

Botany Bay Planning Strategy 2031

Local Liveability, Global Connections



Final Report



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The Botany Bay Planning Strategy 2031 has been prepared
for the City of Botany Bay.

Cover Photo: View across Botany Wetlands and Sydney Airport
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Photo 1: Pagewood in foreground, Botany Industrial Park and Port Botany in distance (Pagewood). Source: SGS 2007

Executive Summary

Executive Summary

Background to the Strategy

The City of Botany Bay is developing a comprehensive Local Environmental Plan (LEP) to manage growth and development. The LEP is due for completion in 2010. A key consideration is the New South Wales Government's Metropolitan Strategy and draft East Subregional Strategy.

The Metropolitan Strategy, released in December 2005, provides a whole of government approach to meeting the challenges of urban growth in the Sydney Region. The approach is for a multi-centred Sydney Region with strong suburban centres of employment and housing to support transport investments, more jobs closer to home and ultimately a more sustainable urban pattern.

The Metropolitan Strategy identifies ten subregions across the Sydney Region. The Botany Bay Local Government Area (LGA) is located in the East Subregion along with Randwick, Woollahra and Waverley LGAs. A draft East Subregional Strategy released in early 2007 identifies an LGA dwelling target of 6,500 and an employment capacity target of 16,700 for the period 2004 to 2031.

The Botany Bay Planning Strategy 2031 (the Strategy) addresses the Draft East Subregional Strategy dwelling and job targets and provides a framework for growth and development to 2031. It will guide the preparation of the Botany Bay LGA LEP.

For the purposes of this Strategy; short term is defined as being over the next four years, medium term is defined as being over the next four to seven years and long term is beyond 2015.

Table 1: Summary of Strengths and Challenges (See Chapter 2)

Issue	Strength	Challenge
Urban character and amenity	The LGA contains <i>valued residential areas, some with local heritage significance, good quality urban design and amenity which contribute to urban character and amenity...</i>	<i>...but with significant areas affected by high levels of environmental impact, poor interface with industry, and some poor quality redevelopment eroding this character.</i>
Natural resources	The LGA contains <i>highly valued natural areas of flora and fauna habitat and natural ecosystems...</i>	<i>...which are compromised due to historical and current industrial activity and located on private sites (such as golf courses).</i>
Local links to the global economy	The LGA has <i>opportunities to provide local support services for global Port and Airport operations...</i>	<i>...but limited drivers for increased retail and commercial activity in local retail centres.</i>
Local economy	The LGA contains <i>important local and subregional light industrial activities and services which also serve other East Subregion LGAs...</i>	<i>...which may need land to accommodate them as they expand with the population.</i>
State policy	The LGA is operating in: <i>a policy framework that seeks to consolidate residential activity in and around centres...</i>	<i>...but has a high share of residential land unsuitable for medium or high density residential development due to environmental constraints or lack of adequate public transport.</i>
Local traffic management	The LGA has <i>a comprehensive major road network...</i>	<i>....which carries significant heavy vehicle traffic and provides minimal separate pedestrian and cycle alternatives.</i>
Development approach	The LGA has <i>reduced the impacts of higher density development in areas of low density residential development...</i>	<i>...but achieved this through locating higher density development in converted industrial areas in out-of-centre locations, and via controls which effectively constrain development potential elsewhere.</i>
Open space	The LGA has: <i>significant open space assets...</i>	<i>....most of which are cut off from wider public access by private or active recreation uses.</i>

Strategy Principles

From the analysis of strengths and challenges (Table 1), a set of principles have been developed to underpin the Strategy.

- *Enhance existing urban character, improve amenity and protect areas of cultural and environmental significance.*
- *Promote the sustainable use of resources and enhance natural ecosystems.*
- *Develop synergies between the global and local economy.*
- *Contain and intensify Airport and Port related activities around these economic nodes.*
- *Retain employment uses that are not directly related to the Airport and Port but provide critical services to the sub-region.*
- *Consolidate residential activity in and around existing centres.*
- *Separate regional and local traffic, rail and road movements.*
- *Ensure that future urban development is guided by principles of good urban design and built form.*
- *Improve quality of, and access to, open space in the LGA.*

Development Capacity in the LGA

The draft East Subregional Strategy dwelling targets have assumed a notional residential density yield in and around centres according to their size and classification. The urban capacity analysis undertaken for the Strategy tested the validity of these assumptions, following a more detailed consideration of development constraints.

The potential land available for residential development and intensification was identified by discounting or removing areas affected by a range of constraints, including roads, schools, Port Botany and Sydney Airport, land affected by significant aircraft noise (Australian Noise Exposure Forecast [ANEF] 25 or above), land and corridors affected by hazardous goods routes or significant truck and car traffic, the Botany Wetlands and other public open space, heavy and light industry lands, recently developed residential land and residential areas affected by strata subdivision. These are very significant or absolute barriers to further residential intensification.

Only around 108 hectares of the LGA is comprised of unconstrained residential land. This unconstrained residentially zoned land comprises only one third of the total residentially zoned land in the LGA.

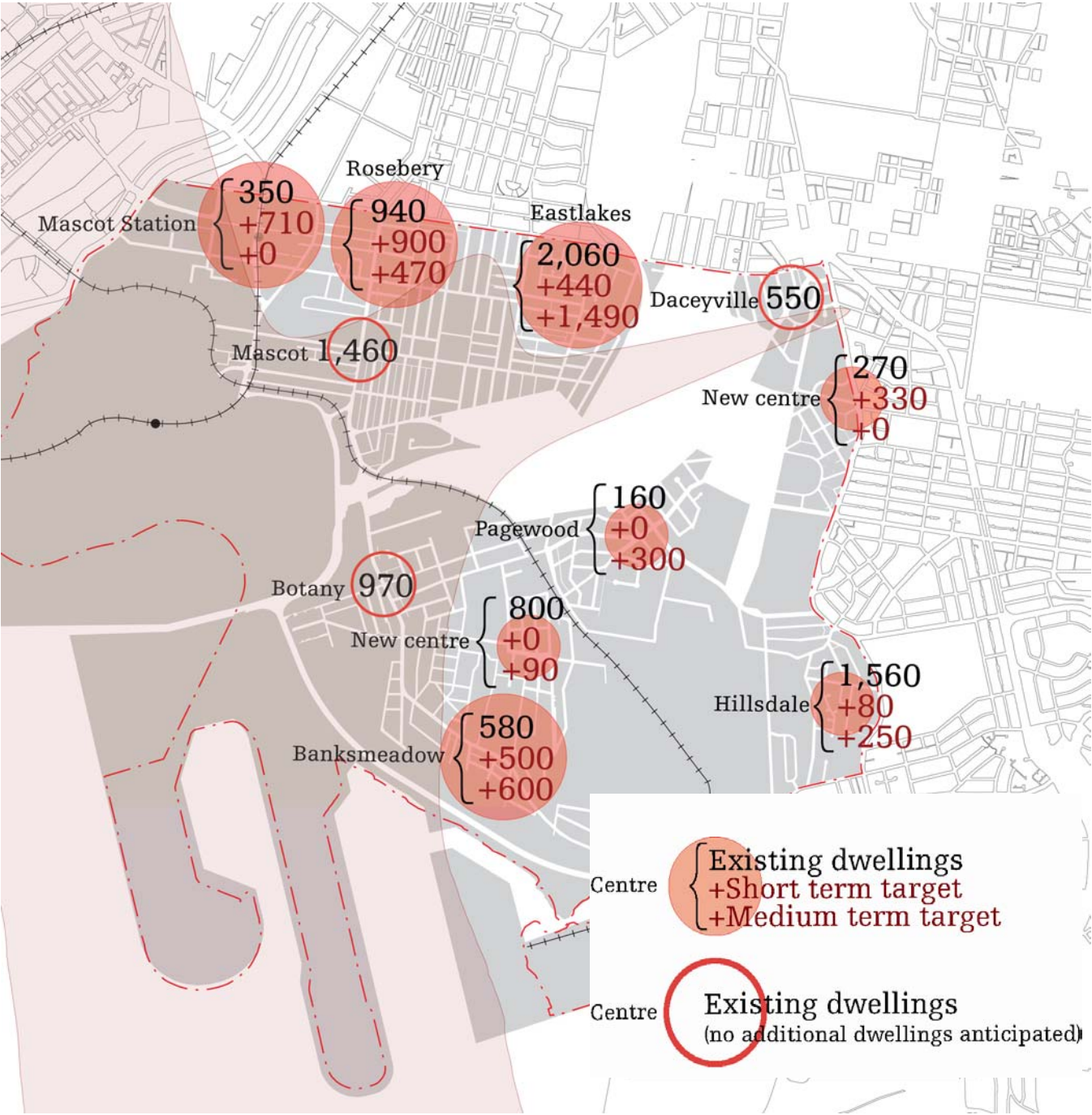
Ambitious but realistic target densities were applied to the areas of good amenity deemed capable of accommodating additional development. It is estimated that with

adjustments to development controls Botany Bay LGA could provide capacity for around 3,800 new dwellings in and around centres with good amenity.

With a further adjustment to the development controls, capacity for an additional 3,500 dwellings could be provided but should only be contemplated where significant restructuring of existing development patterns and public investment in transport and the public domain is undertaken. This remaining potential should be re-assessed at the time of the next LEP review. Figure 1 shows the dwellings yield expected from Strategy actions.

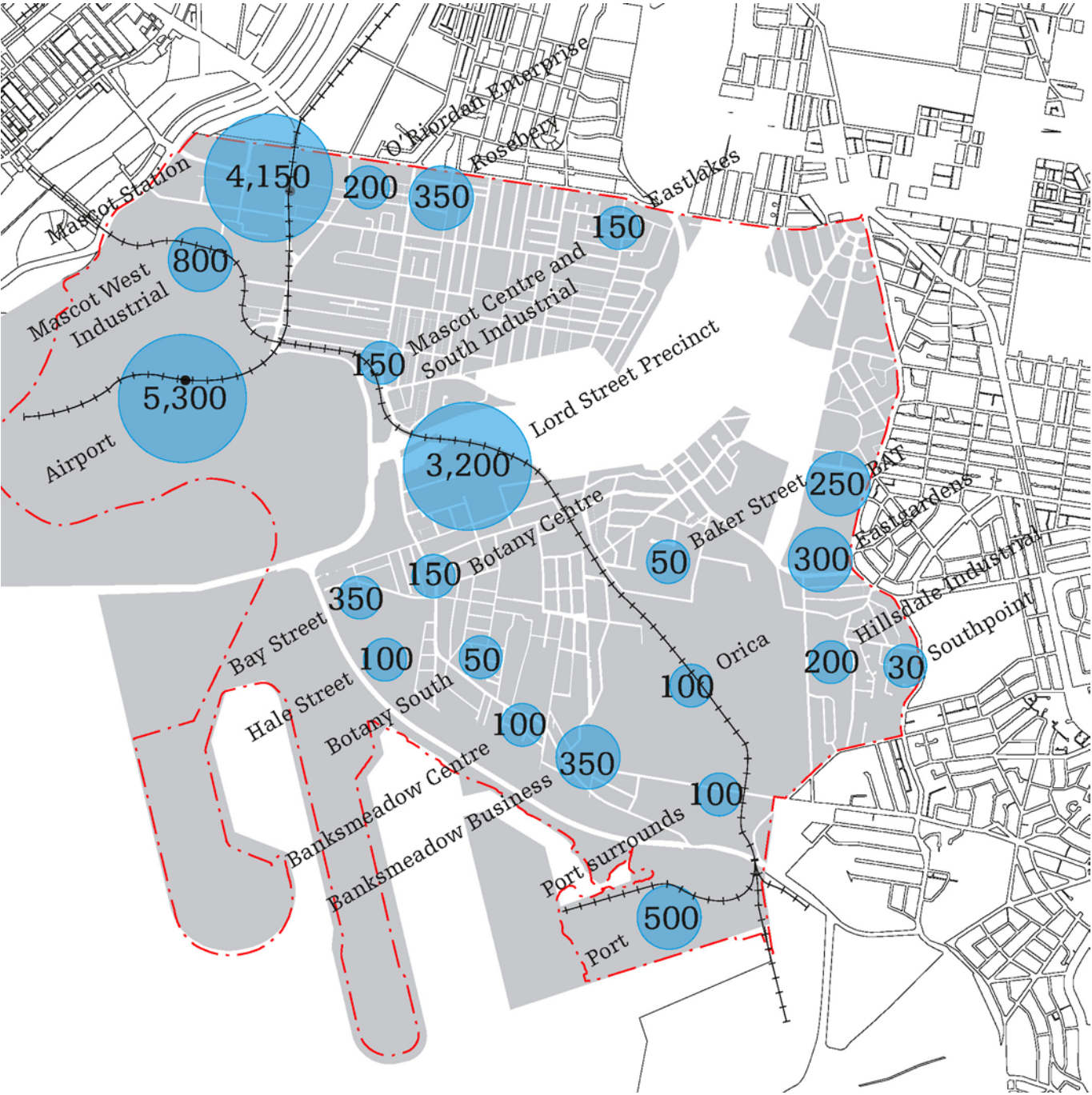
The analysis of existing floor space and future demand found sufficient capacity under the current controls to accommodate future employment related floor space required in the LGA. Future employment by location is shown in Figure 2. Current capacity varies across the employment precincts. In some areas development potential will need to be increased to facilitate more intensive employment outcomes (for example, around Mascot Station and in an extended Lord Street business park precinct), while elsewhere subdivision or use controls, for example, may be necessary to protect sites for freight and logistics and general industrial activities (such as near the Port and Airport).

Figure 1: 2031 Dwelling Distribution



Source: SGS 2008

Figure 2: 2006-2031 Distribution of Additional Employment



Source: SGS 2008

Strategy Directions

Recommendations for action, including proposals for modifying zoning and development controls to accommodate future housing and jobs, have been organised under seven strategic directions, each with a series of objectives as listed below. These define the Strategy's intent and are geographically located in Figure 3.

1. Enhancing Housing Choice and Liveability

- Improve the urban environment, particularly where additional development is proposed.
- Minimise residential development in locations heavily affected by aircraft and traffic noise or other environmental impacts.
- Protect the valued characteristics of Botany Bay LGAs centres and suburbs and minimise the impacts from industrial areas and activities.
- Enhance access to high quality open space assets.
- Provide a greater range of housing types.
- Provide high quality community facilities.
- Advocate for a high quality public transport system and improve local transport management.

2. Revitalising Botany Road and Traditional Centres

- Reinforce the role of Botany Road as a major high amenity and activity spine through the LGA.
- Support and reinforce the centres along the Botany Road spine.
- Advocate for a light rail connection along Botany Road.

3. Managing Growth in the Eastern Centres

- Increase residential development potential in the eastern centres in the short term where there is good amenity and access to public transport.
- Create an urban environment and public domain capable of accommodating additional residential development in the eastern centres in the medium to long term.
- Revitalise existing higher density development where future development potential is limited.

4. Reviving the Local Economy

- Focus local light and service industry activities in existing industrial areas where these are currently the predominant uses (Botany South, Hale Street north, Baker Street and Hillside).
- Provide for additional retail and service activities in existing centres and a new retail area adjacent to Botany Centre.

- Promote the Botany Road and Gardeners Road corridors as locations for new enterprise and commercial activities (in centres and in business areas south of Rosebery, north of Botany centre, in Botany South and west of Banksmeadow).

5. Maintaining Sydney Airport as a Global Gateway

- Protect existing employment areas near the Airport for related activity.
- Support the development of new off-site employment locations near the Airport to accommodate the growth in demand for Airport related activity.
- Develop the Mascot Station precinct as a major retail and commercial centre.
- Develop O'Riordan Street precinct as a major City / Airport gateway.
- Ensure future expansion of Airport activities does not further compromise residential amenity.

6. Maintaining Port Botany as a Global Gateway

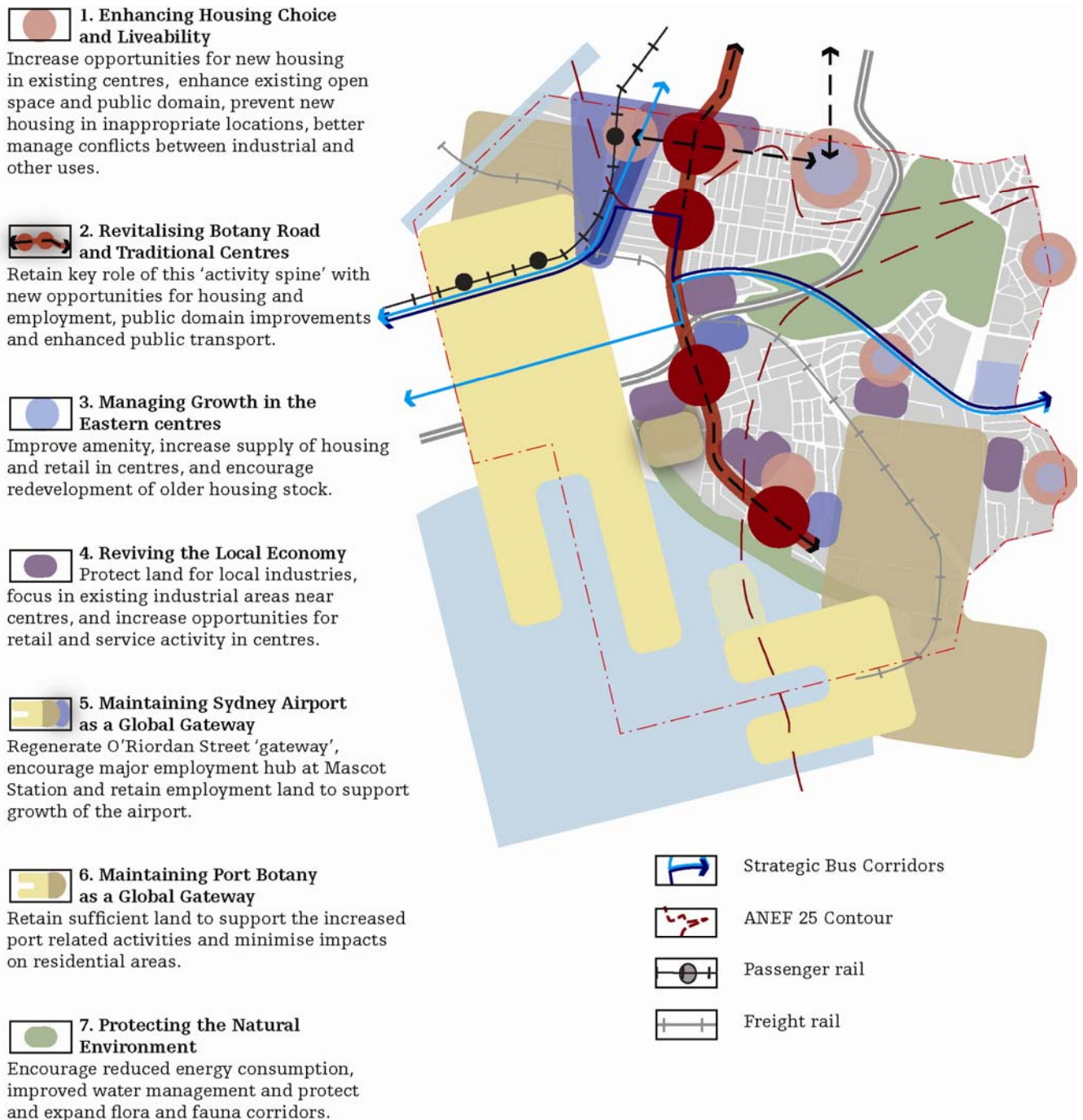
- Ensure employment areas near the Port are protected and able to accommodate Port-related activity and business.
- Ensure local and regional road networks are configured to support Port related activity.
- Ensure Port activities do not further compromise residential amenity.

7. Protecting the Natural Environment

- Protect and expand high quality flora and fauna corridors.
- Support improved water management for all forms of development.
- Support reduced energy consumption for all forms of development.
- Enhance the knowledge of environmental issues and constraints.

Chapter 4 sets out these strategic directions and objectives in detail.

Figure 3: Strategy Summary Map



Source: SGS 2007

Chapter 1: Introduction and Context

Chapter 1: Introduction and Context

Strategy Development and Contents

SGS Economics and Planning was appointed to undertake a Strategic Planning study in 2007. Input on environmental issues was provided by HLA-ENSR.

The Strategy provides a framework for growth and development to 2031 and informs the preparation of the City of Botany Bay LEP.

The Strategy was undertaken with financial assistance from the NSW Government under the Planning Reform Funding 2006/2007 Program. The Steering Committee for the Strategy is made up of representatives from Council and the Department of Planning (Sydney East Regional Team).

The study method included:

- LGA population, economic and environmental profiling and analysis.
- A detailed analysis of housing and employment capacity in the existing controls.
- The development of precinct by precinct options to accommodate future housing and jobs.
- Preparation of a Draft Strategy.

A workshop with stakeholders was conducted and regular progress reports were provided to the Steering Committee.

The strategy was publically exhibited in 2008 (between 28 October and December 12). 51 submissions were received. These were considered by the Steering Committee in the preparation of the Final Report.

The Strategy contains the following sections:

- Executive Summary
- Introduction and context
- Housing and Jobs Futures
- Strengths, Challenges and Strategy Principles
- Strategy Directions
- Implementation

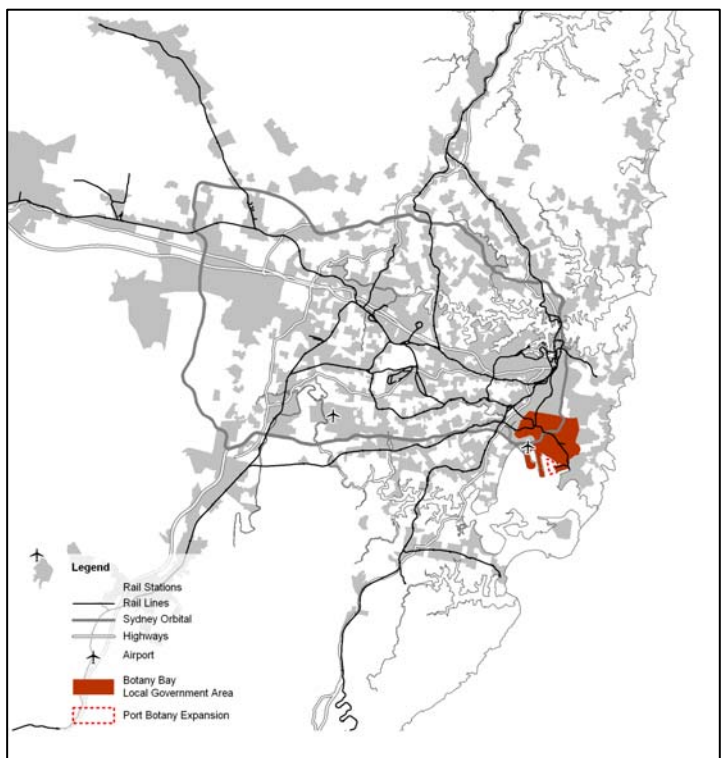
Regional and Local Context

The Botany Bay LGA is located between the Sydney CBD and the northern bank of Botany Bay. The LGA contains Sydney's busiest International and Domestic Airport (Sydney Airport), and a seaport (Port Botany). The Western Sydney Orbital provides access from the LGA to Sydney's outer western and north-western suburbs (Figure 4).

The LGA is approximately 2167 hectares and is bordered by the LGAs of City of Sydney to the north, Randwick to the east and Marrickville and Rockdale to the west. The southern boundary is the northern bank of Botany Bay itself (Figure 5). The residential areas within the LGA are made up of nine suburbs: Mascot, Rosebery, Eastlakes, Daceyville, Pagewood, Eastgardens, Hillsdale, Banksmeadow and Botany (Figure 6).

The Airport, Port, industrial areas and Botany Wetlands occupy over 50 per cent of the LGA. Key transport corridors including the freight line and Southern Cross Drive (part of the Western Sydney Orbital freeway system) divide the LGA. This is shown in figure 7 which also shows key land uses and other transport routes through the LGA.

