ATTACHMENT B

CITY OF SYDNEY
EMPLOYMENT LANDS STUDY

Employment lands study

City of Sydney
March 2013

SGS Economics & Planning

Independent insight.

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Scope and context

The purpose of the Employment Lands Study 2013 ('the study') is to determine the long-term demand for industrial and business zoned land in the southern areas of the City of Sydney (the 'City'). The Employment Lands Study builds on the findings of a background report made available for public comment between 23 November 2012 and 21 December 2012. The study includes land use recommendations for the study area and may inform future amendments to the City Plan, which includes the Sydney Local Environmental Plan 2012 (Sydney LEP 2012) and the Sydney Development Control Plan 2012 (Sydney DCP 2012), that became operational on 14 December 2012.

The study is to inform the preparation of the Draft Employment Lands Strategy (the 'draft strategy'), which will be considered by the City of Sydney Council for public exhibition. Following public exhibition, the draft strategy will be reported back to Council for their formal consideration for adoption.

The main study area is known as the southern Sydney employment lands. It contains around 19,000 jobs, which is in the order of 5 percent of the City of Sydney total. The figure overleaf shows this area, and the two smaller employment land areas in Glebe and south of Moore Park (outlined in red), in their subregional context.

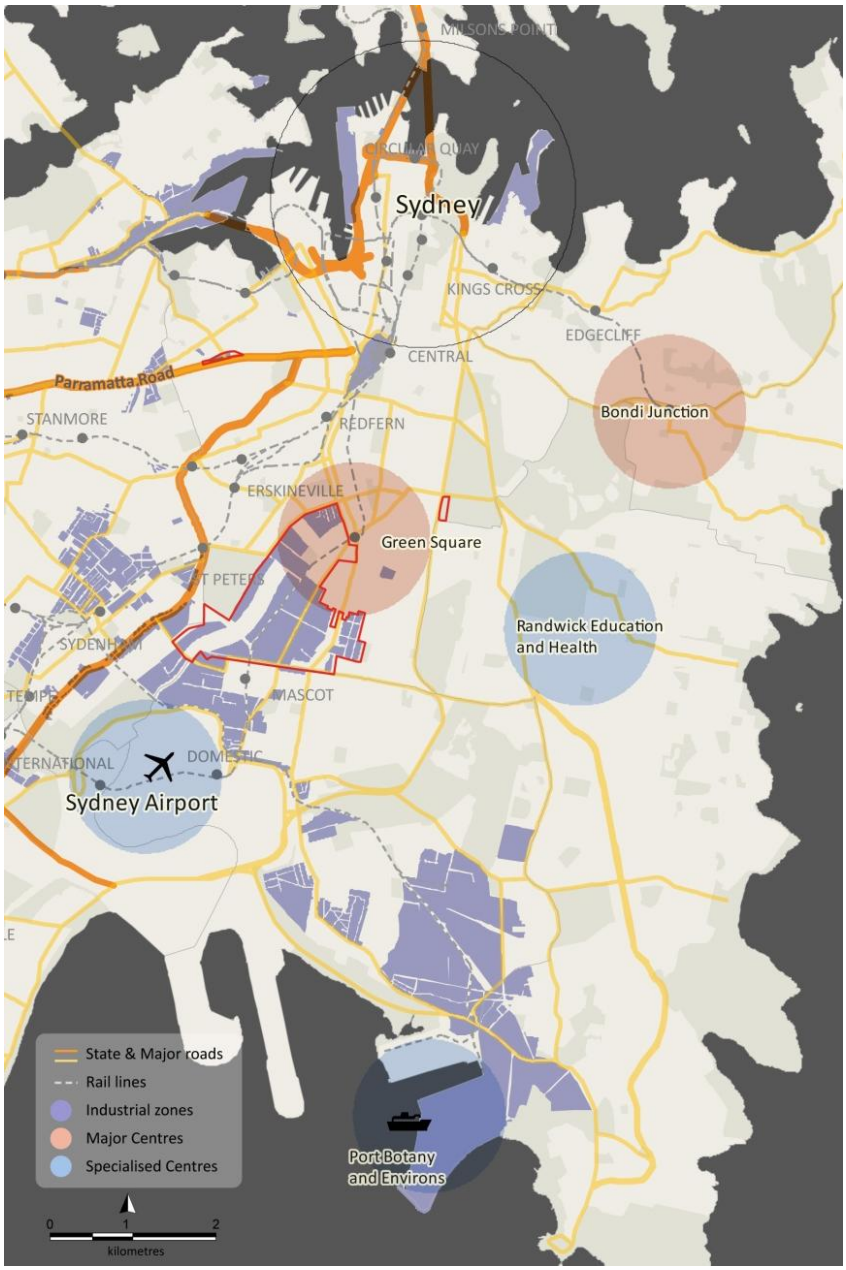
There are few more strategically located areas of employment land in Australia than the main study area. Planning for this area is of national economic significance. This is recognised by the area being included in the 'Global Economic Corridor' within the NSW state government's Metropolitan Plan. This is the collection of assets and centres that includes in the north Macquarie University and Macquarie Park, the hospital and research precinct around the Royal North Shore Hospital and the commercial centres of Chatswood, St Leonards and North Sydney, and south of the harbour the Sydney CBD, the UTS, University of Sydney and RPA education and health precinct, the Green Square Town Centre and Urban Renewal Area and on the airport (Australia's busiest) and port (second largest in terms of freight volumes behind Melbourne). The Global Economic Corridor contains over half a million jobs across a range of high value economic activities.

The main study area is within the City of Sydney LGA, which is only 26.15 square kilometres in size. Despite its limited spatial extent, the 2011 census has recorded that since 2006 the City increased its working population to 395,000, representing four percent of Australia's workforce.

The Glebe precinct on Parramatta Road is a minor commercial precinct while the Moore Park Supa Centa site is a successfully trading bulky goods area.

The strategic policies most relevant to the main study area are the draft Metropolitan Strategy for Sydney to 2031 and the City of Sydney's Sustainable Sydney 2030 plan. Both of these documents reference the importance of the Global Economic Corridor which includes the study area.

FIGURE 1. THE STUDY AREAS IN CONTEXT



Source: SGS Economics and Planning, 2013

The critical economic role of the main study area

Metropolitan Sydney (Sydney), and the Sydney CBD (in the City of Sydney) in particular, underpin the Australian economy to a significant extent. Based on estimates by Deloitte Access Economics (2012), the total City workforce produces just under eight percent of the total Australian GDP, or about $100 billion.

In an economic era defined by the rise of knowledge intensive activities in advanced economies Sydney remains Australia's pre-eminent location for high value, advanced business services jobs. The metropolitan area hosts a disproportionately high share of the nation's services jobs which generate export income (both inter-regionally and internationally), and these are predominately within the City of Sydney LGA. For example, in the 2011 census the City held 14.65 percent of total Australian employment in the Information, Media and Telecommunications (IMT) ANZSIC industry grouping, up from 12.6 percent in 2006.

Nevertheless, in the last 10 years Melbourne increased its share of national 'knowledge generated income' at a faster rate than Sydney. This is partly due to new infrastructure investments and major initiatives such as Docklands which further expanded the stock of employment lands in central Melbourne (which on conservative estimates could host well over 300,000 additional jobs). By contrast Sydney is relatively constrained from a 'new' employment lands perspective. The broad analysis in this study suggests there is sufficient capacity in current controls to accommodate in the order of 115,000 additional jobs in the City of Sydney (the 2010 Metropolitan Plan target to 2036) but that constraints emerge beyond that.

Without attention, this therefore implies a limit to longer term contestability in the Sydney employment lands market (a contestable market being one where the threat of competition dissuades firms from charging prices that will make them excess profits).

The links between urban structure, density, agglomeration and productivity are particularly relevant for this study. They suggest that there is a strong argument in favour of increasing the long term employment potential of the main study area, given its highly strategic location, to increase land availability and alleviate capacity constraints. Economic theory and historical data indicate that doing so will lead to productivity gains, and improve the city's competitiveness and ability to continue to attract high value jobs. This is particularly the case given that the rapid public transport connections between job centres that could otherwise provide for enhanced effective job density elsewhere in eastern and inner Sydney – and productivity boosting agglomeration – are not under consideration and are likely to be some way off. Ensuring an expanded array of longer term options for employment growth in inner Sydney should therefore be a priority to provide the depth and diversity of opportunities required for a changing economy.

A further backdrop for the analysis in this study is the new literature on cities and economic geography by the likes of Enrico Moretti (2012), Richard Florida (2003) and Edward Glaeser (2011). They all argue that successful modern urban economies are built around knowledge and creative industries, and attracting firms and workers in these industries, depends on economically diverse, dense and mixed use environments.

However, while the study area should support the growth of the economy in Sydney through flexible use and development controls which are aligned to new economy activities, there remains a need to ensure some land within the Sydney local government area is available for heavy industrial uses and other activities that may unreasonably impact on more sensitive uses. Such areas are essential to ensure that activities serving the population can continue to locate in the City and inner subregion. These include services such as panel beaters, depots requiring an inner city location to service construction sites, distribution centres, utilities provision, and facilities for concrete batching and waste management. In addition, these areas must also accommodate strategic activities associated with the airport and port and essential support services needing access to the CBD.

While often low in job yield, the economic value of these lands lies particularly in the locational efficiencies they provide. The retention of some of these areas is therefore justified, and will continue to support wider social and economic benefits to the City and the subregion as a whole.

Development and transport constraints

The study areas are relatively unconstrained when the typical physical and site development barriers are considered. There are a few strata titled properties, a scattering of heritage listed properties and sites, and most of the development constraining air traffic noise contours (ANEF 25+) are on the extreme south west edge of the main study area.

The flooding map provided shows isolated impact areas, which are more extensive near the Alexandra Canal and the central part of the main study area. Flooding and groundwater constraints to development are known to be more extensive near the canal and the central part of the main study area but no maps

have been provided showing the extent of these issues. These and potential site contamination issues are likely to be the biggest barrier to more intensive development; residential development in particular.

However, by any measure, traffic and transport issues are likely to be the biggest long term constraint on development across the precinct. The area is near a number of Australia's major trip generators, as discussed above (including the airport, port, and Sydney CBD), and is a destination and origin for significant business to business (freight and small commercial vehicle) and commuter traffic and workers (residents nearby leaving or workers in the precinct arriving). Key issues include:

- looming road and public transport capacity constraints in general in the strategic corridor between the CBD and Sydney Airport, in the context of an anticipated doubling of both passenger and freight activity at the airport by 2029
- considerable movement of heavy vehicles through the main study area, particularly on O'Riordan Street and Botany Road
- capacity constraints on neighbouring major roads such as Southern Cross Drive and the Eastern Distributor which diverts traffic onto adjacent arterial roads in the main study area, leading to congestion on O'Riordan Street in particular
- the need for public transport capacity augmentation with the Airport rail line approaching seated capacity between Green Square and Central, and 'passenger displacement' expected by 2031 if 'nothing is done to improve capacity,
- the increasing importance of Botany Road as a key transit corridor, particularly with the development of Green Square Town Centre and Urban Renewal Area, and the Green Square TMAP notes that it should receive continued bus priority investment (which may be at odds with its current role as major arterial route and carrier of truck traffic).

In a survey undertaken for the background report, land owners were asked to scale a number of factors that were particularly important to the location of their business or operation. Transport and access factors were considered the most important, particularly public transport and truck access. Parking constraints and the pros and cons of the Bourke Road cycle lanes also featured in specific responses.

The NSW Long Term Transport Master Plan was released by Transport for NSW in December 2012 and provides direction for the future of the NSW transport system, including improvements that will impact on the study area.

The Master Plan suggests that the growth precinct of Green Square will require mass transit solutions given that development within the precinct will exceed the walking catchment of the existing Green Square station. Bus investigations will be conducted in relation to the route from Bondi Junction to Burwood via Green Square and Sydenham.

The proposed WestConnex motorway, the 33 kilometre motorway connection in the M4 and M5 corridors, is noted as an immediate priority motorway. The planned location of the southern section of WestConnex (from St Peters to Beverly Hills) is in close proximity to the main study area. The development of this connection will potentially relieve pressure on the Eastern Distributor towards the CBD and along Parramatta Road, and increase the capacity of lower order roads; however, this is not clear within the Plan. The Sydney Airport Access link will provide a connection from WestConnex to Qantas Drive, close to the southern part of the main study area.

The NSW Long Term Transport Master Plan proposes a one-way pairs road operation on Bourke Road and O'Riordan Street to facilitate movement through the corridor. However opinion on the merits of this solution is divided, with those opposing noting its potential to increase traffic and decrease accessibility, disadvantaging pedestrians and local businesses.

Council has a developed a plan for regional and local bike paths. It proposes a number of separated or shared cycleways through the area. These cycleways form part of the City's living green network and are part of an extensive pedestrian and cycle network planned in the City.

Notwithstanding the identification of high level priorities and some more specific interventions in state and local policy documents (for example WestConnex and Council's cycleways) there is currently no comprehensive transport plan for the subregion, including the main study area, which tackles the significant current and looming transport challenges.

Potential future uses

In addition to a survey of and meetings with landowners, consultation was also undertaken with the following groups and agencies:

- Councils of City of Sydney, Botany Bay and Marrickville
- Department of Planning and Infrastructure
- Sydney Metropolitan Development Authority
- Sydney Airport
- Committee for Sydney
- Infrastructure NSW
- Property Council of Australia
- Regional Development Australia – Sydney
- Penrith Business Alliance

Consultation with these stakeholders was combined with the findings from the background report and additional research on economic trends to identify possible future uses for the main study area. Issues in relation to each category of uses are summarised below.

Industrial uses

- Some industries require protection due to their strategic nature, to support the local population, or to provide flexibility in future.
- Lower value industrial uses may be displaced from Botany Bay LGA and the main study area but there is likely to be capacity to accommodate these in Marrickville LGA and in western Sydney.
- Consequently, with the nature of economic activity in the study area changing there is a case for some industrial land to be rezoned for alternative uses.

Airport and port related uses

- Because Sydney Airport is relatively small and passenger and freight activities are expected to more than double in less than 20 years, there is a need for off-site industrial and employment lands to accommodate airport related activities (such as catering, freight forwarding, logistics services and car hire, accommodation services). The port too is also expected to accommodate vastly increased throughput, meaning a greater need for 'land-side' support activities.
- At the same time the supply of suitable land is diminishing or under pressure for alternative uses.
- While parts of the main study area may be 'too far' from the airport for some direct airport related uses, and there may be potential to accommodate these uses elsewhere in future, it is nevertheless prudent to ensure some employment lands are available in the study area for airport related activities.

Pure residential uses

- Residential density is increasing significantly in the surrounding areas and allowing for some residential uses in the study area may facilitate enhanced access to employment and address housing supply constraints.
- However, there are significant issues with rapidly increasing the number of residents in the study area including the loss of strategically located lands for employment, costly development conditions (from contamination, flooding), pressure from residents on airport operations, traffic congestion and interface issues.
- Furthermore, the City of Sydney LGA is already close to or currently meeting its metropolitan strategy and Sustainable Sydney 2030 targets for residential dwellings.

- Residential uses in the study area are therefore best restricted to mixed use areas, where they can facilitate economic development outcomes and attract specific employment activity.

Mixed use activities

- Knowledge-based and creative industries are a continuing and key source of employment growth and flourish in higher density and mixed use areas.
- To support creative and knowledge industry growth carefully selected pockets within the study area might be suited to a greater mix of uses, including some residential.

Commercial uses

- Allowing for more commercial activities would add to the future supply potential and contestability within the Sydney market.
- However, the need to accommodate high intensity employment uses should be balanced by the need to ensure land is available for strategic industrial activities. Furthermore, public transport provision may need to be radically increased to service more intense office and commercial employment.

Retail uses

- Allowing more retail in key locations in the main study area should be considered.
- However given the important role of and capacity in planned centres such as Green Square Town Centre, the scale of the retail should be limited. Furthermore, locations in neighbouring LGAs such as Princes Highway in Marrickville may become more attractive for bulky goods retailing.

Special uses

- Heavier industries could be suited to the southern end of the canal in the main study area
- The increasing local residential population requires community services and social infrastructure and these should be accommodated in or near Green Square Town Centre if possible.

Scenarios

The Bureau of Transport Statistics (BTS) prepares employment projections for Sydney at five yearly intervals to 2031 using a forecasting model. Although the model itself is not publically available, it appears to be principally driven by historical trends with some adjustment for large scale developments that have been announced.

The forecasts show a small increase in the job density of the main study area; with the majority of future employment allocated to the CBD and surrounds and North Sydney. An additional 2300 jobs are projected for the main study area between 2011 and 2036 and around 140,000 for the City of Sydney as a whole.

If the economy of the study area continues on a trend-based trajectory as adopted by these employment forecasts, there will be significant underutilised capacity in the main study area (given the available vacant land and buildings identified in the floor survey and reported in the background report). As such, adopting these forecasts for strategic planning may unnecessarily constrain the economy in the main study area.

An alternative planning approach is justified. This seeks to more actively utilise the land in this strategic location; assumes employment above that projected by historical trends; diversifies economic prospects; and reduces the significant proportion of vacant sites and buildings. Three scenarios were developed to reflect differing demands on the study area as reflected in the discussion above, in addition to the base case of a continuation of the current zoning. For each scenario the implications for employment and provision of dwellings have been considered using estimates of likely and achievable densities within each zone. The alternative scenarios are:

- **Base case**. Office uses are anticipated to be accommodated outside the main study area in Green Square Town Centre or through intensification of the Sydney CBD, and around Mascot station and Redfern-Waterloo. The current mix of development uses remains but generally accommodates industrial uses – traditional industrial; strategic industrial relating to the airport and CBD in particular, and population serving industrial. Capacity is provided for around 17,250 jobs and 390 dwellings.
- **Residential focus**. Includes a component of industrial land in the south west of the site and proposes mixed business areas in a small central area between O'Riordan Street and Bourke Road as well as along Botany Road and immediately to the south of the Green Square town centre. Elsewhere the areas are rezoned for residential, including high density residential east of Sydney Park and west of the canal. Capacity is provided for around 14,250 jobs and 6650 dwellings.
- **Commercial (office) focus**. Includes a component of industrial land in the south west of the site, business park uses west of the canal, small mixed use areas to the north and south east. Otherwise a mixed business zoning would predominate including a bulky goods corridor on the southern end of O'Riordan Street. Capacity is provided for around 36,640 jobs and 280 dwellings.
- **Mixed economy focus**. Includes industrial land in the south west of the site and extending either side of the canal, as well as extended mixed use areas to the north and south east (either side of Botany Road). Elsewhere mixed business uses would predominate, including a bulky goods corridor on the southern end of O'Riordan Street. Capacity is provided for around 27,500 jobs and 850 dwellings.

Each scenario was assessed for its advantages and disadvantages given the discussion of strategic issues and considerations outlined earlier.

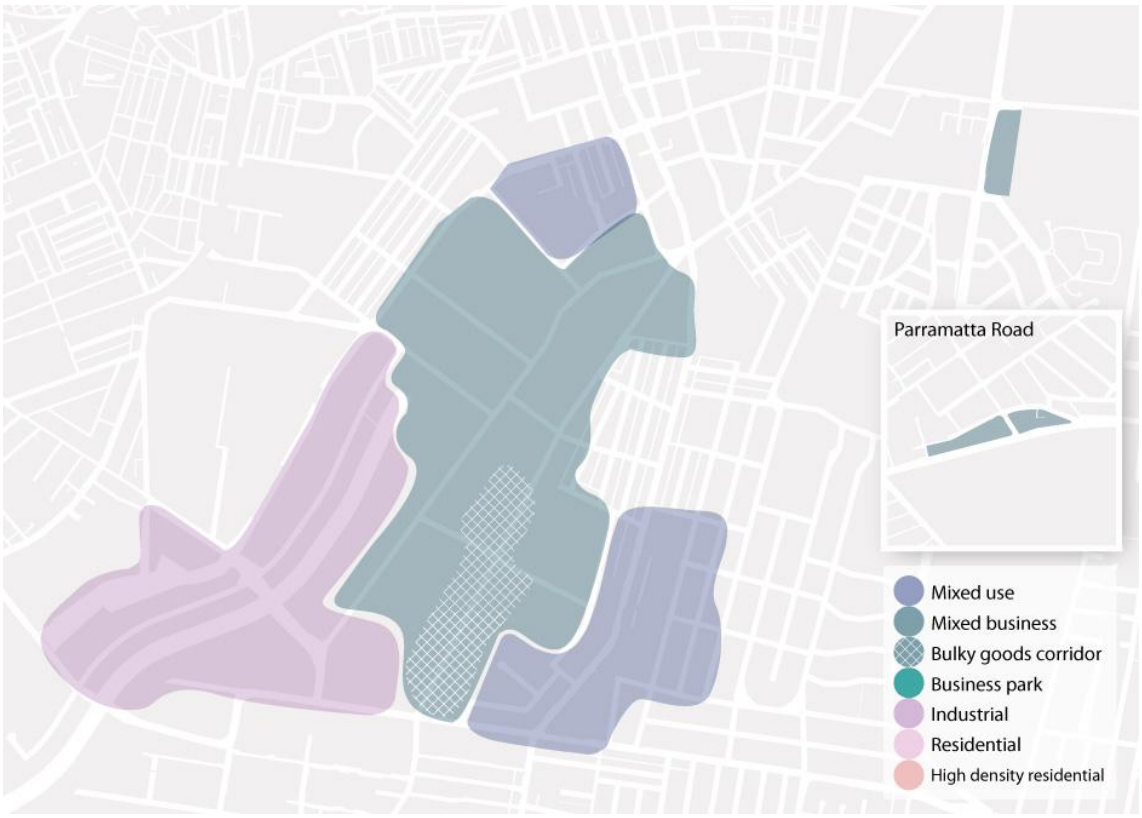
Recommended land use strategy

The recommended scenario for the study area is the mixed economy scenario, shown in the figure overleaf. It is consistent with the roles for the area given the policy and strategic context, balances the range of competing uses in the study area as discussed above and scores highest from a policy perspective against the government's strategic assessment of employment lands criteria. Most importantly, it addresses the question of the strategic employment context, which is fundamental to Sydney's future competitiveness and is of national significance.

This scenario (and the analysis in this report) raises the need for a more comprehensive review of the significance of the industrial areas in general in the subregion. If the main study area is dedicated to a higher order mixed business role then it is important that other employment land precincts within the inner Sydney area also be protected so that they may play their own role in the subregion and Sydney's broader economic geography.

The vision for each precinct and associated actions consistent with the preferred scenario are discussed below.

PREFERRED MIXED ECONOMY SCENARIO



Source: SGS Economics and Planning, 2013

Industrial area

Land use recommendation

Zoning in the south western corner of the main study area should accommodate both heavy and light industry. The zone is to allow for population serving industrial uses (local light industrial and urban services required to service the current and projected population of the LGA) and strategic industrial uses (for example, airport related and freight and logistics uses and some CBD support services such as archiving activities).

Vision

The vision for the zone is for 'pure industrial' with only minimal 'ancillary' uses to support the industrial uses and employment in the zone.

Recommendations

- Ensure the objectives of the zone achieve the vision for the zone.
- Provide flexibility to accommodate a variety of light and heavy industrial uses and allow firms choice as to where they locate depending on their requirements.
- Review floor space ratios to ensure they are appropriate to accommodate the activities envisaged and the vision for the zone.
- Allow for ancillary uses that support the working population of the zone, for example childcare, kiosks and so on. However, ensure that the scale of those uses does not compromise the vision of, or efficient functioning of the zone.

Mixed use areas

Land use recommendation

Zone the northern and eastern precincts of the study area for a mix of employment and residential uses, ensuring that a genuine 'mix' emerges.

Vision

The vision for this area is a genuine mixed use precinct supporting a relatively even mix of employment-generating uses and affordable residential development.

Development should support sustainable travel behaviour including minimising car usage.

Recommendations

- Ensure that as the rezoning of these precincts creates increased land values, a portion of the value uplift is directed towards works or services aimed at achieving the objectives of Sustainable Sydney 2030.
- Ensure the objectives of the zone achieve the vision for the zone by actively encouraging a genuine mix of affordable residential and non-residential uses.
- Ensure the zone provides flexibility to support both employment and appropriate residential uses.
- Undertake a character, heritage and urban design assessment of the proposed mixed use precincts, recognising that appropriate controls will need to be developed that, for example:
  - protect the existing grain and street network
  - respect the scale of the existing built form including the retention of some existing buildings
  - establishes height and floor space ratio controls that are appropriate for the zone.
  - actively promote affordable housing
  - minimise the barriers to innovative housing conversions for 'work-live' outcomes
  - provide for no or low parking associated with the housing in these mixed use precincts.
- Explore opportunities to encourage child care and other local infrastructure needed to support the growing population in the region.

Mixed business areas

Land use recommendation

Zone the centre portion of the main study area and the Parramatta and South Dowling Street precincts for mixed business uses. The zone should ensure sufficient flexibility to encourage and accommodate a variety of economic activities, as well as 'other' uses likely to attract and support higher value activities in these areas.

Vision

The vision for this area is a mixed business precinct in a flexible land use zone. The zone should continue to support warehouse and light industrial uses but also facilitate higher value employment such as offices where appropriate. Retail should be limited in scale and should complement the Green Square Town Centre and other village centres. The zone should continue to support bulky goods uses in limited areas.

Recommendations

- Ensure the objectives of the zone achieve the flexible vision for the zone and encourage a mix of employment activity in the zone.
- Allow for some other non-residential uses, such as entertainment facilities, churches and markets, which support employment activity and/or service the local population. These uses should be limited in scale so they do not detract from the vision of the zone.
- While some retail activity is consistent with the aim of increasing flexibility in the zone and allowing for a variety of employment generating uses, individual retail activities should be limited in scale so that they complement retail activities in the Green Square Town Centre and do not have a detrimental impact on other employment uses in the zone.
- Recognise there are a number of industrial-retail businesses in the main study area, and that these uses should continue to be permitted in the zone.
- Premises with an active frontage to O'Riordan Street should be permitted to accommodate bulky goods premises (in areas where they currently exist) under

Schedule 1 of the Sydney LEP 2012 (which permits additional uses for particular land that may otherwise be prohibited by a land use table). Bulky goods should continue to be consolidated on the South Dowling Street site and in the main study area along O'Riordan Street, where there is an existing cluster and to ensure these uses do not 'crowd out' the potential for other mixed employment activities in neighbouring areas.

- Undertake additional analysis of the built environment and review height and floorspace ratio controls to ensure they are appropriate for the zone.
- Explore opportunities to encourage child care and other local infrastructure needed to support the growing population in the region.
- Encourage sustainable transport choices and where possible introduce measures to minimise parking associated with new development.

Retail precincts

Vision

Planned retail precincts of an appropriate size and location will support the effective functioning of the commercial and mixed use precincts of the study area, as well as the wider area.

Recommendations

- Recognise the major centre role of Green Square Town Centre in providing services, office uses and employment, and protect strategic industrial, commercial and mixed use areas by concentrating anchor retailers (such as supermarkets) in nominated centres.
- Develop a hierarchy of small retail centres in the main study area and surrounding suburbs, considering possible locations at Rosebery, close to the Grounds of Alexandria cafe at the northern end of the canal and Doody Street. This would consider the best locations for these centres, the need for amenities to service businesses and new residents in the area, the projected increase in the local population, the projected redevelopment of Green Square Town Centre, and structure planning issues, transport accessibility, linkages to other centres and so on.
- Explore planning controls that encourage walking and cycling to these locations

Support actions

Action

A subregional approach is needed.
Lobby state government to consider the provision and protection of strategic industrial and employment lands at a subregional level. The objective should be to develop a state planning instrument that protects and maintains inner Sydney employment lands for strategic and other uses consistent with their attributes and location.

Actions

Traffic and transport issues in the study area must be addressed

- Undertake a local high level traffic and transport study to inform the preparation of planning proposals which will implement the recommendations of this report.
- Work with Transport NSW to develop a TMAP for the study area that is responsive to the land use recommendations and ensures sufficient levels of public transport are provided to and through the study area. Some considerations for this study should be:
  - Whether Botany Road could be 'calmed' to support the development of the proposed mixed use precinct, including providing for on-street parking, and elevating its role as a public transport corridor over heavy slow traffic
  - The potential to establish Bourke Road and O'Riordan Street as the principal arterial roads through the study area
  - Prospects for a rail station on the Airport line at Doody Street
  - Continuing to plan for and invest in pedestrian and cycle paths (safe for all users), as well as the general improved amenity of the study area, to promote walking and cycling as an alternative to car usage
  - Opportunities to introduce measures that address potential conflicts between cyclists and heavy vehicles.

Actions

Manage flooding issues

- Ensure planning controls promote the Liveable Green Network Plan to provide a corridor along the alignment of the trunk drainage channel from Alexandra Canal to Bourke Road.
- Integrate the outcomes of the Alexandra Canal Floodplain Risk Management Study and Plan into future planning controls.

Action

Harness opportunities to improve the public domain
Prepare a public domain strategy to consider through-site links, pedestrian amenity, potential for green corridors, minor land dedications for community uses, recreational needs, longer term prospects for redevelopment of the Alexandra Canal and Shea's Creek, cycle paths and so. The focus should be on functionality and accessibility, not necessarily on beautification. It is important these elements of the public domain are recognised in new planning controls.

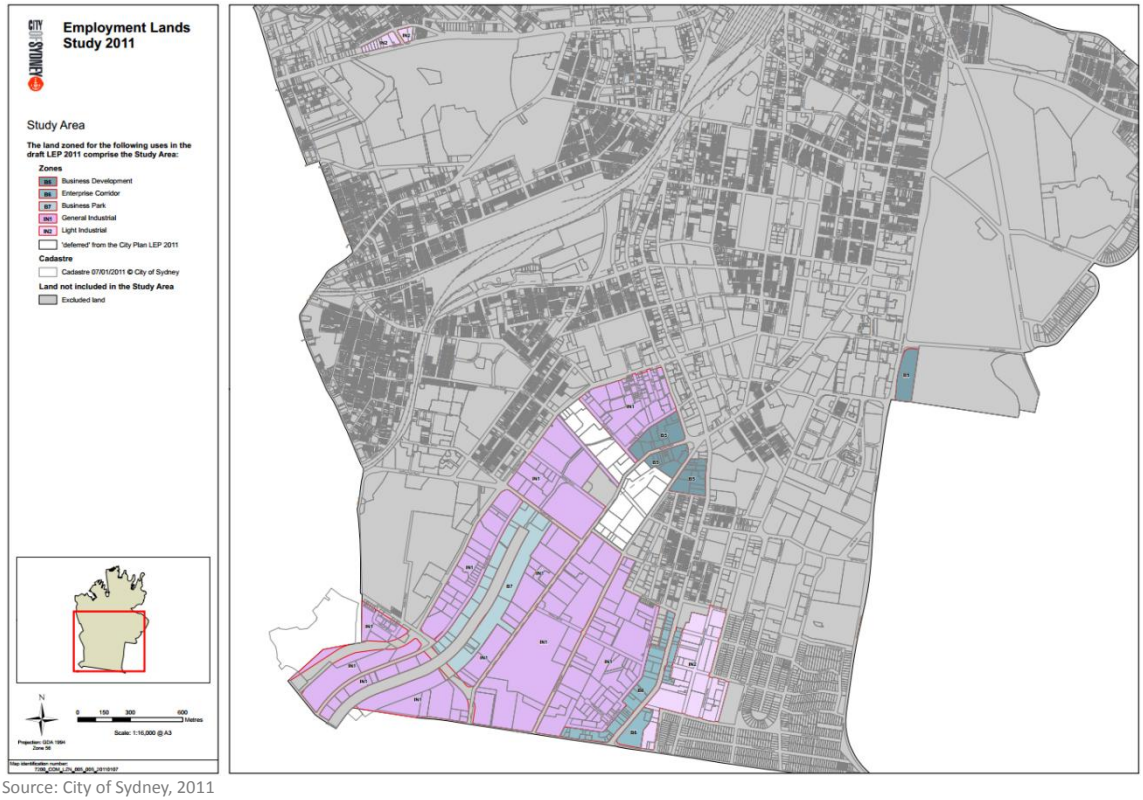
1 INTRODUCTION

1.1 Scope of the study

The purpose of the Employment Lands Study 2013 ('the study') is to determine the long-term demand for industrial and business zoned land in the southern areas of the City of Sydney (the 'City'). The study is to make land use recommendations for the study area and may inform future amendments to the City Plan, which includes the Sydney Local Environmental Plan 2012 (Sydney LEP 2012) and the Sydney Development Control Plan 2012 (Sydney DCP 2012), that became operational on 14 December 2012.

The study area is shown in Figure 2 and comprises three sites: the main study area to the south of the LGA, the South Dowling Street site to the east on which the Supa Centa Moore Park is located, and the Parramatta Road precinct in Glebe.

FIGURE 2. STUDY AREA



Source: City of Sydney, 2011

The study is to take into consideration the City's location within the 'Global Economic Corridor' and identify planning mechanisms to ensure that there are adequate employment lands to support the growth of Sydney within the global economy.

The study will assess the City Plan in terms of how it meets demand for employment lands, and how it facilitates innovation and investment in employment uses within the City. As part of the study, relevant submissions made to the City Plan whilst it was exhibition in 2011 have been reviewed.

In formulating a long-term industrial land use strategy, the study needs to balance the following three, potentially competing, objectives:

- The need to retain viable industrial lands for operators like concrete batching plants, Australia Post and other airport-related industries that are essential to the City's operation and require high accessibility within the City to airport corridor.
- The pressures to re-zone industrial lands to allow for higher order uses such as residential or retail uses, and landowners' claims that there is reduced demand for expensive, industrial land in the City of Sydney because many industries can relocate to cheaper sites in Sydney's west.
- The long-standing State Government direction to consent authorities that employment lands are to be protected and retained, as reinforced in the Metropolitan Plan for Sydney 2036 and Subregional Strategies.

1.2 Background report

The purpose of the background report, provided at appendix 1, is to provide a summary of the existing situation for employment and industrial lands in the study area, in terms of economic and land use profile, strategy and policy framework, assets and infrastructure, stakeholder perspectives and broad economic trends and drivers.

The background report provides:

- a review of the NSW and local strategy and policy framework relevant to the study area
- an analysis of the employment and floorspace profile of the study area and the broader subregion
- a discussion of market dynamics of the study area, including key trends and drivers, analysis of the property market, and discussion of key factors affecting the likely future role and function of the study area precincts
- a review of stakeholder perspectives.

The background report does not provide analysis of future demand or recommendations for future land use for the study area.

The background report was made available for public comment between 23 November 2012 and 21 December 2012. Twenty-three submissions were made and are summarised at appendix 2.

1.3 Contents of this study

The Employment Lands Study builds on the findings of the background report. It incorporates submissions made to the background report, and consultation with key organisations with a perspective on the strategic direction of the study area. It establishes the role of the study area in the Sydney, NSW and the Australian economies, assesses the constraints that exist, undertakes extensive demand and supply analysis of various land uses, and builds a logical rationale for recommendations for zoning in the study area.

The report contains the following sections:

- A summary of the strategic context (section 2)
- A review of constraints, with a focus on medium to long term transport constraints (section 3)
- A review of potential uses for the main study area (section 4)
- A description and assessment of potential scenarios for the main study area (section 5)
- A proposed strategy including implementation actions (section 6)

A number of appendices contain technical and other work which has informed the study conclusions.

1.4 Draft employment lands strategy

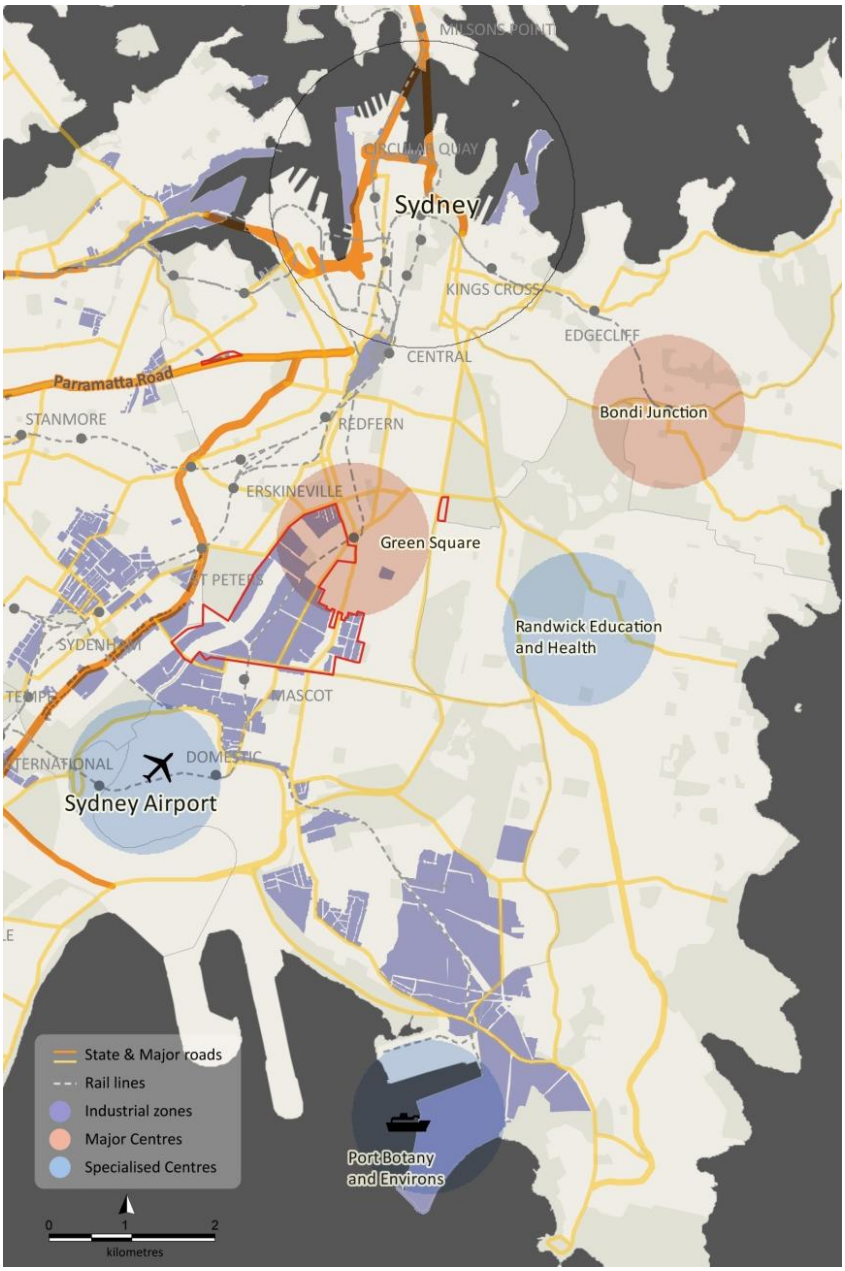
The study is to inform the preparation of the Draft Employment Lands Strategy (the 'draft strategy'), which is separate to this report. The draft strategy will be considered by the City of Sydney Council for public exhibition. Following public exhibition, the draft strategy will be reported back to Council for its formal consideration for adoption.

2 STRATEGIC CONTEXT

2.1 Introduction

The main study area is known as the southern Sydney employment lands. It contains around 19,000 jobs, which is in the order of 5 percent of the City of Sydney total. Figure 3 shows this area, and the two smaller employment land areas in Glebe and south of Moore Park, in their subregional context.

FIGURE 3. THE STUDY AREAS IN CONTEXT



Source: SGS Economics and Planning, 2013

Features of this subregional context include:

- The Sydney CBD is three kilometres to the north of the southern Sydney employment lands. This is Australia's premier commercial hub. It contains in the order of 300,000 jobs across a range of high value sectors including finance, insurance, business and technical services, education, technology, media, retail, arts, entertainment and tourism services. It is the engine room of the business services economy of Australia. It is the gateway to Australia for international capital.
- Sydney Airport is immediately two kilometres south of the main study area. It handles around 36 million domestic and international passengers per annum and is the gateway for most international visitors visiting Australia. The *Sydney Airport Master Plan* (Sydney Airport 2009) envisages Sydney Airport remaining as the sole international and domestic airport for Sydney over the next 18 years (to 2029) and accommodating average annual growth rates of 4.2 percent for passengers and two percent for passenger aircraft movements. It is the main gateway for international air freight to and from Australia, with more than 470,000 tonnes per year. Sydney Airport provides or generates more than 75,000 jobs and approximately 131,000 jobs indirectly, making a total of around 206,000 full-time equivalent jobs. It is estimated that 100,000 additional jobs will be generated by Sydney Airport over the next ten years. Many of these jobs and economic benefits will be generated locally in the areas around the airport. The Sydney Airport Masterplan is currently under review with a draft expected late 2013.
- The Port of Sydney is just three kilometres to the south east of the study area. It is Australia's second largest port in terms of freight volumes (behind Melbourne) with about 1.3 million Twenty-foot Equivalent Units (TEUs), expected to grow to around six million by 2030-31.
- The Green Square Urban Renewal Area, with the Green Square Town Centre at its centre, overlaps with the northern section of the main study area. This is Australia's largest urban renewal area and will ultimately host 40,000 additional residents and 22,000 additional workers by 2030 (from 2008 numbers).
- Between the main study area and the CBD is the Redfern-Waterloo renewal area. This area is gradually being redeveloped, and is a focus for significant new investment in housing (including the redevelopment of public housing areas), employment (it contains the Australian Technology Park on the old Eveleigh Railway Yards site) and community and cultural services (Redfern is the principal focus of the urban Aboriginal community in Australia).
- The subregion contains major educational and health assets. Less than three kilometres to the east of the main study area is the University of New South Wales in Kensington, which, with the Prince of Wales hospital and other medical facilities, forms part of the Randwick Education and Health Precinct. To the north west of the main study area and to the south west of the CBD are the University of Sydney, the University of Technology Sydney and the Royal Prince Alfred hospital.
- There are additional significant and strategic industrial areas elsewhere within the inner Sydney area, in the neighbouring Botany Bay and Marrickville LGAs.

There are few more strategically located areas of employment land in Australia than the main study area. Planning for this area is of national economic significance. This is recognised by the area being included in the 'Global Economic Corridor' within the NSW state government's Metropolitan Plan. This is the collection of assets and centres that runs between Macquarie Park, through Chatswood and North Sydney, through the CBD and on to the airport and port, which contains over half a million jobs across a range of high value economic activities.

The Glebe precinct on Parramatta Road is a minor commercial precinct while the Moore Park Supa Centa site is a successfully trading bulky goods area.

2.2 Key state and local strategic policy settings

There are a number of strategic and policy documents which relate to the City of Sydney and the main study area. A full review of the NSW and local strategy and policy framework relevant to the study area is provided in the background report at appendix 1.

The strategic policies most relevant to the main study area are the Metropolitan Plan for Sydney 2036 (2010) and the City of Sydney's Sustainable Sydney 2030 plan.

It is noted that at the time of finalising this study, the Department of Planning and Infrastructure released a draft Metropolitan Strategy for Sydney to 2031. The draft Metropolitan Strategy reaffirms the importance of the study area in the local, metropolitan, state and national economies.

Metropolitan Plan for Sydney 2036

The *Metropolitan Plan for Sydney 2036* (Metropolitan Plan 2036) (Department of Planning and Infrastructure 2010) builds on the strategies and actions of the Sydney *Metropolitan Strategy: City of Cities* (2005).

The Metropolitan Plan establishes a target of 114,000 new jobs between 2006 and 2036 in the City of Sydney. The additional dwelling target for the City of Sydney is 61,000 new dwellings from 2006 to 2036. Assuming an average dwelling size of 1.8 persons per dwelling, this target aims to accommodate 109,800 new residents in the City of Sydney by 2036.

Sustainable Sydney 2030

Sustainable Sydney 2030 is the vision and strategic plan for the City of Sydney. It sets ten targets for 2030, including for 48,000 additional dwellings, and 97,000 additional jobs by 2030 (from 2006 numbers) with an increased share in finance, advanced business services, education, creative industries and tourism sectors.

Additionally, it is planned that by 2030 at least 10 percent of City trips will be made by bicycle, 50 percent by pedestrian movement and that every resident will be within a 10 minute (800 metre) walk to fresh food markets, childcare, health services and leisure, social, learning and cultural infrastructure.

Green Square is identified as one of the ten 'activity hubs'. Core elements of an activity hub include transport interchange, primary school, business centres, library, community space, childcare, wi-fi hotspot, fresh food market, bike parking, health and medical, City of Sydney service centre and a range of optional activity centres, dependent on local character and need.

2.3 The economic importance of the City of Sydney

The main study area is within the City of Sydney LGA, which is only 26.15 square kilometres in size. Despite its limited spatial extent, the 2011 census has recorded that since 2006 the City increased its working population to 395,000, representing four percent of Australia's workforce. Based on estimates by Deloitte Access Economics (2012), the total workforce produces just under eight percent of the total Australian GDP, or about $100 billion.

The importance of the City of Sydney is even greater in what might be considered the creative and knowledge based sectors. To take one example, in the 2011 Information, Media and Telecommunications (IMT) ANZSIC industry grouping, the City held 14.65 percent of total Australian employment, up from 12.6 percent in 2006. However, not only does the City have the greatest concentration of overall IMT employment, its dominance continues across the breadth of industries combined within this grouping. Many of the concentrations in other areas are the consequence of a high concentration in one industry, or the location of one business headquarters in the area, rather than being spread across the range of IMT industries. The City of Sydney's share of employment is especially strong in some sectors, as shown in Table 1.

TABLE 1. SHARE OF NATIONAL EMPLOYMENT IN CITY OF SYDNEY (DIGITAL ECONOMY)

3 digit ANZSIC Industry	Employment share 2011	Ranking
Internet publishing and broadcasting	56.5	1
Television broadcasting	25.0	2
Software publishing	19.4	1
Data processing and web hosting	18.2	1
Newspaper and book publishing	17.1	1
Internet search providers and search portals	16.8	1
Sound recording and music publishing	15.4	1
Motion picture and video activities	13.3	1
Other information services	13.1	1
Radio broadcasting	10.1	1
Telecommunications services	9.8	2
Library and archives	6.7	2

Source: ABS, Census (place of work Cat. No. 2006), 2011.

The City of Sydney is also dominant in critically linked industries to the digital economy, in terms of clusters of national employment (see Table 2).

TABLE 2. INDUSTRY SHARE OF NATIONAL EMPLOYMENT IN CITY OF SYDNEY (OTHER)

3 digit ANZSIC Industry	Employment share 2011	Ranking
Financial and industrial services	20.7	1
Tertiary education, adult education and support services	5.8	3
Creative industries (broad City-based grouping)	13.8	1

Source: ABS, Census (place of work Cat. No. 2006), 2011 and City of Sydney industry grouping

Supporting and making room for growth of the knowledge economies in the City of Sydney is essential to not only the metropolitan Sydney economy, but also the state and national economies. As Australia's only global city, the City of Sydney, and by extension metropolitan Sydney, must remain competitive and attractive to foreign investment and encourage innovation. The main study area will have a very important role in providing locations for new jobs, as discussed below.

2.4 The role of the main study area in Sydney's future productivity and competitiveness

Sydney's special economic role

Metropolitan Sydney (Sydney), and the Sydney CBD (in the City of Sydney) in particular, underpin the Australian economy to a significant extent.

In an economic era defined by the rise of knowledge intensive activities in advanced economies Sydney remains Australia's pre-eminent location for high value, advanced business services jobs. The metropolitan area hosts a disproportionately high share of the nation's services jobs which generate export income (both inter-regionally and internationally), and these are predominately within the City of Sydney LGA.

Table 3 shows Sydney has a much higher share of export oriented advanced business service jobs than Australia's other metropolitan centres. Sydney accounts for almost 50 percent of Australia's specialised service exports (compared with around 21 percent of all employment).

TABLE 3. ADVANCED BUSINESS SERVICES[1] LEAGUE LADDER

Metropolitan area	Export oriented advanced business services jobs	Share of advanced business services export jobs (%)	Share of all jobs nationally (%)
Sydney	63,061	49.8	20.9
Melbourne	43,091	34.0	18.5
Brisbane	8,742	6.9	9.6
Canberra	6,505	5.1	1.9
Perth	5,277	4.2	7.7
Adelaide	net importer	0	5.6
Hobart	net importer	0	1.0
Darwin	net importer	0	0.6

Source: Spiller, 2009

[1] 'Advanced business services' includes 4 digit ANZSIC categories of 7511 Financial Asset Broking Services, 7519 Services to Finance and Investment n.e.c., 7730 Non-Financial Asset Investors, 7810 Scientific Research, 7821 Architectural Services, 7823 Consultant Engineering Services, 7831 Data Processing Services, 7832 Information Storage and Retrieval Services, 7834 Computer Consultancy Services, 7841 Legal Services, 7842 Accounting Services, 7851 Advertising Services, 7852 Commercial Art and Display Services, 7853 Market Research Services, 7854 Business Administrative Services, 7855 Business Management Services, 7861 Employment Placement Services, 7869 Business Services n.e.c., 8431 Higher Education, 8432 Technical and Further Education, 9621 Business and Professional Associations

Furthermore, while there has been a significant focus in recent times on the role the mining boom has played in Australia's prosperity, the major cities are vital partners in this sector's growth. Sydney for example provides many of the professional and technical services – engineers, IT specialists, human resource brokers and managers, strategic planners and designers, commercial lawyers and financial brokers of all sorts – that 'value add' to the mining industry. More than a third of the inputs in the mining value chain rest in this sector, trade of about $46 billion per year[1], much of which is sourced in Sydney.

Table 4 shows gross value-added per worker per hour relative to the Australian base. It shows that labour in Sydney in the past three Census periods has been more productive than that of Australia as a whole (as the values are all greater than 100), and that productivity in Sydney has grown overall relative to Australia, over the decade shown.

In addition, it shows that labour in Sydney is the most productive of the Australian major cities and regions. This provides Sydney with a competitive advantage over other areas, in that businesses are more likely to be attracted to areas where they can employ more productive workers.

TABLE 4. RELATIVE PRODUCTIVITY PERFORMANCE

	1999-2000	2004-05	2009-10
Sydney	107.5	104.1	108.1
Melbourne	97.2	95.7	96.6
Brisbane	99.3	92.6	93.8
Regional QLD	90.7	97.3	93.4
Perth	109.7	106.1	105.1
Regional WA	168.4	181.8	215.5
Australia	100	100	100

Source: SGS Economics and Planning, 2013. This is based on ABS, National Accounts: State Accounts (Cat. No. 5220.0), and a range of other ABS data sources outlined in SGS Economics and Planning, Australian cities accounts 2011-12, November 2012 (also available at www.sgsep.com.au/files/GDP_by_Major_Capital_City_0.pdf)

Notes: The high values seen in regional Western Australia are due to the investment in capital intensive machinery for mining, which enables a unit of labour to be considerably more productive. Sydney's high productivity is largely due to the high value-add of the financial services sector; however, people in these jobs will move between industries to other high end jobs and bring productivity benefits between sectors.

Metropolitan Sydney's economic primacy has been eroded

Figure 4 shows that notwithstanding its productivity 'lead', Sydney's share of growth of knowledge generated income (from knowledge intensive services which includes information media and

[1] Based on exports of $190 billion, with value added at 30 percent.

telecommunications, financial and insurance services and professional, scientific and technical services) has been falling since 2000 (that is, its primary role in Australia's business services and knowledge economy, while still undisputed, has been slowly eroded). Meanwhile, Melbourne's share of knowledge generated income – although lower in absolute terms – has been gradually rising. Melbourne's central city business service and knowledge economy has grown strongly, at least partly from initiatives such as Docklands renewal area offering a lower cost location for knowledge-related activity, and investments in infrastructure (particularly transport) that have supported employment growth.

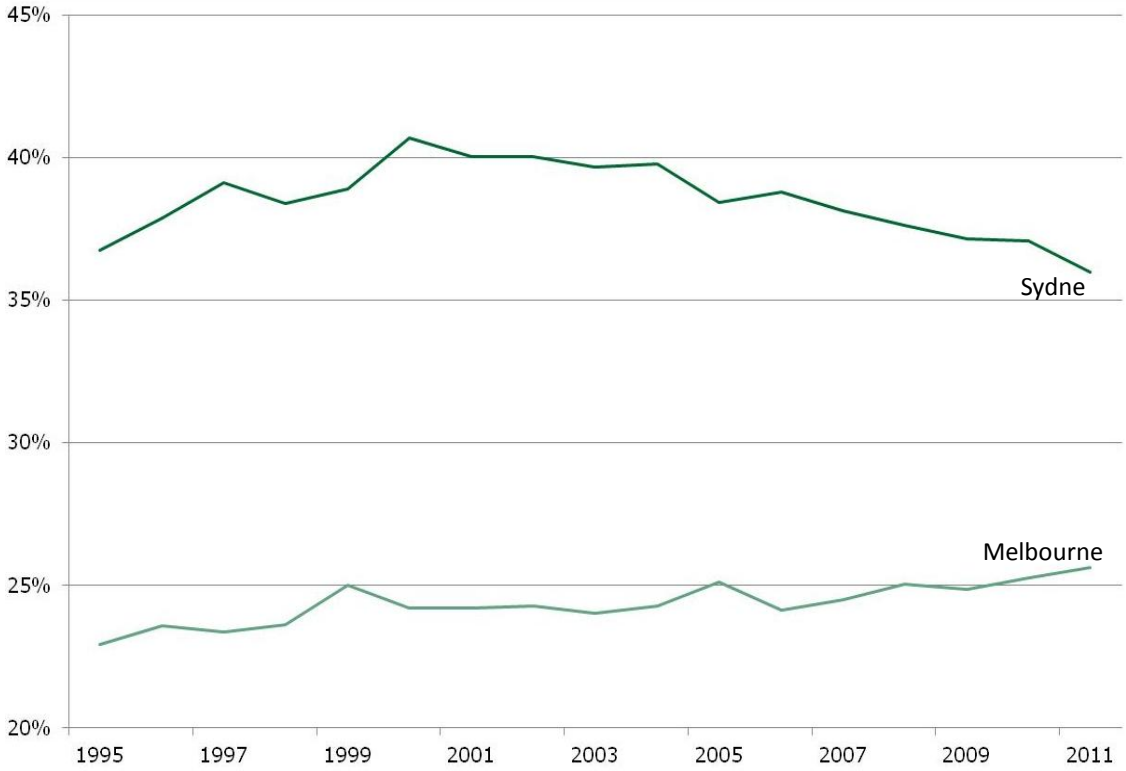
More detail on the relative performance of the City of Melbourne and the City of Sydney, as reflecting the performance of their respective metropolitan economies, is shown in Table 5. As discussed above under the economic role of the City of Sydney, the table shows the strength and growth of IMT, professional and technical services and computer related services employment in the City from 2006 to 2011. However, the table also shows how the City of Melbourne 'caught up' somewhat in this period. It grew at a faster rate than the City of Sydney in these sectors overall in this same period, though from a lower base.

Agglomeration

Agglomeration refers to the density and/or spatial size of economic activity. Firms are generally more productive in denser areas due to:

- access to economies of scale and scope, which means they have an ability to specialise, given the large pool of potential customers that are readily accessible
- the availability of numerous supply sources and potentially specialised infrastructure, and the competitive environment that stems from this
- access to a deep and diverse pool of skilled labour, often complemented by high levels of technological/ knowledge transfer between firms, which helps bolster innovation.

FIGURE 4. SHARE OF KNOWLEDGE GENERATED INCOME, 1995 TO 2011



Source: SGS Economics and Planning, 2012, using ABS data
Note: The Australian Bureau of Statistics State Accounts publication provides income generated by each industry for each State. Hours worked data from the Labour Force Survey is used to estimate the Capital City share from the State income figure. The hours worked are weighted by an average wage rate for Capital City and Balance of the State from the Census. This accounts for different economic structures within each industry in the Capital City and Balance of the State. For example, in Financial & insurance services the type of activities (from basic banking operations up to hedge funds) is much wider than in Balance of the State (where basic banking operations are the most common activities). In New South Wales and Victoria around 90 per cent of activity in Knowledge intensive industries takes place in Sydney and Melbourne respectively.

Increases in the job density of an area and accessibility to jobs both improve the potential to capture agglomeration benefits, leading to higher labour productivity and human capital. Rawnsley and Szafraniec (2010) found that doubling effective job density (a measure that takes into account the concentration of jobs in an area and the amount accessible within 30 minutes) results in:

- firms becoming around 8 percent more productive on average, which fits with international literature
- firms in the Professional, Scientific and Technical Services industry seeing productivity gains of closer to 17 percent
- firms in the manufacturing, wholesale trade, and transport, postal and warehousing sectors seeing falls in productivity. These sectors benefit from locating in less dense areas because, as density increases, services start to occupy areas and bid up rents which slows growth of that industry in that area and results in reducing productivity gains. This highlights the importance of protecting land where these uses are essential to an area's functioning or of strategic value, for example with long term zoning plans to reduce property speculation.

For Sydney, productivity is advanced where the concentrations of employment increase, or where rapid transport connections enhance effective business to business relationships, as well as relationships between businesses and the workforce.

TABLE 5. CITIES OF MELBOURNE AND SYDNEY, EMPLOYMENT IN SELECTED 2 DIGIT ANZSIC SECTORS, 2006 & 2011

City of Sydney – Selected 'two digit' ANZSIC industry sector employment	2006	2011	Change 2006-11	% change 2006-11
Motion picture and sound recording activities	1,971	3,002	1,031	52%
Broadcasting (except internet)	3,787	4,975	1,188	31%
Internet publishing and broadcasting	500	1,286	786	157%
Internet service providers, web search portals & data processing	1,001	1,825	824	82%
Information media and telecommunications, nfd	382	591	209	55%
Professional, scientific and technical services	52,224	60,650	8,426	16%
Computer system design and related services	8,861	12,783	3,922	44%
Professional, scientific and technical services, nfd	133	126	-7	-5%
Total	**68,859**	**85,238**	**16,379**	**24%**

City of Melbourne – Selected 'two digit' ANZSIC industry sector employment	2006	2011	Change 2006-11	% change 2006-11
Motion picture and sound recording activities	788	767	-21	-3%
Broadcasting (except internet)	1,295	1,765	470	36%
Internet publishing and broadcasting	55	183	128	233%
Internet service providers, web search portals and data processing services	1,009	1,150	141	14%
Information media and telecommunications, nfd	96	113	17	18%
Professional, scientific and technical services	41,643	50,486	8,843	21%
Computer system design and related services	10,245	17,250	7,005	68%
Professional, scientific and technical services, nfd	75	103	28	37%
Total	**51,984**	**67,849**	**15,865**	**31%**

Source: ABS, Census (place of work Cat. No. 2006), 2006 and 2011 SGS calculations.
Note: Professional, Scientific and Technical Services category excludes Computer System Design and Related Services

Cost and availability of land

Sydney's capacity to grow knowledge intensive sectors reflects its offer of superior agglomeration benefits for these industries; however, there is a price to pay for these benefits. The Age (2012) notes that Sydney is now the fifth most expensive place to do business, more expensive than New York, and sites such as Docklands in Melbourne offer a lower cost location for knowledge-related activity.

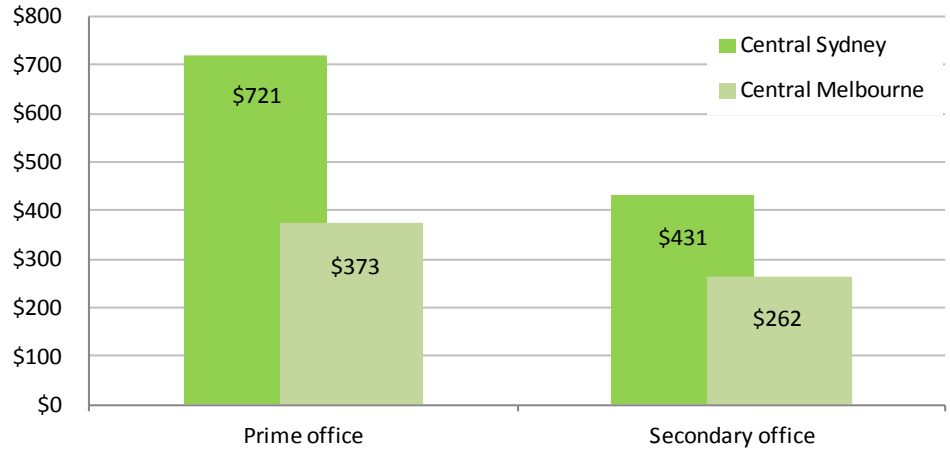
Figure 5 shows that the cost of prime office space is considerably lower in Melbourne than Sydney.

Land availability is likely to be a significant factor in this difference, with Melbourne having a relatively large supply of strategically located employment land and ample opportunity areas for future growth. Beyond the established areas of the CBD and St Kilda Road where capacity remains (over 180,000 jobs[2]), there appears to be ample opportunity areas for future growth: the established brownfields of Docklands (20,000 jobs[3]) and Southbank (16,000 jobs[4]) have significant further capacity for development. Detailed planning has already been undertaken for new sites such as E Gate (4000 jobs[5]), City North (10,000 jobs[6]) and Arden Macaulay (30,000 jobs[7]) to accommodate large scale future development. Preliminary planning work around Fishermans Bend (32,500 jobs[8]) has commenced. Potential locations for further development in addition to these include Dynon Road (35,000[9]) and the rail corridor from

[2] City of Melbourne Employment Forecasts, 2011 (2031 estimate) and Department of Transport Land Use Projections 2041
[3] Docklands MasterPlan
[4] Southbank Structure Plan, 2010
[5] Major Projects Victoria Estimate
[6] City North Structure Plan, 2010
[7] Arden Metro Station Redevelopment Preplanning estimates
[8] SGS initial urban design analysis
[9] SGS estimates provided to Victorian Department of Transport and Department of Planning and Community Development

Federation Square to the MCG. These areas could ultimately host well over 300,000 jobs and, though no exact estimate is available, more likely over 500,000 jobs[10].

FIGURE 5. PRIME AND SECONDARY OFFICE NET RENTS, PER SQUARE METRE

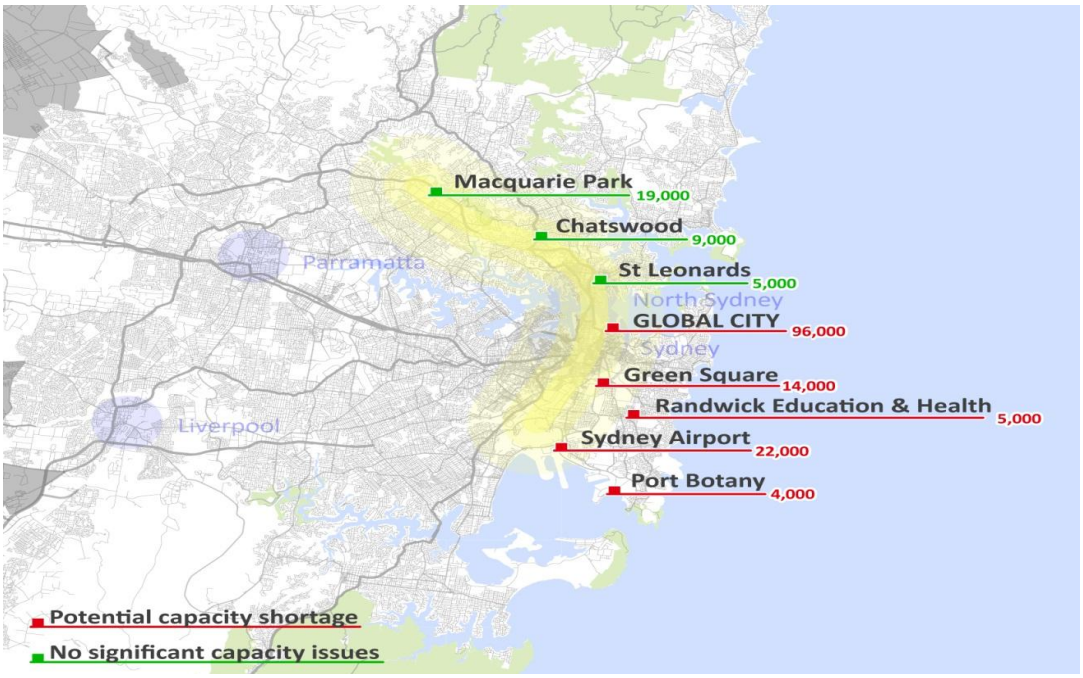


Source: Knight Frank Melbourne and Sydney office market overviews, May 2012

In Sydney, knowledge intensive services are concentrated in the global economic corridor, where capacity shortages under current controls are possible over the next 25 years, particularly between the CBD and airport. Figure 6 shows one view of capacity for employment growth, given the employment capacity targets in the Metropolitan Plan, within centres in the global economic corridor based on current planning controls.

[10] Particularly given the significant development occurring in the precincts around Melbourne University (Parkville and Carlton) and around the hospital in North Melbourne.

FIGURE 6. POTENTIAL CAPACITY TO ACHIEVE METROPOLITAN STRATEGY EMPLOYMENT CAPACITY TARGETS FOR 2036 IN GLOBAL ECONOMIC CORRIDOR CENTRES GIVEN CURRENT PLANNING CONTROLS



Source: SGS Economics and Planning estimates, 2013 using various sources including Bureau of Transport Statistics, Department of Planning and Infrastructure (2010), SGS Economics and Planning (2009), SGS Economics and Planning (2007), City of Sydney (2007), PCA (2010), North Sydney and Willoughby Council (2007)

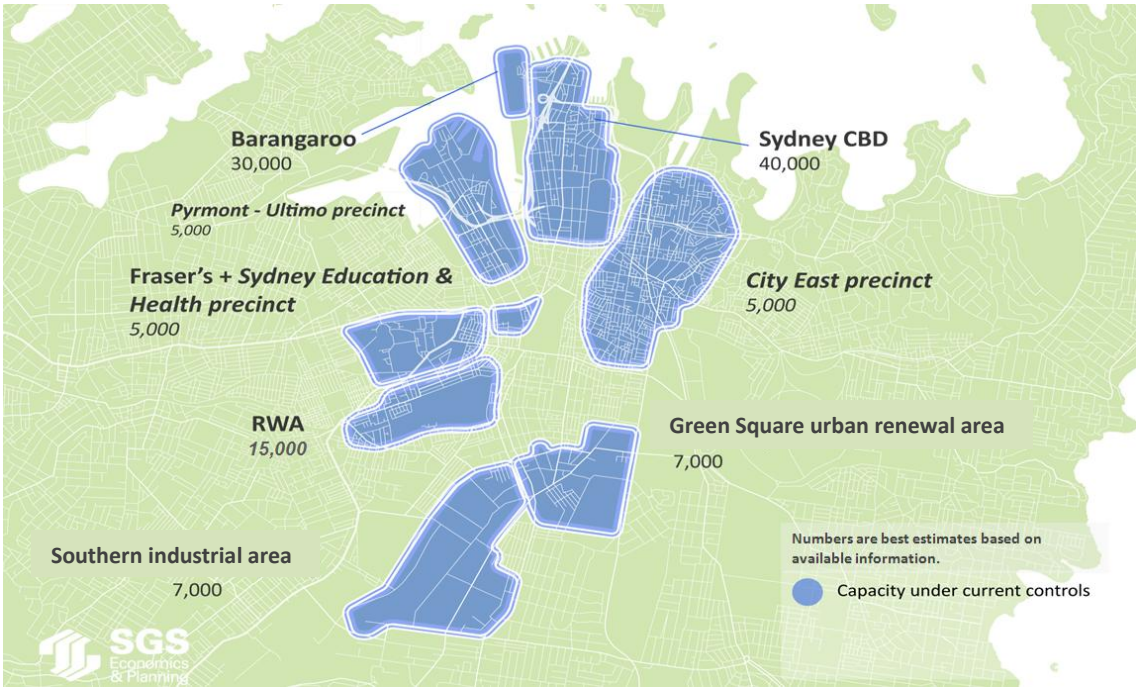
There is a long term constraint on commercial space in the Sydney CBD, though the extent of this is debated. The Property Council of Australia (PCA) (2005) notes that the CBD is small by international standards and tightly constrained. Capacity estimates prepared by the PCA find that the commercial core of Sydney will 'run out' of office space in 12 to 15 years. This estimate is refuted by the City of Sydney who in 2008 prepared the City of Sydney capacity study, which measured the gap between the floor space available under the 2008 planning controls 'as built', and the potential floor space that could theoretically be achieved under the then proposed City Plan controls. In 2010 the capacity study was updated. It concluded that after taking into account the anticipated floor area for major site, including Frasers (CUB), Barangaroo, Harold Park and Redfern-Waterloo, the City Plan has the potential to achieve 96 percent of the estimated floorspace required to meet the dwelling and workforce targets established under the Draft Sydney City Subregional Strategy.

In either case, the evidence implies a limit to the longer term contestability in the market (a contestable market being one where the threat of competition dissuades firms from charging prices that will make them excess profits). North Sydney may be able to accommodate some spill over demand from the CBD but tends to serve a different market.

It is noted the City of Sydney is currently undertaking a review of Central Sydney planning controls in which employment capacity targets will be addressed in more detail.

Ensuring an expanded array of options for employment growth in inner Sydney should therefore be a priority. As shown in Figure 7, there is limited existing capacity in other sites where controls already provide for additional growth to achieve the 2036 employment capacity target.

FIGURE 7. ESTIMATED NET NEW EMPLOYMENT CAPACITY IN EXISTING EMPLOYMENT AREAS IN THE CITY OF SYDNEY UNDER EXISTING CONTROLS



Note: Numbers are best estimates based on available information. Precincts in italic text are those for which employment capacity is less certain.
Source: SGS Economics and Planning, 2012 estimates using various sources including Barangaroo Delivery Authority (2012), Department of Planning (2005), Department of Planning (2008), Department of Planning and Infrastructure (2010), SGS Economics and Planning (2008), Redfern Waterloo Authority (2006)

In these and some other areas there is potential for about 114,000 new jobs, including perhaps 14,000 new jobs in the Southern employment lands (while maintaining the current industrial 'flavour' of the zoning) and Green Square urban renewal areas.

This appears sufficient to achieve the Metropolitan Plan targets for the City for 2036 (as shown in Table 6 which compares the potential in individual precincts across the City as a whole to the aggregate targets for 'Global Sydney' and the Southern and residual major employment areas in the City). However, given the experience in Melbourne where the stock of inner employment lands is vast and has kept rents and prices constrained, and the critical need to protect the potential to enhance agglomeration economies in Sydney, the stock of available capacity in existing employment lands may not be adequate (even if it is, say, a 50 percent undercount) to provide the depth and diversity of opportunities required for a changing economy.

TABLE 6. CURRENT ESTIMATED POTENTIAL TO MEET TARGETS IN CITY OF SYDNEY

			Metro Plan target 2036	
	2006 (a)	Potential	Addition (06-31) (b)	Total (a+b)
Global Sydney	**358,000**	**100,000**	**96,000**	**454,000**
Sydney CBD	280,000	40,000		
Barangaroo	-	30,000		
Pyrmont-Ultimo precinct	15,000	5,000		
Redfern-Waterloo	5,000	15,000		
City East precinct	30,000	5,000		
Frasers Broadway and the Sydney education and health precinct	28,000	5,000		
South Sydney and residual	**71,000**	**14,000**	**18,000**	**89,000**
Green Square Urban Renewal		7,000		
Southern employment lands		7,000		
Residual (e.g. Glebe, Newtown)		0 (or modest)		
City of Sydney	**429,000**	**114,000**	**114,000**	**543,000**

Source: Department of Planning & Infrastructure (2010), SGS best estimates using various sources including Barangaroo Delivery Authority (2012), Department of Planning (2005), Department of Planning (2008), Department of Planning and Infrastructure (2010), SGS Economics and Planning (2008), Redfern Waterloo Authority (2006)

Implications for the study area

The Bays Precinct also has the potential to contribute to employment targets in the inner city. While at the time of writing this report limited information is available, it is clear the case for inner harbour port options at this site remains strong, and any renewal would also inevitably involve a contest with open space and residential uses, with the scale of development also likely to be controversial.

