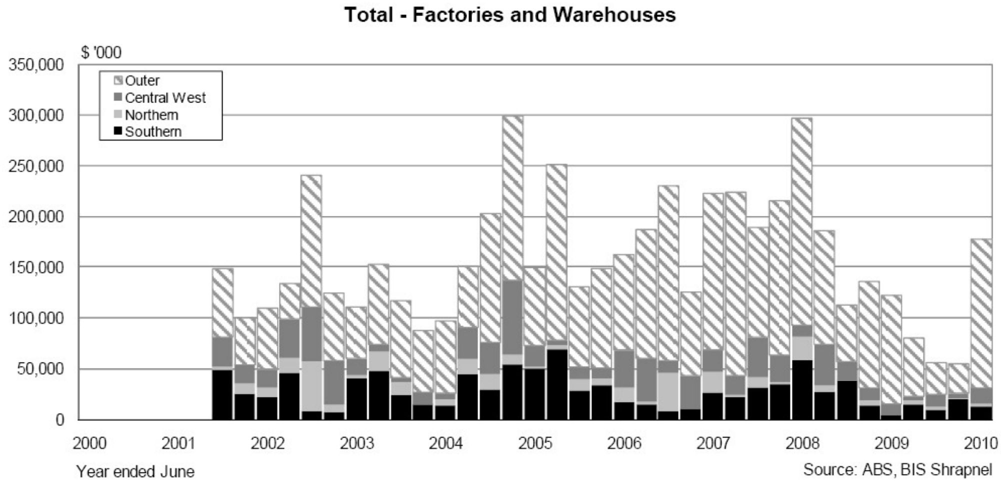
[1] Typically, prime assets are defined as high quality properties in a desirable location, while secondary assets are those which fall short in one or more respects that prevent them from being classed as prime.

The industrial land market in Sydney is now dominated by warehousing rather than manufacturing. In 2012, the vast majority of planned new industrial floorspace was for warehouses, with the Central West sub-region experiencing the largest increase (Herron Todd White, 2012). Demand for warehouse floorspace is supported by the increasing popularity of online retailing. Figure 13 below shows the ten year trend in warehouse and factory approvals in the Outer, Central West, Northern and Southern Sydney industrial regions, with the study area falling into the Outer region. A sharp upswing in warehouse approvals can be seen in the most recent quarter, along with a small downturn in factory approvals. Longer term trends also seem to indicate an increase in warehouse approvals over time, with a temporary downturn in 2009 (BIS Shrapnel, 2010) coinciding with the GFC.

FIGURE 13. WAREHOUSE AND FACTORY APPROVALS, SYDNEY INDUSTRIAL REGIONS







Source: BIS Shrapnel, 2010

Demand in the Sydney suburban office market is strong overall but significantly weaker in Western Sydney than in other areas. In 2012, the vacancy rate was 9% in Western Sydney and 13.3% in North Western Sydney, compared to the average of 7.9% across all regions. New office space is predominantly concentrated in the South and the Inner West sub regions, which together accounted for 78% of gross supply. Major projects in the Inner West included two developments in Sydney Olympic Park comprising a total 18,373 square metres (Knight Frank defines the Inner West region as extending all the way to Parramatta). Major projects in the South included 13,000 square metres at Bourke Road in Alexandria, 6399 square metres at Dunning Avenue in Rosebery, and 4000 square metres at Danks and Bourke in Waterloo. In West and North West Sydney, at least 24,531 square metres of additional office floorspace has been DA approved and is in the pipeline for 2014-15 (Knight Frank, 2013).

Supply of employment lands

Based on existing supply, there appears to be no shortage of zoned employment lands in the Sydney region as a whole. With a take-up rate of 200 hectares per annum, existing zoned lands and lands designated for future zoning were calculated as sufficient to last forty years from 2011 (ELDP, 2011). However, while total zoned employment land is abundant, only just over 10% has been serviced. Using the same 200 hectare take-up rate, the total supply of serviced land in the Sydney region is adequate to last just four and a half years. In 2010, an estimated 22.9% of total serviced land in Outer Sydney was located in Erskine Park and 5.1% in Glendenning (BIS Shrapnel, 2010); both sites in competition with the St Marys ADI site.

The North West sub region has an abundant supply of zoned employment lands. As of January 2011, almost half (2140 hectares or around 46%) of the total zoned employment lands in the North West subregion (Baulkham Hills, Blacktown, Blue Mountains, Hawkesbury and Penrith LGAs) was undeveloped. Zoned employment lands in the North West are concentrated in the Blacktown and Penrith LGAs. Based on average take-up rate from 2009 - 2011, there is sufficient undeveloped employment land to last for the next 58 years; though it is unclear how much of this land is serviced (ELDP, 2011).

The St Marys and Dunheved precincts are situated in the Penrith and Blacktown LGAs where there is considerable undeveloped land available nearby. Key neighbouring precincts with supply of zoned employment lands in these LGAs are listed in

Table 1 below, along with the area in hectares of developed and undeveloped employment lands. As of January 2011, there were almost 1000 hectares of undeveloped zoned employment lands in the surrounding precincts.

TABLE 1. EMPLOYMENT LANDS IN PRECINCTS NEAR STUDY AREA

		Jan 10			Jan 11		
Precinct	**LGA**	**Undeveloped**	**Developed**	**TOTAL**	**Undeveloped**	**Developed**	**TOTAL**
North Dunheved ADI^	Blacktown/Penrith	30		30	30		30
St Marys	Blacktown			0	2.9		2.9
Ropes Creek	Blacktown	192.7		192.7	192.7		192.7
Eastern Creek	Blacktown	419.1	143.2	562.3	407.6	154.6	562.2
Glendenning	Blacktown	47.8	147.4	195.2	47.6	147.4	195
Erskine Park	Penrith	218.3	185.8	404.1	223.9	179.5	403.4
St Marys (Penrith)	Penrith	54.1	187.4	241.5	50.5	191.0	241.5
North St Marys	Penrith	2.1	54.8	56.9	2.1	54.8	56.9
Llandilo	Penrith	3.4		3.4	3.3		3.3
		967.5	718.6	1686.1	960.6	727.3	1687.9

^ Information provided by Lend Lease

Source: DP&I, 2011.

Applying recent historical take-up rates reveals there is unlikely to be any shortage of employment lands in the short or medium term. The St Marys employment precinct had a 21% vacancy rate and sufficient undeveloped land to last 14 years based on historical take-up (ELDP, 2011). The North Dunheved site was 100% vacant, and had not experienced any recorded development in the period between 2010 and 2011. The adjacent site at Ropes Creek, similar to the North Dunheved and St Marys sites in terms of location and road access, had 193 undeveloped hectares, no recent take-up, and a 100% vacancy rate. The more popular sites at Erskine Park, Eastern Creek and Glendenning, which did experience recent take-up, still had substantial land available with eight and a half, nine, and thirty years of supply at historical take-up rates respectively (Department of Planning and Infrastructure, 2011).