Figure 4: Regional Context, Sydney Metropolitan area



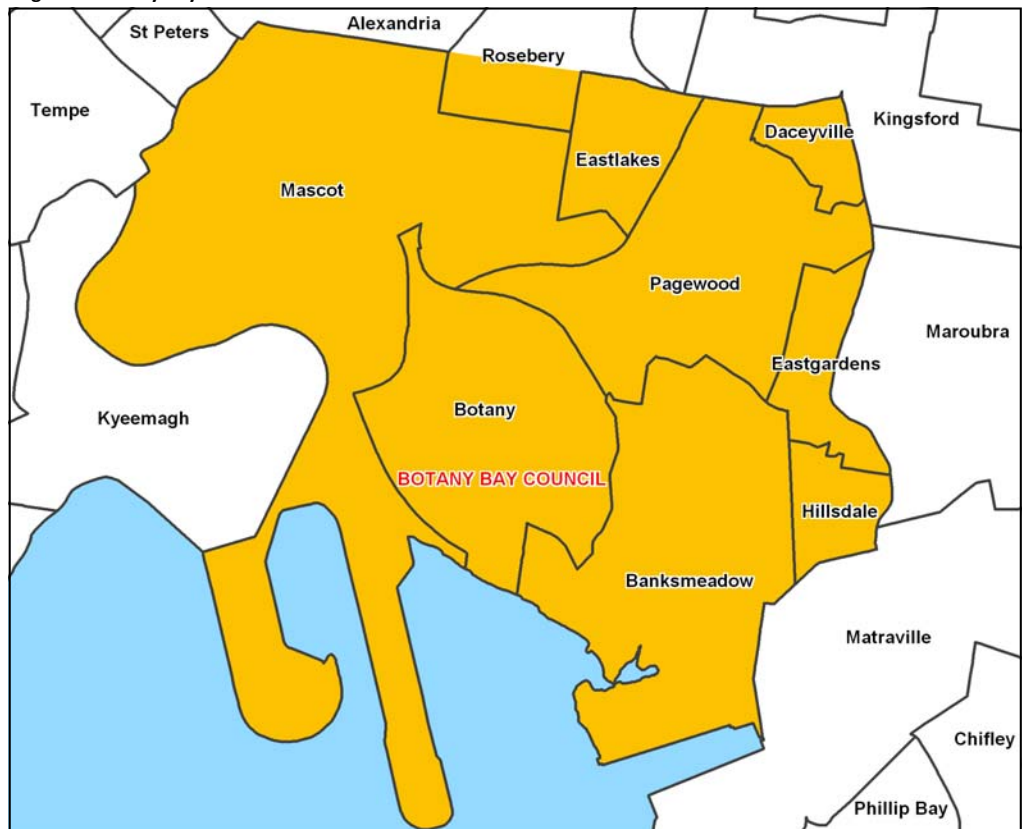
Source: SGS 2007

Figure 5: Botany Bay LGA Inner Sydney Subregional Context



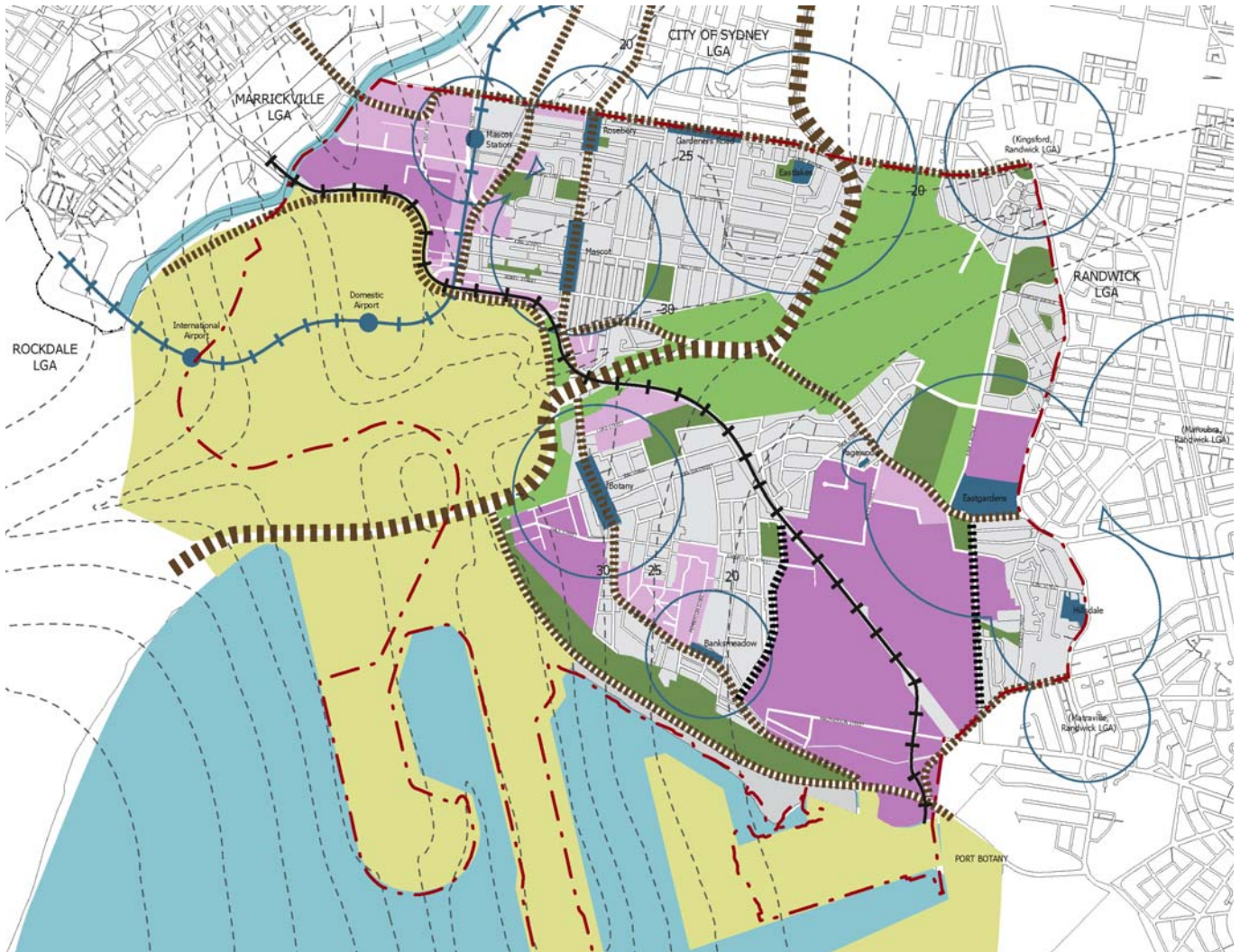
Source: SGS 2007

Figure 6: Botany Bay LGA suburbs context



Source: SGS 2007

Figure 7: Overview of Land Uses, Nominal Centres, Transport Routes and ANEF Contours in Botany Bay



Source: SGS 2007

- Centres
- Light Industry zoning
- Heavy industry zoning
- Public Open Space
- Private Open Space
- Nominal centre
- Major Roads
- Freight Rail
- Passenger Rail
- Dangerous goods route
- 25- ANEF contours

Chapter 2:
Strengths, Challenges and
Strategy Principles

Chapter 2: Strengths and Challenges

Botany Bay LGA is a complex urban environment. Diverse land uses and economies operate within the LGA from the Specialised Centres of Port Botany and Sydney Airport, the heavy industrial land uses at Botany Industrial Park, through to walkable, established residential areas and main street centres. To date, the relationship between these diverse land uses and economies has been difficult to manage at the local level. However, opportunities exist to build on the attributes of the LGA to create areas of high quality residential amenity within the Global Economic Corridor. Some detail about the key strengths and challenges are identified below. From the analysis of strengths and challenges a set of principles have been developed to underpin the Strategy. These are listed at the end of this chapter.

Urban character and amenity

Photo 2: Rosebery housing



Source: SGS 2007

Valued residential areas, some with local heritage significance, good quality urban design and amenity which contribute to urban character and amenity...

Most of the LGA's older residential areas have good quality urban design elements with traditional grid patterns, wide tree-lined streets, a scattering of local open space and some areas of good pedestrian connectivity. Higher quality residential areas include Daceyville, which is partially zoned for heritage conservation, and Pagewood.

...but with significant areas affected by high levels of environmental impact, poor interface with industry, and some poor quality redevelopment eroding this character.

The LGA is significantly affected by the noise and air quality impacts of aircraft, rail, road transport movements as well as noise and air quality impacts arising from industrial land uses. These impacts are expected to intensify with forecast increases in Port and Airport throughput in particular. Impacts are less in the south-eastern areas of Hillside, Eastlakes, Pagewood and Eastgardens with other areas in the LGA experiencing some form of impact.

Issues relating to residential interface with industry are highest where the interface is with heavy industry land uses, or uses that require 24 hour access by heavy vehicles and rail freight which characterise Port and Airport freight activity. Areas of such interface are along the freight line, adjacent to heavy manufacturing at Botany Industrial Park (parts of Botany, Pagewood and Hillside) and adjacent to concentrated freight operations (Hale Street precinct).

Medium density residential development at Eastlakes and Hillside lacks many of the good quality urban design elements of other areas of the LGA. The street configuration and buildings in these centres reflects a typical 1960s approach, with relatively low amenity 'walk-up' flats and relatively poor 'permeability' (or through access) in the lot and open space pattern. Minimal public domain elements contribute to reduced amenity.

Other medium density redevelopment has predominantly occurred on former industrial lands in out-of-centre locations, occasionally in locations affected by higher environmental impacts such as the freight rail corridor. Mascot Station provides a new high quality mixed-use development; however, there has been minimal retail and commercial floorspace incorporated into the development which has reduced its 'town centre' prospects. A lack of amenity at the Mascot Station precinct is cited as a disincentive to investment by the commercial development sector.

Natural Resources

Highly valued natural areas of flora and fauna habitat and natural ecosystems...

Despite the highly modified character of the LGA, areas of remnant vegetation and fauna habitat exist principally in the Botany Wetlands area currently developed for golf course uses. The Botany Bay Foreshore beach (between the Port and Airport) and Penrhyn Estuary also provide aquatic habitats and a destination for migratory birds.

Photo 3: Botany Wetlands at Lakes Business Park



Source: SGS, 2007

The Foreshore Beach and Penrhyn Estuary areas are used for passive and active recreation.

...which are compromised due to historical and current industrial activity located on private sites.

Soil and water contamination in the LGA affect the natural environment. The extent of historical contamination in the LGA is unknown. Contamination effects also add significant costs to redevelopment where remediation is required.

Photo 4: Mascot Station.



Source: SGS, 2007

Local Links to the Global Economy

Opportunities to provide local support services for global Port and Airport operations...

Employment is declining in local service areas and in local centres. While there are opportunities for expansion in key sectors associated with the Port and Airport, opportunities exist to build local employment in services for future households and to attract global economy support services to the local centres.

...but with limited drivers for increased retail and commercial activity in local retail centres.

Opportunities for increased retail and commercial activity in the LGA's main street centres have been limited due to the modest recent growth in the resident population, the lack of public transport to the centres, and poor public domain.

Photo 5: Baker Street Industrial Precinct



Source: SGS, 2007

Opportunities for Port and Airport related business and commercial activities exist in business park developments predominantly located in the Lord Street precinct and in industrial areas near the Port and Airport. Poor connections to the centres reduce the opportunities for higher order business activities located within them.

Local Economy

Important local and subregional light industrial activities and services which also support other East Subregion LGAs...

An audit of employment lands found Botany Bay LGA contains a significant proportion of industrial land uses that service the LGA and East Subregion. These include urban services (waste recycling and transfer, concrete batching, utility depots) and local light industry/urban support land uses (car service and repair, construction and building supplies, domestic storage).

...which may need land to accommodate them as they expand with increased population.

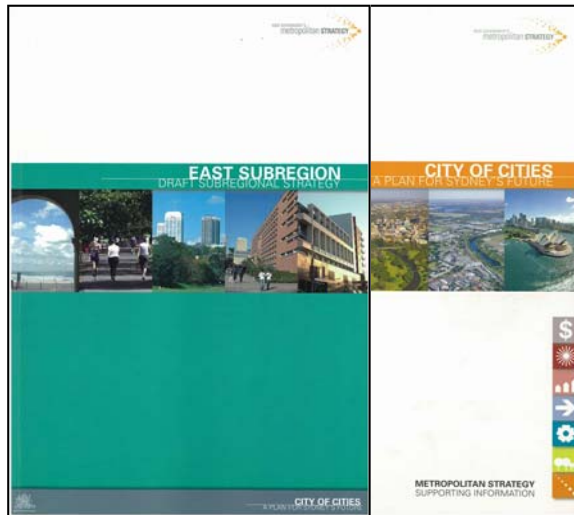
Such uses require land close to the households they serve. While employment has declined in some of these sectors with population growth in the LGA and Eastern Suburbs it is important that land be identified and preserved for 'population related' light industry activities.

State Policy

A policy framework that seeks to consolidate residential activity in and around centres...

Current State planning policy seeks urban growth in and around centres with access to transport, services, employment opportunities and open space and recreation. Growth targets for the Botany Bay LGA set by the draft East Subregional Strategy are for an additional 6,500 dwellings to be accommodated to 2031, located predominantly in the eastern centres of Eastlakes and Hillsdale and the Botany spine centres of Botany and Mascot.

Figure 8: Draft East Subregion and Metropolitan Strategies



...but has a high share of residential land unsuitable for medium or high density residential development due to environmental constraints or lack of adequate public transport.

More than 50 per cent of the LGA is located within the aircraft noise contours of ANEF 25 and higher. Residential development on such land is considered “unacceptable” by Australian Standards (AS 2021) while residential development within ANEF 20-25 is considered “conditional” upon Council discretion. The centres of Botany and Mascot are both located within the ANEF 25 contour.

The eastern centres of the LGA, though not as affected by aircraft noise, are poorly serviced by efficient public transport. Both Eastlakes and Hillsdale have a high proportion of strata-titled subdivision in the core areas within the centre and poor centre configuration. Significant investment in transport will be required to stimulate redevelopment of Eastlakes. Recent significant investment in the Hillsdale centre (Southpoint mixed use development) will also reduce the likelihood of further investment here in the short term.

Local Traffic Management

A comprehensive major road network...

Botany Bay LGA is bounded by the major roads of Bunnerong Road and Gardeners Road and contains Southern Cross Drive which provides access to the Western Sydney Orbital. Botany Road is a major transport corridor through the LGA, with Foreshore Drive providing access from Southern Cross Drive to Port Botany and the Foreshore Beach area.

Photo 6: Southern Cross Drive and Millpond Road



Source: SGS, 2007

...which carries significant heavy vehicle traffic and provides minimal separate pedestrian and cycle alternatives.

Many of the LGA's streets have high daily traffic volumes with a high proportion of heavy vehicle traffic associated with the Port and Airport. There is little distinction between the local and regional traffic functions in the LGA. Few dedicated roads prioritise local cycle and pedestrian access and movement, meaning pedestrian and cycle ways share roads with heavy vehicle traffic, compromising safety.

Development Approach

The impact of higher density development in areas of low density residential development has been minimised...

The interface of higher density development on low density residential areas is a key concern for the Council and community. Botany Bay LGA particularly values its low density areas and seeks to protect their character.

...but residential intensification has been achieved by conversion of industrial areas in out-of-centre locations, where amenity is lacking, and via controls which effectively constrain development potential elsewhere.

Photo 7: Higher density residential development at Pagewood



Source: SGS, 2007

To minimise these interface impacts, higher density development has been allowed in out-of-centre locations typically on former industrial sites. These developments are often remote from shops and services and transport. They tend to encourage car-based development and therefore do not support or encourage local retailing.

Current controls also contain minimum dwelling size requirements and require tower developments to be in the centre of the developments. Such controls and height requirements may reduce opportunities for small builders and developers to produce affordable infill development.

Open Space

Significant open space assets...

Botany Bay LGA contains a significant amount of open space with most of the LGA within 400 metres of open space. Botany Wetlands is a significant open space area in the heart of the LGA and is owned by Sydney Water and mostly leased to golf clubs. Large sporting fields attract regional users.

...but cut off from wider public use by private recreation uses and limited recreation uses...

Current uses on large open space areas are generally limited to formal sporting activities with minimal provision of passive recreation use elements (e.g. gardens, seating, playgrounds). The Botany Wetlands are not publicly accessible due to their occupation by golf clubs.

Based on the key strengths and challenges, a set of nine principles was developed which underpin the Draft Strategy.

Strategy Principles

1. ***Enhance existing and future urban character, improve amenity and protect areas of cultural and environmental significance.***
2. ***Promote the sustainable use of resources and enhancement of the natural ecosystems in Botany Bay LGA.***
3. ***Develop synergies between the global and local economy.***
4. ***Contain and intensify Airport and Port related activities around these nodes.***
5. ***Retain employment uses that are not directly related to the Airport and Port but provide critical services to the East Subregion.***
6. ***Consolidate residential activity in and around existing centres and support their revitalisation.***
7. ***Separate regional and local traffic rail and road movements.***
8. ***Ensure that future urban development is guided by principles of good urban design and built form.***
9. ***Improve quality of, and access to, open space in the LGA.***

Photo 8: Botany wetlands



Source: SGS, 2007

Chapter 3: Housing and Job Futures

Chapter 3: Housing and Jobs Futures

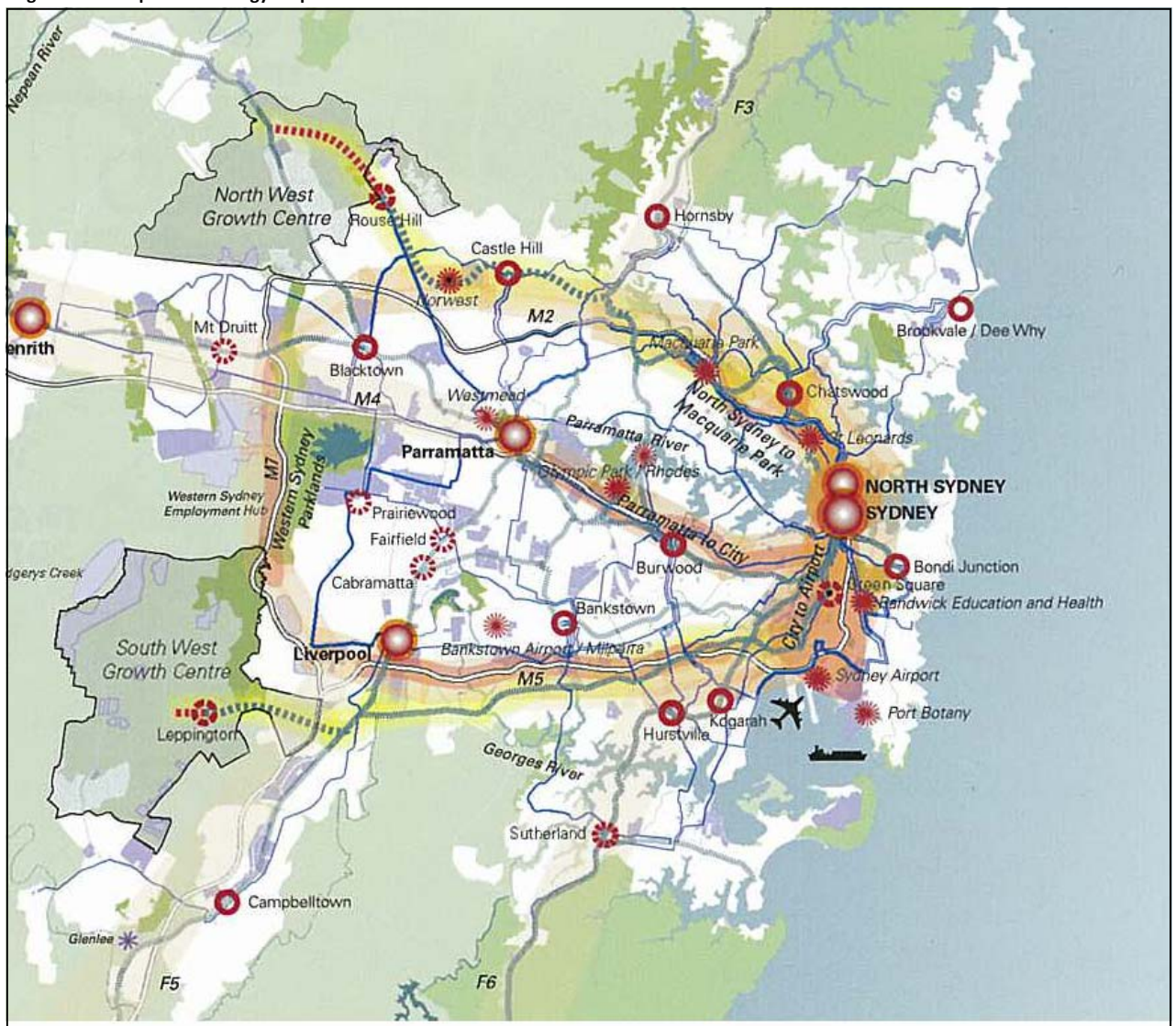
State Government Targets

Metropolitan Strategy

The Metropolitan Strategy approach is for a multi-centred Sydney Region with strong suburban centres of employment and housing to support transport investments, more jobs closer to home and ultimately a more sustainable urban pattern. Centres, in this approach, have specific dwelling and employment targets. These targets acknowledge trends, and build on areas of strong economic growth, but also recognise where more effort is required to stimulate investment and employment.

The Specialised Centres of Global Sydney, Sydney Airport and Port Botany are part of the Global Economic Corridor from Macquarie Park in Sydney's North to North Sydney/CBD then on to the Airport and Port Botany. It is described as the 'powerhouse of Australia's economy'. In 2001, there were 700,000 jobs in the Global Economic Corridor, with the Metropolitan Strategy proposing a target of 850,000 jobs by 2031.

Figure 9: Metropolitan Strategy Map



Source: NSW Department of Planning, City of Cities, Metropolitan Strategy 2005

Draft East Subregional Strategy

A draft East Subregional Strategy was released in early 2007. The key objectives for the East Subregion (page 5) are as follows:

- *Support and strengthen the nation's economic gateway's*
- *Consolidate and strengthen the Randwick medical and education specialised centre*
- *Achieving a balance of activities to promote Bondi Junction as a major centre*
- *Support the future role of retail centres*
- *Improve housing choice*
- *Improve east/west public transport access*
- *Protect and promote scenic quality and tourism*

The centre typology in the Botany Bay LGA has been defined in the Draft East Subregional Strategy (pages 38-39) as follows:

- *Specialised centres—Sydney Airport and Environs, Port Botany and Environs*
- *Town Centre—Eastlakes*
- *Stand-alone Shopping Centre—Westfield Eastgardens*
- *Villages—Mascot, Botany, Hillsdale*
- *Small Village—Mascot Station, Rosebery, Gardeners Road (Rosebery), Banksmeadow*

These centres and their radii are shown in Figure 10.

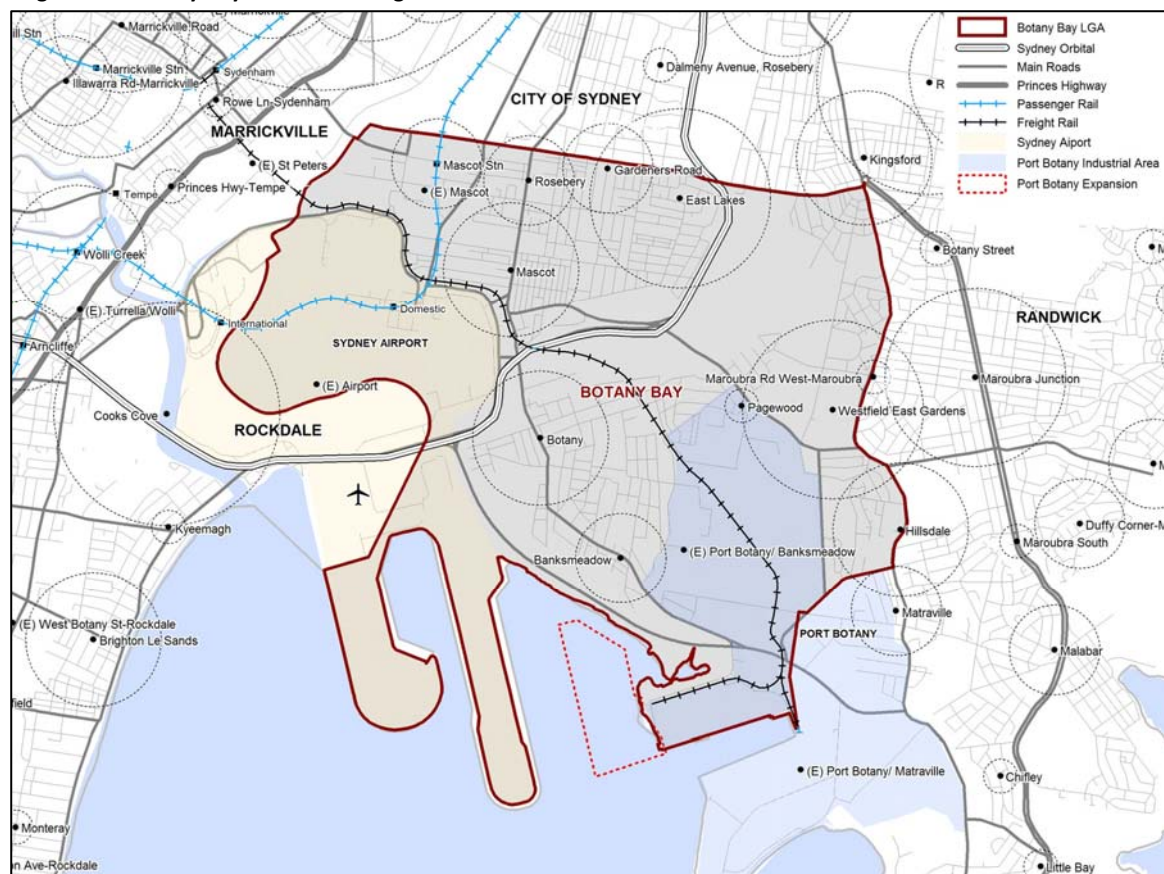
The housing and employment targets for the East subregion are shown in Table 2 below. Employment targets are for the 2001 to 2031 time period, while dwellings targets are from a base year of 2004. According to these targets, Botany Bay LGA is anticipated to provide most of the additional jobs in the East Subregion (with significant employment growth anticipated at the Airport and Port) and a third of future housing.