From this perspective the role of the main study area in providing significant employment potential in the inner city area remains compelling, particularly remembering that the rapid public transport connections between job centres that could otherwise provide for enhanced effective job density – and productivity boosting agglomeration – are not under consideration and are likely to be some way off.

The links between urban structure, density, agglomeration and productivity are particularly relevant for this study. They suggest that there is a strong argument in favour of increasing the long term employment potential of the main study area, given its highly strategic location, to increase land availability and alleviate capacity constraints. Economic theory and historical data indicate that doing so will lead to productivity gains, and improve the city's competitiveness and ability to continue to attract high value jobs.

2.5 The new literature on a successful urban economies

There have been a number of recent contributions on cities and economic geography which provide some intelligence about the underlying contributors to a successful urban economy. The likes of Enrico Moretti (2012), Richard Florida (2003) and Edward Glaeser (2011) have all written books on this or related topics.

They all argue that density and diversity are the hallmarks of successful urban economies based on knowledge and creative industry jobs.

According to Moretti (2012, p.6), old manufacturing centres are disappearing as 'new innovation hubs' become the 'new engines of prosperity'. Technological advances have reduced the value of physical goods but increased the value of human capital and innovation (Moretti 2012, p. 10), with job growth in developed economies now highest in knowledge-based industries. Moretti (2012) concludes that social

interactions among workers increases innovation and productivity and by clustering innovators and the creative class, creativity will be fostered and workers will be more successful.

Filion (2001, p. 66) argues that unlike 'mono or less diversified industrial settings', economically diverse centres have been recognised as offering more opportunities and being more resilient within the broader economy. However, in order for diverse, mixed-use centres to be successful, there needs to be 'a diversity of activities, with a strong office employment and retail complement, and development at a density that is much higher than the suburban norm' (p.142).

Florida (2003) writes that vibrant, diverse, mixed-use centres characterised by high density residential, office employment and retail are attractive to creative workers because they foster interaction and knowledge sharing (p. 249). He notes that 'economic growth is powered by creative people, who prefer places that are diverse, tolerant and open to new ideas', and thus cluster in vibrant and active centres.

Glaeser (1998) highlights that as urban density increases, interaction between people also increases and they develop and learn through their interactions. Desrochers and Leppälä (2011) further develop this idea, highlighting that creative individuals have more opportunity to address problems in economically diverse environments where there are a range of people with different expertise. Therefore, economically diverse environments encourage innovative behaviour, which in turn further attracts skilled workers and facilitates economic growth.

A critique of this literature is that it tends to generalise the potential of cities – both within and between them. Major structural forces contribute to the success or otherwise of cities and their component areas. However, for inner city areas with robust economic prospects or potential the message is clear. The successful modern urban economies are built around knowledge and creative industries, and attracting firms and workers in these industries, depends on economically diverse, dense and mixed use environments. When consistent with orderly planning that aims for sustainable transport outcomes, maximises the return on public investment in infrastructure and protects opportunities for vital urban activities, this should be a key guide to planning for change in the southern Sydney employment lands.

2.6 The role of the main study area given Sydney's changing economic geography

Globalisation has been marked by a rapid increase in global trade in goods and services and, in particular, capital flows. The decline of manufacturing-dominated industries that prevailed during the twentieth century has given rise to a new service dominated economic complex (Sassen 2008), facilitated by:

- technological innovation in transport, logistics and communications
- promotion of deregulation in particular industry sectors
- removal of trade restrictions and exchange controls
- innovation in the management and pricing of transaction risks, in the form of insurance, hedging, and partnership formation, among others.

More generally, globalisation is likely to continue to drive a separation between the 'thinking' part of the value chain (namely design, brokerage, marketing, strategy formulation) and the making or manufacturing, and distribution, in the form of transport, logistics, and after sales service.

Competition from low cost countries has affected industry in Australia as a whole, forcing many firms to reduce costs as much as possible. This has resulted in some relocating to industrial areas in the outer suburbs of Sydney, particularly Western Sydney; and others offshore. This is a function of utility and opportunity cost, that is, the cost of land and rents, versus increased transport cost, relocation costs and level of infrastructure support.

As firms relocate to lower cost land, the land left behind becomes available, potentially for other uses. Markusen (1996) describes these types of space as 'slippery', as the ease of moving to lower cost regions increase. BIS Shrapnel believes that while land in the inner city and southern and northern Sydney is constrained, any given level of demand can be met through vacant land in the outer regions, promoting movement to these regions and a reuse of inner city lands (BIS Shrapnel 2011).

However, some higher value manufacturing and other industrial uses may still require urban space, due to networks and contracting chains, and an inherent need to be located in close proximity to customers and craftsmen (Sassen 2008). In the more connected global economy, there are strategic industries, particularly logistics, deriving advantages from locating close to the port and airport. Furthermore, the placement of particular industries, firms and facilities (such as Council depots) on the fringe of the CBD is vital to providing essential support services to large population centres.

The main study area is strategically located and is well placed to play a role for firms in different parts of the value chain, though clearly its trajectory will be towards higher value activities.

Ultimately, the role of the study area should be to support the growth of the economy in Sydney through flexible use and development controls which are aligned to new economy activities (creative uses, knowledge industry, flexible office space). This is consistent with the Property Council of Australia (2010, p.7) commentary that regeneration of brownfield employment lands needs to occur to overcome an existing sterilisation of 'under-productive industrial land' in the inner city and middle ring of Sydney which could be better utilised for a 'wider range of higher yielding employment uses'. However, while lower value, land hungry activities will continue to relocate from the area (overseas or to western Sydney), if they haven't already done so, there will be a need to ensure that activities associated with the airport and port can find appropriate sites, and there will remain a role for the area in housing essential support services needing access to the CBD or otherwise serving the rapidly growing population in the inner city subregion.

This is fundamental to the recommendations made by this study. The role of the study area is not only to facilitate employment, and therefore cannot be only measured by the quantum of jobs. It is also to facilitate the efficient functioning of the City, support key state infrastructure including the airport and the port, and create an economic environment where the City's economy, and by extension metropolitan Sydney's and the Australian economies, can flourish.

3 DEVELOPMENT CONSTRAINTS AND TRANSPORT CONTEXT

3.1 Development constraints

The study areas are relatively unconstrained when the typical physical and site development barriers are considered (see maps in appendix 3). There are a few strata titled properties, a scattering of heritage listed properties and sites, and most of the development constraining air traffic noise contours (ANEF 25+) are on the extreme south west edge of the main study area. The flooding map provided shows isolated impact areas, which are more extensive near the Alexandra Canal and the central part of the main study area.

Flooding and groundwater constraints to development are known to be more extensive near the canal and the central part of the main study area but no maps have been provided showing the extent of these issues. These and potential site contamination issues are likely to be the biggest barrier to more intensive development; residential development in particular.

However, by any measure, traffic and transport issues are likely to be the biggest long term constraint on development across the precinct. The area is near a number of Australia's major trip generators, as outlined in the previous section (including the airport, port, and Sydney CBD), and as a destination and origin for significant business to business (freight and small commercial vehicle) and commuter traffic and workers (residents nearby leaving or workers in the precinct arriving). The focus in this section therefore is on the traffic and transport context for development.

3.2 Existing transport

Roads

The principal north south roads near or through the main study area include the Princes Highway (to the west), the Eastern Distributor (to the east), Botany Road (on the eastern edge) and O'Riordan Street (through the centre of the main study area) connecting the airport to Green Square. Bourke Road is a local but major distributor road which also runs north south through the main study area. Botany Road, O'Riordan Street, Bourke Road and Bourke Street (running to the north) form a five way junction at Green Square just on the north east edge of the main study area.

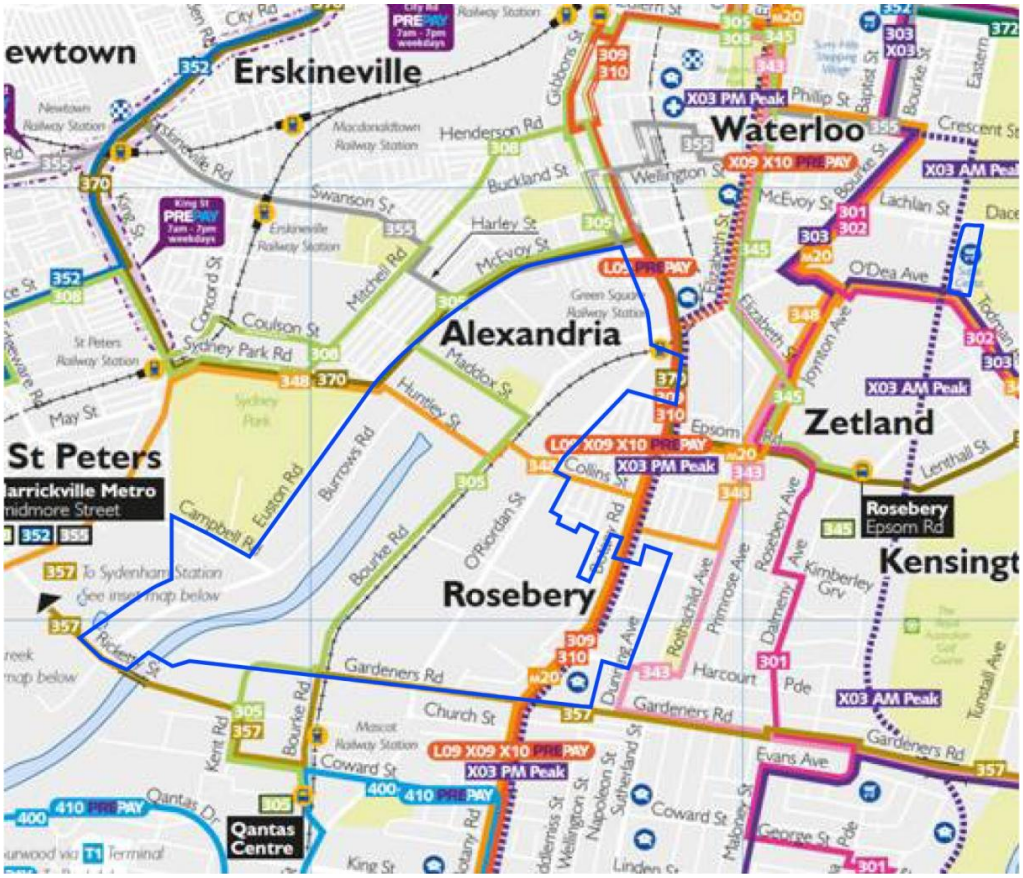
East west traffic movement through this southern Sydney area is heavily constrained and relies on the Lachlan St/McEvoy St/Euston Rd/Sydney Park Rd system to the north of the main study area and Gardeners Road which is the southern boundary. Within the main study area Huntley St/Collins St is the principle east west through connection, with some access through Doody Street in the southern portion of the main study area.

Public transport

Figure 8 shows the public transport services in the vicinity of the main study area. Green Square railway station (to the north) and Mascot station (to the south) are just outside the main study area. The

distance between these two stations is 2.5 kilometres. A number of bus routes run along the edge of the main study area, with the Botany Road corridor being particularly well served. Apart from the Botany Road services only the 305 and 348 penetrate into the main study area.

FIGURE 8. PUBLIC TRANSPORT ROUTES WITHIN MAIN STUDY AREA



Source: Transport for NSW: Sydney Buses, 2013

Bus number	Route description	Frequency
301	Eastgardens – Mascot – Surry Hills – City	Daily full time service
X03	Sans Souci – Kyeemagh – Surry Hills – City	Monday to Friday afternoon peak hour express service
305	Stamford Plaza Hotel – Railway Square	Monday to Friday peak hour service (four services in the morning and four services in the afternoon)
309	Port Botany – Mascot – Redfern – City	Daily full time service
L09	Port Botany – Mascot – Redfern	Monday to Friday peak hour limited stops
X09	Eastgardens – Botany – Mascot – City	Monday to Friday peak hour express service
310	Eastgardens- Mascot – Redfern – City	Daily full time service
X10	Eastgardens – Botany – Mascot – City	Monday to Friday peak hour express service
343	Kingsford – Rosebery – City	Daily full time service
348	Wolli Creek – Alexandria – UNSW – Randwick Junction – Bondi Junction	Daily Monday to Friday service (total of 49 services each weekday - twenty-five from Wolli Creek to Bondi Junction and twenty-four in the opposite direction).
357	Sydenham – Eastlakes – Bondi Junction	Daily full time service (selected weekday peak hour services extend to Sydenham via Mascot railway station)
370	Leichhardt – Glebe – Newtown – UNSW – Coogee	Daily daytime service
M20	Gore Hill – St Leonards – Crows Nest – North Sydney – City – Surry Hills – Redfern – Waterloo – Mascot – Botany	Buses operate approximately every 10 minutes during the peak period, 15 minutes throughout the day and approximately every 20 minutes on weekends and other times. Only a day time service between 6:30am and 8pm weekdays and 7:30am and 7:30pm on weekends.

Source: Adapted from Transport for NSW: Sydney Buses: 2013

Cycling

Separated cycleways have been completed along Bourke Road, through the centre of the main study area, as well as Bowden Street and Mandible Street in the north. The City undertakes periodic counts of cycleway users. Results from 2012 show average monthly trips between 5000 (June 2012) and 10,000 (October and November 2012) on the Bourke Road cycleway.

3.3 Transport constraints

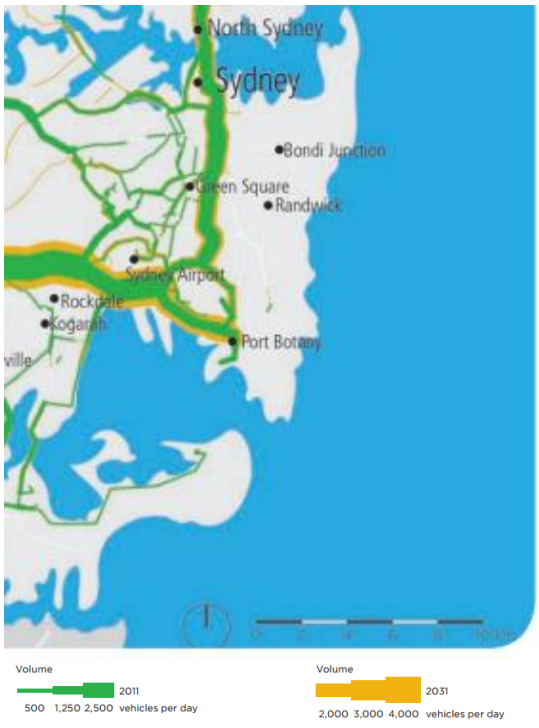
The recently released Long Term Transport Master Plan highlighted a number of traffic issues and looming constraints in and around the study area.

Heavy vehicle, road network performance and rail capacity

Figure 9 shows there is considerable movement of heavy vehicles through the main study area, with a number of roads showing high volumes. Volumes are expected to increase by 2031 along McEvoy Street, Gardeners Road and O'Riordan Street.

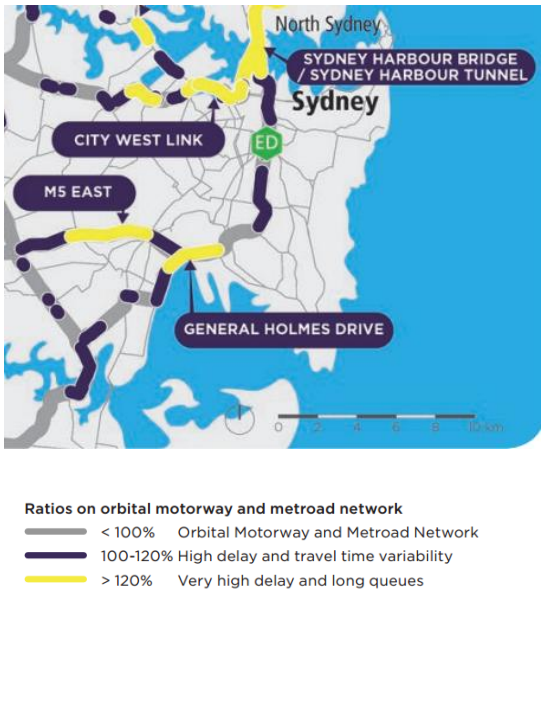
Capacity constraints on neighbouring major roads affect the main study area as shown in Figure 10. For example, Southern Cross Drive currently operates at capacity during the morning peak period, and congestion on the Eastern Distributor (as shown below) diverts traffic onto adjacent arterial roads, leading to congestion on O'Riordan Street in particular. If nothing is done to improve this, the NSW Long Term Transport Master Plan expects 'very high delay and long queues' on the Eastern Distributor close to the South Dowling Street site by 2031.

FIGURE 9. HEAVY VEHICLE MOVEMENTS IN SYDNEY 2011 AND 2031



Source: NSW Long Term Transport Master Plan, 2012

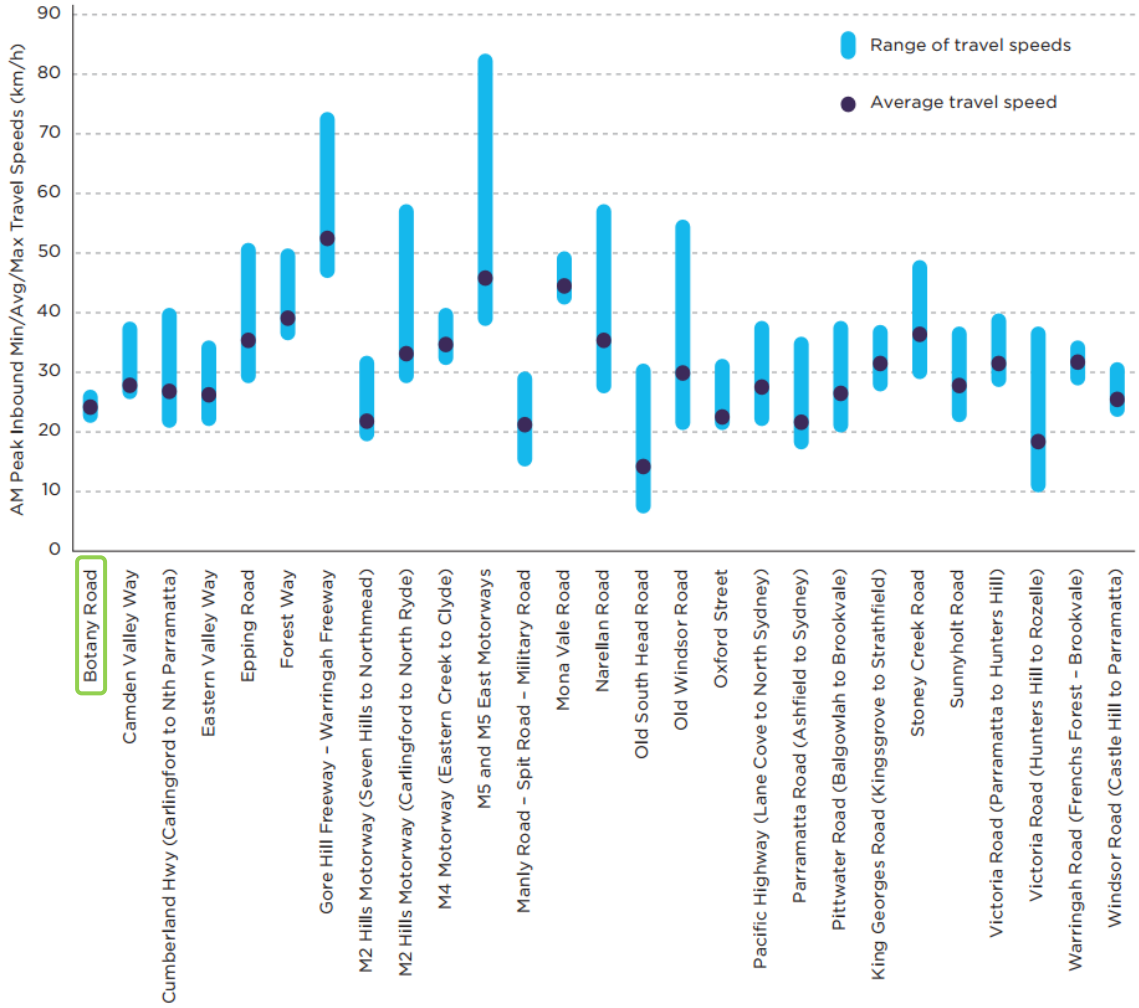
FIGURE 10. ROAD NETWORK PERFORMANCE (VOLUME-CAPACITY RATIO), AM PEAK 2011



Source: NSW Long Term Transport Master Plan, 2012

The NSW Long Term Transport Masterplan noted an average travel speed along Botany Road during the morning peak of around 25km/h, as shown in Figure 11.

FIGURE 11. MINIMUM, AVERAGE AND MAXIMUM AM PEAK TRAVEL SPEEDS ON KEY ROADS

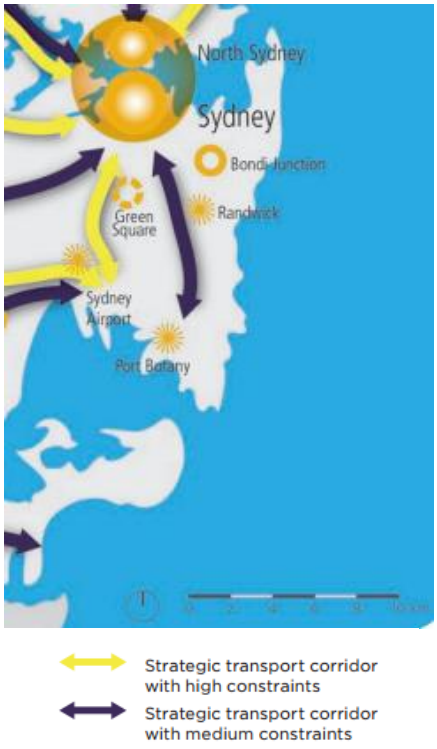


Source: NSW Long Term Transport Master Plan, 2012

The strategic corridor between the CBD and Sydney Airport is expected to have high constraints in 2031, as shown in Figure 12. Travel demand for this corridor is forecast to grow to 24,000 by 2031 for the morning peak, an equivalent of six lanes of traffic or more than 25 train loads of seated passengers (NSW Government 2012).

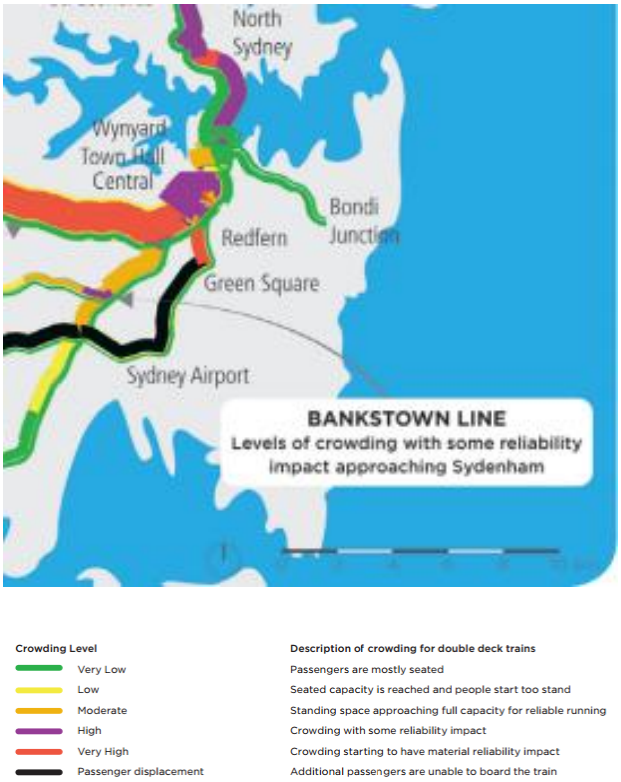
The Airport rail line is currently approaching seated capacity between Green Square and Central; however, if nothing is done to improve capacity, by 2031, passenger displacement is expected during the morning peak on both the East Hills and Airport lines, from Green Square past Sydney Airport to Revesby (Figure 13).

FIGURE 12. SYDNEY'S CONSTRAINED STRATEGIC CORRIDORS IN 2031



Source: NSW Long Term Transport Master Plan, 2012

FIGURE 13. RAIL NETWORK PERFORMANCE (REPRESENTED BY VOLUME-CAPACITY RATIO), AM PEAK, 2031 'DO NOTHING' SCENARIO



Crowding Level	Description of crowding for double deck trains
Very Low	Passengers are mostly seated
Low	Seated capacity is reached and people start too stand
Moderate	Standing space approaching full capacity for reliable running
High	Crowding with some reliability impact
Very High	Crowding starting to have material reliability impact
Passenger displacement	Additional passengers are unable to board the train

Note: The above passenger crowding levels are based on total capacity (including both seated and standing passengers). Thi more generally accepted measure internationally rather than expressing capacity on the basis of seating alone.

Source: NSW Long Term Transport Master Plan, 2012

The number of buses along Botany Road is likely to increase with the development of Green Square Town Centre, with the Green Square TMAP noting that Botany Road is a key transit corridor, which should receive continued bus priority investment.

Air freight at Sydney airport is projected to more than double, from over 500,000 tonnes in 2010 to 1,077,000 tonnes in 2029, with more than half of Australia's international air freight moving through the airport. Passenger numbers are also expected to double over the same period, which will place further pressure on road and public transport networks.

3.4 Specific owner and stakeholder transport issues

In a survey undertaken for the background report, land owners were asked to scale a number of factors that were particularly important to the location of their business or operation, with one being 'not important' and 10 being 'essential'. Transport and access factors were considered the most important, particularly public transport and truck access (see Table 7).

TABLE 7. IMPORTANCE OF VARIOUS FACTORS

	% of respondents ranking transport and access factors as:	
	important (7-10)	**essential (10)**
public transport access	64	22
truck access	63	27
proximity to customers	59	28
proximity to the CBD	41	9
access to shops and services for workers	39	5
proximity to the ports or airport	32	12
proximity to suppliers	31	8
separation from sensitive uses[1]	21	4
24 hour operation	17	5

Source: SGS Economics and Planning, 2012

[1] Note: sensitive uses might include residential development, large retailers or commercial offices

In terms of specifics most respondents noted no operational issues, though where they did report issues, the most prevalent was parking, accounting for 30 percent of responses, followed by cycle lanes, which was raised by 14 percent of respondents. The remaining 25 percent of responses were comprised of a variety of other issues (each mentioned by fewer than eight businesses).

In consultation with real estate agents undertaken for the background report, specific transport related issues that were noted include the following:

Parking
- Parking was considered a major constraint across the area. While parking is generally easier in Alexandria than other city fringe areas, there is often an expectation that parking will be provided given limited public transport provision and poor walkability in the study area.

Public transport
- Public transport is relatively inaccessible and is seen as being unreliable, especially bus services. Bus services are believed to be frequently late in arriving to the area, and sometimes not turning up at all when scheduled to run. This causes frustration for visitors, and has resulted in commuters avoiding public transport in general.

Cycleway
- The cycleway was viewed by one agent as providing a benefit for creative industry tenants, and possibly staff employed in business services.
- Otherwise, the cycleway was seen as limiting the flow of traffic through a gridlocked area; unsafe given the interface between trucks and heavy vehicle volumes; poorly utilised; reducing the limited space available for parking; and having low recreation value.

Truck access
- There is currently limited B-Double access to the area, with freight uses contained to the areas along Botany Road and O'Riordan Street. This restricts the growth of land uses associated with freight and logistics and could be an issue for the area's long term growth.

3.5 NSW Transport Master Plan and State Infrastructure Strategy

The NSW Long Term Transport Master Plan was released by Transport for NSW in December 2012 and provides direction for the future of the NSW transport system, including improvements that will impact on the study area. The Master Plan identifies the challenges that the transport system in NSW will need to address and a number of actions to do so over the next 20 years. The six major challenges of the NSW transport system are:

- integrating modes to meet customer needs
- getting Sydney moving again

- sustaining growth in Greater Sydney
- providing essential access to regional NSW
- supporting efficient and productive freight
- state-wide actions.

The aims of the actions contained in the Master Plan are to:

- integrate transport services
- modernise the NSW transport system
- grow NSW transport networks to meet future demand (including the important tasks of corridor preservation)
- maintain important road and public transport assets.

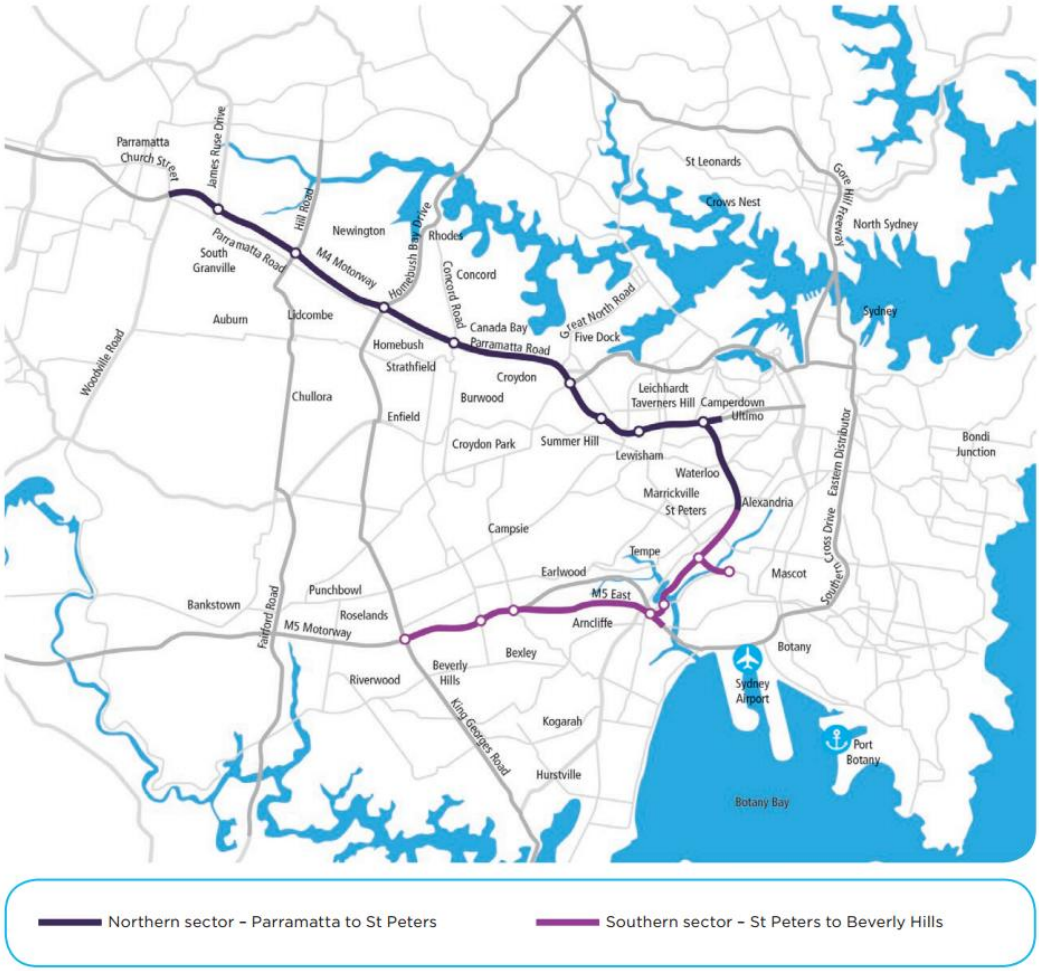
The Master Plan classifies the main study area as within two key transport areas; the Port Botany and Sydney Airport precinct and the Sydney Airport to CBD corridor. The roads adjacent to and within the main study area are highlighted as at capacity, particularly O'Riordan Street and Botany Road.

The Master Plan suggests that the growth precinct of Green Square will require mass transit solutions given that development within the precinct will exceed the walking catchment of the existing Green Square station. Bus investigations will be conducted in relation to the route from Bondi Junction to Burwood via Green Square and Sydenham.

WestConnex

The proposed WestConnex motorway, the 33 kilometre motorway connection in the M4 and M5 corridors, is noted as an immediate priority motorway (Figure 14). The planned location of the southern section of WestConnex (from St Peters to Beverly Hills) is in close proximity to the main study area. The development of this connection will potentially relieve pressure on the Eastern Distributor towards the CBD and along Parramatta Road, and increase the capacity of lower order roads; however, this is not clear within the Plan. The Sydney Airport Access link will provide a connection from WestConnex to Qantas Drive, close to the southern part of the main study area.

FIGURE 14. PROPOSED WESTCONNEX ALIGNMENT



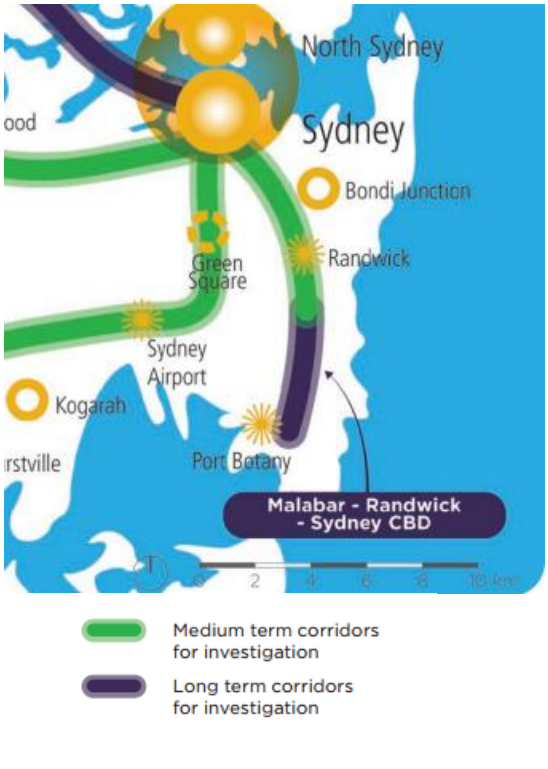
Source: NSW Long Term Transport Master Plan, 2012

Sydney Airport and Port to CBD corridor

The main study area is located within the corridor between Sydney Airport and the CBD; highlighted within the Plan as requiring more road and public transport capacity to support areas of urban renewal such as Green Square (Figure 15). Key actions for the corridor include adding train capacity, shifting more freight to rail and improving Botany Road. Transport for NSW is currently identifying upgrades to Botany Road to improve traffic flows, particularly for buses, although the specific nature of these upgrades is not specified within the Plan.

A corridor for protection and investigation is noted between the main study area and Port Botany (Figure 16).

FIGURE 15. MEDIUM AND LONG TERM TRANSPORT CORRIDORS FOR INVESTIGATION



Source: NSW Long Term Transport Master Plan, 2012

FIGURE 16. POTENTIAL CONNECTIONS TO BRIDGE GAPS IN THE SYDNEY MOTORWAY NETWORK BY 2031

Source: NSW Long Term Transport Master Plan, 2012

Freight

Transport for NSW supports the completion of the Southern Sydney Freight Line to provide dedicated rail access between Macarthur and Port Botany, relieving pressure on commuter rail infrastructure and supporting the freight distribution network in Sydney. Currently around 14 percent of all container freight is transported by rail (NSW Government, 2012).

Traffic solutions

A one-way pairs road operation is proposed on Bourke Road and O'Riordan Street, on which opinion appears to be divided. Some are in favour of the change for the reasons given by the NSW Long Term Transport Master Plan at Figure 17, with others noting its potential to increase traffic and decrease accessibility, disadvantaging pedestrians and local businesses.

FIGURE 17. RATIONALE FOR ONE WAY PAIRS ROAD OPERATION – BOURKE AND O'RIORDAN

- Implementing one-way pairs road operation on Bourke Road and O'Riordan Street to manage increased traffic, with complementary measures including the removal of parking, provision of bus priority, enhanced pedestrian movements and examination of an alternative cycleway. This action:
  - Provides greater through capacity for Bourke Road and O'Riordan Street
  - Removes contra-flow turning conflicts on the existing arterial roads, improving route safety
  - Enhances the through capacity for freight movement along the two road corridors
  - Provides for a dedicated bus-lane on each road to link Green Square and the Mascot precinct supporting a future possible project to provide bus priority along the O'Riordan Street corridor

Source: NSW Long Term Transport Master Plan, 2012

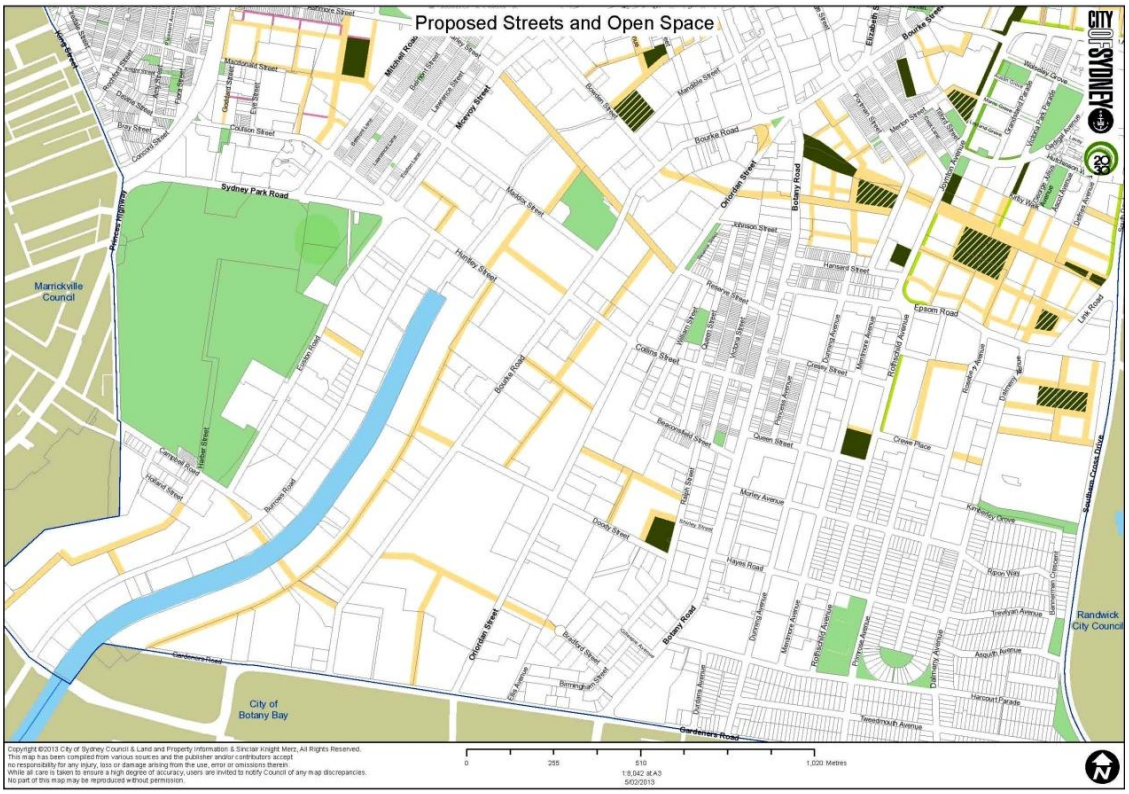
3.6 Local level road network and cycle planning

There is currently no comprehensive transport plan for the subregion, including the main study area, which tackles these current and looming transport challenges. Some high level priorities and some more specific interventions are identified in various state and local level documents, though gaps in future network planning remain.

Some joint and/or local initiatives that will impact on the study area include:

- Plans to change the Green Square intersection to accommodate four roads rather than five are currently being discussed and will likely be decided in 2013. Botany Road was constructed to accommodate heavy vehicles and has a wide road reservation that offers an opportunity to widen the carriageway in future, which may mean it is protected as a spine.
- Connectivity through the study area is identified as a significant issue, placing additional pressure on the road network, and Gardeners Road in particular. The Sydney Development Control Plan 2012 proposes a number of new connections, which would help to alleviate this (Figure 18).

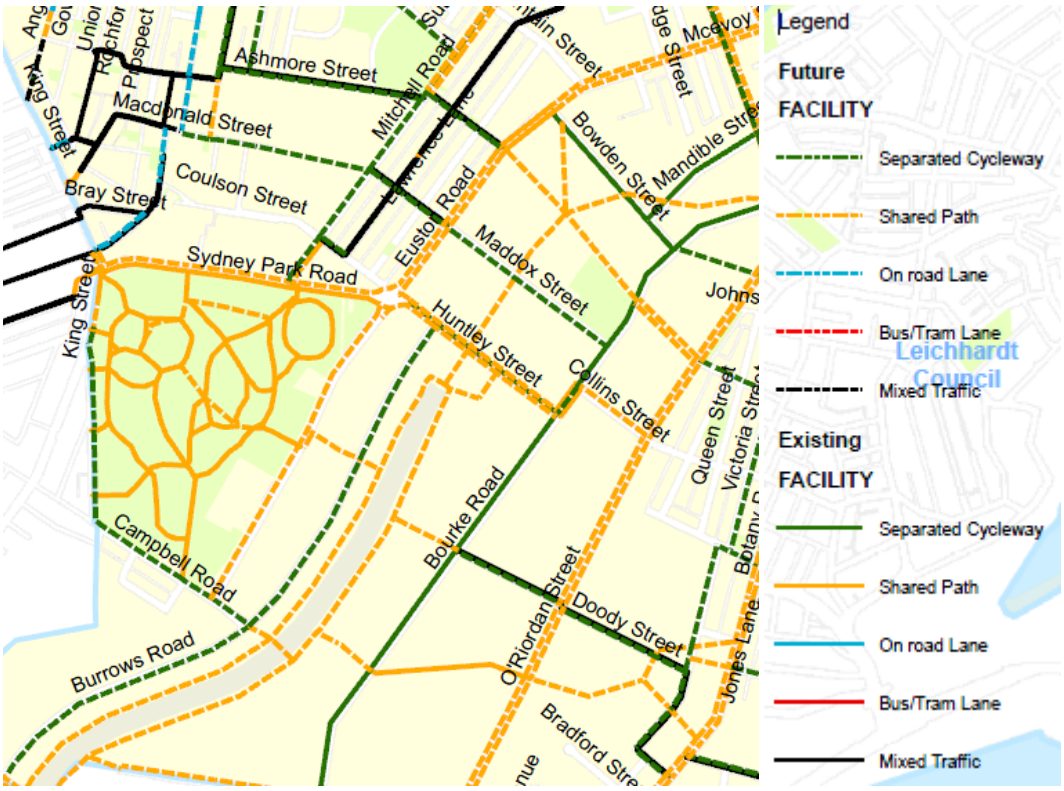
FIGURE 18. EAST-WEST CONNECTIVITY



Source: City of Sydney, 2012

Council has a developed a plan for regional and local bike paths (Figure 19). It proposes a number of separated or shared cycleways through the area. These cycleways form part of the City's living green network and are part of an extensive pedestrian and cycle network planned in the City.

FIGURE 19. CURRENT HIGH PRIORITY REGIONAL BIKE ROUTES



Source: City of Sydney, 2013

The City has recently completed its 'Connecting our City' Transport Strategy and Action Plan. The Plan has been developed as a framework for action by the Council and Government to improve transport and access to better connect the City. It builds on Sustainable Sydney 2030 targets, but includes additional targets and actions to meet existing and emerging challenges and trends.

The Plan recognises the public transport limitations and increasing congestion and freight movement pressures in the study area. Key actions to address these issues include working with the State Government to examine issues and identifying the freight and passenger upgrades needed to maintain the key economic functions of the area.

4 POTENTIAL FUTURE USES

4.1 Introduction

This section considers how the role of the study area (some photos of which are shown in Figure 20) could develop in future. This discussion has been informed by stakeholder consultation with the following groups and agencies:

- Councils of City of Sydney, Botany Bay and Marrickville
- Department of Planning and Infrastructure
- Sydney Metropolitan Development Authority
- Sydney Airport
- Committee for Sydney
- Infrastructure NSW
- Property Council of Australia
- Regional Development Australia – Sydney
- Penrith Business Alliance

It also draws from the consultation undertaken for the background report and additional research on economic trends.

FIGURE 20. PHOTOS OF THE MAIN STUDY AREA

L-R by row: Huntley Street, Bourke Street, Doody Street, Botany Road, Botany Road, Gardeners Road, Bourke Road, Burrows Road, Euston Road, Euston Road, Maddox Street

4.2 Industrial uses

Some industries require protection due to their strategic nature, to support the local population, or to provide flexibility in future.

- The Department of Planning and Infrastructure noted that the study area should provide for different employment uses. There is an economic justification for having some low density employment uses in the study area, where the economic benefits they bring to the city and the wider metropolitan Sydney region as a whole exceed the benefits of using the land for higher value uses such as commercial or residential. Examples of such strategic and population-serving 'urban services' include depots requiring an inner city location to service construction sites, distribution centres, utilities provision, and facilities for concrete batching and waste management. There is a need to protect sites for such uses. Burrows Road in the main study area currently houses some of these urban service and sometimes 'heavier' activities.
- While often low in job yield, the economic value of these lands lies not only in locational efficiencies, but also in facilitating a diverse employment base. A situation where all industrial uses were encouraged to move out of the study area would result in the loss of valuable business synergies.
- It is important that the quantum of industrial land that is recommended to be retained in the study area is sufficient that future demand for industrial land does not place undue pressure on land and rent prices.
- Increasing land values have forced firms undertaking logistics and distribution activities to innovate, while still maintaining a presence in this strategic location near the CBD, airport and port. Many such firms have split their operations, operating large sites in western Sydney with easy access to road networks and cheaper land, and small sites in South Sydney for access to the airport or local population on which they pay a premium. One firm receives goods arriving at the airport, which are taken to a large sorting plant in Chullora in western Sydney, and relevant items then brought to a small depot in Mascot of 11,000 square metres for distribution in the eastern suburbs. Smaller vans can be used for this stage of distribution, which is more efficient given issues with congestion. Again, there is a need to ensure sites are available for these distribution and logistics activities, which will expand given ever increasing volumes of air freight and demands for more responsive distribution systems (partly driven by the growth in internet shopping).

However, the nature of economic activity in the study area is changing and there is a case for some industrial land to be rezoned...

- Not all of the land currently zoned for employment is likely to be strategic. Given the easy access to the CBD from the main study area, it is inefficient from an economic perspective for it to house lower value jobs in industries that could easily be accommodated elsewhere, especially those employing workers from further afield. There is employment land outside the City of Sydney LGA (principally in western Sydney, but also in neighbouring LGAs) that is well serviced, with good transport accessibility and modern buildings, which would be better suited for firms in these industries.
- As such, the broader context of employment lands in Sydney needs to be considered. Constraining land values in the study area to enable lower value firms to locate in the area only makes sense if these firms have to be located in the area, and are essential to the functioning of the CBD, port or airport, or for serving the nearby population. The value and importance of land in the City of Sydney LGA should be assessed at a metropolitan level and decisions made that maximise the benefits across the city, given the competing demands for space.
- Industrial activity in some sectors has changed considerably, and the buildings and set up of many sites and infrastructure in the main study area are unsuitable as a result. High land values and rates make the area uncompetitive for many firms.
- Industrial businesses are more likely now to be cleaner, quieter, smaller, and geared towards high-tech than in the past, which increases their potential to be co-located with more sensitive uses. Many 'industrial' firms now contain a significant office component and prefer to locate in business park type environments. As noted in the background report, owners and tenants of properties in the main study area noted issues with the configuration of buildings (in terms of them being able to accommodate

more modern industrial practices), and the lack of suitability of standard industrial zones for the activities in the area.
- There is a high vacancy rate in the study area, which could partially be due to the existing sites and buildings not meeting market demand (although it could also result from owners waiting for changes in the market or amendments to zoning controls). The substantial traffic and access issues in the study area are likely to have an on-going impact on vacancy rates.

Lower value industrial uses may be displaced from Botany Bay LGA and the main study area

- There is some anecdotal evidence that Botany Bay LGA is becoming too expensive to support some local service industrial uses. Botany Bay Council appears to be encouraging this trend by allowing conversion of some industrial land to residential. For example, a B7 Business Park zoning has been proposed in older industrial areas to the east of the airport to supposedly encourage 'cleaner', creative uses and start up businesses. While there is likely to be potential for local light industry to adapt its format to be less space intensive, such activities will be price sensitive and will be under pressure to relocate given these changes.
- At the same time higher demand for container uses is expected following the lifting of the cap of 3.2 million container movements through the port. This is likely to place pressure on lower value local light industrial uses in Botany Bay and Randwick LGAs, although it is expected that the Orica site in Port Botany and the Maritime Container Services site south of Canal Road will ultimately accommodate much of the initial increase in demand.
- Most traditional manufacturing and warehousing activities that would consider relocating from the study area to cheaper industrial areas have probably already done so; with only modest additional movement expected before it plateaus.

... but there is likely to be capacity to accommodate these in Marrickville LGA

- Parts of Marrickville LGA are changing, with a planned expansion of Marrickville Metro and some large mixed use and residential developments recently approved. However, there is little pressure on industrial areas in Marrickville, which support a wide variety of mainly lower value retail, commercial, creative, recreational and industrial uses, given aircraft noise and environmental factors that limit development, as well as a small lot pattern and traffic issues. It is envisioned that local service industries will remain in the area for the foreseeable future. In addition, Marrickville Council suggests that there is likely to be capacity to accommodate displaced lower value uses relocating from the main study area, although no supporting data is currently available.

...and in western Sydney

- Western Sydney contains significant large scale employment lands capacity. Erskine Park in Penrith LGA is 56 percent undeveloped (around 224 hectares) and Huntingwood in Blacktown LGA is 67 percent undeveloped (48 hectares) (Department of Planning and Infrastructure, 2011).
- Furthermore, the Draft Broader Western Sydney Employment Area Structure Plan, which is still being finalised, covers a study area of approximately 10,000 ha and is planned for public exhibition in April 2013. It will establish a framework for future employment lands and associated infrastructure provision. There is considerable potential for Western Sydney to accommodate any activities from the study area seeking lower cost locations or sites for consolidation of activities. Freight and logistics activities in particular are re-locating to Eastern Creek where they take advantage of long term (20 year) lease deals, M4 and M7 road access, large parcels of land and proximity to a 'blue collar' workforce.

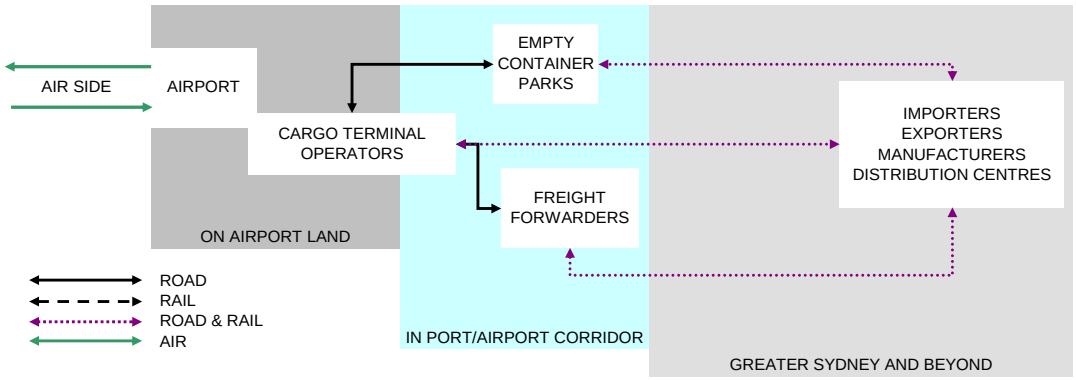
4.3 Airport and port related uses

There is likely to be an increasing demand for land for airport related industries (such as catering, freight forwarding, logistics services and car hire, accommodation services)

- Sydney Airport is small in comparative terms, at about 1000 hectares[11]. The curtilage which for larger airports would include many airport related businesses such as airport offices, catering, freight forwarding and logistics services is modest at Sydney, meaning there is a need for off-site industrial and employment lands to accommodate such activities. The breakout box below shows a simplified airport logistics chain and the relationship between on airport and off airport land uses.
- The Sydney Airport Master Plan 2009 is predicting that total air freight will more than double in just over 20 years from 471,000 tonnes in 2007 to 1,077,000 tonnes in 2029 – average annual growth of 3.8 percent. From 2000 to 2007, total annual passengers through Sydney Airport increased from 25.3 million to 31.9 million. By 2029, Sydney Airport is projected to handle 78.9 million passengers, and around 402,000 passenger aircraft movements per year. This major growth in airport related activity will lead to an increasing demand for off-site land for airport related activities. Already, catering and car hire firms currently located within the boundaries of the airport, are likely to be relocated off airport lands in order to accommodate new hangars.

The Sydney Airport logistics chain

The figure below shows a simplified logistics chain linking Kingsford Smith Airport with the Sydney region. Around 80 percent of airfreight arrives and leaves in the belly of passenger aircraft. The remaining 20 percent is carried on dedicated freight aircraft. Air freight tends to be low volume, high value, time sensitive goods.



Cargo Terminal Operations (CTOs) currently reside within the Airport's Freight Precinct. CTOs include Qantas, Auspost, DHL and Patrick. The onsite location offers a contiguous airside-landside interface. CTOs bring freight in, and move it onto the plane, and vice versa. Due to space constraints on the airport site, some CTO operations overlap onto the surrounding land area, for example Qantas' landholdings in Botany Bay LGA, which include private road access to the Airport.

Airfreight forwarders are located close to the airport, and pack/unpack consignments into air freight containers referred to in the industry as Unit Load Devices (ULDs). Consignments that are not processed by airfreight forwarders are transported directly between CTOs and importers, exporters, manufacturers, and distribution centres. Because of the low volume, high value, time sensitive characteristics of air freight, small truck transport tends to be favoured over rail.

Empty ULDs are returned to container parks near the airport for repacking or empty export.

Source: Sydney Airport (2009) and SGS Economics and Planning (2008)

- Botany Bay LGA (immediately to the north of the airport but also to its east closer to the port), Marrickville LGA (south of Canal Road and west of the Princes Highway) and the City of Sydney (the study area) all host employment lands that may have a role in accommodating off-site airport related

[11] Compared to for example almost 3000 hectares at Melbourne Airport (2400 hectares used for direct airport related activities, the remainder is 'off airport' land for industrial and other activities) and 1,600 at Singapore Airport (1300 hectares for direct airport related activities, the remainder is 'off airport' land for airport related logistics. Source is SGS Economics and Planning. 2008.

activities. There has been growth in demand for warehousing and distribution uses in employment lands in Botany Bay LGA. There is also demand from landowners for industrial land immediately to the north of the airport (also in Botany Bay LGA) to be zoned for higher value airport related uses, such as hotels.

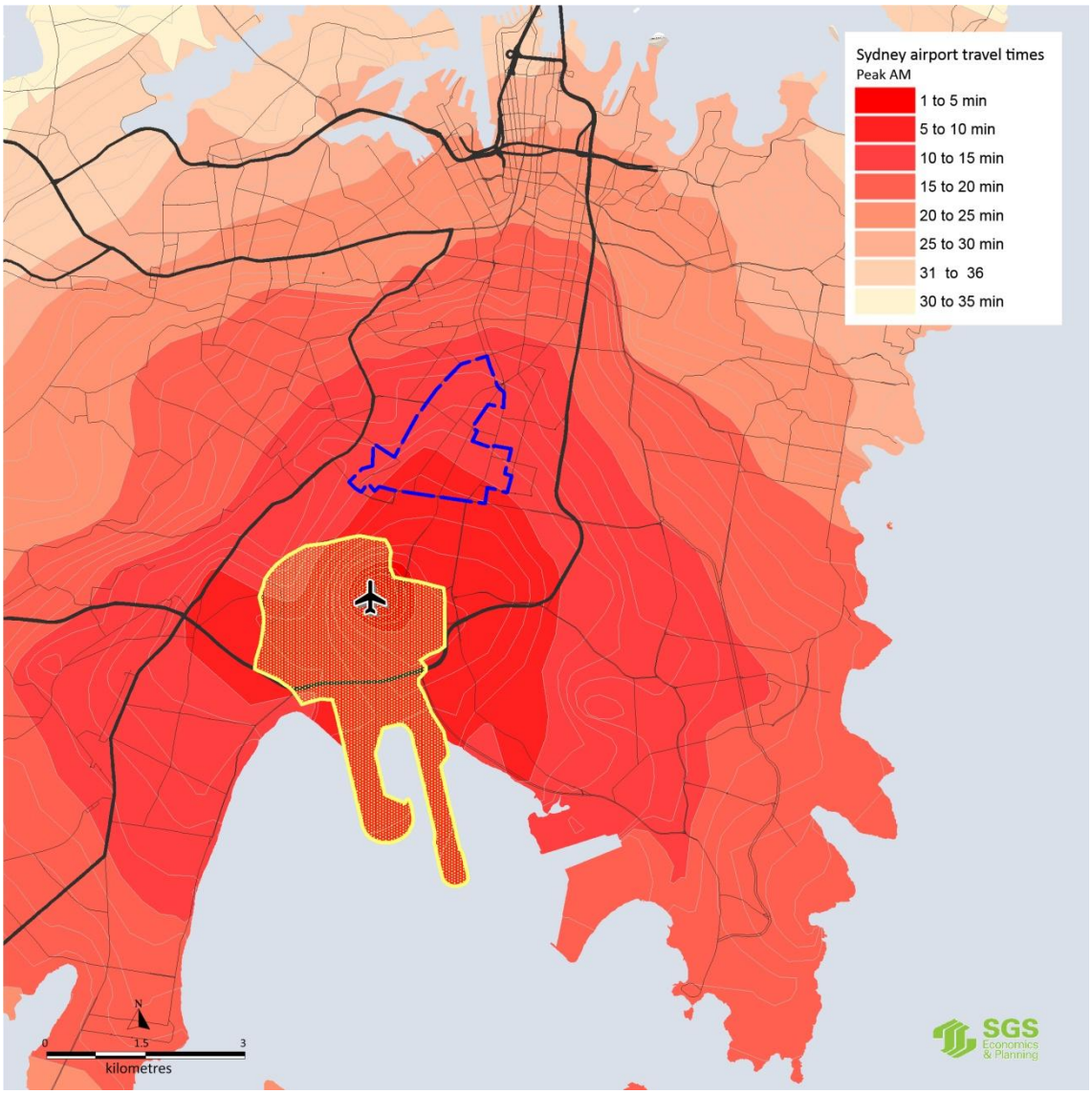
.... while supply of suitable land is diminishing or under pressure for alternative uses

- The draft Botany Bay LEP suggests a B7 (Business Park) zone for land to the north of the airport (bounded by Gardeners Road to the north, Kent Road, Coward Street and the Alexandra Canal). It contains uses directly related to the airport, such as catering firms. However, this area may come under pressure for conversion to residential uses, if the current development restrictions in place due to aircraft noise are reduced in future. Given its vital strategic role, any conversion of this area to residential should be resisted (in fact the proposed Business Park zone is not really appropriate; a more mixed complexion of uses including warehousing for example should be allowed).
- Some lands formerly available for ancillary airport uses in Mascot are now too expensive for firms in these industries, which have relocated elsewhere. This may generate inefficiencies and potentially limit future economic growth.
- Sydney Airport has undertaken some strategic land acquisitions near to but outside of the airport site however private lands typically accommodate off-site airport related uses. Given the airport's status as a specialised centre, it may be appropriate to protect such land uses directly related to the airport through specific planning controls.

However, parts of the main study area may be 'too far' from the airport for some direct airport related uses

- There is anecdotal evidence that some firms seeking land close to the airport will not consider sites north of Gardeners Road due to traffic congestion, which is likely to worsen in future given increasing activity and through movements in the area, as well as residential development close to Mascot station. Minimising the distance by road from the airport is not the priority; rather, for time-sensitive firms, the time taken to travel to/from the airport is more significant. The congestion between the main study area and airport means it may make more sense to locate elsewhere.
- For example, DHL is to open a new facility in Matraville in March 2013, combining its existing offices, and its previous space in Mascot was backfilled immediately by uses displaced from airport lands. DHL chose to trade off a location close to the airport in favour of one around 8 kilometres away in a purpose-built and modern facility, with a direct route along Foreshore Road. Meanwhile, just to the north of the airport in the main study area, there are a number of vacant sites.
- Travel time mapping suggests that time-sensitive firms seeking to locate within 10 minutes of the airport in peak morning traffic might seek locations to the south of the main study area, as shown in Figure 21. Interpeak and evening peak traffic gives greater accessibility to the study area within the same time limit, as shown in appendix 3.

FIGURE 21. TRAVEL TIMES FROM DOMESTIC TERMINAL: MORNING PEAK



Source: SGS Economics and Planning, 2013, based on BTS 2011 car travel times

.... and there may be potential to accommodate these uses elsewhere in future

- The Cooks Cove site, immediately to the west of the Cooks River and Sydney Airport, would be an ideal location to support growth in airport-related activities in future. However, development of the site stalled as a result of the global financial crisis and is now being managed by the Sydney Harbour Foreshore Authority. There is no information available regarding the progress of development or an expected completion date.
- Some industrial uses requiring both airport and port access are permissible in the area protected by the Three Ports State Environmental Planning Policy (Major Development) Amendment, which protects land for port-related uses in Botany Bay and Randwick LGAs[12]. The Hale Street area in Botany Bay in particular would be highly suitable for uses requiring airport access while the Lord Street

[12] The following uses are permitted on IN1 zoned land with development consent: boat repair facilities, business premises (port related), depots, food and drink premises, freight transport facilities, high technology industries, jetties, light industries, neighbourhood shops, office premises (port related), resource recovery facilities, roads, signage, truck depots, vehicle body repair workshops, vehicle repair stations, warehouse or distribution centres, waste or resource management facilities (NSW Government 2009).

business park in Botany Bay LGA offers large lots with good transport accessibility, attracting both port and airport serving businesses able to pay comparatively high rents.

...while planned major infrastructure and airport changes may affect the location of airport and port related industries

- In the longer term, the construction of significant infrastructure such as the Moorebank Intermodal Terminal[13] (inland near Liverpool and intended to get rail based container freight out of the port area before it is 'broken up' for distribution elsewhere in Sydney and beyond) and the proposed WestConnex motorway (extending the M4 to the airport and linking with a widened M5) is likely to change Sydney's economic geography, potentially reducing the need for some firms to locate near to the airport, port and CBD and reducing travel times.
- An exit from WestConnex onto Qantas Drive is currently proposed. If this proceeds, it is likely to increase demand for small subregional distribution centres serving the CBD and eastern suburbs, with the associated truck traffic (while firms locate their main distribution facilities in western Sydney). The land demands on employment lands near the airport, including the study area, will be significant.
- The location of support industries for the airport may be impacted by plans to merge the domestic and international terminals. Firms currently located in Mascot and the main study area that rely on access to the domestic terminal in particular may have a wider range of location options once the domestic terminal is split. If some choose to relocate to western Sydney, for example, this may ease pressure on the road network in the main study area.

It is nevertheless prudent to ensure some employment lands are available in the study area for airport related activities

- While Botany Bay Council believes there to be sufficient land to accommodate port-related uses into the future consistent with findings in the supporting report on airport and port development needs (SGS Economics and Planning, 2008), the picture in relation to airport related demands is less clear.
- Notwithstanding the relative distance of the study area from the airport compared to sites in other LGAs, the availability of potential alternative sites and possible changes to the nature of demand, it is prudent to ensure that direct airport related activities (e.g. catering, freight) and higher value, indirect activities (e.g. logistics services) are able to find some sites in the study area.
- Analysis conducted for the Botany Bay Planning Study (SGS Economics and Planning, 2008), as part of a background study into airport development, highlighted the requirements for additional land to accommodate airport-related uses (particularly for freight) surrounding Sydney Airport. The model that was developed at that time indicated demand for an additional 48 hectares of land to 2025, with 14 hectares of that demand not able to be met in the immediate vicinity of the airport.
- The Airport Related Activities Land Use Model has been updated at Table 8 to include updated freight forecasts, with other inputs unchanged. The model indicates that 44 hectares of additional land will be required to accommodate airport-related land uses to 2029. However, due to a number of rezonings in the employment lands around Sydney Airport, particularly within the Botany Bay LGA, it is likely that the supply of land to host these uses in future has decreased since 2008.
- While the study area is not necessarily 'first choice' for direct airport related uses, it should be positioned to host some of these and the myriad of potential indirect airport related activities.

[13] In April 2012, the Australian Government committed to the construction of an Intermodal Terminal at Moorebank in south-western Sydney, to handle container traffic from interstate rail freight and Port Botany. The terminal is a first step to providing an integrated transport solution to meet the significant growth in the movement of freight to, from and within the Sydney basin, and aims to provide congestion relief, freight capacity and environmental benefits to the urban community, region and its surroundings.

TABLE 8. UPDATED AIRPORT RELATED ACTIVITIES LAND USE MODEL

Sydney Airport			Source
Existing throughput (2007)	471,000	tonnes	Airport Master Plan 2009
Existing land take: on and off site (2007)	70	ha	SGS Land Audit 2008
Existing land take: per unit throughput	0.00015	ha per tonne	SGS calculation
Throughput: 2029	1,077,000	tonnes	Airport Master Plan 2009
Land take 2029: existing density	160	ha	SGS calculation
Intensification allowance	1.4		SGS assumption
Land take 2029: future density	114	ha	SGS calculation
Additional land take 2029: future density	**Approx 44**	**ha**	**SGS calculation**

Assumptions

- Throughput: 2029: an estimate of future throughput based on projections in the 2009 Airport Master Plan.
- Land take 2029 (existing density): the future land use needs based on existing density, a product of the land take per unit throughput and future throughput.
- Intensification allowance: an allowance for more intensive land use in the future, based on more efficient land use at other airports and the assumption that land prices in Botany Bay LGA and surrounding areas will continue to escalate. An example of intensification is container stacking. The allowance is higher for the airport than port, on the basis that the airport freight tends to be lower volume which makes it more amenable to intensification.
- No displacement assumption was made for the airport. Airport freight tends to be high value and low volume, and often requires immediate transit (for example fresh flowers or seafood) so is less likely to suit displacement.
- Land take 2029: (future density): the future land use needs based on intensification and displacement assumptions, a product of the indirect land take per unit throughput, future throughput and the intensification allowance.
- Additional total future land take: (future density): the net additional land take in 2029 at the future density minus the existing land take – indirect.

4.4 Pure residential uses

Residential density is increasing significantly in the surrounding areas

- The City of Sydney has been amongst the fastest growing LGAs in NSW. This significant growth in new dwellings (up from 47,000 dwellings in 1991 to almost 95,000 in 2011) (Table 9) which shows there is a demand for inner city living and such development is financially viable.

TABLE 9. RESIDENTIAL DWELLINGS IN CITY OF SYDNEY, 1991 TO 2011

Year	1991	1996	2001	2006	2011	Change 1991-2011	Change per annum 06-11
Dwellings	46,842	55,479	70,757	86,109	94,346	47,504	1647

Source: .id, 2013

- There have been a number of new apartment developments recently near the study area in Zetland and Rosebery, while Botany Bay Council is encouraging residential development surrounding Mascot station, with existing industrial and car parking uses now non-conforming and expected to change over time. A further 40,000 residents (from 2008) are anticipated in the Green Square renewal area by 2030.
- The UrbanGrowth NSW development corporation will plan for and facilitate the development of the Redfern-Waterloo urban renewal study area, the boundary of which lies immediately to the north of Green Square. The proposed residential development in this area will raise the population density considerably, with the potential to support retail uses at Green Square.
- Densification in surrounding areas may increase land values in the study area, and put pressure on low value activities.

... and allowing for some residential uses in the study area may facilitate enhanced access to employment and address housing supply constraints

- It has been argued that concentrating housing close to the CBD and employment centres enables residents to access a greater range of jobs; increasing productivity, wages and skills; and reducing

travel times. It also offers environmental benefits through enabling greater public and active transport use and reducing household energy requirements. Providing housing close to the centre of the city is more efficient for the provision of infrastructure, such as roads and schools, and protects agricultural land on the urban fringe. In addition, it may be beneficial from a social equity perspective to provide additional job opportunities closer to where people live, given what otherwise might be a situation of concentrated employment in central and eastern Sydney with more housing and residents in western Sydney.

- The 2010 Metropolitan Plan is in the course of being reviewed, with a new plan due in 2013. Some key directions from previous metropolitan strategies are anticipated to continue. For example:
  - The Metropolitan Plan discussion paper (NSW Government, 2012) notes that to meet housing demand, 'the NSW Government and local councils need to provide the right conditions for new housing in existing urban areas', mentioning that the NSW 2021 Plan (NSW Government, 2011) includes 'targets to improve housing affordability and availability by facilitating the delivery of 25,000 new dwellings in the metropolitan region each year'.
  - The discussion paper also notes that to meet the NSW 2021 targets, the government is 'aiming to locate 80 percent of new dwellings within the walking catchments of centres well served by public transport'.
  - This is consistent with headline policy settings from the previous Metropolitan Plan (NSW Government , 2010), which included 'increas[ing] the proportion of homes within 30 minutes by public transport of jobs in a Major Centre, ensuring more jobs are located closer to home' and 'build[ing] at least 80 percent of all new homes within the walking catchments of existing and planned centres of all sizes with good public transport'. While increasing the supply of dwellings in the study area would be consistent with metropolitan and state objectives.

... however, there are significant issues with rapidly increasing the number of residents in the study area

- The provision of more land for housing needs to be weighed against the vital strategic role the study area plays in relation to employment.
- Ground conditions and the related cost of construction mean that new development in the south Sydney area typically needs to be very high density to meet financial benchmarks. This can have significant amenity impacts and also places pressure on local community infrastructure.
- Increasing density may increase complaints relating to aircraft noise, which have the potential to hinder the effective operation and growth of the airport (for example, if they lead to an extension of the flight curfew).
- Traffic congestion is already a significant issue in the main study area and may be exacerbated by an increased local population.
- Interface issues between residents and neighbouring businesses may impact on the viability of strategic employment uses or place increasing pressure on local land values.

...and the City of Sydney LGA is already close to or meeting its metropolitan strategy and Sustainable Sydney 2030 targets for residential dwellings

- The Department of Planning and Infrastructure's *Metropolitan Plan for Sydney 2036* has set dwelling targets for the Sydney Metropolitan Area by subregion, including for the City of Sydney which is its own subregion, in which the study area is located. Table 10 shows the recent supply of dwellings in the City of Sydney subregion (for 1996 to 2011 and then expresses this as a five year average) and the target for the Sydney City (also expressed on a five year basis). The table shows the City has exceeded its target (when expressed on a five year basis).
- In addition, the target in the Sustainable Sydney 2030 document, of 48,000 dwellings between 2006 and 2030, is close to being met (when expressed annually); with 1647 dwellings constructed per year on average so far against an annual average target of around 2000 dwellings.

TABLE 10. CITY OF SYDNEY LGA HOUSING SUPPLY (1996-2011) AND METROPOLITAN PLAN TARGETS (2006-36) DESCRIBED IN FIVE YEAR INTERVALS

Total housing supply (1996-2011)	Housing supply 5 yr average (1996-2011)	Metro Plan target	Supply minus target
49,107	16,369	8,903	7,466

Source: Department of Planning and Infrastructure (2010), SGS calculations, 2013

Therefore residential uses in the study area are best restricted to mixed use areas, where they can facilitate economic development outcomes and attract specific employment activity.