TABLE 2. KEY PRECINCT COMPARISON

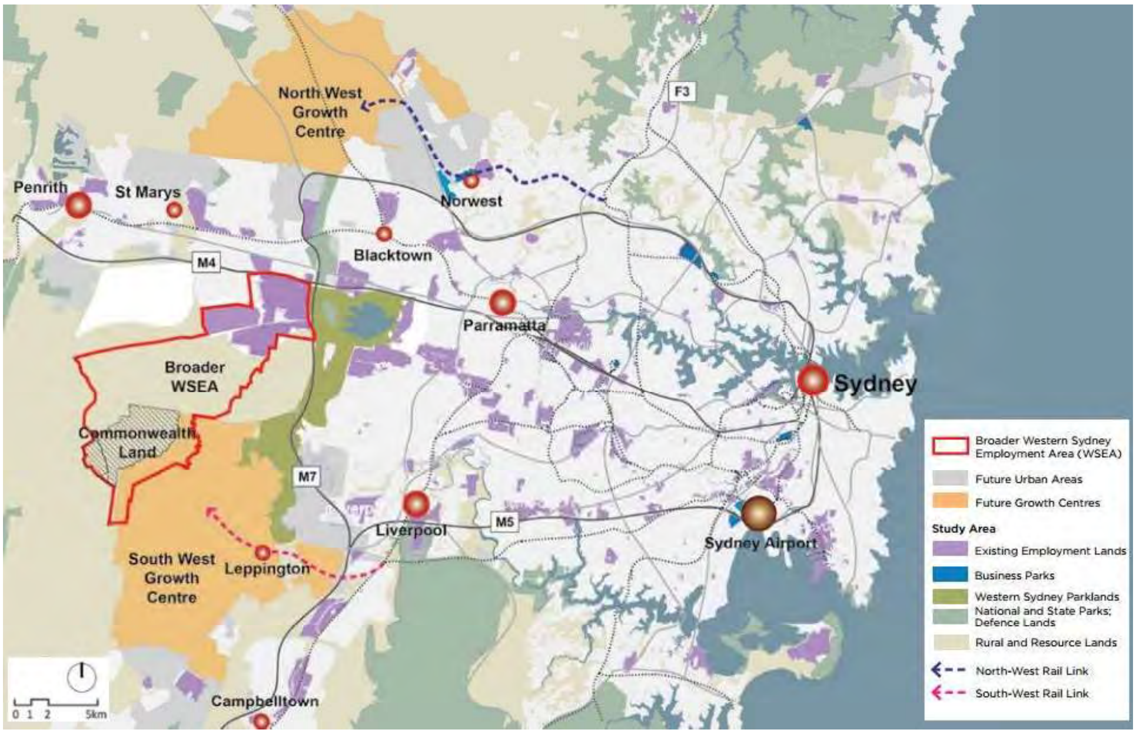
Precinct	**LGA**	**Undeveloped land (ha)**	**Land vacancy rate in precinct**	**Historical take-up rate (ha per annum)**	**Years to exhaust available land at historical take-up rate**
North Dunheved	Blacktown only	15.5	100%	0	n.a.^
St Marys	Blacktown	50.5	21%	0	14.0
Ropes Creek	Blacktown	192.7	100%	0	n.a.^
Erskine Park	Penrith	223	56%	26	8.5
Eastern Creek	Blacktown	407.6	73%	13.7	30.0
Glendenning	Blacktown	47.6	24%	5.4	9.0
TOTAL		936.9			

Source: Department of Planning and Infrastructure, 2011.

^No take-up listed in the ELDP 2011 Update.

Significant new supply of employment lands in the area will come from the planned expansion of the existing Western Sydney Employment Area. The Broader WSEA will cover a total area of 10,700 hectares. When existing zoned lands are accounted for, this represents 8900 hectares of additional supply, equal to more than 80% of the current developed employments lands in the Sydney region (Urbis, 2013). This expansion will compete at a sub regional level with the lands at North Dunheved and St Marys. This area would be able to cater to future industrial growth in the western Sydney region.

FIGURE 14. EXISTING AND PROPOSED EMPLOYMENT LANDS IN THE SYDNEY REGION



Source: Department of Planning and Infrastructure, 2011.

3.3 Competitive position of St Marys employment lands

A series of employment lands criteria, derived from the *Broader Western Sydney Employment Area Economic Issues and Drivers Study*, have been used to assess the competitive position of the St Marys ADI employment lands:

- Close to transport links – particularly proximity to motorways and high capacity arterial roads
- Access to freight distribution infrastructure such as intermodal terminals and public transport opportunities
- Close to the customer base - particularly for distribution centres
- Close to other industrial land (for supply linkages and agglomeration economies) and separated from residential land.

Other factors noted in the study and as important influences on location decisions include:

- Low rent/land price
- Access to appropriately sized sites
- Proximity to appropriately skilled workforce
- Quantum of infrastructure/servicing cost or contributions

The relationship of the St Marys Development site to these criteria is outlined below.

Transport Links

The St Marys employment lands face a major disadvantage in their lack of transport infrastructure. In contrast to other nearby industrial lands, including Erskine Park and Eastern Creek, neither the St Marys nor the Dunheved sites are directly adjacent to a major road such as the M4 or the M7. Commercial real estate agents contacted by SGS indicated that investors prefer better located sites in Glendenning, Erskine Park, Eastern Creek and Huntingwood – all of which are closer to the M4 – particularly for freight distribution uses.

Close to customer base

Given that most of the industrial land is unoccupied, it is difficult to determine who the customer base will be. During the building phase, construction firms and those providing dwelling inputs will find it convenient to locate within the precinct. After construction is completed, other firms may seek out the area for proximity to both residential and industrial customers. However, while the St Marys and Dunheved precincts are close to some residential areas, they have access to fewer people than other nearby employment lands since the land to the north of the ADI site is undeveloped (i.e. a smaller radial catchment). Similarly, while the precinct is close to other industrial areas in Western Sydneyit is not any closer than other employment lands in the area such as RopesCreek, Erskine Park, Glendenning and Eastern Creek – all of which have less access to potential customers than employment lands closer to the city, and are further from the urban periphery of Sydney.

Close to other industrial land

Given the concentration of industrial activity in the region, the North Dunheved area is well placed to take advantage of agglomeration economies and supply chain linkages derived from proximity to other firms located in the area. St Marys (SA3 level) is a predominantly industrial area (Figure 15) Based on Census data, the largest industries (1-digit ANZSIC) as gauged by total number of employees are Manufacturing, Retail Trade, and Transport, Postal and Warehousing. Manufacturing employs 23% of workers, more than double the share of the next highest employing industry. At the same time, any industrial land in the Central Precinct would be relatively isolated from nearby industrial precincts.

FIGURE 15. ST MARYS SA3

Source: MapData Services Pty Ltd (MDS), PSMA Australia Limited, 2013.

Low rent/land prices

Agents contacted by SGS confirmed that the Dunheved land was relatively cheap compared to other nearby precincts and to industrial land in Sydney as a whole. At the same time, previous research revealed that Stockland are leasing industrial land in North Penrith on Andrews Road to the West of the site for $50/sqm, a rate lower than is viable for the North Dunheved Site.

Access to appropriately sized sites

The area of employment lands at Dunheved and St Marys is considerably smaller than other employment precincts including Erskine Park, Ropes Crossing and Eastern Creek. This may inhibit their ability to provide the large sites preferred by some investors. However, since the Dunheved employment lands are currently entirely vacant, large sites may be available.

Proximity to an appropriately skilled workforce

There are mixed indications as to whether the labour force in the St Marys area is appropriately qualified to ride the trend towards high-tech manufacturing. The resident population of St Marys is relatively less educated than that of Greater Sydney as a whole. Only 7% reported holding a Bachelor or Postgraduate degree, compared to 19% of respondents in Greater Sydney. While 44% reported no qualification, compared to 33% in Greater Sydney. However, the most popular field of study (2-digit QALFP) for local residents is Engineering and Related Technologies, suggesting that a good part of the workforce is appropriately skilled to work in industrial production.

Overall competitive position of employment lands

The North Dunheved site is competitive across several factors compared to other parts of Sydney, though the potential Central Precinct employment lands are less competitive. As a whole, both precincts do not score well against these criteria compared to other available industrial sites. Hence the uncompetitive position of the St Marys employment land sites is likely the driving factor behind the lack of commercial interest for the sites.