Table 2: State Government Subregional Target for East Subregion

LGA	Target	% of total
Housing		
Botany Bay	6,500	33%
Randwick	8,400	42%
Waverley	2,200	11%
Woollahra	2,900	15%
Total	20,000	
Jobs		
Botany Bay	16,700	67%
Randwick	5,900	24%
Waverley	2,200	9%
Woollahra	300	1%
Total	25,100	

Source: East Subregion: Draft Subregional Strategy, July 2007

Figure 10: Botany Bay LGA and Subregional Centres



Source: SGS 2007, NSW Department of Planning and Botany Bay City Council GIS data

Table 3 shows these targets imply a significant acceleration of recent growth rates for both housing and jobs. It implies a doubling of annual new dwelling additions compared to the last ten years, and almost 1,000 new jobs per year after a period where, according to available statistics, jobs have been slowly declining.

Table 3: Botany Bay LGA Historic Dwelling and Employment Growth and Targeted Dwellings and Employment Growth

	Dwellings	Employment
1996	11,972	48,337
2001	12,289	55,665
2006	13,050	48,219
2031 (Target)	18,789	72,365
Average per year 1996 to 2006	127	-12
Target per year 2006 to 2031	230	966

Source: ABS Place of Usual Residence 2006 Time series Profile; 2001 Place of Usual Residence Time Series Profile; SGS-Scaled TDC Journey to Work 1996,

A key task of the Strategy is to assess the capacity of the LGA's development controls to accommodate the target increases in housing and jobs. Related to this is an assessment of the validity of the designations and characterisations of the centres outlined in the draft East Subregional Strategy.

Housing Capacity

Urban Capacity Analysis

The draft dwelling targets set out in the draft East Subregional Strategy have assumed a notional residential density yield in and around centres, according to their size and classification.

The urban capacity analysis undertaken for this Strategy tested the validity of these assumptions, following a more detailed consideration of development constraints.

The potential land available for residential development and intensification was identified by discounting or removing areas affected by a range of constraints. These included roads, schools, the Port and Airport, land affected by significant aircraft noise (ANEF 25 or above), land and corridors affected by hazardous goods routes or significant truck and car traffic, the Botany Wetlands and other public open space, heavy and light industry lands, recently developed residential land and residential areas affected by strata subdivision. These are very significant or absolute barriers to further residential intensification.

Other constraints considered but not included as absolute include heritage, certain environmental constraints, lot size and OLS limitations (height controls associated with the Airport's operations).

Table 4 identifies the proportion of land in the LGA affected by the various constraints. Only around 108 hectares of the LGA is unconstrained residential land. This makes up only 30 per cent of all residential land, constrained and unconstrained, in the LGA.

The total development potential of the 'residual' lands under existing development controls has been assessed. Assuming all development is viable, a notional capacity of around 3,000 additional dwellings is identified. This falls well short of the target of 6,500. After excluding constrained land, the settings under the existing development controls do not provide sufficient capacity to meet the target.

Identifying land for intensification

To identify a realistic target for which development controls could be adjusted, further analysis identified constraints from an amenity and viability perspective.

The potential of the 'residual' land to accommodate higher residential densities was rated according to whether it satisfied the attributes of:

- Location within a centre.
- Proximity to open space.
- Proximity to public transport.

The analysis highlighted parts of Rosebery, Banksmeadow and Pagewood with high amenity ratings against these attributes. Daceyville also rated highly; however, given the heritage conservation listing of the suburb it was not considered for intensification. Though parts of Eastlakes, Hillsdale and Eastgardens rated highly, their central core areas did not show up as suitable in the short term.

Ambitious but realistic target densities were applied to areas of good amenity deemed capable of accommodating additional development. Typically, core parts of centres were allocated a higher potential for development than outer parts of the centre, recognising the generally higher access to amenities in centre cores.

Table 4: Constraints for Residential Development in Botany Bay LGA*

Constraint	Constraint Description	Total land area (ha)	% of LGA (ha)
Absolute constraints	Land affected by ANEF 25 or greater*	1,079	49%
	Heavy and light industrial land	410	19%
	Roads; schools; open space; Botany Wetland	491	22%
	Port Botany, Sydney Airport and Freight Rail Corridor land	602	27%
Redevelopment constraints	Strata-titled properties	73	3%
Total LGA land area		2,196	100%
Total constrained land area and proportion of LGA**		2,088	95%
Residual residentially zoned land and proportion of LGA - 2(a), 2(b), 10(a)		108	5%

* Based on City of Botany Bay GIS data

** Not the sum of the constraints listed as there is overlap of ANEF with other land uses.

This strategy demonstrates that the total short to medium term dwelling prospects identified for the LGA (7,300) achieve the State Government's target of 6,500 (even allowing for the loss of perhaps 480 dwellings over the medium term in residential areas proposed for future employment). However, it is only practical or prudent to include short term potential in the pending LEP review. The remaining potential should be re-assessed at the time of the next LEP review. Figure 11 shows the estimated short and medium term potential by location to 2031.

The complete schedule of quantitative assumptions and yields is included in Appendix 1.

Overall, with adjustments to development controls, to allow additional development, Botany Bay LGA could provide capacity for around 3,800 new dwellings in and around centres with good amenity. This would provide for new residents to be housed without exposing them to negative environmental impacts. Areas of significant heritage and environmental value can be protected and new dwellings can be provided within active employment centres. A greater range of housing and housing with access to services and amenities can be produced within these settings.

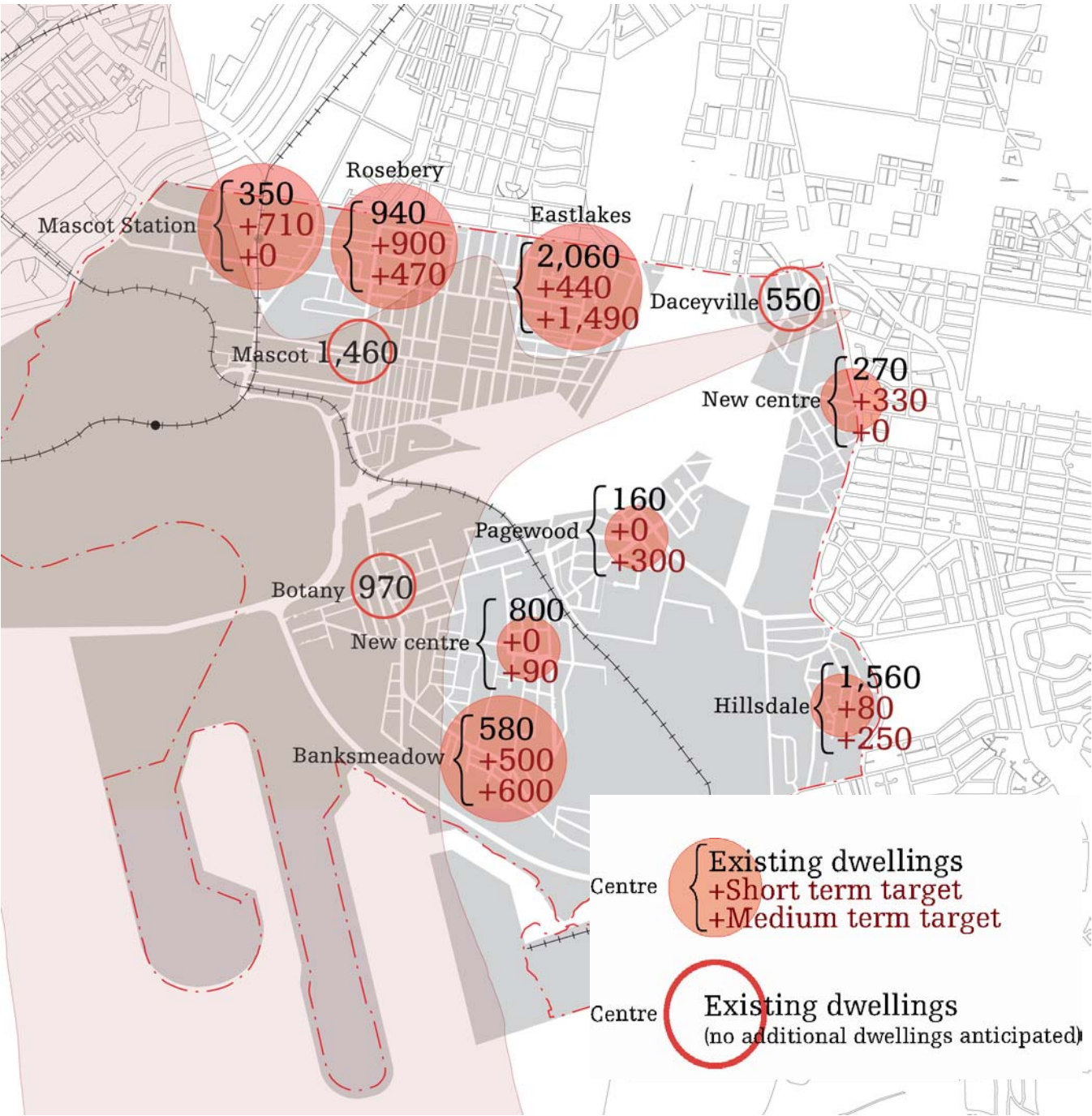
With a further adjustment to the development controls capacity for an additional 3,500 dwellings can be provided, but this should only be contemplated once short term dwellings have been successfully achieved.

For example, the areas around Eastlakes shopping centre are currently dominated by strata titled walk up flats. These are impacted upon by trucks serving the shopping centre and have a poor quality public domain.

To realise target densities of over 200 dwellings per hectare in this area (they are currently around 35 dwellings per hectare) it will be necessary to restructure the subdivision, invest in the public domain and provide upgraded public transport. Without these issues being addressed development will not be viable or desirable. A feasibility analysis in this area showed that demolition and redevelopment would only be viable where a significant premium on apartment sales prices (over 50 percent for development with underground parking) was achieved.

Residential intensification in locations where significant restructuring and public investment are required are therefore considered medium term opportunities.

Figure 11: 2031 Dwelling Distribution



Source: SGS 2008

Employment Capacity

A comprehensive audit of land zoned for employment uses, including the Airport and the Port, was undertaken. Figure 12 shows the distribution of employment activities according to 'broad land use categories' described at Appendix 2. Figure 12 also shows the 'travel zones' or areas for which detailed employment data is available in the LGA.

The audit confirms the predominance of freight and logistics activities adjacent to the Port and Airport and in the Hale Street precinct. It also highlights the dispersed character of office and industrial employment land uses in the Mascot Station precinct.

The audit data was a key input into identifying the capacity of the LGA to accommodate new jobs into the future. A total of 2.65 million square metres of employment related floorspace was audited.

If the draft East Subregional Strategy employment target of 16,700 jobs is met there will be approximately 72,300 jobs in Botany Bay LGA in 2031. It is estimated that these jobs will generate total demand for 3.42 million square

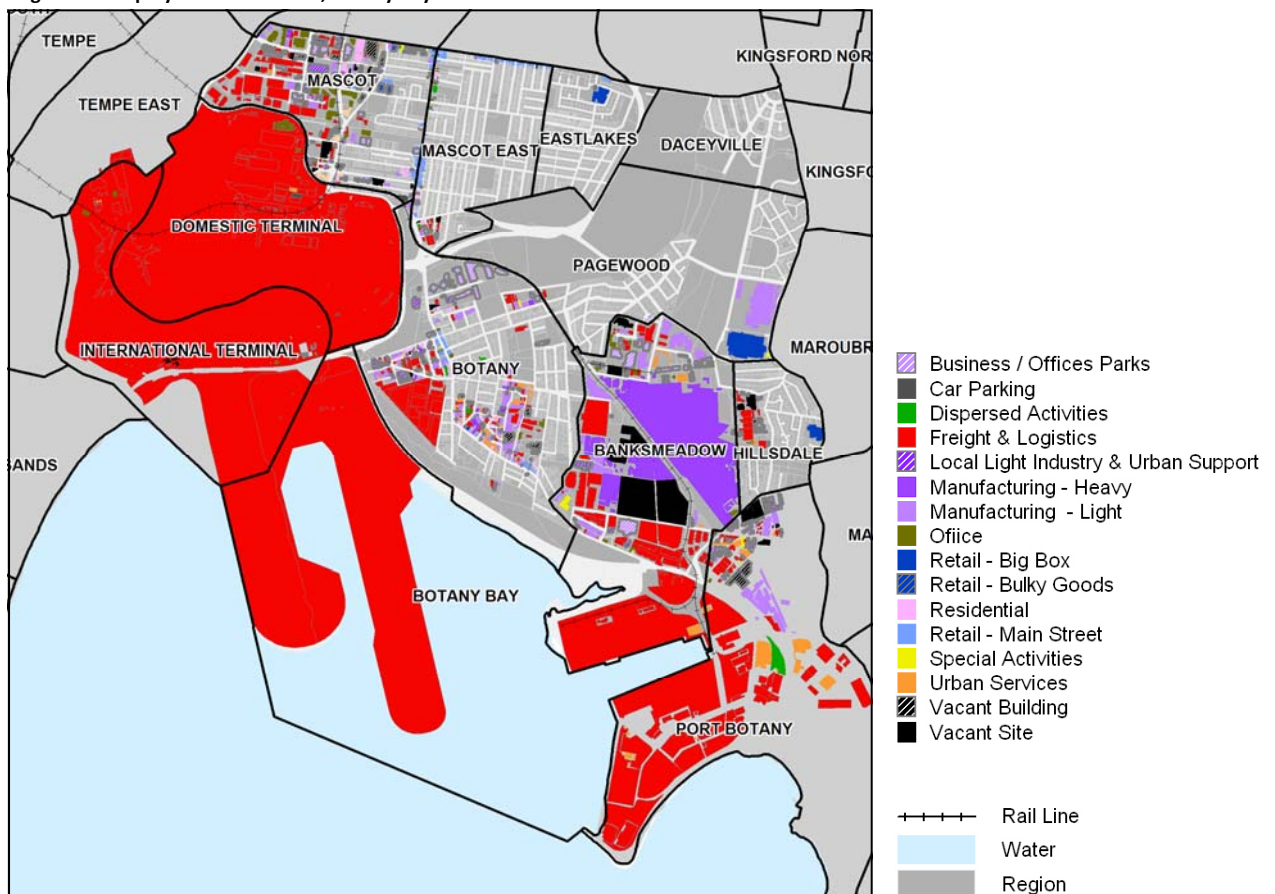
metres of floorspace across the LGA, or a net additional 0.77 million square metres. The employment land gap analysis results are provided in Appendix 3.

A review of existing development controls indicates potential for a net additional 1.92 million square metres of floorspace.

On this basis the analysis found sufficient capacity under the current controls to accommodate future employment related floorspace in the LGA. However, this varies across the employment precincts.

For the travel zones with significant shares of employment, an analysis of the potential in the existing controls compared to estimated demand was generated by estimating the future jobs to floorspace ratio expected in the employment precincts based on adjustment of the current jobs to floorspace ratio derived from 2007 employment land use audit floorspace data and Journey To Work employment data. Estimated demand embodies some general aspirations regarding types of employment (for example, greater business related employment around Mascot Station and north of Botany centre).

Figure 12: Employment Land Audit, Botany Bay



Source: SGS, 2007

In all areas except in Botany and Mascot East, there is sufficient potential for additional floorspace under the existing controls. In developing strategies for these employment precincts, significant change to development capacity is not required.

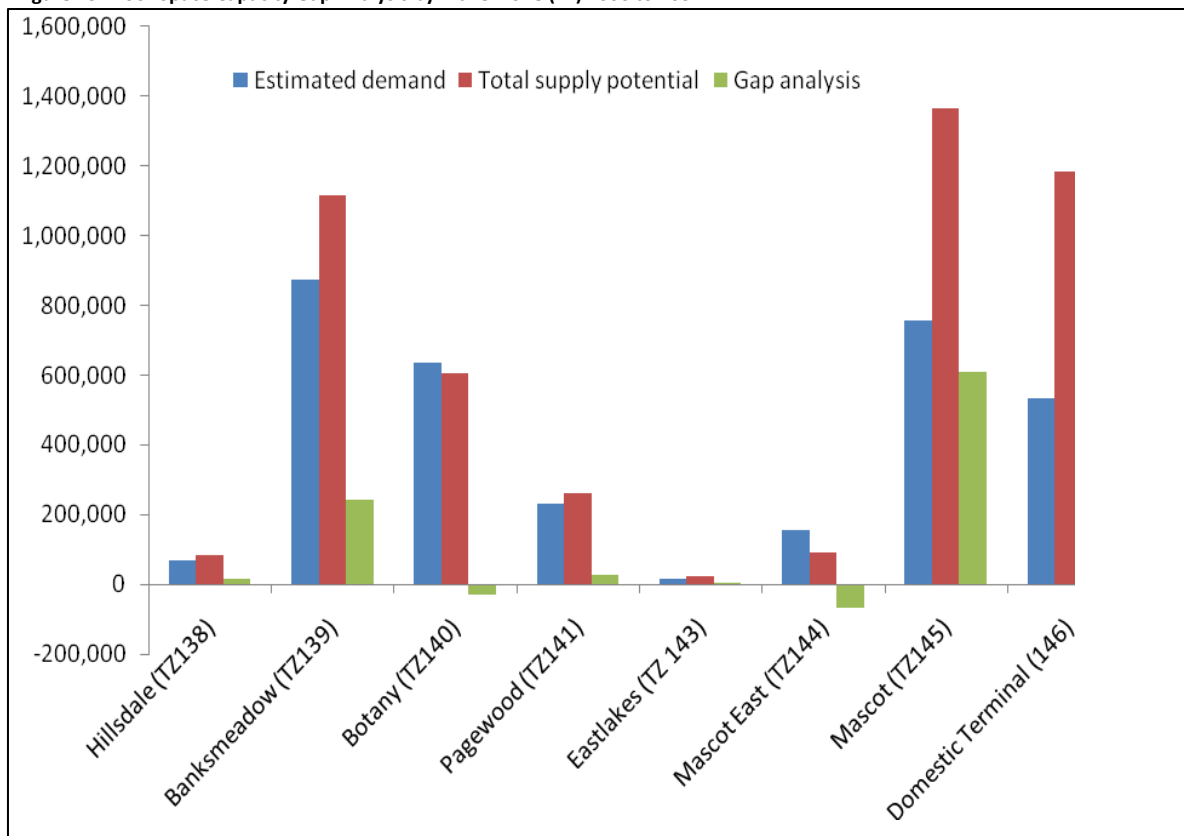
Typically, modifications to the zoning are proposed to facilitate change. In some precincts (near the Airport and Port for example) development potential may be slightly reduced to ensure land is preserved for relatively 'land-hungry' freight and logistics and general industrial activities. Elsewhere in the same precinct, development potential can be increased to encourage different development outcomes. For example, Floor Space Ratios higher than the current 1:1 may be required around the station in the Mascot Station precinct to concentrate commercial and mixed-use activity. Additional potential will be provided to facilitate employment related outcomes in key locations in Botany and Mascot/Rosebery (Figure 13).

The planned job growth to 2031 associated with the changes to use and development controls is shown in Figure 14.

Employment Precinct Directions

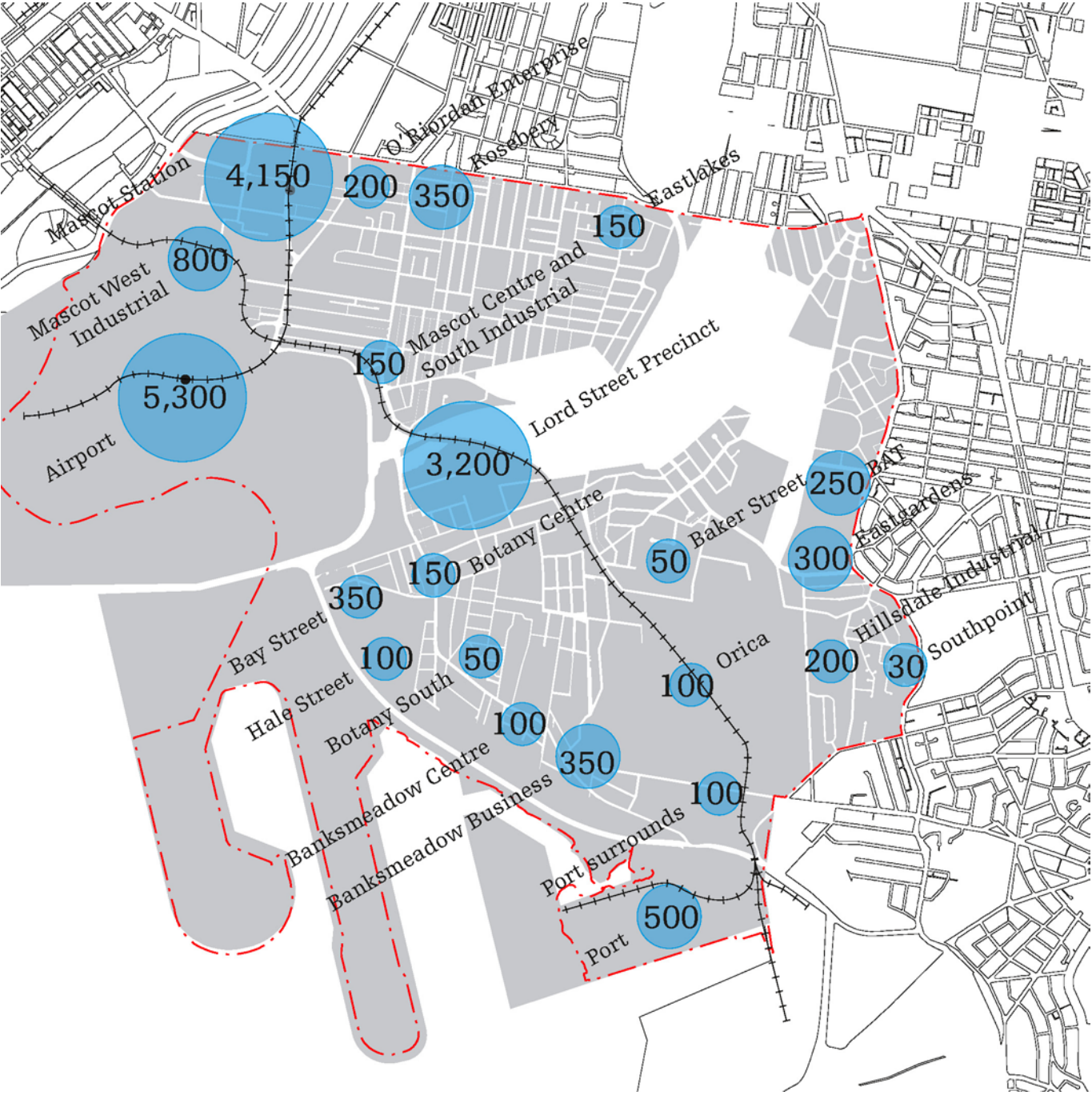
Table 5 shows future directions and strategies for each employment precinct and the proposed implementation timing for the strategies.