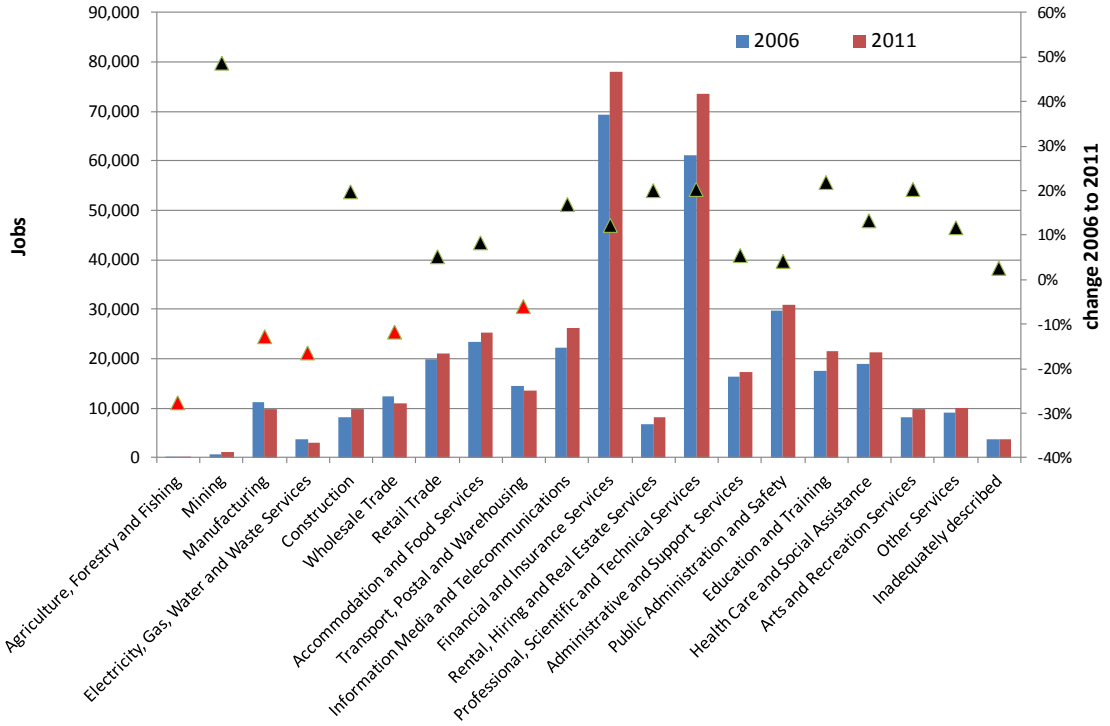
- The strategic importance of the main study area for employment uses suggests that it is not appropriate for significant conversion to residential uses.
- However, in a modern economy, and given the critical role of knowledge and creative industries which thrive in higher density, 'edgy' areas, there may be a role for some genuine 'mixed use' insertions in the study area, where residential uses might be allowed. These ideas are discussed in more detail below.

4.5 Mixed use activities

Knowledge-based and creative industries are a continuing and key source of employment growth

- Globalisation is likely to continue to drive a separation between the 'thinking' part of the value chain and the making or manufacturing of goods, and their distribution. In advanced economies this 'unbundling' of the value chain is manifest in the proliferation of knowledge or creative industry activities, which are at the 'thinking' end of the value adding process. Sydney remains the pre-eminent national dispenser of these advanced business services (Spiller 2004), which continue to grow.
- Figure 22 shows employment in the City of Sydney between 2006 and 2011, and the change in employment, at a 'one digit' ANZSIC industry classification level. The continued growth in financial and insurance services (notwithstanding the GFC), information media and telecommunications and professional, scientific and technical services, can be seen below.

FIGURE 22. CITY OF SYDNEY EMPLOYMENT BY 1 DIGIT ANZSIC CATEGORY 2006 & 2011



Source: ABS, Census (place of work Cat. No. 2006), 2011, derived by SGS Economics and Planning, 2013

– Table 5 showed that within the categories of information media and telecommunications and professional, scientific and technical services, the growth in creative industry and internet related activities is particularly pronounced. For example jobs in Professional, Scientific and Technical Services grew by over 8000 people while jobs in Internet Publishing and Broadcasting grew by 157 percent.

Knowledge-based and creative industries flourish in higher density and mixed use areas

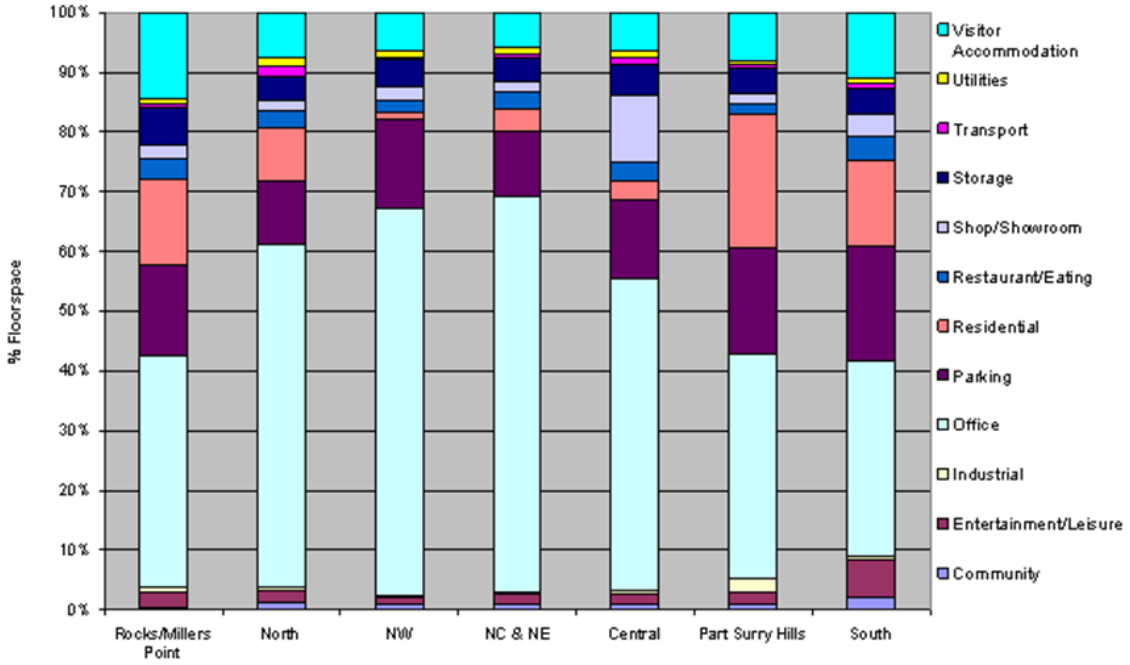
– As Florida (2003) has observed creative workers are attracted by vibrant, diverse, mixed-use centres characterised by high density residential, office employment and retail. In inner Sydney then it is not surprising that the creative sector clusters of employment are in areas such as Surry Hills, Chippendale and parts of Ultimo-Pyrmont. Figure 23 shows the concentration of jobs in the creative and information, communication and technology sectors in the City of Sydney (from work done by SGS in 2007 for the Sustainable Sydney 2030 project, as measured by the 'location quotient' of the share of workers in these sectors in travel zones compared to the City overall).

FIGURE 23. CLUSTERS OF CREATIVE AND ICT INDUSTRIES IN THE CITY OF SYDNEY

Source: ABS, Census (place of work Cat. No. 2006), 2006, derived by SGS Economics and Planning, 2007

– These 'fringe' CBD areas are characterised by fine grain subdivisions (with a diversity of lot sizes), slow moving through traffic, relatively narrow streets, a mix of building typologies and a diverse and dense mix of uses. Data from the 2001 City of Sydney Floorspace Survey (though somewhat dated) illustrates how Surry Hills and the South (including Chippendale) precincts, compared to the other different CBD precincts, have a particularly diverse mix of uses including a greater share of residential uses (Figure 24).

FIGURE 24. FLOORSPACE (%) BY CBD PRECINCT, 2001



Source: City of Sydney Floorspace Employment Survey, derived by SGS Economics and Planning, 2006

– In the acknowledged creative precincts in the City of Sydney (for example, Pyrmont and Surry Hills), the ratio of residents to jobs is increasing at a rapid rate, and is edging toward 1 to 1 in Pyrmont (Table

11). Creative and knowledge precincts are fueled by the friction of activities and interactions that mixed employment and residential areas generate. Grant (2002, p.73) emphasises that mixing uses is a form of sustainable development and an element of theories of good urban form because it promotes 'economic vitality, social equity and environmental quality'.

TABLE 11. RATIO OF RESIDENTS PER JOB 2006 & 2011

	2006	2011	% change 2006-11
Pyrmont	0.86	0.95	0.09
City East	0.74	0.73	- 0.01
Surry Hills west	0.39	0.47	0.08
Main study area	0.12	0.15	0.02
CBD	0.09	0.10	0.01

Source: Bureau of Transport Statistics, Small area employment forecasts, August 2012.

To support creative and knowledge industry growth carefully selected pockets within the study area might be suited to a greater mix of uses, including some residential

- In her famous book *The Death and Life of Great American Cities*, Jane Jacobs (1961) highlights four key characteristics of vibrant and diverse cities:
  - high densities and population and activities
  - mixtures of primary uses
  - small-scale, pedestrian-friendly blocks and streets
  - retaining old buildings mixed in with new.
- Within the study area there are two potential precincts where the conditions for a genuine mix of economic and residential activities might be facilitated, based on the existing subdivision patterns, built form and ownership diversity. Figure 25 shows the Surry Hills 'grain' alongside the grain in the north and south east of the study area, at the same scale. These two areas represent the best prospects for an intrusion of mixed use activity, at the edge of the study area. Both have good proximity to public transport (the northern area in particular is near Green Square station). It is important that controls be established that preclude 'instant' conversion to residential in these areas, as has been the case in some other mixed use areas where land values have sustained significant residential development but only modest employment related development.
- It will also be important that new planning controls encourage the provision of infrastructure as sites are developed for higher and better uses. An example of this approach currently exists in the planning controls relating to the Green Square urban renewal area.
- Green Square is planned for high rise office development and may take on a role as an overflow location for CBD industries, but the nearby small subdivision patterns should be protected to enable the organic growth of clusters of creative industries.

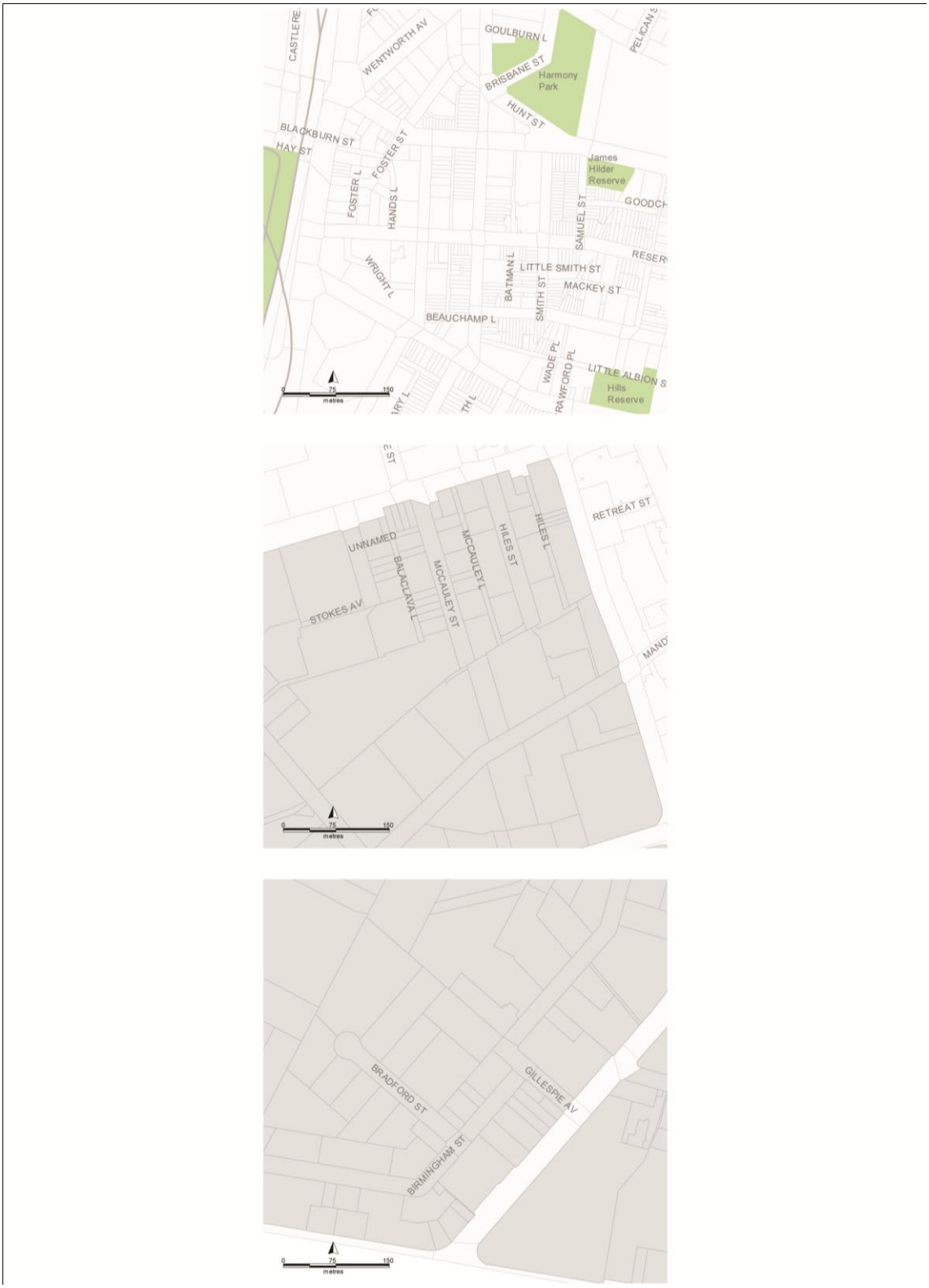
4.6 Commercial uses

Allowing for more commercial activities would add to the future supply potential and contestability within the Sydney market

- Sydney's stocks of accessible, central employment lands are modest compared to Melbourne's. While commercial activity is highly varied in different precincts, and the 'high end' office activities will always favour a CBD location, the study area could contribute to the long term supply pipeline for commercial and office activities in inner and central Sydney. It would act to somewhat constrain property values and office rents, which are high in Sydney in international terms.
- While Green Square is developing its commercial presence slowly, as the amenity of this area increases overtime, and a critical mass of activity is in place, its accessibility and competitive positioning will become a major asset for office employment. The study area's appeal for commercial and office activities will also be evident in due course. Building the economic character of

neighbouring and fringe areas through well-placed clusters of lower value office uses could be a means to build the critical mass more generally, and ultimately attract larger firms to the town centre.

FIGURE 25. SURRY HILLS COMPARED TO THE NORTH AND SOUTH EAST OF THE STUDY AREA



Source: SGS Economics and Planning, 2013

Need to balance high employment uses against need for employment lands

- Though the main study area should accommodate higher intensity employment, the zoning and controls should also enable the area to support less intensive but still strategic economic activities. These activities are not necessarily major job generators, but contribute to the efficient functioning of the city and broader economic development aims.
- From this perspective there is a need to balance the provision of opportunities for more intense employment activities with the area's strategic economic value.

Public transport provision may need to be increased to service more intense office and commercial employment

- While the Green Square rail station represents a major public transport asset it is only really accessible to development at the northern end of the study area. If more 'pure office' or commercial activities were to be allowed in the study area a significant plan for public transport upgrades might be necessary. As it is, projections suggest that the transport capacity in the corridor between the CBD and Airport is likely to be exhausted in the next 15 to 20 years.
- A major transit corridor along Botany Road and potentially a new station on the Airport link line at Doody Street should be considered in future. Such investments would be fundamental to securing a much more intensive employment outcome in the study area.

4.7 Retail uses

Allowing more retail in key locations in the main study area should be considered

- More retail may be required to service the current and future working and resident populations of the main study area and surrounds. New cafés are increasing the local amenity and attracting a greater number of people at the weekends. This is consistent with a more diversified employment outcome.
- Two or three smaller retail centres in the wider area should be planned for to increase the area's vitality and to encourage walking. These designated centres could be a focus for retail anchors such as small to medium size supermarkets or other food and grocery outlets, including in innovative and compact formats. Options for these centres would include Doody Street (in association with a future rail station if this ever eventuated), the head of the canal (building on the existing Grounds of Alexandria cafe and proximity to residential areas across Euston Street) and further development of the existing IGA and small centre at the corner of Queen Street and Botany Road.

However the scale of the retail should be limited

- Green Square should remain the pre-eminent town centre with large retail premises and large scale retail attractors being focussed in that location.
- It is important that controls be established that limit the size, scale and location of standalone retail premises and retail clusters, support the role of the planned major centre of Green Square, support the objectives of the mixed business area, and do not place undue pressure on the road network.
- The precise use mix and role of such centres, and their relationship to Green Square and the other existing centres in the south Sydney area, would need to be the focus of further study.

Neighbouring LGAs may become more attractive for bulky goods

- Bulky goods are being encouraged to locate along Princes Highway in Marrickville LGA. The presence of Ikea and heavy passing traffic may attract more of these uses to the area.
- While the Draft Botany Bay LEP proposes B5 zones to the south (which mandatorily permit bulky goods), the mainly small lot sizes in these areas are likely to limit the take up of land for this use. It is noted, however, that Bunnings is considering a store on the southern side of Gardeners Road.

- Over time, as the study area increases its value as a higher value employment location, large floorplate bulky goods uses may consolidate their activities or seek alternative sites in other LGAs. In the meantime though the existing O'Riordan Street and Gardeners Road precinct remains a good central location for these types of activities.

4.8 Special uses

Heavier industries could be suited to the southern end of the canal in the main study area

- Land in Marrickville LGA on the western side of the canal south of Canal Road is owned by Sydney Airport, and to the north of Canal Road is the vacant Alexandria Landfill site, owned by Dial a Dump Industries. This means that the south-western end of the main study area around the canal, and near these other sites, may be a good location for more traditional industrial uses in the long term. This would also be appropriate given its relatively isolated nature and proximity to Gardeners Road. While its exact location is unclear a portal for the proposed WestConnex portal in the vicinity of the study area would also provide good transport access for trucks, and attracting freight and logistics and heavier industry would take advantage of the area's lower desirability for other uses given the heavy traffic and noise that would likely result.
- This area would also be an appropriate site for urban services such as concrete batching plants and council depots requiring a location within the study area.
- It is noted that some of this land is zoned Special Uses and is reserved for potential future roads.

The increasing local residential population requires essential services and infrastructure

- Some significant infrastructure has been lost from southern Sydney, such as the South Sydney Hospital at Zetland and emergency response facilities. Demand for community and health facilities can be expected to increase as the population in the wider south Sydney area increases and matures. Accommodating future community and health facilities in or near the Green Square Town Centre, is appropriate.
- Growing employment and residential populations will create additional demand for open space, recreation facilities, childcare facilities and affordable housing. Finding room for and incentivising these uses in planning controls is important.
- There are few schools and childcare facilities in the area, particularly given the increasing residential population of Mascot, Rosebery and Zetland and young families choosing to stay in the city. There may be potential to locate compact educational facilities in or close to Green Square Town Centre, which would encourage public transport use and walking and cycling trips and minimise traffic, as well as facilitating a vibrant centre with community facilities for public use.

5 EMPLOYMENT AND FLOORSPACE SCENARIOS

5.1 Introduction to alternative scenarios

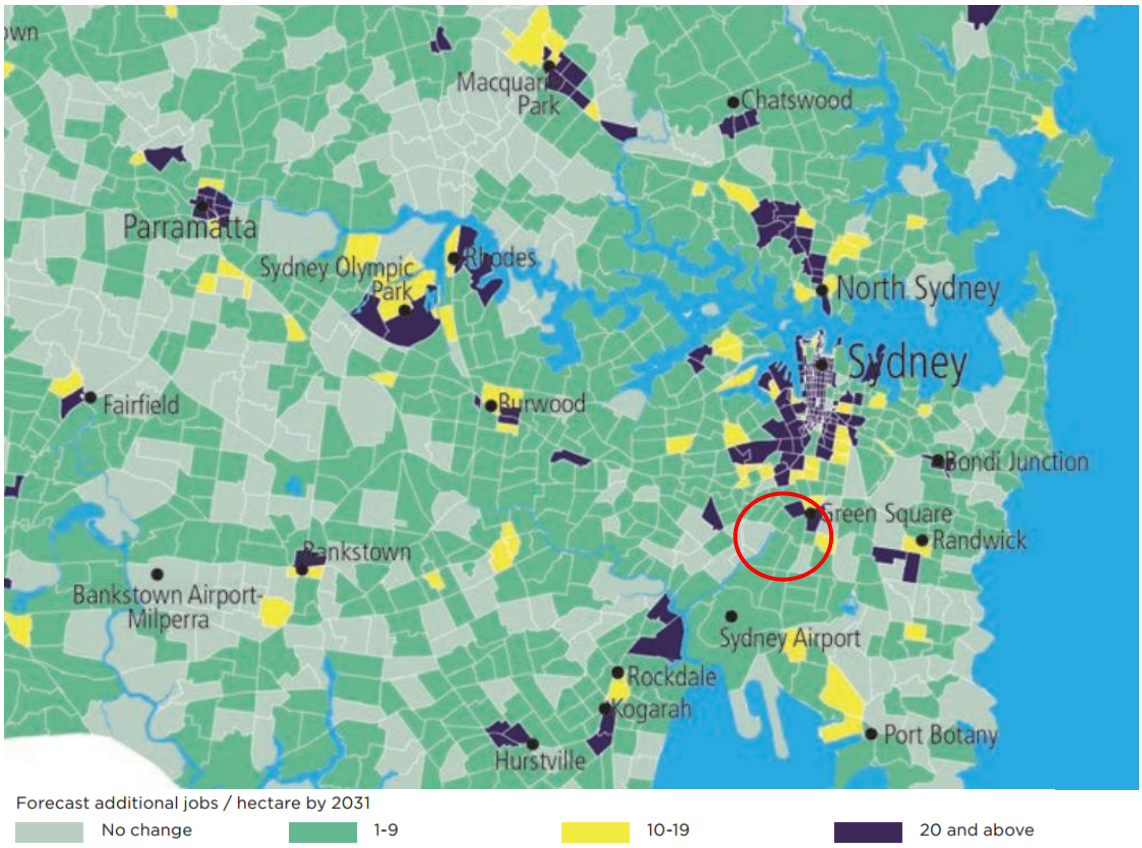
The Bureau of Transport Statistics (BTS) prepares employment projections for Sydney at five yearly intervals to 2031 using a forecasting model. This model:

- estimates total Greater Metropolitan Area (GMA) employment for each historical and forecast year
- analyses trends in employment by industry, geographic subregion and specific job node
- distributes GMA total employment forecasts using forecast shares derived from trend analysis
- adjusts for major new developments (BTS, 2013).

Although the model itself is not publically available, it appears to be principally driven by historical trends with some adjustment for large scale developments that have been announced. This implies that little, if any, consideration is given to strategic opportunities to increase employment across Sydney, or the potential to intensify employment in underutilised areas above trend forecasts. In addition, the model does not factor in the way various land uses may change over time (for example, becoming more space efficient or requiring more or fewer staff), above that observed in historical trends and projected on that basis. Furthermore the forecasts are metropolitan wide and appropriately reconciled at that level, and it is not possible for them to incorporate a detailed understanding of local area industry dynamics, trends in investment and locational decisions and supply side prospects.

The forecasts show a small increase in the job density of the main study area; with the majority of future employment allocated to the CBD and surrounds and North Sydney (Figure 26). An additional 2300 jobs are projected for the main study area between 2011 and 2036 and around 140,000 for the City of Sydney as a whole.

FIGURE 26. JOBS GROWTH FORECAST, 2011 TO 2031, GLOBAL ECONOMIC CORRIDOR



Source: NSW Long Term Transport Master Plan, 2012

These are the official government forecasts and, despite their significant limitations, are the best available data. If the economy of the study area continues on a trend-based trajectory as adopted by these employment forecasts, there will be significant underutilised capacity in the main study area (detailed in appendix 4). Given that development of high bay modern industrial warehouses appears unfeasible in the current market (as shown in appendix 5), perpetuating the existing industrial zoning across much of the study area may lead to increasing vacancy levels.

As such, adopting these forecasts for strategic planning may unnecessarily constrain the economy in the main study area.

In addition, potential longer term supply constraints in traditional office markets imply that other locations need to be considered for higher value employment uses within the Global Economic Corridor, in order for Sydney to remain competitive.

These factors justify an alternative planning approach; one which more actively utilises the land in this strategic location, assumes employment above that projected by historical trends, diversifies economic prospects, and reduces the significant proportion of vacant sites and buildings.

Below are three scenarios reflecting the different demands on the study area as reflected in the discussion in section 4, in addition to the base case of a continuation of the current zoning. The alternative scenarios are:

- one with a residential focus
- a second with a commercial (office) orientation
- a third with a mixed economy transitional focus.

For each scenario the implications for employment and provision of dwellings have been considered using estimates of likely and achievable densities within each zone. These consider likely build out/ take up in general rather than to a fixed point in time. Each scenario is assessed for its advantages and disadvantages given the discussion of strategic issues and considerations outlined earlier.

An overview of the broad objectives for individual precincts or uses in the new scenarios is as follows:

Mixed business	To provide flexibility and appropriately zoned sites for a mix of business and economic activities on a spectrum from industrial to warehousing to commercial and allowing for integrated and combined uses in a single development.
Mixed use	To provide genuine mixed use activities with potential for work/live opportunities, encouraging a roughly even proportion of jobs to residents. Residential provision should be car park constrained and with a requirement for some affordable housing to provide genuine alternative lifestyle options.
Bulky goods	To provide appropriate large floorplate bulky goods opportunities in a consolidated precinct.
Business park	To accommodate larger campus-style office buildings with a higher employment density than in the mixed business area.
Industrial	To accommodate traditional industrial uses, including heavy industry, urban services such as depots, and population serving light industrial such as panel beaters, as well as distribution and warehousing activities. Population serving industrial and urban services uses are conservatively estimated to require 339,000 square metres of land to 2036, as detailed in appendix 6.
Residential	To provide a mix of housing including lower rise, Torrens title, medium density housing as well as some higher density developments. This would include some affordable housing and most likely would require restricted parking to limit the impacts and congestion on the local and regional road network. Value capture mechanisms could be possible here, providing funding for public domain improvements.
High density residential	To provide higher density accommodation in tall apartment blocks, taking advantage of proximity to the canal and Sydney Park, district views, and limited neighbour impacts if parking were to be restricted. Value capture mechanisms could be possible here, providing funding for public domain improvements.

For the residential, commercial and mixed economy scenarios, employment and dwelling projections have been developed and are based on conservative estimates of achievable densities for each area.

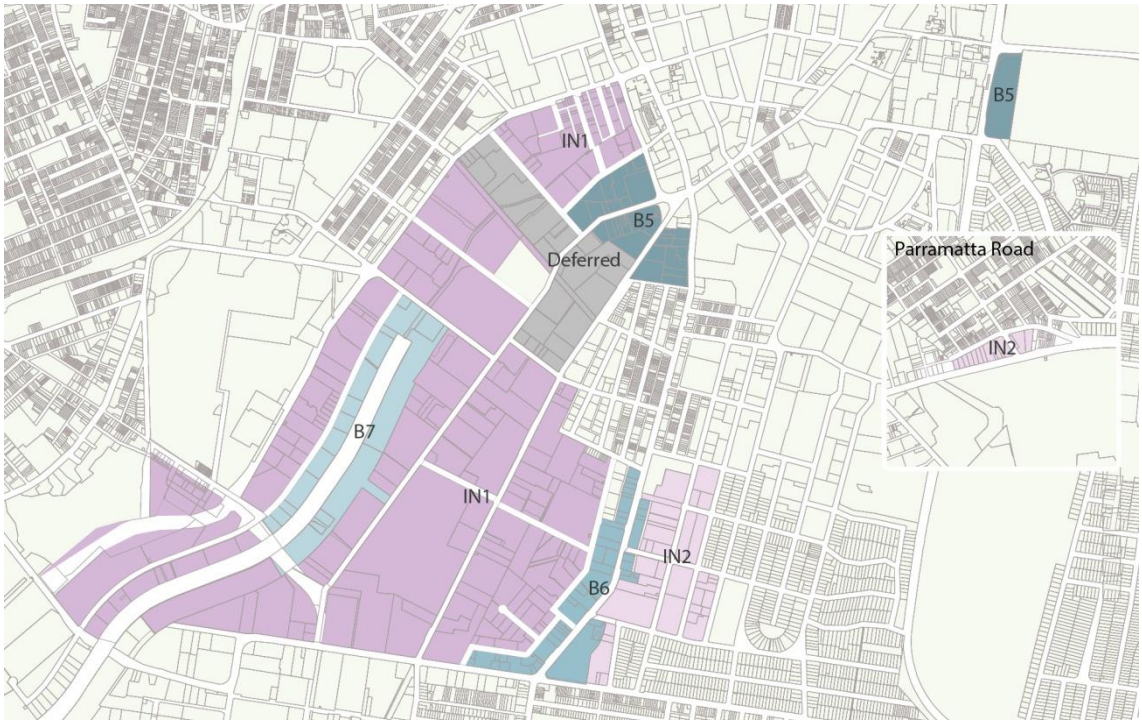
- Current densities in the proposed industrial and bulky goods areas were assumed to continue; that is, employment in these areas is assumed to remain the same (although this may be a conservative approach, if there is scope for intensification of uses).
- The dwelling densities of neighbouring areas with a similar profile to the vision for the proposed residential parts of the study area were used as a basis for estimating achievable densities.
- For the proposed mixed business, mixed use and business park areas, there was no employment data available for comparable areas. As such, achievable job density figures were estimated using SGS's professional expertise, based on land audits and commercial and industrial lands studies completed

for a number of inner city councils (including Randwick LGA, Botany Bay LGA, Marrickville LGA and Leichhardt LGA).

5.2 Base case: existing zoning

In this scenario, the current zoning of the study area does not change. Office uses are anticipated to be accommodated outside the main study area in Green Square Town Centre or through intensification of the Sydney CBD, and around Mascot station and Redfern-Waterloo. The current mix of development uses remains but generally accommodates industrial uses – traditional industrial, strategic industrial relating to the airport and CBD in particular, and population serving industrial.

FIGURE 27. BASE CASE



Source: SGS Economics and Planning, 2013

Advantages

- Maintains employment lands, providing for direct airport and port related uses (including catering and freight related but not higher value and mixed airport related activities)
- Low scale employment uses will have relatively low impact on increasing traffic and transport pressures
- Limits the risk of increasing rents pricing strategic uses out of the study area

Disadvantages

- There is a high proportion of existing vacancies (comprising 19 percent of floorspace in the main study area), which raises questions as to the viability of the current land use and zoning scenario
- Substantial economic , traffic, built form and access issues limit the attractiveness of the study area for general industrial uses, particularly when such uses are in decline and some can locate on cheaper and more suitable sites in western Sydney
- The current zonings do not reflect existing land uses, particularly higher value business-park type employment, such as at the Sydney Corporate Park, and the bulky goods corridor along O'Riordan Street
- The nature of industries and demand for space

are changing and the current scenario does not accommodate this
- IN1 zoning does not provide sufficient flexibility to attract newer forms of industrial use
- Employment opportunities are limited for the growing population of young and educated residents in the area

Employment and dwellings

Data collected for the City of Sydney Floorspace Employment Survey shows that the study area currently accommodates 17,247 jobs and 387 dwellings, as shown in Table 12. Although the BTS projections assume a modest increase in employment in the future, in reality the base case of the current zoning actually implies a lesser potential for the area than was occurring under the previous zoning controls. As such, it is assumed that the profile of the study area does not change in this scenario.

TABLE 12. BASE CASE EMPLOYMENT AND DWELLINGS

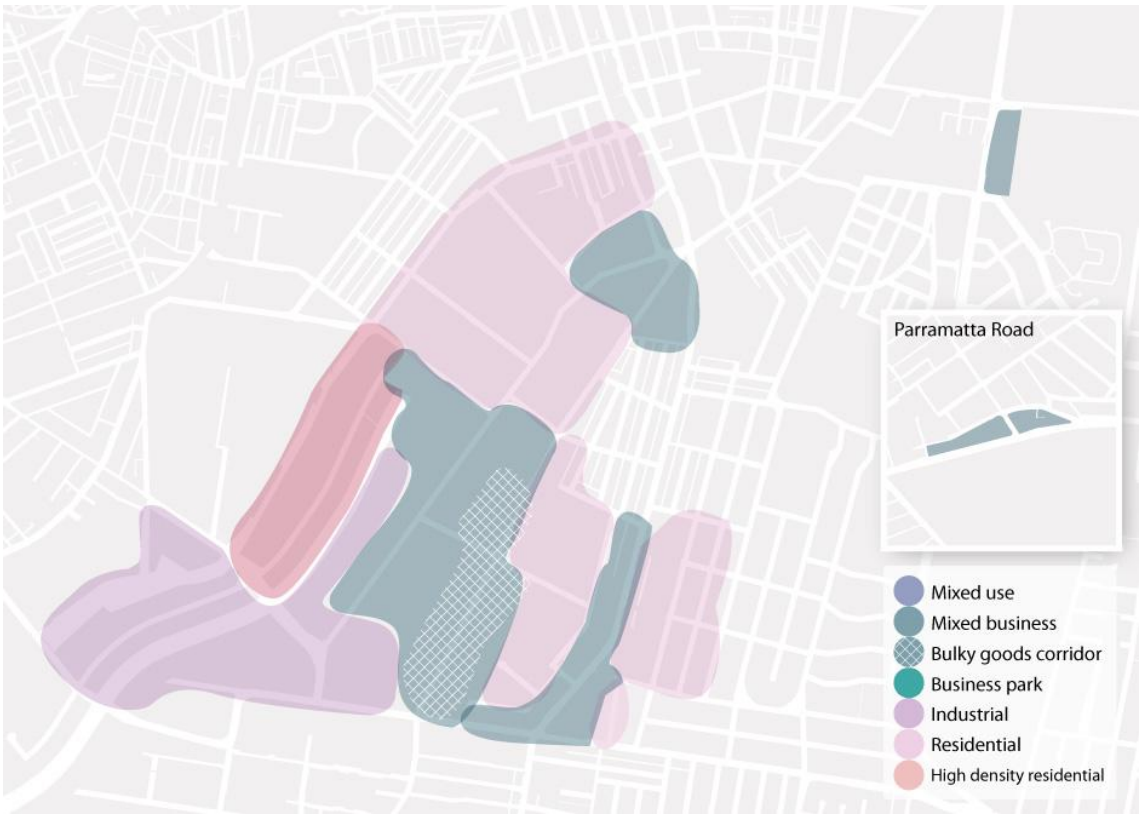
	Area sqm	Area Ha	Jobs	Job density (J/Ha)	Dwellings	Dwelling density (D/Ha)
B5	129,073	12.91	953	74	-	-
B6	109,147	10.91	683	63	296	27
B7	158,763	15.88	311	20	-	-
IN1	1,538,355	153.84	11,612	75	9	0
IN2	166,522	16.65	1,836	110	5	0
Deferred	175,350	17.53	1,788	102	-	-
0 (road reservations)	9,248	0.92	64	69	77	83
Total	**2,286,458**	**229**	**17,247**		**387**	

Source: City of Sydney Land audit data, 2012, SGS Economics and Planning calculations, 2013

5.3 Residential scenario

This scenario includes a component of industrial land in the south west of the site and proposes mixed business areas in a small central area between O'Riordan Street and Bourke Road as well as along Botany Road and immediately to the south of the Green Square town centre. Elsewhere the areas are rezoned for residential, including high density residential east of Sydney Park and west of the canal.

FIGURE 28. RESIDENTIAL SCENARIO



Source: SGS Economics and Planning, 2013

Advantages

- Providing residential land in the study area will increase the supply of housing and potentially assist in providing more affordable accommodation in the City of Sydney
- Potential for high density residential to fund infrastructure
- Provides sufficient industrial land to accommodate population serving uses (namely local light industrial and urban services) to beyond 2036, given the projected future population

Disadvantages

- Shift of focus from employment to residential is inconsistent with the study area's position in the Global Economic Corridor
- The increase in residential land may cause land use conflicts and interface issues, particularly with adjacent industrial lands, hindering business operations
- An increase in residential population is likely to further increase traffic congestion and car parking issues, adding to growth pressures and affecting the viability of employment generating uses
- Limited industrial lands for strategic uses related to the airport, and potential displacement of lower value but important industrial uses if pressure on these areas raises rents
- Limited opportunity to attract high value knowledge jobs and creative uses
- Environmental constraints such as flooding and contamination may restrict the suitability of land for residential land uses
- Cost of mitigating constraints may create significant pressure for very high densities to achieve feasibility. This in turn may have unacceptable amenity, traffic and parking, and

other impacts
- There is currently inadequate open space and community infrastructure to support residential uses
- Further reduction in commercial and industrial floorspace /stock withdrawals
- Significant residential development may affect operations at Sydney Airport (for example, by increasing the duration of the flight curfew) and restrict its potential for future expansion

Employment and dwellings

This scenario assumes capacity for around 3000 fewer jobs compared to the base case – a total of 14,260 jobs – and an additional 6259 dwellings (Table 13).

TABLE 13. ESTIMATED IMPACT OF RESIDENTIAL SCENARIO

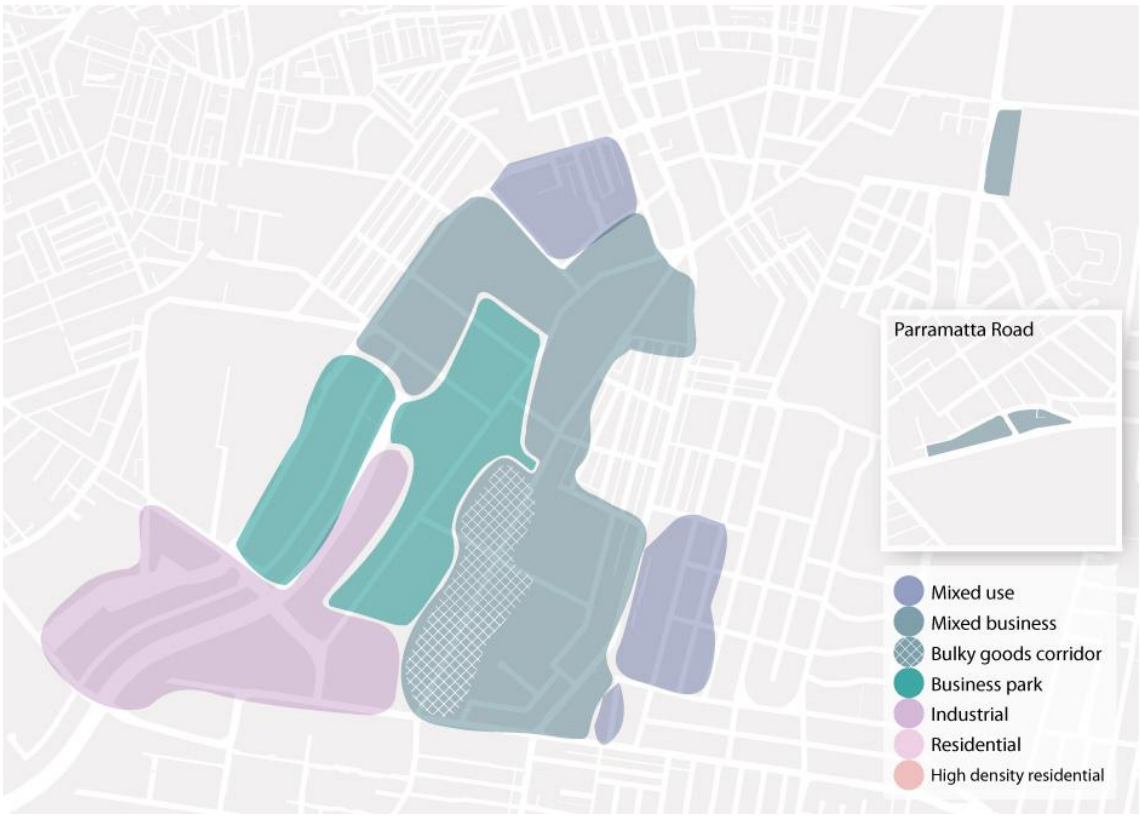
	Area sqm	Area Ha	Jobs	Job density (J/Ha)	Dwellings	Dwelling density (D/Ha)
Jobs						
Mixed business	839,554	84.0	11,920	142	187	0
Industrial	390,060	39.01	2,340	60	-	-
Total	1,229,614	123	14,260		187	
Dwellings						
Residential	880,350	88.04	-	-	4,693	53
High density residential	176,505	17.65	-	-	1,765	100
Total	**2,286,469**	**229**	**14,260**	**-**	**6,645**	**153**
Difference from base case	11	0	-2,987		6,259	

Source: City of Sydney Land audit data, 2012, SGS Economics and Planning calculations, 2013

5.4 Commercial scenario

This scenario includes a component of industrial land in the south west of the site, business park uses west of the canal, small mixed use areas to the north and south east. Otherwise a mixed business zoning would predominate including a bulky goods corridor on the southern end of O'Riordan Street.

FIGURE 29. COMMERCIAL SCENARIO



Source: SGS Economics and Planning, 2013

Advantages

- Strategic justification for commercial land given the likely constraints on supply elsewhere in the city and the opportunity to reinforce the economic role of the study area within the Global Economic Corridor
- Reflective of existing uses and changing nature of the economy, particularly the existing demand for bulky goods and growing professional services industry of employment
- Provides sufficient industrial land to accommodate population serving uses (namely local light industrial and urban services) to beyond 2036, given the projected future population
- Commercial uses provide a buffer between existing residential lands to the east of the study area and remaining industrial land uses
- Potential for hotel accommodation to be developed to support CBD and airport provision
- Likely to increase the viability of the study area and lower vacancy levels by permitting a variety of employment generating uses
- Offers opportunities for public transport patronage and minimises conflict with other demands on the road network, such as for airport-related uses

Disadvantages

- Potential for business park area to compete with Green Square town centre, delaying or jeopardising its development as a major centre
- Limited industrial lands for strategic uses related to the airport, and potential displacement of lower value but important industrial uses if pressure on these areas raises rents
- Potential to substantially increase traffic and transport pressures in study area
- Limited role in addressing housing supply

Employment and dwellings

This scenario assumes capacity for more than double the amount of jobs than the base case (19,396 additional jobs, giving a total of 36,643 jobs), and a similar amount of dwellings (Table 14).

TABLE 14. ESTIMATED IMPACT OF COMMERCIAL SCENARIO

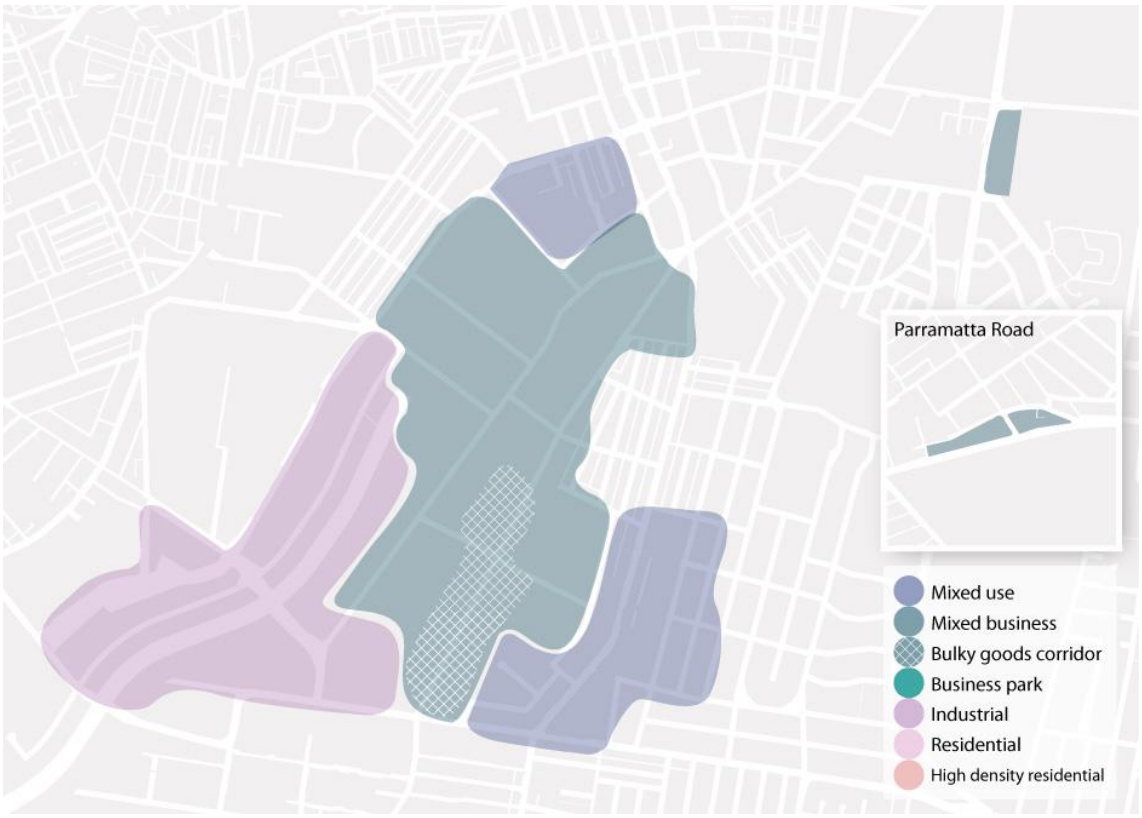
	Area sqm	Area Ha	Jobs	Job density (J/Ha)	Dwellings	Dwelling density (D/Ha)
Jobs						
Mixed use	280,529	28.05	3,366	120	270	10
Mixed business/ Enterprise corridor	970,807	97.08	14,184	146	13[1]	0
Business park	670,093	67.01	16,752	250	-	-
Industrial	390,060	39.01	2,340	60	-	-
Total	2,311,490	231	36,643		283	
Dwellings						
Residential	-	-	-	-	-	-
Total	**2,311,490**	**231**	**36,643**		**283**	
Difference from base case	25,032	3	19,396		-104	

Source: City of Sydney Land audit data, 2012, SGS Economics and Planning calculations, 2013
[1] Note: the Parramatta Road site currently houses 13 dwellings. Although no new dwellings are projected in the mixed business zone, these 13 existing dwellings are assumed to remain.

5.5 Mixed economy scenario

This scenario includes industrial land in the south west of the site and extending either side of the canal, as well as extended mixed use areas to the north and south east (either side of Botany Road). Elsewhere mixed business uses would predominate, including a bulky goods corridor on the southern end of O'Riordan Street.

FIGURE 30. MIXED ECONOMY SCENARIO



Source: SGS Economics and Planning, 2013

Advantages

- Supports the current mix of freight and logistics, urban services, light manufacturing, office/business park uses, and creative uses through providing precincts which continue to support these existing land uses activities
- Maintains additional industrial land beyond the requirements for population serving demand to 2036, which can accommodate strategic uses relating to the airport, port and CBD that require industrial zoning
- Supports the position of the study area within the Global Economic Corridor
- Reflects the changing economy through provision of flexible areas to cater for growing knowledge-based and creative industries
- Mixed use areas provide a buffer between existing residential lands to the east of the study area and commercial and industrial land uses, as well as increasing local amenity and reducing interface issues
- Potential for hotel accommodation to be developed to support existing CBD and airport provision
- Likely to increase the viability of the study area and lower vacancy levels by permitting a variety of employment generating uses
- Mixed use areas have the potential to attract higher value, creative type uses; the clustering of which facilitates productivity and growth
- Balances the policy objective to promote employment growth,

Disadvantages

- Potential displacement of lower value but important industrial uses if pressure on these areas raises rents
- Limited opportunities to increase the supply of housing, although higher than in commercial scenario given larger mixed use area

with the need to retain land for strategic industrial and population servings uses that tend to have lower job yields (but which are essential for the efficient operation of the city and have an economic value in their own right)
- Decreases risk and ensures the quantum of industrial land that is retained by the study is sufficient, such that future demand for industrial land does not place undue pressure on land and rent prices

Employment and dwellings

This scenario assumes capacity for 10,255 additional jobs compared to the base case – a total of 27,502 jobs – and a conservative estimate of an additional 468 dwellings (Table 15).

TABLE 15. ESTIMATED IMPACT OF MIXED ECONOMY SCENARIO

	Area sqm	Area Ha	Jobs	Job density (J/Ha)	Dwellings	Dwelling density (D/Ha)
Jobs						
Mixed use	439,388	43.94	5,273	120	842	19
Mixed business	1,280,494	128.05	18,830	147	13[1]	0
Industrial	566,565	56.66	3,399	60	-	-
Total	2,286,448	229	27,502		854	
Dwellings						
Residential	-	-	-	-	-	-
Total	**2,286,448**	**229**	**27,502**		**854**	
Difference from base case	-10	0	10,255		468	

Source: City of Sydney Land audit data, 2012, SGS Economics and Planning calculations, 2013
[1] Note: the Parramatta Road site currently houses 13 dwellings. Although no new dwellings are projected in the mixed business zone, these 13 existing dwellings are assumed to remain.

5.6 Recommended scenario

The recommended scenario for the study area is the mixed economy scenario. It is consistent with the roles for the area discussed in section 2 on the strategic context, balances the range of competing uses in the study area discussed in section 3 and scores highest from a policy perspective against the strategic assessment of employment lands (as described in appendix 7). Most importantly, it addresses the question of the strategic employment context, which is fundamental to Sydney's future competitiveness and is of national significance.

This scenario (and the analysis in this report) raises the need for a more comprehensive review of the significance of the industrial areas in general in the subregion. If the main study area is dedicated to a higher order mixed business role then it is important that other employment land precincts within the inner Sydney area also be protected so that they may play their own role in the subregion and Sydney's broader economic geography.

The following section focuses on the roles of particular precincts in the preferred, mixed economy scenario and recommendations for implementation.

6 RECOMMENDED LAND-USE STRATEGY

The vision for each precinct and associated actions consistent with the preferred scenario are discussed below. Refer to appendix 8 for a risk assessment of moving from the existing zoning to the proposed scenario.

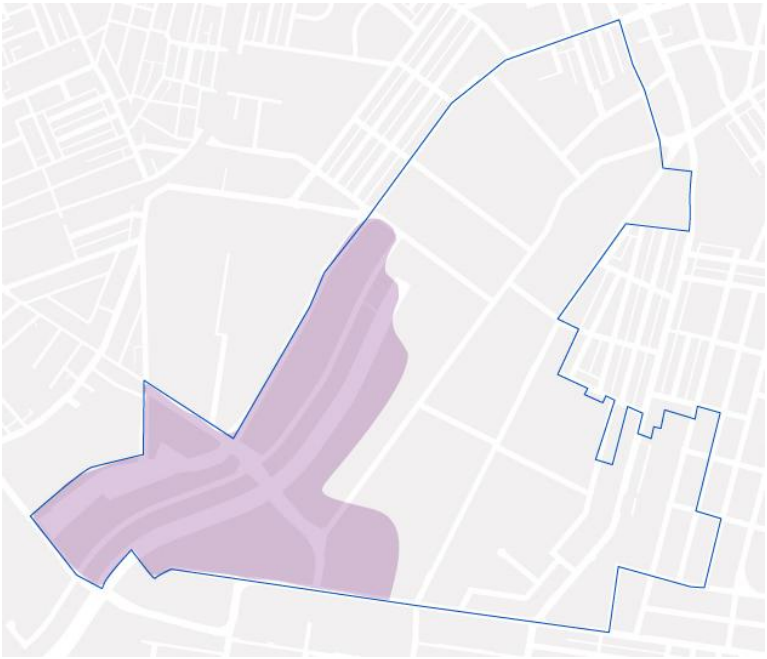
6.1 Industrial area

Land use recommendation

Zoning in the south western corner of the main study area should accommodate both heavy and light industry. The zone is to allow for population serving industrial uses (local light industrial and urban services required to service the current and projected population of the LGA) and strategic industrial uses (for example, airport related and freight and logistics uses and some CBD support services such as archiving activities).

The vision for the zone is for 'pure industrial' with only minimal 'ancillary' uses to support the industrial uses and employment in the zone.

Map



Recommendations

- Ensure the objectives of the zone achieve the vision for the zone.
- Provide flexibility to accommodate a variety of light and heavy industrial uses and allow firms choice as to where they locate depending on their requirements.
- Review floor space ratios to ensure they are appropriate to accommodate the activities envisaged and the vision for the zone.
- Allow for ancillary uses that support the working population of the zone, for example childcare, kiosks and so on. However, ensure that the scale of those

uses does not compromise the vision of, or efficient functioning of the zone.

Justification

The proposed industrial area:

- provides sufficient land to accommodate the population serving industrial uses (local light industrial and urban services) to service the current and projected population of the LGA to 2036; conservatively estimated to be around 339,000 square metres of floorspace in 2036, as detailed in appendix 6
- provides additional land of approximately 150,000 square metres[14] to accommodate strategic industrial uses, for example those related to the airport, in addition to that available in the mixed business areas. Earlier analysis shows a need for approximately 440,000 square metres of land for airport-related freight and logistics uses. Industrial areas surrounding the airport (such as those to the north, west and those to the east, where SGS found excess capacity in its 2008 Botany Bay study) are anticipated to principally accommodate this demand with some able to be accommodated amongst the 'strategic industrial uses' allowed for in the proposed zone. It is noted that some of these uses will also be able to be accommodated in other zones within the main study area.
- balances the need to retain land for industrial uses with the opportunity to turn over some underutilised industrial zoned land for higher value uses
- perpetuates the existing land uses in this area and planned location of council depots to the east of the canal
- aligns with zoning and future plans in the adjoining LGAs of Marrickville and Botany Bay along the study area boundaries
- consolidates heavier uses in an isolated location, buffered from other uses by the Alexandra Canal, Sydney Park, and main roads
- provides good accessibility to Sydney Airport and road networks, including the proposed exit of WestConnex along Qantas Drive, and therefore has potential to attract related freight and logistics uses.
- returns land zoned B7 – Business Park in the current Sydney LEP 2012 along the Alexandra Canal to an industrial zoning. This reflects existing (and planned) land uses and recognises that higher order uses will continue to remain unfeasible until such time as there is active intervention by Sydney Water to clean up the canal. Perpetuating the B7 – Business Park zoning in this location will only act to artificially inflate land prices.
- will not reduce the quantum of industrial land so much that demand pressures would have a detrimental impact on land prices, that is, additional land allowed for 'strategic uses' would de-risk, to some extent, potential land cost increases.

[14] This excludes land planned for acquisition for road reservations, as provided by the City of Sydney.

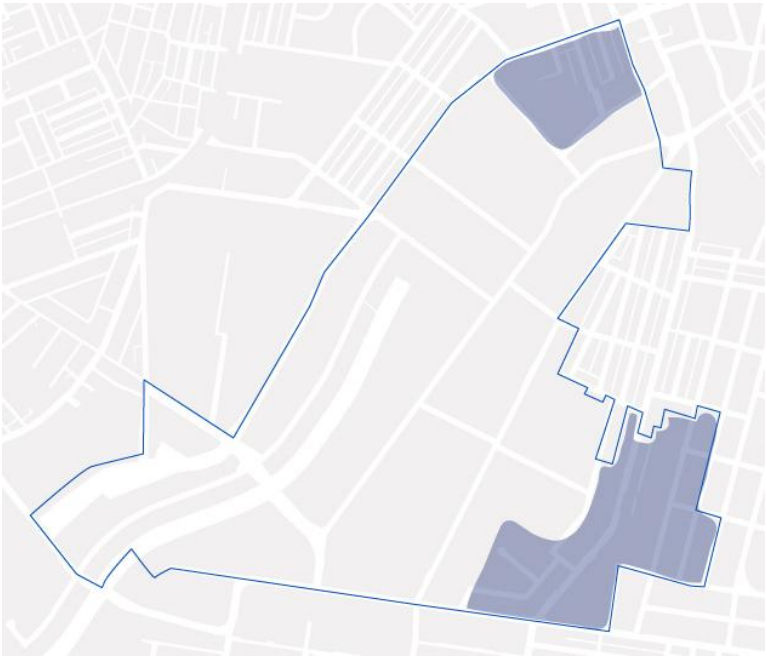
6.2 Mixed use areas

Land use recommendation

Zone the northern and eastern precincts of the study area for a mix of employment and residential uses, ensuring that a genuine 'mix' emerges.

The vision for this area is a genuine mixed use precinct supporting a relatively even mix of employment-generating uses and affordable residential development. Development should support sustainable travel behaviour including minimising car usage.

Map



Recommendations

- Ensure that as the rezoning of these precincts creates increased land values, a portion of the value uplift is directed towards works or services aimed at achieving the objectives of Sustainable Sydney 2030.
- Ensure the objectives of the zone achieve the vision for the zone by actively encouraging a genuine mix of affordable residential and non-residential uses.
- Ensure the zone provides flexibility to support both employment and appropriate residential uses.
- Undertake a character, heritage and urban design assessment of the proposed mixed use precincts, recognising that appropriate controls will need to be developed that, for example:
  - protect the existing grain and street network
  - respect the scale of the existing built form including the retention of some existing buildings
  - establishes height and floor space ratio controls that are appropriate for the zone.
  - actively promote affordable housing
  - minimise the barriers to innovative housing conversions for 'work-live' outcomes
  - provide for no or low parking associated with the housing in these mixed use precincts.
- Explore opportunities to encourage child care and other local infrastructure needed to support the growing population in the region.

Justification

The proposed mixed use areas:

- fit with the developing character of the precinct east of the main study area, where residential buildings and associated retail and services are increasing (with cafés such as Kitchen by Mike on Dunning Avenue, Bourke Street Bakery and Sonoma adding to the amenity of the area and catalysing development)
- take advantage of the features of both proposed locations, in terms of small lots, older industrial buildings, and quieter roads, which could facilitate development of diverse, dense and creative economy precincts
- are likely to continue to attract creative uses, which cluster in fringe areas with high amenity and lower rents rather than town centres (with Rosebery already home to a number of such uses, including firms in the fashion industry, media and communications sector, architects, graphic designers and so on)
- provide services and retail for adjoining residential populations in Rosebery, Zetland and Alexandria
- provide an opportunity to promote affordable housing and a diverse housing mix
- provide a buffer between the predominantly residential areas outside of the main study area and proposed commercial uses in the centre of the main study area
- take advantage of current or proposed transport options – with the northern precinct accessible to Green Square train station, and the eastern precinct accessible to the Botany Road bus corridor.

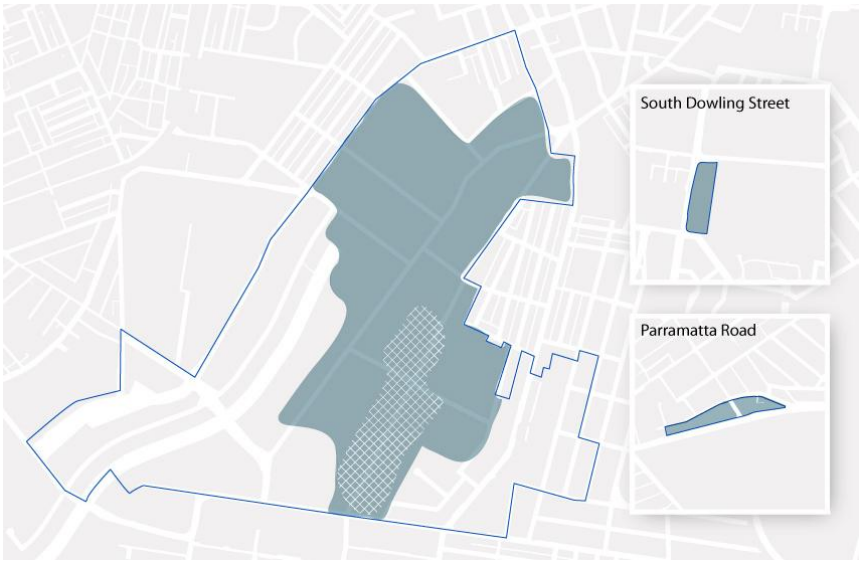
6.3 Mixed business areas

Land use recommendation

Zone the centre portion of the main study area and the Parramatta Road and South Dowling Street precincts for mixed business uses. The zone should ensure sufficient flexibility to encourage and accommodate a variety of economic activities, as well as 'other' uses likely to attract and support higher value activities in these areas.

The vision for this area is a mixed business precinct in a flexible land use zone. The zone should continue to support warehouse and light industrial uses but also facilitate higher value employment such as offices where appropriate. Retail should be limited in scale and should complement the Green Square Town Centre and other village centres. The zone should continue to support bulky goods uses in limited areas.

Map



Recommendations

- Ensure the objectives of the zone achieve the flexible vision for the zone and encourage a mix of employment activity in the zone.
- Allow for some other non-residential uses, such as entertainment facilities, churches and markets, which support employment activity and/or service the local population. These uses should be limited in scale so they do not detract from the vision of the zone.
- While some retail activity is consistent with the aim of increasing flexibility in the zone and allowing for a variety of employment generating uses, individual retail activities should be limited in scale so that they complement retail activities in the Green Square Town Centre and do not have a detrimental impact on other employment uses in the zone.
- Recognise there are a number of industrial-retail businesses in the main study area, and that these uses should continue to be permitted in the zone.
- Premises with an active frontage to O'Riordan Street should be permitted to accommodate bulky goods premises (in areas where they currently exist) under Schedule 1 of the Sydney LEP 2012 (which permits additional uses for particular land that may otherwise be prohibited by a land use table). Bulky goods should continue to be consolidated on the South Dowling Street site and in the main study area along O'Riordan Street, where there is an existing cluster and to ensure these uses do not 'crowd out' the potential for other mixed employment activities in neighbouring areas.
- Undertake additional analysis of the built environment and review height and floorspace ratio controls to ensure they are appropriate for the zone.
- Explore opportunities to encourage child care and other local infrastructure needed to support the growing population in the region.
- Encourage sustainable transport choices and where possible introduce measures to minimise parking associated with new development.

Justification

The proposed mixed business areas:

- fit with the existing mix of commercial and business uses in the Parramatta Road precinct and in much of the main study area, including business park type developments such as the Sydney Corporate Park
- provide excellent access – with the main study area close to the airport and CBD and all sites either close to or on major arterial roads
- are minimally affected by aircraft noise
- provide flexibility to accommodate a range of uses that generate employment given the wide variety of sites within the study area, with potential for office developments, small manufacturing businesses such as catering firms, laboratories, warehousing, integrated operations and so on
- can also provide flexibility for a range of uses that attract employment and add to diversity, particularly in the main study area, such as sport and recreational facilities, cafés, and accessibility to Green Square Town Centre and retail precincts
- accommodate higher value employment for the growing residential population of the neighbouring areas (particularly younger and highly educated residents) and minimise travel times
- have good accessibility by public transport for the most part, with Green Square train station to the north of the main study area and major bus routes in or close to all three precincts, although there is potential to increase the number of routes, services, and perhaps expand the hours of operation.

6.4 Retail precincts

Vision

Planned retail precincts of an appropriate size and location will support the effective functioning of the commercial and mixed use precincts of the study area, as well as the wider area.

Map

Recommendations

- Recognise the major centre role of Green Square Town Centre in providing services, office uses and employment, and protect strategic industrial, commercial and mixed use areas by concentrating anchor retailers (such as supermarkets) in nominated centres.
- Develop a hierarchy of small retail centres in the main study area and surrounding suburbs, considering possible locations at Rosebery, close to the Grounds of Alexandria cafe at the northern end of the canal and Doody Street. This would consider the best locations for these centres, the need for amenities to service businesses and new residents in the area, the projected increase in the local population, the projected redevelopment of Green Square Town Centre, and structure planning issues, transport accessibility, linkages to other centres and so on.
- Explore planning controls that encourage walking and cycling to these locations

Justification

The proposed retail areas:

- provide local retail services for residents and workers in Rosebery and close to the Grounds of Alexandria cafe at the northern end of the canal (and in future at Doody Street if a rail station is established)
- acknowledge that while there is growing demand for bulky goods locations, there are opportunities for these businesses to locate in neighbouring LGAs (such as along the Princes Highway in Marrickville LGA) or to intensify operations in the study area
- are unlikely to compete with the retail planned for Green Square Town Centre.

6.5 Support actions

A subregional approach is needed.

Issue

A regional approach is required to determine the necessary supply of inner metropolitan Sydney employment lands (with industrial lands being an important subset) needed to service the airport and port and provide appropriate service industry land, and action taken to ensure that these lands are protected. This will reduce the likelihood of the industrial lands in the main study area becoming overburdened and consequently unviable for lower value uses. It will also allow for enhanced transport planning and neighbouring residential planning, once the role of the different precincts is made more certain.

Action

Lobby state government to consider the provision and protection of strategic industrial and employment lands at a subregional level. The objective should be to develop a state planning instrument that protects and maintains inner Sydney employment lands for strategic and other uses consistent with their attributes and location.

Traffic and transport issues in the study area must be addressed

Issue

The traffic and transport network will continue to come under considerable pressure from growth at the airport and port, as well as population growth in Green Square and Mascot, and other surrounding areas. It is noted that the land use strategy recommended by this study will also create some additional pressure on the road and transport networks in and around the study area.

In exhibiting the background report (appendix 1), the City of Sydney received a submission from Roads and Maritime Services (RMS) recommending that:

- the implications of the Employment Lands Study be assessed
- a Traffic Management and Accessibility Plan (TMAP) be prepared for the study area, which takes into consideration the Green Square TMAP 2008, the Mascot Town Centre TMAP 2012 and other relevant studies and strategies.

These recommendations are supported.

Actions

- Undertake a local high level traffic and transport study to inform the preparation of planning proposals which will implement the recommendations of this report.
- Work with Transport NSW to develop a TMAP for the study area that is responsive to the land use recommendations and ensures sufficient levels of public transport are provided to and through the study area. Some considerations for this study should be:
  - Whether Botany Road could be 'calmed' to support the development of the proposed mixed use precinct, including providing for on-street parking, and elevating its role as a public transport corridor over heavy slow traffic
  - The potential to establish Bourke Road and O'Riordan Street as the principal arterial roads through the study area
  - Prospects for a rail station on the Airport line at Doody Street
  - Continuing to plan for and invest in pedestrian and cycle paths (safe for all users), as well as the general improved amenity of the study area, to promote walking and cycling as an alternative to car usage
  - Opportunities to introduce measures that address potential conflicts between cyclists and heavy vehicles.

Manage flooding issues

Issue	Flooding will continue be an issue in parts of the study area. There is a need to manage flooding in the study area and ensure new development is responsive to flooding constraints.
Actions	– Ensure planning controls promote the Liveable Green Network Plan to provide a corridor along the alignment of the trunk drainage channel from Alexandra Canal to Bourke Road. – Integrate the outcomes of the Alexandra Canal Floodplain Risk Management Study and Plan into future planning controls.

Harness opportunities to improve the public domain

Issue	Improvements to the public domain are required in the study area in order to satisfy demand created by growing numbers of employees and residents locally, to attract new firms (particularly those in higher value and creative industries) which will encourage development and renewal, and in general to provide a higher level of amenity for workers, residents and visitors.
Actions	Prepare a public domain strategy to consider through-site links, pedestrian amenity, potential for green corridors, minor land dedications for community uses, recreational needs, longer term prospects for redevelopment of the Alexandra Canal and Shea's Creek, cycle paths and so. The focus should be on functionality and accessibility, not necessarily on beautification. It is important these elements of the public domain are recognised in new planning controls.

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APPENDIX 1: BACKGROUND REPORT

The purpose of the background report is to provide a summary of the existing situation for employment and industrial lands in the study area, in terms of economic and land use profile, strategy and policy framework, assets and infrastructure, stakeholder perspectives and broad economic trends and drivers.

The background report does not provide analysis of future demand or recommendations for future land use for the study area.

The background report was made available for public comment between 23 November 2012 and 21 December 2012. Twenty-three submissions were made and are summarised at appendix 2.

Employment lands study

Background report

City of Sydney

November 2012

SGS Economics & Planning

Independent insight.

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EXECUTIVE SUMMARY

Scope of the study and role of the background report

The purpose of the Employment Lands Study 2012 ('the study') is to determine the long-term demand for industrial and business zoned land in the southern areas of the City of Sydney (the 'City'), and identify planning mechanisms to ensure that there are adequate employment lands to support the growth of Sydney within the global economy.

The study is to make land use recommendations for the study area (shown in Figure 1) and may inform future amendments to the City's planning controls, and may also inform the preparation of a planning proposal to review the zoning of lands in the western part of Green Square which are excluded from the City Plan. The study area comprises three sites: namely the main study area to the south of the LGA, the South Dowling Street site to the east on which the Supa Centa Moore Park is located, and the Parramatta Road precinct in Glebe.

FIGURE 1. STUDY AREA

Source: City of Sydney, 2011

This background report details Stage 1 of the study. The role of this background report is to provide a succinct and readable report, summarising the existing situation for employment and industrial lands in the City of Sydney in terms of economic and land use profile, strategy and policy framework, assets and infrastructure, stakeholder perspectives and broad economic trends and drivers.

Strategy and policy framework

Metro

The *Sydney Airport Master Plan* (Sydney Airport 2009) envisages Sydney Airport remaining as the sole international and domestic airport for Sydney over the next 18 years (to 2029) and accommodating average annual growth rates of 4.2 percent for passengers and 2 percent for passenger aircraft movements.

The importance of the employment lands in the southern areas of the City of Sydney, and their proximity to Botany Bay, the airport and the CBD have been recognised by the *Metropolitan Plan for Sydney 2036* (the Metropolitan Plan 2036), the *Draft Sydney City Subregional Strategy (2008)* (the Draft Subregional Strategy), Section 117 Directions and *Employment Lands Sydney Action Plan*. These documents have placed an emphasis on the retention of significant strategic industrial lands and contain strategies and policies that effectively prevent the reduction of industrial land where its removal cannot be justified.

The Metropolitan Plan 2036 recognises the significant growth and change proposed in the southern Sydney area and designates Green Square as a 'Planned Major Centre' that is set to provide a significant proportion of the housing and employment growth within the Sydney City Subregion. An employment capacity target of 14,000 new jobs to 2036 is proposed for Green Square (from a base of 2000 jobs in 2006).

The *Employment Lands Development Program 2010 – Report 1 Sydney City Subregion* identified that employment lands within the Sydney City subregion are highly utilised due to the relatively limited existing supply and proximity to the Global City and economic gateways of the port and airport. There is very little undeveloped land remaining and no future employment lands have been identified for the subregion. The report, however, states that potential regeneration of existing employment lands could provide new opportunities for a range of industrial and related activity within the subregion.

Sydney

The Draft City Plan includes the *Draft Sydney Local Environmental Plan 2011* (Draft Sydney LEP) and the *Draft Sydney Development Control Plan 2010* (Draft Sydney DCP). The Draft Sydney LEP was adopted by the Council and the Central Sydney Planning Committee (CSPC) in March 2012 and its making by the Minister is imminent. The Draft Sydney DCP was adopted in May 2012 and will become operational when the Draft Sydney LEP is made. The new City Plan will replace the planning controls that apply to the study area that are currently contained in the *South Sydney Local Environmental Plan 1998* and *South Sydney Development Control Plan 1997.*

The *Southern Industrial Area Land Use and Urban Design Study* recognised the Southern Industrial Area (SIA) as a strategically important location between the Sydney CBD, Sydney Airport and Port Botany. The study recommended retaining intact industrial areas, whilst providing better connectivity and amenity in these areas.