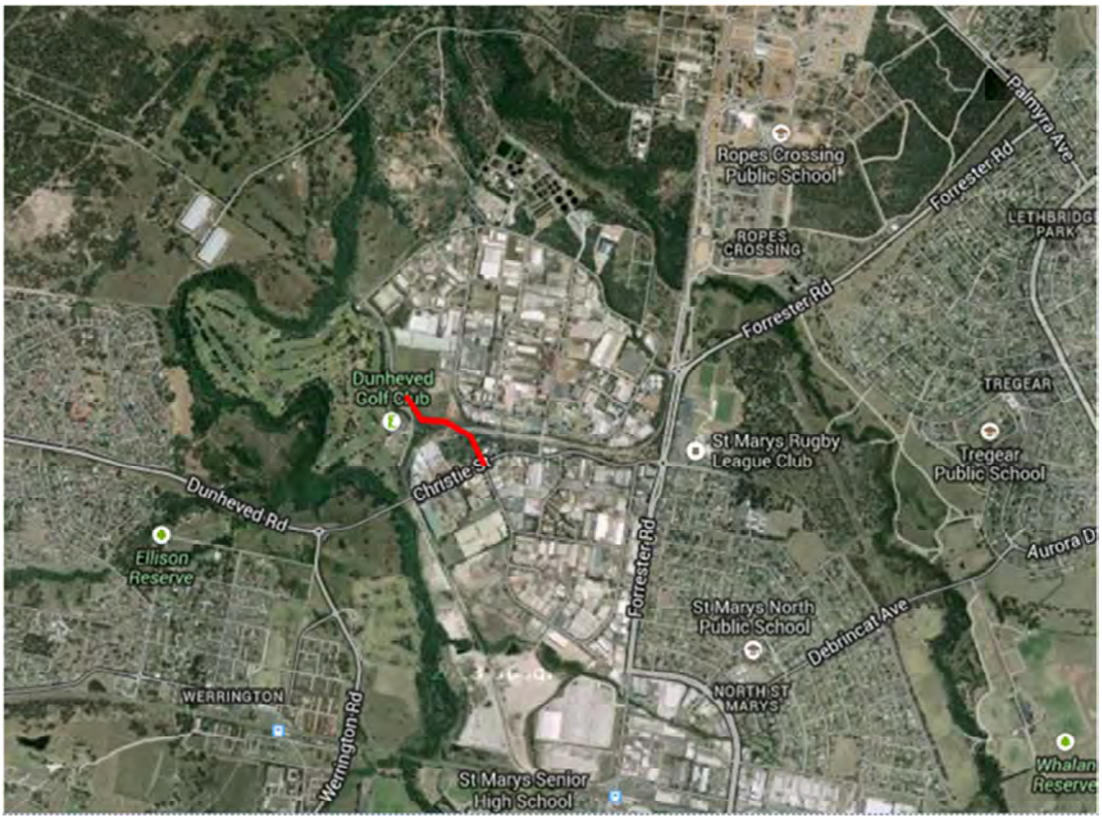
A 2011 report by SGS found little demand for industrial land at Dunheved. The older industrial precinct had high vacancy rates and little new activity. As of January 2015 there had been no take up of vacant industrial land in the 29 hectare employment land precinct in North Dunheved. Industrial development in Dunheved was found to be constrained by a high level of competition in the Western Sydney area, much of it from sites with better road connections including precincts at the nearby Erskine Park and Minchinbury (SGS, 2012).

Commercial real estate agents contacted by SGS for this study indicated that these trends have persisted. They expressed little confidence in the competitiveness of the Dunheved site in particular. They stated that industrial buildings at the existing Dunheved Industrial Estate tend to be old, that some lots are contaminated by asbestos and other substances, and that lots tended to be located on low underlying land which is prone to flooding. They emphasised the importance of transport links in determining the attractiveness of a site, and indicated that investors prefer better located sites in Glendenning, Erskine Park, Eastern Creek and Huntingwood, all of which are closer to the M4. However, Lend Lease has indicated that there has been some interest in at the Dunheved site, with one party seeking twelve hectares to employ between 80 and 150 people depending on level of production.

3.4 Review of net offsets for Dunheved Links Road

To try to catalyse the Dunheved employment precinct, Lend Lease will provide an extension of the Links Road to improve access to the northern section of the existing Dunheved precinct. The road will connect the existing Links Road in the north near the Dunheved Golf Club to the intersection of Christie Street and Lee Holm Road in the south, as indicated by the red curved line below in Figure 16.

FIGURE 16. LINKS ROAD EXTENSION – CONTEXT MAP



Source: Google Maps, 2014.

SGS Economics & Planning

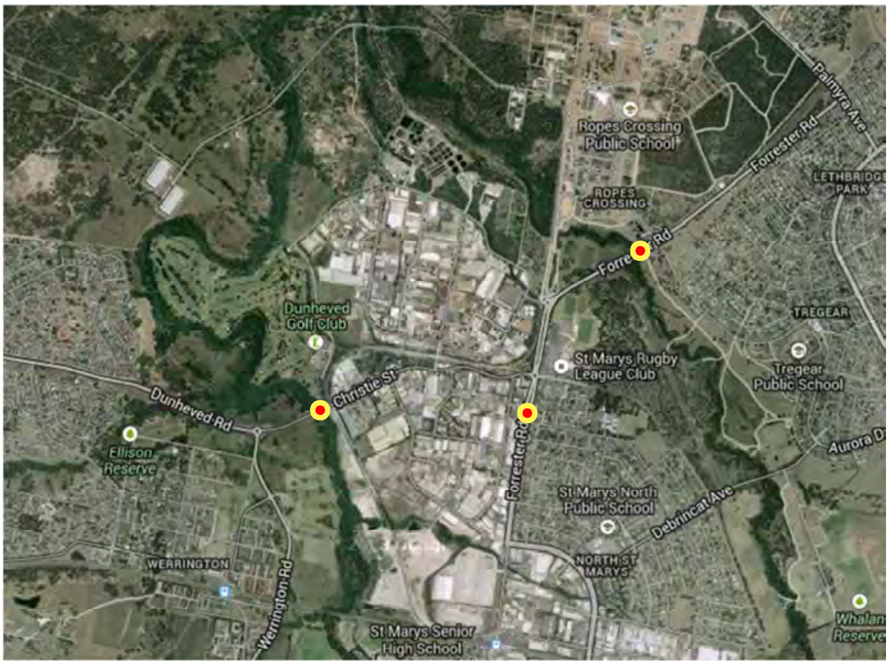
The provision of the Links Road extension will create a second entry-exit point to the northern section of Dunheved, as well as consolidate fragmented employment land just to the north of Christie Road; see Figure 17.

FIGURE 17. LINKS ROAD EXTENSION AND SOUTHERN LOTS

Source: Lend Lease, 2013.

It is difficult to determine the extent to which the extended Links Road will increase the access –and hence the competitive position – of the North Dunheved precinct without knowing the proportion of industrial traffic that approaches Dunheved precinct from the south (via Forrester Road northbound traffic), the east (via Forrester Road southbound traffic) and west (via Christie Street). While the Roads and Maritime Services (RMS) has data on Annual Average Daily Traffic (AADT) counts for nearby roads, the industrial traffic cannot be isolated from residential traffic. However, for this analysis, the location of the intersections at which data was measured (indicated by circles in Figure 18), would likely capture mostly industrial traffic demand (including industrial commuters) as surrounding residential areas would be accessed via other more convenient routes. This would have changed with the development of the Ropes Crossing precinct; which occurred after the recorded RMS data period.

FIGURE 18. AADT TRAFFIC DATA POINTS



Source: Google Maps, 2014.

Table 3 indicates that industrial traffic to the northern Dunheved precinct (including industrial workers) is split evenly between the three different routes. If it is assumed that most traffic entering via Christie Street were coming from the south, then it is plausible that the provision of the Links Road would make the North Dunheved site comparatively more attractive for development. At the very least, it will increase the attractiveness of new industrial lots to the north of Christie Street and should accelerate the sale of those lots (indicated in Orange in Figure 17).

TABLE 3. DUNHEVED TRAFFIC MOVEMENTS

Road	Location	1996 AADT	1999 AADT	2002 AADT	% of traffic travelling to Dunheved precinct (north of Maple Rd)
Forrester Rd (northbound)	St Marys-N of Maple Rd (i.e. excluding south Dunheved traffic)	13,952	16,353	13,967	31%
Forrester Rd (southbound)	Tregear-at Ropes Ck Bridge	12,417	15,581	15,495	34%
Christie St	Werrington-at South Ck Br	12,670	15,085	15,583	35%

Source: RMS, 2002.

Increasing the attractiveness of the North Dunheved precinct will be critical to bringing job generation forward, given the demonstrable unattractiveness of this site compared to others. The earlier development of this site will to some extent offset the potential Central Precinct employment lands, although it could be argued that the early development of North Dunheved would be a net employment benefit, given the lack of market demand for the potential Central Precinct industrial land.