Figure 13: Floor Space Capacity Gap Analysis by Travel Zone (TZ) 2006 to 2031



Source: SGS, 2007

Figure 14: 2006-2031 Distribution of Additional Employment



Source: SGS 2008

Table 5: Employment Precinct Future Directions

Employment Area	Future directions	Strategy to address demand	Timing of implementation
Hillsdale	<ul style="list-style-type: none"> Future local light industry to cater for subregional demand. 	<ul style="list-style-type: none"> Retain and promote for local light industry and urban services. 	Short term
Banksmeadow	<ul style="list-style-type: none"> Port and manufacturing related near Port and north of freight line. Underutilised land retained for future Port related activity. 	<ul style="list-style-type: none"> Retain for general industry. Establish a minimum subdivision to protect for large lot users. 	Short term
Pagewood	<ul style="list-style-type: none"> Local light industry at Baker Street to cater for subregional demand. 	<ul style="list-style-type: none"> Retain and promote for local light industry and urban services. 	Short term
Botany	<ul style="list-style-type: none"> Global/local business centre at centre of key employment complex. Local retailing. Large format retailing for subregion. 	<ul style="list-style-type: none"> Expand commercial/retail area on main street. Plan for new business and retailing area to west of centre. Slightly increase FSR for retail/commercial land uses. 	Medium term
Lord Street	<ul style="list-style-type: none"> Business park 	<ul style="list-style-type: none"> Expand area for business and office land uses Control ancillary retail to link to the centre. Enhanced links to Botany centre. 	Short term
Hale Street	<ul style="list-style-type: none"> Light industrial and port/freight and logistics. 	<ul style="list-style-type: none"> Protect for general industry. Establish a minimum subdivision size to protect for large lot users. 	Short term
Eastgardens	<ul style="list-style-type: none"> Retail employment. Manufacturing (BAT). Future mixed-use town centre. 	<ul style="list-style-type: none"> Plan for mixed-use centre in the long term (subject to BAT site coming online and structure planning). 	Long term
Rosebery	<ul style="list-style-type: none"> Mixed-use activity hub, focus for civic and local community activity. 	<ul style="list-style-type: none"> Redevelop with surrounding medium density residential. Extend commercial / retail into side street, linked to park. Potential for higher FSR to create increased office/retail floorspace in the centre and/or additional commercial land. Connect with and establish Gardeners Road enterprise corridor. 	Short term
Mascot	<ul style="list-style-type: none"> Local centre. 	<ul style="list-style-type: none"> Maintain local centre zoning. Increase links north to Rosebery. 	
Eastlakes	<ul style="list-style-type: none"> Retail and service town centre (following redevelopment of existing centre). 	<ul style="list-style-type: none"> Reconfigure centre, subdivision and uses. 	Medium term
Mascot Station and Airport environs	<ul style="list-style-type: none"> Airport freight and logistics. Office and related business. 	<ul style="list-style-type: none"> Plan for gateway along O'Riordan Street and higher order business address at Mascot Station. Increase of general industrial land for Airport related freight and logistics. Significantly increase FSRs to provide retail/commercial floorspace around Mascot Station. 	Short term
Domestic Terminal	<ul style="list-style-type: none"> Airport freight and logistics. Related Airport office. Ancillary Retail. 	<ul style="list-style-type: none"> Lobby Federal bodies for Airport related activity to be accommodated on-site including in area designated for air freight. 	N/A

Centre Typology

Based on the capacity analysis designations are proposed for the centres in Table 6 (with the original draft East Subregional Strategy designation also shown).

The typical hierarchy is difficult to apply in most of the Botany Bay LGA centres. Many centres comply with dwelling criteria but lack the additional infrastructure for larger centre activity such as Eastlakes and Hillsdale. In other cases, centres which have significant jobs but minimal dwellings are categorised as small villages in the hierarchy; however, their employment contribution would not be categorised as 'small' (as in the case of Botany centre). This is considered a consequence of the Specialised Centre activity in the LGA.

Table 6: Proposed and Existing LGA Centres Typology

Centre Type	Metropolitan Strategy Description	Botany Bay LGA Centre	
		Draft East Subregional Strategy	Botany Bay Planning Strategy
Specialised Centre	Areas containing major airports, ports, hospitals, universities, research and business activities. Perform vital economic and employment role.	Sydney Airport and Environs Port Botany and Environs	Sydney Airport and Environs Port Botany and Environs
Major Centre	Major shopping and business centre serving immediate subregional residential population. Minimum 8,000 jobs	None identified	Mascot Station (E)*
Town Centre	Contains one or two supermarkets and services. 4,500 to 9,500 dwellings. Residential origin rather than employment.	Eastlakes	Eastlakes
Stand-alone Shopping Centre	Internalised privately owned centres located away from other commercial areas.	Eastgardens	Eastgardens
Village	A strip of shops and surrounding residential area within a five to 10 minute walk. 2,100 to 5,500 dwellings.	Mascot Botany Hillsdale	Rosebery (Botany Road), Hillsdale,
Small Village	A small strip of shops and surrounding residential area within a five to 10 minute walk. 800 to 2,700 dwellings.	Banksmeadow Rosebery (Botany Road) Rosebery (Gardeners Road) Mascot Station Matraville	Mascot (E) Kingsford (Daceyville) Botany (E) Banksmeadow
Neighbourhood Centre	One or a small cluster of shops and services. 150 to 900 dwellings.	Pagewood	Pagewood Rosebery (Gardeners Road) Birdwood Avenue (new) Pagewood (new) Swinbourne Avenue (Botany) (new)

*Note: (E) represents centres with employment rather than residential focus

Source: NSW Government, draft East Subregional Strategy, 2007

Chapter 4: Strategy Directions

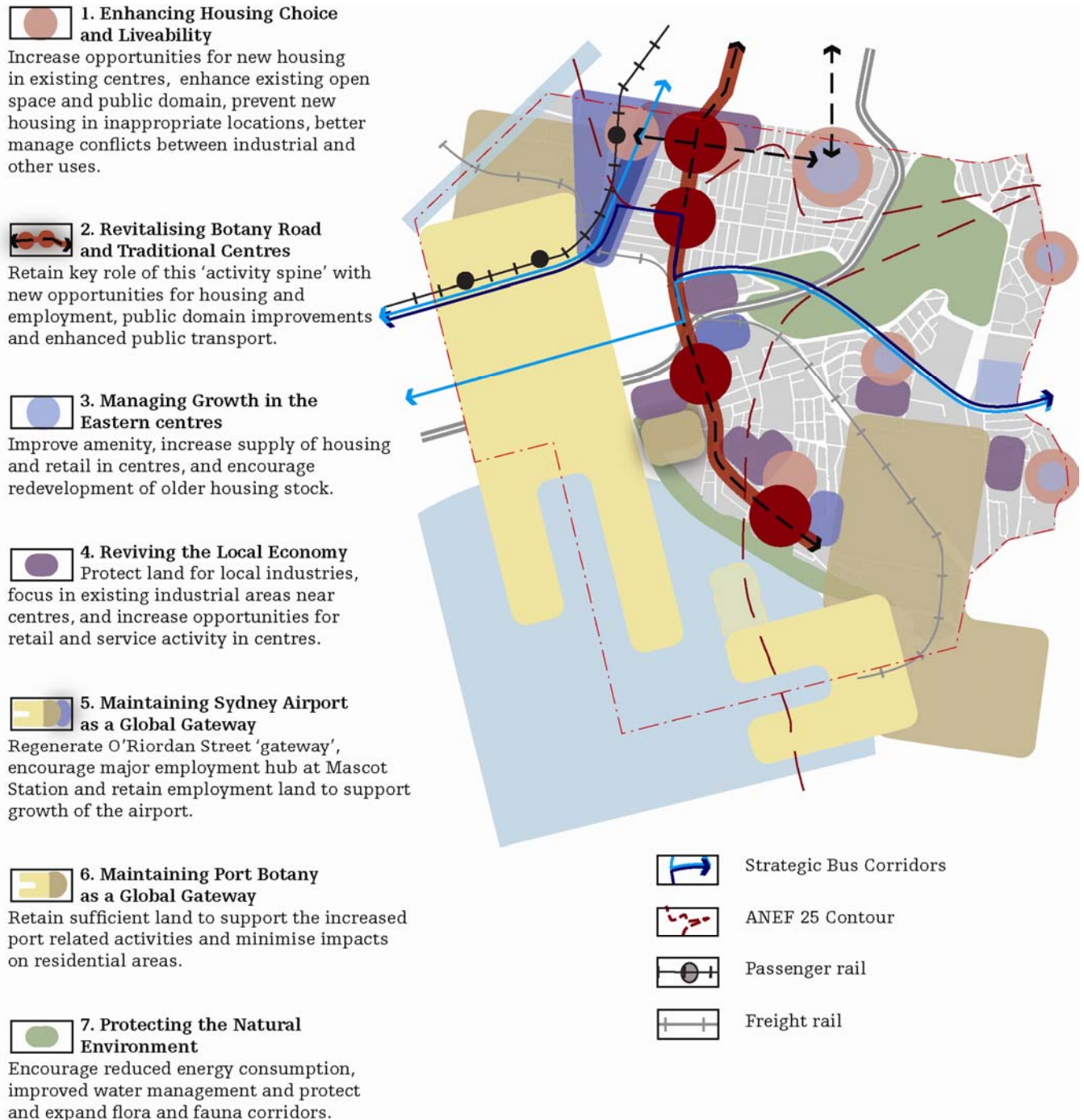
Chapter 4: Strategy Directions

The intent of the strategy is encapsulated in seven strategic directions. For each strategic direction a series of objectives and actions have been identified. These are described following a discussion of the highlights of the analysis. Each action has been attributed an indicative time frame where:

- short term is over the next four years,
- medium term is over the next four to seven years, and
- long term is beyond 2015.

The seven strategic directions summarised geographically in the figure below. Chapter 5 provides more detail on the implementation of the strategy for particular areas.

Figure 15: Strategy Summary Map



Source: SGS 2007



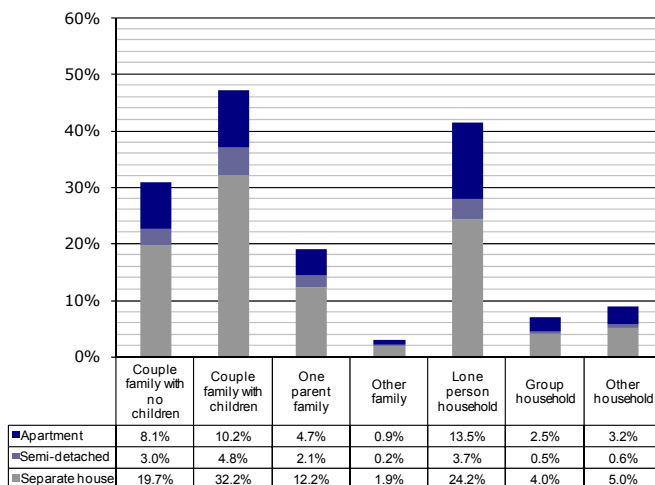
Strategy Direction 1: Enhancing Housing and Liveability

Population and Household Profile

A slowly growing population

There were approximately 36,000 people living in the Botany Bay LGA in 2006 (ABS 2006). Population growth has been steady, though in recent years the rate has slowed (four per cent between 1996 and 2006, but only 0.3 per cent between 2001 and 2006, including a decline in the working age population, between 15 and 65, of 0.2 per cent) (ABS 2006). This is comparable to the less than one per cent increase in the East Subregion between 2001 and 2006 but lower than the four per cent growth in the Sydney Region in this period (ABS 2001 and 2006). In stark contrast, the City of Sydney LGA grew by 50 per cent between 2001 and 2006 (City of Sydney 2008).

Figure 16 Household Type by Dwelling Type, Botany Bay LGA 2006



Source: Australian Bureau of Statistics, Time Series Profile, 2006

The population of the East Subregion has been forecast to grow to 51,500 by 2031 which would represent a 43 per cent increase on the current population (Department of Planning 2005), an acceleration of growth given recent rates.

A slowly ageing population

The highest proportional age group is the 25-34 age group which comprises 15 per cent of the population. Approximately 50 per cent of the population is over 35. This is comparable to the Sydney Region age profile. It varies from the East Subregion age profile which has a higher proportion of residents aged 25-34 (ABS, 2006).

Traditional family households already a minority share

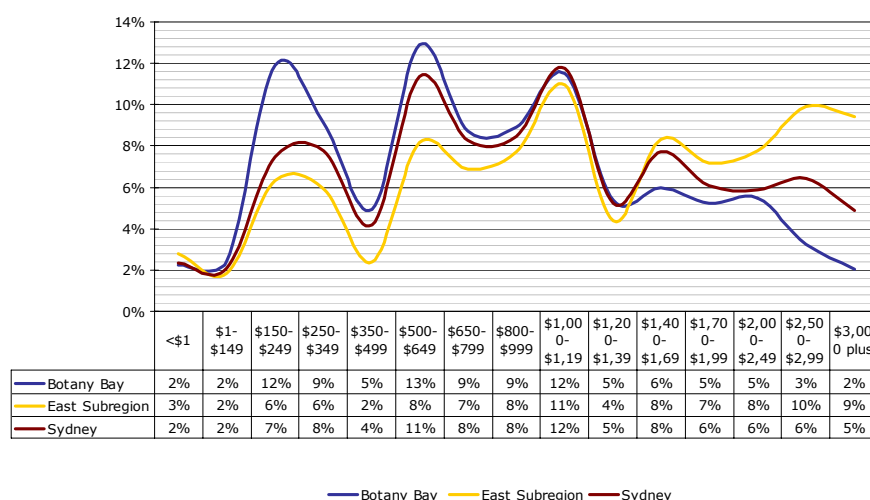
Households without children dominate household types in the LGA, with 20 per cent as 'Couple family with no children' and 24 per cent 'lone person'. These household types are each forecast to increase by as much as 50 percent by 2031 (SGS Housing Model 2007). 'Couple family with children' currently comprise a third of all household types (Figure 16) (ABS 2006) and while still forecast to grow (by 30 per cent) (SGS Housing Model 2007) will be a minority and declining share of all household types in 2031.

'Traditional' population profile changing

Botany Bay LGA was once distinguished as a 'working class' area, with a resident workforce concentrated in manufacturing and trades, and often working nearby.

Average household incomes are still typically lower than in the East Subregion or Sydney Region as a whole (Figure 17).

Figure 17: Household Income, Botany Bay LGA 2006



Source: Australian Bureau of Statistics, Time Series Profile, 2006

However, the employment profile of residents is changing. Traditional manufacturing and transport and storage jobs have consistently declined, in the last 10 years amongst the resident workforce. The decline has been significant for manufacturing jobs which comprised 10 per cent in 2006 compared to 17 per cent in 1996. Transport and storage jobs have also declined though at a slower rate.

In contrast, there has been an increase in white collar industry jobs in service sectors. Property and Business Services, Finance and Insurance, Health Care and Social Assistance and Public Administration and Safety sectors have all experienced increases of four - five per cent in the last two Census periods. Retail employment among residents has also shown consistent growth over time.

Only 28 per cent of the resident workforce still works in the LGA, notwithstanding the significant excess of jobs compared to the resident workforce.

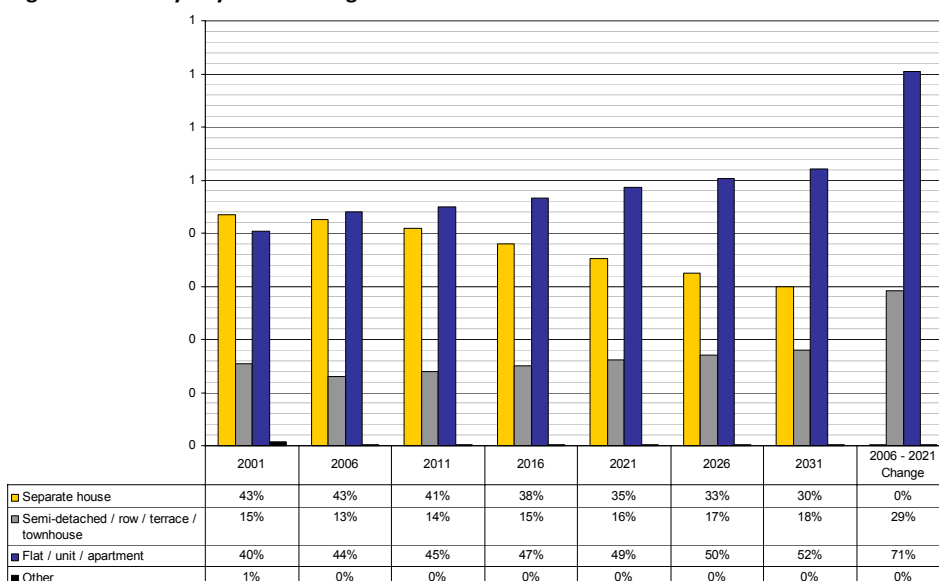
Housing Stock

A mixed and changing housing stock with fewer detached dwellings

There are currently around 13,200 dwellings in the LGA (ABS 2006). The existing housing stock is dominated by separate dwellings (43 per cent) and flat/unit/apartments (42 per cent) with the remainder comprised of terrace/town house and semi-detached housing (15 per cent) (see Figure 18).

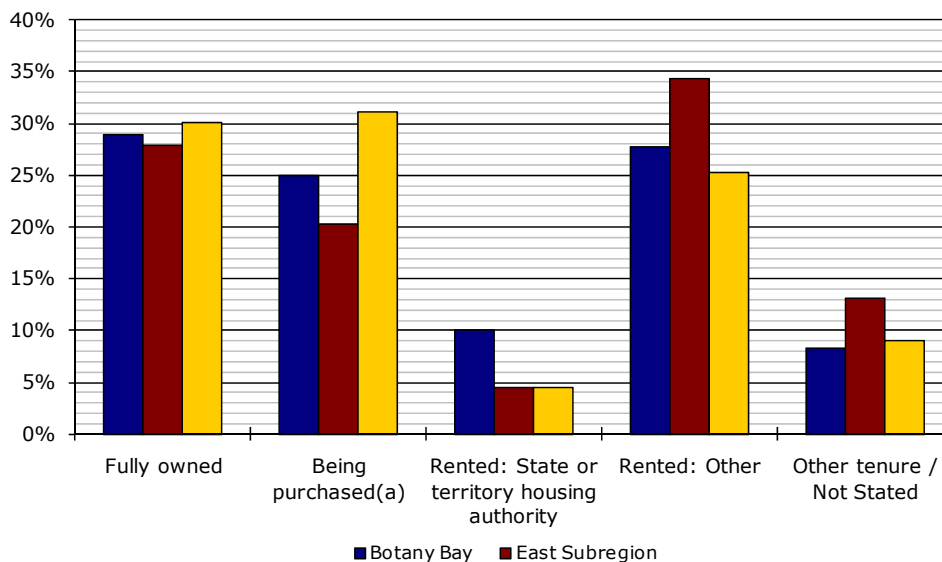
The share of separate houses has decreased by 4 percentage points of the total dwelling stock in the last 10 years, while semi-detached/row or terrace house/townhouse increased by 4 percentage points and flat/unit/apartment by 2 percentage points. Demand for these medium density housing forms has been consistent.

Figure 18: Botany Bay LGA Housing 2001 to 2031



Source: SGS Housing Model, 2006

Figure 19: Tenure Profile, Botany Bay 2006



Source: Australian Bureau of Statistics, 2006

Separate dwellings dominate amongst all household types especially 'couple families with children'. The highest proportion of flat/unit/apartments are occupied by 'lone person' households.

Additional housing required to meet future demand

Housing forecast analysis indicates that the LGA will need an additional 6,142 dwellings (SGS Housing Model 2006) to house the projected future population (Figure 18). This is slightly less than the dwelling target of an additional 6,500 dwellings to 2031 from a 2001 base for Botany Bay LGA proposed by the draft East Subregional Strategy. Approximately 800 dwellings have been added to the LGA housing stock since 2001¹.

Demand projections for LGAs are notional only. Housing sub-markets are not restricted to local government boundaries and future demand will be met where supply is available. Over the longer term, the potential for additional dwellings may be realised as major redevelopment sites become available or changing land economics increases the feasibility of redeveloping in some areas in and outside the LGA.

More affordable than other parts of Eastern Sydney

In terms of housing tenure, Botany Bay LGA has a much higher proportion of people in home ownership or in the process of purchasing a home than the East Subregion as a whole, though the rate is slightly lower when compared to the Sydney Region (Statistical Division) as a whole. (Figure 19). These rates of purchase or home ownership indicate a relatively better level of affordability than many other areas. This was confirmed in the Regional Housing Strategy – Inner East Sydney 2004-05 (LGHIP Inner East Forum 2005) which identified Botany Bay LGA as a relatively more affordable area, with a lower proportion of

the population in rental or mortgage stress than elsewhere.

Limited housing choice in centres with the best transport, shopping and services

While there is a reasonable mix of dwelling types across the LGA there is a lack of housing choice within the defined centres themselves, with each centre having a dominant form of dwelling and density type.

Residential development in the LGA has typically been in the form of alterations and additions to existing dwellings to increase dwelling size, or comprehensive medium density development projects on large lots, usually former industrial sites in out-of-centre locations. Redevelopment of existing house sites is restricted by the existing controls which prohibit development on sites smaller than 800 square metres, and allow for modest FSR outcomes. This limits the potential for higher density residential infill development, which is more affordable to build and sell. This explains the significant proportion of land zoned for medium density (2(b) zone) which remains as low density detached housing.

Open Space and Recreation

A good supply of open space but access, quality and character varies

There is a good supply of open space however the quality and character varies across the LGA. Open space assets range from:

- high quality landscaped gardens, some with heritage value (Memorial Park, Gaiairine Gardens);
- large sporting fields with varying degrees of provision of passive recreation areas;
- turfed open space with no passive or active use facilities;
- the Botany Wetlands in the middle of the LGA; and

1. 2007 Council data for the Metropolitan Development Program states 815 dwellings have been added between 04/05 and 06/07; ABS time series shows an additional 758 dwellings between 2001 and 2006 (This does not include 'other dwellings').

- the Botany Foreshore Beach between Sydney Airport and Port Botany.

A significant proportion (61 per cent) of all open space in the LGA is reserved for commercial recreational uses of golf and bowling clubs and, as such, is alienated from general public use and access. The Botany Wetlands area owned by Sydney Water is primarily used for such purposes, with leases held by the Lakes, Eastlakes Public and Bonnie Doon Golf Clubs. These clubs occupy 92 per cent of the Botany Wetlands area (Botany Bay City Council GIS).

Open space provision rates are generally high but access and maintenance are a challenge

Most parts of the LGA have access to some form of public open space once the alienated or reserved open space areas have been excluded (Figure 20). The extent of open space is often measured in hectares (Ha) for every 1,000 people. In the Botany Bay LGA this rate is approximately 3.44 ha per 1,000 head of population in 2006. By comparison, in 2006 City of Sydney had 2.36 ha per 1,000 head of population. This increases to 9.12 ha per 1,000 head of population if the alienated, reserved open space areas are included.