The *Green Square and Southern Areas Retail Study* recommended a retail hierarchy that complements and supports the Green Square Town Centre as a major centre; that the allocation of retail floor space in the Green Square Town Centre be increased to an appropriate quantum; and that any retailing within the Green Square Urban Renewal Area and the SIA should be of a minor, ancillary nature outside of the proposed retail centres. It also recommended that bulky goods uses be consolidated in O'Riordan Street, with additional minor outlets encouraged in the proposed Danks Street/Crown Square village within Green Square.

The *Green Square Urban Renewal Area: Background Paper* (the Background Paper) collated and reviewed the recommendations of many previous studies relating to the Green Square URA. The proposed controls in the Background Paper, including zoning, height, Floor Space Ratio and DCP controls are made within the context of *Sustainable Sydney 2030* and evolving state planning policies and directions.

The following points from the *NSW Transport Masterplan – Discussion Paper* (2012) are relevant to the study area:

- activity at the airport and port is forecast to double over the period to 2036. The resulting increase in traffic movements, in addition to increased demand on road and rail corridors due to residential and employment growth, will place additional pressure on the ground transport networks that feed these gateways.
- duplicating the M5 East would alleviate congestion near Sydney Airport and Port Botany.
- new measures to manage congestion could include the removal of parking on major arterial roads and priority for freight vehicles on the main freight corridors.

– the Southern Sydney Freight line between Port Botany and Macarthur is under construction, which is anticipated to increase efficiency and allow the movement of freight at any time.

Employment and floorspace profile

Subregional level

All three sites of the study area (namely, the main study area, the Parramatta Road precinct, and the South Dowling Street site) are well positioned within the subregion, close to the city, airport and port, and located on main arterials running to the city – Parramatta Road in the northern site, O'Riordan Street and Botany Road in the main study area and South Dowling Street for the eastern site. Very few sites are affected by aircraft noise to a significant degree.

Local level

Neighbouring LGAs are home to a number of freight and logistics, business park, light manufacturing and light industrial clusters. According to the respective LGAs' planning strategies and recent LEPs, most of the surrounding industrial lands are likely to be retained for industrial development. There may be some pressure on the study area to accommodate uses from these areas. Alternatively, industrial zones in neighbouring LGAs may potentially host displaced uses from the strategic main study area.

Employment

Manufacturing was the largest industry in the main study area in terms of the number of employed workers in 2006, followed by transport and storage and wholesale trade. These are also industries in which the main study area had a high level of specialisation compared to the Sydney Statistical Division. Wholesaling, retailing, transport and printing were the largest subcategories of employment, each accounting for more than 5 percent of total employment in the main study area.

Floorspace use

Of the 11 categories that were assessed, freight and logistics occupies the highest proportion of floorspace in the main study area, followed by vacant uses and then office. In the Parramatta Road precinct, the principal floorspace use is office closely followed by retail showrooms. On the South Dowling Street site, the vast majority of floorspace is occupied by centre based retail.

In terms of the distribution of different uses across the main study area, there are clusters of factories and laboratories along the canal, and service industrial uses close to Green Square and around the corner of Beaconsfield Street and Botany Road at the east. Transport and storage uses are prevalent across the study area, while centre based retail and retail showrooms are clustered along O'Riordan Street. There is a considerable amount of vacant floorspace in the main study area, comprised of both vacant buildings and vacant sites. The quantity of office floorspace is substantial given that it is located in an industrial area.

Land suitability

The land assessment indicated:

- high suitability for freight and logistics, local light industrial, and light manufacturing uses in most parcels in the main study area and the Parramatta Road precinct
- high suitability for heavy (general) manufacturing in the south of the main study area
- high suitability for bulky goods uses in the Parramatta Road precinct and South Dowling Street site, as well as parts of the main study area
- good suitability for office uses close to Green Square and in the Parramatta Road precinct.

Given increasing land values, there is likely to be pressure to accommodate higher order uses in the main study area (including offices), which may affect traditional industrial industries and require a planned approach.

Market dynamics

Strategic context

The Metropolitan Plan 2036 locates the study area within the Global Economic Corridor (GEC): the powerhouse of Australia's economy. The main study area is also close to Green Square. The upgrade of Sydney Airport, the expansion of Port Botany, and the redevelopment of Cooks Cove are all likely to impact on the area through increased business activity and warehousing needs.

Economic geography

Globalisation is likely to continue to drive a separation between the 'thinking' part of the value chain (namely design, brokerage, marketing, strategy formulation) and the making or manufacturing, and distribution, in the form of transport, logistics, and after sales service. The study area is in a position to service multiple parts of this chain.

Lower intensity uses may face increasing pressure to relocate; however, some manufacturing and other industrial uses will still require urban space, due to networks and contracting chains, and to be close to suppliers and customers. Furthermore, the placement of particular industries, firms and facilities (such as Council depots) on the fringe of the CBD is vital to providing essential support services to large population centres.

Given that spatial relationships, physical connectivity and quality of place are critical to economic development and can have significant impacts on productivity, it would be wise to carefully plan for existing clusters where they can be identified.

Property market dynamics

A strong Australian dollar, increases in e-retailing, and globalised supply chains are likely to be factors contributing to the increase in imports over the past few years. This has resulted in a greater need for storage space for logistics, transport, importers and distribution centres. The lack of new development, coupled with demand from prospective tenants in addition to existing tenants seeking to expand, has led to an under-supply of large industrial space in the strategically located south Sydney market. As a result, rents are expected to rise as tenants' confidence continues to increase and availability remains tight.

The popularity of inner city living in Sydney can be seen through the substantial increases in the values of apartments and rents close to the study area over the past 10 years, in addition to the development of many new residential developments. This growth in demand for inner city living, driven by economic change, housing preferences, and policy, offers economic gains for landowners and developers and creates competition for space. In some cases it may lead to a tension between industrial land uses and other uses.

Real estate agents noted that demand remains solid despite the impact of the global financial crisis, with land and median rental prices increasing steadily since 2008 and notable demand for industrial land from creative and business service occupants. There is a stronger demand for leased properties, particularly in the northern areas of the main study area and near railway stations, and for smaller sized holdings of 300 to 1000 square metres. Showroom uses have often demanded large floor plates, but these are increasingly concentrated in mixed-use developments.

Businesses normally based in Surry Hills, Chippendale and Redfern, such as advertising, fashion, and business services firms, have been quick to relocate to Alexandria. This may be an indicator of the main study area evolving into a second order business and services area outside the central CBD. These firms tend to seek free-standing properties with renewal potential or high quality spaces ready for occupation, as well as the expansive and open floor plans available in warehouse style buildings. Public transport, access to customers and suppliers in the CBD and the quality of buildings and finishes tend to be strong factors in relocation decisions, but overall, the main factor is price.

Cheaper land in western Sydney has been attractive largely to manufacturing users and smaller engineering firms, with Silverwater and Smithfield being popular relocation destinations. Freight and logistics users have also decentralised, but most have remained in the area owing to its strong link to Port Botany, the airport and CBD.

Future role and function

There are a range of factors affecting the likely future role and function of the study area. These can be summarised as follows:

Amenity	– Green Square has been slow to develop so far, but is likely to develop quickly given continued public investment.
Land-use	– Increasing demand for residential uses close to the city is likely to place further pressure on employment lands in both the main study area and Parramatta Road precinct. These will need to be quarantined, in some cases, to protect strategic employment uses.
Parking	– All three sites in the study area experience heavy traffic, and parking is likely to be a continuing issue.
Public transport	– Public transport use in the main study area is underutilised due to reliability issues and routes. Upgrading the Airport Link train to provide a 'loop' service to the western suburbs would be likely to benefit the area considerably.
Cycleway	– Although the cycleway is negatively viewed by some, in the longer term it has a high value as part of a broader cycle network for both commuting and recreation.
Truck access	– The main study area is highly congested, and there may need to be a dedicated precinct where truck access is permitted, to support freight and logistics and other uses.
Bulky goods retailing	– The study area is attractive to bulky goods retailers, as it offers many high visibility sites with good accessibility, relatively inexpensive land, and separation from residential uses. However, as with other non-industrial uses, bulky goods operations may inflate land prices which in turn may risk limiting opportunities for traditional industrial business.

Stakeholder perspectives

Positive perceptions

- **Increasing amenity** with more cafés and facilities, which are attractive to tenants
- **Good co-existence** between users and residents
- **Public transport** in certain areas, such as along Botany Road and around Green Square
- **Attractive rents** compared to the City and a **desirable space** for creative users
- Strong recent **growth in bulky goods** precinct due to increasing local population and latent demand, with **good access** on some sites for semi-trailers
- Opportunity for improvement of **the canal**

Negative perceptions

- Some sites are having issues filling larger tenancies, and **poor visual character and amenity** has deterred interested tenants in certain areas
- **Neighbouring land uses** can prove problematic for some tenants
- Many sites **not well suited to industrial** use, with low height clearance, poor loading facilities, and lack of turning bays on site; and limits on noise, hours, and truck movements due to adjacent residential uses
- Local **roads are unsuitable** for heavy industrial traffic, and the **B-double ban** on Bourke Road has affected local businesses
- Significant **road congestion** issues
- **Cycle path** exacerbates parking problems, particularly on weekdays, and restricts truck movements
- **Flooding** is a significant constraint
- **Road reservations** undermine current uses as businesses can't expand, intensify or maximise current potential
- **Planning uncertainty** is significantly affecting leasing in some areas, particularly due to difficulties in utilising existing use rights

Summary of issues

Key findings for specific areas within the study area are detailed below. This is a summary of stakeholder views from landowner and tenant meetings held with SGS, as well as through review of submissions to the Draft City Plan. In the next stage of the study, SGS will test some of these assertions using other research inputs, such as employment forecasts and through consultation with organisations with a strategic perspective of the study area's future.

Deferred lands and Green Square, including B5 zone

In the view of stakeholders:

- proximity to the train station may be an appropriate location for **accommodation** (such as serviced apartments), as well as **commercial uses and restaurants**. More flexible land use planning may be required.
- the area needs a **mixed use** of commercial, residential and retail uses. Residential is required to ensure development feasibility but employment generation is also necessary.
- **higher order uses** than those in those provided for in the proposed zoning in the draft Sydney LEP are more appropriate given the area's **changing character**, strategic road corridors, and proximity to GSTC, the train station and port.

O'Riordan Street bulky goods corridor

In the view of stakeholders:

- there is **continued growth in demand** for bulky goods in this area. The area's traffic flow is essential to attracting users and tenants, and many buildings currently used for bulky goods retail are unsuitable for other uses.
- Homemaker Centres have very different demands and operating styles to other uses, and can now be just a showroom with connections to larger distribution centres. These **uses still need a co-location with others** and can't pay the rentals in a town centre.

IN1 – General industrial zoned lands

In the view of stakeholders:

- the **nature of industry is changing**, with industrial growth now in **'creative' businesses**, not manufacturing, and few wholly traditional industrial large sites left in the area. **E-retailing** is resulting in smaller depots in more central locations fed through larger distribution centres out west, and **shopfront depots** are required for collection. Clarity is required as to what may be **'ancillary'** to the new uses.
- **demand for space is changing** as well, with manufacturing, distribution and storage not so intensive or large scale. Some firms (such as fashion or magazines) have a need for some warehousing but with a higher office component; others split their operations and locate warehouses in western Sydney and their offices in Alexandria.
- a real **mix of employment uses** is needed in the area to retain its character and amenity.
- The growing proportion of **young, educated residents** in the area suggests that provision of different employment opportunities are required, rather than traditional industrial.
- **'special' type uses** are appearing, where showroom space represents the main use but is often smaller in size than the support office. These uses can't easily be defined, as they aren't offices, nor fully retail or high-tech, and may include distribution and warehouse facilities. Such uses aren't suitable for town centre retail as they generally offer no on-site purchasing.
- some sites have issues with **truck access** due to poor road connections.

B7 – Business Park along the canal

In the view of stakeholders:

- the areas surrounding the **canal** have different characters, with some unlikely to turnover. The woolsheds to the east require flexibility on building envelope and form to enable users to utilise the spaces. **Commercial uses can't currently be marketed** given the condition of the canal. This area is likely to attract **smaller traditional warehouses, mixed with office**, rather than straight commercial or industrial uses.

IN2 – Light Industrial zone and Rosebery west

In the view of stakeholders:

- the area is undergoing an evolution, with increasing facilities and a shift to more creative industries, as well as the opening of fashion offices, provedores, and cafés. Industrial uses are increasingly light, such as crash repairers, and offices and showrooms may be appropriate.
- having two uses (B6 and IN1) adjacent to each on Birmingham Street undermines both and **stops either use working as well as it should.**
- given the older, character buildings, sawtooth roofs and so on, the area lends itself to becoming a creative hub, with the potential for the Birmingham Street strip to become a **new food hub** to rival Danks Street.
- restrictions of proposed zoning may undermine the future viability of sites in the area.
- increasing population density of the area increases the **potential for neighbour disputes** with industrial businesses and a mixed use zone may increase pressure on roads, parks and **parking**.

South Dowling Street site – Supa Centa

In the view of stakeholders:

- the nature of **bulky goods retailing is changing**: comparable centres now contain some 2000 square metres of general retail, and some **flexibility in uses** may be appropriate to permit some small scale complementary retail, such as groceries and fashion.

Emerging issues

- **The study areas are strategically positioned**. All three sites of the study area (namely, the main study area, the Parramatta Road precinct, and the South Dowling Street site) are well positioned within the subregion, are close to the CBD, airport and port, and are located on main arterials running to the city – Parramatta Road in the northern site, O'Riordan Street and Botany Road in the main study area and South Dowling Street for the eastern site. Very few sites are affected by aircraft noise to a significant degree.

- **The main study area is uniquely positioned between the port/ airport and CBD**. Employment generation (and land use) in the main study area is driven by the port and airport to the south and the CBD to the north. The unique position of the main study area and its strategic importance has been recognised in state and local level strategy and policy material.

  The importance of the employment lands in the southern areas of the City of Sydney, and their proximity to Botany Bay, the airport and the CBD have been recognised in state and local level strategy and policy material: by the *Metropolitan Plan for Sydney 2036*, the *Draft Sydney City Subregional Strategy (2008)*, Section 117 Directions and *Employment Lands Sydney Action Plan*. The *Employment Lands Development Program 2010 – Report 1 Sydney City Subregion* identified that employment lands within the Sydney City subregion are highly utilised due to the relatively limited existing supply and proximity to the Global City and economic gateways of the port and airport.

- **Employment generation and land use are affected by broad economic drivers.**

  - **Unbundling of value chains**. Globalisation is likely to continue to separate the 'thinking' part of the value chain from the 'making' part of the chain. The study areas are in a position to service multiple parts of this chain with the sites closest to the CBD and other centres being most attractive for knowledge intensive services.
  - **Changing building/ space requirements**. Demand for space is changing, with manufacturing, distribution and storage becoming less intensive or smaller scale. Some firms (such as fashion or magazines) have a need for some warehousing but with a higher office component while others split their operations and locate warehouses elsewhere.
  - **Strong Australian dollar**. A strong domestic currency is increasing e-retailing, and this, coupled with globalised supply chains, has increased imports trade. There is a greater need for storage space for logistics, transport, importers and distribution centres as a result.

- **Local market drivers also impact on all study areas.**

  - **Residential development**. Growth in demand for inner city living, driven by economic change, housing preferences, and policy, offers economic gains for landowners and developers and is creating competition for space. This is placing particular pressure on the urban fringes of the main study area.

- **Incoming creative and knowledge intensive industries**. Creative industries normally based in Surry Hills, Chippendale and Redfern, have been quick to relocate to Alexandria in search of free-standing properties with renewal potential or high quality spaces ready for occupation. Public transport, access to customers and suppliers in the CBD and the quality of buildings and finishes tend to be strong factors in relocation decisions, but overall, the main factor is price.
- **Pressure for development of higher order uses**. Given increasing land values, there is likely to be pressure to accommodate higher order uses in the main study area (including offices), which may affect traditional industrial industries and require a planned approach.
- **Competition from cheaper land in western Sydney**. Cheaper land in western Sydney has been attractive to manufacturing and smaller engineering firms, with Silverwater and Smithfield being popular relocation destinations. Freight and logistics users have also decentralised, but most have remained in the area owing to its strong link to Port Botany, the airport and CBD.
- **Demand for bulky goods retail**. There is continued growth in demand for bulky goods in the study area. Large sites with high visibility and accessibility are the most attractive for this kind of use.

- **There are broad land use patterns in the study areas.**

  - Manufacturing was the largest industry in the main study area in terms of the number of employed workers in 2006, followed by transport and storage and wholesale trade. These are also industries in which the main study area had a high level of specialisation compared to the Sydney Statistical Division.
  - Of the 11 categories that were assessed, freight and logistics occupies the highest proportion of floorspace in the main study area, followed by vacant uses and then office. In the Parramatta Road precinct, the principal floorspace use is office closely followed by retail showrooms. On the South Dowling Street site, the vast majority of floorspace is occupied by centre based retail.
  - In the main study area, factories and laboratories are concentrated in the south western corner. Retail showroom uses follow the main arterials – principally along O'Riordan Street. Service industrial uses tend to be concentrated nearer Green Square and along Botany Road.
  - Rosebery West is undergoing an evolution, with increasing facilities and a shift to more creative industries, as well as the opening of fashion offices, provedores, and cafés. Industrial uses are increasingly light, such as crash repairers, and offices and showrooms may be appropriate in this area.

Next steps

This background report has detailed the research undertaken to date. It provides the context for the strategy development. The next steps in the study are as follows.

- Generation of base case employment and floorspace forecasts at five year intervals for the next 25 years
- Targeted consultation with institutions or organisations with a perspective on strategic implications of different development futures, which will be used to guide the preparation of employment and floorspace and scenarios
- A strategic assessment at a subregional level, building on the mapping already completed and considering employment land strategies of the State and also in LGAs adjoining the City of Sydney
- Generation of alternative future employment scenarios using the inputs so far, for example by varying growth prospects of particular industry sectors, population growth, and job density
- Analysis of the supply demand gap, which will compare forecast employment and land area requirements under base case and alternative scenarios against the capacity of employment lands
- A strategic assessment of employment lands, using the 'Summary of the Strategic Assessment Checklist' in Action E3.2 of the Metropolitan Plan for Sydney 2036, and assessment of the planning and risk framework
- Preparation of a draft employment lands strategy, which will draw on all components of the study and include recommendations for zoning and detailed planning controls for the study area.

1 INTRODUCTION

1.1 Scope of the study

The purpose of the Employment Lands Study 2012 ('the study') is to determine the long-term demand for industrial and business zoned land in the southern areas of the City of Sydney (the 'City'). The study area is shown in Figure 2 and comprises three sites: the main study area to the south of the LGA, the South Dowling Street site to the east on which the Supa Centa Moore Park is located, and the Parramatta Road precinct in Glebe.

FIGURE 2. STUDY AREA

Source: City of Sydney, 2011

The study is to take into consideration the City's location within the 'Global Economic Corridor' and identify planning mechanisms to ensure that there are adequate employment lands to support the growth of Sydney within the global economy.

The study will assess the Draft City Plan, which includes the Draft Sydney Local Environmental Plan 2010 (Draft Sydney LEP) and the Draft Sydney Development Control Plan 2010 (Draft Sydney DCP), in terms of how it meets demand for employment lands, and how it facilitates innovation and investment in employment uses within the City. As part of the study, submissions on the Draft City Plan which are relevant to the study area will be reviewed.

The study is to make land use recommendations for the study area and may inform future amendments to the City's planning controls. The study may also inform the preparation of a planning proposal to review the zoning of certain lands in the western part of Green Square (west of Botany Road) which are excluded from the City Plan.

In formulating a long-term industrial land use strategy, the study needs to balance the following three, potentially competing, objectives:

- The need to retain viable industrial lands for operators like concrete batching plants, Australia Post and other airport-related industries that are essential to the City's operation and require high accessibility within the City to airport corridor.

- The pressures to re-zone industrial lands to allow for higher order uses such as residential or retail uses, and landowners' claims that there is reduced demand for expensive, industrial land in the City of Sydney because many industries can relocate to cheaper sites in Sydney's west.

- The long-standing State Government direction to consent authorities that employment lands are to be protected and retained, as reinforced in the Metropolitan Plan for Sydney 2036 and Subregional Strategies.

Status of the Draft Sydney LEP

The Draft City Plan was placed on public exhibition between 2 February 2011 and 21 April 2011. The Draft City Plan is a single set of planning controls that will guide future development throughout the City of Sydney Local Government Area.

Following exhibition, the Draft Sydney LEP was reported to and adopted by Council and the Central Sydney Planning Committee (CSPC) on 12 March 2012 and 8 March 2012 respectively. The Draft Sydney DCP was adopted by Council on 14 May 2012 and will become operational when the Draft Sydney LEP is made. At the time of writing this background report, the Draft Sydney LEP had not yet been made; its finalisation is imminent.

1.2 Purpose of the background report

This background report details Stage 1 of the study. The role of this background report is to provide a succinct and readable report, summarising the existing situation for employment and industrial lands in the City of Sydney in terms of economic and land use profile, strategy and policy framework, assets and infrastructure, stakeholder perspectives and broad economic trends and drivers.

The background paper, and associated comments received from stakeholders, will inform the preparation of a draft Employment Lands Strategy which will contain land use recommendations for the study area.

2 STRATEGY AND POLICY FRAMEWORK

Below is a summary of the strategy and policy framework affecting the study area. Further detail is provided in Appendix A.

2.1 NSW state and Sydney metropolitan level

NSW 2021 established targets of delivery of 25,000 new dwellings in Sydney per year and growing employment by an average of 1.25 percent per year to 2020. The *Industry Action Plans,* when developed, will provide road maps for NSW industries through the establishment of Industry Taskforces.

The *Sydney Airport Master Plan* (Sydney Airport 2009) envisages Sydney Airport remaining as the sole international and domestic airport for Sydney over the next 18 years (to 2029) and accommodating average annual growth rates of 4.2 percent for passengers and 2 percent for passenger aircraft movements. In December 2011 the Sydney Airport Corporation Ltd released its 'New Vision' for Sydney Airport and the work being done to update the current *Sydney Airport Master Plan 2009* due in mid-2014. While debate on a second airport for Sydney continues, in June 2012, Minister Albanese issued a direction to Sydney Airport Corporation under the *Airports Act 1996* to expedite the preparation of the next airport Master Plan, bringing forward the due date from mid-2014 to mid-2013.

The importance of the employment lands in the southern areas of the City of Sydney, and their proximity to Botany Bay, the airport and the CBD have been recognised by the *Metropolitan Plan for Sydney 2036* (the Metropolitan Plan 2036), the *Draft Sydney City Subregional Strategy (2008)* (the Draft Subregional Strategy), Section 117 Directions and *Employment Lands Sydney Action Plan*. These documents have placed an emphasis on the retention of significant strategic industrial lands and contain strategies and policies that effectively prevent the reduction of industrial land where its removal cannot be justified.

The Metropolitan Plan 2036 updated the NSW Government's *Sydney's Metropolitan Strategy: City of Cities* (2005) and establishes an employment growth target for the City of Sydney of 114,000 new jobs between 2006 and 2036 and a new dwelling target of 61,000 new homes between 2006 and 2036.

The Metropolitan Plan 2036 recognises the significant growth and change proposed in the southern Sydney area and designates Green Square as a 'Planned Major Centre' that is set to provide a significant proportion of the housing and employment growth within the Sydney City Subregion. An employment capacity target of 14,000 new jobs to 2036 is proposed for Green Square (from a base of 2000 jobs in 2006).

Within the Sydney region, the Metropolitan Plan 2036 identifies 15,370 hectares of zoned employment land and the need for identification, zoning and development of up to 8000 hectares of new employment lands for industrial purposes. The plan emphasises the importance of protecting existing employment lands and proposes the establishment of an Employment Lands Task Force.

The actions in the Metropolitan Plan 2036 stand for identification and retention of strategically important employment lands and building capacity and economic growth in and around Sydney Airport and Port Botany. A strategic assessment checklist to assess the strategic importance of employment lands is also proposed to replace the categorisation of employment lands in the Draft Subregional Strategy.

The *Stakeholder Consultation Draft Paper: Implementing the Metropolitan Plan – Planning Principles for Industrial Lands* (August 2011) provides a checklist of five key principles, which are proposed to be used to identify strategically significant industrial areas. These principles include: maintaining an adequate supply of industrial lands; ensuring planning for new industrial lands meets the long-term needs of industry growth; retaining strategically important industrial lands; support renewal of existing industrial lands; and providing capacity to enable the development of specialised industry clusters.

Section 117 Directions are issued by the Minister for Planning and Infrastructure (the Minister) and require local authorities to consider a range of matters when preparing planning proposals for new Local Environmental Plans (LEPs). Direction 1.1 relates to Business and Industrial Zones and requires that a new LEP:

- retain the areas and locations of existing business and industrial zones
- not reduce the total potential floor space area for employment uses and related public services in business zones
- not reduce the total potential floor space area for industrial uses in industrial zones
- ensure that proposed new employment areas are in accordance with a strategy.

The Direction effectively requires the retention of existing employment lands unless the planning authority can satisfy the Director-General that a planning proposal is justifiably inconsistent with the Direction.

The Draft Subregional Strategy plans for the provision of sufficient zoned and serviced land to meet the employment capacity target. The strategy stresses the need to develop and implement an Economic Development Strategy for the Sydney City subregion. An Economic Development Framework for the City of Sydney was adopted by Council and an Economic Development Strategy that aligns with *Sustainable Sydney 2030* (discussed below) is now being prepared.

In order to reinforce global competitiveness, the strategy highlights the need to protect and enhance State Significant Employment Lands within the subregion, particularly in the south. Alexandria and Rosebery precincts were identified as Category 1 lands, being of state significance, of strategic importance and to be retained for industrial uses.

The strategy requires the City of Sydney Council to identify means for the appropriate protection of employment lands within the subregion through the review of Southern Industrial Lands, review of mixed use zonings at Green Square and containing the expansion of bulky goods retail in Alexandria and Rosebery. It also provides for facilitation of the use of old industrial areas and requires the City of Sydney Council to explore opportunities to revitalise strategic employment lands.

The *Employment Lands Sydney Action Plan* (2007) outlines initiatives to advance the planning of employment lands in metropolitan Sydney and sets out a range of measures to ensure that State Significant Employment Lands are protected for employment purposes. These include establishment of an Employment Lands Development Program, a commitment to developing a state–wide Employment Lands State Environmental Planning Policy (SEPP), investigation of potential new employment lands and existing economic renewal areas, and creation of an ongoing Employment Lands Ministerial Advisory Committee. Green Square was identified as an area for which employment lands have been lost due to the rezoning for mixed uses allowing a mix of employment and residential uses.

The *Employment Lands Development Program 2010 – Report 1 Sydney City Subregion* identified that employment lands within the Sydney City subregion are highly utilised due to the relatively limited existing supply and proximity to the Global City and economic gateways of the port and airport. There is very little undeveloped land remaining and no future employment lands have been identified for the subregion. The report, however, states that potential regeneration of existing employment lands could provide new opportunities for a range of industrial and related activity within the subregion.

2.2 City of Sydney level

At a local level, the City of Sydney's *Sustainable Sydney 2030 Plan* identifies Green Square as one of the ten 'Activity Hubs' and plans to promote Green Square as an exemplar of sustainable development. It plans for development of Green Square as a residential and employment area that replicates the small business and residential mix of Surry Hills. The plan also proposes an economic development strategy to support development controls that attract and support emerging environmental, creative and knowledge oriented industries to the area.

Sustainable Sydney 2030 identifies Alexandra Canal as a long-term investigation area for renewal with a view to transforming the canal into a vibrant, mixed use location and its better integration with the remainder of the city.

The Draft City Plan includes the *Draft Sydney Local Environmental Plan 2011* (Draft Sydney LEP) and the *Draft Sydney Development Control Plan 2010* (Draft Sydney DCP). The Draft Sydney LEP was adopted by the Council and the Central Sydney Planning Committee (CSPC) in March 2012 and its making by the Minister is imminent. The Draft Sydney DCP was adopted in May 2012 and will become operational when the Draft Sydney LEP is made.

The new City Plan will replace the planning controls that apply to the study area that are currently contained in the *South Sydney Local Environmental Plan 1998* and *South Sydney Development Control Plan 1997.* While the Draft City Plan largely retains the industrial land uses in the study area, relevant key changes include:

- revised zoning and rationalisation of permissible uses to comply with the Standard Instrument
- rezoning of specific sites
- height and floor space ratio (FSR) controls in the LEP rather than a DCP
- revised land use and built form controls for the SIA
- a limit on the size of out-of-centre retail development within the retail catchment of Green Square Town Centre
- new on-site parking controls based on the accessibility of a site
- extension of design excellence requirements to all land covered by the LEP
- a finer grain road network
- introduction of an incentive for the provision of end-of-journey facilities in commercial development.

The Draft City Plan was informed by comprehensive consultation with the community and businesses and more than 40 studies and reviews. It supports the objectives of *Sustainable Sydney 2030*, however it is also cognisant of other policy constraints, such as those imposed by the NSW Government through the Standard Instrument.

Studies of particular relevance to the study area is the *Southern Industrial Area Land Use and Urban Design Study*; the *Green Square and Southern Areas Retail Study* (Jones Lang LaSalle and Hassell 2008); and the *Green Square Urban Renewal Area Background Paper* (City of Sydney 2008).

The *Southern Industrial Area Land Use and Urban Design Study* (the SIA Study) was publically exhibited by Council in 2008 and its recommendations guided planning controls for the study area in the Draft City Plan. The study recognised the Southern Industrial Area (SIA) as a strategically important location between the Sydney CBD, Sydney Airport and Port Botany and recommended retaining intact industrial areas, whilst providing better connectivity and amenity in these areas.

The SIA Study considers the past and present land use demands and planning policies which have shaped development in the study area and proposes new zones consistent with the Standard Instrument (Local Environmental Plans) Order 2006 (the Standard Instrument). A Land Use Structure Plan to fulfil employment and housing objectives for the area was also proposed. The Botany Road corridor was planned to provide for retail and commercial uses to support the existing multi-unit residential character developed under the Mixed Uses zone. The remainder of the area was proposed to be maintained as industrial land uses with greater controls proposed to restrict commercial and retail development in the area.

The *Green Square and Southern Areas Retail Study* (the Retail Study) was commissioned by the City to provide strategic direction for retail development in the southern areas of the City including the Green Square Urban Renewal Area (URA), the SIA and Rosebery. Key recommendations of the Retail Study include: a retail hierarchy that complements and supports the Green Square Town Centre as a major centre; that the allocation of retail floor space in the Green Square Town Centre be increased to an appropriate quantum; and that any retailing within the Green Square URA and the SIA should be of a minor, ancillary nature outside of the proposed retail centres.

The Green Square Town Centre was identified at the top of the retail hierarchy as the business, retail, community and entertainment hub for the south. The study recognised that a large workforce in the industrial area of Alexandria generates demand for convenience retail development ancillary to industrial uses. A small centre of up to 1000 square meters in retail floorspace was proposed to serve this population without impacting on other centres in the retail hierarchy.

The Retail Study also identified strategies for managing the development of bulky goods retailing, outlet retailing and ancillary retail development in industrial zones. It recommended that bulky goods uses be consolidated in O'Riordan Street, with additional minor outlets encouraged in the proposed Danks Street/Crown Square village within Green Square.

Following the public exhibition of the Retail Study, in November 2008 the Council and the CSPC noted the recommendations of the Retail Study would inform the Draft City Plan.

The *Green Square Urban Renewal Area: Background Paper* (the Background Paper) collated and reviewed the recommendations of many previous studies relating to the Green Square URA. The proposed controls in the Background Paper, including zoning, height, Floor Space Ratio and DCP controls are made within the context of *Sustainable Sydney 2030* and evolving state planning policies and directions.

In July 2008 the Council and the CSPC noted the planning controls proposed in the Background Paper and that those controls would inform the Draft City Plan. The Background Paper was placed on non-statutory exhibition between 22 September and 17 October 2008 and submissions were considered in the preparation of the Draft City Plan.

2.3 Traffic studies

The *Green Square Transport Management Accessibility Plan* (2008) (the Green Square TMAP) guides the sustainable development of Green Square and the rollout of transport infrastructure and services. It notes that major arterial roads within the study area are operating close to capacity, with above average levels of heavy vehicles due to the industrial activity in the area. Aims of the TMAP include achieving a reduction in car based travel, given that increasing the capacity of the local road network through widening or access control would reduce future local amenity while providing only provide temporary congestion relief. Walking and cycling trips are to be encouraged, and a 'Green Loop' concept connecting Green Square, Central, Redfern train station and Surry Hills is suggested.

Since the adoption of the 2008 TMAP, the City of Sydney and Department of Planning and Infrastructure projections of employment and population have significantly increased. A Botany Road Corridor Action Plan has also been developed. An updated 2012 Green Square TMAP is currently under review and expected to be released within the next quarter. The new TMAP incorporates updated transport demand forecasts which reflect the significant growth expected in the area, specify new targets and identify actions for meeting those targets.

The *Mascot Town Centre Precinct TMAP* (2012) estimates that Mascot could grow by between 58 percent and 82 percent, in addition to population increases of 262 to 307 percent. It provides transport recommendations to prevent the anticipated increase in traffic, coupled with major activities nearby such as Sydney Airport, Port Botany and industrial areas, from limiting growth in the area. It notes that currently:

- the Gardeners Road/ Ricketty Street corridor carries an average weekday traffic volume of 32,400 and is operating close to capacity during the evening peak period
- the Bunnings Warehouse at the Gardeners Road/Bourke Road intersection is a major traffic generator
- O'Riordan Street north of King Street is carrying an average weekday traffic volume of 48,200 vehicles with a heavy vehicle proportion of 11 percent
- heavy vehicle movements raise safety concerns for pedestrians on Bourke Road: a critical pedestrian link.

The *NSW Transport Masterplan – Discussion Paper* (2012) examines key transport issues, challenges and opportunities for Sydney and the regions taking into account the need to support population increases, job creation, economic growth and land use strategies. It notes the importance of corridor strategies to join up and integrate networks.

The following points from the discussion paper are relevant to the study area:

- activity at the airport and port is forecast to double over the period to 2036. The resulting increase in traffic movements, in addition to increased demand on road and rail corridors due to residential and employment growth, will place additional pressure on the ground transport networks that feed these gateways
- duplicating the M5 East would alleviate congestion near Sydney Airport and Port Botany
- new measures to manage congestion could include the removal of parking on major arterial roads and priority for freight vehicles on the main freight corridors
- the Southern Sydney Freight line between Port Botany and Macarthur is under construction, which is anticipated to increase efficiency and allow the movement of freight at any time.

2.4 Planning directions from adjoining LGAs

It is clear that the main study area is part of a larger network of employment lands in the south Sydney area. Planning directions from the councils adjoining the City of Sydney, including Leichhardt, Marrickville, Rockdale, Botany Bay and Randwick, may impact on the future zoning of employment lands in the City of Sydney LGA.

Leichhardt

In the *draft Inner West Subregional Strategy*, Tebutt Street/ Parramatta Road and Moore Street industrial precincts were classified as Category 1 to be retained for industrial land uses. Fragmented industrial parcels within the LGA were classified as Category 2, indicating potential for other employment generating uses.

Existing land uses within the commercial centres and precincts, and the Parramatta Road corridor, are predominantly retail main street, with the exception of the office-based Camperdown commercial precinct. Three major industrial categories are identified: Camperdown industrial precincts, Moore Street industrial precincts and fragmented industrial parcels.

Marrickville

In the *draft South Subregional Strategy*, 77 percent of employment land in Marrickville LGA was classified as Category 1 to be retained for industrial purpose with the remaining 23 percent considered as Category 2 or 3. Category 2 is land with potential to allow for a wider range of employment uses, while Category 3 is land that could be investigated for alternative uses.

The Marrickville Urban Strategy proposed that most of the employment lands be investigated for mixed-use, in contrast to the draft South Subregional Strategy. Core employment land and airport proximate lands are to be preserved and strengthened. Another direction highlighted in the Marrickville Urban Strategy is to support creativity and innovation sectors in the LGA, which have the potential to increase local employment opportunities.

Marrickville Development Control Plan (2011) identified some key planning directions for its commercial and industrial precincts:

- as a mixed use precinct, St Peters Triangle could provide urban support services and light industry as well as an expanded service industry role. Other suitable future industries could include research and development, peak body representation, non-government organisations and creative industries. Opportunities for low cost space to assist start-up and creative business/industries and for community services are envisaged (Marrickville Council, 2011, p. 3).
- the McGill precinct in the Lewisham industrial area is envisaged as a village-type locality accommodating mixed use development of moderate densities and scales. The precinct will accommodate some minor service retail, commercial offices and showrooms as well as studio, cafe and restaurant spaces (Marrickville Council, 2011, p. 3).

Botany Bay

Sydney Airport and Port Botany are nominated as specialised centres of Global Sydney and identified as part of the Global Economic Corridor. The Metropolitan Plan 2036 notes that Sydney Airport will continue to serve as Sydney's major airport and Australia's major international gateway, while Port Botany will continue to be NSW's main container port and is expanding to cope with significant long-term growth (NSW Department of Planning and Infrastructure, 2010, p. 154).

A specific action in the Plan is to build capacity and support economic growth, with the Department of Planning and Infrastructure (the Department) to review planning controls for the nationally significant cluster of businesses around Sydney Airport and Port Botany. The objective of this exercise will be to ensure adequate capacity for economic growth, particularly aviation, freight and logistics. Transport NSW will also work with the Department to prepare an *Access Plan for Sydney Airport and Port Botany*, with the objectives of improving the efficiency of land transport access to the airport and port, facilitating economic investment and improving the local urban environment (NSW Department of Planning and Infrastructure, 2010, p. 154).

The Botany Bay Planning Strategy 2031, prepared by SGS Economics and Planning in 2009, provides a framework for growth and development to 2031. Currently, Botany Bay LGA consists of a significant proportion of industrial land uses that service the LGA and East Subregion. Land uses adjacent to Port Botany and Sydney Airport and in the Hale Street precinct are predominantly freight and logistics based.

Relevant actions and proposals from the strategy are:

- revitalising Botany Road and traditional centres
- reviving the local economy
- maintaining Sydney Airport as a global gateway
- maintaining Port Botany as a global gateway.

Future directions for employment precincts suggested by SGS Economics and Planning are as follows:

TABLE 1. FUTURE DIRECTIONS FOR EMPLOYMENT PRECINCTS, BOTANY BAY LGA

Area	Proposed use
Banksmeadow, Mascot Station and airport environs, domestic terminal and Hale Street	– airport/port/freight and logistics uses
Hillsdale, Baker Street (Pagewood) and Hale Street	– light industrial use
Lord Street	– business park
Botany centre, Mascot centre and Eastlakes	– retail use
Eastgardens and Rosebery	– mixed-use

Source: SGS Economics and Planning, 2009

Randwick

The Randwick Economic Activity Study, prepared by SGS Economics and Planning in 2008, recognised the Health and Education Specialised Centre as a key economic driver for the city. The precinct encompasses the University of NSW (UNSW), the Randwick Hospitals complex, Randwick Racecourse and the town centres of Kensington, Kingsford, Randwick Junction and the Spot.

The industrial area in the south of Randwick LGA is part of a second specialised centre that includes Port Botany and the adjoining industrial lands in both Randwick and Botany Bay LGAs. The study identifies a more locally-oriented economy in the centre of the LGA: Maroubra Junction, Matraville, East Lakes and Hillsdale, which form an important clustering of centres that serve population needs.

2.5 Key findings

Metro

The *Sydney Airport Master Plan* (Sydney Airport 2009) envisages Sydney Airport remaining as the sole international and domestic airport for Sydney over the next 18 years (to 2029) and accommodating average annual growth rates of 4.2 percent for passengers and 2 percent for passenger aircraft movements. While debate on a second airport for Sydney continues, a revised master plan is expected by mid-2013.

The proximity of the southern areas of the City of Sydney to Botany Bay, the airport and the CBD have been recognised by the Metropolitan Plan 2036, Draft Subregional Strategy, Section 117 Directions and *Employment Lands Sydney Action Plan*. These documents have placed an emphasis on the retention of significant strategic industrial lands. These key state government strategies and policies effectively prevent the reduction of industrial land where its removal cannot be justified.

The Metropolitan Plan 2036 emphasises the importance of protecting existing employment lands and proposes the establishment of an Employment Lands Task Force. The plan's actions stand for identification and retention of strategically important employment lands and building capacity and economic growth in and around Sydney Airport and Port Botany.

Section 117 Directions are issued by the Minister for Planning and Infrastructure (the Minister) and require local authorities to consider a range of matters when preparing planning proposals for new Local Environmental Plans (LEPs). Direction 1.1 relates to Business and Industrial Zones and effectively requires the retention of existing employment lands unless the planning authority can satisfy the Director-General that planning proposal is justifiably inconsistent with the Direction.

The *Employment Lands Development Program 2010 – Report 1 Sydney City Subregion* identified that employment lands within the Sydney City subregion are highly utilised due to the relatively limited existing supply and proximity to the Global City and economic gateways of the port and airport. There is very little undeveloped land remaining and no future employment lands have been identified for the subregion.

Sydney

The making of the Draft Sydney LEP is imminent. The planning controls in the Draft Sydney LEP and Draft Sydney DCP which relate to the study area are largely derived from the *Southern Industrial Area Land Use and Urban Design Study*; the *Green Square and Southern Areas Retail Study;* and the *Green Square Urban Renewal Area Background Paper*.

The *Southern Industrial Area Land Use and Urban Design Study* recognises the Southern Industrial Area as a strategically important location between Sydney CBD, Sydney (Kingsford Smith) Airport (Sydney Airport) and Port Botany. The study recommends retaining intact industrial areas, whilst providing better connectivity and amenity in these areas.

The *Green Square and Southern Areas Retail Study* proposed a retail hierarchy that complements and supports the Green Square Town Centre as a major centre. It also identified strategies for managing the development of bulky goods retailing, outlet retailing and ancillary retail development in industrial zones. It recommended that bulky goods uses be consolidated in O'Riordan Street, with additional minor outlets encouraged in the proposed Danks Street/Crown Square village within Green Square.

The *Green Square Urban Renewal Area: Background Paper* proposed controls for the Draft City Plan including zoning, height, Floor Space Ratio and DCP controls. Controls were proposed within the context of *Sustainable Sydney 2030* and evolving state planning policies and directions.

The following points from the *NSW Transport Masterplan – Discussion Paper* (2012) are relevant to the study area:

- Activity at the airport and port is forecast to double over the period to 2036. The resulting increase in traffic movements, in addition to increased demand on road and rail corridors due to residential and employment growth, will place additional pressure on the ground transport networks that feed these gateways.
- Duplicating the M5 East would alleviate congestion near Sydney Airport and Port Botany.
- New measures to manage congestion could include the removal of parking on major arterial roads and priority for freight vehicles on the main freight corridors.
- The Southern Sydney Freight line between Port Botany and Macarthur is under construction, which is anticipated to increase efficiency and allow the movement of freight at any time.

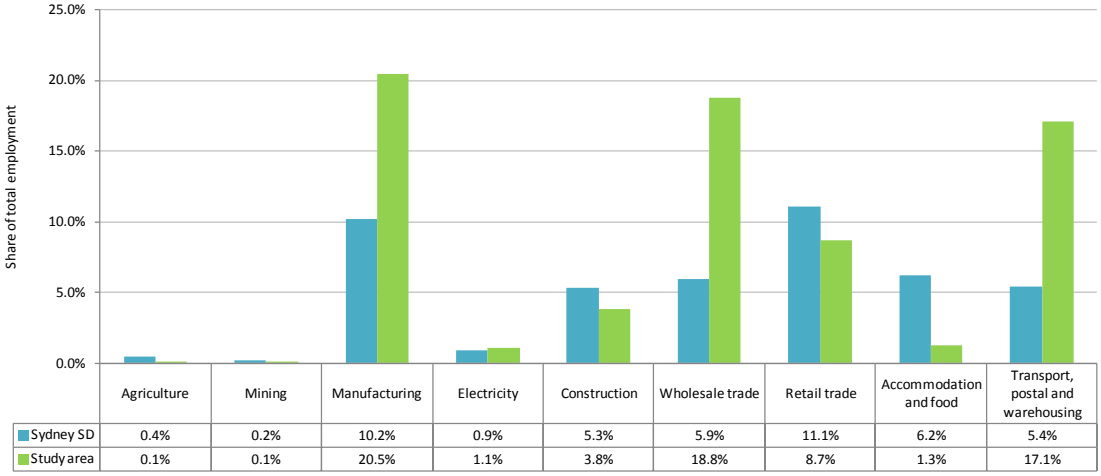
3 EMPLOYMENT AND FLOORSPACE PROFILE

3.1 Industry profile

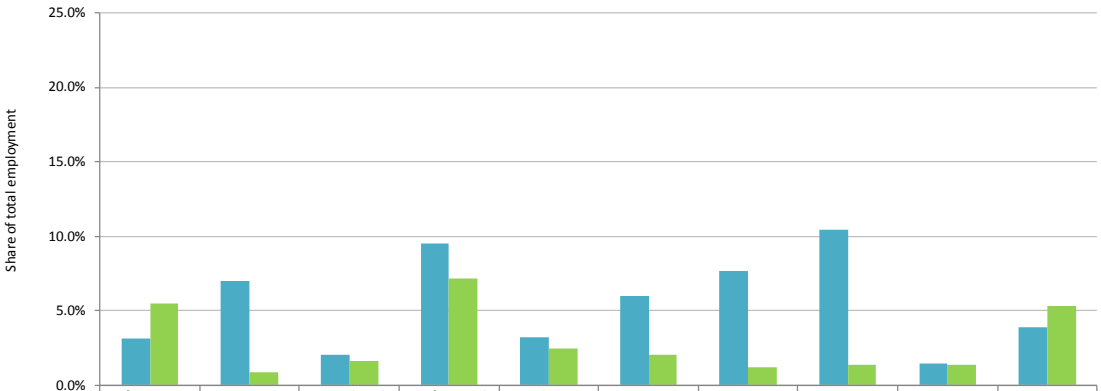
Employment data for the main study area have been categorised by Australian and New Zealand Standard Industrial Classification (ANZSIC) categories, which are used by the Australian Bureau of Statistics (ABS) for the production and analysis of industry statistics. The ANZSIC 2006 classification system groups industries into 19 broad divisions, with individual business entities assigned to an industry based on their predominant activity. This data is available at a Travel Zone level. The Travel Zones used for this analysis are shown in Appendix F.

Figure 3 shows employment by industry category for employees in the main study area in 2006, compared with all employees in the Sydney Statistical District (Sydney SD). It is noted that 2011 data at this level is currently unavailable, and it has not been possible to include trend analysis for the 2001 to 2006 period due to data constraints. Manufacturing was the largest industry sector in the main study area employing around 3700 people (or 20 percent of total jobs), followed by wholesale trade (19 percent), and transport and warehousing (17 percent). The dominance of these sectors in the main study area is evident when compared against the Sydney SD.

FIGURE 3. EMPLOYMENT BY INDUSTRY, 2006 (1 DIGIT ANZSIC 06)



	Agriculture	Mining	Manufacturing	Electricity	Construction	Wholesale trade	Retail trade	Accommodation and food	Transport, postal and warehousing
Sydney SD	0.4%	0.2%	10.2%	0.9%	5.3%	5.9%	11.1%	6.2%	5.4%
Study area	0.1%	0.1%	20.5%	1.1%	3.8%	18.8%	8.7%	1.3%	17.1%



	Information media	Financial services	Rental, and real estate	Professional services	Admin services	Public admin	Education	Health care	Arts services	Other services
Sydney SD	3.2%	7.0%	2.0%	9.5%	3.2%	6.0%	7.7%	10.4%	1.5%	3.8%
Study area	5.5%	0.8%	1.6%	7.1%	2.4%	2.0%	1.2%	1.3%	1.3%	5.3%

Source: Bureau of Transport Statistics, 2009

3.2 Location quotient analysis

A Location Quotient (LQ) is calculated by dividing the proportion of local jobs within a particular industry, by the proportion of jobs within that industry in a benchmark area. If the proportion of jobs in a local industry is higher than that of the benchmark area, the industry will show a location quotient of greater than 1. This may indicate that the local industry is relatively strong with local specialisation, and suggests that the industry may serve markets outside just the local area.

The table below shows the Location Quotients for two digit ANZSIC industries in the main study area (where these industries constitute at least 1 percent of total employment) in 2006, relative to Sydney SD.

TABLE 2. LOCATION QUOTIENT (2 DIGIT ANZSIC 06)

2 digit industry category (ANZSIC 06)	LQ	Share of employment in main study area	Share of Sydney SD jobs
Other goods wholesaling	4.75	8%	2%
Other store-based retailing	1.07	7%	6%
Machinery and equipment wholesaling	3.42	6%	2%
Road transport	2.93	6%	2%
Transport support services	8.59	6%	1%
Printing (including the reproduction of recorded media)	6.94	5%	1%
machinery and equipment manufacturing	2.82	4%	2%
Repair and maintenance	2.31	4%	2%
Publishing (except internet and music publishing)	4.15	4%	1%
Computer system design and related services	1.75	4%	2%
Textile, leather, clothing and footwear manufacturing	6.23	3%	1%
Professional, scientific and technical services	0.45	3%	7%
Postal and courier pick-up and delivery services	3.83	3%	1%
Construction services	0.75	2%	3%
Inadequately described	1.56	2%	1%
Administrative services	0.81	2%	2%
Grocery, liquor and tobacco product wholesaling	1.97	2%	1%
Wholesale trade, nfd	3.55	2%	0%
Air and space transport	1.65	1%	1%
Public order, safety and regulatory services	0.84	1%	2%
Building construction	0.68	1%	2%
Personal care and other services	0.64	1%	2%
Manufacturing, nfd	1.45	1%	1%
Furniture and other manufacturing	2.13	1%	1%
Rental and hiring services (except real estate)	2.35	1%	0%
Food and beverage services	0.21	1%	5%
Basic material wholesaling	1.31	1%	1%

Source: SGS calculations, based on ABS (2001) and (2006) Census

The share of employment column shows that wholesaling, retailing, transport and printing were the largest subcategories, each accounting for more than 5 percent of total employment in the main study area.

The LQ analysis shows that compared to Sydney SD, the main study area's particular strengths were in transport support services and printing. Both industries had high LQs and industry shares. Textile, leather, clothing and footwear manufacturing; other goods wholesaling, and postal and courier pick-up and delivery services all had relatively high specialisation with some concentration of employment.

The LQ analysis will serve as a filter to identify industries of comparative strength for additional consideration and analysis. Successful regional development strategies are focused on building and nurturing local businesses with the capacity to generate 'export income' for the area. In broad terms, the above analysis reveals that the main study area was specialised in wholesaling, transport and printing.

3.3 Growth share analysis

Building on the LQ analysis, growth-share analysis involves an assessment of the relative size and specialisation of key industries, or industry clusters, and their recent change relative to the benchmark total growth in employment. Progression can be understood and assessed by comparing the recent relative growth against the benchmark, specialisation and size of key industries. Analysing industries or clusters in this way assists in the understanding of appropriate policies to guide their further growth and development, or to prioritise actions for economic development facilitation across various industry sectors.

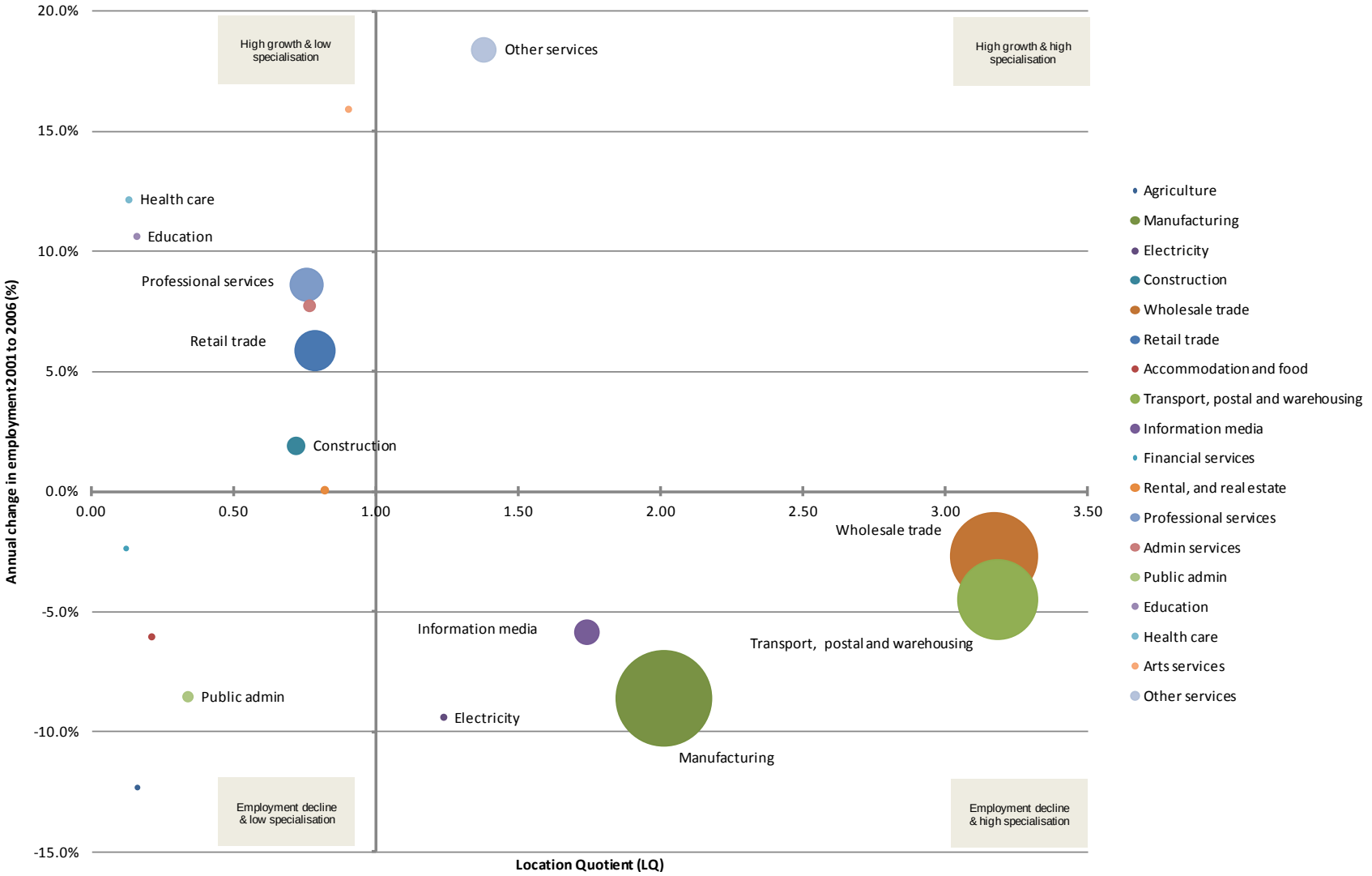
Figure 45 shows the growth share analysis diagram for the main study area compared to Sydney SD. The LQ is shown on the horizontal axis, and the change in employment from 2001 to 2006 on the vertical axis[2]. The size of the marker

[2] The 2001 employment data from the Bureau of Transport Statistics has been converted from ANZSIC93 to ANZSIC06 by SGS and therefore these results may be subject to error.

represents the relative size of the industry within the LGA. The north-eastern quadrant shows specialised industries experiencing growth in employment, while the north-western quadrant shows employment growth and low specialisation. The bottom half of the diagram shows industries experiencing a decline in employment with the south-eastern quadrant indicating high specialisation and the south-western quadrant indicating low specialisation.

The chart shows that, in general, industries that are highly represented in the study area (manufacturing, wholesale trade, and transport, postal and warehousing) experienced a declining share of jobs between 2001 and 2006. High growth industry types are professional services and retail trade, but compared to Sydney SD the study area has a low level of specialisation in these industry types. This would suggest that industry make up of the area is changing, but that established specialisations remain dominant.

FIGURE 4. GROWTH SHARE MATRIX, STUDY AREA COMPARED TO SYDNEY SD



Source: SGS Economics and Planning, 2012 based on 2001 and 2006 ABS Census data

3.4 Floorspace audit data

Method

Data provided by the City of Sydney's 2011 floorspace and employment survey project has been assessed to give an understanding of the types of industry, the quantity of floorspace and the spatial distribution of space uses within the study area.

The floorspace and employment survey is a study performed by the City every five years and involves a team of land auditors visiting each employment building within the City of Sydney local government area boundary. During the visit, the auditor records the employment numbers, ANZSIC codes occupying the space and the space use for each area of use. This study has been carried out since the mid-1970s (although only since 2006 in the study area) and has great strategic value for planning and understanding the City of Sydney.

Total floorspace

The total amount of floorspace within the study area is around 200 hectares.

Figure 5 shows the total floorspace within each building. Key sites in terms of total floorspace are the Alexandria Industrial Estate of 51,000 square metres (5.1 hectares), and the South Dowling Street site housing the Supa Centa Moore Park of 68,000 square metres (6.8 hectares).

FIGURE 5. TOTAL FLOORSPACE BY BUILDING

Source: SGS Economics and Planning, 2012

Floorspace by industry

The tables below show the total floorspace by predominant industry in the study area. The different land uses contained in each category are listed in Appendix B. Of the 11 categories that were assessed, freight and logistics occupies the highest proportion of floorspace in the main study area, followed by vacant uses and then office. In the Parramatta Road precinct, the principal floorspace use is office closely followed by retail showrooms. On the South Dowling Street site, the vast majority of floorspace is occupied by centre based retail (namely, traditional retail typically found along a main street), with all types of retail comprising 95 percent of floorspace.

TABLE 3. TOTAL FLOORSPACE BY PREDOMINANT INDUSTRY: MAIN STUDY AREA

Space use	Sqm	Ha	Proportion
Freight and logistics – Transport and storage	404,789	40.5	28%
Factories and laboratories	131,501	13.2	9%
Studios and industrial workshops	35,924	3.6	3%
Service industrial	51,877	5.2	4%
Office	241,935	24.2	17%
Retail – Centre based retail	46,479	4.6	3%
Retail – Dispersed retail	10,326	1.0	1%
Retail – Retail big box	479	0.0	0%
Retail – Showrooms	61,047	6.1	4%
Urban services	172,377	17.2	12%
Vacant	280,087	28.0	19%
Total floorspace in these categories	1,436,821	143.7	100%

Source: SGS Economics and Planning, 2012

TABLE 4. TOTAL FLOORSPACE BY PREDOMINANT INDUSTRY: PARRAMATTA ROAD PRECINCT

Space use	Sqm	Ha	Proportion
Freight and logistics – Transport and storage	1,609	0.2	9%
Factories and laboratories	-	-	0%
Studios and industrial workshops	120	0.0	1%
Service industrial	824	0.1	5%
Office	5,818	0.6	33%
Retail – Centre based retail	977	0.1	6%
Retail – Dispersed retail	33	0.0	0%
Retail – Retail big box	-	-	0%
Retail – Showrooms	5,761	0.6	33%
Urban services	128	0.0	1%
Vacant	2,147	0.2	12%
Total floorspace in these categories	17,417	1.7	100%

Source: SGS Economics and Planning, 2012

TABLE 5. TOTAL FLOORSPACE BY PREDOMINANT INDUSTRY: SOUTH DOWLING STREET SITE

Space use	Sqm	Ha	Proportion
Freight and logistics – Transport and storage	314	0.0	1%
Factories and laboratories	-	-	0%
Studios and industrial workshops	-	-	0%
Service industrial	-	-	0%
Office	42	0.0	0%
Retail – Centre based retail	25,602	2.6	83%
Retail – Dispersed retail	412	0.0	1%
Retail – Retail big box	-	-	0%
Retail – Showrooms	3,370	0.3	11%
Urban services	168	0.0	1%
Vacant	849	0.1	3%
Total floorspace in these categories	30,758	3.1	100%

Source: SGS Economics and Planning, 2012

Distribution of floorspace by industry

The following series of maps show the location and distribution of floorspace within the study area by space use. The smallest dots shown on each map represent each building where there is no floorspace for the particular use, while the three larger dot sizes denote 1000, 5000 and 10,000 square metres of floorspace.

FIGURE 6. FREIGHT AND LOGISTICS – TRANSPORT AND STORAGE

Source: SGS Economics and Planning, 2012

There is a comparatively large amount of transport and storage uses across the main study area.

FIGURE 7. FACTORIES AND LABORATORIES

Source: SGS Economics and Planning, 2012

There is a cluster of factories and laboratories along the canal and scattered elsewhere in the main study area, with none in the Parramatta Road precinct or South Dowling Street site.

FIGURE 8. STUDIOS AND INDUSTRIAL WORKSHOPS

Source: SGS Economics and Planning, 2012

There are a small number of studios and industrial workshops spread relatively evenly across the main study area.

FIGURE 9. SERVICE INDUSTRIAL

Source: SGS Economics and Planning, 2012

There are clusters of service industrial uses in the main study area, in the north close to Green Square and around the corner of Beaconsfield Street and Botany Road at the east.

FIGURE 10. OFFICE

Source: SGS Economics and Planning, 2012

Office uses comprise a considerable amount of total floorspace in the main study area and are concentrated principally to the east. There are also a number of offices within the Parramatta Road precinct.

FIGURE 11. CENTRE BASED RETAIL

Source: SGS Economics and Planning, 2012

The South Dowling Street site unsurprisingly shows a large amount of centre based retail (traditional retail, which does not include bulky goods), with a cluster in the main study area along O'Riordan Street.

FIGURE 12. DISPERSED RETAIL

Source: SGS Economics and Planning, 2012

There are small sized dispersed retail premises (such as cafés) on the South Dowling Street site and spread throughout the main study area, with none in the Parramatta Road precinct.

FIGURE 13. RETAIL SHOWROOMS

Source: SGS Economics and Planning, 2012

There are some retail showrooms in the Parramatta Road precinct and on the South Dowling Street site, and again particularly along O'Riordan Street in the main study area.

FIGURE 14. URBAN SERVICES

Source: SGS Economics and Planning, 2012

Three sites in the main study area show a large amount of floorspace occupied by urban services, which may have strategic value that requires protection given increasing population density in the local area.

FIGURE 15. VACANT

Source: SGS Economics and Planning, 2012

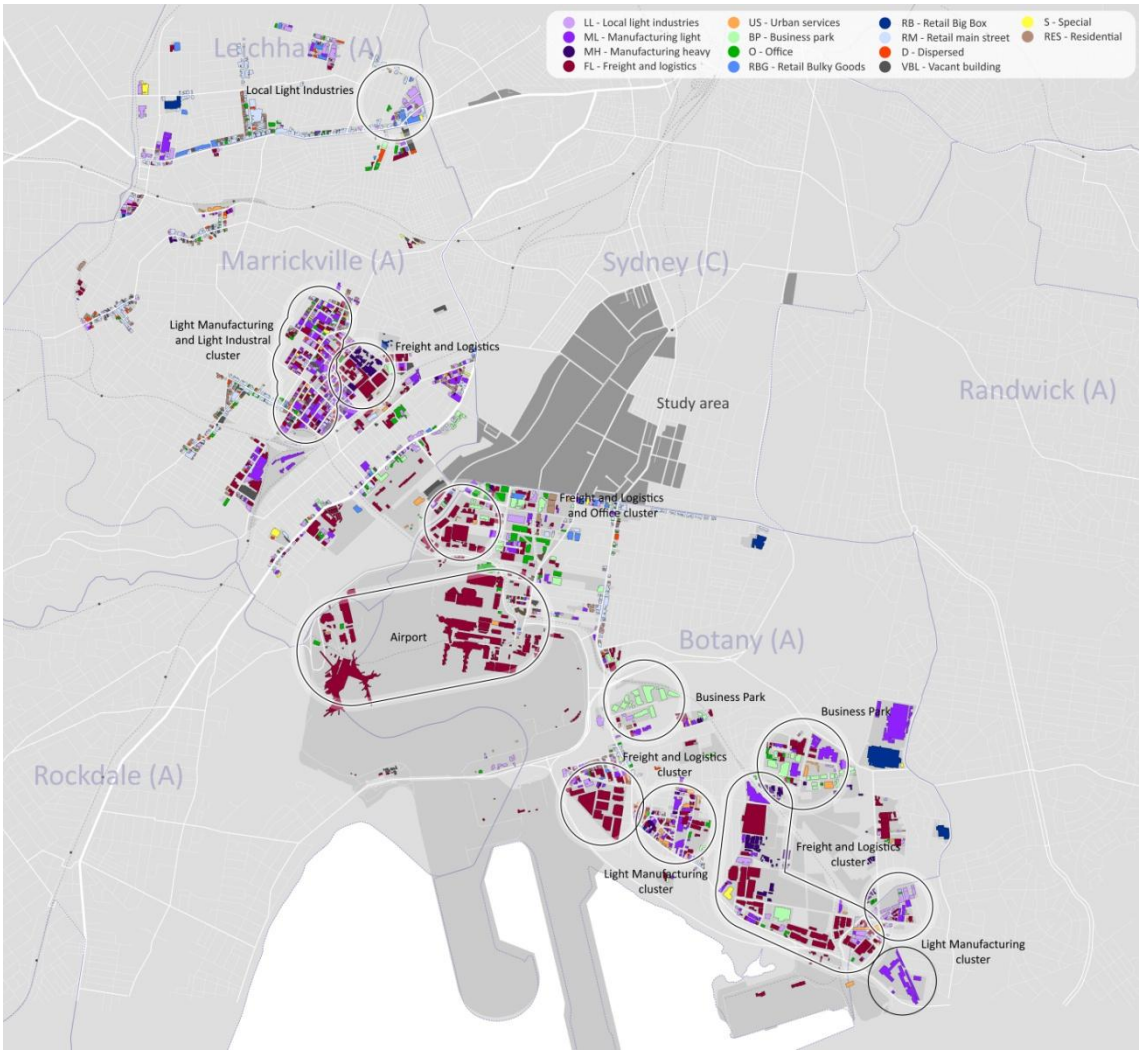
There is a high amount of vacant floorspace (comprising vacant buildings and vacant sites) spread throughout the main study area, with some additional space in the Parramatta Road precinct and on the South Dowling Street site.

3.5 Subregional assessment

An assessment of significant employment lands in the surrounding inner city LGAs of Marrickville, Botany Bay, Randwick and Leichhardt has been completed[3]. A number of freight and logistics, business park, light manufacturing and light industrial clusters were found, as shown in Figure 16. According to the respective LGAs' planning strategies and recent LEPs, most of the surrounding industrial lands are likely to be retained for industrial development (Table 6).

This means there may be some pressure on the study area to support growth or changing needs in neighbouring areas, in addition to those that may be required in the City of Sydney LGA. Alternatively, industrial zones in neighbouring LGAs may potentially host displaced uses from the strategic main study area.

FIGURE 16. SUBREGIONAL INDUSTRIAL LANDS[4]



Source: SGS Economics and Planning, 2012

[3] Data for the surrounding LGAs was obtained from the following studies by SGS: Leichhardt Employment Lands Study (2009), Marrickville Employment Lands Study (2008), Botany Bay Planning Strategy 2031 (2009), and Randwick Economic Activity Study (2008)

[4] Planning proposals are in progress to rezone industrial lands in precincts such as Eastgardens, Botany Bay and Tebbutt Street, Leichhardt which may potentially reduce stocks of industrial lands in surrounding LGAs.

TABLE 6. SUBREGIONAL INDUSTRIAL LANDS

Precinct and major roads	Dominant BLC	Secondary BLCs	Current area of zoned land or floorspace	Capacity (Ha)	Planned designation	Future uses
Botany Bay						
Banksmeadow Botany, McPherson and Stephen Road	Freight and Logistics	Manufacturing Light	65 Ha of zoned land	n.a.	IN1 – General Industrial in planning strategy 2031	Retain for general industry
Pagewood Wentworth Avenue, Baker Street	Manufacturing Light	Business Park and Urban services	9 Ha of zoned land	n.a.	IN2 – Light Industrial in planning strategy 2031	Retain and promote for local light industry and urban services
Hale Street Hale Street and Folkestone Parade	Freight and Logistics	n.a.	31 Ha of zoned land	n.a.	IN1 – General Industrial in planning strategy 2031	Protect for general industry
South Botany employment Botany Road and Sir Joseph Banks Street	Manufacturing Light	Urban Services	17 Ha of zoned land	n.a.	IN2 – Light Industrial in planning strategy 2031	Retain for general industry
Lord Street Botany Road and Lord Street	Business Park	n.a.	17 Ha of zoned land	n.a.	B7– Business Park in planning strategy 2031	Expand area for business and office land uses
Mascot Station Gardeners Road, O'Riordan Street and Coward Street	Freight and Logistics and Office	Business Park	66 Ha of zoned land	n.a.	IN1 – General Industrial and B3 – Commercial Core in planning strategy 2031	Increase of general industrial land for airport related freight and logistics, and significantly increase FSRs to provide retail/ commercial floorspace around Mascot Station
Randwick						
Botany Road – south Botany , Military and Bumborah Point Road	Freight and Logistics	Urban Services	n.a.	7.5 Ha of potential floorspace capacity	SEPP (Major Development): part IN1– General Industrial, part SP1 – Special Activities	Retain existing precincts within small lots and strata tenancies for local light industries and smaller-scale port-related activities
North of Botany Road Botany and Beauchamp Road	Manufacturing Light	Local Light industrial	n.a.		SEPP (Major Development): IN1– General Industrial	Restrict further subdivision and/or strata titling of larger lots in the industrial lands (in the areas with port or heavy industry uses) to prevent further fragmentation

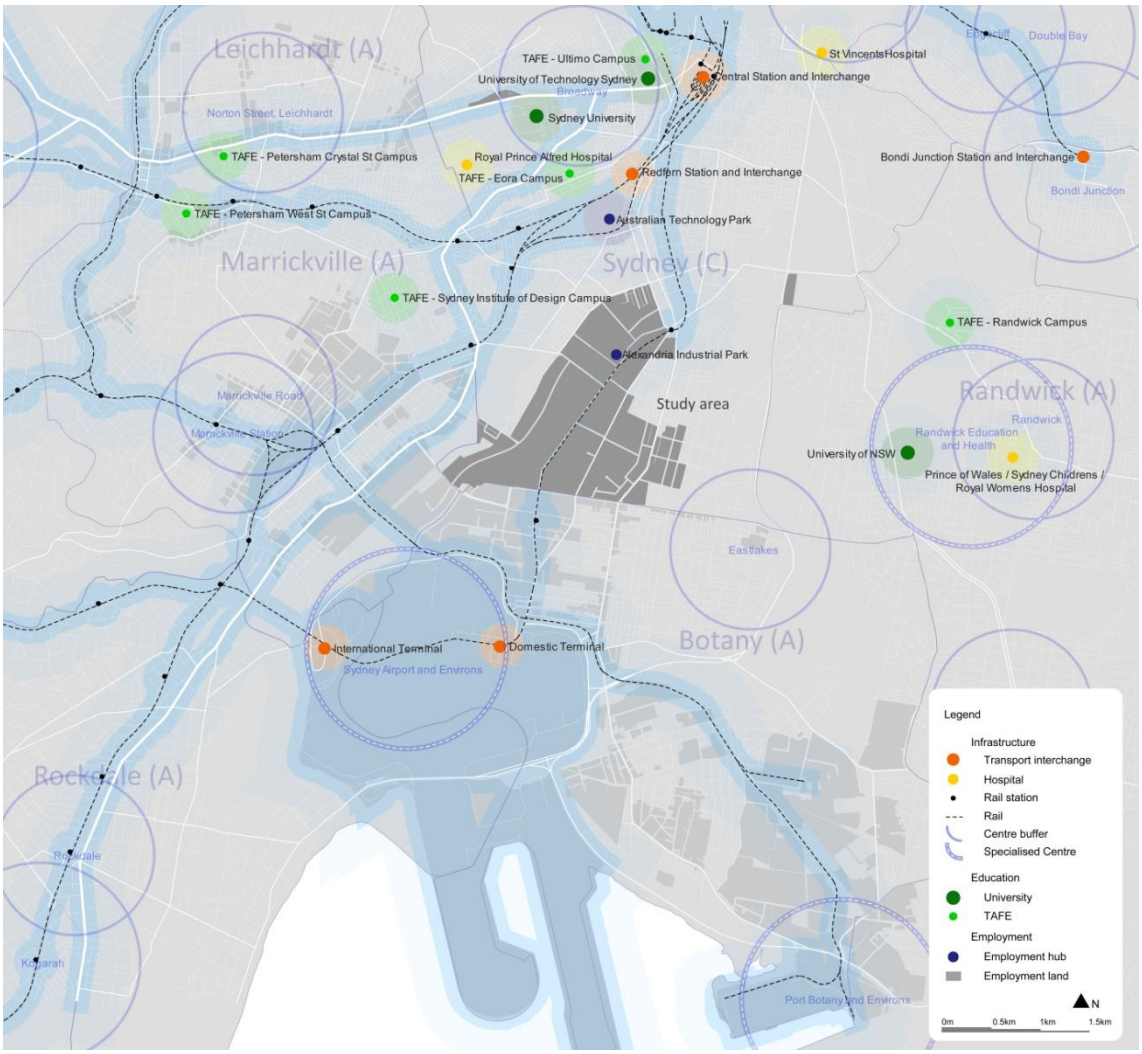
Precinct and major roads	Dominant BLC	Secondary BLCs	Current area of zoned land or floorspace	Capacity (Ha)	Planned designation	Future uses
Marrickville						
St Peters Princes Highway and May Street	Manufacturing Light	Local Light	n.a.		LEP 2011: part B5 – Business Development, part B7 – Business Park and part B6 – Enterprise Corridor	Land with potential to allow for a wider range of employment uses
Marrickville industrial area – east Edinburgh Road, Fitzroy Street, Sydenham Road	Freight and Logistics	Manufacturing Light	Retain current employment lands but address access in the southern core area.	72.8 Ha of potential floorspace capacity across three areas	LEP 2011: IN1 – General Industrial	Land to be retained for industrial purposes
Marrickville industrial area – west Edinburgh, Addison, Sydenham, and Marrickville Roads	Manufacturing Light	Local Light			LEP 2011: IN1 – General Industrial	Land to be retained for industrial purposes
Leichhardt						
Camperdown Booth Street and Pyrmont Bridge Road	Local Light	Bulky Goods	56,000 sqm of floorspace	3424 sqm vacant floorspace	Draft LEP 2011: IN2 – General Industrial	n.a.
Rozelle/White Bay Robert Street, Lilyfield Road	Local Light	n.a.	41,400 sqm of floorspace	1862 sqm vacant floorspace	Draft LEP 2011: IN2 – General Industrial	To be retained as a general industrial area

Source: SGS Economics and Planning, 2012

3.6 Land suitability mapping

Figure 17 shows assets and infrastructure surrounding the study area in the subregion. The main study area is strategically positioned between Sydney airport and the city. Proximity to the port and airport is likely to be a significant attractor for businesses, particularly in the southern part of the main study area. All three sites are located on main arterials running to the city – Parramatta Road in the northern site, O'Riordan Street and Botany Road in the main study area and South Dowling Street for the eastern site.