3.5 Review of zone compatible uses

A review of compatible uses within the Urban and Employment Zone to support job generation has been undertaken. The purpose of this task is to assess to what extent a change in zoning would affect the number and types of industries that could locate on the site.

As established above, the St Marys ADI site is only likely to support population-driven employment, as it is a new community in a suburban location, with poor access to transport and little connection to existing employment lands. For example, a local mechanic or hairdresser would service the site, as such a business would only serve a local catchment.

The site is unlikely to attract regional or strategic employment-generating uses. For example, a glazing services business requires a regional catchment, and is therefore unlikely to be located at the site. Similarly, business-driven industries, such as stevedoring and freight services only locate in areas close to their necessary inputs, or similar businesses. Therefore, these non-population driven businesses have been excluded from our list of likely uses for the St Marys ADI site.

The following steps were undertaken to assess the number and types of industry that could locate on the St Marys ADI site:

1. ANZSIC four-digit industries were classified according to the necessary catchment for particular industries, i.e. local, regional and strategic industries. Only local industries would service the development of the site.
2. A review of planning controls for the site revealed the permissible and non-permissible uses in the employment and urban zones of the site.
3. The permissible uses for the ‘Urban’ and ‘Employment’ zones were compared with the types of businesses likely to locate in a suburban area like the St Marys ADI site (i.e. local industries), revealing a list of possible industries for the site.

As a result of the above analysis, the permissible uses that can be located in the 'Employment' zone, but not in the 'Urban' zone are:

- Industry and light industry
- Junk yards
- Motor showrooms
- Parking areas
- Warehouses
- Utility installation and utility undertaking
- Brothels
- Call centres.

Industry and light industry and warehouses are the only population-driven employment uses exclusive to the Employment Zone. They are unlikely to locate in the Central Precinct, which has limited access to transport and other employment lands.

In summary, as can be seen in Table 4, a change of zoning would have little effect on the number and types of industries that are likely to locate on the site. This is because the industries most likely to locate on the site are population-driven uses already permissible in the 'Urban' zone.

TABLE 4. POSSIBLE INDUSTRIES BY ZONE

Zone	Permissible Uses	Possible industries
Urban	Advertisements Amusement centres Backpackers' hostels Bed and breakfast establishments Boarding houses Bush fire hazard reduction Child care centres Clubs Community facilities Educational establishments Essential community services Exhibition villages Family day care Fast food takeaway restaurants General stores Guesthouses Home activities Home businesses Hospitals Hotels Housing Medical centres Motels Nursing homes Places of worship Professional consulting rooms Recreation establishments Regeneration activities Restaurants Retail plant nurseries Service Stations Shops Warehouses	Food retail, including supermarket and liquor retailing Newsagent Pharmacy Cafes, restaurants and takeaway food services Pub, taverns, bars Postal services Schools GP Dentistry services Child care Hairdressing services Parking services Laundry and dry cleaning
Employment	Backpackers' hostels Boarding houses Brothels Call centre Child care centres Clubs Community facilities Essential community services	Site preparation services Concreting services Roofing services Bricklaying services Transport services, including taxis Postal services Child care Takeaway food services

Zone	Permissible Uses	Possible industries
	Family day care	General retail
	Fast food takeaway restaurants	Automotive repair and maintenance
	General stores	Domestic appliance repair and maintenance
	Guesthouses	GP
	Industry	Pharmacist
	Junk yards	Dentist
	Light industries	Hairdressing services
	Local retail or commercial premises	Parking services
	Medical centres	Laundry and dry cleaning
	Motels	Plumbing services
	Motor showrooms	Electrical services
	Places of assembly	Air conditioning and heating services
	Places of worship	Plastering and ceiling services
	Professional consulting rooms	Carpentry services
	Recreation establishments	Tiling and carpeting services
	Recreation facilities	Painting and decorating services
	Regeneration activities	Glazing services
	Restaurants	Landscape construction services
	Retail plant nurseries	
	Service Stations	

Source: SGS, 2013.

3.6 Summary

Market trends

Broader state and national trends have impacted on the industrial land market in NSW and Sydney, with certain regions and sectors better placed to take advantage of the changing industrial environment than others, particularly well-located sites with good transport infrastructure.

The market demand for industrial space in Sydney has been mixed, but as a whole demand has declined relative to supply. While there has been some demand for primary industrial assets, secondary industrial assets experienced much lower levels of demand. The total value of industrial property transactions fell by 6.7% in 2012 in nominal terms compared to the previous year, while the median sale price fell from $1.05 million to $868,000, a significant fall in value in real terms.

Furthermore, demand is focussed on areas that are well serviced by existing infrastructure in order to take advantage of supply chain and other efficiencies. The industrial land market in Sydney is now dominated by warehousing rather than manufacturing and so large sites with access to transport, particularly along the major motorways of the M4, the M5 and the M7, are especially in demand by major retailers

From a supply side perspective, there appears to be no shortage of zoned employment lands in the Sydney region as a whole. Existing zoned lands and lands designated for future zoning were calculated as sufficient to last forty years from 2011. However, while total zoned employment land is abundant, only just over 10% has been serviced. And this does not account for the significant new supply of employment lands in the region (10,700 hectares), which will come from the planned expansion of the existing WSEA.

As of January 2011, there were almost 1000 hectares of undeveloped zoned employment lands in the surrounding precincts. The more popular sites at Erskine Park, Eastern Creek and Glendenning, which did experience recent take-up, still had substantial land available with eight and a half, nine, and 30 years of supply at historical take-up rates, respectively.

Even at the Dunheved precinct itself, given the 21% vacancy rate of existing buildings there is sufficient undeveloped land to last 14 years based on historical take-up.

Competitive position of Dunheved and Central Precinct

The North Dunheved site is competitive across several factors compared to other parts of Sydney, though the potential Central Precinct employment lands are less competitive. As a whole, both precincts do not score well against these criteria compared to other available industrial sites. Hence the uncompetitive position of the St Marys employment land sites is likely the driving factor behind the lack of commercial interest for the sites.

Links Road provision

It is plausible that the provision of the Links Road would be a catalyst for earlier development of the North Dunheved site, which will be critical to bring job generation forward. The earlier development of this site will to some extent offset the potential Central Precinct employment lands. Although, it could be argued that the early development of North Dunheved would be a net employment benefit, given the lack of market demand for the potential Central Precinct industrial land.

Zone compatible uses

A change of zoning would have little effect on the number and types of industries that are likely to locate on the site. This is because the industries most likely to locate on the site are population-driven uses already permissible in the 'Urban' zone.

Conclusion

The preceding evidence provides justification for the rezoning of the Central Precinct identified industrial area to residential. The weaker demand environment in the industrial market, coupled with an abundant and increased supply of well-located industrial land, mean that the Dunheved site (and more so the Central Precinct) is less competitive, than it has been previously. And even assuming that the precinct is eventually developed completely, based on historical take-up rates, the Dunheved precinct would likely take over a decade to develop. At the same time, the provision of the Links Road may act as a catalyst to increase development on-site, and hence bring job generation forward. Furthermore, given the uncompetitive industrial offer of the Central Precinct, a rezoning from 'employment' to 'urban' would have little impact on the types of employment generating industries likely to locate at the Central Precinct.

4 REVIEW OF JOBS TO RESIDENT WORKERS RATIO

Overview

This section outlines the context for and tests the validity and relevance a 1:1 job to resident worker ratio. It then reviews the population and non-population based employment opportunities, both on and off-site employment related to development at the St Marys ADI site and suggests a new jobs to resident ratio.

4.1 Review of current jobs to resident ratio

Background

The Sydney Regional Environmental Plan for St Marys stipulates that the number of jobs created by a development should approximate the size of the labour force on that land. Clause 32 'Employment and Business development' (1) states that:

'The total number of jobs generated by development on land to which this plan applies (including jobs generated on the surrounding land) is to approximate the number of workers who will be resident on the land to which this plan applies after the development has been carried out'.

Put simply, this indicates that there should be a job to resident worker ratio of approximately 1:1. The purpose of this benchmark is to increase employment self-containment rates, defined as the percentage of employed residents who work within the boundaries of their sub region (often measured using LGAs). The rationale for encouraging high self-containment rates is grounded in sound planning principles that aim to reduce commute times and associated environmental impacts, burden on transport infrastructure and loss of leisure time.