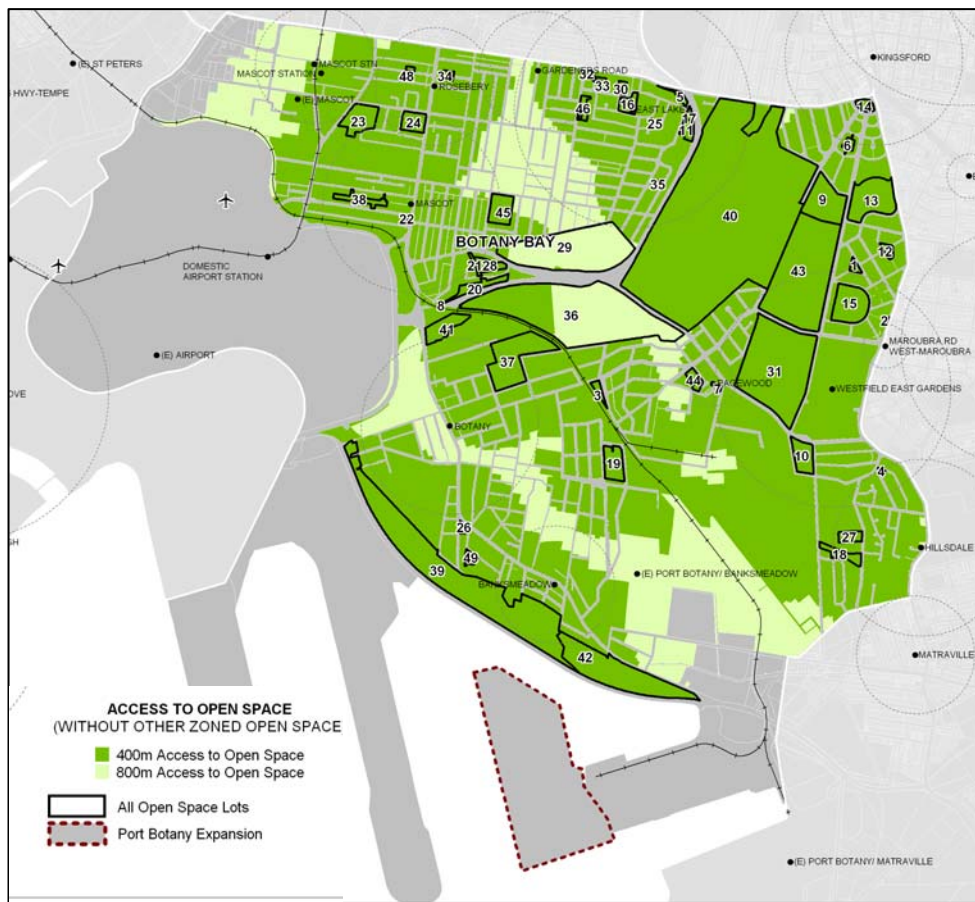
Botany Bay LGA's sports fields also have an important regional catchment of clubs and community groups who use the sports fields, as well as workers who come to the LGA. A thorough analysis of the use of open space assets by these groups would provide a more comprehensive assessment of open space requirements.

Demand for open space is shaped by the nature of demand generated by population growth, demand for a wider range of open space uses and the ability of Council and other open space landowners to maintain open space assets.

As the population grows it will be important to maintain rates of provision of accessible open space. The future of the alienated, reserved areas is important in this context. Given the increase in older age groups there is also an opportunity to provide additional passive open space uses along with active uses on sports fields. Such areas could be located in areas with street frontage and would contribute to enhanced public domain of the streetscape.

Meeting open space demand also depends on the ability to maintain it, particularly securing irrigation-quality water. Council is currently experiencing difficulty in this regard due to contamination of land and groundwater, increasing cost of town water and restrictions on town water use.

Figure 20: Access to Open Space, 2006



Source: TDC GIS Mapping, 2006

Transport

Liveability depends on good, affordable transport access

A liveable city is at least partly defined by the ability of residents and workers to access employment, retail, services and other needs by high quality public transport as well as private vehicle options. This includes bus and rail services and safe pedestrian and cyclist facilities. This will be an increasingly important issue in the future given rising fuel costs which are already increasing public transport use for work trips.

A high proportion of residents and workers currently use private cars as their main mode of transport (58 per cent and 64 per cent respectively) (ABS and Transport Data Centre 2006) and methods to reduce car use while increasing public transport alternatives need to be a part of any transport solution.

The road network is already congested

Private and business access to the Port and Airport generates significant traffic impacts on the area's already constrained road network. The LGA contains key State roads to access to Sydney Airport and Port Botany, including Southern Cross Drive, Qantas/Joyce/General Holmes Drive and Foreshore Drive. Botany Road, Bunnerong Road and Gardeners Road are also key arterials.

Many of these roads have an Annual Average Daily Traffic (AADT) of over 20,000 vehicles per day². With significant growth at Port Botany and Sydney Airport, transport impacts will increase significantly and add to road congestion. Freight rail movements are also expected to increase, flowing from increased throughput at Port Botany. Further, freight trains in future may be longer and faster than they are currently.

Increasing demand from key users and the needs of through traffic and local demand impacts mean a comprehensive approach to transport planning is required. Without such an approach it is difficult to assess the scale of road network capacity issues.

Capacity for new dwellings

Environmental constraints such as aircraft noise, heavy vehicle traffic and soil contamination affect the potential for residential development

Significant environmental constraints in the LGA affect the potential for, and location of, future residential development. The specialised centres of Sydney Airport and Port Botany generate significant economic benefits but their operations also generate some of the key environmental constraints affecting the LGA. Most of the LGA is affected by Aircraft Noise Exposure Forecast (ANEF) contours higher than 25 (Figure 21).

Australian Standard (AS) 2021-2000 - Acoustics - Aircraft Noise Intrusions— Building Siting and Construction guides various environmental planning and building construction sectors as to the location and construction of new buildings and on the acoustic adequacy of existing buildings in areas near airports. The Standard indicates that residential development in areas affected by ANEF higher than 25 are considered 'unacceptable' (Figure 22).

Development at the boundary should be considered in a similar way. Development in these areas is permitted only through 'Council discretion'. The effect of this is that for most of the LGA, new residential development would be considered unacceptable.

High levels of heavy vehicle traffic also generate air quality and noise impacts in areas adjacent to arterial roads. Soil and water contamination affect a large part of the LGA through the historical contamination of soil and water as well as current hazardous and offensive activities in the Botany Industrial Park (BIP). The full extent of the impact of historical contaminating industrial processes is not fully known in the LGA and is currently uncovered through site by site assessments required for development applications. Remediation may be required where contamination is apparent, and there can be considerable additional costs to developers which impacts on viability. A well-known site undergoing remediation for historical contamination is the Orica Southlands site in the BIP.

The BIP site is also the location for the storage of the highly toxic Hexachlorobenzene (HCB), a by-product of the manufacture of chlorine solvents. Treatment of the waste in Australia cannot be undertaken and negotiations are underway to treat the waste in Germany. Transport of the waste or continued storage (should treatment of waste internationally not be secured) will be necessary. Stephen and Denison Roads are designated hazardous goods routes, which are surrounded by low density residential development. The full path of the transport of hazardous waste through the LGA is not known.

2. AADT means *Annual Average Daily Traffic* counts. AADT is assessed as the total volume of traffic recorded at a specific location (known as a traffic station) in a given year and divided by 365 days.

Figure 21: Area of Botany Bay LGA Affected by ANEF 25 and over



Source: City of Botany Bay GIS Data, SGS 2007

Figure 22: Building Site Acceptability Based on ANEF Zones

Building Type	ANEF zone of site		
	Acceptable	Conditional	Unacceptable
House, home unit, flat, caravan park	Less than 20 ANEF (Note 1)	20 to 25 ANEF (Note 2)	Greater than 25 ANEF
Hotel, motel, hostel	Less than 25 ANEF	25-30 ANEF	Greater than 30 ANEF
School, university	Less than 20 ANEF (Note 1)	20 to 25 ANEF (Note 2)	Greater than 25 ANEF
Hospital, nursing home	Less than 20 ANEF (Note 1)	20 to 25 ANEF	Greater than 25 ANEF
Public building	Less than 20 ANEF (Note 1)	20 to 30 ANEF	Greater than 30 ANEF
Commercial building	Less than 25 ANEF	25 to 35 ANEF	Greater than 35 ANEF
Light industrial	Less than 30 ANEF	30 to 40 ANEF	Greater than 40 ANEF
Other industrial	Acceptable in all ANEF zones		

Source: AS2021-2000 cited in City of Botany Bay Aircraft Noise Development Control Plan

Photo 9: Residential Development Adjacent to Freight Rail Corridor , Botany



Source: SGS 2007

Photo 10: Botany Industrial Park, residential areas of Pemberton/Wilson street in the foreground.



Source: SGS 2007

Housing and Liveability Objectives and Actions

Objective 1.1

Improve the urban environment, particularly where additional development is proposed.

To create the urban amenity for centres identified for an increase in dwellings, public areas and open space must be upgraded. Many of the areas identified for an increase in dwellings are near parks or other public open space which could be actively upgraded to be at the heart of new and higher density residential communities. Lever Reserve and Lauriston Park in Rosebery, Memorial Park in Mascot (already high quality) and Glanville Avenue Reserve in Pagewood will be important open space assets in the context of proposed new residential development around key centres.

Action	Implementation map reference/detail	Timing
1.1.1 Prepare and implement public domain plans for centres where dwelling numbers are planned to increase.	<i>Develop public domain Guidelines for comprehensive DCP. (See concept structure plans for Rosebery centre, Area 2 actions), in Chapter 5 Implementation.</i>	Short to Medium Term
1.1.2 Ensure good quality, adequate local public open space in areas where dwelling numbers are planned to increase.	<i>Upgrade plans for Lever Reserve and Lauriston Park in Rosebery, Memorial Park in Mascot and Glanville Avenue Reserve in Pagewood should be prepared as necessary in anticipation of nearby new residential development. Accompanying Section 94 Plans should be prepared as appropriate.</i>	Short Term
1.1.3 Develop precinct-specific development controls for areas intended to accommodate higher density housing.	<i>Focus on issues such as positive streetscape interfaces, appropriate floor space and setbacks controls for the specific context, and interfaces with existing lower density housing. Principles for development controls from structure planning.</i>	Short Term

Also see

Action 1.3.4 Use appropriate design, development and traffic management controls in interface area where land use conflicts occur or are possible.

Objective 1.2**Minimise residential development in locations heavily affected by aircraft and traffic noise or other environmental impacts.**

A number of residential areas in Botany Bay LGA – including some with a 2(b) medium density zoning – are outside of centres, subject to significant aircraft noise (ANEF 25 or higher), and/or adjacent to freight or major road corridors land. Where practical, environmental planning instruments should be modified (including rezoning to employment related uses) to reduce residential exposure to these impacts.

A particular case is a small area of residential development adjacent to and east of industrial land, south of the Mascot centre and bounded by Wentworth Avenue, Southern Cross Drive and Botany Road. Lower density employment uses (such as industrial) would be appropriate here given it is within the ANEF 30 contour, the impact of freight and busy roads and the likelihood of this increasing over time with increased Airport and truck traffic. The area could be rezoned in two stages recognising that there are already some non-residential uses which merit an early rezoning to light industrial (north of Dransfield Avenue).

Action		Implementation map ref/detail	Timing
1.2.1	Ensure densities in residential areas already affected by aircraft noise or adjacent to freight and major road corridors are not increased, and seek opportunities for conversion to non-residential uses less affected by these constraints.	<i>Proposals for higher density residential development at Chelmsford Avenue, Botany (ANEF 25+) and Myrtle Street (adjacent to the freight line). See Area 3 Map, Chapter 5 Implementation</i>	Ongoing
1.2.2	Facilitate the transition of specific land bounded by Wentworth Ave and Southern Cross Drive, east of Todd Reserve (north of Dransfield Avenue) currently subject to high ANEF (aircraft noise) and adjacent to freight and major road corridors from residential landuses to light industry and related employment land uses.	<i>See Area 2 Map, Chapter 5 Implementation</i>	Short Term

Also see

Action 5.2.2 Encourage State (and possibly Federal) Government involvement in the restructure of the identified land north of the Airport (investigation area).

Objective 1.3

Protect the valued characteristics of Botany Bay's centres and suburbs and minimise the impacts from industrial areas and activities.

Botany Bay has valued heritage assets and many relatively 'unspoiled' residential precincts. As development pressures increase it will be important that new development is sensitive and appropriate. This does not mean new architecture should mimic older styles, or that traditional housing should be protected at all cost. New development should be embraced as a sign of new investment and inevitable change, but it should respond to its context and environment appropriately.

In an LGA with significant industrial areas and activities, conflict between land uses is inevitable. These can be minimised by appropriate development controls and traffic management in interface areas.

Action	Implementation map ref/detail	Timing
1.3.1 Update the 1996 Botany Bay LGA Heritage Study by Tropman and Tropman Architects and include clear guidelines for infill development in heritage conservation areas and on heritage properties and sites.	<i>Review the heritage study and update statements of heritage significance for all heritage-listed properties. Assess non-listed areas with heritage character value.</i>	Short to Medium Term
1.3.2 Develop and implement appropriate conservation measures for key areas and streetscapes that require protection from inappropriate development including areas within or adjacent to heritage conservation areas.	<i>Prepare conservation management plan for heritage areas that will inform DCP controls. These should include principles for adaptable re-use of heritage properties in centres.</i>	Short to Medium Term
1.3.3 Modify alteration and addition controls to limit inappropriate built form.	<i>Following on from the heritage study, prepare development controls for alterations and additions for key streetscape areas. These should include bulk and scale requirements and use of materials.</i>	Short Term
1.3.4 Use appropriate design, development and traffic management controls in interface area where land use conflicts occur or are possible.	<i>Refer to Land Use Activity Conflicts Management Plan, Appendix 4.</i>	Ongoing

Objective 1.4**Enhance access to high quality open space assets.**

Botany Bay Wetlands is a significant public asset and should be rationalised and reduced to increase public access to this area. Ultimately, this area could be a Centennial Park-style asset for the southern part of the Eastern Suburbs. Indeed, this could be linked to Centennial Park in line with the draft East Subregional Strategy which promotes linkages between open space assets. This will require a review of the current tenure practice by Sydney Water which allows an option to extend 25 year leases (granted in 2001/2003) in favour of the tenant, in this case the various Golf Clubs.

Small, fringe parts of open space areas currently dedicated to active recreation could be reconfigured to support informal and 'passive' use to increase the amenity for surrounding residential areas.

Collecting rainwater, or using recycled and non-potable water supplies, for open space maintenance and irrigation will be necessary to maintain open space quality and reduce potable water consumption. The appropriate choice of flora and vegetation in open space areas can also contribute to reduced water consumption.

Action	Implementation map ref/detail	Timing
1.4.1 Investigate the redevelopment of Botany Bay Wetlands to create a major regional open space asset for the Botany Bay LGA and Eastern Subregion.	<i>With the support of the Department of Planning, negotiations with Sydney Water will be required to identify a possible rationalisation of golf courses and other reserved, alienated areas to provide public access to the Botany Wetlands.</i> <i>See 'Concept for Wetland Treatment' overleaf</i>	Medium Term
1.4.2 Provide high quality passive use areas at the edges of sports fields and larger open space areas.	<i>Passive areas will be visually separate to the rest of the park area and include playgrounds, landscaped gardens and park furniture areas. These sites could also be areas of presentation of Botany Bay is history through public art and information elements.</i>	Medium Term
1.4.3 Investigate alternative water sources for irrigation and methods to reduce water use for open space maintenance.	<i>Investigate the potential for collection of rainwater from buildings on open space sites, use of waters collected on other Council properties, use of stormwater and other opportunities to use alternative sources of water for open space irrigation as part of Plans of Management.</i>	Short Term
1.4.4 Use native and water efficient flora species for landscaping.		Ongoing

Concept for Wetland Treatment: Wanngal Wetlands

Various models exist for wetland open space areas which provide access to the area while maintaining and enhancing these unique environments. An environmental assessment found the Botany Wetlands are a significant environmental asset in the LGA, as part of the water catchment for the region and as habitat for various threatened and endangered species. Any access to a future Botany Wetland Park would need to protect these environmental qualities.

A good example of successful Wetland management is the Wanngal Wetland area, part of the Newington Nature Reserve and located on the Parramatta River within Sydney Olympic Park. The Wanngal Wetlands area are an extensive wetland/lagoon complex within the Upper Parramatta River system which comprises remnant salt marsh and mangrove habitat. Similar to the Botany Wetlands, Wanngal wetlands support many local and migratory birds and other fauna species.

The redevelopment of the Wetlands for recreation use provided a series of cycle and pedestrian paths allowing access around the Wetlands with picnic and other facilities provided at various points along the pathways. Areas of environmental sensitivity are protected through restricted access in sensitive areas. Sydney Olympic Park also carries out education field trips of the Wetlands for schools and the community.

Photo 11: Wanngal Wetlands



Source: www.bio.usyd.edu.au, 2008

Figure 23: Wanngal Wetland Cycle and Pedestrian paths map.



Source: Sydney Olympic Park. Bike Safari Map 2007

Objective 1.5***Provide a greater range of housing types.***

Opportunities for a greater range of housing will be provided if existing controls on residential development are adjusted. Current minimum lot size and minimum dwelling size controls should be removed or reduced and replaced with codes and guidelines indicating how small lot infill development can still produce quality housing. Small lot redevelopment has the potential to provide a cheaper housing product which can contribute to affordable housing dwellings within centres. This is a core issue for housing options of the aged and disabled.

Car parking requirements can also be reduced or removed and development costs reduced depending on relative access to public transport. High quality street interface and boundary treatments are important.

Action	Implementation map ref/detail	Timing
1.5.1 Remove minimum lot size and minimum dwelling size controls to facilitate renewal and redevelopment in areas targeted for residential intensification and renewal.	<i>See Chapter 5 Implementation</i>	Short to Medium Term
1.5.2 Prepare guidelines and advice for builders and developers on how to undertake successful small lot infill development.	<i>See Area 2 Map, Chapter 5 Implementation</i>	Short Term
1.5.3 Include provisions for aged housing and group homes in areas identified for residential intensification.	Aged housing and group homes should be permitted in areas set aside for residential intensification.	Short Term

Also see

Action 1.7.2 Reduce parking provision for development around transport nodes to encourage lower private car use.

Objective 1.6***Provide high quality community facilities.***

Underutilised Council or community facilities may be revitalised and renewed for adult education, youth activities, 'live' sites, festival events or community meetings. This will be particularly important in areas where additional residential development is expected.

Action	Implementation map ref/detail	Timing
1.6.1 Facilitate the use of underutilised Council properties for community activities through access to such properties and/or adapting them for needs identified through a community infrastructure needs assessment.	<i>Further study and analysis required.</i>	Short to Medium Term
1.6.2 Investigate use of surplus Council lands for multi-purpose community uses where these are located close to areas targeted for additional residential development (such as childcare, youth facilities or aged facilities).	<i>Further study required but catalyst would be redevelopment of areas for higher density residential.</i>	Medium Term

Objective 1.7**Advocate for a high quality public transport system and improve local transport management.**

While transport was not to be an explicit focus of this Strategy many of its recommendations depend on parallel transport planning or investment. Key initiatives are:

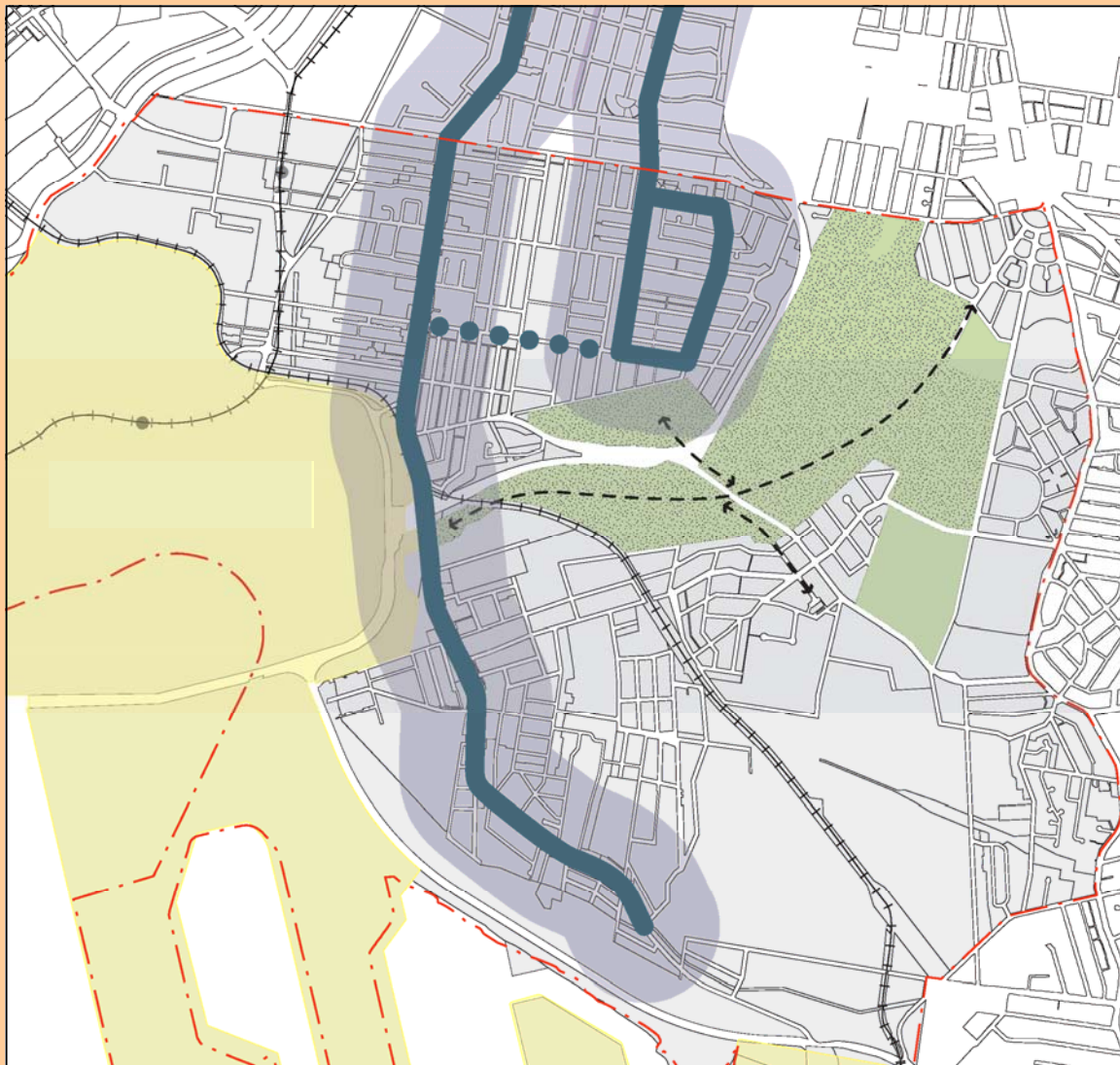
- Extending Strategic public transport corridors to Botany Road, to support its role as the 'spine' of the LGA and to provide enhanced access for new residential development at Rosebery and Banksmeadow, and employment renewal around the Botany Centre;
- Reducing the heavy vehicle role of Botany Road by 'calming' it and making it pedestrian, cycle and public transport friendly when opportunities to divert traffic to arterial roads arise (such as the Hale Street extension or future M4 East connections);
- Building on the above, establishing an appropriate road hierarchy in the LGA to remove heavy traffic from residential streets and promoting key corridors for cycling and walking;
- Reducing parking provision in new development near public transport, in Mascot Station and Botany Road Precincts in particular, for both commercial and residential development. This requires further analysis but should be seen as a traffic management and sustainability initiative, as well as a means to reduce development costs (underground parking can add as much as \$50-80,000 to the cost of a dwelling unit);
- Improving traffic management around the Airport and Port and better planning for off-site impacts in general.

Action	Implementation map ref/detail	Timing
1.7.1 Investigate traffic-claiming streetscape treatments along Botany Road.	<i>This will require a detailed urban design study of identifying treatments which enhance the existing program of street trees and other landscaping works.</i>	Short to Medium Term
1.7.2 Reduce parking provision for development around transport nodes to encourage lower private car usage.	<i>This will require a detailed study of parking needs, including identifying differentiated rates by location depending on public transport access and local road capacity.</i>	Short Term
1.7.3 Develop a comprehensive Transport Management Plan for the LGA, addressing transport needs for all stakeholders in the LGA, and in adjoining LGAs. The plan will provide an appropriate road hierarchy for all stakeholders and will investigate options for enhancement of public transport provision.	<i>Establish an appropriate road hierarchy to 'calm' local streets for residents, cyclists and pedestrians while designating roads for heavy traffic. The Plan would identify items that can be addressed by Council and those where State and Federal input is required.</i> <i>Investigation of the wider transportation impacts of planned employment and dwelling growth should inform the Transport Management Plan and be undertaken in consultation with other eastern suburbs LGAs to allow for a regional focus.</i>	Short to Medium Term
1.7.4 Advocate for coordinated management of Airport and Port infrastructure needs and off-site transport impacts, with local, State and Federal Government involvement.	<i>Build on the recently revived Sydney Airport Community Forum, though focus more on offsite impacts and coordination, rather than Airport activities and planning.</i>	Short Term

Concept Route for extension of public transport services into Botany Bay LGA

Opportunity exists to extend proposals for public transport along Botany Road and to the Eastlakes area proposed by City of Sydney Strategic Plan. The Botany Road concept route would end at Banksmeadow and assist in moving workers and residents to the centres along the spine. The Eastlakes route would connect workers and residents between the Eastlakes centre to the Sydney CBD. This route would also serve to connect the proposed Botany Wetlands Park to Eastlakes and City of Sydney residents north of Eastlakes.