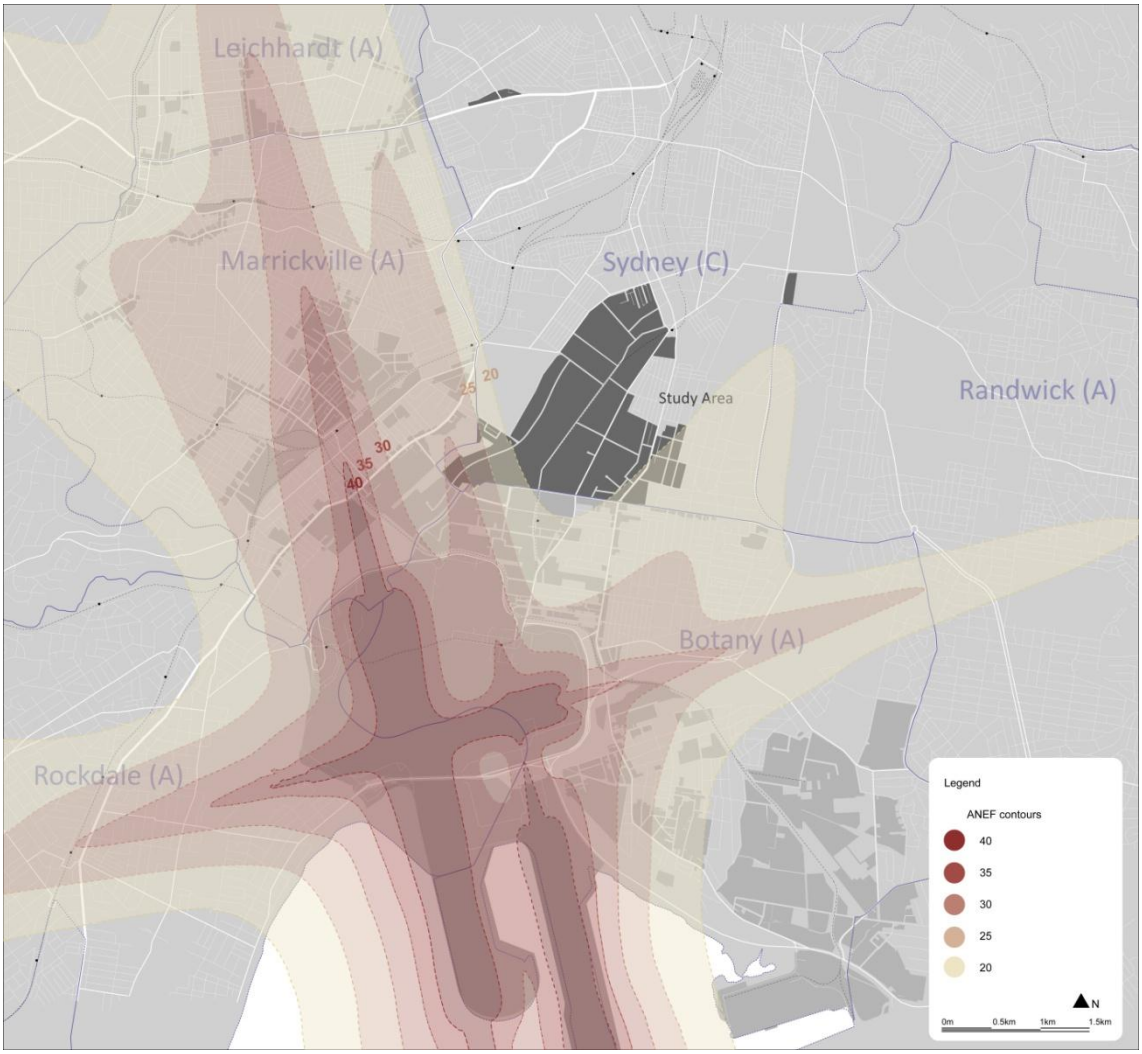
FIGURE 17. ASSETS AND INFRASTRUCTURE IN THE STUDY AREA AND SURROUNDING REGION



Source: SGS Economics and Planning, 2012

Figure 18 shows the aircraft noise contours surrounding the airport. The Parramatta Road and South Dowling Street sites are unaffected. The main study area is mildly affected in the south eastern and south western corners.

FIGURE 18. AUSTRALIAN NOISE EXPOSURE FORECAST (ANEF) CONTOURS



Source: SGS Economics and Planning, 2012

SGS undertook a land ranking and mapping exercise which scores areas according to a range of criteria that typically affect the location decision of broad land use types. Although coarse, this process provides a quick summary of suitability and in some cases a prompt for further investigation.

The table below shows the results for different uses. Appendix C details the land ranking assessment process and associated maps.

TABLE 7. LAND USE SUITABILITY RANKING

Use	Suitability
Freight and logistics	Most parcels in the main study area and the Parramatta Road precinct have a very high suitability for freight and logistics uses. The South Dowling Street site, although having a slightly lower rank, also shows a high level of suitability for this land use type. This is driven by the existing industrial zoning in some areas, arterial road access in all precincts, and proximity to centres and public transport. The south of the main study area shows the highest suitability due to proximity to the airport.
Local light industry	As with freight and logistics, the study area has a very high suitability for local light industry, driven by arterial road and public transport access, existing industrial zoning and proximity to centres.
Heavy (general) manufacturing	The southern parts of the main study area and part of the South Dowling Street precinct show high suitability for this type of land use due to proximity to arterial infrastructure and existing industrial lands. The low scores elsewhere and in the Parramatta Road precinct are driven by proximity to residential areas.
Light manufacturing	While all study precincts rate well for this land use, the Parramatta Road and main study area are particularly well suited.
Office	Parts of all study precincts show some suitability for office uses, with the north eastern corner of the main study area showing the highest suitability. This is heavily driven by the proximity to Green Square centre and the availability of public transport services. In future, it could be anticipated that these office uses will be increasingly dispersed throughout the study area, particularly without a planned approach. If this occurs, it will place further pressure on the more traditional industrial industries listed above.
Retail: bulky goods	The Parramatta Road precinct and South Dowling Street site show high suitability for bulky goods, as do parts of the main study area around Green Square and along arterial roads such as O'Riordan Street, Botany Road and Gardeners Road.

Source: SGS Economics and Planning, 2012

3.7 Key findings

Subregional level

All three sites of the study area (namely, the main study area, the Parramatta Road precinct, and the South Dowling Street site) are well positioned within the subregion, close to the city, airport and port, and located on main arterials running to the city – Parramatta Road in the northern site, O'Riordan Street and Botany Road in the main study area and South Dowling Street for the eastern site. Very few sites are affected by aircraft noise to a significant degree.

Local level

Neighbouring LGAs are home to a number of freight and logistics, business park, light manufacturing and light industrial clusters. According to the respective LGAs' planning strategies and recent LEPs, most of the surrounding industrial lands are likely to be retained for industrial development. There may be some pressure on the study area to accommodate uses from these areas. Alternatively, industrial zones in neighbouring LGAs may potentially host displaced uses from the strategic main study area.

Employment

Manufacturing was the largest industry in the main study area in terms of the number of employed workers in 2006, followed by transport and storage and wholesale trade. These are also industries in which the main study area had a high level of specialisation compared to the Sydney Statistical Division. Wholesaling, retailing, transport and printing were the largest subcategories of employment, each accounting for more than 5 percent of total employment in the main study area.

Floorspace use

Of the 11 categories that were assessed, freight and logistics occupies the highest proportion of floorspace in the main study area, followed by vacant uses and then office. In the Parramatta Road precinct, the principal floorspace use is office closely followed by retail showrooms. On the South Dowling Street site, the vast majority of floorspace is occupied by centre based retail (traditional retail, which does not include bulky goods).

In terms of the distribution of different uses across the main study area, notable points are that:

- there are clusters of factories and laboratories along the canal, and service industrial uses close to Green Square and around the corner of Beaconsfield Street and Botany Road at the east
- transport and storage uses are prevalent across the study area
- centre based retail and retail showrooms are clustered along O'Riordan Street
- there is a considerable amount of vacant floorspace in the main study area, comprised of both vacant buildings and vacant sites
- the quantity of office floorspace is substantial given that it is located in an industrial area.

Land suitability

The land assessment indicated:

- high suitability for freight and logistics, local light industrial, and light manufacturing uses in most parcels in the main study area and the Parramatta Road precinct
- high suitability for heavy (general) manufacturing in the south of the main study area
- high suitability for bulky goods uses in the Parramatta Road precinct and South Dowling Street site, as well as parts of the main study area
- good suitability for office uses close to Green Square and in the Parramatta Road precinct.

Given increasing land values, there is likely to be pressure to accommodate higher order uses in the main study area (including offices), which may affect traditional industrial industries and require a planned approach.

4 MARKET DYNAMICS

4.1 Trends and drivers

Global Economic Corridor

The Metropolitan Plan 2036 locates the study area within the Global Economic Corridor (GEC): the powerhouse of Australia's economy. The GEC stretches from Sydney Airport and Port Botany up to Macquarie Park, including Randwick health and education precincts, Green Square, Sydney CBD, North Sydney, St Leonards and Chatswood (NSW Department of Planning and Infrastructure 2010) and creates a 'core outside the CBD' (Hutton 2004) that includes not only office spaces and educational facilities, but also industrial lands.

The main study area is a strategic employment precinct. In Melbourne, industrial brown field areas close to the CBD have been transformed into successful employment precincts, which may be one factor contributing to Melbourne's strong economic growth over the past decade. There is the potential for the main study area to help fill this role for Sydney in the future by providing high value employment lands.

Green Square Urban Renewal Area

Green Square Urban Renewal Area (URA) is located within the Global Economic Corridor four kilometres from Sydney CBD and 3.5 kilometres from Sydney Airport. It is identified as a 'Planned Major Centre' in the Metropolitan Plan 2036 and will play an important role in achieving the City's dwelling and employment targets. It is expected by 2030, the Green Square URA is projected to house about 50,000 residents in some 26,000 dwellings and attract about 22,000 workers.

The Green Square URA covers an area of 292 hectares spreading across Alexandria, Beaconsfield, Rosebery and Zetland. At the centre of the Green Square URA is the Green Square Town Centre (the Town Centre), which will include a large public plaza and public library, green open space, community hall, theatre, multi-purpose hall, community shed, artist's studios and workshops. Development in the Town Centre will be connected to the City's proposed Green Infrastructure network including trigeneration, an automated waste system and recycled water. Nearby at the Epsom Park precinct a new Health and Recreational facility will be provided, including a swimming pool.

The Town Centre will be an inner city village, appreciative of its history and comprising commercial, retail and residential development, in the same manner as Surry Hills (City of Sydney 2011). It will include up to 142,000sqm of high quality commercial floor space conveniently located on the rail network, near the airport and port, providing important capacity to cater for future subregional office demand.

It is noted the Green Square URA is identified in a number of strategies and plans in relation to various objectives. For example, the Draft East Subregional Strategy seeks to better link Green Square to the Airport as there is significant transport infrastructure that is currently under-utilised (Sydney Airport Corporation Limited 2008).

Major infrastructure projects

Located in close proximity and pertinent to the main study area and South Dowling Street site are Sydney Airport and Port Botany, as well as Cooks Cove in Arncliffe; set to be an auxiliary business destination for the airport. The upgrade of Sydney Airport, the expansion of the port, and the redevelopment of Cooks Cove are all likely to impact on the area through increased business activity and warehousing needs.

- The Airport Master Plan of 2009 describes Sydney Airport as the backbone of Australia's prosperity and one of Sydney's most important pieces of infrastructure (Sydney Airport Corporation Limited 2008). The Master Plan forecasts that by 2029 Sydney Airport will be handling 78.9 million passengers annually via 402,000 passenger aircraft movements, assuming it remains the primary airport for the Sydney region. Freight aircraft movements are forecast to increase to 10,400, which represents an average annual growth rate of 1.3 percent. The Master Plan outlines terminal and airside infrastructure upgrades and improved public transport and parking facilities,

along with envisaging local employment and economic benefits in surrounding areas (Sydney Airport Corporation Limited 2008).

In December 2011 Sydney Airport Corporation announced its 'New Vision' for Sydney Airport to inform the work being done to update the current Sydney Airport Master Plan 2009 due in mid-2014. The New Vision is in the consultation phase and proposes a staged development of the airport to transform it into two common-use terminal precincts, integrating international, domestic and regional services under the one roof. It is expected the development will reduce pressure on the road networks both within the two airport precincts and also on Airport and Qantas Drives. The concept requires no change to the airport curfew, aircraft movement cap or existing access arrangements for regional airlines. In June 2012, Minister Albanese issued a direction to Sydney Airport Corporation under the Airports Act 1996 to expedite the preparation of the next airport Master Plan, bringing forward the due date from mid-2014 to mid-2013. The Sydney Airport Master Plan and March 2012 'Joint Study on Aviation Capacity in the Sydney Region' is discussed in more detail in Appendix A.

- Sydney Ports Corporation is currently undertaking a major expansion of its container port facilities at Port Botany, to cater for long term trade growth and efficiently handle larger ships. The Corporation reports this expansion to be the largest port project undertaken in Australia over the past 30 years. It includes the increase of wharf space for shipping berths, 60 hectares of terminal land, new roads and rail connections, and estuary preservation (NSW Department of Planning 2008).

- The Cooks Cove redevelopment is managed by the Sydney Harbour Foreshore Authority, acting as an agent for the Cooks Cove Development Corporation. It aims to transform the site into cutting edge urban development on the doorstep of the international airport, enhancing Sydney's position as a global trade gateway. The site is located on a foreshore wetlands habitat, and is set to house 20 hectares of trade and technology related offices, warehousing and support retail, serviced apartments/ hotel and 4500 car spaces. Progress has been affected by financial pressures; however, should the proposed technology park eventuate, it may have the potential to compete with the study area (Sydney Harbour Foreshore Authority 2012).

Relocation of industry

Globalisation has been marked by a rapid increase in global trade in goods and services and, in particular, capital flows. The decline of manufacturing-dominated industries that prevailed during the twentieth century has given rise to a new service dominated economic complex (Sassen 2008), facilitated by:

- technological innovation in transport and communications
- promotion of deregulation in particular industry sectors
- removal of trade restrictions and exchange controls
- innovation in the management and pricing of transaction risks, in the form of insurance, hedging, and partnership formation, among others.

More generally, globalisation is likely to continue to drive a separation between the 'thinking' part of the value chain (namely design, brokerage, marketing, strategy formulation) and the making or manufacturing, and distribution, in the form of transport, logistics, and after sales service. Key services within the thinking part of the value adding process are showing increasing tendencies to centralise within one or two centres. This is evident in Australia, with Sydney being the pre-eminent national dispenser of advanced business services (Spiller 2004). The study area is aptly located to service multiple parts of this chain, with the capacity to accommodate numerous offices and warehouses and proximity to the ports and airport.

Competition from low cost countries has affected industry in Australia as a whole, forcing many firms to reduce costs as much as possible. This has resulted in some relocating to industrial areas in the outer suburbs of Sydney, particularly Western Sydney; and others offshore. As firms relocate to lower costs, the land left behind becomes available, potentially for other uses. Markusen (1996) describes these types of space as 'slippery', as the ease of moving to lower cost regions increase. BIS Shrapnel believes that while land in the inner city and southern and northern Sydney is constrained, any given level of demand can be met through vacant land in the outer regions, promoting movement to these regions and a reuse of inner city lands (BIS Shrapnel 2011).

However, some manufacturing and other industrial uses will still require urban space, due to networks and contracting chains, and an inherent need to be located in close proximity to customers and craftsmen (Sassen 2008). In the more connected global economy, there are strategic industries, particularly logistics, deriving advantages from locating close to the port and airport. Furthermore, the placement of particular industries, firms and facilities (such as Council depots) on the fringe of the CBD is vital to providing essential support services to large population centres.

As such, adequate and appropriate industrial lands will need to be protected in the study area in order to secure the viability of strategic industries, and to service the future population of the City of Sydney and adjoining LGAs.

Clustering

Clusters are groups of firms in similar or related industries located close to one another. They may share a similar vision and have common suppliers or consumers, or cooperate in national or international markets.

It is now acknowledged that spatial relationships, physical connectivity and quality of place are critical to economic development. Such relationships are most dense in the city, and their quality and nature can have significant impacts on productivity. Michael Porter's 'diamond' approach to clusters looks at the relationship between one company's competitiveness and the performance of other companies, tied together in the value added chain, customer client relations or in local/regional contexts (Porter 1990). It argued that these factors interact with each other to create conditions where innovation and improved competitiveness occur. If this is the case, and given that effective clusters rely on a tight geography (Tidona 2010), it would appear to be prudent to protect existing clusters within the study area while mitigating their potential downsides, including congestion (Pitelis 2012).

Industrial property market

A strong Australian dollar, increases in e-retailing, and globalised supply chains are likely to be factors contributing to the increase in imports over the past few years. This has resulted in a greater need for storage space for logistics, transport, importers and distribution centres; however, there have been few new developments due to difficulties in obtaining financing. The lack of new development, coupled with demand from prospective tenants in addition to existing tenants seeking to expand, has led to an under-supply of large industrial space in the strategically located south Sydney market. As a result, rents are expected to rise as tenants' confidence continues to increase and availability remains tight (Colliers 2012).

BIS Shrapnel also has a generally positive outlook on the market, anticipating renewed growth in the NSW economy, a solid upswing in residential construction, followed by private business investment and a surge in non-residential building. It believes that the future performance of the Sydney industrial property market will be determined by traditionally cyclical drivers such as underlying demand for space, as well as other drivers such as land availability (BIS Shrapnel 2011).

Colliers states that owner-occupiers and private investors dominate industrial sales in the area; with consistently high demand for functional and well-designed strata blocks that provide wide driveways and ample parking. However, adaptive reuse spaces are continuing to creep into the market, especially from Surry Hills as residential development expands out of the CBD. The sale of a number of sites in the study area to residential developers with hopes of land rezoning may see a reduction in the future supply of industrial land (Colliers 2012), in addition to demand for centrally located but non-CBD office space.

Inner-city living

A mixture of amenity and historical factors create a 'unique environment' and rich atmosphere that increase the desirability of living in inner city areas (Hutton 2004). The trend toward inner-city apartment living has seen it promoted as a symbol of affluent living, and vital for ensuring cities are economically, socially and environmentally sustainable (Costello 2005 and Burton 2000 in Henderson-Wilson 2008), with vibrant centres. Many studies have found that residents of mixed use residential areas with opportunities to walk places, and with good access to local services and amenities, have higher levels of social capital and social cohesion (Henderson-Wilson 2008).

The popularity of inner city living in Sydney can be seen through the substantial increases in the values of apartments and rents close to the study area over the past 10 years, in addition to the development of many new residential developments. According to Census data, 59 percent of dwellings in Alexandria are apartments, 35 percent are semi-detached houses and more than half of the population are aged between 20 and 40 years old[5] (ABS 2011). Although there is capacity in neighbouring Botany Bay LGA for housing, this area currently has a lower appeal for many potential residents.

This growth in demand for inner city living, driven by economic change, housing preferences, and policy[6], offers

[5] Of Alexandria residents, 54 percent are aged 20 to 40, and 64 percent are aged 20 to 44.

[6] For example, the Metropolitan Plan for Sydney 2036 aims for 'more jobs closer to home', which implies inner-city living for the City of Sydney in order to meet targets for housing and employment.

economic gains for landowners and developers and creates competition for space. In some cases it may lead to a tension between industrial land uses and other uses.

Factory outlets

Factory outlet retailing is now considered a 'true' and permanent part of the retail landscape. Already a huge success in the US and UK, the boom in Australia has definitely arrived, with factory outlet retailing now ranked as the fastest growing retail format (ACRS, 2008). The factory outlet concept was traditionally utilised to clear surplus stock and faulty goods at heavily discounted prices, with the discounted price essentially achieved through eliminating the middle man (the retailer), enabling the manufacturer to pass on savings to the consumer.

Many major factory outlets are located on airport land, leading competing retailers to object over its lax zoning restrictions. Federal government land such as this is exempt from council zoning laws and once the factory outlet has been established in this space, it can charge tenants reduced rental rates, again savings that can be passed onto the customer via discounted merchandise.

The battle between the factory outlet and the shopping centre has led to court action over zoning permits. For instance, Westfield lodged several appeals against DFO developer, Austexx, and in 2004 the group successfully contributed to the closure of the Orange Grove centre. Despite continual opposition from traditional retail developers, expansion of the factory outlet format is not likely to cease.

Bulky goods and showroom uses

Bulky goods retail refers to the sale of cumbersome items, such as white goods and furniture, frequently from large industrial areas. These types of goods are often purchased and transported immediately by car. The emergence of this form of retailing can be attributed to various social and demographic trends, increased disposable income and availability of credit along with the increasing popularity of 'Do-it-Yourself' home improvement products (Walmsley 2006) – factors that have contributed to the blurring of distinction between shopping and recreation.

However, there is increasingly a conflict between 'true' bulky goods retail and other forms of retail that tend to locate in centres. There is also the potential for bulky goods retailers and showrooms to restrict more traditional industrial businesses in industrial zoned areas.

Similarly to factory outlets, the development of bulky goods retail has led to improved price and product competition in the retail sector, providing a competitive environment for overseas retailers to enter the Australian market and challenge the dominance of established 'category killers' (retailers focused on the sale of particular types of products, for which they can offer a wide selection and relatively low prices, such as Toys'R'Us) (Cummins 2008).

The bulky goods cluster in the main study area has grown rapidly over the past decade to service increasing south eastern and eastern suburbs' residential growth. The area is attractive for bulky goods retail uses as well as motor showrooms as it offers large parcels of level land with main road frontage with high visibility to large volumes of passing traffic (Jones Lang LaSalle 2008), as well as its location close to areas of high and increasing population density. These factors also benefit the neighbouring South Dowling Street site; home to the Supa Centa Moore Park.

4.2 Property sales in the region

Table 8 shows annual median sales price and number of sales for the suburbs of Alexandria, Marrickville, Mascot and Rosebery. Data for the first half of 2012 is included in the table, but to ensure consistency it has not been considered in the analysis.

The number of sales of commercial strata units has been highest each year in Alexandria, which may suggest greater availability of supply. As with Marrickville, Mascot and Rosebery; the median sales price in Alexandria has been volatile, with a low of $430,000 in 2011 and a high of $1.35 million in 2010. This volatility is likely to be driven by the level and type of supply, in addition to factors such as the size and location of properties on the market, their facilities and suitability for particular uses, overall quality and so on.

Sales numbers of general commercial properties have been highest each year in Marrickville, although median sales prices have been among the lowest of the four suburbs. This is may be a reflection of the difference in the quality of general commercial properties. As with strata units, median sales prices across the four suburbs were volatile between 2007 and 2011, with a high of $7 million in Alexandria and a low of $240,000 in Rosebery in 2007.

The highest sales volumes of general industrial properties each year were in Marrickville, where median prices ranged between $700,000 in 2011 and $1.2 million in 2009. Median prices in Alexandria have been higher, reaching almost $9 million in 2008. There have been relatively few sales of this property type in Mascot and Rosebery.

Of the four suburbs considered, Alexandria is the only one with more than five sales of industrial strata units per year. Median sales prices have also been somewhat stable in this suburb, ranging from $474,000 in 2011 to $615,000 in 2007.

TABLE 8. MEDIAN SALES PRICE (AND NUMBER OF SALES): 2007 TO JUNE 2012

		2007	2008	2009	2010	2011	2012
Commercial strata unit	Alexandria	$435,000	$985,000	$550,000	$1,350,000	$430,000	$325,000
		39	26	33	87	73	11
	Marrickville	$1,870,000	$325,000	$574,750	$600,000	$545,000	$370,000
		6	9	4	9	10	2
	Mascot	$627,500	$819,000	$260,000	$287,500	$86,531	$250,000
		10	4	13	8	10	1
	Rosebery	$575,000	$546,000	$443,750	$275,100	$420,000	$288,200
		21	11	16	16	20	2
General commercial	Alexandria	$7,000,000	$1,750,000	$3,100,000	$4,835,000	$3,300,000	$886,700
		19	6	14	4	10	5
	Marrickville	$745,000	$960,000	$921,500	$701,000	$922,500	$2,750,000
		28	10	18	21	22	3
	Mascot	$1,175,000	$700,000	$2,050,000	$1,250,000	$2,100,000	$1,537,500
		15	5	8	11	7	2
	Rosebery	$240,000	$975,000	$5,075,000	$700,000	$1,050,000	$3,371,500
		5	1	6	5	6	1
General industrial	Alexandria	$3,000,000	$8,987,500	$5,020,000	$4,600,000	$2,175,000	-
		21	8	6	9	7	0
	Marrickville	$795,000	$962,500	$1,200,000	$987,500	$700,000	$710,000
		26	20	19	28	19	6
	Mascot	$1,525,000	$1,850,000	$4,500,000	$1,800,000	$4,800,000	$176,666
		6	5	7	11	4	1
	Rosebery	$10,000,000	$1,725,000	$7,650,000	$1,962,500	$2,201,500	-
		5	2	5	2	2	0
Industrial strata unit	Alexandria	$615,000	$477,000	$578,500	$591,000	$474,050	$447,750
		19	10	14	19	18	4
	Marrickville	$623,150	$686,000	$850,000	$762,000	$820,000	-
		3	5	2	5	2	0
	Mascot	$575,000	$830,500	$275,000	-	$1,600,000	-
		3	1	1	0	2	0
	Rosebery	$407,000	$578,500	$1,230,000	$137,500	-	-
		3	3	4	2	0	0

Source: RP data, 2012, SGS calculations

4.3 Real estate agent consultation

Six real estate agents specialising in the industrial and commercial property market in and around the study area in Alexandria and Rosebery were contacted for their views on the current state of the market, trends and issues. A summary of their main points is as follows.

Demand is strong, particularly for smaller properties

Demand remains solid despite the impact of the global financial crisis, with land and median rental prices increasing steadily since 2008 and notable demand for industrial land from creative and business service occupants. Current

economic conditions have provided a bargaining point for prospective tenants and investors, as they seek to drive land and rental costs down.

There is a stronger demand for leased properties, particularly in the northern areas of the main study area and near railway stations, and for smaller sized holdings of 300 to 1000 square metres. However, a notable exception was for business services firms demanding floor plates larger than 1000 square metres. Showroom uses have often demanded large floor plates, but these are increasingly concentrated in mixed-use developments.

Outside the study area, an inverse range of conditions were reported. To the south of Gardeners Road and into the Botany Bay LGA there is a relatively weak market for leased properties, and stronger demand for sales. Land in the Botany Bay LGA was viewed as undervalued compared to that in Alexandria, with larger lot sizes and less pressure from residential uses offering strong opportunities for investors. However, landowners in the LGA have encountered difficulties in attracting tenants due to the area's more industrial character.

Larger firms are currently inactive in the local property market, with the bulk of leasing and sale activity being driven by small operators relocating south from the city fringe to take advantage of lower rent and overheads.

Supply is generally sufficient

Overall, estate agents reported sufficient supply of industrial land to serve current market demand. There are some sectors of the market where supply is tighter, namely for:

- properties with smaller floor plates, given high levels of demand from 'mum and dad' businesses and micro-industry. These holdings generally constitute the lower end of the rental market, and tenants often have unrealistically high expectations of quality given their budgets.
- higher quality spaces suitable for the creative industries and business services firms moving to the area.

The industry mix in the area is changing

Businesses normally based in Surry Hills, Chippendale and Redfern, comprised of advertising, fashion, new media and consulting[7] or business services firms, have been quick to relocate to Alexandria. This may be an indicator of the main study area evolving into a second order business and services area outside the central CBD.

These firms are noted as being relatively selective about location, with a trend for seeking free-standing properties with renewal potential or high quality spaces ready for occupation, as well as the expansive and open floor plans available in warehouse style buildings. Public transport, access to customers and suppliers in the CBD and the quality of buildings and finishes tend to be strong factors in relocation decisions, but overall, the main factor is price.

Cheaper land in western Sydney has been attractive largely to manufacturing users and smaller engineering firms, with Silverwater and Smithfield being popular relocation destinations. Freight and logistics users have also decentralised, but most have remained in the area owing to its strong link to Port Botany, the airport and CBD.

Specific issues hindering the efficient operation of the area are:

Amenity

- Green Square has been slow to develop, with a lack of retail uses to support the development of Alexandria as a major employment hub.

Land use

- A push toward residential uses, especially in the northern fringes of the precinct, has reduced the overall supply of industrial land. There are some positive aspects to this, however, as the remaining land is more able to realise a strong market value in an otherwise shaky climate for industrial land development.
- The increase in residential uses across the precinct has reduced the flexibility of land uses; some heavy industry has moved south into the Botany Bay LGA, and there are few manufacturing uses remaining in the precinct (the growth of China as a manufacturing hub is also seen as partly responsible for the decline).

[7] One agent noted interest from an IT consultancy firm serving clients in the CBD, seeking a floorplate of more than 1000 square metres in Alexandria.

Parking

- Parking is a major constraint across the area. While parking is generally easier in Alexandria than other city fringe areas, there is often an expectation that parking will be provided given limited public transport provision and poor walkability in the study area.
- Developers of industrial land often want to provide the maximum possible number of car parking spaces, to make their facilities more attractive to the market. At present, development controls only account for around 60 percent of site-related parking needs.

Public transport

- Public transport is relatively inaccessible and is seen as being unreliable, especially bus services. Bus services are believed to be frequently late in arriving to the area, and sometimes not turning up at all when scheduled to run. This causes frustration for visitors, and has resulted in commuters avoiding public transport in general.
- Upgrading the Airport Link train to provide a 'loop' service to the western suburbs would enable a higher degree of commuting by train and reduce the study area's traffic load and parking burden.

Cycleway

- The cycleway was viewed by one agent as providing a benefit for creative industry tenants, and possibly staff employed in business services.
- Otherwise, the cycleway was seen as limiting the flow of traffic through a gridlocked area; unsafe given the interface between trucks and heavy vehicle volumes; poorly utilised; reducing the limited space available for parking; and having low recreation value.

Truck access

- There is currently no B-Double access to the area, with freight uses limited to the areas along Botany Road and O'Riordan Street. This restricts the growth of land uses associated with freight and logistics and could be an issue for the area's long term growth.
- Limiting truck movements through the precinct was suggested by one agent as being a direct response by Council to encourage progressive development of Green Square and Alexandria as residential quarters. Increasing residential development was also seen as being influenced by the demands of new residents wishing to 'tame' the industrial character of the precinct.

Parramatta Road

Agents were also consulted regarding the properties along Parramatta Road proposed to be zoned as IN2. They made the following observations.

- Traditional industrial firms have moved from the area; replaced by warehouse and showroom uses with higher parking requirements. Smaller lots of 200 to 500 square metres are most in demand, being easier to rent and more profitable for landowners, and ground floor units are preferred.
- However, the market in the area has been performing poorly for a considerable time, with supply of commercial, retail and industrial property exceeding demand and high vacancy rates in the area. Retail businesses were said to prefer areas with higher accessibility and pedestrian flow, and some warehouse and showroom uses have moved to locations with cheaper rent and better truck access.
- The key issues affecting the area include insufficient car parking and neighbouring residential uses restricting business operations, and the proposed industrial zoning is viewed as inappropriate as a result.

4.4 Key findings

Strategic context

The Metropolitan Plan 2036 locates the study area within the Global Economic Corridor (GEC): the powerhouse of Australia's economy. The main study area is also close to Green Square. The upgrade of Sydney Airport, the expansion of Port Botany, and the redevelopment of Cooks Cove are all likely to impact on the area through increased business activity and warehousing needs.

Economic geography

Globalisation is likely to continue to drive a separation between the 'thinking' part of the value chain (namely design, brokerage, marketing, strategy formulation) and the making or manufacturing, and distribution, in the form of transport, logistics, and after sales service. The study area is in a position to service multiple parts of this chain. However, lower intensity uses may face increasing pressure to relocate as while land in the inner city and southern

and northern Sydney is constrained, any given level of demand can be met through vacant land in the outer regions, promoting movement to these regions and a reuse of inner city lands. However, some manufacturing and other industrial uses will still require urban space, due to networks and contracting chains, and an inherent need to be located in close proximity to customers and craftsmen. Furthermore, the placement of particular industries, firms and facilities (such as Council depots) on the fringe of the CBD is vital to providing essential support services to large population centres.

It is now acknowledged that spatial relationships, physical connectivity and quality of place are critical to economic development. Such relationships are most dense in the city, and their quality and nature can have significant impacts on productivity. It would be wise therefore to carefully plan for existing clusters where they can be identified.

Property market dynamics

A strong Australian dollar, increases in e-retailing, and globalised supply chains are likely to be factors contributing to the increase in imports over the past few years. This has resulted in a greater need for storage space for logistics, transport, importers and distribution centres. The lack of new development, coupled with demand from prospective tenants in addition to existing tenants seeking to expand, has led to an under-supply of large industrial space in the strategically located south Sydney market. As a result, rents are expected to rise as tenants' confidence continues to increase and availability remains tight.

The popularity of inner city living in Sydney can be seen through the substantial increases in the values of apartments and rents close to the study area over the past 10 years, in addition to the development of many new residential developments. This growth in demand for inner city living, driven by economic change, housing preferences, and policy, offers economic gains for landowners and developers and creates competition for space. In some cases it may lead to a tension between industrial land uses and other uses.

Demand remains solid despite the impact of the global financial crisis, with land and median rental prices increasing steadily since 2008 and notable demand for industrial land from creative and business service occupants. Current economic conditions have provided a bargaining point for prospective tenants and investors, as they seek to drive land and rental costs down. There is a stronger demand for leased properties, particularly in the northern areas of the precinct and near railway stations, and for smaller sized holdings of 300 to 1000 square metres. Showroom uses have often demanded large floor plates, but these are increasingly concentrated in mixed-use developments.

Businesses normally based in Surry Hills, Chippendale and Redfern, comprised of advertising, fashion, new media and consulting or business services firms, have been quick to relocate to Alexandria. These firms are noted as being relatively selective about location, with a trend for seeking free-standing properties with renewal potential or high quality spaces ready for occupation, as well as the expansive and open floor plans available in warehouse style buildings. Public transport, access to customers and suppliers in the CBD and the quality of buildings and finishes tend to be strong factors in relocation decisions, but overall, the main factor is price.

Cheaper land in western Sydney has been attractive largely to manufacturing users and smaller engineering firms, with Silverwater and Smithfield being popular relocation destinations. Freight and logistics users have also decentralised, but most have remained in the area owing to its strong link to Port Botany, the airport and CBD.

Future role and function

There are a range of factors affecting the likely future role and function of the study area precincts. These can be summarised as follows:

Amenity
- Green Square has been slow to develop so far, but is likely to develop quickly given continued public investment.

Land-use
- Increasing demand for residential uses close to the city is likely to place further pressure on employment lands in both the main study area and Parramatta Road precinct. These will need to be quarantined, in some cases, to protect strategic employment uses.

Parking
- All three sites in the study area experience heavy traffic, and parking is likely to be a continuing issue.

Public transport
- Public transport use in the main study area is underutilised due to reliability issues and routes. Upgrading the Airport Link train to provide a 'loop' service to the western suburbs

would be likely to benefit the area considerably.

Cycleway	– Although the cycleway is negatively viewed by some, in the longer term it has a high value as part of a broader cycle network for both commuting and recreation.
Truck access	– The main study area is highly congested, and there may need to be a dedicated precinct where truck access is permitted, to support freight and logistics and other uses.
Bulky goods retailing	– The study area is attractive to bulky goods retailers, as it offers many high visibility sites with good accessibility, relatively inexpensive land, and separation from residential uses. However, as with other non-industrial uses, bulky goods operations may inflate land prices, which in turn may risk limiting opportunities for traditional industrial business.

5 STAKEHOLDER PERSPECTIVES

5.1 Current tenants of the study area

SGS engaged an independent survey company to undertake a telephone survey of over 200 business tenants randomly chosen from within the main study area. This survey took place in June 2012. The map below shows the location of each of the surveyed businesses as a green dot.

FIGURE 19. LOCATIONS OF BUSINESSES PARTICIPATING IN PHONE SURVEY

Source: SGS Economics and Planning, 2012

The aims of this task were to:

- identify characteristics of this sample of businesses, such as the length of time they have been located on their site and their supplier and customer bases
- analyse the importance of various factors to the success of these businesses, such as 24 hour operation, truck access and proximity to the airport
- discover the likelihood of particular types of businesses moving out of the study area in the future, and the reasons why this would be considered
- businesses' current operational issues and suggested improvements for the area.

A particular objective of the survey was to identify patterns in the responses to these questions based on businesses' locations; for example, whether businesses in a specific part of the main study area have a particular reliance on separation from sensitive uses, are considering relocating to western Sydney, or would like more parking.

Survey results

The survey found that 60 percent of businesses that were contacted have been established in the area for over five years, with almost a third for over 10 years.

Two thirds of surveyed businesses have no plans to relocate in the next five to 10 years. The main reasons given were that the respondent owns their premises (21 percent), are happy in the area (18 percent), or view their site as a prime location (16 percent).

Of the third of businesses planning to relocate in the next five to 10 years, almost half anticipate moving to the immediate or neighbouring area, and a third are unsure of their next location. Only 3 percent mentioned plans to relocate to Western Sydney. The most common reason for businesses planning to relocate, chosen by more than a quarter of respondents, was for growth or expansion opportunities.

The respondents noted a reliance on national and international supply chains, with the vast majority of their suppliers located outside of the study area and a significant proportion outside of Sydney altogether. Just 11 percent of surveyed businesses have more than half of their suppliers based in Alexandria; 10 percent have more than half of their suppliers based in the rest of the City of Sydney LGA, with a fifth having more than half of their suppliers based elsewhere in metropolitan Sydney.

The customer base of the respondents is concentrated locally to a greater extent: 18 percent have more than half of their customer base in the Alexandria area; the same proportion have more than half of their customer base in the City of Sydney LGA, and 23 percent have more than half of their customer base elsewhere in metropolitan Sydney. Just over 60 percent of respondents service mainly industry (with the remaining 40 percent servicing mainly the public).

When asked to scale a number of factors, with one being 'not important' and 10 being 'essential', the results were as shown in the table below. The most important factors for the businesses surveyed are public transport access, truck access and proximity to customers.

TABLE 9. IMPORTANCE OF VARIOUS FACTORS

	% of respondents ranking factor as:	
	important (7-10)	**essential (10)**
public transport access	64	22
truck access	63	27
proximity to customers	59	28
proximity to the CBD	41	9
access to shops and services for workers	39	5
proximity to the ports or airport	32	12
proximity to suppliers	31	8
separation from sensitive uses[1]	21	4
24 hour operation	17	5

Source: SGS Economics and Planning, 2012

[1] Note: sensitive uses might include residential development, large retailers or commercial offices

More than a third of respondents noted no operational issues. Of the businesses reporting issues, the most prevalent was parking, accounting for 30 percent of responses, followed by cycle lanes, which was raised by 14 percent of respondents. Inability to expand in their current premises was the next most common, affecting 9 percent of businesses. Truck access, traffic and general access each accounted for 8 percent of responses. The remaining 25 percent of responses were comprised of a variety of other issues (each mentioned by fewer than eight businesses).

Respondents were also asked about potential ways to improve the main study area. By far the most common response was for more parking to be provided (raised by 38 percent of respondents). Around 15 percent of respondents had no suggestions for improvements, followed by 14 percent who would like better roads and traffic

flow, and 6 percent who would like a higher local population. Other suggestions, each accounting for less than 5 percent of the total, made up the remaining third of responses.

Further data from the phone survey is shown in Appendix D.

Spatial patterns

The survey results showed no discernible geographical patterns of responses to any of the questions – an important finding. This may be due to the small size of the main study area. It may also be because particular types of businesses (or those in specific industries) have characteristics or issues in common, but these businesses are spread throughout the main study area rather than located close together. This is likely to be the case, given that the floorspace audit analysis suggested few strong patterns of industry locations.

5.2 Submissions to the City Plan

A review and summary of the City Plan submissions relevant to this study is provided below. The majority are from landowners in the precinct, though other interest groups were among the submitters. Further details are provided in Appendix E.

TABLE 10. SUMMARY OF CITY PLAN SUBMISSIONS

Address	Current zone	Proposed zone	Requested zone	Condensed summary
Southern end of Bourke Road, Alexandria	4 – Industrial	IN1 – General Industrial	B5 – Business Development (Also requests that bulky goods be permissible)	Economic reasons prevent conventional industry being established. Area is constrained due to size of landholdings, land use conflicts, access issues, and traffic volumes. Protecting traditional IN1 uses conflicts with current market forces.
Southern end of Bourke Road (beside canal), Alexandria	10 – Mixed Uses and 4 – Industrial	B7 – Business Park and IN1 – General Industrial	B5 – Business Development and B4 – Mixed Uses	Proposed zoning will constrain revitalisation and redevelopment. Also contrary to previous development consents. Erroneous assumptions about location of employment and industry.
Rosebery Residents Action Group (RRAG)	10 – Mixed Uses	B6 –Enterprise Corridor and IN2 – Light Industrial	IN2 – Light Industrial (Harcourt, Dunning, Hayes and Botany block)	Support introduction of light industrial and protection of employment lands. B6 Zone along Botany Road will destroy character and amenity of nearby low-rise residential areas.
Southern end of O'Riordan Street, Alexandria	4 – Industrial	IN1 – General Industrial	B5 – Business Development, with vehicle sales/ hire premises and bulky goods as permissible	IN1 does not reflect the predominance of bulky goods and vehicle showrooms in the area.
Corner of Gardeners Road and O'Riordan Street, Alexandria	4 – Industrial	IN1 – General Industrial	B5 – Business Development (or B6 Business Corridor)	IN1 will affect the viability and use of this commercial and retail site.
Huntley Street, Alexandria	10 – Mixed Uses	B7 – Business Park	B4 – Mixed Uses	B7 zone, and the restrictions on bulky goods and retail premises, will neither help revitalise the canal nor reflect an existing DA consent.
Southern end of Botany Road, Rosebery	4 – Industrial	IN2 – Light Industrial	B6 – Enterprise Corridor	IN2 will prevent active street frontages and generate lower employment yields. Zone B6 satisfies vision with least impact on adjacent residential.
Botany Road, Rosebery	10 – Mixed Uses	B6 – Enterprise Corridor		An FSR of 2.5:1 is suggested as more appropriate for the site (under proposed zoning, FSR for the site will be 2:1).

Address	Current zone	Proposed zone	Requested zone	Condensed summary
O'Riordan Street near Doody Street, Alexandria	4 – Industrial	IN1 – General Industrial	B5 – Business Development or B6 – Enterprise Corridor to enable bulky goods.	IN1 is a down-zoning of the site compared with places like Moore Park Supa Centa.
Dunning Avenue near Morley Avenue, Rosebery	4 – Industrial	IN2 – Light Industrial		Requests high technology to be included in zoning to allow research-only operations.
O'Riordan Street near Doody Street, Alexandria	4 – Industrial	IN1 – General Industrial	B6 – Enterprise Corridor	Proposed zoning does not preserve rights of existing uses. B6 will permit bulky goods, motor showrooms and light industry.
Botany Road between Hayes Road and Harcourt Parade, Rosebery	10 – Mixed Uses	IN2 – Light Industrial Correction Zone B6 – Enterprise Corridor	B4 – Mixed Uses	IN2 would prohibit a number of existing uses and fail to preserve the heritage of the building.
Mentmore Avenue near Morley Avenue, Rosebery	4 – Industrial	IN2 – Light Industrial	B4 – Mixed Use or B7 – Business Park	Proposed zoning will restrict current commercial use on site and devalue property.
Southern end of O'Riordan Street, Alexandria	4 – Industrial	B6 – Enterprise Corridor	B6 – Enterprise Corridor	Proposed zoning overlooks the consolidation of bulky goods in the O'Riordan Street corridor.
O'Riordan Street near Doody Street, Alexandria	4 – Industrial	IN1 – General Industrial		IN1 zone undermines the economic advantages to the existing bulky goods retailing cluster in the area. Its continued growth and viability needs to be facilitated.
Maddox Street, Alexandria	4 – Industrial	IN1 – General Industrial	B5 – Business Development	Encroachment of non-industrial uses and proximity of urban renewal areas has already undermined viability of traditional industrial uses and increased land values. Higher order uses and flexibility should be permitted.
Canal Road, St Peters	4 – Industrial and Zone 9A – Arterial Road Reservation	IN1 – General Industrial and Zone SP2 – Infrastructure		Proposed zoning limits major urban renewal opportunity for a new multi-use specialised centre.
Birmingham Street, Alexandria	10 – Mixed Uses	B6 – Enterprise Corridor		Support proposed zoning.
Moore Park Supa Centa	3 – Business	B5 – Business Development		Support proposed zoning but request that food and drink premises be permissible.
Mandible Street, Alexandria	4 – Industrial	IN1 – General Industrial	Inclusion of bulky goods in IN1 or extension of B5 – Business Development	Proposed zoning doesn't allow for trend for different uses, like commercial, warehouse and bulky goods.
McEvoy Street near Bowden Street, Alexandria	10 – Mixed Uses	Deferred		Requests zone which allows commercial, retail and residential components.
Top of O'Riordan Street, Alexandria	10 – Mixed Uses	Deferred		Mixed Use Zone (mainly employment with some residential) will provide a buffer between town centre and industrial core.
Top of Botany Road and O'Riordan Street, Alexandria	10 – Mixed Uses	B5 – Business Development and Deferred	B4 – Mixed Uses	B3 Zone in adjacent Town Centre will undermine viability of commercial uses in this area, and warehouse and distribution

Address	Current zone	Proposed zone	Requested zone	Condensed summary
				centres will be undesirable in the area.
Bourke Road near Maddox Street, Alexandria	10 – Mixed Uses	Deferred	Business zone like B5	IN1 is not the most efficient land use given nearby rail station. A wider range of uses are approved and operating in the area.
Wyndham Street near Mandible Street, Alexandria	5 – Special Uses (Fire Brigade)	B5 – Business Development	B4 – Mixed Uses	Proposed zone devalues the site and reduces redevelopment potential.
Ross Street near Parramatta Road, Glebe	Industrial	IN2 – Light Industrial	B4 – Mixed Uses	Proposed zoning is a down-zoning. Does not reflect current uses on site or adjoining land. Mixed use zone will achieve consistent built form along Parramatta Road and flexibility of use.
The Salvation Army, The Geneva Push, Hillsong Church and Australian Christian Churches	–	–		Requests that places of public worship be included as a permissible use within the industrial zones.
Southern end of Bourke Road (beside canal), Alexandria	Zone 10 – Mixed Uses	B7 – Business Park and part SP2 Road	Inclusion of depots as permissible in zones B7 and SP2	Prohibiting depots is considered incongruous with the objectives and other permissible uses in the zones and the expressed intent of Council.

Source: SGS Economics and Planning, 2012

5.3 Landowner views

The City of Sydney held a number of meetings in June 2012 with landowners and other stakeholders who had made submissions to the Draft City Plan. These meetings were also attended by SGS. The purpose was to discuss the issues faced by owners and tenants of sites in the study area, identify firms and industries interested in locating in the area, and canvass stakeholder opinions of how specific precincts might develop in future. Notes from these meetings are shown in the table below.

TABLE 11. LANDOWNER PERSPECTIVES

Site/ owner details	Current zone (SSLEP98)	Proposed zone (City Plan LEP)	Current use	Current positives	Current issues/ constraints	Future plans	Future issues/ suggestions
IN2 zone and Rosebery west							
Mentmore Avenue near Morley Avenue, Rosebery	Zone 4 –Industrial (Clause 54 of SSLEP98 allows for commercial development despite Industrial zoning)	Zone IN2 – Light Industrial	– **Commercial/office** buildings developed 10 years ago – Over 50 car parking bays – Four levels, including 1000sqm warehouse level which accommodates larger users – 60% tenanted (six separate tenancies) – Operate general office hours (8am-6pm, not much weekend work)	– Tenants like the area: **increasing amenity**; more cafés and facilities – Many staff use **public transport** from Botany Road	– **Demand** is for small tenancies – site needs to fill its larger tenancies – **On street parking** is difficult on weekdays – Site surrounded by neighbouring commercial sites	– Continued commercial/office use	– Restrictions of IN2 zone would **restrict future viability** of site – **Evolution of area** in recent times – increasing facilities and shift to more creative industries, fashion etc – Area lends itself to a **creative hub** – 'the next Danks Street' – given the older, character buildings, sawtooth roofs etc – Separate identity to Alexandria – more heavy industrialised buildings – **Business park** zoning may also be appropriate
Dunning Avenue near Morley Avenue, Rosebery	Zone 4 – Industrial	Zone IN2 – Light Industrial	– 98 year old building – **Industrial users** being targeted through specialist agents, but limited success, due to site constraints – **Current tenant now vacating** for purpose built space – unlimited truck movements and operation hours,	– **Attractive rents** compared to City – **Space desirable** for creative users	– **Low height clearance** (7m) – trucks need 10m+ – No lifts – Poor loading facilities – Vehicles must reverse onto street – **Large trucks** cannot access street – No turning bays – **Adjacent residential** limits noise, hours,	– Current interest is for **creative uses**, fashion, cafés, fresh foods, offices etc – Owners are not pursuing these tenancies though as can't get DA consent	– **Strip shops would not be right** for this area (as proposed, under 60sqm, in draft controls) – **Offices and showrooms** would be appropriate

Site/ owner details	Current zone (SSLEP98)	Proposed zone (City Plan LEP)	Current use	Current positives	Current issues/ constraints	Future plans	Future issues/ suggestions
			cheaper rents etc		truck movements etc		
Rosebery Residents Action Group				– Increasing cafés etc have benefited residents – Residents now have amenities within walking distance – Employment opportunities in local area – No night operation and limited large trucks – **Good co-existence** between users and residents	– **Increasing residential population** on margins of this area to north and west – **Area infrastructure** will affect amount of intensification	– Opportunities for positive **area improvements**	– **Weekend and evening operation** would cause issues with residential neighbours – **Parking encroachment** into residential area would also create issues – A mixed use zone which includes residential may **increase pressure on roads, parks and parking** in area and may undermine viability of businesses through conflicts – Would not wish to see increased restrictions on existing users – Retain employment opportunities
Deferred lands and Green Square							
Bowden Street, Alexandria	Zone 10(e) –Mixed Uses	Deferred	– Currently **vacant** – Short-term interest – General decline in tenancies and tenancy values in the area; from $150-$170/sqm to $80/sqm for a long term tenancy		– **Local roads** unsuitable for heavy industrial traffic – **Cycleway** along frontage of site – Residential and conservation area across the road – 50/50 residential-non residential does not stack up: how can industrial space sit next to residential?	– 70-80% residential/20-30% support uses split would work better for this site	– **Denser residential** is appropriate for majority of site given site sits in corridor to Green Square Town Centre (GSTC) – Other uses appropriate to rear of site, which sits near strata employment – **Creative spaces** and small offices could work in this locality

Site/ owner details	Current zone (SSLEP98)	Proposed zone (City Plan LEP)	Current use	Current positives	Current issues/ constraints	Future plans	Future issues/ suggestions
					– Area changing character to very light industrial now, e.g. crash repairers – Industrial no longer viable		– Need better interpretation of the 10(e) zone – i.e. predominantly residential with a commercial component
Bourke Road near Maddox Street, Alexandria	Zone 10(d) – Mixed Uses	Deferred	– Relatively modern building ~10-15 years old – Office and warehouse use, with large truck deliveries – Lessening demand for this type of use		– **Traffic conflicts** – residential, semi-trailers, B-doubles, shoppers – Inability to widen roads – **Cycleway** along Bourke Road – Sites on major transport corridors (M4, M7) have cheaper land and better connections	– Increasing demand for **commercial, large format retail, bulky goods wholesale, showrooms** etc, which don't fit in GSTC or traditional industrial areas	– **Higher order uses** more appropriate given transition in area – Higher order mixed uses with freight etc (e.g. **B5 zone**) given strategic road corridors and proximity to GSTC, train station and port – **Wholesale** as support role to GSTC
McEvoy Street near Bowden Street, Alexandria	Zone 10(d) – Mixed Uses	Deferred	– Building is 40 years old, substantial physical and OH&S issues		– **Flooding** a significant constraint – very deep water on Bourke Road and by canal – **Truck access** – street too narrow and must reverse from adjacent street into site – block street whilst reversing	– Area is suffering due to **lack of residential**– neighbouring Hellenic club closing due to lack of patronage	– Need **mixed use** of commercial, residential and retail – **Residential needed** to make things stack up but residential alone will not work either – Need employment generation and **retail/commercial can act as a buffer** to the roads and other uses – Area can act as a **buffer zone** between uses

B5 Zone

Site/ owner details	Current zone (SSLEP98)	Proposed zone (City Plan LEP)	Current use	Current positives	Current issues/ constraints	Future plans	Future issues/ suggestions
Top of O'Riordan Street, Alexandria	Zone 10(d) – Mixed Uses	Zone B5 – Business Development	– Site operates as **showroom**, manufacture is off-site in Marrickville	– Situated 30m from entry to train station – Thousands of people now using station – **area is booming**	– Safety issue to **access to/from station** at grade across the street – Waste demolition site nearby – **noise, dust and trucks** cause problems – not appropriate within 20m of station		– Proximity to station lends itself to accommodation (hotels, backpackers etc), commercial, restaurants etc – Bulky goods should not be next to station – can't carry onto train – Suggests **B4 closest to station, with B5 in the second street block** as a good transition between the B4 and the industrial zones
Top of Botany Road, Alexandria	Zone 10(d) – Mixed Uses	Zone B5 – Business Development	– **Vacant** for more than 10 years – Discussion with a **bulky goods retailer**, but no other interest	– Unlocking development potential of the area would spur on GSTC	– **Poor visual character and amenity** of area has deterred some interested tenants – Significant land **contamination** to rear – Inappropriate appearance and use adjacent to GSTC, which will remain unless sufficient incentive for turnover – **Road reservations** undermine current uses – can't expand, intensify or maximise current potential – leading to limited interest from prospective buyers and roads will therefore not be achieved	– **Current market**, post GFC, is not for office – **No take-up of rezoning** even in booming market during previous 20 years – Incentive offered by proposed zoning is **insufficient for re-development** – Theoretical uplift – difficult to realise because no demand for office – **Unlikely to be demand** until GFC plays out, which could be around 20 years	– Happy with suggestion to allow hotel and restaurants in B5 zone, but **limited demand for hotel** with tourism numbers dropping – Should be expanded to **serviced apartments, backpackers and/or boarding houses** – fantastic location next to station

Site/ owner details	Current zone (SSLEP98)	Proposed zone (City Plan LEP)	Current use	Current positives	Current issues/ constraints	Future plans	Future issues/ suggestions
Moore Park Supa Centre	Zone 3 – Business	Zone B5 – Business Development	– 34,000sqm floorspace – **Bulky goods** use for around 20 years, good mix of tenants – Recent **refurbishment** – long term stake, further 20yr horizon	– **Good demand** in locality through redevelopment of Victoria Park and surrounds	– Nature of bulky goods retailing changing – becoming **more sophisticated** and presented more like a **traditional shopping centre** – Comparable centres now contain some 2000sqm of **general retail** too	– **Complimentary retail uses**, such as pharmacies, niche electronics etc are desired – Should not compete with GSTC	– No issues with proposed zoning, but would like some flexibility in uses to introduce some **small scale complimentary retail** – Happy to have restrictions on floorplates and on uses such as groceries and fashion
IN1 Zone							
Corner of Gardeners Road and O'Riordan Street, Alexandria	Zone 4 – Industrial	Zone IN1 – General Industrial	– **Bulky goods** centre – significant investment – Not high demand for number or scale of vehicle movements – **Focus on weekend activity**, but weekday patronage too	– **Good demand**, and strong recent growth, given scale of home generation in area, increasing population and good latent demand – Well located – Semi-trailers are able to **access site** and drive through it	– **Planning uncertainty** is affecting leasing – As tenancies changeover at separate times, hard to utilise **existing use rights** – **Intersection of two busy roads** – issues with access forces L-in, L-out arrangement	– **Continued growth in demand** for bulky goods in this area – Unsure what the building is suited to other than bulky goods – Significant write-down of investment (and costs to terminate leases) if must switch to industrial	– Where else should bulky goods go? – **Traffic flow is essential** to attracting users and tenants
O'Riordan Street near Doody Street, Alexandria	Zone 4 – Industrial	Zone IN1 – General Industrial	– Bulky goods	– Excellent loading facilities – two levels	– **Challenge to turn right** from Doody to O'Riordan – need right-turn light – Impact of **internet** means less demand for retail space for some product types	– Desire for expansion in order to **capture future capacity** – **Need new appeal**: furniture market is good but only generates weekend trade – need vibrant retail for during week e.g. *active*: BCF, Cycles, Repco, Babies	– **Bulky goods uses** have very different demands and operating styles to other uses – Does not necessarily have to be 'bulky' goods showrooms anymore, as products not always that big; can just be a

Site/ owner details	Current zone (SSLEP98)	Proposed zone (City Plan LEP)	Current use	Current positives	Current issues/ constraints	Future plans	Future issues/ suggestions
						and *non-traditional*: service-oriented RACQ, RTA, etc	showroom with connections to larger distribution centres – Do still need a co-location with others and can't pay the rentals in a town centre – **Non-traditional service-oriented uses** (e.g. RTA) also inappropriate in town centres
Southern end of Bourke Road, Alexandria	Zone 4 – Industrial	Zone IN1 – General Industrial	– **Every permissible use** in current zone exploited	– **Good parking provision** on site and on street – all tenants seek high levels of parking	– Business has suffered since **b-double ban** on Bourke Road – Botany/ Bourke/ Wyndham **intersections need upgrading** urgently to allow good traffic flow – GSTC should not hold up/preclude development here	– Would like to site Costco, but for **traffic restrictions** on Bourke Road – **On-site power generation**?, because such a big user	– **What is 'industrial'?** Often computer-based now, so how is this different from planners or bankers? – Warehouse uses provide employment for people outside of the area – now that the area is regenerating and the proportion of young tertiary-educated couples is increasing, **need to provide different employment opportunities** – Wants B7
Southern end of O'Riordan Street, Alexandria	Zone 4 – Industrial	Zone IN1 – General Industrial	– Purpose-designed showrooms – Numerous smaller tenancies which feed off anchor tenant – don't need to be visible	– **Good access**, in and out – Good parking provision – Good access for trucks – O'Riordan strip provides the bigger	– **Building setback** creates a challenge – Area still not accessible for walking – **Residential frontage opposite** the site – re-instating heavy	– More start-up companies – **'Think-tank'** area serving interstate customers who fly in , explore ideas and products, leave and	– How to define these 'special' use types? – Not offices, not quite retail, not quite hi-tech, some distribution and warehouse: **a**

Site/ owner details	Current zone (SSLEP98)	Proposed zone (City Plan LEP)	Current use	Current positives	Current issues/ constraints	Future plans	Future issues/ suggestions
			– Many mainly operate over the internet, but have a very small showroom on site – **Some distribution uses** – small office with warehouse space	services for Mascot and Green Square which would not be suited in a town centre – **critical mass** – Gardeners Road has bulky goods too – **established as a 'centre'** – Area feels **clean and attractive** (not car yards etc) – **Some area amenities** – e.g. coffee shops	industry on the site would not work now	order online	**different retail to town centres** and no on-site purchasing – Whilst showroom space represents the main use, often smaller in size than the support office – Everyone is producing something – A 'creative' zone
IN1 Zone and canal surrounds							
Maddox Street, Alexandria	Zone 4 – Industrial	Zone IN1 – General Industrial	– Building stood vacant for 25 years until recently – Now in **hi-tech use** – data centre (**24/7 operation**)	– Central fibre-link to USA for internet runs along Gardeners Road – **key precinct for hi-tech uses** – **Key location near port/airport** – good access for international customers – **Increasing amenity** to support changing users – Able to allow **24/7 operation** because no conflicts with residential neighbours	– **6m clearance** impossible for freight as can't rack the space – **Limited hardstanding** area for forklifts and does not work for truck movements/ turning – Site **can't make warehousing work**, which restricts potential commercial/ bulky goods/ retailing – Much of ground floor unusable because interrupted by columns – **Road congestion** issues and **conflicts with bike lanes** have seen freight type uses relocated out west – **Vehicle movement**	– Evolution from traditional industry – Changing demand for space – Manufacturing, distribution and storage not so intensive or large scale – **Creative bent** to some users – Still have warehouse need, but with a **higher office component** – e.g. fashion, magazines – Warehousing and office also increasingly split – warehousing out west, offices in this type of 'funky' location, not standard town centres	– Need a real **mix of employment uses** in the area to retain its vibe – Few large contiguous spaces left for traditional operations

Site/ owner details	Current zone (SSLEP98)	Proposed zone (City Plan LEP)	Current use	Current positives	Current issues/ constraints	Future plans	Future issues/ suggestions
					restrictions often placed on new users now – can't be a successful industrial area with this type of restriction		
Southern end of Bourke Road (beside canal), Alexandria	Zone 10 – Mixed Uses & Zone 4 – Industrial	Zone B7 – Business Park & Zone IN1 – General Industrial		– B-doubles can access site – Scope for users to **interface with canal** (if canal were improved)	– Still have issues with truck access due to **poor road connections** – Different characters on either side of the canal – **power stations** etc on the west, unlikely to turnover – **Cycle path/10m setback requirement** has impacted usability of the site – Some of the site affected by **flooding**	– Likely to attract **smaller traditional warehouses, mixed with office** – not straight commercial or industrial	– Modern industrial/business park – Need flexibility on building envelope and form to enable users to utilise the spaces – Why preclude residential when it's a long-term aim? Can't even market for commercial uses while canal is not improved – Study should determine how long the power stations etc will remain and whether they have growth plans
Southern end of O'Riordan Street, Alexandria	Zone 4 – Industrial	Zone IN1 – General Industrial	– Buildings are being **recapitalised for bulky goods** to reflect the changing demand in the area		– Truck access impossible – Significant **traffic** issues – **Rents** in area too high – Existing users are moving out – **Existing use rights** throw further uncertainty into the mix	– Slowly increasing rents have resulted in **changeover from industry to bulky goods** – Industrial growth is now in **'creative' businesses**, not manufacturing	– Few wholly traditional industrial sites left in the area – **E-retailing** is resulting in smaller depots in more central locations fed through larger distribution centres out west – **Shopfront depots** required for collection too – 'Industrial' definition

Site/ owner details	Current zone (SSLEP98)	Proposed zone (City Plan LEP)	Current use	Current positives	Current issues/ constraints	Future plans	Future issues/ suggestions
							– is out of date now – Need clarity as to what may be **'ancillary'** to the new uses
Birmingham Street, Alexandria	Zone 10 – Mixed Uses	Zone B6 – Enterprise Corridor	– Own the site for the purposes of redeveloping and selling on – DA for residential and commercial	– 'Funky' and vibrant area – sass & bide, provedores, cafes, Sonoma etc	– Having two uses (B6 and IN1) adjacent to each other on the same street undermines both and **stops either use working as well as it should**	– Have done solely residential development in the past, now **increasing the amount of commercial/ retail** in the mix – Retail/ commercial at ground floor and residential above works well	– Sees the Birmingham Street strip as a **new food hub** to rival Danks Street – Should **extend the B6 zone** to the northern side of Birmingham Street, instead of IN1: these are quite **shallow sites**, 20m deep, not really suitable for industrial – The strip will gain critical mass then

Source: SGS Economics and Planning and City of Sydney, 2012

5.4 Key findings

Positive perceptions

- **Increasing amenity** with more cafés and facilities, which are attractive to tenants
- **Good co-existence** between users and residents
- **Public transport** in certain areas, such as along Botany Road and around Green Square
- **Attractive rents** compared to the City and a **desirable space** for creative users
- Strong recent **growth in bulky goods** precinct due to increasing local population and latent demand, with **good access** on some sites for semi-trailers
- Opportunity for improvement of **the canal**

Negative perceptions

- Some sites are having issues filling larger tenancies, and **poor visual character and amenity** has deterred interested tenants in certain areas
- **Neighbouring land uses** can prove problematic for some tenants
- Many sites **not well suited to industrial** use, with low height clearance, poor loading facilities, and lack of turning bays on site; and limits on noise, hours, and truck movements due to adjacent residential uses
- Local **roads are unsuitable** for heavy industrial traffic, and the **B-double ban** on Bourke Road has affected local businesses
- Significant **road congestion** issues
- **Cycle path** exacerbates parking problems, particularly on weekdays, and restricts truck movements
- **Flooding** is a significant constraint
- **Road reservations** undermine current uses as businesses can't expand, intensify or maximise current potential
- **Planning uncertainty** is significantly affecting leasing in some areas, particularly due to difficulties in utilising existing use rights

Summary of issues

Key findings for specific areas within the study area are detailed below. This is a summary of stakeholder views from landowner and tenant meetings held with SGS, as well as through review of submissions to the Draft City Plan. In the next stage of the study, SGS will test some of these assertions using other research inputs, such as employment forecasts and through consultation with organisations with a strategic perspective of the study area's future.

Deferred lands and Green Square, including B5 zone

In the view of stakeholders:

- proximity to the train station may be an appropriate location for **accommodation** (such as serviced apartments, backpackers and/or boarding houses, in addition to hotels if these are commercially viable), as well as **commercial uses and restaurants**. More flexible land use planning may be required.
- the area needs a **mixed use** of commercial, residential and retail uses. Residential is required to ensure development feasibility but employment generation is also necessary. Retail and commercial uses can also act as a buffer to the roads and other uses.
- **higher order uses** than those in those provided for in the proposed zoning in the Draft Sydney LEP are more appropriate given the area's **changing character**, strategic road corridors, and proximity to GSTC, the train station and port.

O'Riordan Street bulky goods corridor

In the view of stakeholders:

- there is **continued growth in demand** for bulky goods in this area. The area's traffic flow is essential to attracting users and tenants, and many buildings currently used for bulky goods retail are unsuitable for other uses.
- Homemaker Centres have very different demands and operating styles to other uses. These aren't necessarily 'bulky' goods showrooms anymore, as products aren't always that big, but can just be a showroom with connections to larger distribution centres. These **uses still need a co-location with others** and can't pay the rentals in a town centre.

IN1 – General industrial zoned lands

In the view of stakeholders:

- the **nature of industry is changing**, with industrial growth now in **'creative' businesses**, not manufacturing, and few wholly traditional industrial large sites left in the area. **E-retailing** is resulting in smaller depots in more central locations fed through larger distribution centres out west, and **shopfront depots** are required for collection. Clarity is required as to what may be **'ancillary'** to the new uses.
- **demand for space is changing** as well, with manufacturing, distribution and storage not so intensive or large scale. Some firms (such as fashion or magazines) have a need for some warehousing but with a higher office component; others split their operations and locate warehouses in western Sydney and their offices in Alexandria.
- a real **mix of employment uses** is needed in the area to retain its character and amenity.
- The growing proportion of **young, educated residents** in the area suggests that provision of different employment opportunities are required, rather than traditional industrial.
- **'special' type uses** are appearing, where showroom space represents the main use but is often smaller in size than the support office. These uses can't easily be defined, as they aren't offices, nor fully retail or high-tech, and may include distribution and warehouse facilities. Such uses aren't suitable for town centre retail as they generally offer no on-site purchasing.
- some sites have issues with **truck access** due to poor road connections.

B7 – Business Park along the canal

In the view of stakeholders:

- the areas surrounding the **canal** have different characters, with some unlikely to turnover. The woolsheds to the east require flexibility on building envelope and form to enable users to utilise the spaces. **Commercial uses can't currently be marketed** given the condition of the canal. A study could be undertaken to determine how long the heavier industrial uses will remain. This area is likely to attract **smaller traditional warehouses, mixed with office**, rather than straight commercial or industrial uses.