It should be noted there is an important difference between employment self-containment and job to resident ratios. A job to resident ratio is a simple measure that compares the number of jobs in a particular area to the number of workers in an area. It does not include all residents, only those that are employed, and does not account for the origins of workers – whether they are originating from the area or outside of the area. Employment self-containment is a more nuanced concept focussing on the location of work of locally employed residents. A high jobs to resident ratio does not necessarily imply a high self-containment ratio (for example, the local jobs could be filled by those outside of the study area) and vice-versa, though typically there is a positive relationship between the two.

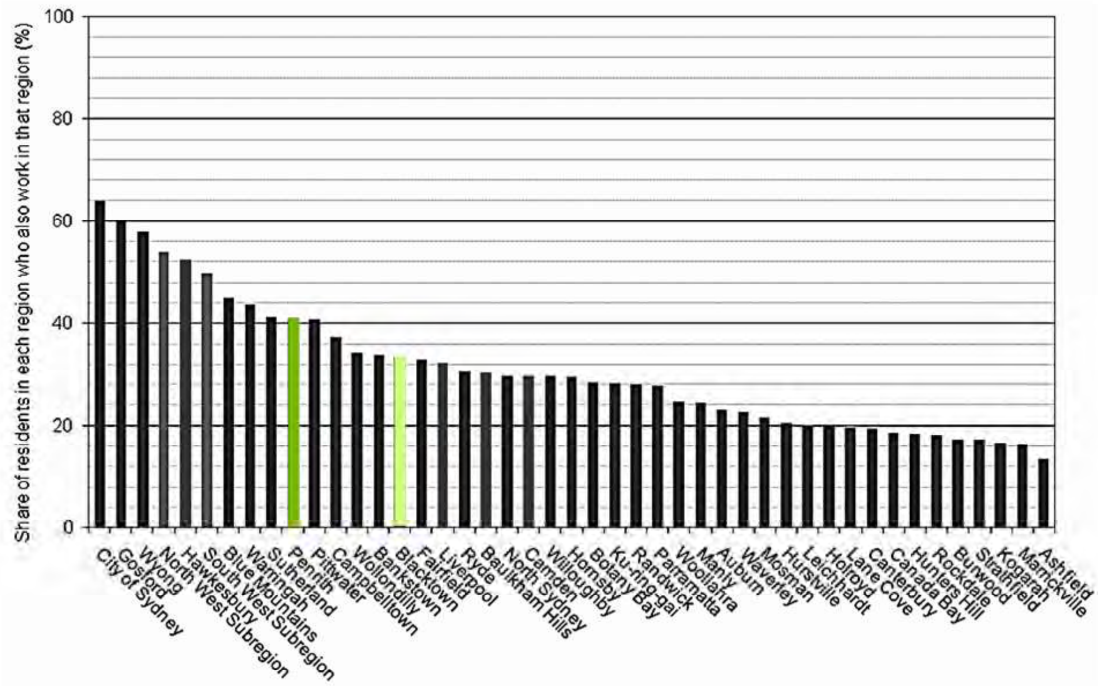
Factors influencing self-containment rates

While high employment self-containment is a sound principle, there are several factors that affect its practical implementation. There is an issue of scale and location that affect self-containment rates, as well as a mismatch between people's desired housing and work locations.

Firstly, scale affects practical employment self-containment rates. Generally, whole economic systems (such as at a state or national level) will be more or less self-contained. The larger the scale, then the higher the self-containment rate it will be. Conversely, smaller scale areas will generally have lower self-containment rates. For example, a residential street would typically have a lower self-containment rate, than the suburb, which would generally have a lower self-containment rate than the LGA and sub region. So to this extent, a lower self-containment rate should be expected for the St Marys ADI site than the Penrith and Blacktown LGAs and the West sub region.

All other things being equal, areas with a low number of local jobs and which are close to major employment centres, such as inner city suburbs, typically have low self-containment rates. Areas further away from major employment centres and with a higher number of local jobs, such as rural towns, have higher self-containment rates. The following chart of the Sydney Greater Metropolitan Region from previous SGS work demonstrates this point. Generally, those LGAs with the highest self-containment rates are further away from the major employment areas or contain a significant number of jobs, such as the City of Sydney.

FIGURE 19. SYDNEY LGA AND SUBREGION SELF-CONTAINMENT RATES



Source: SGS Economics and Planning, 2010.

SGS research from previous studies outlined the self-containment rate of Western Sydney areas. The North-West Subregion had a self-containment rate of around 54%, while the South-West had a self-containment rate of around 50%. Those LGAs closest to the Sydney CBD, had self-containment rates lower than 20%. This analysis suggests that even at sub region or LGA level, a 100% self-containment rate is too high.

As well as scale and locational issues affecting self-containment, a mismatch between people's desired housing locations and work locations can also affect employment self-containment. Not everyone will be able to or even want to live and work in the same place in a modern economy with high levels of trade and specialisation. On the demand side, employers seek the best skilled workers and so cast their net wide to choose from a large pool of people for jobs, not just local residents. On the supply side, residents seek a broad range of jobs in order to match their skills and to maximise pay and conditions. They are willing to travel considerable distances to attain suitable employment.

Existing self-containment and jobs to resident worker ratios

At an LGA level, there is a high ratio of jobs to resident workers in the regions encompassing and surrounding the St Marys study area. Based on Census Place of Work data, the jobs to resident ratio in both Penrith and Blacktown is 0.6:1, meaning there are 0.6 jobs to every resident. Since not all local jobs are performed by locals, there is an even lower rate of self-containment. In 2011, Penrith had a self-containment rate of 35%, while Blacktown had a rate of 27%. In other words, only about one third of employed persons living in Penrith and about one quarter of those living in Blacktown also worked within the LGA boundaries.

Job to resident ratios for larger statistical regions such as LGAs may not be appropriate to gauge the needs of a smaller area like the St Marys ADI site. Other similar small areas would provide a better comparison. The nearby suburbs of Glenmore Park and the Ponds are similar to the study area in terms of location (neither are strategically located) and both are recently developed residentially focussed suburbs. In 2011, the jobs to resident ratio at Glenmore Park was 0.17:1, while the ratio at the Ponds was only 0.02:1 the Ponds is expected to be lower as there is a lag between residential and employment development. Furthermore, the two masterplanned estates from the Australian case studies earlier in this report provide an upper benchmark for what a jobs to resident ratio target should be; given that they provide examples of large and strategically located masterplanned areas. Given that Springfield is essentially a planned new town and that North Lakes is located on a major highway, it should be expected that, all other things equal, these estates would have a higher target jobs to resident ratio than the St Marys ADI site. Nevertheless, Greater Springfield, which is the largest master planned city and community development project in Australia, has a target job to resident ratio of just 0.3:1, while North Lakes has a target job to resident ratio of 0.56:1. All of the above suggests that the 1:1 ratio for the St Marys ADI site is not appropriate.

Trends and forecasts

At an LGA level, the trend over time is towards lower self-containment. Between 2006 and 2011, the percentage of employed residents in Penrith who worked in the LGA declined for seventeen out of the nineteen ANZSIC 1-digit industries. Overall, the self-containment rate across all industries in Penrith declined by 1.6% (.id, 2013).

At a small area level, we have used BTS five-yearly forecasts of workforce, population and employment to generate projections of the job to resident ratio over time. These forecasts are shown in the table below. As expected, the projected ratios are all well below the benchmark, indicating that a 1:1 jobs to resident ratio is unlikely to become viable at any point over the next three decades.

TABLE 5. FORECAST JOB TO RESIDENT RATIOS

	2016	2021	2026	2031	2036	2041	2046
Glenmore Park	16%	17%	17%	17%	17%	18%	17%
The Ponds	1%	1%	1%	1%	1%	1%	1%

Source: SGS, 2013 using Bureau of Transport Statistics, 2012

Current jobs to resident ratio of St Marys ADI site

At present, the resident population at the St Marys ADI site is approximately 6,260 people. This is based on information provided by Lend Lease as to the number of houses on the site, as well as ABS data on the average number of occupants per home.