Figure 24: Concept route - Extension of public transport corridors into Botany Bay LGA



Source: SGS 2008



Strategy Direction 2: Revitalising Botany Road & Traditional Centres

Role of Botany Road

Botany Road performs multiple, often conflicting, roles

The Botany Road spine is a defining feature of the LGA. It contains traditional shopping and service centres, civic facilities and important local employment opportunities. It also performs a critical transport function facilitating access to key employment precincts and housing areas of the LGA, to the Sydney CBD and the Specialised Centres of the Port and Airport. Parts of the Botany Road area are affected by high aircraft noise levels, heavy vehicle transport from Port and Airport activities and associated transport capacity issues. The road performs multiple roles which are often conflicting.

Photo 12: Memorial Park, Mascot



Source: SGS 2007

Development Potential

Public domain, open space and transport affect development potential on the Botany Road spine

Residential and business development is more likely to be attracted where there is a combination of high quality public domain, open space and public transport.

Parts of Botany Road have poor public domain due to the impacts of aircraft noise and traffic and a lack of efficient public transport options. Underinvestment may also be a result of limited floorspace yield prospects under existing development controls. Consultation identified significant interest from the business community in public domain and transport improvements on Botany Road (Botany Bay Business Survey).

Public transport on the spine is provided by bus services. The NSW Government has proposed strategic bus corridors through Mascot (Bondi Junction to Burwood route, based on the existing 400 bus route) and Rosebery (Miranda to City route). The Miranda to City route is proposed to operate along Coward Street, however the Rosebery centre does not extend to this street. The Bondi Junction to Burwood Route would travel along King Street which is an appropriate location as the Mascot centre begins here.

The southern part of Botany Road has not been identified for increased public transport provision and has limited services between the peak periods. A proposed strategic bus route from Bondi Junction to Hurstville would travel along Wentworth Avenue and on to General Holmes Drive but there are no plans for routes further to the south.

Botany Road Centres

Botany Road contains four 'main street' centres - Rosebery, Mascot, Botany and Banksmeadow – which are generally declining as retail and service hubs for the surrounding residential community

Each of the four main street centres performs a different function determined by its size (extent of commercial and retail floorspace), environmental impacts, transport prospects and nature of in-centre and surrounding employment.

Main street centres traditionally provide a mix of retail and commercial land uses which can cater to local and/or a wider catchment depending on the kind of retail provided. The centres along Botany Road have limited boutique or 'destination' retailing, and no major supermarket which limits their profile to local resident and worker services and convenience retail. A land audit undertaken of the Botany Bay LGA found that main street land uses are concentrated in Mascot/Rosebery and Botany town centres.

All the Botany Road centres are declining as employment, retail and service hubs. With population growth and residential renewal around these centres constrained either by aircraft noise or the existing development controls (for example restrictive zoning, restrictions on development of lots less than 850 square metres or minimum dwelling size requirements) the catchment for these areas is stagnating at best.

Rosebery and Banksmeadow are relatively unconstrained by the aircraft noise controls (they are outside the ANEF 25 contour). Additional residential development in and around these centres should be supported to stimulate growth and enterprise in the centres. The growth of the Botany centre should be supported by expanding employment potential. Mascot centre has fewer opportunities but should enhance its links to Rosebery so this area acts as an activity hub for surrounding residential areas.

Further profiling of the centres and related activities on the Botany Road spine is contained in the text boxes overleaf and in Figure 25.

Photo 13: Botany Town Hall , Botany Road, Botany

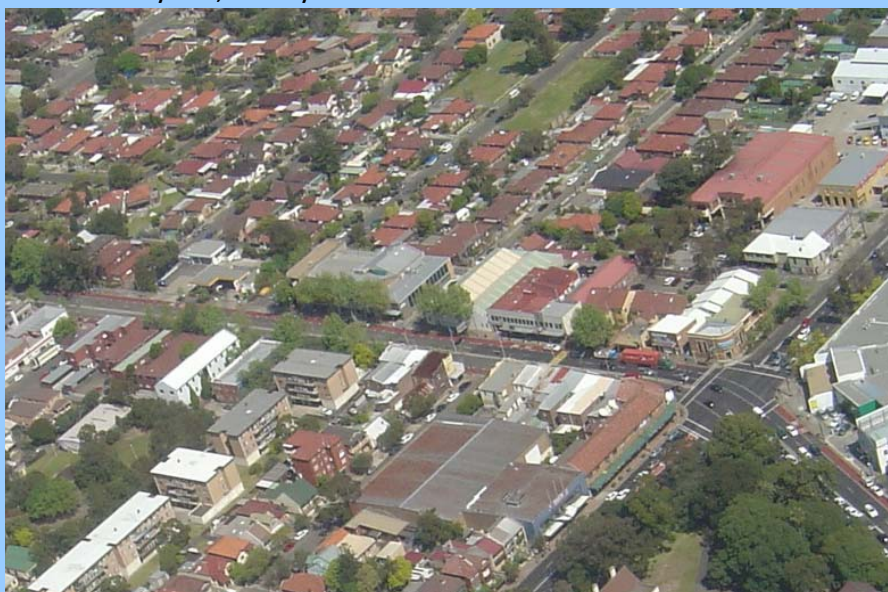


Source: Botany Bay City Council 2007

Rosebery

The Rosebery centre on the Botany Road Spine is located outside the ANEF 25 contour and comprises main street retail activity on both sides of Botany Road between Gardeners Road and Hughes Avenue, and a mixture of uses on the eastern side of Botany Road between Hughes Avenue and Rawson Street. Uses along the southern part of the main street are diverse and include retail, residential, office and urban services, giving this street frontage an inconsistent and different character compared to the area north of Hughes Ave. Council's Chambers and Offices are also located just to the south of this area. Rosebery has been identified as a centre which can accommodate intensification, and further investment in locally oriented retail, business and cultural activities should be encouraged.

Photo 14: Botany Road, Rosebery.



Source: SGS 2007

Mascot

The Mascot centre is located just south of the Rosebery centre and is within the ANEF 25 contour. While the length of Botany Road in Mascot between Tunbridge Street and Wentworth Avenue is zoned for business land uses, the retail main street core of the centre is actually between King Street and Hollingshed Street. The areas north and south of this core contain a variety of residential, light industry and urban services as well as main street retail uses. Mascot has been identified as a centre unsuitable for residential intensification due to aircraft noise impacts. Links to Mascot along Botany Road should be encouraged so both centres can operate as an enhanced activity hub in the LGA.

Photo 15: Botany Road, Mascot



Source: City of Botany Bay 2008

Figure 25: 2006 Employment Land Audit Rosebery and Mascot centres



- Business / Offices Parks
- Car Parking
- Dispersed Activities
- Freight & Logistics
- Local Light Industry & Urban Support
- Manufacturing - Heavy
- Manufacturing - Light
- Office
- Retail - Big Box
- Retail - Bulky Goods
- Residential
- Retail - Main Street
- Special Activities
- Urban Services
- Vacant Building
- Vacant Site

- Rail Line
- Non-employment Land

Botany

The Botany centre is the traditional centre for the Botany Bay LGA and contains many of the LGA's heritage properties. It is located within the ANEF 25 contour, with the northern part of the centre in the ANEF 30 contour, making it unsuitable for further residential development. The centre comprises a main street retail core between Edward Street and Bay Street with other land uses north and south of this core area including a large light industry site north of Bay Street and residential land uses south of Edward Street.

Business park land uses are concentrated north of the Botany main street centre at Lord Street (comprised of the Lakes Business Park development and Sir Joseph Banks Corporate Park). These business parks provide a high quality head office environment for mainly logistics and Airport-related operations, but also other business tenants. The area is separated from the Botany main street centre by residential land uses between Daphne and Hickson Streets.

The Botany centre also acts as a buffer between the Hale Street Industrial area (which is predominantly freight and logistics land uses serving Port and Airport freight needs [see Global Airport and Global Port sections]) and residential development to the east of Botany Road. The Hale Street industrial area extends from the Botany main street centre to Sir Joseph Banks Park. The dominant land uses are freight and logistics followed by a range of manufacturing (heavy and light), local light industry and urban support and residential land uses in the northern part of the area.

Photo 16: Botany Road, Botany



Source: SGS 2007

Photo 17: Lakes Business Park and Sir Joseph Banks Corporate Park north of Botany centre



Source: SGS 2007

Banksmeadow

The Banksmeadow main street centre contains approximately 100 metres of retail uses at the end of the Botany Road spine on its northern side. The centre is located within ANEF 25 and ANEF 20 contours. The centre has been identified as an area suitable for residential intensification with medium density permitted north of the centre. Surrounding the centre are the Port Botany and Banksmeadow industrial areas to the east, the Botany South industrial area to the west and predominantly low density residential development to the south. The Botany South industrial area is located west of the Banksmeadow centre and has frontage to Botany Road. It contains most of the LGA's urban services land uses (27 per cent) and a significant proportion of manufacturing (heavy and light) and local light industry and urban support. The Botany Road street frontage of this industrial area is a mix of uses with an enterprise corridor flavour including urban support and residential and manufacturing.

Photo 18: Banksmeadow Centre



Source: SGS 2007

Revitalising Botany Road and Traditional Centres Objectives and Actions

Objective 2.1

Reinforce the role of Botany Road as a major high amenity, activity spine through the LGA.

The local service and transport functions of Botany Road should help create a high amenity and liveable main street for the residential communities of the LGA. Of course, Botany Road will continue to play a higher order role, and be a location for major economic activities, but its regional traffic function in particular should be reduced. Proposed projects such as the extension of the M4 East to the Port, the Hale Street extension to Foreshore Drive or the link road from Coward Street to Airport Drive, offer the prospect to divert truck and regional traffic from Botany Road. Accompanying any such changes should be 'calming' measures for Botany Road, including urban design, public transport and streetscape improvements.

Botany Road can provide the focal point from which to access other open space areas in the LGA through public domain treatments. Roads between open space outside the centre and Botany Road could provide green corridors from the centres to the open space assets.

Action	Implementation map ref/detail	Timing
2.1.1 Develop and implement a public domain strategy for Botany Road and retail side streets that acknowledges the fundamental role of this artery in the functioning of the LGA.	<i>Subject to preparation of public domain strategy.</i>	Short to Medium Term
2.1.2 Define transitions between in centre and out of centre locations with distinctive landscaping and/or design elements.	<i>This should form part of the public domain strategy.</i>	Short to Medium Term
2.1.3 Advocate for minimal heavy vehicles along Botany Road and traffic calming in centre areas.	<i>Partner with Council, MoT, RTA, Port and Airport</i>	Short Term
2.1.4 Maintain and enhance current street trees program to eventually treat all centres along the Botany Road spine.		Short to Medium Term
2.1.5 Implement traffic calming and appropriate parking restrictions in side-streets of centres to encourage service retail activities (i.e. cafes, restaurants).		Short Term
2.1.6 Provide street landscaping and urban design forms creating a link to Botany centre from Booralee Park and Garnett Jackson Reserve; and between Botany Road and Sir Joseph Banks Park.	<i>Include in a comprehensive open space study which provides management plans for the LGAs open space assets.</i>	Short Term
2.1.7 Enhance the public domain of Bay Street between Botany Road and Foreshore Drive.	<i>Further investigation</i>	Short Term

Also see

- **Action 1.7.1** Investigate traffic-calming streetscape treatments along Botany Road.
- **Action 1.7.3** Develop a comprehensive Transport Management Plan for the LGA, addressing transport needs for all stakeholders in the LGA, and in adjoining LGAs. The plan will provide an appropriate road hierarchy for all stakeholders and will investigate options for enhancement of public transport provision.

Objective 2.2**Support and reinforce the centres along the Botany Road spine.**

Future directions for the Botany Road spine centres include:

- Rosebery suitable for residential intensification, with the potential to become a mixed use and lively activity hub for social, retail, cultural, and employment activities.
- Mascot is constrained for further residential development and its retail or business role is not expected to change significantly except to complement the growth of Rosebery to the north. These links should be strengthened.
- Botany is deemed unsuitable for residential intensification (ANEF constrained) and will be more suited to employment intensification with a greater commercial and regional retail role. The concept of this centre needs to be extended to include the Lord Street business park commercial activities to the north, and part of the Hale Street industrial area to the west, which can become a larger format retail cluster.
 - The links between the Lord Street business park activities and Botany centre should be encouraged, so that the centre provides the ancillary retail and service activities for the tenants of the business park. Accordingly, significant ancillary retail in the business park area should be discouraged. The deferred area site west of Lord Street ('flyover site') should also be zoned for business park to create a strong commercial cluster in this location and extend the potential for the Botany centre to provide a service retail role.
 - To the west of the Botany centre the area between Underwood and Botany Road, at Chegwyn Street, could host some large format retailing. These uses should be encouraged in this location to complement the centre and expand its retail function.
- Banksmeadow has scope to evolve in the longer term with a hybrid character, providing 'village' centre retail and services for surrounding and further residential development and, nearby to the east, additional commercial and industrial development relating to the Port.

Action	Implementation map ref/ detail	Timing
2.2.1 Expand the potential for town centre retail and residential activity in the Rosebery centre, along Botany Road to Tunbridge Street and about 100metres into Rolfe Street.	<i>See Area 2 Map, Chapter 5 Implementation</i>	Short Term
2.2.2 Increase residential density potential at Rosebery on either side of Botany Road and behind Gardeners Road to Harris Street.	<i>See Area 2 Map, Chapter 5 Implementation</i>	Short Term
2.2.3 Create neighbourhood centre 'side street' retailing potential into Sutherland Street off Gardeners Road.	<i>See Area 2 Map, Chapter 5 Implementation</i>	Short Term
2.2.4 Expand potential for town centre retail east of Botany Road along King Street.	<i>See Area 2 Map, Chapter 5 Implementation</i>	Short Term
2.2.5 Facilitate expansion of commercial activity potential north of Botany centre (Flyover site, Lord Street to Bay Street).	<i>See Area 3 Map, Chapter 5 Implementation</i>	Short Term
2.2.6 Extend main street retail to Hickson Street (east side of Botany Road).	<i>See Area 3 Map, Chapter 5 Implementation</i>	Short Term
2.2.7 Create 'side-street' retailing potential into Bay Street.	<i>See Area 3 Map, Chapter 5 Implementation</i>	Short Term
2.2.8 Expand business and larger format retailing potential at Botany centre (west to Underwood Street and south to Hale Street, and along south side of Bay Street to McFall Street).	<i>See Area 3 Map, Chapter 5 Implementation</i>	Short Term

2.2.9	Retain Wilson/Pemberton Streets area for live work.	<i>In the identified 'live/work' areas, rather than include additional uses such as dwellings to the development table or schedules, the inclusion of a local provision under Part 7 of the Standard Instrument could specify the 'live/work' areas (with an associated map) which make the land subject to certain special development provisions to permit housing development while still allowing Council a level of control. The local provision would require that Council consider an adopted development control plan relating to the land in granting development consent.</i>	Short Term
2.2.10	Increase residential density potential east of Wilson Street (at corners of Wiggins and Herford).	<i>See Area 3 Map, Chapter 5 Implementation</i>	Short Term
2.2.11	Extend Banksmeadow main street retail (west to Pemberton Street).	<i>See Area 3 Map, Chapter 5 Implementation</i>	Medium Term
2.2.12	Increase residential density potential around shops at Swinbourne Avenue to create small centre (near Garnet Jackson Reserve).	<i>See Area 3 Map, Chapter 5 Implementation</i>	Medium Term
2.2.13	Increase residential density potential south of Botany Road to Sir Joseph Banks Park (from Livingstone Ave to Dent Street).	<i>See Area 3 Map, Chapter 5 Implementation</i>	Medium Term

Objective 2.3

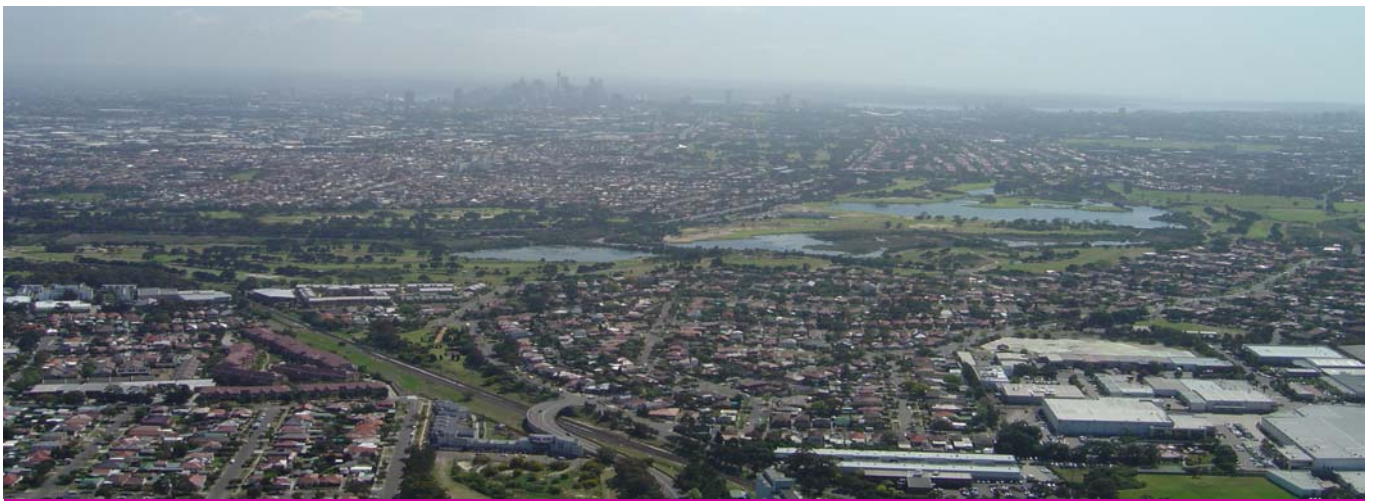
Advocate for a enhanced public transport services along Botany Road

Enhancing public transport corridors would further improve the attractiveness of the centres on the southern part of Botany Road and add to the distinctiveness and definition of the 'spine'. Connections to corridors proposed in adjacent LGAs should be investigated as part of the Transport Management Plan.

Action

Also see:

- **Action 1.7.1** Investigate traffic-claiming streetscape treatments along Botany Road .
- **Action 1.7.2** Reduce parking provision for development around transport nodes to encourage lower private car usage.
- **Action 1.7.3** Develop a comprehensive Transport Management Plan for the LGA, addressing transport needs for all stakeholders in the LGA, and in adjoining LGAs. The plan will provide an appropriate road hierarchy for all stakeholders and will investigate options for enhancement of public transport provision.



Strategy Direction 3: Managing Growth in the Eastern Centres

Structure of Eastern Centres

Eastlakes, Hillside and Eastgardens are focused around standalone shopping centres built in the last 30 to 40 years. These facilities provide important retail and service facilities; however, they are designed to be visited by car and do not integrate well with the surrounding residential areas, particularly for pedestrians or cyclists.

Daceyville, developed in the inter-war period as a garden suburb and now heritage listed, has access to main street retailing (in Kingsford in the Randwick LGA). The eastern and western parts of Pagewood feature small neighbourhood shops (at Dalley Avenue and Bunnerong Road).

Some areas around Eastlakes and Hillside in particular suffer from poor public domain with relatively unattractive buildings, limited street planting, underutilised open space assets and diminished prospects for new investment or renewal due to the prevalence of strata titling of existing 'walk-up' flats.

The eastern centres require investment to enhance amenity, improve open space and increase access to public transport, to make centres more suitable for additional residential development.

Development Potential

The eastern centres benefit from fewer environmental impacts than elsewhere in the LGA, but short term development is limited given public transport and amenity limitations

Eastlakes, Daceyville, Pagewood, Hillside and Eastgardens are located outside the ANEF 25 contour. The eastern centres also have the potential for good access to open space. This would improve if the Botany Wetlands become accessible as a regional open space resource.

In terms of heritage assets, Daceyville is a listed heritage conservation area and offers few prospects for residential intensification.

Photo 19: Daceyville Townhouse Development



Source: SGS 2007

Eastlakes, Pagewood, Hillsdale and Eastgardens have potential for residential intensification. However, positive amenity attributes such as public transport and proximity to traditional main street centres are typically lacking.

Short term development options are those which do not involve significant investment in new transport or public domain improvements and can be achieved through modest change to existing planning policies. On this basis, there is limited short term development potential at Eastlakes, Hillsdale and around a new centre identified at Birdwood Avenue.

Additional development potential may be created in the medium term following investment in public transport, site assembly and public domain upgrades. This particularly applies at Eastlakes, Hillsdale and Pagewood.

Residential intensification of Eastgardens is beyond the current planning horizon

The Eastgardens shopping centre does not currently display the typical characteristics of centre which can be the focus for residential intensification, particularly in terms of the interface between its retail and services facilities and the adjacent residential areas. Major reconfiguration of the centre is required to enhance its prospects to become a genuinely mixed use centre with associated residential development. As a result, additional dwellings in the area immediately around the shopping centre are a longer term prospect, and not addressed in this Strategy.

Potential to build on small centre across LGA boundary

The area in the vicinity Birdwood Avenue and Bunnerong Road is well suited to residential intensification and the creation of a new neighbourhood centre spanning the Botany Bay and Randwick Local Government areas. There is an existing concentration of retail and commercial activity at the intersection of Bunnerong Road and Snape Street. These activities could be intensified and perhaps extended to the southern side of Snape Street.

Other positive attributes of the area include:

- Access to open space with small pocket parks and the larger Snape and Rowland Parks in the Randwick and Botany Bay LGAs respectively.
- Public transport access with buses running along Bunnerong Road.
- Access to higher order services and employment opportunities at Eastgardens, Maroubra Junction, Kingsford and the University of New South Wales.

Photo 20: Larger detached dwellings adjacent to open space, Pagewood



Source: SGS 2007

Photo 21: Three storey walk-ups, Eastlakes



Source: SGS 2007

Photo 22: Three storey walk-ups, Hillsdale



Source: SGS 2007

Eastlakes

The **Eastlakes** centre contains the Eastlakes shopping centre, a single storey shopping centre with surrounding residential development. The centre is bounded by the Botany Wetlands to the east and south, the Mascot/Rosebery area to the west and the City of Sydney Rosebery area to the north. The centre contains approximately 13 per cent of the LGA's dwellings (ABS 2006). The Eastlakes shopping centre is around 40 years old. The shopping centre and surrounding residential estate were built on the site of a former horse racing track. It is setback from Gardeners Road and adjacent to poorly maintained open space (Evans Reserve). The surrounding high and medium density residential development is predominantly strata-titled. The public domain experience is poor, with an unattractive elevation frontage appearance of the shopping centre to Evans Reserve and the adjacent residential properties. Bus services operating along Gardeners Road service the Eastlakes centre. The Metropolitan Strategy also proposes a strategic bus corridor connecting Maroubra to the City passing through the Gardeners Road/Bunnerong Road area east of the shopping centre.

Photo 23: Eastlakes centre and Eastlake reserve Interface.



Source: SGS 2007

Photo 24: Eastlakes centre main entrance



Source: SGS 2007

Hillsdale

Hillsdale contains the Southpoint shopping centre (renovated in the last 10 years) which also includes a residential tower containing 116 units. The Southpoint shopping centre is anchored by a Woolworths Supermarket, Coles Supermarket, Trade Secret, Go-Lo and Crossroads with 24 specialty shops. Surrounding existing residential development is medium density and predominantly strata-titled. There is an area of low density separate dwellings north of Southpoint. The low density areas closest to the centre have limited redevelopment potential without appropriate changes to development controls.

Photo 25: Southpoint Shopping Centre



Source: SGS 2007

Eastgardens

Eastgardens contains Westfield Eastgardens which is a regional, standalone shopping centre complex. The centre is bounded by industrial land uses to the north and southwest, residential development to the east and southwest and open space uses to the west. Westfield Eastgardens is separated from the predominantly low density, detached dwelling area of Eastgardens by the six-lane Wentworth Ave. The street frontage to the residential area includes an associated multi-storey car park.

The British American Tobacco industrially zoned site to the north of the shopping centre is large. However, it is actively used and there is no particular need for it to be converted to alternative uses at this time. There is potential for conversion in long-term.