IN2 – Light Industrial zone and Rosebery west

In the view of stakeholders:

- the area is undergoing an evolution, with increasing facilities and a shift to more creative industries, as well as the opening of fashion offices, provedores, and cafés. Industrial uses are increasingly light, such as crash repairers, and offices and showrooms may be appropriate.
- having two uses (B6 and IN1) adjacent to each on Birmingham Street undermines both and **stops either use working as well as it should.**
- given the older, character buildings, sawtooth roofs and so on, the area lends itself to becoming a creative hub, with the potential for the Birmingham Street strip to become a **new food hub** to rival Danks Street.
- restrictions of proposed zoning may undermine the future viability of sites in the area.
- increasing population density of the area increases the **potential for neighbour disputes** with industrial businesses (weekend and evening operations would cause issues) and a mixed use zone may increase pressure on roads, parks and **parking**.

South Dowling Street site – Supa Centa

In the view of stakeholders:

- the nature of **bulky goods retailing is changing**: becoming increasingly sophisticated and presented more like a traditional shopping centre. Comparable centres now contain some 2000 square metres of general retail, and some **flexibility in uses** may be appropriate to permit some small scale complementary retail, such as groceries and fashion.

6 NEXT STEPS

This background report has detailed the research undertaken to date. It provides the context for the strategy development. The next steps in the study are as follows.

- Generation of base case employment and floorspace forecasts at five year intervals for the next 25 years
- Targeted consultation with institutions or organisations with a perspective on strategic implications of different development futures, which will be used to guide the preparation of employment and floorspace and scenarios
- A strategic assessment at a subregional level, building on the mapping already completed and considering employment land strategies of the State and also in LGAs adjoining the City of Sydney
- Generation of alternative future employment scenarios using the inputs so far, for example by varying growth prospects of particular industry sectors, population growth, and job density
- Analysis of the supply demand gap, which will compare forecast employment and land area requirements under base case and alternative scenarios against the capacity of employment lands
- A strategic assessment of employment lands, using the 'Summary of the Strategic Assessment Checklist' in Action E3.2 of the Metropolitan Plan for Sydney 2036, and assessment of the planning and risk framework
- Preparation of a draft employment lands strategy, which will draw on all components of the study and include recommendations for zoning and detailed planning controls for the study area.

APPENDIX A: STRATEGY AND POLICY CONTEXT

NSW state level

NSW 2021 (2011)

NSW 2021 is a 10 year plan aiming to rebuild the NSW economy, provide quality services, renovate infrastructure, restore government accountability and strengthen the NSW local environment and communities. It is the NSW Government's strategic business plan, setting priorities for action and guiding resource allocation.

The top priority, as set up in the plan – 'Rebuild the Economy: restore economic growth and establish NSW as the 'first place in Australia to do business' – is one of five strategies proposed in NSW 2021 and has a high relevance to this study. The strategy has six goals, namely to:

- improve the performance of the NSW economy
- rebuild state finances
- drive economic growth in regional NSW
- increase the competitiveness of doing business in NSW
- place downward pressure on the cost of living
- strengthen the NSW skill base.

Each of the *NSW 2011* goals identifies targets. Those relevant to providing more land available for housing and jobs include:

- improving housing affordability and availability, and encouraging facilitation of the delivery of 25,000 new dwellings in Sydney per year.
- growing employment by an average of 1.25 percent per year to 2020.

Industry Action Plans (2012)

The NSW Government is developing industry action plans to position key sectors of the state's economy for strong growth, resilience, improved innovation and productivity, global competitiveness and new investment opportunities over the next decade. These plans are designed to become the road map for industries in NSW up to 2021, ensuring that both government and industry can take best advantage of opportunities and curb the threats to growth. They are due for release later in 2012 and will:

- outline a vision and 10 year development strategy for each industry, with immediate priorities to be addressed in 2012
- identify drivers for, and barriers to, growth and innovation, including those caused by government practices
- detail a program and mechanisms for government and industry to encourage sector growth, competitiveness and innovation
- contain key performance indicators including clear timetables and benchmarks to monitor progress.

They will be driven by industry through the establishment of taskforces led by industry leaders.

Jobs Action Plan (Rebate Scheme) (2011)

The *Jobs Action Plan* targets the creation of 100,000 new jobs in NSW from July 2011 and is one of the key priorities of the NSW Government. Of these new jobs, 60,000 are expected for metropolitan areas of NSW. The plan gives businesses incentives to employ new workers and expand their enterprises. Under the plan, the City of Sydney LGA has been identified as an 'eligible location' for the Payroll Tax Rebate Scheme and this is likely to affect employment levels in the LGA.

Ministerial directions (2009/2010)

There are a number of directions issued by the Minister for Planning and Infrastructure (the Minister), under section 117(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) that are relevant to this study.

Direction 1.1 – business and industrial zones

The objectives of this direction are to:

(a) encourage employment growth in suitable locations
(b) protect employment land in business and industrial zones
(c) support the viability of identified strategic centres.

The direction requires planning proposals to the City of Sydney to:

(a) give effect to the objectives of this direction
(b) retain the areas and locations of existing business and industrial zones
(c) not reduce the total potential floor space area for employment uses and related public services in business zones
(d) not reduce the total potential floor space area for industrial uses in industrial zones
(e) ensure that proposed new employment areas are in accordance with a strategy that is approved by the Director-General of the Department of Planning and Infrastructure.

Direction 3.1 – residential zones

The objectives of this direction are to:

(a) encourage a variety and choice of housing types to provide for existing and future housing needs
(b) make efficient use of existing infrastructure and services and ensure that new housing has appropriate access to infrastructure and services
(c) minimise the impact of residential development on the environment and resource lands.

The direction requires planning proposals to the City of Sydney to include provisions that encourage the provision of housing that will:

(a) broaden the choice of building types and locations available in the housing market
(b) make more efficient use of existing infrastructure and services
(c) reduce the consumption of land for housing and associated urban development on the urban fringe
(d) be of good design.

In relation to land to which this direction applies a planning proposal must:

(a) contain a requirement that residential development is not permitted until land is adequately serviced (or arrangements satisfactory to the council, or another appropriate authority, have been made to service it)
(b) not contain provisions which will reduce the permissible residential density of land.

Direction 3.4 – integrating land use and transport

The objective of this direction is to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives:

(a) improving access to housing, jobs and services by walking, cycling and public transport
(b) increasing the choice of available transport and reducing dependence on cars
(c) reducing travel demand including the number of trips generated by development and the distances travelled, especially by car
(d) supporting the efficient and viable operation of public transport services
(e) providing for the efficient movement of freight.

The direction requires planning proposals to the City of Sydney locate zones for urban purposes and include provisions that give effect to and are consistent with the aims, objectives and principles of:

(a) Improving Transport Choice – Guidelines for planning and development (DUAP 2001)
(b) The Right Place for Business and Services – Planning Policy (DUAP 2001).

Direction 7.1 – implementation of the Metropolitan Plan for Sydney 2036

The objective of this direction is to give legal effect to the vision, transport and land use strategy, policies, outcomes and actions contained in the *Metropolitan Plan for Sydney 2036*. The direction requires planning proposals to the City of Sydney to be consistent with the plan.

Sydney Airport Master Plan (2009)

The *Sydney Airport Master Plan* (Sydney Airport 2009) was approved by the Australian Government in June 2009, following extensive consultation with the community and other key stakeholders. It provides Sydney Airport's vision for the operation and development of Australia's premier airport to 2029 and the strategies required to sustainably meet Sydney's future air transport needs.

The plan is based on the assumption that Sydney Airport will remain the sole international and domestic airport for Sydney over the next 20 years and must, during this period, accommodate average annual growth rates of 4.2 percent for passengers and 2 percent for passenger aircraft movements.

Sydney Airport provides or generates more than 75,000 jobs and approximately 131,000 jobs indirectly, making a total of around 206,000 full-time equivalent jobs. An estimated 100,000 additional jobs will be generated by Sydney Airport over the next ten years. Many of these jobs and economic benefits will be generated locally in the areas around the airport.

In December 2011 the Sydney Airport Corporation Ltd released its 'New Vision' for Sydney Airport and the work being done to update the current *Sydney Airport Master Plan 2009* due in mid-2014. The New Vision is in the consultation phase and proposes a staged development of the airport to transform it into two common-use terminal precincts, integrating international, domestic and regional services under the one roof. It is expected the development of common terminals would deliver a much improved user experience and would also reduce pressure on the road networks both within the two airport precincts and also on Airport and Qantas Drives by spreading and reducing the intensity of traffic peaks.

In March 2012, the Australian and NSW Governments released a report of the Steering Committee overseeing the Joint Study on Aviation Capacity in the Sydney Region (the Joint Study). The Joint Study was undertaken to inform future infrastructure planning and investment by government and industry in NSW, and to enable the proper integration of future airport operations with surrounding land use planning and surface transport networks.

The Joint Study found that the rail and road transport networks that service the airport urgently require additional investment and recommends that work should commence on planning for surface transport works to improve connections to the airport and improve the surrounding precinct. The Joint Study also found that there is a clear and critical need to take action to identify and secure a second airport in the Sydney basin.

While debate on a second airport for Sydney continues, in June 2012, Minister Albanese issued a direction to Sydney Airport Corporation under the *Airports Act 1996* to expedite the preparation of the next airport Master Plan, bringing forward the due date from mid-2014 to mid-2013.

Sydney metropolitan level

Metropolitan Plan for Sydney 2036 (2010)

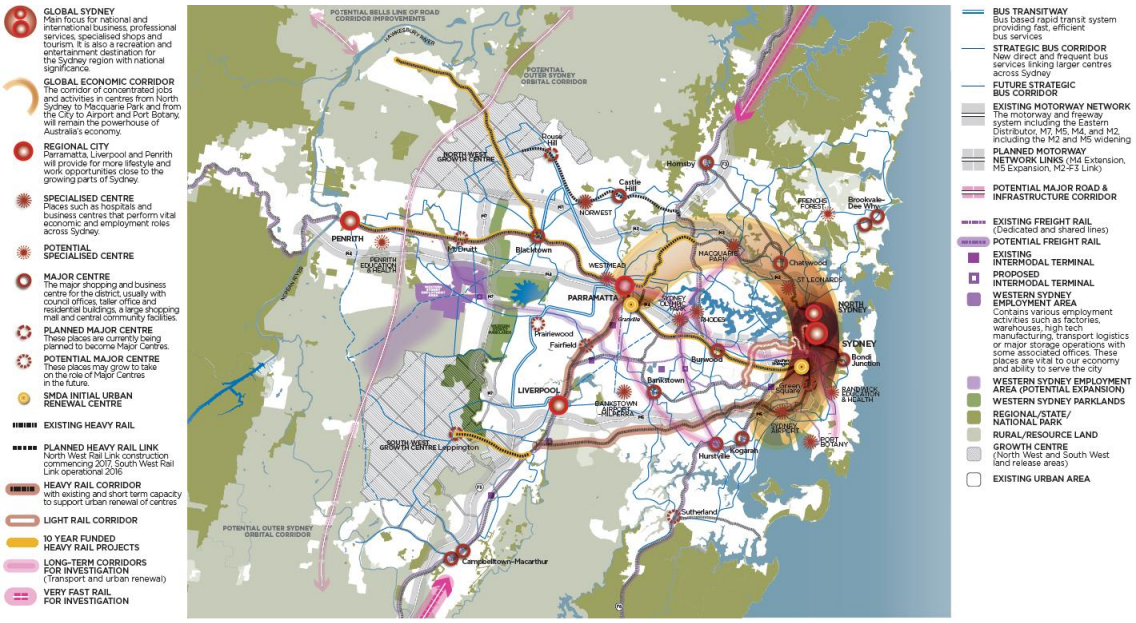
The *Metropolitan Plan for Sydney 2036* (Metropolitan Plan 2036) (Department of Planning and Infrastructure 2010) builds on the strategies and actions of the Sydney *Metropolitan Strategy: City of Cities* (2005).

The Metropolitan Plan 2036 identifies that in 2010, 15,370 hectares of employment land was zoned in the Sydney Region. It is estimated that these employment lands will provide jobs for 20 percent of Sydney's total workforce and they are essential to the city's future competitiveness. Accommodating job growth could require identification, zoning and development of up to 8000 hectares of new employment lands for industrial purposes.

The Metropolitan Plan 2036 notes an employment capacity target for the City of Sydney of 543,000 jobs in 2036. This implies 114,000 new jobs between 2006 and 2036, or 27 percent growth.

The additional dwelling target for the City of Sydney is 61,000 new dwellings from 2006 to 2036. Assuming an average dwelling size of 1.8 persons per dwelling, this target aims to accommodate 109,800 new residents in the City of Sydney by 2036.

FIGURE 20. EMPLOYMENT LANDS IN THE SYDNEY REGION



Source: Department of Planning and Infrastructure, 2010

The Metropolitan Plan 2036 emphasises the importance of protecting existing employment lands and of coordinated planning for future release and servicing of new lands. Key actions under the strategic direction of 'growing Sydney's economy' are:

- E1.2. Establish an Employment Lands Task Force to promote and ensure the orderly development of employment lands. The task force has been established and brings together key government agencies, as well as business, development and local government representatives to assist in the operation of the Employment Lands Development Program (ELDP).
- E3.1. Monitor supply and demand for employment lands, and plan for new employment lands through the ELDP.
- E3.2. Identify and retain strategically important employment lands. The Metropolitan Plan advises that the categorisation of industrially zoned land in the current draft Subregional Strategies will be removed and instead the Subregional Strategies will assess the strategic importance of employment lands. This will be guided by a strategic assessment checklist to provide a more consistent approach and common set of criteria to consider a site's strategic importance:

    1. Consistency with Subregional Strategies
    2. Current use of the area, and existing transport and infrastructure
    3. Impacts on the long–term viability of the employment land precinct and any industry clusters in the precinct or surrounding area
    4. Whether the employment lands support national or state significant infrastructure
    5. Trends in local land use activity
    6. Suitability and extent of measures implemented to improve an area's employment lands viability
    7. Potential to redevelop for industrial uses and/or new industrial uses (for example, creative industries)
    8. Impacts on stocks of local employment lands and the ability of remaining stocks to meet future local industrial needs.

- E.3.3. Strengthen existing freight and industry clusters and support emergence of new clusters – including by review of the planning controls for key employment lands along freight transport corridors to ensure adequate capacity for growth and improve infrastructure coordination.
- E5.1. Plan for half of Sydney's new employment by 2036 to be in Western Sydney.

– E6.2. Build capacity and economic growth in and around Sydney Airport and Port Botany. The Metropolitan Plan envisages that Sydney Airport will continue to serve as Sydney's major airport and Australia's major international gateway. Port Botany will continue to be NSW's main container port and is expanding to cope with significant long–term growth. The Department of Planning and Infrastructure will review planning controls for the nationally significant cluster of businesses located in employment lands around Sydney Airport and Port Botany.

Stakeholder Consultation Draft Paper – Planning principles for industrial lands (2011)

The purpose of this stakeholder consultation draft was to provide guidance for local councils and businesses on implementing the Metropolitan Plan 2036, and ensure stocks of industrial land are available to meet current and future demand across Sydney.

It includes a checklist of five principles, as shown below, which are proposed to be used for identification of strategically significant industrial areas and to assess site-specific proposals to rezone established industrial lands for other uses.

Principle 1	Maintain an adequate supply of appropriately located and serviced industrial lands for current and future demand and to maintain competitive pressures in the market.
Principle 2	Ensure planning for new industrial lands meets the long-term needs of industry growth and growth management directions of the city.
Principle 3	Retain strategically important industrial lands and support renewal of existing industrial lands to meet the changing needs of industry.
Principle 4	Provide capacity to enable the development of specialised industry clusters.
Principle 5	Plan for and maximise use of infrastructure to encourage sustainable development of industrial lands.

Draft Sydney City Subregional Strategy (2008)

The *Draft Sydney City Subregional Strategy* established an employment capacity target of 58,000 additional jobs to 2031, representing an increase of 14 percent over 2001 employment levels. It also establishes a target of 55,000 additional homes within the subregion to accommodate the housing needs of existing and future communities. The Metropolitan Plan 2036 provides revised projections which supersede those in the Draft Subregional Strategy.

The Draft Subregional Strategy envisions the subregion continuing as:

> the central conduit between Australia and the global economy. Reinforcing this status into the future will require initiatives to boost the globally competitive industries which are concentrated within the subregion, including advanced business services, tourism, creative industries and high value–adding manufacturing as well as initiatives to ensure on-going affordability and cultural investment in the Sydney City Subregion.

The strategy identifies key directions and actions for the Sydney City subregion, as summarised in the table below.

TABLE 12. DRAFT SYDNEY CITY SUBREGIONAL STRATEGY DIRECTIONS AND ACTIONS

Key directions	Actions
Reinforce global competitiveness and strengthen links to the regional economy	– Prepare a Principal LEP which will provide sufficient zoned and serviced land to meet the employment capacity target – Develop and implement an Economic Development Strategy for the subregion – Protect and enhance state significant employment lands within the subregion – Undertake a review of existing employment land/ mixed use zonings at Green Square – Identify opportunities to strengthen industry clusters within the subregion – Investigate options to improve east–west links for freight connections between economic gateways in the east and west of Sydney
Ensure adequate capacity for new office and hotel developments	– Promote key tourist and visitor destinations in the subregion, including future visitor accommodation and facilities – Consider future convention space in Sydney City – Complete a Tourism Enhancement Plan to help maintain Sydney's position as a leading domestic and international tourism destination
Plan for sustainable development of major urban renewal projects	– Facilitate the renewal of key sites by leveraging existing and planned public assets – Develop Green Square as a Planned Major Centre – Include potential in local plans for commercial development in city fringe areas and at Green Square
Plan for housing choice	– Plan for sufficient zoned land to accommodate the housing target – Provide an appropriate range of residential zonings to cater for changing housing needs – Continue to implement initiatives to provide affordable housing
Develop an improved and increasingly integrated transport system that meets the city's multiple transport needs	– Co–ordinate road upgrades including bus priority measures, walking and cycle access – Improve existing interchanges, stations, bus stops and ferry wharves – Investigate the delivery of increased public transport capacity and protect corridors for high capacity public transport modes
Improve the quality of the built environment and aim to decrease the subregion's ecological footprint	– Reduce greenhouse gases in the Sydney City Subregion – Ensure an integrated approach to planning for tourism – Continue to promote water–sensitive urban design and to implement water recycling and reuse schemes in the subregion's parks and public places
Enhance the city's prominence as a diverse global cultural centre	– Promote key tourist and visitor destinations in the Sydney City Subregion and identify future visitor accommodation and facility demands – Recognise and enhance Sydney's cultural and tourism precincts – Continue to upgrade access to the foreshores and to upgrade the public domain at iconic places

Source: Department of Planning and Infrastructure, 2008

It states that:

> protecting existing industrial lands, especially in the south of the subregion, will be vital to maintaining the region's competitiveness. These industrial lands will continue to provide a supporting role to Central Sydney and the economic gateways of Port Botany and Sydney Airport.

At the same time, the draft strategy also notes that the declining availability of major development sites for significant new commercial activity (including office, events, retail and hotels) will also 'require innovative planning approaches to accommodating economic growth, by ensuring sufficient capacity for commercial areas through setting appropriate incentives and controls'.

Specific actions relevant to the current study include:

A1.1 Provide a framework for accommodating jobs across the subregion:

- SC A 1.1.1 The City of Sydney Council to prepare a Principal LEP which will provide sufficient zoned and serviced land to meet the employment capacity target.
- SC A 1.1.2 The City of Sydney Council, with the support of Department of Planning and Infrastructure and the Department of State and Regional Development, to develop and implement an Economic Development Strategy for the subregion.

A1.2 Plan for sufficient zoned land and infrastructure to achieve employment capacity targets in employment lands:

- SC A 1.2.1 The City of Sydney Council to review the balance of mixed–use zones at Green Square, including measures to address pressure to rezone predominantly employment land to residential areas.

A1.3 Engage with industry regarding employment land stock

A1.4 Contain the rezoning of employment lands to residential zonings across Sydney:

- SC A1.4.1 The Department of Planning and Infrastructure to undertake a metropolitan and subregional review of employment lands, prior to considering any significant rezoning of employment land to non–employment uses within the Sydney City Subregion.

A1.5 Protect and enhance Employment Lands of State Significance:

- SC A1.5.1 The Department of Planning and Infrastructure to investigate measures to protect and enhance State Significant Employment Lands.
- SC A1.5.1 The City of Sydney Council to identify means for the appropriate protection of employment lands within the subregion through:
  - Review of Southern Industrial Lands
  - Review of mixed use zonings at Green Square
  - Containing the expansion of bulky goods retail in Alexandria and Rosebery.

A1.6 Improve planning and delivery of employment lands

A1.7 Monitor supply and demand of employment lands:

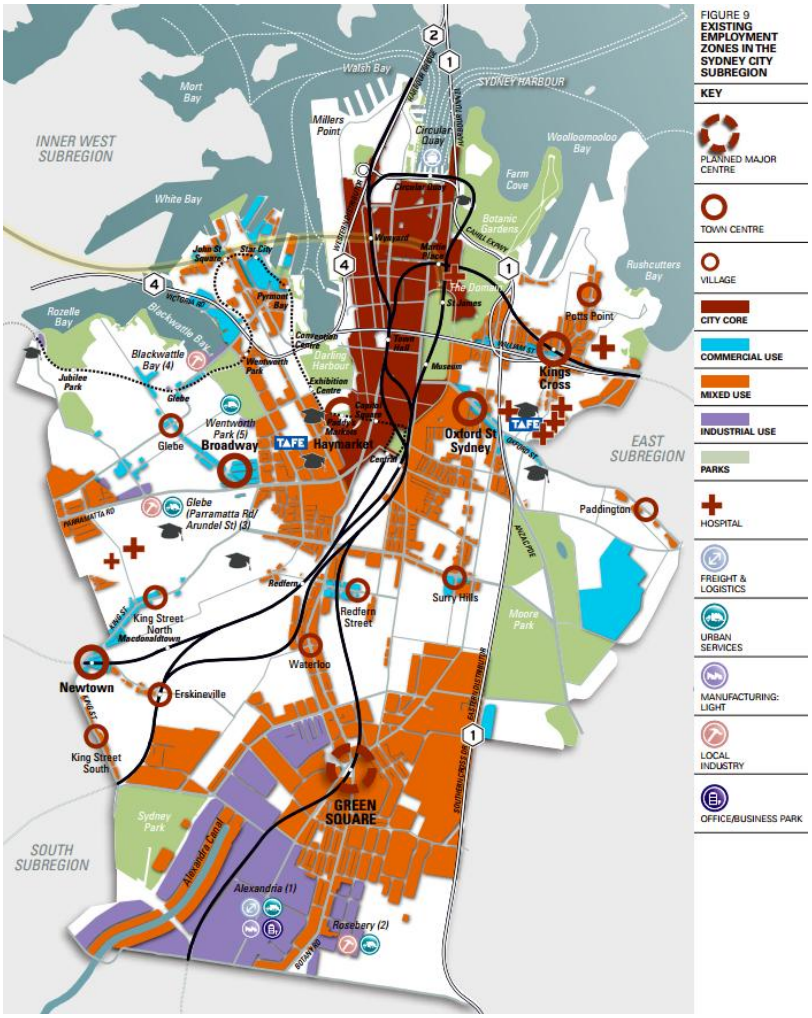
- SC A1.7.1 Establishment of an Employment Lands Development Program, in parallel with the Metropolitan Development Program and under a Sydney Land Supply program, will allow supply and uptake of employment lands in the Sydney City Subregion to be monitored.
- SC A1.7.2 Council to monitor commercial floor space using the Floorspace and Employment Survey and employment lands within the LGA, and ensure adequate future provision to enable the subregion to meet the employment capacity target.

A1.8 Establish a framework for the development of business parks

A1.9 Facilitate the use of old industrial areas:

- SC A1.9.1 The City of Sydney Council to explore opportunities to revitalise strategic employment lands.
- A1.9.2 The Department of Planning and Infrastructure to work with the City of Sydney Council in identifying and implementing measures to manage interface issues between employment and residential land uses.
- SC A1.9.3 The Department of Planning and Infrastructure to work with councils to maximise opportunities to retain employment generating uses, where existing or former employment lands are being renewed.

FIGURE 21. EMPLOYMENT ZONES IN THE SYDNEY CITY SUBREGION



Source: Department of Planning and Infrastructure, 2008

Five employment lands precincts of regional or subregional strategic importance that should be retained for employment purposes were identified in a preliminary review of employment lands in the Sydney City subregion. These include Alexandria and Rosebery precincts, which support Port Botany and Sydney Airport and were identified as being of state significance, as well as a smaller urban support services along Parramatta Road. The employment lands at Alexandria and Rosebery.

TABLE 13. SCHEDULE OF FUTURE ROLE OF EMPLOYMENT LANDS IN THE SYDNEY CITY SUBREGION

Category 1: Land to be retained for industrial purposes

While they may not all be significant employers, collectively these areas are vital to the health of local and regional economies and should be retained to accommodate the future range of economic services to sustain those economies. Some of the smaller sites and operations that host depots, utilities and service trades are vital in sustaining vibrant subregional economies.

Employment lands precinct	Key functions	Ha
Alexandria (1)	Freight and logistics, urban services, manufacturing–light, office/business park	138.2
Rosebery (2)	Local industry, urban services	14.2
Glebe (Parramatta Rd/ Arundel St) (3)	Local industry, urban services	0.5

Source: Department of Planning and Infrastructure, 2008

Alexandria and Rosebery were identified within the Sydney City Subregion as being of strategic importance to be retained for industrial uses. The draft subregional strategy states:

> Whilst this precinct has experienced significant transition in uses in recent years it remains predominantly industrial and is one of the most substantial and comparatively intact areas of employment lands within inner areas of Sydney. Consequently there is a strong imperative to retain industrial activity and to protect the area from future rezonings and from increased bulky good retail uses.

No potential Enterprise Corridors or Business Development Zones have been identified through the Sydney City subregion planning process. However, the opportunity may exist for Business Development Zones in support of centres such as Green Square. Opportunities for Enterprise Corridors may also arise as part of future planning investigations.

NSW Business Sector Growth Plan (2010)

The NSW Innovation Council has developed a plan to grow the NSW economy by building on existing strengths, competitive advantage and emerging opportunities. Following extensive consultation with industry the *NSW Business Sector Growth Plan* was released in September 2010.

The plan outlines actions to maintain Sydney's global competitiveness and support the growth of specific industry sectors, including through spatially based development initiatives. The Business Sector Growth Plan sets out the following vision for the NSW economy:

> In 2020 the NSW economy will be more than 30 percent larger than it is today, driven by growth in highly skilled, high value-added industries. It will be Australia's leading creative, dynamic and globally engaged economy. The NSW industry base will be internationally recognised for its innovation, productivity, knowledge intensity, and carbon efficiency.

Sector specific strategies have been prepared in partnership with industry for each of the following sectors within the NSW economy:

- Finance, Insurance and Professional Services
- Infrastructure and Construction
- Advanced Manufacturing
- Information and Communication Technology
- Retail
- Education and Research
- Agri-food
- Creative Industries
- Mining
- Tourism
- Health and Allied Services.

Each sector strategy includes a vision for the growth of the sector to 2020, the competitive advantages of the sector in NSW, the opportunities for growth and the actions the NSW Government will take to support the achievement of the vision.

Employment Lands Sydney Action Plan (2007)

The *Employment Lands Sydney Action Plan* was released in 2007 and aimed to address issues raised by a high–level task force of industry and government, who sought to advise the NSW Government on the current situation in regards to employment lands in NSW.

The plan outlined initiatives to advance the planning of employment lands in metropolitan Sydney, including establishment of an Employment Lands Development Program, a commitment to developing a state–wide Employment Lands SEPP, investigation of potential new Employment Lands and existing economic renewal areas, and creation of an ongoing Employment Lands Ministerial Advisory Committee.

The plan calls for more clarity on the future role of employment lands and recommended that Subregional Strategies identify Strategically Important Employment Lands that should be retained for future employment purposes. The plan sets out a range of measures to ensure that State Significant Employment Lands are protected for employment purposes. This includes consideration of an Employment Lands SEPP to recognise and provide the development framework for employment lands across the state.

Five key areas of activity were identified in the plan. These are to:

- establish an Employment Lands Development Program to maintain the balance between demand and supply of employment land.
- release more greenfield land to overcome a shortage of supply.
- develop new policy initiatives to encourage the regeneration of brownfield sites to support new investment and employment opportunities.
- employ more efficient processes for zoning and developing employment lands.
- improve coordination between state departments and agencies, councils and industry to improve economic development opportunities associated with employment lands policy.

The plan provides 18 key recommendations, of which the main objectives are to provide suitable employment lands sites in strategic locations, increase innovation and skills development, and improve opportunities and access to jobs for disadvantaged communities.

The plan identified approximately 81.4 hectares of employment lands within Sydney City LGA (approximately 28 percent of the entire LGA) as of 2006.

Within the City of Sydney LGA, the area known as the Southern Industrial Area (SIA) is the only area identified as providing employments lands. Green Square is identified as an area for which employment lands have been lost due to the rezoning for mixed uses allowing a mix of employment and residential uses, along with Ultimo/Pyrmont and Wolli Creek.

Employment Lands Development Program 2011 – 2011 Update Report

The Employment Lands Development Program (ELDP) is the NSW Government's key program for managing the supply of employment lands for the Sydney Region and assisting associated infrastructure coordination. The program contributes to the wider objectives of both the Metropolitan Plan to support job creation and economic growth across Sydney as well as the NSW Government State Plan's target of 'jobs closer to home'.

In November 2011, the NSW Government released the *Employment Lands Development Program 2011 Update Report*, which provides a comprehensive assessment of the existing and future supply of employment lands in the Sydney Region and will be used to help implement the Metropolitan Plan.

Key findings and trends identified in the report are:

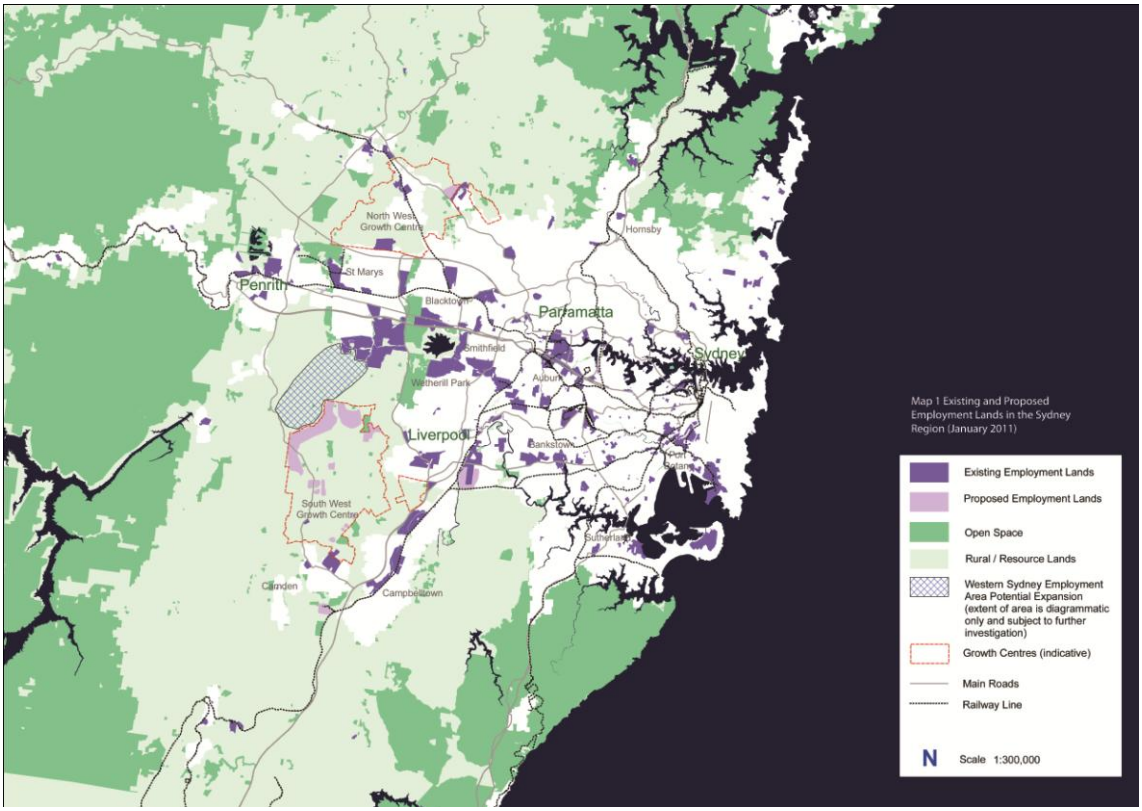
Employment land stocks in the Sydney Region as at January 2011 (see Figure 2221):

- 15,584 hectares of existing zoned employment lands (over two-thirds in Western Sydney)
- 4543 hectares of existing zoned land are undeveloped, of which 892 hectares is serviced
- 86 hectares net of new employment lands were rezoned over 2010
- 20 hectares of existing employment lands were depleted including land in Lane Cove, Rockdale, Canterbury and Marrickville LGAs
- 3337 hectares of unzoned land is identified for potential future employment lands uses.

Employment land activity:

- $400 million of industrial building activity was approved in the Sydney Region in 2009/10, which is a decrease from the $575 million approved in 2008/09
- 153 hectares of land were 'taken-up' by industrial development in 2010 (compared to 205 hectares in 2009 and 264 hectares in 2008); with the majority of take-up occurring in Western Sydney
- Based on a moderate take-up rate of 200 hectares per annum, there would be enough potential employment lands (that which has already been identified in planning strategies for future zoning or currently zoned and undeveloped) to last nearly 40 years (7880 hectares). Of this total potential stock, 4543 hectares is already zoned and undeveloped land, providing up to 23 years of supply
- However, based on a moderate take-up rate of 200 hectares per annum, there is currently just 4.5 years of supply of undeveloped zoned and serviced land (892 hectares) which may be ready for development. This falls just under the supply standards adopted interstate for industrial land planning which require a minimum of five to seven years' supply.

FIGURE 22. EMPLOYMENT LANDS IN THE SYDNEY REGION



Source: Department of Planning and Infrastructure, 2011

Examining the LGAs surrounding the City of Sydney, the East Subregion, which includes Botany Bay and Randwick LGAs, has seen an increase of 0.7 hectares of industrial land over 2010. The Leichardt LGA has seen a decrease of 0.1 hectares of employment land (the loss occurred in the Bays Precinct). Marrickville has seen a loss of 0.8 hectares of employment land, which included a loss of 0.7 hectares in Grove Street.

There was no change in the quantity of employment lands in Alexandria, Rosebery or Glebe: Parramatta Road/ Arundell Street between January 2010 and January 2011 – areas within which the study area is located.

Employment Lands Development Program 2010 – Report 1 Sydney City Subregion (2011)

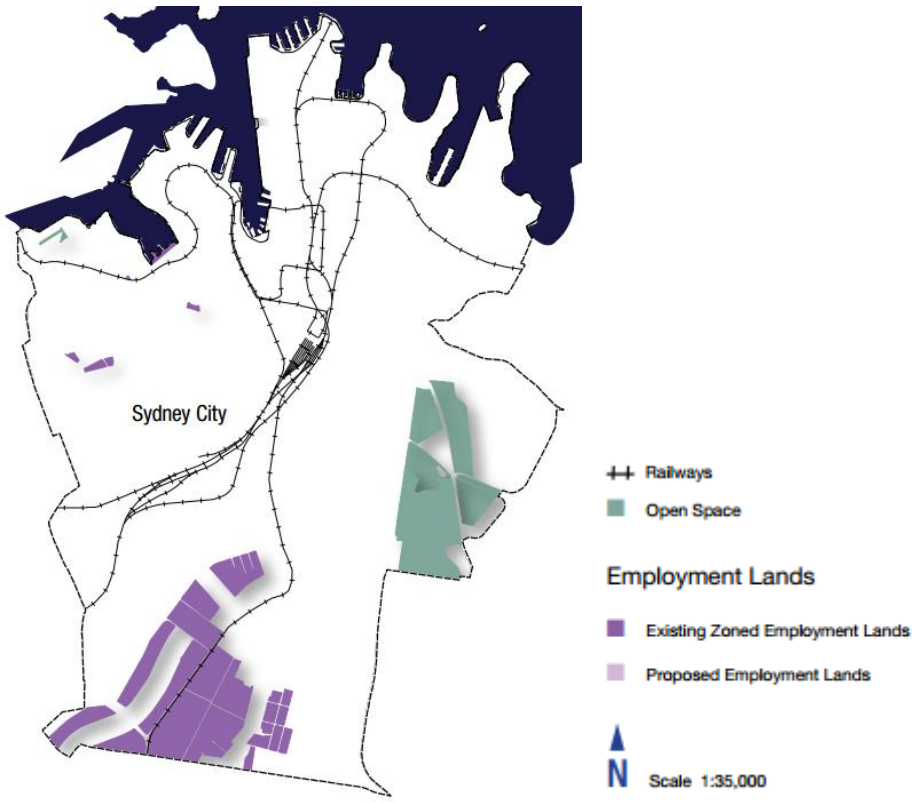
Although based on the 2010 ELDP findings, the Subregional Reports provide information in more detail on the subject areas covered in the *Employment Lands Development Program 2011 – Update Report* for each subregion and the LGAs within each of these.

The *Employment Lands Development Program 2010 – Report 1 Sydney City Subregion* looks at the Sydney City subregion. The report identifies the following key findings and trends for this subregion:

- 154 hectares of existing employment lands (1 percent of the Sydney Region's total stocks).
- 412 hectares have been rezoned between 1987 and 2006 (much of this rezoning was to mixed-use which continues to support significant industrial activity, such as surrounding the Green Square redevelopment area, but is no longer defined as employment land).
- 3 hectares of undeveloped zoned land (less than 1 percent of Sydney Region's undeveloped land).
- $176 million of industrial building approvals between 2001/02 and 2008/09 (3 percent of Sydney Region's total approvals).
- No take-up of employment lands in 2009 and less than a hectare in 2008.
- 19,800 jobs in employment lands in 2006 (4 percent of all employment lands jobs for the Sydney Region and 5 percent of the subregion's total jobs). These jobs are concentrated in the Alexandria industrial area (over 16,950 jobs) and the Rosebery industrial area (close to 2800 jobs). Between 2001 and 2006, the subregion experienced a decline of about 1150 jobs in employment lands.

- 131 jobs per hectare – this is significantly higher than the Sydney Region average (43 jobs per hectare) and is the second highest job density after the Inner North subregion. The Rosebery industrial precinct had a job density of 204 jobs per hectare, while the Alexandria industrial area had a job density of 127 jobs per hectare.
- Manufacturing is the main industry located within the Sydney City subregion employment lands precincts, accounting for 21 percent of all jobs (4200 jobs in total), followed by the wholesale trade sector accounting for 17 percent of all jobs (3500 jobs) and the transport, postal, and warehousing sector accounting for 16 percent of all jobs (3100 jobs).

FIGURE 23. SYDNEY CITY EMPLOYMENT LANDS



Source: Department of Planning and Infrastructure, 2010

Employment lands within the Sydney City subregion are highly utilised due to the relatively limited existing supply and proximity to the Global City and economic gateways of the Port and Airport. As a result, there is virtually no undeveloped land remaining (only just over 2.5 hectares of land, predominantly within Alexandria industrial area, currently undeveloped).

Given limited land availability, no future employment lands have been identified for the subregion. However, potential to regenerate existing employment lands, including development in mixed-use precincts around Green Square, provide new opportunities for a range of industrial and related activity within the subregion.

City of Sydney level

Sustainable Sydney 2030 (2008)

Sustainable Sydney 2030 is the vision and strategic plan for the City of Sydney.

Sustainable Sydney 2030 sets ten targets for 2030. These include targets for 48,000 additional dwellings and 97,000 additional jobs by 2030 with an increased share in finance, advanced business services, education, creative industries and tourism sectors. Additionally, it is planned that by 2030 at least 10 percent of City trips will be made by bicycle, 50 percent by pedestrian movement and that every resident will be within a 10 minute (800 metre) walk to fresh food markets, childcare, health services and leisure, social, learning and cultural infrastructure.

Green Square was identified as one of the ten 'activity hubs'. Core elements of an activity hub include transport interchange, primary school, business centres, library, community space, childcare, wi-fi hotspot, fresh food market, bike parking, health and medical, City of Sydney service centre and a range of optional activity centres, dependent on local character and need.

With regards to Green Square, Sustainable Sydney 2030 plans to:

- promote Green Square as an exemplar of sustainable development
- develop as a residential and employment area
  - introduce an economic development strategy to support development controls to attract and support emerging environmental, creative and knowledge oriented industries
  - replicate the small business and residential mix of Surry Hills
- ensure substantial social community and cultural infrastructure is delivered upfront and acts as a catalyst for further development
- encourage investors, designers, owners and occupiers to add diverse character similar to that found in the City's existing Villages
- provide a variety of employment spaces and residential building types
- provide substantial contribution to the 2030 target of increasing access to affordable housing
- improve access from Rosebery to the Green Square activity hub and maintain long term options for an additional activity hub on Botany Road to support growth and change in the corridor.

The 2030 Vision proposes the Green Square Town centre to be strengthened and supported by the addition of residential, retail and business activities and improved public transport connections. It also proposes that the urban design of development adjoining Green Square will adopt the 'fine grain' character of traditional street patterns to evolve naturally into a vibrant and diverse inner urban community. The 'Connecting Green Square' project idea advocates a long term structure for the southern part of the City that preserves future development potential, allows for the City of Sydney to continue to evolve, and establishes open space corridors from Sydney Park through the Green Square Town Centre to Moore Park.

- Alexandra Canal was identified as a long-term investigation area for renewal, including the long-term potential for conversion of the area to mixed uses with a high proportion of residential in the upper reaches of the canal.

Draft City Plan LEP and DCP (2012)

In September 2005, the *Environmental Planning & Assessment Act 1979* was amended requiring, amongst other matters, councils to prepare a single LEP for each LGA; that a state-wide standard template would be the basis for the structure and content for that LEP; and that only one DCP can apply to each parcel of land.

The Draft City Plan includes the *Draft Sydney Local Environmental Plan 2011* (Draft Sydney LEP) and the *Draft Sydney Development Control Plan 2010* (Draft Sydney DCP). The Draft Sydney LEP was adopted by the Council and the Central Sydney Planning Committee (CSPC) in March 2012 and its making by the Minister is imminent. The Draft Sydney DCP will become operational at that time.

The Draft City Plan was informed by comprehensive consultation with the community and businesses and more than 40 studies and reviews. It supports the objectives of *Sustainable Sydney 2030*; however, it is also cognisant of other policy constraints, such as those imposed by the NSW Government through the Standard Instrument.

The Draft Sydney DCP is the product of a comprehensive program of review and rationalisation of the City's existing DCPs and development policies. It responds to Council's strategic directions outlined in *Sustainable Sydney 2030*, as well as strategic directions in the NSW Government's Metropolitan Plan 2036 and the *Draft Sydney City Subregional Strategy*.

In total, 62 DCPs and development-related policies have been reviewed and consolidated into the Draft Sydney DCP where relevant. To assist in this review process, a number of technical studies and reviews have been undertaken. These reviews include a number of urban design studies undertaken for each of the neighbourhoods within the LGA to identify the existing built form and make recommendations about the desired future character and key development controls.

The Draft Sydney DCP supports the provisions in Draft Sydney LEP and provides more detailed planning controls and guidance for development. It includes detailed provisions related to built form, sustainability and the environment, conservation of heritage items, the design and use of the public domain, landscaping and tree preservation

requirements, transport and access, the achievement of residential amenity and the desired future character of the City's neighbourhoods.

The Draft City Plan, once made, will replace the South Sydney LEP 1998 and South Sydney DCP 1997 that currently apply to the study area. The following key changes to the City's planning controls are relevant to this study:

- revised zoning and land-use table and rationalisation of permissible uses to comply with the Standard Instrument
- changes to zone objectives (see table below)
- rezoning of specific sites
- height and floor space ratio (FSR) controls in the LEP rather than a development control plan
- rationalisation and refinement of land use and built form controls for areas outside of Central Sydney, including the Green Square Urban Renewal Area, the Ashmore Street Precinct and Ultimo-Pyrmont
- revised land use and built form controls for the Southern Industrial Area
- a limit on the size of out-of-centre retail development within the retail catchment of Green Square Town Centre
- new on-site parking controls based on the accessibility of a site
- extension of design excellence requirements to all land covered by the LEP
- introduction of an incentive for the provision of end-of-journey facilities in commercial development
- Rosebery is nominated as a 'Special Character Area'[8].

[8] An area with a unique character where development is subject to particular controls to protect that character.

TABLE 14. ZONE OBJECTIVES

Land use	Objectives
Residential zones	
R1 General Residential	– Provide for the housing needs of the community – Provide for a variety of housing types and densities – Enable other land uses that provide facilities or services to meet residents' day to day needs
R2 Low Density Residential	– Provide for the housing needs of the community within a low density residential environment – Enable other land uses that provide facilities or services to meet day to day needs of residents
Business zones	
B1 Neighbourhood Centre	– Provide a range of small-scale retail, business and community uses that serve the needs of people who live or work in the surrounding neighbourhood
B2 Local Centre	– Provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area – Encourage employment opportunities in accessible locations – Maximise public transport patronage and encourage walking and cycling – Allow appropriate residential uses to support the vitality of local centres
B3 Commercial Core	– Provide a wide range of retail, business, office, entertainment, community and other suitable land uses that serve the needs of the local and wider community – Encourage appropriate employment opportunities in accessible locations – Maximise public transport patronage and encourage walking and cycling
B4 Mixed Use	– Provide a mixture of compatible land uses – Integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling – Ensure uses support the viability of centres
B5 Business Development	– Enable a mix of business and warehouse uses, and specialised retail uses that require a large floor area, in locations that are close to, and that support the viability of, centres – Encourage uses that generate employment and provide facilities and services to the community
B6 Enterprise Corridor	– Promote businesses along main roads and to encourage a mix of compatible uses – Provide a range of employment uses (including business, office, retail and light industrial uses) and residential uses (but only as part of a mixed use development) – Maintain the economic strength of centres by limiting retailing activity
B7 Business Park	– Provide a range of office and light industrial uses – Encourage employment opportunities – Enable other land uses that provide facilities or services to meet the day to day needs of workers – Ensure uses support the viability of nearby centres
B8 Metropolitan Centre	– Recognise and provide for the pre-eminent role of business, office, retail, entertainment and tourist premises in Australia's participation in the global economy – Provide opportunities for an intensity of land uses that are commensurate with its global status – Permit a diversity of compatible land uses characteristic with its global status and that serve the workforce, visitors and wider community
Industrial zones	
IN1 General Industrial	– Provide a wide range of industrial and warehouse land uses – Encourage employment opportunities – Minimise any adverse effect of industry on other land uses – Ensure uses support the viability of nearby centres
IN2 Light Industrial	– Provide a wide range of light industrial, warehouse and related land uses – Encourage employment opportunities and to support the viability of centres – Minimise any adverse effect of industry on other land uses – Enable other land uses that provide facilities or services to meet the day to day needs of workers
Special Purpose Zones	
SP1 Special Activities	– Provide for special land uses that are not provided for in other zones – Provide for sites with special natural characteristics that are not provided for in other zones – Facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land
SP2 Infrastructure	– Provide for infrastructure and related uses – Prevent development that is not compatible with, or may detract from, infrastructure provision
Recreation zones	
RE1 Public Recreation	– Enable land to be used for public open space or recreational purposes – Provide a range of recreational settings and activities and compatible land uses – Protect and enhance the natural environment for recreational purposes

City of Sydney Capacity Study (2008)

In 2008 the City undertook a Capacity Study that measured the 'gap' between the floor space currently available 'as built' and the potential floor space that could theoretically be achieved if the property was developed to the maximum floor space ratio (FSR) control under the prevailing planning instruments. In 2010 the City undertook a supplement study by calculating the additional capacity using the FSR controls proposed under Draft Sydney LEP.

The study demonstrated that after taking into account the anticipated Gross Floor Area for major sites, including the state-controlled Barangaroo, Redfern Waterloo Authority Lands and Carlton United Breweries site, the City's proposed planning controls have the potential to achieve 96 percent of the estimated floor space required to meet the dwelling and workforce targets established under the Draft Sydney City Subregional Strategy and 86.1 percent of the floor space to meet the *Sustainable Sydney 2030* targets. The general approach is to accommodate most growth in the urban renewal areas and in Central Sydney.

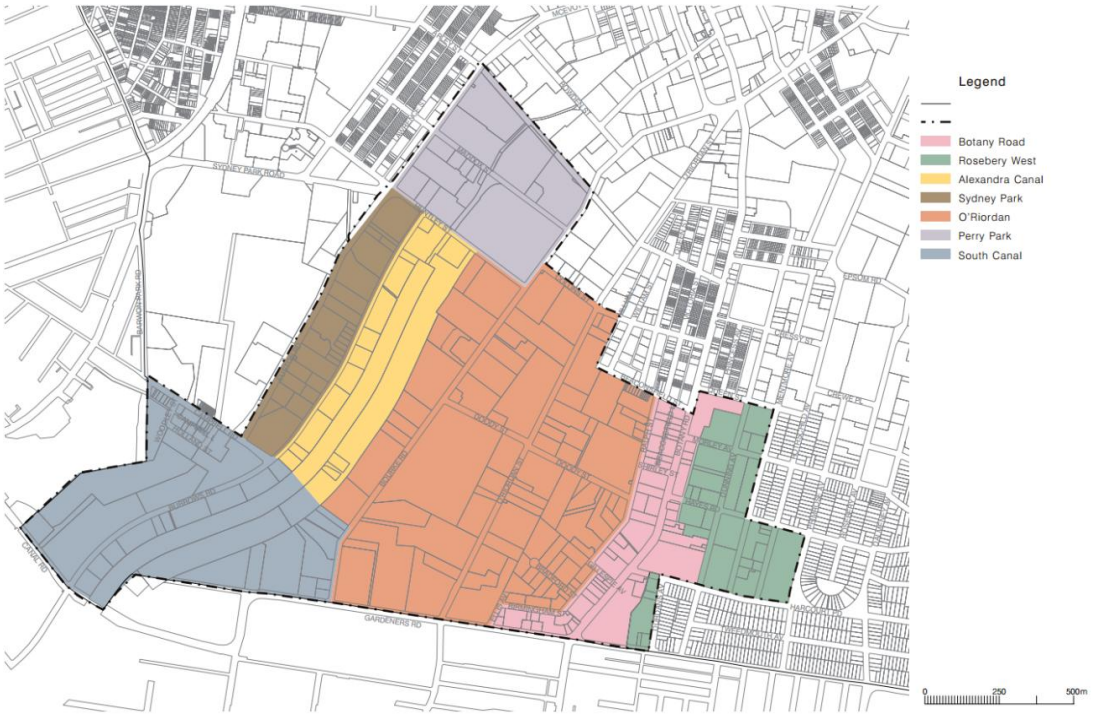
Southern Industrial Area Land Use and Urban Design Review (2008)

The *Southern Industrial Area Land Use and Urban Design Study* (the SIA Study) was publically exhibited by Council in 2008 and its recommendations guided planning controls for the study area in the Draft City Plan. The study recognised the Southern Industrial Area (SIA), which comprises parts of the suburbs of Alexandria, Beaconsfield, Rosebery and St Peters, as a strategically important location between the Sydney CBD, Sydney airport and Port Botany and recommended retaining intact industrial areas, whilst providing better connectivity and amenity in these areas.

The SIA Study considers the past and present land use demands and planning policies which have shaped development in the study area and proposes new zones and consistent with the Standard Instrument (Local Environmental Plans) Order 2006 (the Standard Instrument). A Land Use Structure Plan to fulfil employment and housing objectives for the area was also proposed. The Botany Road corridor was planned to provide for retail and commercial uses to support the existing multi-unit residential character developed under the Mixed Uses zone. Some limited commercial and retail uses were envisioned for the area in the north of the canal corridor. The remainder of the area was proposed to be maintained as industrial land uses with greater controls proposed to restrict commercial and retail development in the area.

The SIA is broken down into seven distinct 'character areas', shown below, with detailed character visions and strategies provided for each of these. This includes consideration of the land use attributable to each area.

FIGURE 24. SIA CHARACTER AREAS



Source: City of Sydney, 2008

The SIA character areas are identified as:

- Botany Road — Mix of land uses providing a shopping and commercial strip with six storey building heights.
- Rosebery West — Light industrial uses with transition built form between low scale residential Rosebery and Botany Road.
- Alexandra Canal — Recreational destination with a mix of uses to revitalise the canal with six storey heights and improved access and linkages.
- Sydney Park — Employment uses with high quality built form on Euston Road to better address Sydney Park.
- O'Riordan — Continuation of industrial nature but with enhanced permeability for vehicles and pedestrian movements and high quality urban form. Bulky goods retailing and motor showrooms are to be restricted to O'Riordan Street frontages.
- Perry Park — Encouragement of creative uses and benefiting from improvements to existing open space and new open space linkages to the canal.
- Canal South — Industrial and warehousing character with development turning towards the canal.

Both short and long-term possible land uses for the areas are considered.

Green Square and Southern Areas Retail Study (2008)

The *Green Square and Southern Areas Retail Study* (Jones Lang LaSalle and Hassell, 2008) for Green Square and the southern areas of the City, including parts of the suburbs of Alexandria, Beaconsfield, Rosebery, Waterloo and Zetland, were commissioned to inform the Draft City Plan LEP and DCP.

The *Green Square and Southern Areas Retail Study* (the Retail Study) was commissioned by the City to provide strategic direction for retail development in the southern areas of the City including the Green Square Urban Renewal Area (URA), the SIA and Rosebery. Key recommendations of the Retail Study include: a retail hierarchy that complements and supports the Green Square Town Centre as a major centre; that the allocation of retail floor space in the Green Square Town Centre be increased to an appropriate quantum; and that any retailing within the Green Square URA and the SIA should be of a minor, ancillary nature outside of the proposed retail centres.

The Green Square Town Centre was identified at the top of the retail hierarchy as the business, retail, community and entertainment hub for the south. The Retail Study recognised that a large workforce in the industrial area of Alexandria generates demand for convenience retail development ancillary to industrial uses. A small centre of up to 1000 square meters in retail floorspace was proposed to serve this population without impacting on other centres in

the retail hierarchy. Based on the centre typology in the Metropolitan Strategy, a small village is a cluster of shops for daily shopping needs.

The Retail Study also identified strategies for managing the development of bulky goods retailing, outlet retailing and ancillary retail development in industrial zones. The Study identified that O'Riordan Street provides the main location within the study area for bulky goods, providing for over 55,000 square meters of bulky goods retailing floorspace. The Retail Study recommended that bulky goods uses be consolidated in O'Riordan Street, with additional minor outlets encouraged in the proposed Danks Street/Crown Square village within Green Square.

Following the public exhibition of the Retail Study, in November 2008 the Council and the CSPC noted the recommendations of the Retail Study would inform the Draft City Plan.

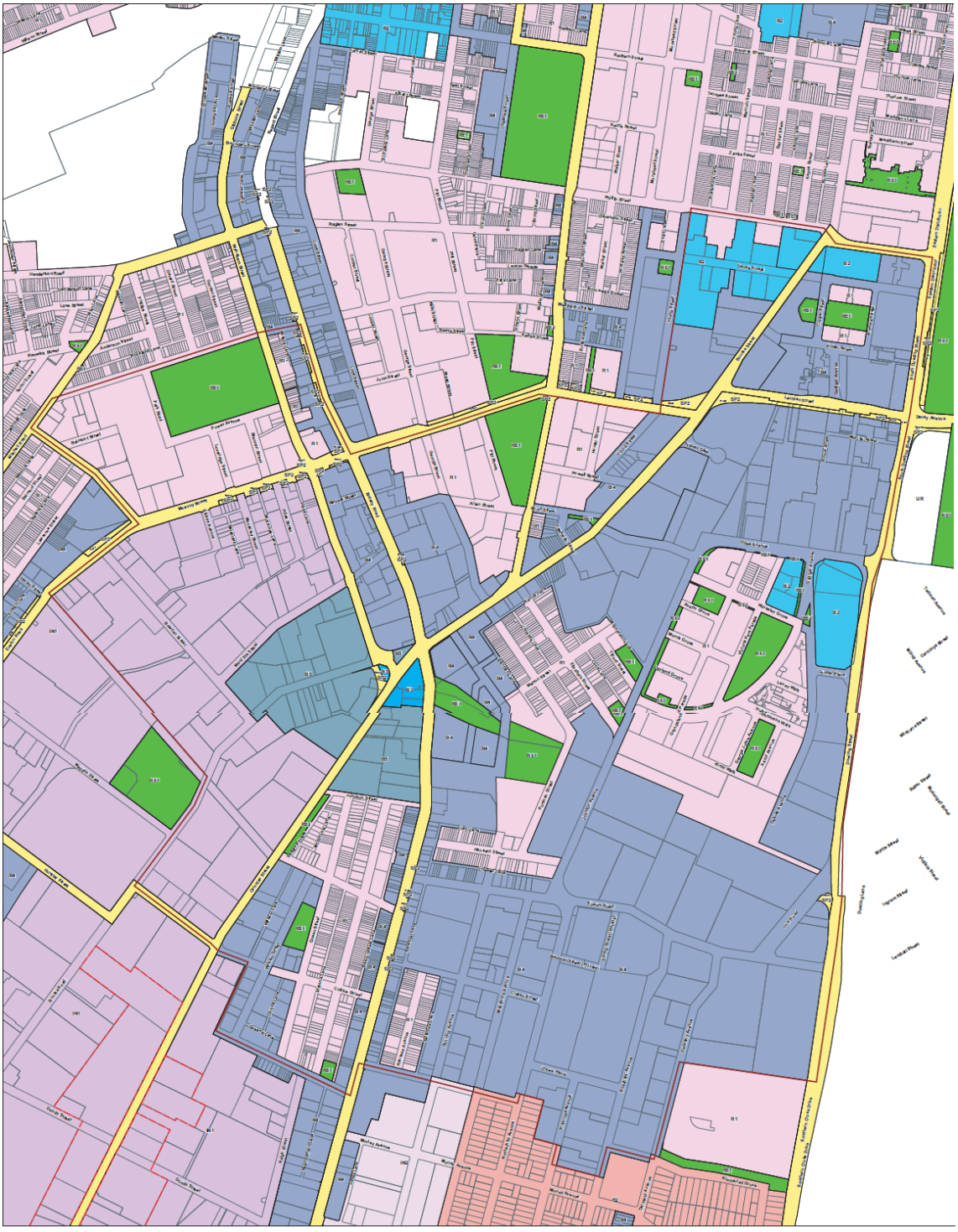
Green Square Urban Renewal Area: Background Paper and City Plan Recommendations report (2008)

The *Green Square Urban Renewal Area: Background Paper* (the Background Paper) collated and reviewed the recommendations of many previous studies relating to the Green Square URA. The proposed controls in the Background Paper, including zoning, height, Floor Space Ratio and DCP controls, are made within the context of *Sustainable Sydney 2030 and* evolving state planning policies and directions.

In July 2008 the Council and the CSPC noted the planning controls proposed in the Background Paper and that those controls would inform the Draft City Plan. The Background Paper was placed on non-statutory exhibition between 22 September and 17 October 2008 and submissions were considered in the preparation of the Draft City Plan.

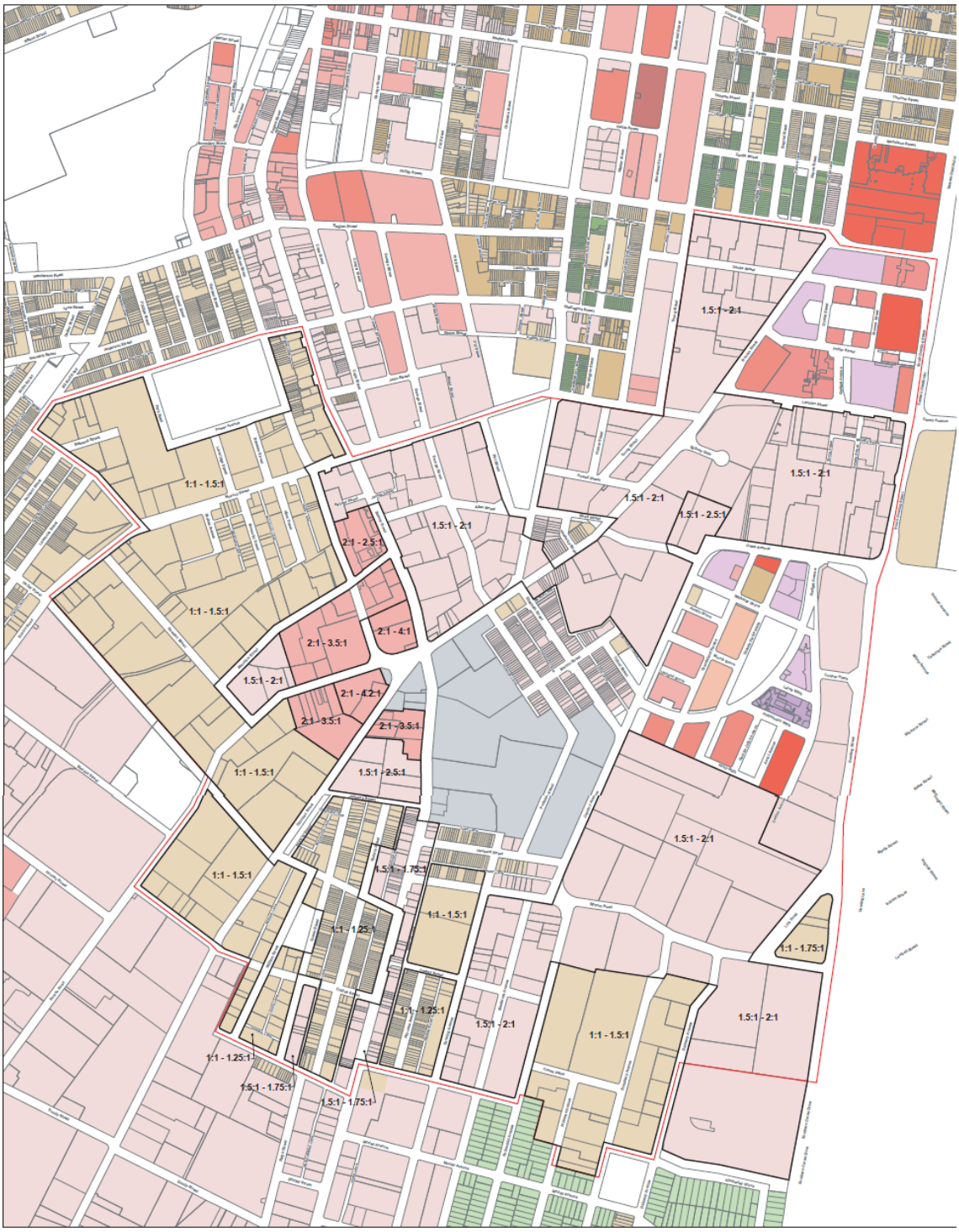
The draft land use recommendations are shown in the following three figures.

FIGURE 25. PROPOSED DRAFT LAND USE ZONES – GREEN SQUARE



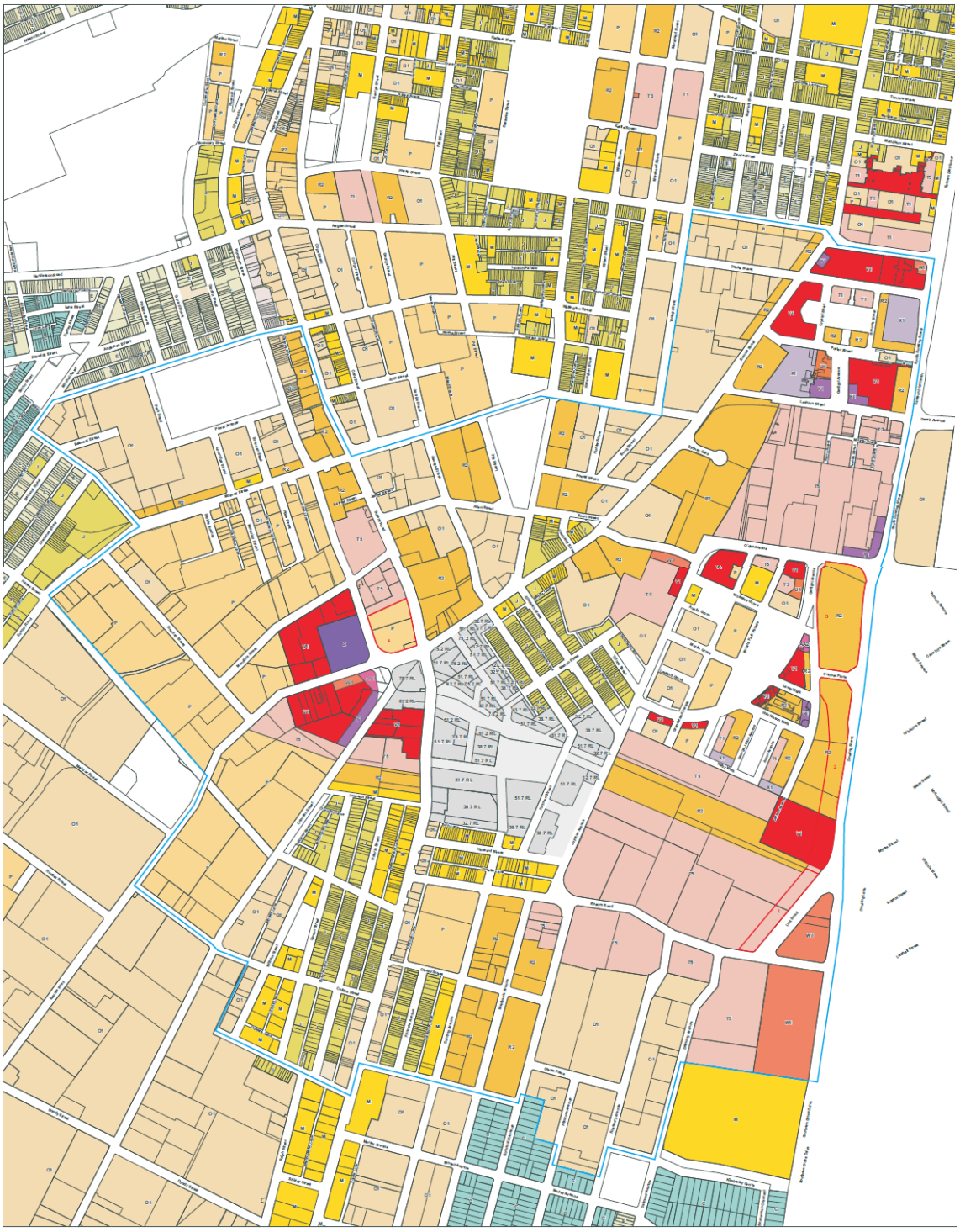
Source: City of Sydney, 2008

FIGURE 26. PROPOSED DRAFT FSR MAP – GREEN SQUARE



Source: City of Sydney, 2008

FIGURE 27. PROPOSED DRAFT BUILDING HEIGHT MAP – GREEN SQUARE



Source: City of Sydney, 2008

Key planning considerations and directions are as follows:

- Green Square contains warehousing, storage, and other economic functions, including local light industry and urban services, as well as airport and port related activities focused on transport and logistics. Many of these uses support City Centre businesses. Proposed zonings need to recognise this important support role the area plays and ensure availability of developable land for larger footplate form for light industrial buildings.
- A growing residential population is generating demand for retail and other uses that serve or support residential uses, for example, cafes and child care facilities. In addition, Green Square can provide opportunities for new industries and employment compatible with residential development, such as those in Danks Street, Waterloo.
- Residential development in Green Square is likely to place further pressure on industrial uses as amenity expectations in the area change.
- It is important to reinforce residential areas with a land use zone that allows wholly residential use and a small proportion of commercial use and compatible support services. Generally, residential uses should be located in areas of high amenity with easy access to parks where residential development is currently occurring.
- It is important to reinforce existing employment in industrial areas (where there are mainly large lots) with a land use zone that allows light industrial use and business services and a small proportion of commercial use. Retaining industrial employment is important in providing a diverse range of jobs in the area and ensuring that employment targets are achieved. These employment areas should exclude residential uses to avoid future conflicts (often arising from resident objections to truck traffic and 24 hour operations).
- It is important to nominate areas for genuine mixed use of commercial (such as business/residential services and showrooms) and residential development.

Proposed Land Use Zoning Map and Land Use Tables are summarised in Table 1514.

TABLE 15. PROPOSED LAND USE ZONING MAP AND LAND USE TABLES

Zone	Description
Zone B4 Mixed Uses	To be applied across the area but with differing desired outcomes. In the redeveloped residential areas, for example 'Crown Square', the mixed uses zoning has been proposed to enable the continuation of associated non-residential (commercial and retail) uses that have been developed under the existing zoning controls. Areas which have been identified as in transition from industrial to residential uses have also been proposed as mixed uses in order to allow appropriate existing uses to continue in the short term whilst enabling the transformation to more residential land uses. These areas include the 'Mid-Block' area bounded by Lachlan Street, Bourke Street, O'Dea Avenue and South Dowling Street, and 'Precinct E' (as defined in the existing Green Square DCP) to the south of 'Victoria Park', north of Epsom Road. Zone B4 Mixed Uses has also been recommended for sites along the main roads through the area, including Bourke Street and Botany Road, and for the sites within the Green Square Town Centre where a mix of commercial, residential and retail uses are proposed.
Zone B5 Business Development	The sites to the south and west of the Green Square railway station are currently zoned 10(d) Mixed Uses which is a predominantly employment mixed uses zone. The zone currently permits a wide variety of business and commercial uses, with limited residential development (up to 15percent of total floorspace). This business and commercial focus is consistent with the proposed B5 Business Development zone which seeks to support the function of the Town Centre.
Zone IN1 General Industrial	The industrial uses are proposed to be focused on the existing employment lands in the western sector of Green Square. This includes the existing industrially zoned land in east Alexandria and the sites to the south of this area, in the south-west corner of Green Square. It is anticipated the zone will be restricted to the provision of industrial uses with ancillary commercial and retail uses only. The permissible land uses will therefore generally seek to prevent large scale commercial or retail uses in this area.
Additional land use related clauses	Specific additional clauses are proposed for inclusion into the City Plan LEP in relation to development within the Zone B4 Mixed Uses. Within Green Square, these seek to ensure that residential uses introduced into existing employment areas (where the area is in transition) will ensure appropriate levels of amenity for the residential uses and not undermine the viability of the existing non-residential use.

Source: City of Sydney, 2008

Whilst the proposed planning controls support *Sustainable Sydney 2030* they are cognisant of other policy constraints, such as those imposed by the NSW Government through the Standard Instrument.

Traffic studies

Green Square TMAP 2008

In 2008, the City of Sydney worked with State agencies to develop a Green Square Transport Management Accessibility Plan (the Green Square TMAP), which will guide the sustainable development of Green Square and the rollout of transport infrastructure and services by the State Government.

The TMAP notes that major arterial roads within the study area, namely Botany Road, O'Riordan Street and McEvoy Street, are operating close to capacity, with above average levels of heavy vehicles due to the industrial activity occurring between the CBD and Port Botany and Sydney Airport and significant queues occurring at intersections during commuter peak periods. Of a total 46 strategic transport corridors identified by Transport for NSW, the bus corridor running from Sydney Airport to Sydney CBD is classified as one of six with high constraints. Council believes that the issue of traffic congestion in the area could be improved through the construction of an M4 East extension and upgrading of the intersection of Lachlan Street with South Dowling Street.