The size of the workforce was estimated using BTS Travel Zone data. Approximately 66% of the resident population at the St Marys (Ropes Crossing) travel zone are currently of working age, and approximately 65% of them belong to the workforce. Applying this ratio to the St Marys ADI site as a whole yields an estimated 2690 resident workers.

Based on information from Lend Lease, there are currently 546 jobs located on the St Marys ADI site. This yields a job to resident ratio of 24% (0.24:1), which is slightly higher than the recorded rate at Glenmore Park. The job to resident ratio is 0.34:1 with the inclusion of home based businesses[2] on site.

In addition, Lend Lease is supporting employment creation off site in the St Marys area via the Skilling and Employment Centre which has facilitated achievement of 3,800 jobs. These jobs support the aim of creating additional jobs for local residents in the Western Sydney region. The Skilling and Employment Centre has also facilitated, through direct funding and partnerships, skill development and training for 1,900 people. These direct interventions e.g. White Card training, First Aid training and computer skills have improved the competitiveness of clients of the Centre for jobs. However, there are important caveats to the inclusion of these jobs in the job to resident ratio:

- The Centre helps to match local jobseekers to existing and newly created vacancies. It should therefore be regarded as facilitating employment, rather than creating it
- These jobs are not all located on-site, however around 70% of the jobs are located within 10 kilometres of St Marys

4.2 Revised jobs to resident ratio

The table overleaf presents an estimate of jobs achieved to date, and anticipated achievement by 2020, under the current zoning and proposed zoning. Notable features of the job generation scenarios under the current zoning include:

- Population-driven jobs have been estimated based on a regression of employment by industry as a function of population. Industries include retail, construction, urban services such as waste collection, education, childcare and other personal services. These are assumed to be accommodated at the town centre and at the existing Dunheved (South) precinct
- Population calculation based on occupancy of 2.7 per lot (Ropes Crossing) and 2.6 per lot (Jordan Springs and Central Precinct)
- Calculation of jobs on employment-zoned land has been adjusted from EDS assumption of20 jobs per hectare to 12 per hectare
- Updated survey of Central Precinct employment land has resulted in a revised area from 40ha to 38 ha which delivers net developable area of 34 ha: job calculation revised to 408 (based on 12 per ha)
- Home Based business is calculated on the assumption that 15% of residences host home-based business, employing and average of 1.1 people each
- In order to calculate the jobs to residents ratio, it is assumed that 66% of the population is of working age (15-65), and 65% of these residents belong to the labour force.
- Estimates of home based employment and employment generated by the Skilling Centre have been provided by Lend Lease
- In 2014 there are 634 jobs on site giving a jobs to resident workers ratio of 0.3:1. When the skilling centre is included this rises to 4794 giving a ratio of 2.1:1
- In 2020 there are projected to be 2445 jobs on site giving a jobs to resident workers ratio of 0.3:1. When the skilling centre is included this rises to 4794 giving a ratio of around 1.1:1
- In 2020 with the proposed rezoning there are projected to be 2770 jobs on site giving a jobs to resident workers ratio of around 0.4:1. When the skilling centre is included this rises to 8730 giving a ratio of 1.1:1

[2] Estimated to be approximately 232 by Lend Lease.

TABLE 7. JOB GENERATION

	Ropes Crossing		Jordan Springs		Central Precinct			Dunheved	Skilling & Employment Centre		TOTAL 2020		2020 Before vs After Rezoning
	2014	2020	2014	2020	2014	2020 Current zoning	Rezoning	2020	2015	2020	Before rezoning	After rezoning	
POPULATION													
Total Lots	0	2225	0	3145	0	1236	1700	N/A	-	-	6606	7070	464
Lots occupied 2014	1296	0	701	0	0	Nil	0	0	-	-	0	0	
Population 2014	3499	0	1822	0	0	0	0	N/A	-	-	0	0	
Population 2020	0	6007	0	8177		3214	4420	0	-	-	17398	18604	1206
TOTAL LABOUR FORCE									-	-	7643	7981	338
JOBS GENERATED									-	-			
Home Based Business	214	367	116	519	0	204	280	-	-	-	1090	1166	76
Town Centre population driven	200	344	104	468	0	184	253	-	-	-	995	1064	69
Off site population driven	122	210	64	286	0	112	154	-	-	-	608	650	42
Employment land					0	0	0	360	-	-	360	360	0
Link Road								180	-	-	0	180	180
Skilling & Employment to 2015*									4160	5960			

	Total on-site		Total on-site plus Skilling centre		Total on-site plus off-site and Skilling centre		Total on-site and off-site		Workforce
	Jobs	Ratio	Jobs	Ratio	Jobs	Ratio	Jobs	Ratio	
Total jobs 2014	634	0.28	4794	2.10	4980	2.18	820	0.36	2283
Total jobs 2020	2445	0.32	8405	1.10	9013	1.18	3053	0.40	7643
Total jobs 2020 with rezoning	2770	0.35	8730	1.09	9380	1.18	3420	0.43	7981

Source: SGS, 2014 based on information from Lend Lease.

4.3 Summary

It is unlikely that the target 1:1 jobs to resident workers ratio will be achieved at the precinct if the assessment is limited to jobs on-site. In general, a 1:1 jobs to resident workers ratio is unlikely to be feasible in new release residential areas. There are no examples of other new release residential areas in Australia that have successfully implemented this ratio. Instead, they have focussed on enhancing transport links to major employment centres – bringing residents closer to jobs, rather than jobs closer to residents. Indeed, this is much more in line with current strategic planning thinking.

The employment lands market has shifted since the original EDS, with a weaker industrial demand environment and more focus on strategic employment sites around the M4. The subject site occupies a position well down the league ladder of competing employment land locations. In this context, take up of the employment land is expected to be very slow. Indeed, it is likely that very little 'strategic' employment can be attracted and that all employment generation on site is population driven.

Under the assumptions noted in this report, a feasible ratio of jobs to resident workers on site would be around 0.4:1. If jobs off-site jobs, as well as those facilitated by the Skilling and Employment Centre, are included in the calculation, this ratio rises to around 1.2:1.

5 AFFORDABLE HOUSING ASSESSMENT

Overview

This task explores affordable housing demand and supply in St Marys and the surrounding region for different income bracket households.

5.1 Levels of housing stress

Housing affordability thresholds for Penrith and Blacktown LGAs have been tested. Housing affordability examines the relationship between income and house prices and is typically expressed in house price-to-income or income-to house price ratios. The income-to-price ratio of 30% of moderate gross household income spent on housing payments has been used for this analysis.

On the demand-side, an assessment of housing stress levels in very low, low and moderate income households has been completed using the income profile of the Penrith and Blacktown LGAs. Housing payments, including both weekly rents and monthly mortgage payments, have been analysed

To calculate the maximum monthly mortgage repayment the following assumptions have been used:

- Purchasers make a 10% deposit
- The mortgage period is 25 years
- The interest rate is fixed at 7.5% (the current 15 year fixed interest rate)
- Purchasers pay no more than 30% of gross income on household costs.

Very low income households

Very low income households are deemed to be those earning less than 50% of equivalised median gross household income.[3] Very low income households that do not own their own home would be in housing stress if they pay more than 30% of their income in rent. Very low income households in housing stress are often high-need households requiring a highly-subsidized form of housing assistance, particularly if household income is not expected to increase. Most of these households receive their income from social welfare.

They would include retirees that do not own their home and have no supplementary income, recent migrants, particularly refugees with limited skills who have not found employment, people with disabilities that prevent employment, parents with dependent children and some people with drug or alcohol dependencies or other social and health problems. Most would tend not to be in the labour force. This group contains a higher proportion of single person households than other income groups.
For housing to be affordable, the guideline is that these households pay no more than 30% of household income on rent. Very few in this income bracket would be able to obtain or service a mortgage. Households earning below 50% of median income may also be temporarily unemployed. These households would

[3] Equivalised incomes take into account the number and age of persons in a household. That is, two people sharing can live more cheaply than two people in separate households and children require less income to support than adults.

probably not be considered high need unless, due to some other factor, unemployment was expected to continue in the long term.