The proposed strategic bus corridors (Metropolitan Strategy, 2005) along Wentworth Avenue will connect Bondi Junction to Burwood and Hurstville using the existing bus interchange at Westfield Eastgardens which is located at the Bunnerong Road elevation. The strategic bus corridors will allow buses and bus priority measures to be concentrated in critical areas. Bus priority measures along these corridors allow operators to provide improved bus services.

Photo 26: Westfield Eastgardens Shopping Centre



Source: SGS 2007

Photo 27: Eastgardens with Westfield shopping centre and BAT site in the foreground



Source: SGS 2007

Managing Growth in the Eastern Centres Objectives and Actions

Objective 3.1

Increase residential development potential in the eastern centres in the short term where there is good amenity and access to public transport.

The south of the Eastlakes centre (south of Universal Street) is a residential area which has the potential for some intensification in the short term. More comprehensive redevelopment and renewal at Eastlakes will depend on a major reconfiguration of the subdivision and relationship between retail and residential uses.

The Hillsdale short term development area is north of the Southpoint shopping centre and lends itself to redevelopment by virtue of its proximity to the centre and the existing lot configuration. More significant intensification at Hillsdale is particularly constrained due to the high proportion of strata-title units (higher than that for Eastlakes), as well as the existing investment at the Southpoint shopping centre development and the absence of mass-transit on Bunnerong Road.

The Birdwood short term development area is located at the intersection of Birdwood Avenue and Bunnerong Road. The area contains a small row of neighbourhood shops in Snape Street on the Randwick LGA side of Bunnerong Road and a high level of access to quality open space assets.

All areas identified for residential intensification are subject to appropriate masterplanning or site specific development control plans which will identify appropriate building heights, built form, landscaping, and other development elements.

Action		Implementation map ref/detail	Timing
3.1.1	Increase residential density potential at Eastlakes between Universal and Garden Streets.	<i>See Map Area 2, Chapter 5 Implementation</i>	Short Term
3.1.2	Increase residential density potential at Hillsdale (corner of Flint Street and Bunnerong Road)	<i>See Map Area 6, Chapter 5 Implementation</i>	Short Term
3.1.3	Increase residential density potential on certain land around Birdwood Avenue.	<i>See Map Area 6, Chapter 5 Implementation</i>	Short Term

Objective 3.2**Create an urban environment and public domain capable of accommodating additional residential development in the eastern centres in the medium to long term.**

Investigations for redevelopment in the Eastern centres must consider the following important issues:

- Enhancement of public transport services to support additional residential densities;
- Proposing an appropriate level of development potential to overcome significant strata-title tenure in the centres; and
- Providing significant improvements to the centre amenity and public domain .

Further intensification at Eastlakes depends on a coordinated and managed approach to renewal, future investment in public transport connections and improvement of the poor configuration of the centre. Conflicts between trucks servicing the shopping centre and neighbouring residential areas, poor public domain and the significant surrounding strata-titled residential apartments are major challenges for renewal. Furthermore, public transport to the centre is poor. Enhancement of public transport should be considered as part of a comprehensive Transport Management Plan which capitalises on opportunities to extended public transport corridors in adjoining LGAs. For example, proposals for new surface transit (e.g light rail) to Dalmeny Avenue from Surry Hills are flagged in the City of Sydney's *Sustainable Sydney 2030* plan, and this could be extended to provide mass transit to service the Eastlakes centre and make it more attractive for intensification.

The remaining parts of the Hillsdale centre can also be considered for intensification pending further investigation. Hillsdale already contains a higher density of residential development and significant strata-title tenure (higher than at Eastlakes).

An area in Pagewood west of Wentworth Avenue has reasonable amenity, with access to Pagewood Public School. However additional public transport options are necessary and the current location of the neighbourhood shopping centre may not be appropriate to support a higher residential population.

Action	Implementation map ref/detail	Timing
3.2.1 Increase residential density potential around Hillsdale / Southpoint (east of Rhodes Street)	<i>See Map Area 6 and Structure Planning Principles, Chapter 5 Implementation</i>	Medium Term
3.2.2 Increase residential density potential around the Eastlakes centre, integrated with a redevelopment and expansion of the shopping centre.	<i>See Map Area 2 and Structure Planning Principles, Chapter 5 Implementation</i>	Medium Term
3.2.3 Increase residential density potential at Pagewood (south west of Wentworth Avenue, halfway to Dudley Street)	<i>See Map Area 4 and Structure Planning Principles, Chapter 5 Implementation</i>	Medium Term
3.2.4 Undertake detailed structure planning to the north of, and elsewhere around, Eastgardens to determine the appropriate mix of uses in the long-term.	<i>See Map Area 4 and Structure Planning Principles, Chapter 5 Implementation</i>	Long Term

Also see:

- **Action 1.7.2** Reduce parking provision for development around transport nodes to encourage lower private car usage.
- **Action 1.7.3** Develop a comprehensive Transport Management Plan for the LGA, addressing transport needs for all stakeholders in the LGA, and in adjoining LGAs. The plan will provide an appropriate road hierarchy for all stakeholders and will investigate options for enhancement of public transport provision.

Objective 3.3**Revitalise existing higher density development where future development potential is limited**

The lower amenity areas dominated by 'walk-up' flats, where new investment is restricted, should be assisted to redevelop and renew with targeted assistance programs. This is a medium to long term project that will need the attention of both local and State Government.

Action	Implementation map ref/detail	Timing
3.3.1 Develop guidelines for refurbishment of older style , higher density development.	<i>See Approaches to refurbishment of older style higher density development (below).</i>	Short Term
3.3.2 Advocate for redevelopment and renewal assistance for areas around Hillsdale and Eastlakes.	<i>Approach State Government to establish a scheme for public domain and building improvements.</i>	Ongoing

Approaches to refurbishment of older style higher density development.**Randwick City Council**

In 2006, Randwick City Council (RCC) released 'Design Ideas for Rejuvenating Residential Flat Buildings' as part of a campaign to promote the refurbishment of walk-up apartments and encourage excellence in design, preserve heritage, incorporate environmental initiatives and improve the overall aesthetics of the area.

RCC recognises that incremental changes to older stock may be more viable in the short term than major redevelopment and that many of their older stock is due for some measure of upgrade. 'Due to poor design and maintenance, 35 per cent of all strata buildings in Randwick City will need to be redeveloped or refurbished over the next 30 years' (RCC, 2006).

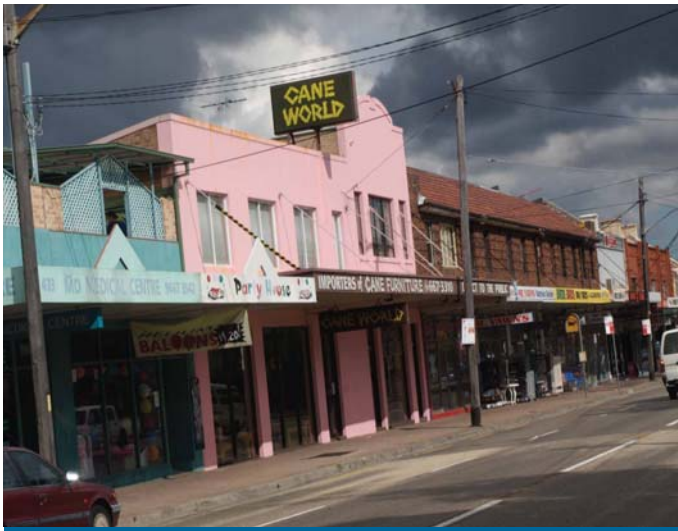
Photo 28: Residential Flat Buildings in Randwick



The key principles are to improve :

- **Internal Amenity** – including the size and shape of the internal layout and both private indoor and outdoor open spaces.
- **Environmental Performance** – ensuring the design of the building utilises the site and climate, which promotes sustainability and reduces the need for heating and cooling and subsequently reduces the consumption of energy and water.
- **Streetscape Appearance** – Landscaping and the restoration of building facades are fundamental for the process of maintaining the aesthetics of the streetscape. New developments are encouraged to incorporate individual design with the surrounding development. However RCC maintains that the environmental performance, amenity and liveability for residents should not be compromised.

Source: Design Ideas for Rejuvenating Residential Flat Buildings, Randwick City Council, Nov 2006



Strategy Direction 4: Reviving the Local Economy

Employment Trends

Local employment has been declining

Employment in the Botany Bay LGA declined from around 55,665 to 48,219 (13 per cent) between 2001 and 2006 (Transport Data Centre 2006 adjusted, Transport Data Centre 2001 adjusted). However, this decline was not uniform across industry sectors or across geographic areas.

Although manufacturing and transport and storage jobs declined in line with broader economic restructuring (down by 30 per cent and 11 per cent respectively), there were also declines in core local service sectors such as property and business services (down by 14 per cent), accommodation, cafes and restaurants (down by 34 per cent), and retail trade (down by five per cent). These declines were matched in local retailing and service centres such as Hillside (down by 14 per cent), Eastlakes (down by one per cent) and in the main street centres of Rosebery and Mascot (down by 40 per cent) (Transport Data Centre 2006 adjusted).

Key local employment sectors

Jobs in the LGA are concentrated in strategic industry sectors

Not surprisingly, a majority of the jobs in the Botany Bay LGA are related to Airport and Port activities such as freight, warehousing, transport and logistics. The manufacturing sector, though diminishing, is also still important to the local economy. Office jobs are increasing. Retail, service and some light industry jobs are related to the local and subregional populations.

Of the 48,200 jobs in the LGA in 2006, over two-thirds were in the industry sectors of transport and storage, manufacturing and wholesale trade (ABS, 2006). Around a fifth or 20 per cent were in local service sectors such as property and business services, retail trade and accommodation, cafes and restaurants (Figure 26).

Reflecting the dominance of the Airport and Port-related activities, the draft East Subregional Strategy has a large employment capacity target for the Specialised Centres (14,300 for Sydney Airport and surrounds and 1,000 for Port Botany and surrounds) (Transport Data Centre 2006 adjusted, Transport Data Centre 2001 adjusted). Elsewhere, where jobs tend to have local or subregional catchments, the target is a relatively modest 1,400 jobs. However, these jobs are vital to the servicing of the resident population and workers in the LGA and the subregion.

Population driven local industries

Population growth will create a continuing demand for local light industry and urban services

With population growth, demand for activities such as automotive repairs, domestic storage, plumbing supplies and light engineering will increase. For the purposes of the land audit conducted by SGS these land uses have been categorised as Local Light Industry and Urban Support (see Appendix 2)

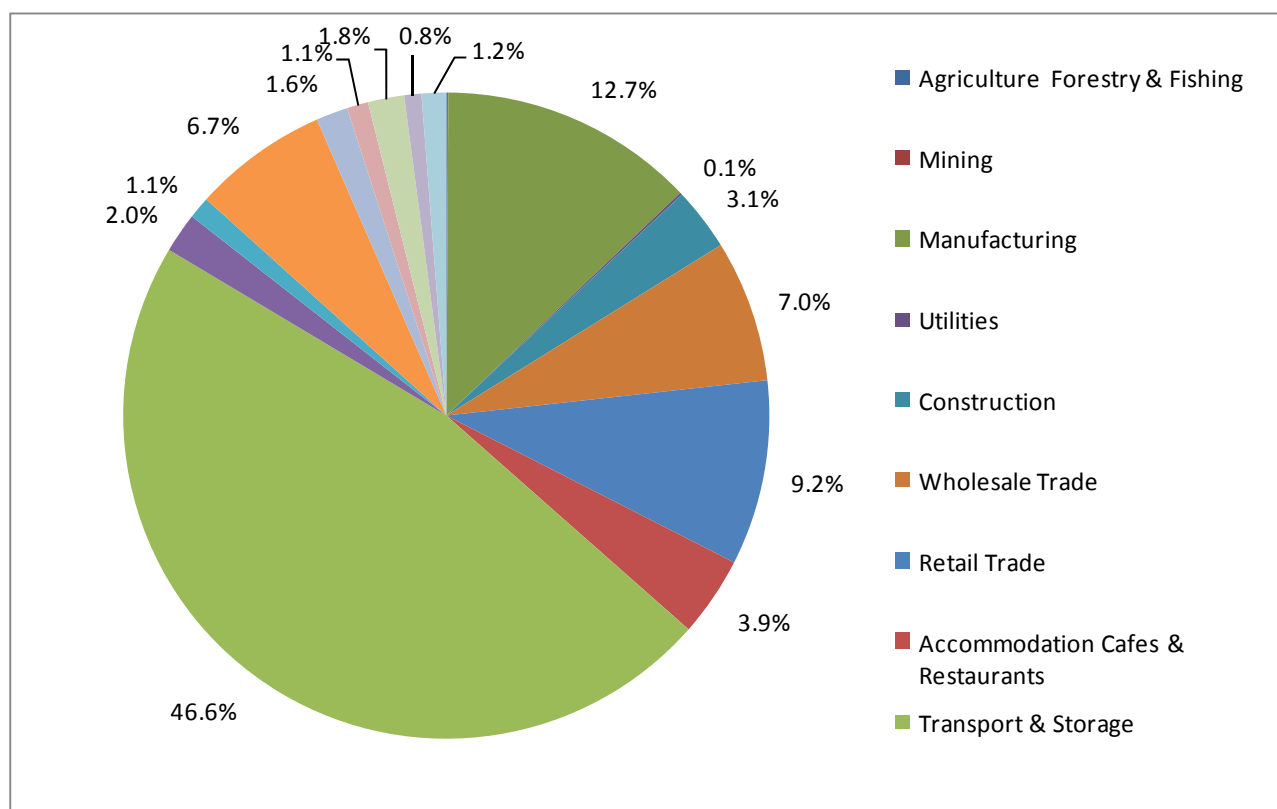
Other activities which generally need to be near to the local population and distributed evenly across the city are council depots, postal depots and concrete batching plants, categorised as Urban Services (Appendix 2). Given the lack of industrial land in the remaining East Subregion LGAs, Botany Bay LGA will need to accommodate the subregion's future land demand for both Local Light Industry and Urban Support and Urban Services activities. As such sufficient employment land must be preserved for such purposes.

Additional land demand for local industrial land uses based on subregional population catchments is forecast at eight hectares for Local Light Industry and Urban Support and 16 hectares for Urban Services to 2031.

Retail and local service demand will increase with the growth in the population and new development opportunities need to be provided

Retail demand modelling based on expenditure trends indicates that an additional 36,500 square metres of retail floor space needs to be accommodated in the LGA. Most will be readily provided by the expansion of the larger shopping centres at Eastlakes, Eastgardens and Southpoint, while significant opportunities remain in the existing commercial zones in the main street centres. Nevertheless additional development opportunities should be provided for new formats and start up enterprises which cannot be readily accommodated in established centre.

Figure 26: Industry Sector Share, 2006



Source: TDC 2006, SGS Scaled.

Reviving the Local Economy Objectives and Actions

Objective 4.1

Focus local light and service industry activities in existing industrial areas where these are currently the predominant uses (Botany South, Hale Street (north), Baker Street and Hillsdale).

The employment lands in the Botany Bay LGA will need to accommodate the wider East Subregion's future land demand for both Local Light Industry and Urban Support and Urban Services activities. Given the decline in traditional manufacturing (which will mean that some industrial areas in the LGA will lose jobs), and capacity for intensification and economies of scale in these land use activities, it is estimated that there will be sufficient zoned capacity to accommodate the land demand within the Botany South, Hale Street (north) and Baker Street industrial areas (north Banksmeadow industrial area) and Hillsdale where these uses are predominantly currently located.

There is also an opportunity to enhance the streetscape of industrial areas, particularly where they interface with residential and commercial development.

Action	Implementation map ref/detail	Timing
4.1.1 Retain South Botany area for light industry activities (combined with 'live-work' opportunities in the Wilson-Pemberton Street Precinct)	<i>See Map Area 3, Chapter 5 Implementation</i>	Short Term
4.1.2 Retain Baker Street area for light industry activities	<i>See Map Area 4, Chapter 5 Implementation</i>	Short Term
4.1.3 Retain Mascot South industrial area for light industry activities	<i>See Map Area 2, Chapter 5 Implementation</i>	Short Term
4.1.4 Protect Hillsdale for light industry activities	<i>See Map Area 6, Chapter 5 Implementation</i>	Short Term
4.1.5 Provide strong guidance for industrial built form to ensure new industrial development, and alterations to existing buildings, produces a high quality street frontage. This is particularly important for industrial areas with a residential and/or commercial development interface.	<i>Development controls should be developed which address areas such as appropriate building materials, bulk and scale, landscaping and</i>	Short-term and Ongoing

See Also

- **Action 2.2.9**—Retain Wilson/Pemberton Streets area for live work.

Objective 4.2**Provide for additional retail and service activities in existing centres and a new retail area adjacent to Botany Centre.**

Additional retailing should be supported at Mascot Station Precinct /Town Centre to support its development as a transit oriented activity centre, supporting additional commercial and some further residential development. The area to the west of the Botany centre, to Underwood Street, should also be a focus for additional retailing. It would support large format retailing in a cluster format.

To support the development of Rosebery and Botany as significant activity nodes for the surrounding population and local workers, a larger anchor supermarket should be attracted. This will require the identification of possible sites, as well as negotiation with owners and possible supermarket developers.

In the future, when and if the BAT site adjacent to Eastgardens is developed, alternative land uses should be the subject of a detailed planning study.

Action		Implementation map ref/ detail	Timing
4.2.1	Extend main street retail north to Hickson Street at Botany centre (east side of Botany Road).	<i>See Map Area 3, Chapter 5 Implementation</i>	Short Term
4.2.2	Expand business and larger format retailing potential at Botany centre (west to Underwood Street and south to Hale Street, and along south side of Bay Street to McFall Street).	<i>See Map Area 3, Chapter 5 Implementation</i>	Short Term
4.2.3	Facilitate the development of a full-line supermarket in Rosebery or Botany by identifying potential sites, working on pre-development plans and presenting these to possible supermarket operators.	<i>Further work required</i>	Short Term
4.2.4	Extend Banksmeadow main street retail (west to Pemberton Street).	<i>See Map Area 3, Chapter 5 Implementation</i>	Medium Term

Also see

- **Action 2.2.1** Expand the potential for town centre retail and residential activity in the Rosebery centre, along Botany Road to Tunbridge Street and about 100metres into Rolfe Street.
- **Action 2.2.4** Expand potential for town centre retail east of Botany Road along King Street.
- **Action 2.2.7** Create 'side-street' retailing potential into Bay Street.
- **Action 3.2.2** Increase residential density potential around the Eastlakes centre, integrated with a redevelopment and expansion of the shopping centre.
- **Action 5.3.1** Develop a retail core and town centre around Mascot Station.
- **Action 5.3.2** Ensure mixed-use development at Mascot Station contains commercial/retail uses at the ground and first floors.

Objective 4.3

Promote the Botany Road and Gardeners Road corridors as locations for new enterprise and commercial activities (in centres and in business areas south of Rosebery, north of Botany centre, in Botany South and west of Banksmeadow).

Local commercial services should be encouraged in the expanded Botany centre and at Rosebery and Mascot. Encouraging mixed use with retail/commercial on the ground floor in the main street centres would assist in providing affordable local office commercial floor space. The provision of community facilities, such childcare or recreation facilities associated with office development, is also an option. Development yields in the main street centres would need to be facilitated through site amalgamations and increased heights beyond the existing two storey form of the main street centres.

There are significant opportunities for new businesses and enterprises along key corridors in the LGA. Local enterprise and business uses should be encouraged along parts of Gardeners Road and Botany Road where traffic otherwise makes these areas unsuitable for pure residential development.

Action		Implementation map ref/detail	Timing
4.3.1	Increase potential for light industry activities on land between Hollingshed Street and Wentworth Ave east of Botany Road.	See Map Area 2, Chapter 5 Implementation	Short Term
4.3.2	Establish an enterprise corridor to enhance small business opportunities along Gardeners Road (south side) to Maloney Street.	See Map Area 2, Chapter 5 Implementation	Short Term
Also see			
<ul style="list-style-type: none"> Action 2.2.5 Facilitate expansion of commercial activity potential north of Botany centre (Flyover site, Lord Street to Bay Street). 			



Strategy Direction 5: Maintaining Sydney Airport as a Global Gateway

Sydney Airport Benefits and Challenges

The Airport is a nationally significant economic asset but has associated off-site, local impacts

Sydney Airport and environs is one of two Specialised Centres in the LGA, (Metropolitan Strategy). The Airport crosses local government boundaries, with the largest eastern part in the Botany Bay LGA, the western part in the Rockdale LGA and a very small northern part in the Marrickville LGA .

The Airport provides passenger and freight air transport connecting Sydney to regional, national and international destinations and markets. The Specialised Centre incorporates the Airport itself and surrounding areas which host a mix of Airport-related and other activities.

The Airport is a major economic asset. According to the Airport Master Plan (SACL, 2004), there were approximately 36,100 direct and indirect Airport-related jobs in Botany Bay, Rockdale and Marrickville LGAs in 2001. The draft East Subregional Strategy has a target of another 18,300 jobs in the Specialised Centre to 2031 (14,300 located in the Botany Bay LGA). With this employment and economic activity come significant environmental impacts, including aircraft noise, road and rail transport noise and pollution and congestion.

Managing these impacts is complex given the Airport's fragmented planning and institutional framework. The Airport site is owned by the Federal Government. Sydney Airports Corporation Limited (SACL) - a private company - leases and runs the facility. The site falls across three LGAs, and the State Government has principal off-site transport planning responsibilities. Because the site is federally owned, development is not subject to State or local planning laws. The Airport Master Plan is the principal development document and it is subject to approval by the Federal Minister for Infrastructure, Transport, Regional Development and Local Government.

The lack of local and State policy reach to regulate improvements to infrastructure or affect development decisions on the Airport is an impediment to good planning of the surrounding area. There is a policy vacuum for off-site issues and impacts associated with the Airport's continued expansion.

Photo 29: Mascot Station main street. Source: SGS, 2008



Source: SGS 2007

Sydney Airport off-site land demand

Airport-related activities create a significant demand for off-site employment lands

The Airport generates a significant amount of off-site land demand within the Botany Bay LGA, mainly through transport, freight and logistics activities requiring industrial zoned sites. The Airport has five freight terminals onsite, processing around 550,000 tonnes of freight per annum (Sydney Airport Master Plan 2003-04).

To assess the amount of future offsite land demand, SGS developed an Airport land demand model. The model set out existing land take under current freight throughput, identified the increase in throughput expected to 2025, and calculated the likely offsite land demand generated by the increased throughput. Land suitable for Airport-related freight activity was identified to see whether additional zoned land for these uses would be required within the Botany Bay LGA. Sites were selected based on consultation with logistics experts and airfreight operators, and an understanding of airfreight logistics chains. The analysis found that Airport-related freight operations prefer a location on the Airport site or within one kilometre of the Airport site. The Airport land demand model showed a land demand undersupply of 14 hectares once all suitable offsite land had been considered (Figure 27). Input values are provided at Appendix 5.