Aims of the TMAP include achieving a reduction in car based travel (with targets consistent with the *Sustainable Sydney 2030* vision), positively contributing to Green Square as an exemplar of sustainable development, and positively contributing to the viability of future development. It is noted that:

> Previous traffic studies identified that future local and regional traffic growth through the Green Square area would result in significant delays to vehicles at many intersections. Increasing the capacity of the local road network through widening or access control would reduce future local amenity. Excessive traffic generation from the Green Square area itself could also reduce the efficiency of movement between the ports and the CBD. To avoid significant road upgrades, which might only provide temporary congestion relief, an objective to minimise car trip generation from current and new residents and businesses is a key part of the Green Square Plan. Walking and cycling trips are to be encouraged and public transport is intended to be the preferred commuting mode for destinations on the network.

A number of transport measures to achieve the mode share targets for the area are identified, and include:

- the continued bus priority investment in the key transit corridor along Botany Road (Strategic Bus Corridor 21: Miranda to CBD) and a new transit corridor connecting Green Square with Central station, as well as changes to bus routes serving Green Square
- considering opportunities for a 'Green Loop' concept connecting Green Square, Central, Redfern train station and Surry Hills
- prioritising regional cycling connections and enabling local cycling corridors to become extensions of key, CBD based routes
- allocation of road upgrades based on enhancement in the performance of transit modes
- reinforcement of the preferred road hierarchy in the area by constraining traffic levels on local streets to improve the safety and amenity for pedestrians and cyclists.

Since the adoption of the 2008 TMAP, the City of Sydney and Department of Planning and Infrastructure projections of employment and population have significantly increased. A Botany Road Corridor Action Plan has also been developed. An updated 2012 Green Square TMAP is currently under review and expected to be released within the next quarter. The new TMAP incorporates updated transport demand forecasts which reflect the significant growth expected in the area, specify new targets and identify actions for meeting those targets.

Mascot Town Centre Precinct TMAP 2012

The Mascot area has been identified as a future Town Centre by the Sydney Metropolitan Plan 2036, and 'large development sites, limited land ownership and proximity to the Mascot Station all combine to provide extensive redevelopment potential in preference to sporadic development elsewhere'. However, the anticipated increase in traffic, coupled with major activities nearby such as Sydney Airport, Port Botany and industrial areas, has the potential to limit growth in the area. As a result, a Transport Management Accessibility Plan (TMAP) was prepared for the Mascot Station Precinct.

The TMAP states that the arterial road network in the area carries high through-traffic volumes to and from the Sydney Airport and Port Botany. Many of the main roads mentioned are within the study area, including Botany Road, Gardeners Road and O'Riordan Street. Of note are the following:

- the Gardeners Road/ Ricketty Street corridor carries an average weekday traffic volume of 32,400 and is operating close to capacity during the evening peak period
- the Bunnings Warehouse on the northeast corner of the Gardeners Road/Bourke Road intersection is a major traffic generator
- O'Riordan Street north of King Street is carrying an average weekday traffic volume of 48,200 vehicles with a heavy vehicle proportion of 11 percent
- heavy vehicle movements raise safety concerns for pedestrians on Bourke Road – a critical pedestrian link.

Given that it would not be cost effective to widen these main roads, higher public transport usage will be necessary.

Development scenarios were modelled and estimate that employment in Mascot could grow by between 58 percent and 82 percent[10], in addition to population increases of 262 to 307 percent. Assuming the implementation of three new high frequency bus routes within the TMAP area and construction of the M5 East Extension by 2021, the recommendations to enable the area to accommodate this growth and achieve the targeted mode share of 57 percent car and 43 percent public transport include the following:

Public transport initiatives	– Provision of a bus terminal along Bourke Street, close to the Mascot Station – Improvements of bus operations on the City to Miranda bus route, which will run along Botany Road through the study area – Construction of bus lanes along Bourke Street, bus priority lanes at the Gardeners Road/ Bourke Street intersection and long term bus priority measures along Coward Street – Implementation of bus lanes along the section of Bourke Street between Church Avenue and John Street in the medium/long term
Pedestrian and cyclist access	– Implementation of 40 km/h speed zones, along Bourke Street and Coward Street to facilitate pedestrian amenity – Extension of the Bourke Road/Street cycleway to complete the missing link in the regional cycleway network between Sydney CBD and Sydney Airport – Improvement of existing pedestrian and cyclist provisions and implementation of additional footpath and shared path connections, including provision of improved crossing facilities at key locations to ensure connectivity of the network

Road network improvements	– Intersection improvements, to increase capacity and provide opportunities for implementation of bus priority measures and provide improved pedestrian/ cyclist crossings at the following intersections:
	  – Gardeners Road /Bourke Street including realignment of Bourke Street
	  – Gardeners Road /O'Riordan Street
	  – Gardeners Road/Botany Road
	  – Coward Street/Kent Road
	  – Bourke Street/Coward Street
	  – Reconfiguration of Church Avenue at its intersection with Kent Road

Management of on-street parking	– Removal of on-street parking at selected locations close to major intersections during peak periods to reduce capacity issues on the road network. Short-stay restricted parking could be introduced outside the peak periods to facilitate future retail and commercial land uses.
Measures for new developments	– Requirement for new developments to submit and implement Workplace Travel Plans to encourage sustainable travel mode choice to/from the TMAP Study Area – Reduction in parking provision rates for residential and commercial developments

NSW Transport Masterplan – Discussion Paper 2012

The NSW government is in the process of preparing a long term transport management plan to identify the next set of priorities for transport, identify how the future needs of customers will be met, and ensure a competitive and sustainable transport strategy is in place to support the state's development over the next 20 years. A discussion paper was released in February 2012 examining key transport issues, challenges and opportunities for Sydney and

[10] Assuming redevelopments to FSR 3:1 and 3.5: 1 respectively

the regions taking into account the need to support population increases, job creation, economic growth and land use strategies.

The government's vision for transport is to:

- ensure that the transport meets the needs and expectations of the customer
- ensure that the transport system of the future is fully integrated by ensuring that planning, policy and regulation occur in one place
- grow patronage on public transport by making it a more attractive choice
- maintain and improve a comprehensive network of smooth-flowing roads in metropolitan, regional and rural NSW
- enable the transport system to support the economic development of the State with a particular focus on improving the coordination of freight
- promote coordination and integration across all transport modes and all stages of decision-making
- provide clean, reliable, safe, efficient and integrated transport services
- ensure that the transport system of the future will be strategic and multi-modal, serving the needs of all customers whatever the purpose of their journey.

Of particular relevance for the study area is the focus on corridor strategies:

> Corridor strategies and an interchange strategy are needed to join up and integrate networks. The corridor strategies should consider how the transport system might evolve in a corridor as passenger numbers grows. Major centre and precinct access plans, such as for Port Botany and Sydney Airport as well as the northern end of the Sydney CBD, will assist with planning transport systems within these centres. They will also identify how all the centres can be more effectively connected to each other.

Airport and port

Sydney Airport accounts for around 45 percent of Australia's international passenger movements and airfreight tonnage and Port Botany is Australia's second largest container port. Activity at the airport and port is forecast to double over the period to 2036. The increase in traffic movements from both the airport and port, in addition to increased demand on road and rail corridors due to residential and employment growth, will place additional pressure on the ground transport networks that feed these gateways. Accommodating movements between Sydney Airport, Port Botany and Western Sydney will be particularly difficult on existing networks, but is essential to support growth in the State's economy.

Road networks

Sydney's road system and the motorway network are essential to the economic development of Sydney and NSW; providing access to jobs and links to Port Botany and Sydney Airport, and supporting the major freight task required to service the needs of the wider region. The discussion paper notes that to do this effectively, the motorway network must be well connected to the major traffic generating precincts and have the capacity to meet the demand for trips that can only be made by car. The network currently lacks a motorway connecting the growing employment lands and population along the M4 with the CBD, Port Botany and Sydney Airport.

Duplicating the M5 East would alleviate congestion near Sydney Airport and Port Botany. As the traffic on major arterial roads increases, new measures to manage congestion could include:

- clearways on more roads, operating for longer hours and on weekends
- the removal of parking on major arterial roads and priority for freight vehicles on the main freight corridors
- allocating more road space to buses or light rail to increase the number of people passing through the system
- road pricing, which may discourage car use and increase public transport patronage
- offering priority to vehicles with multiple passengers to increase the efficient use of cars.

Rail

The Southern Sydney Freight line is under construction and will support the development of Port Botany by establishing a dedicated rail link between Port Botany and Macarthur; allowing the movement of freight at any time and providing greater efficiency for both commuter and freight services.

APPENDIX B: FLOORSPACE BY INDUSTRY CATEGORIES

The following industry groupings were used to generate the floorspace by industry maps shown in Section 3.4.

TABLE 16. INDUSTRY CATEGORIES BY SPACE USE CODE

Category	Included uses
Freight and logistics – Transport and storage	Road freight depot Railways goods yard Parcel delivery/mail sorting depot Container depot Rail freight depot Air freight depot Shipping wharf Loading dock Mechanical handling places (lift, elevator, conveyor) Goods terminals n.e.c. Bus station Light rail/monorail/tram station/platform Railway station/platform Ferry wharf Airline terminal Passenger terminals n.e.c. Rail signal box Traffic signal control Air traffic control tower Harbour control tower Turnstyle Light rail/monorail/tram station/platform – external Railway station/platform – external Traffic control devices n.e.c. Bus depot Taxi depot Specialist fleet depot Rail stock/marshalling yard Railway locomotive shed Ferry/water depot Marina Aeroplane hangar Heavy vehicle parking Bonded stores Wharf storage Wholesale and retail goods storage Goods handling/packing Cold storage Liquid storage Petroleum storage Livestock storage Bulk storage Raw materials storage External storage Department store storage
Factories and laboratories	Factory area Industrial/scientific laboratory
Studios and industrial workshops	Printing workshop Film processing

Category	Included uses
	Art/craft studio Electrical building services workshop Building contractors workshop Maintenance workshop Film and video production studio Audio/radio production studio Industrial n.e.c.
Service industrial	Repair service (workshop) Industrial laundry/dry cleaning Motor vehicle/tyre garage Hotel laundry
Office	Administrative offices – partitioned Administrative offices – open plan Shared office ('hot' desk) Drafting/graphics offices Financial – dealing room Stock exchange
Retail – Centre based retail	Variety store Retail shop Business equipment supplier Personal services shop Repair shop (counter-only) Counter Art/craft gallery Laundromat
Retail – Dispersed retail	Retail shop – ancillary use/change rooms Stand/kiosk/stall/booth Restaurant Cafe/coffee lounge Staff canteen Ancillary dining room Function/reception centre Hotel/tavern/bar Outdoor eating/drinking area Pavement eating/drinking area Kitchen – restaurant/cafe Serving counter (with seating) Food court Food counter Vending machine Restaurants n.e.c.
Retail – Retail big box	Department store Supermarket
Retail – Showrooms	Retail – showroom Shop/showroom n.e.c.
Urban services	Electricity regulations substation (within building) Other electricity supply and generation Gas supply/generation Water pumping/regulation/treatment station Sewerage pumping/regulation/treatment Refuse and solid waste disposal centre Liquid waste disposal centre Telephone plant/switch room (within building) Telephone exchange plant Comms room Transmitting/receiving station/radio room Mail centre/delivery room (purpose-built) Utility areas n.e.c.
Vacant	Vacant office

Category	Included uses
	Vacant shop/showroom
	Vacant storage
	Vacant entertainment/leisure
	Vacant restaurant
	Vacant community
	Vacant accommodation
	Vacant industrial
	Vacant n.e.c.

Source: SGS Economics and Planning, 2012

APPENDIX C: LAND USE SUITABILITY

Spatial requirements of particular land uses

Broad spatial requirements for land uses relevant to the study area are detailed in the table below.

TABLE 17. LAND USE CATEGORIES AND SUITABLE SPATIAL ATTRIBUTES

Land use	Description	Location requirements
Freight and logistics (FL)	Warehousing and distribution activities: includes buildings with a number of docking facilities, 'hard stand' areas with trucks or goods awaiting distribution, and large storage facilities	Warehousing and distribution is a metro level issue with activities preferably locating close to air, sea and inter-modal inland ports, or with access to the motorway system.
Local light industrial (LL)	Car service and repair, joinery, construction and building supplies, and domestic storage	Includes a wide range of businesses that service other business (components, maintenance and support) and subregional populations. Local light industry is drawn towards the populated areas, will require reasonable access to arterial infrastructure and can be found in on the edge of centres of all sizes in industrial zones areas.
Heavy manufacturing (MH)	Large scale production activity: likely to be characterised by high noise emission, emission stacks, use of heavy machinery, and frequency of large trucks	Heavy manufacturing is best positioned in industrial areas away from populated areas given its impacts. It will often require motorway access and access to a rail spur. Heavy manufacturing is in decline in Sydney, but will continue to cluster in some locations. There are strong arguments for collocation in terms of raw material delivery and to concentrate externalities (though impacts on surrounding uses are generally moderate).
Light manufacturing (ML)	Small scale production with lower noise and emission levels than heavy manufacturing	Light manufacturing is less likely to be found in populated areas and requires proximity to motorway on/ off ramps. Suited to industrial areas but with a lower requirement for distance from population than heavy manufacturing.
Office (O)	Office buildings	Office uses are heavily influenced by transport accessibility and as a result the most suitable areas are clustered around designated centres – especially those on transport nodes and with railway stations to provide good accessibility for office workers.
Bulky goods retail (RBG)	Typically large, one-story buildings surrounded by car-parking	Bulky goods retail is generally dependent on arterial road access and high visibility but also requires large lots. Usually located out of centre and in high exposure (main road) locations.

Source: SGS Economics and Planning, 2012

Land ranking criteria

In order to rank the study area according to suitability for particular land uses, SGS used available GIS data to observe (as far as possible) the broad spatial requirements described above. The actual criteria used to rank areas are described in the table below.

A layer of shading is added to the map for each criterion met. For example, for heavy manufacturing, layers of shading are added if land is zoned for industrial uses, or is within 2 kilometres of a motorway ramp or 800 metres of an arterial road. However, land is shown as unsuitable for this use if it is located within 1 kilometre of the edge of a population centre. For office suitability, a layer of shading is added if land is within the boundaries of centres larger than a town centre, if land is zoned for university or hospital uses, and if it is within 800 metres of arterial roads or rail stations.

Land that does not fill any of the criteria for a particular land use will be shaded grey. Land meeting some criteria will be a light green showing some suitability for this use. Where multiple criteria are met, a number of layers of shading are added and the resulting solid green shows strong suitability for the land use being considered.

The maps resulting from this assessment are following.

TABLE 18. LAND RANKING CRITERIA

	Population	Type of centre	Industrial lands	University lands	Hospital lands	Maximum distance from:			
						Motorway ramps	Arterial roads	Rail stations	Airport /port
FL	Minimum: edge of centre, no maximum	Proximate to any centres (except major or above)	Yes	Yes	Yes	2km	800m	800m	3km
LL	Minimum: in centre, maximum: edge of centre	All centres	Yes	Yes	Yes		800m	800m	
MH	Minimum: 1km from edge of centre, no maximum		Yes			2km	800m		
ML	Minimum: in centre, no maximum	All centres	Yes	Yes	Yes	2km	1.5km	800m	
O	Minimum: in centre, maximum: edge of centre	Specialised, regional, major, or town centre		Yes	Yes*		800m	800m	
RBG	Minimum: in centre, maximum: edge of centre	Specialised, regional, major, or town centre, or village					200m	800m	

Source: SGS Economics and Planning, 2012

*Offices in hospital lands are assumed to the related to hospital uses, not stand-alone.

Land use suitability maps

FIGURE 28. LAND SUITABILITY FOR FREIGHT AND LOGISTICS

Source: SGS Economics and Planning, 2012

FIGURE 29. LAND SUITABILITY FOR LOCAL LIGHT INDUSTRY

Source: SGS Economics and Planning, 2012

FIGURE 30. LAND SUITABILITY FOR HEAVY MANUFACTURING

Source: SGS Economics and Planning, 2012

FIGURE 31. LAND SUITABILITY FOR LIGHT MANUFACTURING

Source: SGS Economics and Planning, 2012

FIGURE 32. LAND SUITABILITY FOR OFFICE USES

Source: SGS Economics and Planning, 2012

FIGURE 33. LAND SUITABILITY FOR RETAIL BULKY GOODS

Source: SGS Economics and Planning, 2012

APPENDIX D: PHONE SURVEY RESPONSES

TABLE 19. LENGTH OF TIME ON CURRENT SITE

	% of responses
< 1 year	7.9
2 to 5 years	33.0
6 to 10 years	27.6
11 to 20 years	23.6
> 20 years	7.9
Total	100

Source: SGS Economics and Planning, 2012

TABLE 20. PROPORTIONS OF SUPPLIERS BASED IN SYDNEY (%)

	Alexandria	Elsewhere in City of Sydney LGA	Elsewhere in metropolitan Sydney
0 to 5%	49.8	51.7	41.9
5 to 10%	12.3	8.4	7.4
10 to 20%	7.4	6.9	9.4
20 to 40%	5.9	11.3	10.8
40 to 50%	11.3	8.9	6.9
50 to 60%	1.0	3.0	3.9
60 to 80%	6.4	3.4	8.9
80 to 90%	1.5	0.5	3.0
90 to 100%	2.0	3.0	5.4
No response	2.5	3.0	2.5
Total	100	100	100

Source: SGS Economics and Planning, 2012

TABLE 21. PROPORTIONS OF CUSTOMERS BASED IN SYDNEY (%)

	Alexandria	Elsewhere in City of Sydney LGA	Elsewhere in metropolitan Sydney
0 to 5%	42.4	30.0	29.1
5 to 10%	11.8	13.8	12.8
10 to 20%	9.4	10.3	14.3
20 to 40%	9.9	14.8	10.8
40 to 50%	5.4	9.4	6.4
50 to 60%	3.4	6.4	3.0
60 to 80%	9.4	7.9	6.4
80 to 90%	2.5	1.5	6.4
90 to 100%	2.5	2.5	6.9
No response	3.4	3.4	3.9
Total	100	100	100

Source: SGS Economics and Planning, 2012

TABLE 22. LIKELIHOOD OF RELOCATING IN THE NEXT 5-10 YEARS

	% of responses
Not likely to relocate	**65.5**
Main reason for decision:	
own business, premises	21.1
happy here/ like it here	18.0
prime position/ location	15.8
cost or hassle of moving	6.8
suits type of business/ services	6.8
don't know	6.8
already established	6.0
have a long term lease	6.0
client base	6.0
just moved to area	3.0
no response	3.0
none/nothing	0.8
Likely to relocate	**34.5**
To:	
unsure	32.9
immediate area	31.4
neighbouring area	14.3
City	5.7
City of Sydney LGA	4.3
out of the area	4.3
Eastern Sydney	2.9
Western Sydney	2.9
closing	1.4
Main reason for decision:	
growth/ business expansion (require larger premises)	25.7
the lease will expire	11.4
high or increasing rent	11.4
the location	11.4
traffic	5.7
don't like it here	5.7
parking	5.7
don't know	5.7
for a change	4.3
want to buy my own premises	4.3
not enough trade/ business not doing well	2.9
change of business	2.9
downsizing of business (to smaller premises)	2.9

Source: SGS Economics and Planning, 2012

TABLE 23. IMPORTANCE OF VARIOUS FACTORS (% OF RESPONDENTS)

	1 (not at all important)	2	3	4	5	6	7	8	9	10 (essential)
Proximity to port or airport	25	9	11	2	16	5	6	9	3	12
Proximity to the CBD	12	7	7	7	19	6	11	15	6	9
24 hour operation	46	9	7	5	15	0	2	7	2	5
Separation from sensitive uses	24	10	9	4	24	7	8	5	4	4
Access to shops and services	11	7	7	3	22	10	12	18	4	5
Public transport access	8	5	1	2	12	7	10	22	10	22
Proximity to suppliers	20	8	8	5	18	9	11	8	4	8
Proximity to customers	9	2	4	4	16	5	9	16	6	28
Truck access	17	5	3	1	8	3	11	17	8	27

Source: SGS Economics and Planning, 2012

TABLE 24. CURRENT OPERATIONAL ISSUES

	% of responses
No issues	**35.0**
Issues	**65.0**
Of these, main issue is:	
lack of parking	29.5
cycle lane	13.6
ability to expand	9.1
truck access	7.6
traffic	7.6
access	7.6
lack of public transport	6.1
neighbour disputes	4.5
lack of work	3.8
no response	2.3
speed humps	1.5
lack of local shops	1.5
other	1.5
staff	0.8
rubbish	0.8
noise	0.8
the area becoming more residential	0.8
don't know	0.8
Total	100

Source: SGS Economics and Planning, 2012

TABLE 25. SUGGESTED IMPROVEMENTS FOR THE AREA

	% of responses
More parking	37.5
None: happy with the area	11.3
Don't know	8.8
Better roads	7.5
Better traffic flow	6.3
Higher local population	6.3
Removal of bike lane	5.0
More shops and cafes	5.0
More public transport	2.5
Cleaner area	2.5
Better security	2.5
Faster internet	1.3
More parks/playground/swimming pool	1.3
More crossings	1.3
No response	1.3
Total	100

Source: SGS Economics and Planning, 2012

APPENDIX E: CITY PLAN SUBMISSIONS

A more detailed summary of the City Plan submissions relevant to this study is provided below.

Address	Southern end of Bourke Road, Alexandria
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN1 – General Industrial

Summary

Zoning
The submission indicated that the proposed IN1 General Industrial zone is inappropriate for the precinct, as:

- it is based on poor assumptions concerning the location of industry and ignores local trends
- it does not reflect the area's changing nature and removes the flexibility required to manage market demand
- conventional industry is unlikely or cannot be established within this site for economic reasons
- it reduces the capacity of the area to increase employment outcomes, and restricts new investment and employment opportunities when compared to a wider range of business and commercial uses.

The submission indicated that B5 Business Development zone would be more appropriate to the precinct as it:

- will maximise employment and opportunities for enterprise growth
- reflects the diversity of activities in the SIA and encourages investment in high value added activities
- will support centres in the area (Green Square and Mascot) as traditional forms of retailing are prohibited.

Public transport: rail link
The submission suggested that the City of Sydney should revisit the potential for new railway capacity around the corner of Doody and Bourke Streets.

Retail floorspace limits
The landowner objects to the imposition of Clause 7.23 (which limits the size of retail premises outside of centres to a gross floor area of 1000 square metres) for the subject site and wider area, as it is inconsistent with competition principles and is not supported with background studies.

DCP: street network and setbacks
The submission objects to the alignment of the proposed street that traverses through South Sydney Corporate Park (SSCP), for which the tenure is unclear. It is suggested that this alignment will significantly impact existing buildings within SSCP, require demolition of a number of buildings, force relocation of current businesses, constrain future development and result in the loss of high voltage infrastructure. The submission recommends an amendment to the dSDCP to remove the proposed street network traversing the Corporate Park.

The landowner objects to the proposed setbacks (build to street alignment requirement along O'Riordan St) and the 10 metre setback along both sides of the existing open drainage channel, as it is argued that these will significantly reduce the amount of developable land on site.

Bulky goods uses on O'Riordan Street
It was argued that prohibiting bulky goods uses will force reliance on existing use rights, which will potentially place at risk the successful continuation and consolidation of existing businesses and services they provide.

Address	Southern end of Bourke Road (beside canal), Alexandria
Current zone	Zone 10 – Mixed Uses and Zone 4 – Industrial
Proposed zone	Zone B7 – Business Park and Zone IN1 – General Industrial

Summary

Zoning
The landowner has concerns about the adverse implications of the proposed B7 Business Park and IN1 General Industrial zones. It was suggested that the proposed zones prohibit many commercial, retail and residential uses currently permitted under the current No.10 Mixed Uses zone. The landowner indicated that the B4 Mixed Use zone is the most logical and appropriate zone for the site and east of the canal. It is suggested that part of the site be rezoned from IN1 General Industrial to B5 Business Development to reflect the existing land use pattern.

Height and floor space ratio (FSR)
The landowner suggests that the height controls of 18 metres and 22 metres do not correlate with FSR controls for the site. It is argued that the 'blanket approach' to height control of four storeys should be revised with a higher built form to be permitted, particularly along the canal.

Active frontages
The submission suggests that the active frontages are considered to be inappropriate for a business or industrial zoned area and should not be mandatory in the area.

Car parking
It is argued that the controls are too inflexible and do not permit merit based assessment, and that the car parking controls should be used as a guide only.

Address	Rosebery Residents Action Group (RRAG)
Current zone	Zone 10 – Mixed Uses
Proposed zone	Zone B6 –Enterprise Corridor and Zone IN2 – Light Industrial

Summary

The RRAG have the concern that the zoning and heights in the SIA and Green Square are being reviewed in isolation from one another.

The RRAG generally supported the following initiatives from the dSLEP:

- retention of light industrial zone and introducing light industrial zone for Rosebery West. Supportive of initiative to maintain employment land adjacent to residential areas
- proposed gentrification and activation of Alexandra Canal
- improved transport access and options throughout the area
- development of a transport corridor utilising industrial roads O'Riordan Street and Bourke Road, in turn reducing heavy traffic along Botany Road
- higher built form along Gardeners Road, west of Botany Road
- appreciation of the value of trees in Mentmore Avenue and Council's initiatives to 'unify' streets with the same species.

Height and FSR controls
The RRAG argue that it is unacceptable that height and FSR increases are based on examples of past breaches of Council's height and FSR controls. They also have concerns about definition for achieving maximum FSR, suggesting that it is easy to interpret the requirements in multiple ways. They go on to argue that height increase for the Botany Road 'character area' and in transition zone in Rosebery West will have unacceptable amenity impacts, although height increases along Gardeners Road, west of Botany Road, were generally supported.

Zoning
The RRAG object to the extension of the B4 Mixed Use zone along the eastern side of Botany Road and the block bound by Hayes, Dunning, Harcourt and Botany, the area adjacent to Gardeners Road Public School, Rosebery Childcare Centre and Durdans Avenue and Rosebery West. They indicate that the proposed mixed use zone might destroy the character and amenity of low-rise residential areas. RRAG suggest that development controls should be created that limit the amount and location of residential development within the mixed use zone. They advocate the IN2 zone.

Road network, traffic and transport
The submission supports a finer road network through the SIA. It suggests that there are existing problems with heavy vehicles travelling through residential areas and that weight restrictions should be implemented on residential roads to ensure access for heavy vehicles is maintained via non-residential corridors. RRAG also express doubts about the logistics and timing of the planned Doody Street extension.

Heritage
They indicate that the City Plan should provide protection for, and retain, heritage and significant buildings. They

suggest that future development on these sites may result in the demolition of these buildings or insensitive additions.

Address	Southern end of O'Riordan Street, Alexandria
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN1 – General Industrial

Summary

The landowner is concerned that the IN1 General Industrial zone will prohibit uses that are currently permitted; does not reflect the predominance of bulky goods retailing and vehicle showroom businesses in the area, and will constrain future use and redevelopment and impact employment generation. The B5 Business Development zone is suggested for the site, with 'bulky goods premises' and 'vehicle sales and hire premises' as permissible uses.

The submission also argues that retail floorspace limits are anti-competitive, given that they prohibit larger retail formats within an extensive area. It also raised the uncertainty surrounding the application of this control.

The submission suggests that the requirement for a 10 metre landscaped stormwater channel setback along the northern edge is unnecessary, inappropriate and will constrain and sterilise the re-development of the rear portion of the site. It argues that there is no adequate compensation contained within Council's Section 94 plans for providing this public benefit, or FSR and height bonuses to compensate for the loss in development potential.

Address	Corner of Gardeners Road and O'Riordan Street, Alexandria
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN1 – General Industrial

Summary

The submission objects to the proposed IN1 General Industrial zone and indicates that the new zone would affect the viability and use of the sites.

Address	Huntley Street, Alexandria
Current zone	Zone 10 – Mixed Uses
Proposed zone	Zone B7 – Business Park

Summary

The landowner objects to the proposed B7 Business Park zone, arguing that it constrains the future renewal of the canal; inconsistent with the Sustainable Sydney 2030 vision. It is suggested that a B4 Mixed Use zone will allow a more viable range of uses that will assist with the future renewal of the precinct.

Address	Southern end of Botany Road, Rosebery
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN2 – Light Industrial

Summary

The submission argues that the proposed IN2 Light Industrial zone will encourage uses with lower employment yields and fewer opportunities for active street frontages and prevents the site from realising Council's vision for this area. Similarly, it indicates that the IN1 General Industrial zone is more restrictive than the B6 Enterprise Corridor and that a majority of the prohibited uses are employment generating uses. The landowner therefore suggests that the B6 Enterprise Corridor is a suitable zone as it enables a wide range of employment generating land uses that will have the least impact on adjacent residential development.

Address	Botany Road, Rosebery
Current zone	Zone 10 – Mixed Uses
Proposed zone	B6 – Enterprise Corridor

Summary

The landowners agree with proposed 22 metre height control for the site, but suggest that an increase in FSR from 2:1 to 2.5:1 would be more suitable to reflect the development potential of the site, and support a built form that is compatible with the existing and desired future character of the area.

Address	O'Riordan Street near Doody Street, Alexandria
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN1 – General Industrial

Summary	The landowners object to the IN1 General Industrial zone for the site. They argue that it represents a 'down zoning' of land, is inconsistent with existing character and fails to recognise the imperative for maximising job growth in the global economic corridor. The submission suggests that there has been no strategic justification for the restriction of bulky goods in the industrial zone and propose that the site be zoned to B5 Business Development or B6 Enterprise Corridor to enable continuation of bulky goods premises.
Address	Dunning Avenue near Morley Avenue, Rosebery
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN2 – Light Industrial
Summary	The landowner objects to the reduction of land uses currently permitted under the existing Zone 4 Industrial including 'high technology'. It is highlighted as a use that is associated with enterprises that include research into high technology, geared towards new technologies, products and systems; similar to a business park. It is argued that the dSLEP definition of industry is too limited and does not permit research only. The landowner argues that the term 'research' could be applied more generally and that the IN1 General Industrial zone must make provision for all manners of research and include the definitions under SSLEP.
Address	O'Riordan Street near Doody Street, Alexandria
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN1 – General Industrial
Summary	The landowners object to the IN1 General Industrial zone as it prohibits bulky goods retailing. The submission suggests that the IN1 General Industrial zone is better suited to parts of the metropolitan area well serviced by the M7 ring road and freight terminals. It is argued that the appropriate zone is B6 Enterprise Corridor, which permits bulky goods retailing, motor showrooms, light industry and would preserve the rights of existing uses in the area. The submission also argues that the 1000 square metre floorspace limit should be removed.
Address	Botany Road between Hayes Road and Harcourt Parade, Rosebery
Current zone	Zone 10 – Mixed Uses
Proposed zone	Zone IN2 – Light Industrial Correction Zone B6 – Enterprise Corridor
Summary	The submission argues that the proposed IN2 Light Industrial zone is not a translation of the existing zone and will see a shift in the policy direction for development along Botany Road; prohibiting a number of uses currently permitted under the existing Mixed Use zone. It indicates that the recently approved mixed use development would be prohibited under the IN2 Light Industrial zone and suggests that the site be rezoned B4 Mixed Use.
Address	Mentmore Avenue near Morley Avenue, Rosebery
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN2 – Light Industrial
Summary	The landowner objects to the IN2 Light Industrial zone on the grounds that it will reduce the value of the property and make a change in tenancy more difficult; given that the existing commercial use (office buildings) on site will be prohibited under the proposed IN2 Light Industrial zone. The submission proposes a B4 Mixed Us or B7 Business Park, or allowance of 'business premises and office premises' on the site.
Address	Southern end of O'Riordan Street, Alexandria
Current zone	Zone 4 – Industrial
Proposed zone	Zone B6 – Enterprise Corridor
Summary	The landowner objects to the IN1 General Industrial zone along O'Riordan Street as it is inconsistent with the current uses. It is suggested that the IN1 General Industrial zone should be amended to include approved uses in the list of permissible uses within the zone or that the B6 Enterprise Corridor be applied.
Address	O'Riordan Street near Doody Street, Alexandria
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN1 – General Industrial

Summary	The submission objects to the prohibition of bulky goods retail premises in the IN1 General Industrial zone on the basis that planning controls need to facilitate the continued growth and viability of existing bulky goods retail businesses. It is argued that Alexandria is already an established bulky goods retail precinct, and that such a restriction undermines economic advantages of the existing bulky goods cluster (such as the continuation of economies of agglomeration and competitive market benefits of bulky goods retail clustering). Lastly, the submission indicates that the existing use rights are limited and provide no certainty for existing bulky goods retail to grow and change.

Address	Maddox Street, Alexandria
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN1 – General Industrial

Summary	The landowner objects to the proposed IN1 General Industrial zone, which is indicated as a significant down zoning of the site from the existing Industrial 4 zone. The submission argues that the proposed zone will limit employment density and overall yield, and reduce development potential. It indicates that the existing Industrial 4 zone under SSLEP 1998 is more flexible in the range of permissible uses and that the down zoning of the site is not supported or justified by a comprehensive strategic industrial lands study. The submission argues that the area is evolving and that the B5 Business Development zone is the preferred zone for the site. B5 is suggested as it reflects the existing range of permissible uses, and allows for a range of higher order commercial uses to expand into a mix of other uses as the market changes and surrounding area evolves. The submission also suggests the introduction of a higher FSR for the site to facilitate redevelopment for higher order uses over time.

Address	Canal Road, St Peters
Current zone	Zone 4 – Industrial and Zone 9A – Arterial Road Reservation
Proposed zone	Zone IN1 – General Industrial and Zone SP2 – Infrastructure (road)

Summary	The landowner argues that the site represents a major urban renewal opportunity to plan for a new Specialised Centre (multi-activity) and accommodate a range of modern employment uses and contribute to the local economy. The submission requests for Council officers to commence investigations into the proposed renewal opportunity of the site as a priority post gazettal of the new LEP.

Address	Birmingham Street, Alexandria
Current zone	Zone 10 – Mixed Uses
Proposed zone	Zone B6 – Enterprise Corridor

Summary	The submission outlines the landowners' support for the proposed zoning, height (in metres) and FSR controls for the site. However, it argues that the controls within the dSLEP and the UDS are inconsistent and that the proposed building height in metres does not match the proposed height in storeys.

Address	Moore Park Supa Centa
Current zone	Zone 3 – Business
Proposed zone	Zone B5 – Business Development

Summary	The submission is generally supportive of the draft Sydney LEP 2011 and the proposed zoning, height and FSR controls that are proposed for the Moore Park Supa Centa. However, it argues against the proposed prohibition on food and drink premises and prescriptive detail proposed in the Sydney DCP 2010 in relation to the minimum bulky goods tenancy size. The submission suggests that the proposed prohibition on food and drink premises in the B5 Business Development zone is unreasonable, as the majority of bulky goods retailers are not interested in having such facilities within their own tenancies as it is not their core business. By prohibiting this type of development in the B5 zone, Council would be reducing the attractiveness of such zones for business development and their ability to attract new companies to the area. The submission suggests that the draft planning controls be amended to list `food and drink premises' as a permissible use within the B5 Zone or list the Moore Park Supa Centa in Schedule 1 of the draft LEP and permit food and drink premises on that land.

In regard to the proposed minimum tenancy size, the landowners argue that a minimum size of 500 square metres for bulky goods tenancies is too restrictive. They cite the Land and Environment Court Case Homemaker Hub v Strathfield Council [2009] NSWLEC 1265, where Strathfield Council's proposed condition which required tenancies to have a minimum gross lettable area of 500 square metres was overturned. They indicate the City of Sydney Council could decide at the application level, whether the development proposal is a bulky goods one, rather than having an 'onerous and unnecessary' minimum tenancy size.

Address	Mandible Street, Alexandria
Current zone	Zone 4 – Industrial
Proposed zone	Zone IN1 – General Industrial

Summary

The site is currently zoned '4 Industrial', with surrounding uses zoned mixed use, and the draft LEP proposes an IN1 General Industrial zone. The submission indicates that the proposed controls for the site reduce the permissible uses and development potential of the sites.

Many uses that were permissible (with consent) on the subject site, within Zone No. 4 – Industrial under the SSLEP, are now prohibited, including development for the purposes of bulky goods premises. The landowners indicate that bulky goods premises can be a more viable form of an employment generating land use than traditional industrial land uses, and that the absence of prohibited uses in the current industrial zone has meant that the prevailing character of the subject site and surrounding area is not solely industrial.

Additionally, the submission argues that as well as bulky goods premises, other uses that would be suitable for the subject site and could contribute to generating employment opportunities include retail premises, business premises, function centres, educational establishments, places of public worship, vehicle sales or hire premises, and wholesale supplies. Hence, the landowners consider that the proposed industrial zoning for the subject site does not reflect the existing character of the site and the prevailing character of the locality.

The submission indicates that the DSLEP proposes a reduction in the allowable FSR for the subject site from between 1.5:1 and 2:1 to between 1:1 and 1.5:1 (including the potential 'bonus' FSR provision). It is suggested that the proposed FSR is less than that of the existing building on the subject site and does not represent the prevailing densities of existing buildings within the surrounding area.

The following recommendations are made:

- include 'bulky goods premises' as a permissible use (with consent) allow a consistency of the translation of the current zoning
- amend the proposed zoning for the subject site to be in accordance with the proposed zoning on the southern side of Mandible Street as 'B5 – Business Development'.
- Provide an additional allowance of 'building height' for the subject site (and other sites in the former South Sydney area as Council deems it appropriate) to take into consideration the change in definition of 'building height' from the SSDCP to the DSLEP
- Provide a floor space ratio (FSR) for the subject site that represents the existing allowable FSR on the site of up to 2:1.

Address	McEvoy Street near Bowden Street, Alexandria
Current zone	Zone 10 – Mixed Uses
Proposed zone	Deferred

Summary

The submission indicated that the owners of this site believe that the current 10(e) Mixed Uses zoning should remain (or the equivalent B4 Mixed Use zone under the SLEP). It argues that re-zoning of the land to IN1 General Industrial would not support the character of this precinct and could contravene specific Council policies including those in the Draft Sydney Development Control Plan 2010. Further, the landowners argue that the current mixed use zone 'is essential to ensure a sensible mix of environmentally compatible land uses in the future'.

The landowners also showed their support for Council's initiative to revitalise Green Square through a coherent urban renewal strategy.

Address	Top of O'Riordan Street, Alexandria
Current zone	Zone 10 – Mixed Uses
Proposed zone	Deferred

Summary

The landowner's submission argues against the zoning of the site to 'IN1 General Industrial' from '10 (d) Mixed Uses'

The landowners provided submissions in 2008 with recommendations for the future character and use of the site, and the current submission restated these views. They outline that the industrial use would reduce amenity and the amount of potential employment and hinder the vitality required for Green Square centre. Some of the specific arguments restated included the following:

- 'The existing Mixed Use zoning has purposefully been placed by previous State and Local Governments to create a transition between the future Green Square Town Centre and the core industrial zones to the south to provide a buffer between the future quieter commercial activities of the Green Square Town Centre and the invasive impact of the proposed industrial activities. The proposed zoning of the land to industrial will remove the Mixed Use zone buffer and create a situation that will have a major commercial centre sited immediately adjacent to an industrial area. That scenario would be detrimental to the future residential and commercial uses of the Green Square Town Centre.'

- IN1 General Industrial zoning adjacent to the future Green Square Town Centre will only jeopardise the future success of the centre as a liveable working environment. Industrial use will negatively impact the lifestyle quality, vibrancy and ambience that office occupants, retail shoppers and apartment residents are accustomed to. The landowner also argues that large scale industrial users do not generate the job growth that is essential for the vitality of a viable Town Centre. Industrial distribution operators occupy large areas and require few employees, which does not enhance employment opportunities for potential Green Square residents.'

- Retaining the current zoning would be consistent with the Metropolitan Strategy by retaining the land for employment purposes with the opportunity of supporting the future Green Square Town Centre.

Address	Top of Botany Road and O'Riordan Street, Alexandria
Current zone	Zone 10 – Mixed Uses
Proposed zone	Zone B5 – Business Development and Deferred

Summary

The properties in this area are currently zoned 'Mixed Use 10 (d)' and are generally used for light industrial purposes. The draft LEP proposes to zone the precinct to 'B5 Business Development' zone. The submission argues that a number of the properties are vacant and derelict and that no substantive development has occurred on any of the sites under the current zone.

The submission suggests that the proposed zoning is more restrictive than the current zone and that a 'B4 Mixed Use' will encourage renewal and underpin the viability of the Green Square centre.

Address	Bourke Road near Maddox Street, Alexandria
Current zone	Zone 10 – Mixed Uses
Proposed zone	Deferred

Summary

The site is currently zoned No.4 Industrial and proposed to be zoned IN1 General Industrial under the draft LEP. The landowners do not support this proposal, as:

- an IN1 zoning does not reflect the site's strategic location along a major north-south connector road, and within close proximity to the Green Square Town Centre and railway station
- the narrow objectives and broad range of prohibited uses within the IN1 General Industrial zone removes any flexibility to assess development proposals, other than industrial land uses, on their merits; which contradicts Council's long standing support for a broader range of commercial uses within the area
- the land is considered to be unsuitable for conventional industrial purposes given the prevailing land values in the locality, the existing pattern of development and the attractiveness of other dedicated employment areas zoned for industry in Sydney's west and outer areas
- there is no basis for suggesting that the intended IN1 industrial zoning will result in a greater number of local jobs when compared to a wider range of business and commercial uses.

The submission argues that there is no justifiable basis for proposing a restriction on the extent of retail premises in the wider area to 1000 square metres of GFA and that Council should use discretion when considering such applications, as opposed to an outright prohibition.

The submission argues that the B5 zoning for the subject site and wider area would be more appropriate. It is argued that the B5 zone would:

- more accurately reflect the range of uses already approved and successfully operating within the immediate area. It would promote rather than constrain current land use trends in the area
- take better advantage of the site's strategic location within the 'Global Economic Corridor' between the

airport and the CBD
- maximise employment and opportunities for enterprise growth
- support other centres in the surrounding area including Green Square and Mascot, in addition to Sydney Airport.

Address	Wyndham Street near Mandible Street, Alexandria
Current zone	Zone 5 – Special Uses
Proposed zone	Zone B5 – Business Development

Summary

The main concern raised in the submission is that the draft LEP 'down zones' the site by removing the permissibility of residential uses. The site is currently zoned '5 Special Uses' and the draft LEP proposes the 'B5 Business Development' zone. The submission requests that the site be zoned 'B4 Mixed Use' to remain consistent with the current surrounding permissible uses.

The submission argues that, although the City of Sydney's rationale behind the B5 zoning is to create a buffer between existing residential and industrial uses, alternate buffer options could be achieved via specific urban design treatments and principles. Furthermore, the SPA argues that there is little demand for commercial development on the site.

In terms of policy consistency, the landowners argue that the C1.3 of the Sydney City Subregional Strategy requires that increased housing capacity targets support the development of residential uses on site, particularly given the close proximity to Green Square. Additionally, they indicate that Section 117 Directions, specifically 3.1. Residential Zoned (5), states that a draft LEP shall not contain provisions that will reduce the permissible residential density of land. The landowners argue that the B5 zoning of their land contravenes the Section 117 Direction.

Address	Ross Street near Parramatta Road, Glebe
Current zone	Industrial
Proposed zone	Zone IN2 – Light Industrial

Summary

The site is currently zoned Industrial under the Leichhardt LEP 2000 and the draft LEP proposes an IN2 zone. The submission argues that the proposed industrial zoning is not supported for the following reasons:

- the IN2 zone is inconsistent with the land use objectives of the existing zoning, and therefore may result in a 'down' zoning of the site
- the IN2 zone does not reflect current land uses on the site and surrounds
- the IN2 zone is inappropriate for the site and adjacent properties.

The proposed B4 Mixed Use Zone is suggested as it would 'ensure a consistent built form along Parramatta Road'.

It is argued that the B4 Mixed Use Zone would not restrict the use of these properties as light industrial developments. However, it would provide the opportunity to 'integrate suitable business, office, residential, retail and other development', and allow the subject site long term flexibility to grow in line with the surrounding character.

Address	The Salvation Army, The Geneva Push, Hillsong Church and Australian Christian Churches
Current zone	–
Proposed zone	–

Summary

The Salvation Army, The Geneva Push, Hillsong Church and Australian Christian Churches all object to the prohibition of 'Places of Public Worship' in the IN1 General Industrial and IN2 Light Industrial zones. All submissions argue that the prohibition will impact on existing church activities and the future development of churches.

The submissions argue that the large landholdings in the industrial area provide the opportunity to accommodate large numbers of people and better separation from more sensitive land uses, such as residential development, and can assist with activation and safety of an area. The submissions go on to suggest that peak periods for churches and related uses occurs in the evenings and on weekends and will be unlikely to conflict with the traffic and parking demands of industrial operations.

The submissions argue that the dSLEP 2011 should be amended to include places of public worship as a permissible use within the industrial zones.

Address	Southern end of Bourke Road (beside canal), Alexandria
Current zone	Zone 10 – Mixed Uses
Proposed zone	B7 – Business Park and part SP2 Road
Summary	Current zone permits depots, while proposed zone prohibits depots. Land owner notes that 'as depots are permitted under the current instrument and the aim of the rezoning was to reflect the existing zone while prohibiting residential uses, it can be assumed that prohibiting depots was not the intent.' Requests that depots be included as permissible uses in B7 and SP2 zones.

APPENDIX F: REFERENCE MAP

Travel zones are the spatial base of the Bureau of Transport Statistics' data collection, transport modelling and analysis. The travel zones lining up most closely with the boundaries of the study area were used to undertake economic profiling and are shown below. The shaded area is the study area and the bold blue boundaries indicate the applicable travel zones. The economic profiling task was completed for the main study area only due to data constraints for the smaller sites.

FIGURE 34. TRAVEL ZONE BOUNDARIES USED FOR ECONOMIC PROFILING

Source: SGS Economics and Planning, 2012

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APPENDIX 2: SUBMISSIONS

Submissions to background report

TABLE 16. SUBMISSIONS TO BACKGROUND REPORT

Interest	Area	Comments / Issues raised
Business operator (land owner)	IN1 zone – Alexandria	Operates a local catering service with clients mainly in CBD. The location is crucial so that they are close to suppliers and well as their customers. It is also a convenient locations for many employees (many who come from Green Square train station). The Employment Lands Study (the Study) should consider the need for their business to operate both day and night.
Business operator (land owner)	IN1 zone – Alexandria	The site was purchased specifically for its location and its relative affordability. The business, and others like it in the area, must be located close to the City for logistical reasons as it would not be a cost effective and efficient service if based in Botany Bay, Ryde or Campbelltown. The industrial zoned areas of Alexandria, Beaconsfield, Rosebery and Glebe should be preserved.
Consultant on behalf of the land owner	IN2 zone, adjacent to R2 zone	The IN2 zone in the Sydney LEP 2012, which does not identify business premises or office premises as permissible, will force owners to rely upon existing use rights for future development. These uses should be made permissible in future land use controls.
Stakeholder	R2 zone, adjacent to IN2 zone	The small IN2 parcel of land in southern Rosebery has failed in terms of employment generation. Many sites have lay vacant for many years as industries increasingly grow in scale and move west or offshore. The current light industrial zoning restricts positive change. It is surrounded by houses, and new apartments and the IN2 zone is incompatible with those uses. Botany contains significant industrial land to the south, under the flight path. Zoning should be changed to allow more suitable uses. This will in turn generate more employment opportunity.
City of Botany Bay	LGA adjacent to study area	Supports the Background Report noting that: – it is generally consistent with the desired future development pattern and growth of the Botany Bay LGA – it acknowledges state, regional and local strategies to protect and enhance the roles and supporting land uses of the airport and the port – any future development must consider amenity impacts on the Mascot Town Centre – the types of industrial uses along Gardeners Road should not adversely impact on adjoining lands to the north.
Stakeholder	Main study area	Car parking will become even more difficult once businesses expand in the area. It is recommended that businesses provide sufficient parking or perhaps even some transport from the local train station.
Consultant on behalf of the land owner	IN1 zone to the north of deferred lands	Demographic analysis shows about 20% population increase (from 2006) in Alexandria and significant increase in 'while collar' residents between 2001 and 2006 Industrial assessment shows decline in 'traditional industry' toward more modern industrial uses and commercial and retail uses. Target analysis shows additional capacity in the Sydney LEP 2012 will not guarantee additional supply and that for the last five years dwelling supply has not achieved targets. It is also concluded that lack of housing supply will affect affordability in Sydney. The site and its locality play a critical role in employment generation and should be seen as a transitional area from higher concentration of residential uses in Green Square to the traditional uses in the Southern Industrial Area (SIA).

Interest	Area	Comments / Issues raised
		The height and FSR controls applying to the site should be reviewed and the zoning made more flexible (such as B4 – Mixed use More flexible controls and zoning are recommended to: promote a more efficient use of land encourage employment growth incentivise redevelopment and be compatible with surrounding uses.
Marrickville Council	LGA adjacent to study area	Generally agree with the information in the Background Report. Notes that the City's consultants met with Marrickville Council planning officers. Addition issues above this discussed in that meeting include: – Amendment No.1 to *Marrickville LEP 2011* (currently underway) will rezone a number of industrial sites including sites along the south-eastern side of the Princes Highway to allow for a wider range of uses, including bulky goods (it is noted this does not extend to the border of the City of Sydney LGA). – Council has resolved to investigate the rezoning of 314 Princes Hwy, St Peters (the former landfill site). This large industrial site traverses the Marrickville and City of Sydney border. – during its deliberations for Amendment 1, Council also considered initial proposals to rezone a range of industrial sites, including: the Carrington Road precinct the Victoria Road corridor and the proposed Masters Homemakers outlet site. The first of these sites are consistent with the Marrickville Urban Strategy while the latter two are not. – a portion of the study area is on low-lying land which may experience the impacts of acid sulphate soils, flooding and inundation from sea level rise. Hence contamination impacts should also be considered given the study area's long history of industrial use.
Consultant on behalf of the land owner	IN1 zone, adjacent to the B7 zone on the eastern side of Alexandra Canal	The Background Report overlooks the: – existing special commercial, service and recreational attributes of the pocket of employment-related land centred around Bourke Road, defined by the area of the Sydney Corporate Park (SCP) and the B7 Business Park Alexandria Canal estate. – changed role of Bourke Road, from that which formerly existed, being a former arterial road. The road has been subject to streetscape improvements, including a new cycle lane, and a truck ban. Its current role is now as a linear service link between the two emerging populations growing around Mascot and Green Square Stations. – former industrial lands around Mascot have been rezoned for residential and employment purposes, so that Bourke Road is now a link to that centre. Amount of vacant land is a significant finding and indicates that the permissible uses (in the former 4 Industrial zone) no longer reflect the changing expectations or requirements of industrial users. The IN1 zoning will not allow regeneration of these lands. It does not reflect the current, emerging and future desired employment character of the immediately surrounding area. The future Study needs place greater emphasis upon the role the nucleus of employment land along Bourke Road, as defined by the eastern boundaries of the SCP and the western boundary of the B7 land. Ongoing retention of industrial uses in this area is counter to the current situation in this locality. Recommends that future zoning for the site and the immediate precinct area, including SCP, should be Zone B5 to complement the existing adjacent B7 land (which does not have main road frontage). The B5 zone best reflects current uses within the surrounding precinct, and complements the changed function of Bourke Road. It also includes provision for current existing industrial uses that remain in the precinct.
Resident	Boundary between the IN1 and B6 zone in the south east of the main study area	The Background Paper highlights a number of issues that face residents near Birmingham Street. There are also a number of positive aspects to the mix of residential and light industrial that has begun to develop ion the area. Many problems, such as traffic and health and safety impacts, come from heavier industrial businesses operating beyond their development approvals. There is a need for better planning to address: sometimes out dated operating guidelines of businesses that lead to friction and incompatibilities with other residents and businesses the activities of businesses that continue to pollute or disrupt or endanger the environment of residents and other businesses and existing or outstanding complaints and tensions.

Interest	Area	Comments / Issues raised
Land owner	IN1 zone – west of canal	The site operates as a non-putrescible waste landfill, waste transfer and recycling depot. The surrounding area is largely industrial in nature although commercial, retail and residential developments do exist in the locality. As the City and DPI projections for employment and population have significantly increased, the need to provide adequate and continuous employment lands should also continue. There should continue to be an emphasis on providing and encouraging commercial and industrial development. The demand for industrial and commercial land in the suburb of Alexandria will continue to grow.
Consultant on behalf of multiple land owners	IN1 zone	Submission was prepared on behalf of four landowners. A number of key issues have been identified and comments and recommendations made, including: – it is focussed on the existing supply of employment lands rather than the demand for employment lands now or into the future – it should provide more analysis of demand and suitability for large format retail – local demand analysis is limited and flawed because they were assessed under the conditions of the more flexible framework of South Sydney Local Environmental Plan 1998 – it identifies a high vacancy rate but does not adequately discuss it. The high vacancy rate is an indication for demand for employment generating uses as permitted under the planning framework – it does not demonstrate the demand for any specific land use and does not establish particular land use needs to be located in the precinct – the Employment and Floorspace Profile section relies on outdated census data and should be updated to 2011 census data – it does not identify any capabilities or limitations of the existing built form within the main study area to accommodate employment generating land uses. Feasibility analysis should be undertaken of a scenario where existing stock is required to be demolished and new industrial and warehousing buildings erected – industry profile analysis does not identify jobs by occupation. Analysis of 2011 census data shows number of workers in the manufacturing industry in South Sydney are not necessarily required to be accommodated in an industrial environment – employing local workers should be encouraged to reduce travel time and distance – land suitability mapping is arbitrary and limited, being very high level and focusing on distance from or to infrastructure – it does not specifically identify the role of the main study area within the context of major employment lands across Sydney and Subregional assessment does not acknowledge key competing areas. The analysis of other industrial precincts in wider Sydney is needed – it does not sufficiently analyses the relationship of the study area with Green Square – it would benefit from a comparison of rent and sales price, road access and land size of other industrial precincts that are most likely to attract businesses away from the main study area – the future strategy should not rely on the existing studies and strategies identified in the strategic framework outlined in the Background Paper, rather it should be viewed as an opportunity to start from scratch – land use tables should be more flexible allow a broader range of uses. Landowners who are party to submission indicate the following uses are in high demand in the study area: high tech industries large format retail car showrooms education facilities bulky goods retail showrooms offices places of public worship and recreational facilities. These uses should be permissible in the future planning framework. Facilitating these uses would be beneficial because they would generate more jobs than the 'traditional industries', in particular warehousing and logistics they are attracted to the area due to proximity to residents (i.e. customers and working population) existing infrastructure make it ideal for uses that require physical and technological connections to Sydney CBD, Airport and Port and they rely less on the road network which struggles to accommodate large trucks and existing traffic – the future demand analysis should not rely on Bureau of Transport Statistics (BTS) employment forecasts over the next 25 years. Although BTS prepare an in-depth set of projections, they cannot be used as the sole source of projections.
Stakeholder	Not specific	The study looks for evidence to support the application of the existing zoning and is lacking discussion about whether the study area remains a vitally important industrial area that needs to be 'protected' through the application of IN1 and IN2 zonings. The Background Paper suggests area needs to be protected from retail uses, despite significant vacancies and significant limitations in the study area with respect to truck access, traffic congestion, and undersupply of car parking. The question must be asked and discussed in the

Interest	Area	Comments / Issues raised
		Background Report whether this area remains suited to and can actually support modern industrial growth. The Background Report is constrained in its review by the perceived need to preserve industry. Justification for this seems to rely on current metropolitan planning, subregional strategy and section 117 directions. The Study should question these strategies and directions. The study area is strategically important, not only to traditional industry and logistics, but also to business, all forms of retail and some residential uses. Maintaining the IN1 and IN2 zones and limiting B6, B5 and B7 is not keeping pace with contemporary thinking on employment generation. Consideration of the applicability of the Government's new Enterprise Zone should be considered. Planning must be directed towards employment generation not industry. The Background Report should seek to determine why there is a high vacancy rate. Further analysis is required of: market demand that articulates what the market is doing in the study area and why the market is acting in the way that it is rental market demand and, supply analysis. If the Background Report and future Employment Lands Study is to recommend regulation including zoning and development controls, it should also set out the externalities that justify land use regulation designed to prevent normal market activity from occurring.

Landowner	IN1 zone	A number of key issues, comments and resulting recommendations have been identified with the Background Report, including:
		
		– it seeks to retrospectively justify planning controls that apply under *Sydney LEP 2012*. It should focus on justifying the need for supply of industrial land rather than demand for industrial land
		– it does not accurately identify the existing situation in the study area
		– it does not address key policy drivers for land use demand in the SIA, being the 'Global Economic Corridor' which aims to create an area of economic importance in the state and national economy
		– it does not address current land use trends at SCP
		  – the land suitability maps are detached from the reality of SCP
		  – conventional industrial activities are unlikely to be established within SCP for economic reasons
		  – current uses are predominantly mixed use employment activities including bulky goods, retailing, commercial offices, warehouse and distribution facilities, vehicle sales and showrooms, smaller retail shops
		  – printing operations that have recently moved off site have left 80,000m2 of vacant space, which would be highly sought after but for the planning controls in Sydney LEP 2012
		– current planning controls minimise employment and investment opportunities and ignore structural changes in industrial activity
		– it does not understand drivers or categories of land use that drive long term demand at SCP
		– it does not identify what business can afford to pay for their facilities. To meet the market and attract currently permissible industrial tenants, landowners would be expected to receive zero income for their investment – this is unsustainable, but a reality given the high vacancy rate
		– not allowing for office uses forces administrative businesses to pay higher rents stifles small business
		– it fails to interpret the change in residential development in the immediate vicinity – the residents in the locality are not looking for traditional industrial roles
		– 'large format retail' should be considered an appropriate land use for the study area.

Consultant on behalf of the land owner	IN2 zone – Parramatta Road precinct	The need to retain 'industrial' lands in the Parramatta Road precinct is less obvious than in the main study area. The Parramatta Road precinct is a remnant industrial fragment that does not require protection. Contrary to the substantially different and much larger main study area and even the South Dowling Street site, the Parramatta Road precinct is adjacent to existing residential uses and B4 Mixed Use and SP2 Educational Establishment (University of Sydney) zones, and in the vicinity of a B2 Local Centre zone (Glebe Point Road). Consequently the precinct should be rezoned B4 Mixed Use. This is consistent with the findings of the Background Report. Such a zoning would not only retain the existing employment uses, given the precinct's location on a major arterial road, but also ensure the permissibility of those uses in the long term.
Consultant on	Main study	The character of the SIA has changed over the past decade from a traditional industrial area to a

Interest	Area	Comments / Issues raised
behalf of the land owner	area	mixed use business precinct providing for a variety of uses. The Background Paper needs to consider financial feasibility and the changing needs of industry and business. The Background Report should adopt a contemporary approach to planning for employment generating development for the CoS - global and national trends indicate that the current approach to employment lands planning in NSW is outdated and perpetuating this approach may lead to suboptimal outcomes in terms of the productivity and efficiency. A more flexible approach to the regulation of development of employment lands will create an environment more conducive to investment which can better accommodate hybrid employment precincts more suitable for 'new economy' jobs and which can deliver jobs at far greater densities than those achieved in more traditional industrial zones. The benefits of this approach are recognised internationally and nationally. See recent Victorian reforms that lift floor space caps for office and retail. Industrial accommodation within the SIA varies considerably in age and scale with more recent development being representative of the characteristic shift away from more traditional industrial warehousing facilities i.e. low rise commercial office buildings, strata office suites, showrooms and adaptive re-use of former industrial facilities for quasi retail / commercial / industrial uses. This is reflective of the fact that refurbishment or redevelopment of sites in the SIA for lower value industrial uses is generally not economically viable There has been a substantial increase in the price of land in the SIA since 2000 which has led to traditional industrial and warehousing operations moving towards the outer. With increased land values and rental values broadly the same as competing areas, it is increasingly difficult for landowners to achieve adequate returns and often not economically feasible. It is critical that decisions around the future of the SIA be made and implemented in a timely fashion to ensure that opportunities are not lost and that further inefficiencies and productivity losses are avoided. There is a concern that the Background Report provides little in the way of new and up to date information, but rather establishes a framework for the maintenance of the status quo. Subsequent stages of the Study should consider the key themes and principles of the NSW Green Paper on planning reform and consider the application of certain mechanisms documented in the Green Paper for their potential application to the study area.
Resident	The area between Epsom Road and Gardeners Road	Zoning in the area between Epsom Road and Gardeners Road should not allow late night drive through fast food outlets, such as the McDonalds proposal that council recently rejected. Agrees with the Rosebery Residents Action Group [Draft Sydney LEP 2011 submission] with regards to: objections to the extension of the B4 Mixed use zone along the eastern side of Botany Road support for a finer road network through the SIA and endorsement for the positive suggestions including increasing amenity promoting good co-existence between users and residents improving public transport facilitating attractive rents compared to the City and a desirable space for creative users.
Road and Maritime Services	Main study area	It is important that the study takes into consideration and contributes to the achievement of transport objectives contained in high level government strategies such as the Metropolitan Strategy, State Plan and NSW Transport Masterplan. The policies share the aim of promoting non-car forms of transport and co-locating new development with existing and improved transport services. The study must assess the implications of proposed development for non-car travel modes (including public transport use, walking and cycling) the potential for implementing a location-specific sustainable travel plan (e.g. 'Travelsmart' or other travel behaviour change initiative) and the provision of facilities to increase the non-car mode share for travel to and from the study area. This will entail an assessment of the accessibility of development sites by public transport. A Traffic Management and Accessibility Plan (TMAP) for the study area needs to be undertaken to properly ascertain the cumulative regional traffic and transport impacts associated with development. The TMAP process provides an opportunity to identify a package of traffic and transport infrastructure measures required to support future development. Regional and local intersection and road improvements, vehicular access options for adjoining sites, public transport needs, the timing and cost of infrastructure works and the identification of funding responsibilities associated with development should be identified. The TMAP is to take into

Interest	Area	Comments / Issues raised
		consideration the Green Square TMAP 2008, the Mascot Town Centre TMAP 2012 and other relevant studies and strategies.

APPENDIX 3: CONSTRAINTS

Based on the available information on aircraft noise, strata titles, and heritage, there are modest constraints to additional development in the study area from a land development perspective.

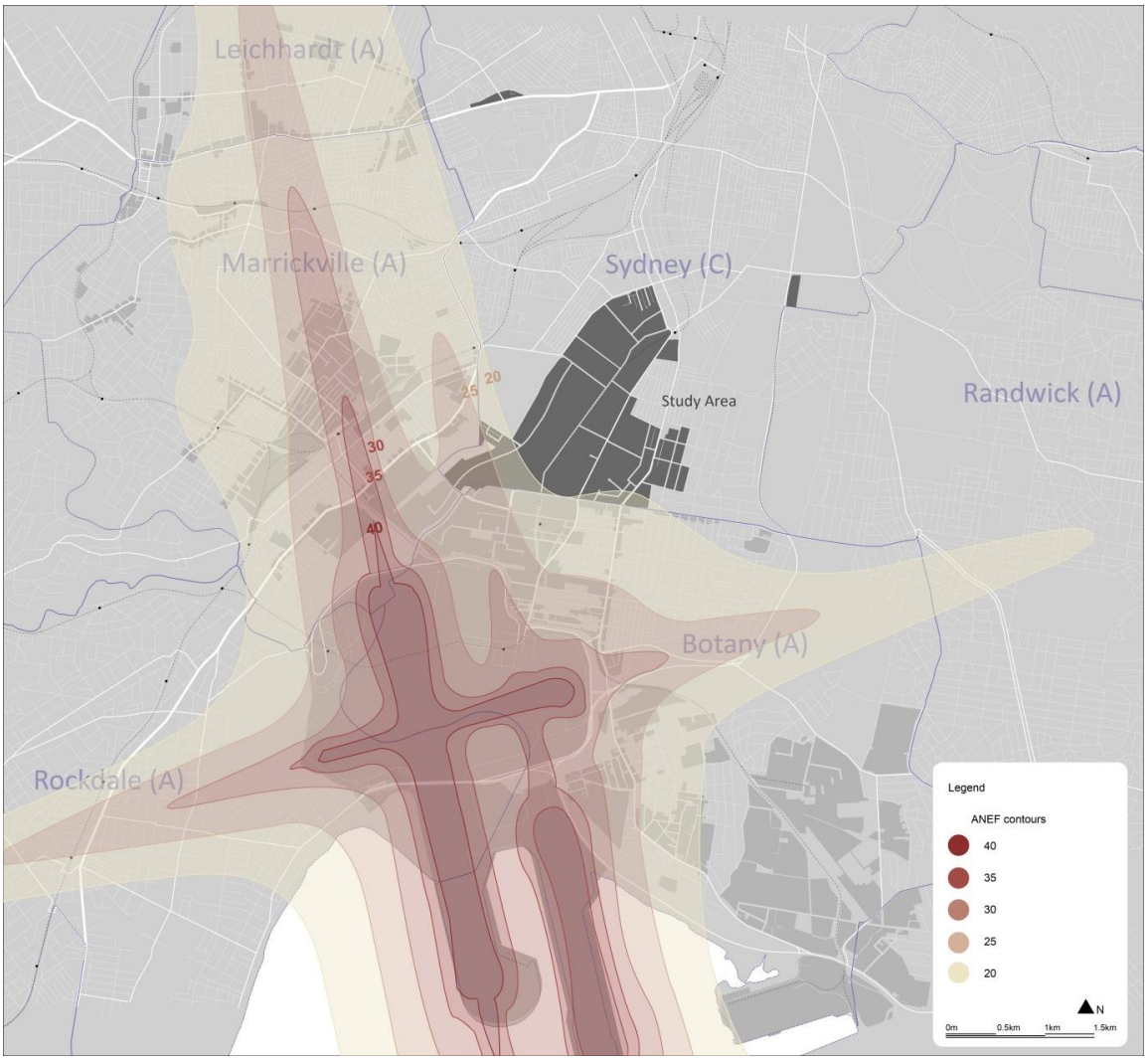
Flooding and groundwater constraints to development are known to be more extensive near the canal and the central part of the main study area. These, and potential site contamination issues, are likely to be the biggest barrier to more intensive development; residential development in particular. Extensive contamination of the Alexandra Canal itself will continue to be an issue until such time as a commitment is made to address the issue.

Flooding and groundwater constraints to development are known to be more extensive near the canal and the central part of the main study area but no maps have been provided showing the extent of these issues. These and potential site contamination issues are likely to be the biggest barrier to more intensive development, residential development in particular. Extensive contamination of the Alexandra Canal itself will continue to be an issue until such time as a commitment is made to address the issue.

However, by any measure, traffic and transport issues are likely to be the biggest long term brake on development across the precinct, which is discussed in some detail in section 3 of this study.

Figure 31 shows the Australian noise exposure forecast (ANEF) contours. Only the south west corner is affected by contours above 25; those which significantly constrain development.

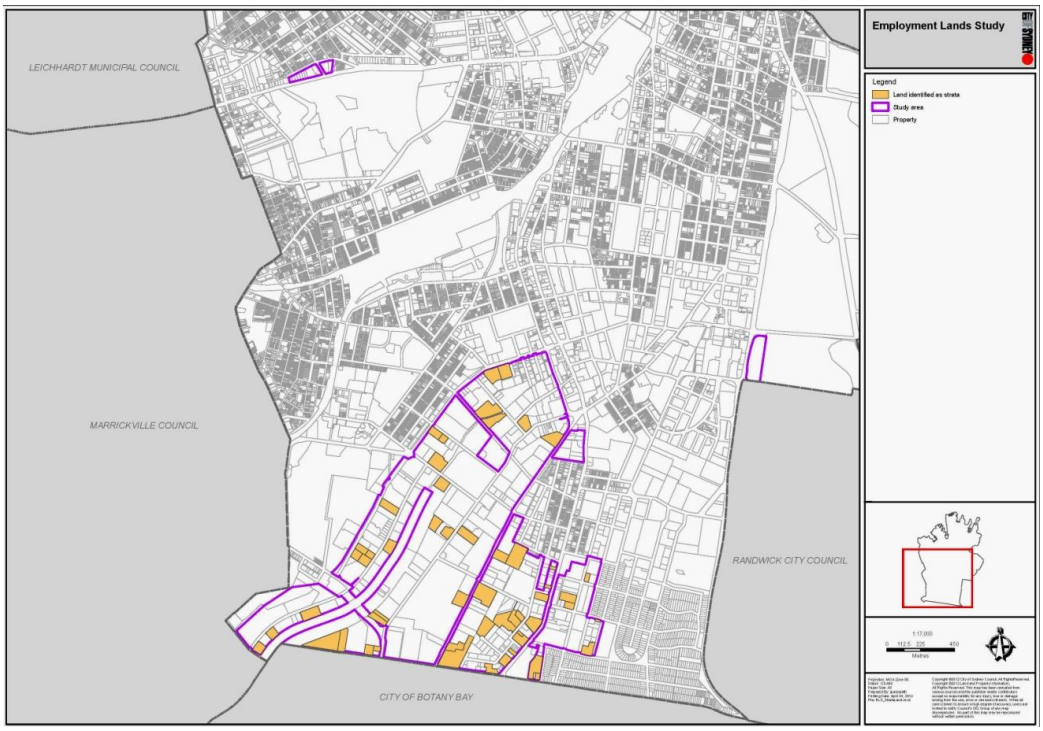
FIGURE 31. AUSTRALIAN NOISE EXPOSURE FORECAST (ANEF) CONTOURS



Source: SGS Economics and Planning, 2012, adapted from Sydney Airport 2033 ANEF contours (airservices Australia) provided by City of Sydney

Figure 32 shows that there are a few strata titled sites in the main study area.

FIGURE 32. STRATA-TITLED SITES



Source: City of Sydney, 2012

Figure 33 shows that there are a number of sites, buildings and features in the study area with heritage listing.

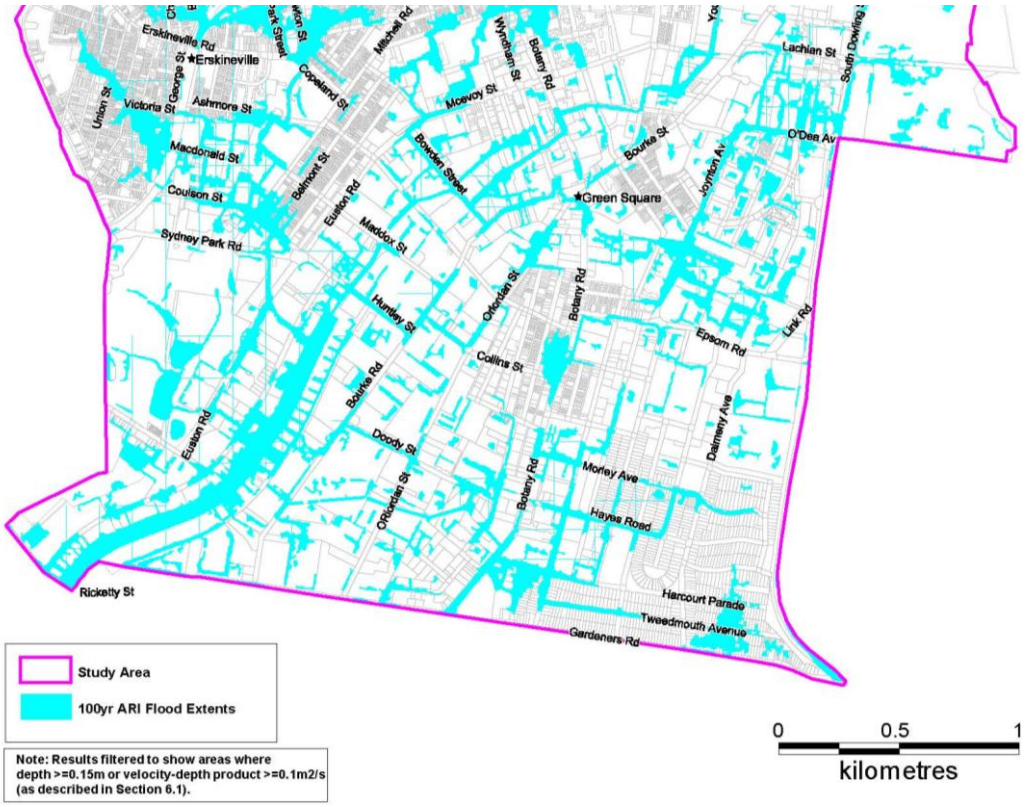
FIGURE 33. HERITAGE LISTINGS

Source: Sydney Local Environmental Plan, 2012. Figure derived by SGS Economic and Planning, 2013

In 2011, the City exhibited the Alexandra Canal Catchment Flood Study, which includes the study area. The flood study is the first stage of the management process for the catchment. Based on its findings, the City is currently developing the Floodplain Risk Management Study (FRMS), which will investigate

various management and flood mitigation options for the existing catchment conditions and will assist in evaluating long term flood management strategies.
Figure 34 is taken from the flood study and shows the flood extent in the study area for the 100 year flood event.