The very low gross household income is defined as being less than 50% of equivalised median gross household income. In 2011, the median gross household income for Penrith and Blacktown LGAs was $1393 per week. The very low gross household income was $696.50 per week (50% of median gross household income). Using a maximum 30% of gross income, the maximum weekly rental payments that a very low income household could afford to pay is $208.95. The maximum monthly mortgage payments below the mortgage stress threshold for very low income households in 2011 was $905.45

The number of very low income households in rental stress in the Penrith and Blacktown LGAs in 2011 was approximately 20,039[4], which represents 25% of very low income households. The number of very low income households in mortgage stress was 18,944; around 24% of very low income households. Overall, almost half of all very low income households are in some form of housing stress.

If the maximum affordable mortgage repayment for a very low income household is $905, then the maximum amount that a household can afford to borrow for a house over 25 years is $122,464.

Low income households

Households earning between 50% and 80% of equivalised median gross household income that pay over 30% of their gross income on housing would also be in housing stress. This group may be targeted for affordable rental housing. The majority of households in this group have some income from employment or retirement investments, but would generally receive supplementary income assistance from the Australian government. It would also include some larger families that are wholly dependent on Centrelink incomes. This group would include many single income households of poorly or moderately paid workers: retail, hospitality, agricultural or unskilled labour in other sectors. It would also include retirees with some supplementary income over and above the pension. Many would qualify for Rent Assistance (RA) if they are in private rental.

For housing to be affordable, the guideline is that these households pay no more than 30% of household income on rent or mortgage. While many in this income bracket would struggle to obtain a mortgage in metropolitan areas, some may be able to in regional areas. Retired persons on reduced incomes may be able to complete repayment of houses purchased while in employment.

The low gross household income for the St Marys region falls within the range of $696.50 and $1114.40 per week. Using a maximum 30% of gross income, the maximum weekly rental payments below the rental stress threshold for low income households in 2011 was between $208.95 and $334.32. The maximum monthly mortgage payments below the mortgage stress threshold for low income households in 2011 was between $905.45 and $1448.72.

The number of low income households in rental stress in the Penrith and Blacktown LGAs in 2011 was 4752, or approximately 12% of low income households. The number in mortgage stress was 21,008, which represents around 52% of low income households. In total, around 64% of low income households are in housing stress in the Blacktown and Penrith LGAs.

If the maximum affordable mortgage repayment for a low income household is $1449 (rounded up from $1448.72), then the household can afford to borrow up to $196,078 over 25 years.

[4] Caveat: the number of households in rental or mortgage stress in the Blacktown and Penrith LGAs was calculated using data from the ABS's Families & Place of Usual Residence database for households by equivalised weekly income, weekly rental payments and monthly mortgage repayments, all of which are produced in price bracket ranges. Therefore, the results listed above are an approximation of the total number of households in rental stress, and may be an overestimation.

Moderate income households

Households earning between 80% and 120% of equivalised median weekly gross household income may be in housing stress if they pay over 30% of their income in rent, which can easily occur in higher cost parts of the metropolitan area. Moderate income households in housing stress could be targeted for affordable rental housing as well as affordable homeownership programs where appropriate and available. While ineligible for public housing and generally not the main target group for Community Housing, they may obtain affordable housing through the National Rental Affordability Scheme or other initiatives. This group would include mostly employed persons with moderate household incomes. This would include a high proportion of single income households, especially those employed in health care, education, and many early career workers, as well as some self-funded retirees.

Because these are higher income earners and the home is an asset, they might pay up to 35% of their income on mortgage payments plus other expenses, (rates, maintenance) but this share would normally be expected to fall over time.

The moderate gross household income falls within the range of $1114.40 and $1671.60 per week. Using a maximum 30% of gross income, the maximum monthly mortgage payments below the mortgage stress threshold for moderate income households in 2011 was between $1448.72 and $2173.08. The maximum weekly rental payment below the rental stress threshold for moderate income households in 2011 was between $334.32 and $501.48.

The number of moderate income households in rental stress in the Penrith and Blacktown LGAs in 2011 was 2419; around 10% of all moderate income households. The number of moderate income households in mortgage stress was 13,728, which is approximately 54% of moderate income households. Similar to low income households, there are approximately 64% of moderate income households in housing stress in the Blacktown and Penrith LGAs.

If the maximum affordable mortgage repayment is $2173 per month, then the maximum a moderate income household can afford to borrow is $294,050 over 25 years.

5.2 Availability of affordable housing

Affordable housing supply was assessed by documenting the availability of housing at levels below housing stress thresholds for households with very low, low and moderate incomes.

The number of affordable houses in both Blacktown and Penrith LGAs for the various income households was determined by searching through residential listings in both LGAs to identify houses that fell within the maximum affordable monthly mortgage repayment thresholds for each income group. The number of available affordable houses in both Blacktown and Penrith LGAs was:

- Very low: zero houses
- Low: two houses
- Moderate: 112 houses

5.3 Summary

There is a shortage of affordable housing across the very low, low and moderate income household groups within the Penrith and Blacktown LGAs, which suggests an undersupply of housing in the area compared to demand.

The implications for this study are that it may be more beneficial to the local community to build more housing, to increase the supply and therefore affordability of the housing in the area, than to maintain the reservation of employment lands in the area that would otherwise be used for residential development. While new housing would not necessarily be affordable to those on very low, low or even moderate incomes, it would increase the total supply in housing and, all other things being equal, put downward pressure on house prices.

6 CONCLUSION AND FINDINGS

6.1 Major findings

In 2008 SGS reviewed the 2003 Employment Development Strategy. The 2008 review revealed that since the EDS was prepared in 2003, a number of significant developments in the policy and development context had emerged. It highlighted that progress in developing the Dunheved extension would provide an indication of future prospects for the other employment lands, including the Central Precinct. It further indicated that by the time of the next review there would be some justification for looking at alternative development approaches in the Central employment precinct. The recommendations for the Central Precinct from the 2008 review of the EDS were:

- develop the site with a higher office component, recognising the shifting profile of employment in industrial and business park areas
- relocating the Central Precinct Employment zone off-site / consolidation of employment lands from the Central Precinct into the North Dunheved precinct
- significantly reduce the employment lands area to a service industry area and centre for an expanded residential area.

Five years on, this report has reinforced the findings of the 2008 review.

Policy

Neither state nor local policies appear to support out-of-centre suburban employment lands, outside of a business park setting. The draft Metropolitan Strategy reinforces the role of existing centres as the focus of new development and renewal, while also emphasising strategic greenfield releases appropriately supported by infrastructure, such as the planned WSEA.

Major policies for the St Marys area focus on renewing the local Penrith and Blacktown city centres, and infrastructure is planned at both state and local level to increase the accessibility of these areas and strengthen their role as centres. Outside of these centres, employment generation is being sought through a number of strategic initiatives including the Penrith Health and Education Precinct and Werrington Park Corporate Centre.

Case study analysis

A case study analysis of integrated residential and employment precinct was completed to distil key lessons for the site. These are as follows:

- There is a lag between residential development and population-driven employment development. Many industrial uses rely on servicing surrounding businesses to underpin the viability of their operations and the larger, employment generating industries in the case studies are underpinned by regional rather than local demand for uses.
- Employment areas are typically serviced by a regional or sub-regional labour force. Apart from smaller convenience retail centres, employment areas are typically serviced by a regional or sub-regional labour force. Larger recent developments in Australia have not attempted to implement a 1:1 ratio of jobs to resident, instead choosing to strengthen public transport and road links between the master planned development and existing centres to give residents access to a broader regional job market.
- Larger scale and isolated developments, such as new towns away from the urban fringe, should have a high self-containment rate, but smaller residential developments that are nearby to existing

employment areas do not require a high self-containment rate if they are well connected to regional centres via sustainable transport means.
- Successful master planned employment and residential developments have access to excellent transport infrastructure, including arterial roads, airports and public transport, and ICT.

Employment market assessment

The market demand for industrial space in Sydney has been mixed, but as a whole demand has declined relative to supply. While there has been some demand for primary industrial assets, secondary industrial assets such as the Central Precinct and Dunheved experienced much lower levels of demand. The total value of industrial property (both primary and secondary) transactions fell by 6.7% in 2012 in nominal terms compared to the previous year, while the median sale price fell from $1.05 million to $868,000; in real terms a significant fall in value.

Furthermore, demand is focussed on areas that are well serviced by existing infrastructure in order to take advantage of supply chain and other efficiencies. The industrial land market in Sydney is now dominated by warehousing rather than manufacturing and so large sites with access to transport, particularly along the major motorways of the M4, the M5 and the M7, are especially in demand by major retailers

From a supply side perspective, there is an abundance of zoned employment lands in the Western Sydney region. Existing zoned lands and lands designated for future zoning were calculated as sufficient to last forty years from 2011. And this does not account for the significant new supply of employment lands in the region (10,700 hectares), which will come from the planned expansion of the WSEA.

At a more local scale, there were almost 1000 hectares of undeveloped zoned employment lands in the surrounding precincts. The more popular sites at Erskine Park, Eastern Creek and Glendenning, which did experience recent take-up, still had substantial land available with eight and a half, nine, and 30 years of supply at historical take-up rates, respectively.

Even at the Dunheved precinct itself, given the 21% vacancy rate of existing buildings there is sufficient undeveloped land to last 14 years based on historical take-up rate.

Competitive position of Dunheved and Central Precinct

As a whole, both the Central and North Dunheved precincts do not score well against suitability criteria for employment lands compared to other available industrial sites in the region. Hence the uncompetitive position of the St Marys employment land sites is likely the driving factor behind the lack of commercial interest for the sites.

Links Road provision

To make the North Dunheved site more attractive, an extension of the Links Road should bring job generation forward. The earlier development of this site will to some extent offset the potential Central Precinct employment lands. Although, it could be argued that the early development of North Dunheved would be a net employment benefit, given the lack of market demand for the potential Central Precinct industrial land.

Zone compatible uses

Analysis of population-driven industries and permissible uses within the zones reveals that a change of zoning from ‘Employment’ to ‘Urban’ for the Central Precinct would have little effect on the number and types of industries that are likely to locate in the Central Precinct. As the industries most likely to locate on the site are population-driven uses already permissible in the ‘Urban’ zone.

Revised job to resident ratio

Current target jobs to resident ratio

The 1:1 jobs to resident ratio was devised to promote higher employment self-containment, with benefits for quality of life, transport infrastructure and the environment. However, achieving a high job to resident and self-containment ratio depends on elements such as scale, location and housing and location preferences of individuals. A high ratio is more likely to occur in larger and more remote areas. Compared to similar masterplanned developments in Sydney and in Queensland, it appears to be inappropriate to expect the St Marys ADI site to have a job to resident ratio of 1:1.

Revised target jobs to resident ratio

Given the potential for on-site and off-site employment, a new target jobs to resident ratio of 0.4:1 should apply to the St Marys ADI site. While this is more than twice the observed rate of Glenmore Park and even higher than Springfield Lakes 0.3:1, we believe that it is an achievable target.

Affordable housing assessment

There is a shortage of affordable housing across the very low, low and moderate income household groups, which suggests an undersupply of housing in the area compared to demand.

The implications for this study are that it may be more beneficial to the local community to build more housing, to increase the supply and therefore affordability of the housing in the area, than to maintain the reservation of employment lands in the area that would otherwise be used for residential development. While new housing would not necessarily be affordable to those on very low, low or even moderate incomes, it would increase the total supply in housing and, all other things being equal, put downward pressure on house prices.

6.2 Conclusion

From a policy perspective, decentralised and out-of-centre suburban employment lands are not supported (apart from business parks) and new greenfield industrial development is encouraged in strategically located areas adjacent to major road infrastructure. There are no examples of other new release residential areas in Australia that have successfully implemented a 1:1 jobs to resident ratio. Instead, they have focussed on enhancing transport links to major employment centres – bringing residents closer to jobs, rather than jobs closer to residents.

The employment market assessment indicates that a weak demand environment persists for industrial development, while at the same time there is an abundant supply of industrial land in Western Sydney. What's more, the North Dunheved site is not desirable when compared to other employment supply in the Western Sydney area. The Central Precinct is even less desirable from a supply attributes perspective than the North Dunheved site.

Given the unaffordability of dwellings in the area, the rezoning of the identified Central Precinct industrial lands to an urban zone would facilitate more residential development, which would put downward pressure on prices and may increase the affordability of dwellings in the area.

Based on the major findings from the report, there is sufficient evidence to indicate that the jobs to resident ratio should be revised and that future employment land development focus on existing sites in Jordan Springs, Ropes Crossing and the North Dunheved precinct.

A high job to resident ratio is a good planning principle to promote higher employment self-containment, with benefits for quality of life, transport infrastructure and the environment. However, the employment lands market has shifted since the original EDS, with a weaker industrial demand environment and more focus on strategic employment sites around the M4. Therefore, the ratio of 1:1 is no longer appropriate for the St Marys ADI site; particularly in light of lower job to resident ratios of other masterplanned estates in Sydney and Queensland.

Given the potential for on-site and off-site employment, a new target jobs to resident ratio of 0.4:1 should apply to the St Marys ADI site. While this is more than twice the observed rate of Glenmore Park and even higher than Springfield Lakes 0.3:1 (currently Australia's largest masterplanned community), we believe that it is an achievable target.

7 APPENDIX 1 – QUALITATIVE ASSESSMENT OF PDE INDUSTRIES

PDE industries that may locate on site	PDE industries that won't likely locate on site	
Waste Collection Services	Fishing, Hunting and Trapping, nfd	Machinery and Equipment Wholesaling, nfd
Residential Building Construction	Bakery Product Manufacturing	Motor Vehicle and Motor Vehicle Parts Wholesaling
Construction Services, nfd	Other Wood Product Manufacturing	Other Goods Wholesaling, nfd
Land Development and Site Preparation Services	Pulp, Paper and Converted Paper Product Manufacturing, nfd	Wholesale Trade, nfd
Building Structure Services	Basic Chemical and Chemical Product Manufacturing, nfd	Motor Vehicle Retailing
Building Installation Services	Basic Polymer Manufacturing	Motor Vehicle Parts and Tyre Retailing
Building Completion Services	Polymer Product Manufacturing	Other Store-Based Retailing, nfd
Other Construction Services	Primary Metal and Metal Product Manufacturing, nfd	Furniture, Floor Coverings, Houseware and Textile Goods Retailing
Construction, nfd	Basic Ferrous Metal Manufacturing	Hardware, Building and Garden Supplies Retailing
Fuel Retailing	Basic Non-Ferrous Metal Manufacturing	Clubs (Hospitality)
Supermarket and Grocery Stores	Basic Non-Ferrous Metal Product Manufacturing	Road Passenger Transport
Specialised Food Retailing	Fabricated Metal Product Manufacturing, nfd	Other Goods and Equipment Rental and Hiring
Pharmaceutical and Other Store-Based Retailing	Structural Metal Product Manufacturing	Veterinary Services
Building Cleaning, Pest Control and Gardening Services	Other Fabricated Metal Product Manufacturing	Packaging Services
Preschool Education	Transport Equipment Manufacturing, nfd	Local Government Administration
School Education	Motor Vehicle and Motor Vehicle Part Manufacturing	Adult, Community and Other Education
Medical and Other Health Care Services, nfd	Machinery and Equipment Manufacturing, nfd	Allied Health Services
Medical Services	Domestic Appliance Manufacturing	Residential Care Services
Child Care Services	Specialised Machinery and Equipment Manufacturing	Other Social Assistance Services
Sports and Physical Recreation Activities	Other Machinery and Equipment Manufacturing	Health Care and Social Assistance, nfd

Automotive Repair and Maintenance	Furniture Manufacturing	Horse and Dog Racing Activities
Personal Care Services	Other Manufacturing	Repair and Maintenance, nfd
	Manufacturing, nfd	Machinery and Equipment Repair and Maintenance
	On Selling Electricity and Electricity Market Operation	Other Repair and Maintenance
	Waste Treatment, Disposal and Remediation Services	Funeral, Crematorium and Cemetery Services
	Timber and Hardware Goods Wholesaling	

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