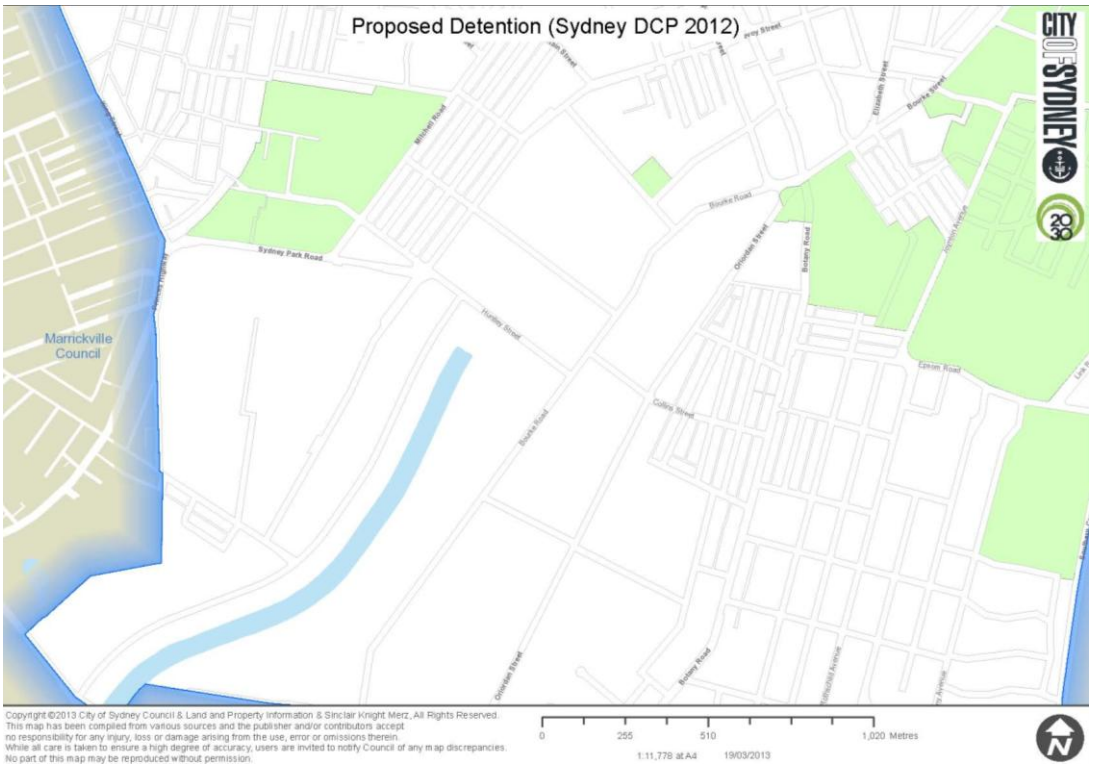
FIGURE 34. DRAFT FLOODING MAP SHOWING 100 YEAR ARI PEAK FLOOD DEPTHS



Source: Cardno, 2011

Figure 35 shows stormwater detention areas in the main study area at Green Square Business Park and Perry Park.

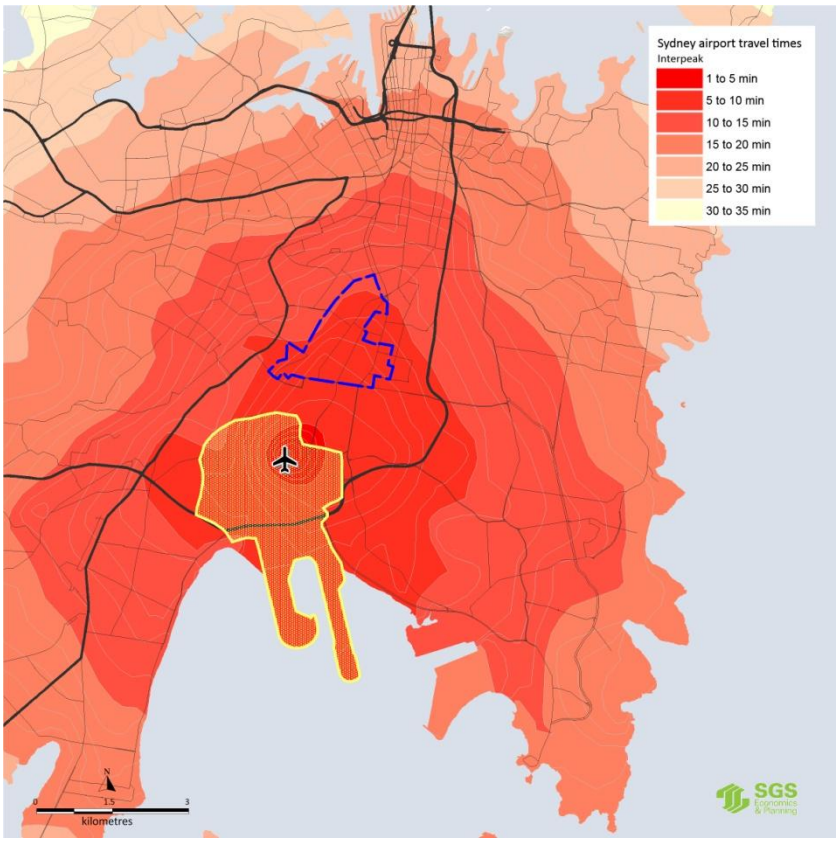
FIGURE 35. STORMWATER DETENTION



Source: Sydney Development Control Plan, 2012

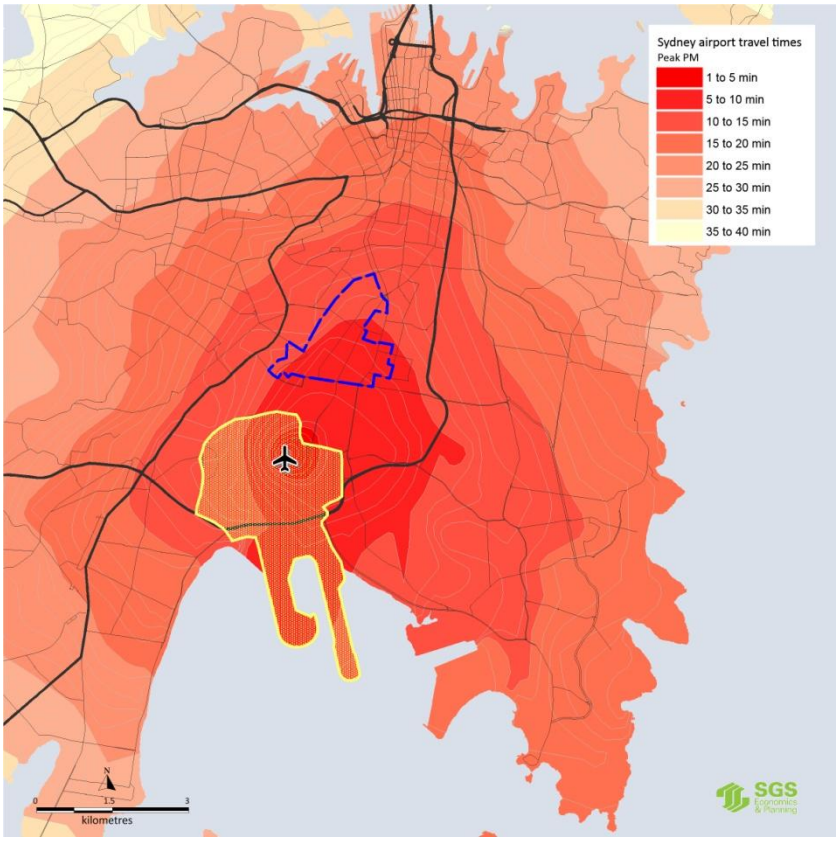
Figure 36 and Figure 37 show that the majority of the main study area is accessible within 10 minutes of Sydney airport domestic terminal in the interpeak period, with reduced accessibility during the evening peak traffic period.

FIGURE 36. TRAVEL TIMES FROM DOMESTIC TERMINAL: INTERPEAK



Source: SGS Economics and Planning, 2013, based on BTS 2011 car travel times

FIGURE 37. TRAVEL TIMES FROM DOMESTIC TERMINAL: EVENING PEAK



Source: SGS Economics and Planning, 2013, based on BTS 2011 car travel times

APPENDIX 4: FORECASTING AND GAP ANALYSIS

The supply-demand gap analysis compares forecast employment and land area requirements under the base case of the current zoning, against the capacity of employment lands as recorded in the land and floorspace database. Considering gaps or overprovision in supply for precincts and zones in this way will lead naturally to consideration of the current zoning framework, as well as its capacity to adequately provide for future employment, given the economic development vision for the City of Sydney and the policy framework.

A key input into the gap analysis is employment projection data from the Bureau of Transport Statistics (BTS). As noted in section 5.1, these projections are prepared for Sydney at five yearly intervals to 2031 using a forecasting model. This model:

- estimates total Greater Metropolitan Area (GMA) employment for each historical and forecast year
- analyses trends in employment by industry, geographic subregion and specific job node
- distributes GMA total employment forecasts using forecast shares derived from trend analysis
- adjusts for major new developments (BTS, 2013).

Although the model is not publically available, it appears to be principally driven by historical trends with some adjustment for large scale developments that have been announced. This implies that there is little, if any, consideration given to strategic opportunities to increase employment across Sydney, or potential to intensify employment in underutilised areas above trend forecasts. In addition, the model does not factor in the way various land uses may change over time (for example, in terms of becoming more space efficient or requiring more or fewer staff), above that observed in historical trends and projected on that basis. However, these are the official government forecasts and, despite their significant limitations, are the best available data.

This section provides an overview of the method and results, with further detail and full results for each precinct in the study area detailed in appendix 3a. These projections and results are based on trends alone.

Overview of method

Employment and floorspace demand

Employment and floorspace demand forecasts are provided in five yearly periods to 2036 for the main study area, Parramatta Road precinct and South Dowling Street site, broadly assuming a continuation of past trends. The capacity of employment zoned land to accommodate the projected jobs and the associated floorspace was then assessed.

In order to calculate floorspace demand, the percentage growth in employment (forecasted by the Bureau of Transport Statistics [BTS]) was applied to the database of floorspace for the study area precincts, provided by the City of Sydney from the 2012 land audit[15]. We assumed that:

[15] Given that the floorspace audit was conducted in 2012, to remain consistent with time frame of five-yearly BTS employment projections, it is assumed that floorspace in 2011 is largely similar to floorspace in 2012.

- the relationship between employment, floorspace and land area remains constant for each industry category into the future
- there will be no major change to the current profile of land uses within each precinct
- each additional job requires additional floorspace, and that this proportional relationship remains unchanged over time (that is, there are constant returns to scale).

Floorspace supply potential

The floorspace capacity in the study area is estimated, acknowledging that the maximum development allowed under the Local Environmental Plan (LEP) and relevant Development Control Plans (DCPs) is unlikely to occur.

An achievable floorspace capacity value was estimated as being between the average capacity – where the average floorspace ratio for each zone was applied to each lot within that zone – and the maximum capacity permitted under the development controls for the area, as follows:

Floorspace capacity = Average capacity + 80% x (Maximum capacity – Average capacity)

Employment and floorspace demand forecasts

Employment
Employment across the study area is projected to grow the most in the wholesale trade, and professional services sectors, with the highest decline in employment expected in the manufacturing industry. By 2036, given current trends, the sectors employing the most workers in the study area will be wholesale trade, transport, postal and warehousing, and professional services.

Floorspace by industry
Driven principally by projected employment for the main study area, the wholesale trade, retail trade, and professional services sectors are expected to require the most additional floorspace across the study area by 2036. The highest growth rate (from 2011 data) is expected for professional services. Declining employment in manufacturing and utilities leads to a fall in floorspace requirements for these industries by 2036. Overall, the industries requiring the most floorspace at 2036 are projected to be wholesale trade, retail trade, transport, postal and warehousing, and manufacturing.

Floorspace by land use
Given the current relationship between ANZSIC industry categories and broad land uses, across the study area, freight and logistics, other, and office uses are expected to have the highest growth in floorspace requirements (with the highest percentage growth rate in local light industrial, bulky goods retail, and factory outlets). This is in line with strong demand for wholesale trade, retail trade, and professional services industries. Floorspace requirements for urban services, heavy manufacturing, and light manufacturing are expected to decline given contractions in the manufacturing and utilities sectors.

In total, it is projected that the study area will require an additional 250,000 square metres of floorspace to 2036 (Table 17).

TABLE 17. BLC FLOORSPACE FORECAST – TOTAL ('0,000 SQM)

	2011	2016	2021	2026	2031	2036	Change 2011-31	AAGR 2011-31
Other	115.6	116.7	117.2	119.2	121.5	124.5	9.0	0.3%
Retail: main street	12.1	12.7	12.9	13.2	13.6	14.0	1.9	0.6%
Freight and logistics	77.9	79.2	80.1	81.9	83.9	86.4	8.5	0.4%
Heavy manufacturing	16.7	15.3	14.1	13.8	13.6	13.6	-3.1	-0.8%
Light manufacturing	4.4	4.3	4.2	4.2	4.2	4.3	-0.1	-0.1%
Local light industrial	7.1	7.4	7.6	7.9	8.2	8.6	1.5	0.8%
Office	42.8	43.9	44.7	45.9	47.1	48.5	5.7	0.5%
Retail: factory outlets	0.5	0.5	0.5	0.5	0.6	0.6	0.1	0.8%
Retail: big box	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2%
Retail: bulky goods	10.8	11.4	11.8	12.3	12.7	13.2	2.5	0.8%
Urban services	2.7	2.1	1.9	1.8	1.8	1.7	-1.0	-1.7%
Total	**290.5**	**293.7**	**295.1**	**301.0**	**307.2**	**315.5**	**25.0**	**0.3%**

Source: SGS Economics and Planning, 2013, using BTS employment growth rates
Note: 'Other' includes land-uses not captured by standard SGS land-use categories, for example cinemas, fitness studios, and casinos.

Floorspace capacity

As shown in Table 18, the estimated achievable total capacity figure for the study area is 1,190,000 square metres (made up of 752,000 square metres of potential new floorspace and 438,000 square metres of vacant floorspace). This excludes road reservation areas noted in the DCP.

TABLE 18. FINAL FLOORSPACE CAPACITY ('0,000 SQM)

Zone	Average potential floorspace	Existing floorspace	Average potential capacity	Maximum potential floorspace	Average potential floorspace	Maximum potential capacity	Potential capacity	Existing vacant FS and land	Capacity
B5	17.5	19.5	-	23.0	2.8	3.6	**2.8**	1.7	4.5
B6	12.6	12.1	0.5	21.3	7.5	9.2	**7.5**	1.2	8.6
B7	12.6	6.6	6.0	28.6	18.8	21.9	**18.8**	9.6	28.4
IN1	187.2	205.1	-	252.4	37.8	47.3	**37.8**	21.8	59.6
IN2	27.0	25.2	2.2	34.7	7.9	9.4	**7.9**	7.8	15.7
Deferred	24.2	22.4	1.8	22.4	0.4	-	**0.4**	1.7	2.1
Total	**281.2**	**292.6**	**10.6**	**384.0**	**75.2**	**91.4**	**75.2**	**43.8**	**119.0**

Source: SGS Economics and Planning, 2013 using data provided by the City of Sydney

Gap analysis

Overall, estimated demand is for an additional 250,000 square metres of floorspace in the study area between now and 2036, and capacity is an additional 1,190,000 square metres of floorspace. This gives an excess of potential supply of 940,000 square metres of floorspace. As a result, this analysis shows no constraints to the forecast growth of floorspace demand across the study area in total, with current vacant floorspace alone sufficient to accommodate projected demand to 2036.

By precinct, there is sufficient capacity in the main study area and Parramatta Road precinct. However, there is a projected shortage of floorspace on the South Dowling Street site of 6000 square metres (Table 19), which may imply a role for the main study area in supporting some demand for B5 zoned land to accommodate this spillover.

TABLE 19. GAP ANALYSIS ('0,000 SQM)

Precinct	Supply (final capacity)	Demand (forecast additional floorspace)	Gap
Main study area	117.3	22.7	94.6
Parramatta Road precinct	1.1	1.0	0.1
South Dowling Street site	0.6	1.2	- 0.6
Total	**119.0**	**25.0**	**94.1**

Source: SGS Economics and Planning, 2013

In terms of the match between current zoning and demand by broad land use category, it appears from Table 20 and Table 21 that:

- while there is sufficient business zoned land to accommodate the non-industrial uses in the main study area, there is a significant over-provision of industrial land. An increase in demand of 52,000 square metres of floorspace to accommodate industrial land uses[16] is expected to 2036, with capacity in industrial zones of 743,000 square metres.
- The industrial zoning in the Parramatta Road precinct does not align with projected growth in mainly the 'other' and office land use categories.
- The B5 zoning of the South Dowling Street site fits well with the projected growth in demand for mainly the 'other' and retail categories.

TABLE 20. CHANGE IN FLOORSPACE DEMAND, 2011-2036 ('0,000 SQM)

BLC	Main study area	Parramatta Road precinct	South Dowling Street site
Other	8.1	0.5	0.3
Retail: main street	1.4	0.0	0.4
Freight and logistics	7.9	0.1	0.4
Heavy manufacturing	-3.1	0.0	0.0
Light manufacturing	-0.1	0.0	0.0
Local light industrial	1.5	0.0	0.0
Office	5.4	0.3	0.0
Retail: factory outlets	0.1	0.0	0.0
Retail: big box	0.0	0.0	0.0
Retail: bulky goods	2.4	0.0	0.1
Urban services	-1.0	0.0	0.0
Total	**22.7**	**1.0**	**1.2**

Source: SGS Economics and Planning, 2013

TABLE 21. CAPACITY BY ZONE BY SITE ('0,000 SQM)

	Main study area			Parramatta Road precinct			South Dowling Street site		
	Capacity	Vacant	Total	Capacity	Vacant	Total	Capacity	Vacant	Total
B5	2.3	1.6	3.9	-	-	-	0.6	0.1	0.7
B6	7.5	1.2	8.7	-	-	-	-	-	-
B7	18.8	9.6	28.4	-	-	-	-	-	-
IN1	37.8	21.8	59.6	-	-	-	-	-	-
IN2	7.1	7.6	14.7	0.9	0.2	1.1	-	-	-
Deferred	0.4	1.7	2.1	-	-	-	-	-	-
Total	**73.8**	**43.5**	**117.3**	**0.9**	**0.2**	**1.1**	**0.6**	**0.1**	**0.6**

Source: SGS Economics and Planning, 2013

[16] Namely, freight and logistics, heavy manufacturing, light manufacturing, local light industrial and urban services.

APPENDIX 4A: FORECASTING AND GAP ANALYSIS DETAIL

This section provides further detail on the method used in the preceding forecasting and supply-demand gap analysis tasks.

The supply-demand analysis involves the following steps for *each* precinct:

- Step 1: Calculate the forecast employment growth rate by industry (ANZSIC) between 2011 and 2036 using BTS projections
- Step 2: Convert employment projections to floorspace demand
- Step 3: Calculate floorspace capacity
- Step 4: Compare estimated floorspace capacity to projected demand.

Step 1: Employment growth rates by industry

The employment forecasts (by ANZSIC industry) for each precinct are sourced from the Bureau of Transport Statistics (BTS). The forecasts provide an indication of the magnitude and distribution of future employment and account for future trends by industry. It is important to note that these projections are trend based and broadly speaking, assume that the historical patterns persist. They therefore do not account for any unforeseen structural changes and their applicability to the main study area in particular is limited as a result.

For each precinct and in total, the adjusted five-yearly employment forecast from 2011 to 2036 is shown (Table 22 to Table 25), as well as the change in employment and the compound annual growth rate (CAGR) for this period. Coloured text in the tables shows the highest and lowest growth levels.

TABLE 22. EMPLOYMENT FORECASTS – MAIN STUDY AREA

ANZSIC industry	2011	2016	2021	2026	2031	2036	Change 2011-36	CAGR 2011-36
Agriculture, forestry and fishing	14	12	12	12	12	12	-2	-0.5%
Mining	30	40	44	48	51	54	23	2.3%
Manufacturing	4,443	3,717	3,094	2,869	2,684	2,596	-1,847	-2.1%
Electricity, gas, water and waste services	217	142	118	105	96	90	-127	-3.5%
Construction	979	1,107	1,176	1,173	1,193	1,229	250	0.9%
Wholesale trade	3,955	4,221	4,534	4,849	5,114	5,385	1,431	1.2%
Retail trade	1,717	1,882	1,929	1,996	2,058	2,141	424	0.9%
Accommodation and food services	330	327	314	311	310	315	-15	-0.2%
Transport, postal and warehousing	4,381	4,387	4,438	4,316	4,358	4,408	27	0.0%
Information media and telecommunications	822	863	848	842	834	830	8	0.0%
Financial and insurance services	212	211	223	226	231	234	22	0.4%
Rental, hiring and real estate services	333	327	313	297	286	278	-54	-0.7%
Professional, scientific and technical services	1,779	2,025	2,326	2,594	2,799	2,964	1,185	2.1%
Administrative and support services	577	644	651	662	667	675	98	0.6%
Public administration and safety	413	413	388	369	352	340	-74	-0.8%
Education and training	261	265	291	312	326	338	77	1.0%
Health care and social assistance	328	359	387	410	426	439	111	1.2%
Arts and recreation services	294	310	326	354	378	402	108	1.3%
Other services	1,272	1,353	1,411	1,479	1,546	1,619	347	1.0%
Unclassified	979	1,035	1,090	1,148	1,199	1,251	271	1.0%
Total	**23,335**	**23,640**	**23,916**	**24,371**	**24,919**	**25,599**	**2,263**	**0.4%**

Source: BTS (2012), SGS calculations

TABLE 23. EMPLOYMENT FORECASTS – PARRAMATTA ROAD PRECINCT

ANZSIC industry	2011	2016	2021	2026	2031	2036	Change 2011-36	CAGR 2011-36
Agriculture, forestry and fishing	3	2	2	2	2	2	-1	-1.7%
Mining	0	0	0	0	0	0	0	0.0%
Manufacturing	99	84	71	65	60	58	-40	-2.1%
Electricity, gas, water and waste services	8	5	5	4	4	3	-5	-3.4%
Construction	353	434	493	522	558	601	248	2.2%
Wholesale trade	86	84	83	82	81	80	-5	-0.3%
Retail trade	171	178	174	173	172	173	2	0.1%
Accommodation and food services	179	179	176	177	179	183	4	0.1%
Transport, postal and warehousing	4	3	1	0	0	0	-4	-100.0%
Information media and telecommunications	239	287	316	346	374	402	163	2.1%
Financial and insurance services	37	37	40	41	41	42	5	0.5%
Rental, hiring and real estate services	27	25	23	21	20	19	-9	-1.5%
Professional, scientific and technical services	270	308	354	395	427	452	182	2.1%
Administrative and support services	46	51	50	51	50	51	5	0.4%
Public administration and safety	52	57	58	59	60	61	9	0.7%
Education and training	228	239	269	294	314	331	103	1.5%
Health care and social assistance	213	239	262	281	295	306	93	1.5%
Arts and recreation services	120	116	114	116	116	117	-3	-0.1%
Other services	246	251	253	257	260	264	18	0.3%
Unclassified	61	64	68	71	74	77	17	1.0%
Total	**2,441**	**2,644**	**2,812**	**2,955**	**3,086**	**3,222**	**781**	**1.1%**

Source: BTS (2012), SGS calculations

TABLE 24. EMPLOYMENT FORECASTS – SOUTH DOWLING STREET SITE

ANZSIC industry	2011	2016	2021	2026	2031	2036	Change 2011-36	CAGR 2011-36
Agriculture, forestry and fishing	3	3	3	3	3	3	0	-0.3%
Mining	0	0	0	0	0	0	0	0.0%
Manufacturing	5	4	4	3	3	3	-2	-2.3%
Electricity, gas, water and waste services	0	0	0	0	0	0	0	0.0%
Construction	0	0	0	0	0	0	0	0.0%
Wholesale trade	0	0	0	0	0	0	0	0.0%
Retail trade	274	294	297	303	309	317	43	0.6%
Accommodation and food services	19	19	19	19	20	21	2	0.4%
Transport, postal and warehousing	4	4	4	3	3	3	-1	-1.2%
Information media and telecommunications	0	0	0	0	0	0	0	0.0%
Financial and insurance services	0	0	0	0	0	0	0	0.0%
Rental, hiring and real estate services	0	0	0	0	0	0	0	0.0%
Professional, scientific and technical services	4	4	5	5	5	6	2	1.4%
Administrative and support services	0	0	0	0	0	0	0	0.0%
Public administration and safety	0	0	0	0	0	0	0	0.0%
Education and training	0	0	0	0	0	0	0	0.0%
Health care and social assistance	0	0	0	0	0	0	0	0.0%
Arts and recreation services	0	0	0	0	0	0	0	0.0%
Total	**309**	**328**	**331**	**337**	**343**	**352**	**43**	**0.5%**

Source: BTS (2012), SGS calculations

TABLE 25. EMPLOYMENT FORECASTS – TOTAL STUDY AREA

ANZSIC industry	2011	2016	2021	2026	2031	2036	Change 2011-36	CAGR 2011-36
Agriculture, forestry and fishing	20	18	16	16	17	17	-3	-0.7%
Mining	30	40	45	48	51	54	24	2.3%
Manufacturing	4,546	3,805	3,169	2,937	2,747	2,657	-1,889	-2.1%
Electricity, gas, water and waste services	226	148	123	109	99	93	-132	-3.5%
Construction	1,332	1,541	1,669	1,695	1,752	1,830	498	1.3%
Wholesale trade	4,040	4,305	4,617	4,931	5,195	5,465	1,425	1.2%
Retail trade	2,162	2,355	2,401	2,472	2,538	2,631	469	0.8%
Accommodation and food services	527	524	509	507	509	518	-9	-0.1%
Transport, postal and warehousing	4,389	4,393	4,442	4,320	4,361	4,411	21	0.0%
Information media and telecommunications	1,061	1,150	1,164	1,189	1,208	1,232	171	0.6%
Financial and insurance services	248	248	262	267	272	276	28	0.4%
Rental, hiring and real estate services	360	352	336	318	305	297	-63	-0.8%
Professional, scientific and technical services	2,053	2,337	2,685	2,994	3,231	3,421	1,369	2.1%
Administrative and support services	623	695	702	713	718	725	103	0.6%
Public administration and safety	465	470	446	427	412	401	-64	-0.6%
Education and training	489	503	560	606	640	669	180	1.3%
Health care and social assistance	541	599	649	691	720	744	204	1.3%
Arts and recreation services	414	427	440	469	494	519	105	0.9%
Other services	1,519	1,604	1,664	1,736	1,806	1,883	364	0.9%
Households	0	0	0	0	0	0	0	0.0%
Unclassified	1,040	1,099	1,158	1,220	1,273	1,328	288	1.0%
Total	**26,085**	**26,612**	**27,059**	**27,664**	**28,349**	**29,173**	**3,088**	**0.4%**

Source: BTS (2012), SGS calculations

Step 2: Floorspace demand

The floorspace audit (provided by City of Sydney) was conducted using both ANZSIC industry categories and City of Sydney land-use categories. For the purposes of the modelling undertaken here the ANZSIC categories were used, but the City of Sydney land-use categories were converted to line-up with SGS's

standard broad land-use categories as closely as possible. Applicable ancillary uses within standard land uses (such meetings rooms, and corridors) were pro-rata allocated to the ANZSIC industry categories and SGS land-use categories. Land-uses not captured by standard SGS land-use categories (such as cinemas, fitness studios, casinos and so on) are grouped as 'Other' BLCs.

Floorspace demand is derived by applying each precinct's BTS employment growth rates (by ANZSIC industry) to each precinct's recorded floorspace (by ANZSIC industry)[17]. This assumes there is a proportional relationship between jobs and floorspace and that this remains unchanged over time.

Floorspace demand by ANZSIC and SGS broad land use (BLC) are reported for each precinct on the following page. BLC categories are detailed in Table 26. They provide a better indication of land-use needs than ANZSIC industry categories because many industries are likely have similar land uses or multiple land-uses.

TABLE 26. BROAD LAND USE CATEGORIES

Land use	Description
Freight and logistics (FL)	Warehousing and distribution activities: includes buildings with a number of docking facilities, 'hard stand' areas with trucks or goods awaiting distribution, and large storage facilities.
Local light industrial (LL)	Includes a wide range of businesses that service other business (components, maintenance and support) and subregional populations. For example, car service and repair, joinery, construction and building supplies, and domestic storage.
Heavy manufacturing (MH)	Large scale production activity: likely to be characterised by high noise emission, emission stacks, use of heavy machinery, and frequency of large trucks.
Light manufacturing (ML)	Small scale production with lower noise and emission levels than heavy manufacturing. For example, clothing manufacturing, boat building.
Urban services (US)	Concrete batching, waste recycling and transfer, construction and local and state government depots, sewerage, water supply, electricity construction yards.
Office (O)	Administration, clerical, business services, research.
Business / office parks (BP)	Integrated warehouse, storage, R&D, 'back-room' management and administration with typically a higher office component.
Retail – main street (RM)	Retailing services traditionally found in main street locations (such as supermarkets) and small cluster or strips of stores located next to a street or road.
Retail – big box (RB)	Large shopping complexes, including Westfield.
Retail – bulky goods (RBG)	Typically large, one-story buildings surrounded by car-parking, usually located out of centre and in high exposure (main road) locations.
Special Activities (S)	Tertiary level education, health, and community services.
Dispersed Activities (D)	Primary and secondary education, lower level health, social and community services, trades construction, other 'nomads'.
Residential (RES)	Residential development.
Accommodation (short term) (AST)	Hotels and motels (not including pubs), backpacker establishments.
Car park (CP)	Stand-alone car parking stations.
Vacant sites/lots (VSI)	Vacant sites.
Vacant buildings (VBL)	Vacant buildings.

Source: Developed by SGS Economics and Planning, 2013 for purpose of study

Table 27 and Table 28 show that in the main study area, consistent with the employment projections in step 1, floorspace demand is strongest for wholesale and retail trade industries. Floorspace demand for professional services is expected grow the fastest. With declining employment in manufacturing, the utilities sector, and rental and real estate services; it is expected that floorspace in these sectors should free up for alternative industries. In terms of broad land uses, demand is strongest for freight and logistics, other, and office uses. Contractions in the manufacturing and utilities sectors imply

[17] The BTS employment growth rates were applied to building-level ANZSIC category floorspace from the audit. We then apply the current land-use (BLC) profile to the ANZSIC floorspace for that building to derive its land-use distribution. As such, the current land-use profile of each building is assumed to remain unchanged over time. Lastly, buildings within a precinct are aggregated to derive precinct floorspace demand.

contractions in heavy manufacturing, light manufacturing, and urban services land-uses. In total, it is projected that the main study area requires 226,975 additional square metres of floorspace by 2036.

Table 29 and Table 30 show that in the Parramatta Road precinct, floorspace demand is strongest for professional services, and education and training industries, with professional services floorspace demand expected grow the fastest. In terms of broad land uses, demand is strongest for office, freight and logistics, and other uses. Given current land-uses, no floorspace contractions are expected for this precinct. In total, it is projected that the Parramatta Road precinct requires 10,149 square metres of floorspace by 2036.

Table 31 and Table 32 show that for the South Dowling Street site, floorspace demand is strongest for the retail trade sector. By broad land use category, demand is strongest for retail main street, and freight and logistics uses. Given current land-uses, no floorspace contractions are expected for this precinct. In total, it is projected that South Dowling Street site requires 12,413 square metres of floorspace by 2036.

Total demand by floorspace and broad land use category is given in Table 33 and Table 34.

TABLE 27. ANZSIC FLOORSPACE FORECAST ('0,000 SQM) – MAIN STUDY AREA

	2011	2016	2021	2026	2031	2036	Change 2011-31	AAGR* 2011-31
Manufacturing	57.6	48.2	40.1	37.2	34.8	33.7	-23.9	-2.1%
Electricity, gas, water and waste	4.5	2.9	2.4	2.2	2.0	1.9	-2.6	-3.5%
Construction	5.6	6.3	6.7	6.7	6.8	7.0	1.4	0.9%
Wholesale trade	69.4	74.1	79.5	85.1	89.7	94.5	25.1	1.2%
Retail trade	36.6	40.1	41.1	42.5	43.8	45.6	9.0	0.9%
Accommodation and food services	2.6	2.5	2.4	2.4	2.4	2.4	-0.1	-0.2%
Transport, postal and warehousing	30.7	30.8	31.1	30.3	30.6	30.9	0.2	0.0%
Information media and telecom	15.6	16.4	16.1	16.0	15.8	15.8	0.2	0.0%
Financial and insurance services	1.4	1.4	1.5	1.5	1.5	1.6	0.1	0.4%
Rental, and real estate services	9.3	9.1	8.7	8.3	8.0	7.8	-1.5	-0.7%
Professional/technical services	10.4	11.9	13.6	15.2	16.4	17.4	6.9	2.1%
Administrative services	6.6	7.4	7.5	7.6	7.7	7.7	1.1	0.6%
Public administration and safety	3.6	3.6	3.4	3.2	3.1	2.9	-0.6	-0.8%
Education and training	3.2	3.2	3.5	3.8	4.0	4.1	0.9	1.0%
Health care and social assistance	4.7	5.1	5.5	5.8	6.1	6.2	1.6	1.2%
Arts and recreation services	5.9	6.2	6.5	7.1	7.6	8.0	2.2	1.3%
Other services	10.1	10.7	11.2	11.7	12.3	12.8	2.7	1.0%
Total	**277.6**	**279.8**	**281.0**	**286.5**	**292.4**	**300.3**	**22.7**	**0.3%**

Source: SGS Economics and Planning, 2013, using BTS employment growth rates. * AAGR is average annual growth rate.

TABLE 28. BLC FLOORSPACE FORECAST ('0,000 SQM) – MAIN STUDY AREA

	2011	2016	2021	2026	2031	2036	Change 2011-31	AAGR* 2011-31
Other	111.4	112.3	112.6	114.5	116.6	119.5	8.1	0.3%
Retail: main street	9.1	9.5	9.7	10.0	10.2	10.6	1.4	0.6%
Freight and logistics	74.2	75.3	76.1	77.8	79.7	82.1	7.9	0.4%
Heavy manufacturing	16.7	15.3	14.1	13.8	13.6	13.6	-3.1	-0.8%
Light manufacturing	4.4	4.3	4.2	4.2	4.2	4.3	-0.1	-0.1%
Local light industrial	7.0	7.3	7.5	7.8	8.1	8.5	1.5	0.8%
Office	41.9	43.0	43.7	44.8	45.9	47.3	5.4	0.5%
Retail: factory outlets	0.5	0.5	0.5	0.5	0.6	0.6	0.1	0.8%
Retail: big box	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2%
Retail: bulky goods	9.8	10.3	10.7	11.2	11.7	12.2	2.4	0.9%
Urban services	2.7	2.1	1.9	1.8	1.7	1.7	-1.0	-1.8%
Total	**277.6**	**279.8**	**281.0**	**286.5**	**292.4**	**300.3**	**22.7**	**0.3%**

Source: SGS Economics and Planning, 2013, using BTS employment growth rates * AAGR is average annual growth rate.

TABLE 29. ANZSIC FLOORSPACE FORECAST ('0,000 SQM) – PARRAMATTA ROAD PRECINCT

	2011	2016	2021	2026	2031	2036	Change 2011-31	AAGR* 2011-31
Manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Electricity, gas, water and waste	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Wholesale trade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Retail trade	2.3	2.4	2.3	2.3	2.3	2.3	0.0	0.1%
Accommodation and food services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Transport, postal and warehousing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Information media and telecom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Financial and insurance services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Rental, and real estate services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Professional/technical services	0.8	0.9	1.0	1.1	1.2	1.3	0.5	2.1%
Administrative services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4%
Public administration and safety	0.7	0.7	0.8	0.8	0.8	0.8	0.1	0.7%
Education and training	0.7	0.7	0.8	0.9	0.9	1.0	0.3	1.5%
Health care and social assistance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5%
Arts and recreation services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Other services	0.5	0.5	0.5	0.6	0.6	0.6	0.0	0.3%
Total	**5.0**	**5.3**	**5.5**	**5.7**	**5.8**	**6.0**	**1.0**	**0.7%**

Source: SGS Economics and Planning, 2013, using BTS employment growth rates * AAGR is average annual growth rate.
Note that there are instances where BTS projects employment in an industry that has no recorded floorspace. Given that employment growth rates are applied to audited floorspace, there is no floorspace projected for industries that have no audited floorspace (e.g. construction). This is likely to be a mis-classification in the audit process with floorspace allocated to a different industry. This anomaly is unlikely to impact the overall projections since only employment growth rates are applied, and because the land-audit fully accounts for all floorspace in the precinct regardless of the classification.

TABLE 30. BLC FLOORSPACE FORECAST ('0,000 SQM) – PARRAMATTA ROAD PRECINCT

	2011	2016	2021	2026	2031	2036	Change 2011-31	AAGR* 2011-31
Other	2.2	2.4	2.5	2.6	2.7	2.8	0.5	0.9%
Retail: main street	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.1%
Freight and logistics	0.9	1.0	1.0	1.0	1.0	1.0	0.1	0.5%
Heavy manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Light manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1%
Local light industrial	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1%
Office	0.9	1.0	1.0	1.1	1.2	1.2	0.3	1.2%
Retail: factory outlets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Retail: big box	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Retail: bulky goods	0.6	0.7	0.7	0.7	0.7	0.7	0.0	0.1%
Urban services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4%
Total	**5.0**	**5.3**	**5.5**	**5.7**	**5.8**	**6.0**	**1.0**	**0.7%**

Source: SGS Economics and Planning, 2013, using BTS employment growth rates * AAGR is average annual growth rate.

TABLE 31. ANZSIC FLOORSPACE FORECAST ('0,000 SQM) – SOUTH DOWLING STREET SITE

	2011	2016	2021	2026	2031	2036	Change 2011-31	AAGR* 2011-31
Manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Electricity, gas, water and waste	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Wholesale trade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Retail trade	7.9	8.5	8.6	8.7	8.9	9.1	1.2	0.6%
Accommodation and food services	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.4%
Transport, postal and warehousing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Information media and telecom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Financial and insurance services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Rental, and real estate services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Professional/technical services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Administrative services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Public administration and safety	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Education and training	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Health care and social assistance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Arts and recreation services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Other services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	**8.0**	**8.5**	**8.6**	**8.8**	**9.0**	**9.2**	**1.2**	**0.6%**

Source: SGS Economics and Planning, 2013, using BTS employment growth rates * AAGR is average annual growth rate.
Note that there are instances where BTS projects employment in an industry that has no recorded floorspace. Given that employment growth rates are applied to audited floorspace, there is no floorspace projected for industries that have no audited floorspace (e.g. construction). This is likely to be a mis-classification in the audit process with floorspace allocated to a different industry. This anomaly is unlikely to impact the overall projections since only employment growth rates are applied, and because the land-audit fully accounts for all floorspace in the precinct regardless of the classification.

TABLE 32. BLC FLOORSPACE FORECAST ('0,000 SQM) – SOUTH DOWLING STREET SITE

	2011	2016	2021	2026	2031	2036	Change 2011-31	AAGR* 2011-31
Other	1.9	2.1	2.1	2.2	2.2	2.3	0.3	0.6%
Retail: main street	2.8	3.0	3.1	3.1	3.2	3.3	0.4	0.6%
Freight and logistics	2.8	3.0	3.0	3.1	3.2	3.2	0.4	0.6%
Heavy manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Light manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Local light industrial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Office	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6%
Retail: factory outlets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Retail: big box	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Retail: bulky goods	0.4	0.4	0.4	0.4	0.4	0.4	0.1	0.6%
Urban services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6%
Total	**8.0**	**8.5**	**8.6**	**8.8**	**9.0**	**9.2**	**1.2**	**0.6%**

Source: SGS Economics and Planning, 2013, using BTS employment growth rates * AAGR is average annual growth rate.

TABLE 33. ANZSIC FLOORSPACE FORECAST ('0,000 SQM) – TOTAL

	2011	2016	2021	2026	2031	2036	Change 2011-31	AAGR* 2011-31
Manufacturing	57.6	48.2	40.1	37.2	34.8	33.7	-23.9	-2.1%
Electricity, gas, water and waste	4.5	2.9	2.4	2.2	2.0	1.9	-2.6	-3.5%
Construction	5.6	6.3	6.7	6.7	6.8	7.0	1.4	0.9%
Wholesale trade	69.4	74.1	79.5	85.1	89.7	94.5	25.1	1.2%
Retail trade	46.8	51.0	52.0	53.6	55.0	57.1	10.3	0.8%
Accommodation and food services	2.6	2.6	2.5	2.5	2.5	2.5	-0.1	-0.2%
Transport, postal and warehousing	30.7	30.8	31.1	30.3	30.6	30.9	0.2	0.0%
Information media and telecom	15.6	16.4	16.1	16.0	15.8	15.8	0.2	0.0%
Financial and insurance services	1.4	1.4	1.5	1.5	1.5	1.6	0.1	0.4%
Rental, and real estate services	9.3	9.1	8.7	8.3	8.0	7.8	-1.5	-0.7%
Professional/technical services	11.2	12.7	14.6	16.3	17.6	18.7	7.5	2.1%
Administrative services	6.7	7.4	7.5	7.6	7.7	7.8	1.1	0.6%
Public administration and safety	4.3	4.3	4.1	4.0	3.8	3.7	-0.5	-0.5%
Education and training	3.8	3.9	4.3	4.6	4.9	5.1	1.2	1.1%
Health care and social assistance	4.7	5.1	5.5	5.8	6.1	6.3	1.6	1.2%
Arts and recreation services	5.9	6.2	6.5	7.1	7.6	8.0	2.2	1.3%
Other services	10.6	11.3	11.7	12.3	12.8	13.4	2.8	0.9%
Total	**290.5**	**293.7**	**295.1**	**301.0**	**307.2**	**315.5**	**25.0**	**0.3%**

Source: SGS Economics and Planning, 2013, using BTS employment growth rates * AAGR is average annual growth rate.

TABLE 34. BLC FLOORSPACE FORECAST ('0,000 SQM) – TOTAL

	2011	2016	2021	2026	2031	2036	Change 2011-31	AAGR* 2011-31
Other	115.6	116.7	117.2	119.2	121.5	124.5	9.0	0.3%
Retail: main street	12.1	12.7	12.9	13.2	13.6	14.0	1.9	0.6%
Freight and logistics	77.9	79.2	80.1	81.9	83.9	86.4	8.5	0.4%
Heavy manufacturing	16.7	15.3	14.1	13.8	13.6	13.6	-3.1	-0.8%
Light manufacturing	4.4	4.3	4.2	4.2	4.2	4.3	-0.1	-0.1%
Local light industrial	7.1	7.4	7.6	7.9	8.2	8.6	1.5	0.8%
Office	42.8	43.9	44.7	45.9	47.1	48.5	5.7	0.5%
Retail: factory outlets	0.5	0.5	0.5	0.5	0.6	0.6	0.1	0.8%
Retail: big box	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2%
Retail: bulky goods	10.8	11.4	11.8	12.3	12.7	13.2	2.5	0.8%
Urban services	2.7	2.1	1.9	1.8	1.8	1.7	-1.0	-1.7%
Total	**290.5**	**293.7**	**295.1**	**301.0**	**307.2**	**315.5**	**25.0**	**0.3%**

Source: SGS Economics and Planning, 2013, using BTS employment growth rates * AAGR is average annual growth rate.

Step 3: Floorspace capacity

The floorspace capacity calculation considers the potential amount of floorspace permissible under existing controls as a base. The principal controlling documents for this study are the Local Environmental Plan (LEP) and Development Control Plans (DCPs) that apply to the study areas. These documents outline permitted and prohibited uses on certain land as well as the amount and structure of the urban form. The key control when determining maximum potential floorspace is the Floorspace Ratio (FSR). FSRs limit the amount of floorspace permitted on a lot based on the ratio of floorspace to lot size. Table 35 shows which zone and FSR controls apply within each precinct. Applying the relevant FSRs to each lot calculates a maximum floorspace value.

TABLE 35. FLOORSPACE RATIOS

Precinct and zone	-	1:1	1.5:1	1.75:1	2:1	2.5:1	3:1
Main precinct							
B5	-	-	X	-	X	-	X
B6	X	X	-	-	X	-	-
B7	-	-	-	-	X	-	-
IN1	-	X	X	X	-	-	-
IN2	X	-	X	X	-	-	-
Deferred	X	-	-	-	-	-	-
-	X	-	-	-	-	-	-
Parramatta Road							
IN2	-	-	X	X	-	-	-
-	X	-	X	X	-	-	-
South Dowling Street							
B5	-	-	-	-	-	-	X

Source: SGS Economics and Planning, 2013, using data provided by the City of Sydney

Using the maximum floorspace achievable under current controls in the modelling would be unrealistic, however, and would represent a significant change to the existing urban form. The first step to achieve a more defendable capacity figure was to create a capacity range for each lot. This involved calculating the average FSR for each zone from the land audit data (Table 36), and applying it to each lot under that zone. This was determined to be the low end of the capacity range. The maximum capacity as shown in Table 37 was the upper limit.

TABLE 36. AVERAGE EXISTING FSR

Precinct	FSR
Main precinct	
B5	1
B6	1.1
B7	0.8
IN1	1.1
IN2	1.3
Deferred	1.3
-	-
Parramatta Road	
IN2	2.4
-	0.1
South Dowling Street	
B5	1

Source: SGS Economics and Planning, 2013, using data provided by the City of Sydney.

An achievable final capacity value was estimated to be towards to maximum end of the range (by zone) and was calculated using the following formula:

Floorspace capacity = Average capacity + 80% x (Maximum capacity – Average capacity)

Descriptive results for the calculation of the final floorspace capacity can be seen in Table 37, which shows that the current total capacity for the whole study area is 1,190,000 square metres; made up of 752,000 square metres of potential floorspace and 438,000 square metres of vacant floorspace.

TABLE 37. FINAL FLOORSPACE CAPACITY ('0,000 SQM)

Zone	Average potential floorspace	Existing floorspace	Average potential capacity	Maximum potential floorspace	Average potential floorspace	Maximum potential capacity	Potential capacity	Existing vacant FS and land	Capacity
Main study area									
B5	9.5	11.5	-	14.4	2.3	2.9	2.3	1.6	3.9
B6	12.6	12.1	0.5	21.3	7.5	9.2	7.5	1.2	8.6
B7	12.6	6.6	6.0	28.6	18.8	21.9	18.8	9.6	28.4
IN1	187.2	205.1	-	252.4	37.8	47.3	37.8	21.8	59.6
IN2	22.5	20.3	2.2	28.6	7.1	8.3	7.1	7.6	14.7
Deferred	24.2	22.4	1.8	22.4	0.4	-	0.4	1.7	2.1
-	-	1.7	-	1.7	-	-	-	-	-
Total	268.7	279.7	10.6	369.3	73.8	89.6	73.8	43.5	117.3
Parramatta Road precinct									
IN2	4.5	5.0	-	6.1	0.9	1.1	0.9	0.2	1.1
South Dowling Street site									
B5	8.0	8.0	-	8.7	0.6	0.7	0.6	0.1	0.6
Total	**281.2**	**292.6**	**10.6**	**384.0**	**75.2**	**91.4**	**75.2**	**43.8**	**119.0**

Source: SGS Economics and Planning, 2013 using data provided by the City of Sydney

It is noted in 2008 the City of Sydney prepared a capacity study which measured the gap between the floorspace available under the 2008 planning controls 'as built', and the potential floorspace that could theoretically be achieved under the then proposed City Plan controls (City of Sydney, 2008). In 2010 the capacity study was updated to reflect some proposed changes to the draft controls. The capacity study did not count the capacity of sites that were unlikely to be redeveloped (City of Sydney, 2010).

The 2008 capacity study found the capacity of the southern industrial area was 1,133,630 square metres of floorspace if included sites were developed to their full potential. This was only slightly altered in the 2010 capacity study to about 1,014,000 square metres.

While the study areas of the capacity study and this employment lands study vary slightly (some land to the north of the employment lands study area is not included in the capacity study area), the capacity study broadly supports the conclusions of the above analysis.

Step 4: Gap analysis

To assess whether there is enough floorspace capacity available in the study area to accommodate forecast floorspace demand to 2036, the capacity (supply) data was compared to the demand analysis to identify the gap. This gap can be seen in Table 38, which shows that there is an excess of potential supply in the order of 941,000 square metres of floorspace (under existing planning controls and using the floorspace capacity reduction in the formula above).

TABLE 38. GAP ANALYSIS ('0,000 SQM)

Precinct	Supply (final capacity)	Demand (forecast additional floorspace)	Gap
Main study area	117.3	22.7	94.6
Parramatta Road precinct	1.1	1.0	0.1
South Dowling Street site	0.6	1.2	- 0.6
Total	**119.0**	**25.0**	**94.1**

Source: SGS Economics and Planning, 2013

APPENDIX 5: INDUSTRIAL FEASIBILITY MODELLING

Overview

The background report at appendix 8 notes that the City of Sydney Floorspace Employment Survey found large amounts of vacant land and vacant floorspace in the main study area. Local landowners and commercial property market agents also discussed the high vacancy rates during consultation.

To explore the relationship between vacancies, demand for land/ floorspace in the area, and the viability of development indicative feasibility modelling has been conducted. As a case study, the feasibility of a typical industrial development (a warehouse) within the existing planning controls has been modelled.

Proposed site and building characteristics

A 1600 square metre (gross) warehouse with a net leasable floor area of 1440 square metres was modelled on two sites, both of which were 2500 square metres. The two sites differed in that the first has an existing industrial building that would require demolition, whilst the second is a vacant site. The proposed developments were consistent with the planning controls for the IN1 zone found in the *Sydney Local Environmental Plan 2012*. The sites are in the vicinity of Gardeners Road, O'Riordan Street and Bourke Road.

The building type chosen was a modern High Bay warehouse, reflective of much of the development in the area and consistent with the freight and logistics industries which dominate the industrial landscape. The High Bay ceiling is to allow for 10m+ shelf stacking as is generally required in a modern warehouse. Table 39 shows the specific site attributes.

TABLE 39. SITE AND BUILDING ATTRIBUTES

Site	Development 1	Development 2
Site area (sqm)	2500 sqm	2500 sqm
Gross building area (sqm)	1600 sqm	1600 sqm
Net leasable floor area (sqm)	1440 sqm	1440 sqm
Site coverage (%)	64%	64%
Car space requirement	1 space/300 sqm	1 space/300 sqm
Total car spaces	5	5
Roof type	High Bay	High Bay
Height	11m	11m
Structure	Pre-cast	Pre-cast
Existing site use	Existing industrial building	Vacant

Source: SGS Economics and Planning, 2013 and Rawlinsons, 2012

Feasibility inputs

A residual land value (RLV) model was run to test development feasibility.

RLV method

The RLV model calculates the residual value of a development after deducting all the development costs from the sales revenues, in the current market. The development costs include construction costs and contingencies, external works and other site works, professional fees, developer's profit margin, infrastructure levies or contributions and other council fees.

Sales revenue	– development cost (including construction cost, professional fees, profit, risk, and DA)	= Residual land value

The development is considered feasible when the residual land value is greater than the cost to acquire the land. This is given as a ratio in the model where a feasibility ratio >1 translates to a feasible development. The cost and revenue assumptions and other model inputs are discussed in detail below.

Land acquisition costs

The land acquisition costs are based on current on-the-market listings, recent transactions in the area through extensive analysis of market data (using RP Data), commercial real estate listings and property market research reports. The data analysis has been sense checked with commercial property market agents with listings in the area.

Construction costs

The building costs per square metre have been sourced from Rawlinsons Australian Construction Handbook 2012. This includes the construction costs of the warehouse, parking, demolition costs (where required), site preparation and external works for the second development. As a general rule, the construction costs of a warehouse development are significantly lower than many other building types due to the relatively simplistic nature of the buildings and lack of internal finishings.

Professional costs and other development costs

The professional costs for warehouse development are lower than those for many other types of development; again this is due to the fairly simple structural and design requirements. Rawlinsons gives a range of professional costs for warehouse developments which range from 6.5-9.5 percent, however there is a disclaimer pointing out the fact that costs are often substantially lower than those given in the handbook. For this exercise a total project fee cost of 6.2 percent has been estimated. The low figure is based on fairly low fees for architecture and design as well as project management, consistent with the nature of the development. Table 40 shows the estimated breakdown of professional fees.

TABLE 40. PROFESSIONAL FEES

Professional Service	% of building costs
Architect	1.0%
Structural engineer	1.0%
Mechanical engineer	0.5%
Hydraulic engineer	0.5%
Electrical engineer	0.5%
Survey fees	0.2%
Quantity surveyor	0.5%
Project management	2.0%
Professional fees total	**6.2%**

Other development costs	Proportion (%)	of cost
External works and services	3%	of building cost
Construction contingency	10%	of building cost + external wks
Professional fees	6.2%	of building cost + external wks + const. contingency
Development charge (section 94.etc)	2%	of all construction costs
Developer's profit margin	15%	of all construction costs

Source: Rawlinsons, 2012 and SGS Economics and Planning, 2013

GST

GST is payable on the revenue from the sale of each dwelling. It is calculated at 10 percent GST of the revenue from each dwelling. To ensure GST is not over-counted, GST for construction costs and land purchase is excluded and considered an input credit. The difference between the 10 percent revenue of the dwelling sales minus the input credits (GST on property purchase and construction costs) is payable. If GST payable on the input credits (development costs and property purchase) is greater than the GST from the sales revenue, then the difference can be claimed as a tax deduction.

Stamp duty

Stamp duty is costed at the rate as dutiable by the NSW Government. There is a lump sum fee plus proportional rate for any dollars over the threshold the lump sum is charged for. The proportional rate and lump sum vary according to the property value.

Revenue costs

Revenue costs are those which are taken as a proportion of the revenue (income) from sale or leasing of the property (Table 41). The costs are based on Rawlinsons Handbook as well as similar development types.

TABLE 41. SALE EXPENSES (AS A PROPORTION OF REVENUE)

Sales expenses	% of sales values
Commission on sales	3.0%
Legal fees	0.5%
Marketing	0.5%
Other	0.0%
Total sales expenses	**4.0%**

Source: Rawlinsons, 2012

Revenue

The revenue assumptions for modelling the feasibility of a warehouse development in Southern Sydney are been based on both data analysis and consultation with commercial property market agents. The data analysis involves extracting recent sales and leasing transactions from a number of sources including RP Data, commercial property websites as well as commercial real estate market research

reports from major brokers including Colliers and CBRE. The consultation with local property market agents is used to sense check the achievable revenue estimates.

The revenue assumptions take into account both achievable leasing and sale prices ($) per square metre. The market yields for industrial land in the main study area are slightly lower than other areas; as of 2012, around 7.5 to 10 percent according to Colliers. This indicates that there is a longer cost recovery period than other industrial areas in Sydney and this may be affecting its competitiveness in the market.

Results of feasibility of current zoning

The results in Table 42 show that both development scenarios tested: a modern High Bay warehouse development on 1) an existing industrial building that would require demolition, and 2) a vacant site, return a negative feasibility value (that is, less than 1). This has occurred as the revenue from a warehouse development (capital property value) is less than the combined costs of constructing the development and purchasing the land.

Both development scenarios return a positive residual land value, indicating that the estimated revenue is greater than the development costs, however when combing the development costs with property purchase costs, the revenue is substantially lower than the combined costs, which precipitates a feasibility ratio less than 1.

This may indicate that there are several factors affecting the industrial market, which are likely linked to the considerable vacancy in the area. The demand for warehousing space and resultant income is not consistent with the relatively high land values. Although this should encourage a reduction in the cost of land in the area, at present it remains high and thus would require a considerable increase in demand to achieve revenue sufficient to make warehousing development feasible.

TABLE 42. SUMMARY OF INDICATIVE FEASIBILITY FOR WAREHOUSE DEVELOPMENT

Attribute	Development scenario 1	Development scenario 2
Current land value	$3,750,000	$3,200,000
Stamp duty payable on land	$191,740	$161,490
Land financing cost	$221,723	$189,084
Total land costs	**$4,163,463**	**$3,550,574**
Total construction costs	$1,713,243	$1,451,970
Developer's profit margin (incl. interest)	$256,986	$217,796
Other Costs	$34,265	$29,039
Total development costs	**$2,004,494**	**$1,698,805**
Capital land value/sqm	$2,400	$2,400
Total sales revenue	**$3,317,760**	**$3,317,760**
GST credit	$496,658	$422,906
Residual land value	**$1,313,266**	**$1,618,955**
Feasibility ratio	**0.43**	**0.58**

Source: SGS Economics and Planning, 2013

This implies that in order to reduce vacancies in the main study area and facilitate renewal, zoning changes are required that will increase feasibility and encourage development. The following section details SGS's recommendations for planning controls that will help achieve the vision proposed by our preferred strategy.

APPENDIX 6: POPULATION SERVING INDUSTRY TEST

The proposed changes to the zonings have implications for the space available for population servicing industries, comprising the Local Light[18] industrial and Urban Services[19] land use categories. It is therefore necessary to test whether rezoning of industrial land proposed in the scenarios would ensure sufficient quantity is retained to service the current and projected local population.

Even though some locals are likely to travel to adjacent LGAs for some uses located on industrial land, we assume that the study area generally needs to have the ability to service the needs of the residents in the City of Sydney LGA. That is, we assume that the City of Sydney is largely self-contained in its ability to service its local population's employment land demand.

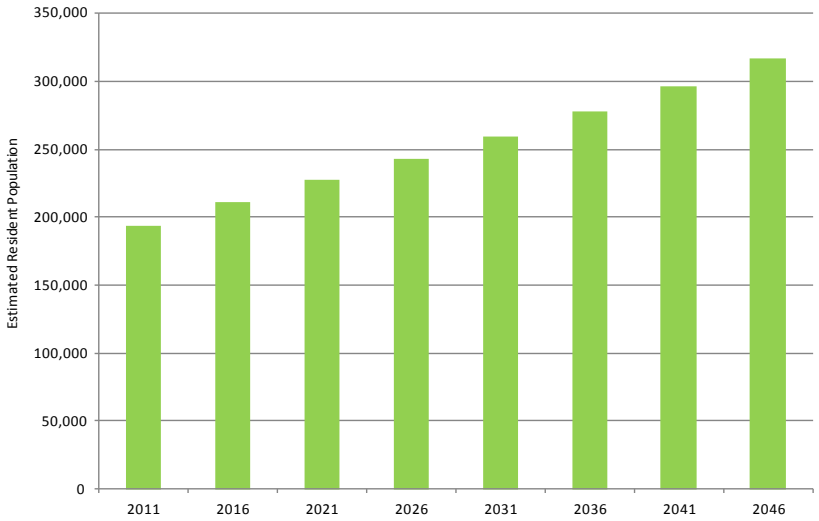
To calculate the population driven jobs and floorspace for the LGA, we apply ratios of jobs per person (estimated by SGS using regressions from land audits across Sydney) to BTS population projections in Figure 38 for the LGA. The jobs are then converted to floorspace using SGS ratios of floorspace per job.

This process assumes constant returns to scale, and a fixed relationship between population, jobs, and floorspace. In practice, these assumptions are unlikely to hold true, particularly given that services in the Local Light industrial category are changing and intensifying (for example, with large integrated sales and service operations in the car industry), and given scope in the Urban Services category for scale economies (where significant increases in activity do not necessarily create a demand for additional land). As such, the estimates of required floorspace for population serving industries given below are conservative on the high side for population related service industry land. This is appropriate in providing a 'buffer' in the stock of this land.

[18] Includes a wide range of businesses that service other business (components, maintenance and support) and subregional populations. For example, car service and repair, joinery, construction and building supplies, and domestic storage.

[19] Concrete batching, waste recycling and transfer, construction and local and state government depots, sewerage, water supply, electricity construction yards.

FIGURE 38. ESTIMATED RESIDENT POPULATION, CITY OF SYDNEY LGA



Source: BTS, 2012

In 2036, it is estimated that the total population of the City of Sydney LGA would require around 190,000 square metres of floorspace for Local Light industrial uses, and around 147,000 square metres of Urban Services floorspace. This amounts to around 339,000 square metres of population-driven floorspace demand in 2036 (Table 43).

TABLE 43. POPULATION DRIVEN JOBS AND FLOORSPACE – PROJECTIONS

Industrial land use	Jobs per resident	Fsp per job (sqm)	2011 jobs	2036 jobs	2011 fsp (sqm)	2036 fsp (sqm)	Additional jobs	Additional floorspace (sqm)
Local Light	0.0115	60	2,229	3,191	133,717	191,487	963	57,770
Urban Services	0.0053	100	1,027	1,471	102,710	147,084	444	44,374
Total	**0.0914**	**0**	**3,256**	**4,662**	**236,427**	**338,571**	**1,407**	**102,143**

Source: SGS Economics and Planning, 2013

The preferred mixed economy scenario allocates around 490,000 square metres of land for industrial use. If an FSR of 1:1 is assumed for population serving industries, this results in an additional land being available for strategic uses. It is worth noting that although this is lower than the current permitted FSR of 1.5:1 in IN1 zones, it may be higher than the average FSR of existing firms. Some intensification of uses would be expected, however, as uses consolidate in the proposed industrial area.

The residential and commercial scenarios allocate around 370,000 square metres of land for industrial use; sufficient to accommodate the projected population-driven industrial demand alone with a small amount left over if assuming a floorspace ratio of 1:1.

APPENDIX 7: STRATEGIC ASSESSMENT OF EMPLOYMENT LANDS

SGS has undertaken an assessment of the scenarios using the Summary of Strategic Assessment Checklist in Action E3.2 from the Metropolitan Plan for Sydney 2036, on assessing proposals for employment land (from the Department of Planning and Infrastructure).

Objective E3 ('To provide employment lands to support the economy's freight and industry needs') and Action E3.2 ('Identify and retain strategically important employment lands') provide the strategic context for the rezoning of employment lands.

Under these headings, the Metropolitan Plan notes (p.141) that in many older employment areas there 'is a declining level of activity due to factors such as obsolete building stock and subdivision patterns' and that in these areas options for renewal need to be considered. The document proposes the replacement of the subregional strategy categorisation of industrial lands with a 'strategic assessment checklist', which will be more fully developed in the next round of subregional strategies. Although the future of these is now unclear following the change in government, the 'summary' checklist in Figure 39 remains adopted policy.

FIGURE 39. METROPOLITAN PLAN ACTION E3.2

Source: Department of Planning and Infrastructure, 2010

The document notes that 'the NSW Government continues to support the retention of existing strategically important employment lands across the Sydney region. Only areas that are not strategically important will be considered for rezoning.'

For each of these criteria, the role or impact of the proposed scenarios is considered in broad terms in Table 44 with a score given between -1 and 1. The totals show that the mixed economy scenario performs best in this assessment.

TABLE 44. STRATEGIC ASSESSMENT CHECKLIST

Checklist item	Residential scenario	Score	Commercial scenario	Score	Mixed economy scenario	Score
Consistency with Subregional Strategies	No new subregional strategies but is inconsistent with the Sydney City draft Subregional Strategy because limited land is maintained for employment purposes to support the position of the study area within the Global Economic Corridor.	-1	No new subregional strategies but remains fairly consistent with the Sydney City draft Subregional Strategy by establishing commercial uses as the focus, in line with the position of the study area within the Global Economic Corridor.	0	No new subregional strategies but is consistent with the Sydney City draft Subregional Strategy through providing additional employment lands greater than what is required for population serving demand, and promoting a mixed economy in line with the role of the study area as part of the Global Economic Corridor.	1
Current use of the area, and existing transport and infrastructure	Residential focus is inconsistent with current land uses in the area.	-1	Relatively consistent with current uses of the area although shifts focus from industrial lands towards commercial uses.	0	Supports the current mix of freight and logistics, urban services, light manufacturing and office/business park uses through providing precincts which continue to support these activities.	1
Impacts on the long term viability of the employment land precinct and any industry clusters in the precinct or surrounding area	The scenario provides for clusters; however, their viability may be negatively impacted by residential uses and associated traffic and interface zone impacts.	-1	Clustering is facilitated and the viability of the area is likely to be improved through greater flexibility in permitted uses; however, the concentration of business park activities within the study area has the potential to compete with the neighbouring Green Square town centre.	1	Caters for clusters of creative, mixed, bulky goods and industrial uses to improve the viability of the area through reduced vacancies and flexibility permitting a greater variety of land uses.	1
Whether the employment lands support national or state significant infrastructure	Involves considerable depletion of land currently housing industrial and business tenants, some of which may support the functioning of the airport.	-1	Provides land for a range of commercial uses that can support Sydney Airport; however, there may be insufficient industrial land available for uses such as freight.	0	Provides land for a range of commercial and industrial uses that can support Sydney Airport.	1
Trends in local land use activity	Consistent with increasing residential density in the local area and reduction in need for industrially zoned land, although does not facilitate creative industries, which are growing in the area.	1	Consistent with trend of business parks and increasing focus on commercial office employment rather than traditional manufacturing and industrial. Permits some mixed use, likely to attract further creative uses.	1	Consistent with emerging trend of knowledge economy, creative uses, and business park activity; integrating these into a mixed economy scenario that permits some residential activity in defined areas.	1
Suitability and extent of measures implemented to improve an area's employment lands viability	The residential focus is likely to undermine the viability for some industrial activities, given possible traffic implications and interface issues.	-1	Industrial zoning does not permit sufficient flexibility and may have contributed to high vacancies in the area. Proposed changes to zoning are likely to increase the area's viability for a range of	1	Industrial zoning does not permit sufficient flexibility and may have contributed to high vacancies in the area. Proposed changes to zoning are likely to increase the area's	1

Checklist item	Residential scenario	Score	Commercial scenario	Score	Mixed economy scenario	Score
			uses, including industrial.		viability for a range of uses, including industrial.	
Potential to redevelop for industrial uses and/or new industrial uses (e.g. creative industries)	Maintains some potential for industrial uses and the redevelopment of new industrial uses, although in a limited area.	0	Allows for the redevelopment for industrial uses and new industrial uses over a wide area, with greater flexibility in permitted uses.	1	Improves the ability of the study area to redevelop for new industrial uses such as creative industries, while maintaining considerable space for traditional industrial uses that may require buffering.	1
Impacts on stocks of local employment lands and the ability of remaining stocks to meet future local industrial needs	Reduction in the stock of industrially-zoned land in the City of Sydney; however, maintains a sufficient amount to accommodate population serving uses.	1	Reduction in the stock of industrially-zoned land in the City of Sydney; however, maintains a sufficient amount to accommodate population serving uses.	1	Reduction in the stock of industrially-zoned land in the City of Sydney, but provides additional amount above what is required for population serving demand – this will provide for strategic uses supporting the airport and CBD and permit future growth.	1
Total		**-3**		**5**		**8**

Source: SGS Economics and Planning, 2013

APPENDIX 8: RISK ASSESSMENT

TABLE 45. RISK ASSESSMENT

Risk	Likelihood of occurring	Significance	Mitigation strategies
Significant increase in traffic congestion resulting from increased employment densities and incoming residents	**Medium**	**Medium**	Traffic modelling should be conducted to test the carrying capacity of the roads within the study area given the recommended change in land uses and in the context of infrastructure development in the subregion.
Higher than predicted population growth leading to bigger than expected demand for population serving industrial land	**Low**	**Medium**	The requirements for population-serving industrial land have been calculated. Allowance has been made to meet the population driven requirements out to 2036 (339,000 square metres) plus a buffer of 150,000 square metres has been included.
Incoming bulky goods retail operations will be the quickest to move into the main study precinct – taking advantage of relatively low land values. This will jeopardise lower value industrial activity and set the tone as a bulky goods precinct	**High**	**Medium**	It is envisaged that bulky goods operations will be limited to defined corridors along Bourke Road and O'Riordan Street through the application of appropriate planning controls.
Increasing residential development hinders business operations e.g. limiting truck movements or operating hours and so on; or airport operations (such as extending the flight curfew)	**Medium**	**Low**	Traditional industrial operations will be accommodated in the industrially zoned area in the south western portion of the main study precinct. This area has no adjoining residential areas and is expected to have minimal interface issues with planned 'mixed business' to the north.
Key strategic drivers for the Subregion (such as the Port and Airport) change their development trajectory resulting in a changed relationship with the main study precinct.	**Low**	**Medium**	A subregional employment lands review suggests that there is ample land for port related activity in the Ports SEPP. Beyond this land, demand is likely to be stronger for the remaining industrial precincts within Botany Bay LGA than the City of Sydney LGA precincts. In this sense it is important to recognise the strategic importance of Botany Bay LGAs industrial areas for port expansion. Pressure for land for airport related activity is expected to increase. 150,000 square metres of industrial land has been allowed for strategic industrial uses within the main study precinct. In addition, there is opportunity for development of land for airport related business in Tempe and Matraville.
Proposed industrially-zoned areas are unsuitable for these uses, leaving little space for essential population serving or strategic industries	**Low**	**Medium**	The areas zoned for industrial purposes already have general industrial and urban service activity. These areas are demonstrably suitable for industrial activity. They have no neighbouring residential use, have good access and can offer large sites.
Upzoning of land prices out firms requiring space within the study area	**Medium**	**Medium**	When land areas are upzoned and as development occurs within the new zones it is probable that land values will rise. This may mean that some of the lower density/ lower value uses will no longer be able to operate from their current locations.

Risk	Likelihood of occurring	Significance	Mitigation strategies
			Sufficient industrial land area has been allowed to accommodate demand driven by population growth plus a buffer of 150,000 square metres for strategic industries. Land within the new industrial zone will be able to accommodate some dislocated uses from other zones. We accept however that some uses will look to relocate elsewhere, outside the study area. Through discussion with neighbouring Councils we understand that Marrickville LGA is well positioned to accommodate additional light industrial uses.
Funding from development is insufficient to pay for public domain improvements and new infrastructure	**Medium**	**Medium**	The extent of public domain improvements will depend upon the results of further studies. The City of Sydney should consider the potential to ensure that part of any increase in land values is directed towards infrastructure provision in the study area, and towards initiatives that will assist in meeting objectives outlined in Sydney2030.
Insufficient industrial land retained	**Low**	**Medium**	Analysis shows that the proposed retained industrial land is sufficient to accommodate population servicing industrial uses as well as some strategic industrial uses such as those relating to the airport. The mixed economy areas will also be able to support a number of uses that may have traditionally located in industrial zones, for example if there are firms which require sites closer to the city.

Source: SGS Economics and Planning, 2013

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