Airport Gateway Potential

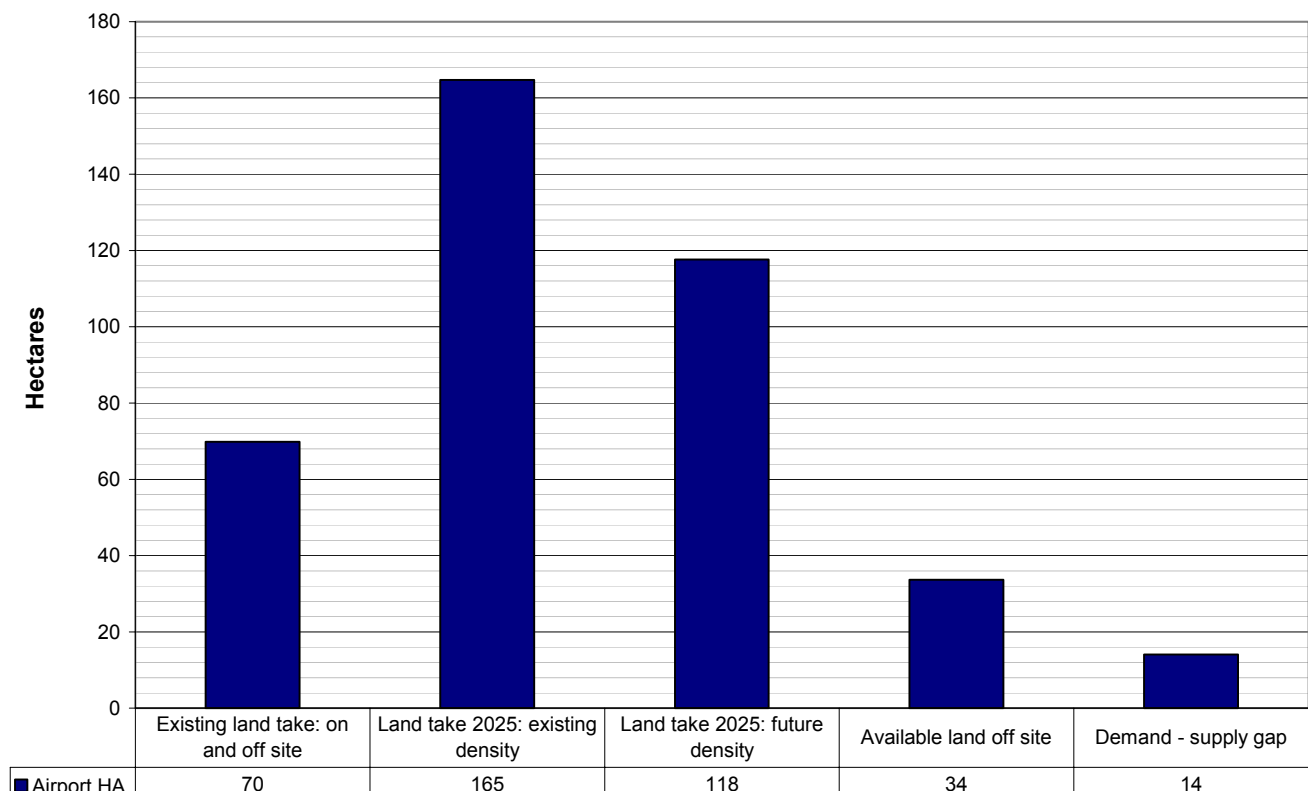
The Mascot Station precinct's potential as a business oriented Airport gateway is unfulfilled

The area south of Gardeners Road to the Airport (Qantas/Joyce/General Holmes Drive) on either side of O'Riordan Street and Bourke Road, and containing the Mascot Station, is the gateway to the Airport when travelling from the City, and a gateway to the City when leaving the Airport. A number of significant office and other employment activities are located in this precinct. However, the gateway role of the area has not been realised and in some precincts employment declined in the years following 2001 (ABS, 2001 and 2006), as older industry moved out and land hungry, lower employment freight and logistics activities proliferated.

Issues requiring attention include:

- The area immediately north of the Airport on O'Riordan Street as it crosses under the freight line is degraded and has poor street frontage
- O'Riordan Street further to the north is also generally unattractive. It contains a mix of uses, very few of which create an active street frontage.

Figure 27 : Airport off-site land demand (Hectares)



Source: SGS 2007

- Mascot Station is currently the only rail station in the LGA (except for the Domestic Terminal). Given its proximity to the Airport it has potential to be an office and business location for globally oriented activities. There is currently no sense of place at the Bourke Road entrance to the Station and no significant retail activity to attract further investment. Much of the office potential has been lost to higher density residential.
- Office uses have spread throughout this precinct and other uses have intruded in an ad-hoc way (for example the occasional hotel).

Photo 30: Existing Gateway (O’Riordan Street)



Source: SGS 2007

Maintaining Sydney Airport as a Global Gateway Objectives and Actions

Objective 5.1

Protect existing employment areas near the Airport for related activity.

Freight and logistics activities should be encouraged immediately north of the Airport. Rather than strictly controlling uses it would be appropriate to control subdivision and minimum lot sizes as well as strata subdivision in this location.

Action		Implementation map ref/detail	Timing
5.1.1	Facilitate the transition of specific land north of Sydney Airport for Airport related business activities (investigation area).	See Map Area 1, Chapter 5 Implementation	Short to Medium Term

Objective 5.2

Support the development of new offsite employment locations near the Airport to accommodate the growth in demand for Airport-related activity.

Sites within one kilometre of the Airport are preferred for accommodating Airport-related land demand. A 7.5 hectare site owned by the SACL immediately to the Airport's north (in the Marrickville LGA) is suitable for Airport-related uses. SACL should be encouraged to bring this land into active use. Where infrastructure upgrades are required, negotiations as to appropriate ways of funding infrastructure investment should be undertaken.

Another area suited to Airport-related uses is northeast of the Airport, between Baxter Road and the John Curtin Memorial Reserve (on the north side of Robey Street). This accommodates low density residential uses, with pockets of industrial development. These areas are currently zoned for higher density residential development, but this is not appropriate given exposure to high aircraft noise impacts (ANEF 25-30) and proximity to the freight rail corridor. The adverse noise impacts are likely to be amplified in the future as through-put at the Port and Airport increases.

The steps for transferring this land to Airport-related employment uses could include negotiating with owners, preparing large scale 'offer to purchase' approaches, undertaking land assembly, and adjusting road layouts. A coordinated Local, State and possibly Federal Government commitment would be necessary to undertake these steps.

Action		Implementation map ref/detail	Timing
5.2.1	Work with Marrickville Council and the State Government to encourage SACL to find a funding and development mechanism to bring the freight designated land to the north of the Airport into use.	Submit a joint Council and State Government, proposal to SACL's Master Planning process in 2008.	Short Term (immediate)
5.2.2	Encourage State (and possibly Federal) Government involvement in the restructure of the identified land north of the Airport (investigation area)	See Map Area 1, Chapter 5 Implementation Note that this action is contingent on the State (and possibly Federal) Government undertaking a major restructure of the area involving appropriate consultation with and compensation (if appropriate) for landowners.	Short to Medium Term

Objective 5.3**Develop the Mascot Station precinct as a major retail and commercial centre.**

Given its proximity to the Airport the Mascot Station precinct has the potential to be an office and business location for globally oriented activities. However, the amenity and facilities in the area need to be expanded to realise this opportunity. Active uses along Bourke Road near the station including retail uses need to be encouraged to transform this corridor into a 'liveable' street. This would become the focus for the town centre around the Station. Office activities in the area west of and south of the station are appropriate with additional residential development in this area restricted.

Action		Implementation map ref/detail	Timing
5.3.1	Develop a retail core and town centre around Mascot Station.	<i>See Map Area 1, Chapter 5 Implementation</i>	Short Term
5.3.2	Ensure mixed-use development at Mascot Station contains commercial/retail uses at the ground and first floors.	<i>Development Control Plan controls</i>	Short Term
5.3.3	Develop Mascot Station as an interchange connecting bus and rail services. The scale and role of the interchange should be investigated as part of the Transport Management Plan preparation.	<i>Collaborate with Ministry of Transport and Rail Corp investigate potential for bus/rail interchange.</i>	Short Term

Objective 5.4**Develop O'Riordan Street precinct as a major City / Airport gateway**

Streetscape and amenity treatments are required along O'Riordan Street to give it a 'boulevard' feel. A more consistent enterprise activity treatment along the street is required. A significant and attractive 'welcome' statement immediately north of the Airport would signal the gateway intent, and working with owners to develop plans is appropriate for key sites, where possible.

Action		Implementation map ref/detail	
5.4.1	Concentrate commercial and office development west and south of Mascot Station to O'Riordan Street Gateway.	<i>See Map Area 1, Chapter 5 Implementation</i>	Short Term
5.4.2	Develop O'Riordan Street / Gardeners Road as an enterprise corridor.	<i>See Map Area 1, Chapter 5 Implementation</i>	Short Term
5.4.3	Develop and implement public domain and streetscape strategy for O'Riordan Street.	<i>Principles for public domain planning</i>	Short to Medium Term

Objective 5.5***Ensure Airport activities do not further compromise residential amenity.***

Without careful planning increased Airport activity will impinge on future residential amenity. In turn this increases friction for the Airport and therefore compromises its operational integrity. Additional residential development should be directed to areas free from significant aircraft noise (less than ANEF 25) and existing residential areas already affected by aircraft noise should be considered for alternative, non-residential zones over time. Airport-related traffic needs to be directed away from residential areas to dedicated heavy vehicle routes and arterial roads.

See

- **Action 1.2.1** Ensure densities in residential areas already affected by aircraft noise (high ANEF), or adjacent to freight and major road corridors are not increased, and seek opportunities for conversion to non-residential uses less affected by these constraints.
- **Action 1.2.2** Facilitate the transition of specific land bounded by Wentworth Ave and Southern Cross Drive, east of Todd Reserve (north of Dransfield Avenue) currently subject to high ANEF (aircraft noise) and adjacent to freight and major road corridors from residential landuses to light industry and related employment land uses.
- **Action 1.3.4** Use appropriate design, development and traffic management controls in interface area where land use conflicts occur or are possible. [See Appendix 4: landuse Activity Conflicts Management Plan]
- **Action 1.7.4** Advocate for coordinated management of Airport and Port infrastructure needs and off-site transport impacts, with local, State and Federal Government involvement.



Strategy Direction 6: Maintaining Port Botany as a Global Gateway

Port Botany Benefits and Challenges

The Port is a major economic asset but generates local environmental and transport impacts

Port Botany is the second Specialised Centre in the LGA. Port Botany comprises land predominantly within the south eastern part of the LGA and the adjoining Randwick LGA. The Port contains two docks, with the expansion of the northern dock approved and expected to commence operations in 2012 (Sydney Ports Corporation 2008), and a bulk liquid berth where bulk liquid petro-chemical cargos are transferred by pipeline to storage facilities on the dock. The Port connects Sydney and wider NSW to global trade markets both nationally and internationally.

Photo 31: Port Botany wharves



Source: SGS 2008

Like the Airport, the Port generates considerable benefits and challenges for the LGA. The proximity of the Port to significant population and markets in eastern Sydney is an advantage for distribution efficiencies, and of course there is a significant amount of Port-related employment. There were approximately 11,200 Port-related jobs in the Botany Bay and Randwick LGAs in 2001, with 1,000 additional Port-related jobs expected in Botany Bay by 2031 (draft East Subregional Strategy, 2007). However, Port activity generates major environmental impacts on noise and air quality from heavy vehicle movements (such as container trucks), noise and safety impacts from freight rail, and environmental risk from hazardous industry and the transportation of hazardous goods.

Sydney Ports Corporation is addressing some of these impacts through the instigation of the *Port Freight Logistics Plan* and the *Botany Landside Improvement Strategy* in response to the IPART report 'Reforming Port Botany's Links with Inland Transport'.

Port Botany off-site land demand

Port-related activities create a significant demand for off-site employment lands

The Port generates significant offsite employment activity within the Botany Bay LGA, mainly through freight and logistics activities and heavy manufacturing on industrial and special use zoned land. Uses include container storage parks, freight and logistics operations, and freight administration services such as customs brokers.

Port Botany forecasts an increase in throughput to 3.2 million Twenty-foot Equivalent Units (TEUs) to cater for growth in container trade until 2025 (Department of Planning Port Botany Fact Sheet). To assess the amount of

employment land this additional throughput would support, SGS prepared a Port land demand model. The model set out existing land take under current freight throughput, identified the increase in throughput expected to 2025, and calculated the likely offsite land demand generated by the extra throughput.

Land suitable for Port freight activity was then identified to see if additional land would be required within the Botany Bay LGA. Sites were selected based on consultation with Sydney Ports Corporation and container freight operations, and an understanding of Port Logistics Chains.

The Port land demand model showed an industrial land surplus of eight hectares once all suitable off-site land supply had been considered (Figure 28). This does not represent a large surplus, so measures to protect this future supply will be necessary. Input values are provided at Appendix 5.

Changing land demand

Industry in the vicinity of the Port is changing to include more 'land hungry' and office oriented activities

The employment lands associated with the Port include the Port site itself and the Banksmeadow industrial area to the north of the Port.

The northern part of the Banksmeadow industrial area contains the Botany Industrial Park, a nationally significant manufacturing site. Uses include major chemical manufacturers such as Orica (formerly ICI), Huntsman and Qenos. Other activities are the manufacture, storage and distribution of hazardous chemicals as well as freight and logistics uses. Long-term use of this land for noxious and heavy industry has left it contaminated though the extent of this has not been fully determined. Employment is declining in these businesses but this area is unlikely to turn over for alternative (employment) uses in the short term.

Photo 32: Port Botany Wharves and associated activities

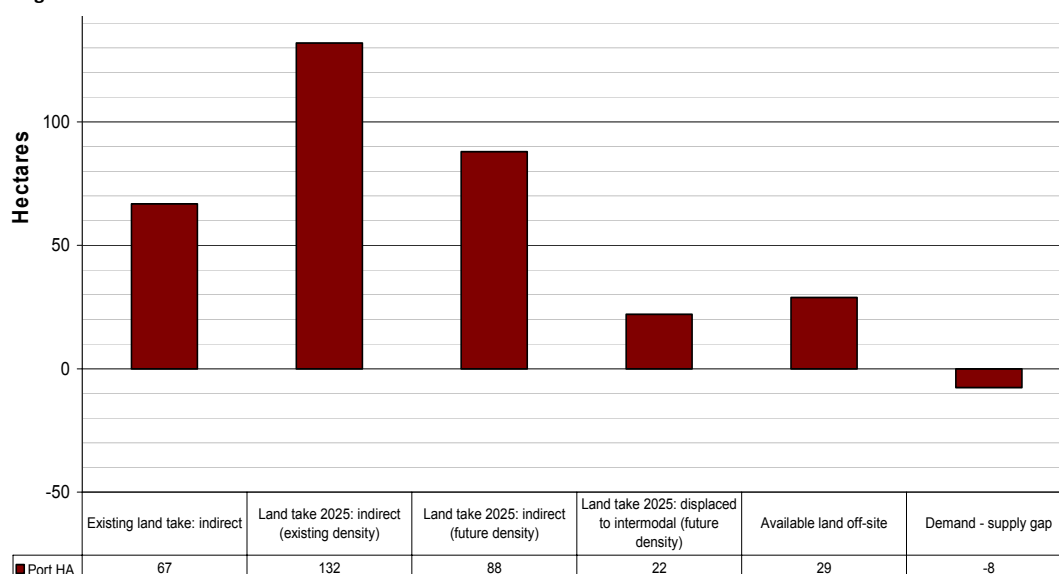


Source: SGS 2008

In the Banksmeadow and Pagewood areas, industry is changing rapidly. Employment densities have generally fallen as manufacturing activities have been replaced by more land hungry but lower job yielding transport and storage activities. According to the ABS Journey to Work figures, manufacturing jobs in this area (Banksmeadow Travel Zone 139) have fallen from 1632 to 387 between 2001 and 2006 (or from 41 to 18 per cent of all employment in this precinct). At the same time employment in transport and warehousing sectors has increased from 758 to 849 (or from 19 to 40 per cent of all employment) (ABS 2006).

As firms seek to lower transaction costs in transport and distribution, third party logistics firms have grown in importance. These businesses arrange for cost effective movement of goods between businesses and customers, shopping for the cheapest modes and means of transport and delivery. This is creating a demand in the areas near the Port (and the Airport) for more office space. It would be desirable to encourage these activities to concentrate or cluster rather than spread on an ad-hoc basis in the employment land areas near the Port.

Figure 28 : Port off-site land demand



Source: SGS 2007

Maintaining Port Botany as a Global Gateway Objectives and Actions

Objective 6.1

Ensure employment areas near the Port are protected and able to accommodate Port-related activity and business.

The Banksmeadow industrial area should be configured and protected for Port-related economic activity. Sites for large warehousing and distribution activities, and freight handling areas need to be provided. Controls on subdivision (minimum 4000 square metres) and strata industrial units should protect the area from undue fragmentation.

A greater business mix, including some hybrid activities and office uses, could be encouraged in a business development area on the corner of Stephen and Botany Roads in the short term. This location for businesses to support Port activities is close to the Banksmeadow centre and could build on this relationship. In the medium term, depending on how this area developed, it could be extended west towards the Banksmeadow centre to create a larger and mixed use activity hub. This would provide a focused location for office and other more concentrated business activities, thereby while discouraging the ad hoc proliferation of these uses throughout the area giving further definition to the specialised centre concept.

Action		Implementation map ref/detail	Timing
6.1.1	Retain Banksmeadow (north) for heavy industry activities.	See Map Area 4, Chapter 5 Implementation	Short Term
6.1.2	Retain Banksmeadow (south) area for Port-related and other general industrial activities.	See Map Area 5, Chapter 5 Implementation	Short Term
6.1.3	Investigate the creation of a small precinct for office light industry and other business activities between Banksmeadow centre and Port Botany. This will formalise existing activity of this nature in the identified area and require the rezoning of some land for this purpose.	See Map Area 3, Chapter 5 Implementation	Short and Medium Term
6.1.4	Extend precinct for office, light industry and other business activities from Stephen Road to the Banksmeadow centre.	See Map Area 3, Chapter 5 Implementation	Medium Term
6.1.5	Retain Hale Street area for Port-related and other general industrial activities.	See Map Area 3, Chapter 5 Implementation	Short Term
6.1.6	Investigate use of Banksmeadow (north) for Port related freight and logistics activities if heavy industry activities depart in the long run.	See Map Area 4, Chapter 5 Implementation	Long Term
6.1.7	Review the LGA boundary in the vicinity of Port Botany.	Work with Randwick Council to review the LGA boundary that currently intersects several industrial properties. A boundary that follows the curve of Bunnerong Road would be appropriate.	Short term and Ongoing.

Objective 6.2

Ensure local and regional road and rail networks are configured to support Port related activity.

The Port will be at its most competitive and efficient where support infrastructure such as heavy truck routes and arterial roads, and rail infrastructure, provide ease of movement to and from the facility. Port-related and local traffic, should be separated. Key links such as the proposed M4 East and Hale Street to Foreshore Drive should be supported. The target to carry 40 per cent of containers by rail (from around 20 per cent) by 2011 (set in 2005) is highly desirable but unlikely to be met given modest progress to date. Additional work is required to achieve these outcomes.

Action		Implementation map ref/detail	Timing
6.2.1	Support proposals for an M4 East to the Port and for the Hale Street extension to Foreshore Drive to cater for Port-related traffic.	<i>Calm Botany Road and down grade its heavy traffic function.</i>	Short Term
6.2.2	Advocate for increased investment in rail and inter-modal freight infrastructure to increase the share of containers on rail.	<i>See Map Area 5, Chapter 5 Implementation</i>	Short to Medium Term

Also see

- **Action 1.7.3** Develop a comprehensive Transport Management Plan for the LGA, addressing transport needs for all stakeholders in the LGA, and in adjoining LGAs. The plan will provide an appropriate road hierarchy for all stakeholders and will investigate options for enhancement of public transport provision.
- **Action 1.7.4** Advocate for coordinated management of Airport and Port infrastructure needs and offsite transport impacts, with local, State and Federal Government involvement.

Objective 6.3**Ensure Port activities do not further compromise residential amenity.**

Without careful planning, increased Port activity and related truck and rail freight traffic will impinge on future residential amenity. In turn this increases friction for the Port and compromises its operational integrity. Additional residential development should be directed to areas away from rail freight corridor and truck routes and areas already affected should be considered for alternative, non-residential zones over time. Port-related traffic needs to be directed away from residential areas to dedicated heavy vehicle routes and arterial roads.

Further information on the noise and hazard risks from the existing operations and proposed expansion of the Port need to be established.

Action		Implementation map ref/detail	Timing
6.3.1	Investigate the potential impacts of the operation of the expanded Port Botany on proposed medium term residential intensification in Banksmeadow.	<i>Only intensify dwellings in locations that are affected by noise impacts if appropriate mitigation measures can be implemented.</i>	Short to Medium Term
6.3.2	Investigate the hazard risk for residential areas adjacent to the expanded Port Botany area.	<i>Ensure impact mitigation assistance for residential areas potentially affected by hazards related to expansion of Port Botany.</i>	Short to Medium Term

Also see

- **Action 1.2.1** Ensure densities in residential areas already affected by high ANEF, or adjacent to freight and major road corridors are not increased, and seek opportunities for conversion to non-residential uses less affected by these constraints.
- **Action 1.2.2** Convert residential area bounded by Wentworth Avenue and Southern Cross Drive, east of Todd Reserve (north of Dransfield Avenue) currently subject to high ANEF and adjacent to freight and major road corridors to general industry, employment-related uses.
- **Action 1.3.4** Use appropriate design, development and traffic management controls in interface area where land use conflicts occur or are possible.



Strategy Direction 7: Protecting the Natural Environment

Management of Environmental Impacts

Managing the environmental impacts from the Airport, Port and heavy manufacturing at the Botany Industrial Park are significant and continuing challenges

Environmental impacts from the Airport, Port and heavy manufacturing have been intensifying as activity increases and community perceptions of impacts increase. The environmental management challenge will persist into the future as Port and Airport throughput increases, and population grows. The expansion of Port Botany will need to be carefully managed to minimise impacts on the Penhryn Estuary. Environmental impacts affect land use activities in different ways; however local residents are typically the most affected.

The Airport, Port and heavy manufacturing-related impacts on surrounding users can be at least partly managed by land use controls and regulations and these are principally dealt with and discussed under the earlier strategy directions.

They can also be addressed through targeted environmental management by responsible operators. The Port Botany expansion project does involve considerable enhancement works to Penhryn estuary. Sydney Ports Corporation has also produced 'Green Port Guidelines' to enhance sustainability of Port operations.

Sydney Airport are involved in rehabilitation works in the SACL—managed water courses (Engine Ponds).

Additional cost of development

The extent of contamination of soil and water in the LGA is unknown. Contaminated land can add to development costs

particularly for smaller development and where basement car parking is required.

Importance of providing for energy and water efficiency in local planning provisions

Ensuring new development does not exacerbate demand on natural resources is an important part of managing environmental impacts. State agencies are assisting local Councils to achieve water and energy efficiency objectives. Sydney Water and Sydney Catchment Management Authority have provided draft provisions related to stormwater use and reuse, water sensitive urban design and stormwater management systems for development and recommends Councils adopt these as part of their LEP reviews.

Figure 29: Remnant Vegetation ESBS communities in Botany Wetlands



Source: DECC 2006, HLA-ENSR 2007

Energy efficiency provisions for residential development are addressed through the BASIX however there is currently no form of energy and water efficiency benchmarks for industrial and commercial development.

Natural Environment Assets

Extensive open space areas provide important flora and fauna habitats

Though disturbed and used for recreation (principally golf clubs) the Botany Wetlands provide habitat for important flora and fauna as well as local and migratory birds. While it would be appropriate to increase public access to these areas for recreational use, this should be compatible with protecting flora and fauna corridors.

The wetlands are considered to be of national importance and are listed on the register of important Wetlands managed by the Federal Department of the Environment, Water, Heritage and the Arts (Environment Australia, 2001).

Botany Wetlands key part of subregional water catchment

The Botany Wetlands are an important part of the water catchment of the East Subregion and have cultural and industrial significance as the original third water supply for Sydney. The Botany Wetlands contains patches of Eastern Suburbs Banksia Scrub which is an endangered ecological community.

Botany Bay Sands Groundwater

Botany Bay Sands groundwater is contaminated

The Botany Bay LGA is generally on the Botany Bay Sand Beds which have been deposited through wind action over thousands of years.

The area also contains a coastal sand bed aquifer which is recharged by direct rainfall, and has a shallow water table which is vulnerable to contamination. Because of contamination the Department of Water and Energy has declared a Groundwater Extraction Exclusion Zone which prohibits further pumping (by licensed groundwater users) and prevents further development of the groundwater resource beyond existing levels.

Photo 33: Existing Foreshore Beach.



Source: SGS 2007

Environmental Challenges

The challenges of energy and water conservation for existing and new development are significant

The great contemporary environmental challenges from a mitigation perspective relate to reducing energy and water use. As Australia moves to reduce greenhouse gas emissions all constituent jurisdictions, including local government through their controls and example, will have to make a contribution to reducing energy and fuel use. Climate change will impact on rainfall certainty and water management will be an increasing issue.

Natural hazards are exacerbated because of Botany Bay's coastal location and wetland areas

Natural hazards in the LGA reflect its coastal location and the presence of significant water bodies. Impacts from flooding affect all forms of development. Flood levels in the eastern part of the LGA are established through development application investigations only. The full extent of flood risks in the LGA is not known.

Sea level rise is also another significant natural hazard in the LGA. A recent study of 15 Sydney Councils prepared by the Department of Climate Change found that Botany Bay LGA has the highest degree of vulnerability to extreme heat, sea-level rise, extreme rain and impacts to ecosystems and natural resources (CSRIO 2008). The analysis was relatively high level but this issue will increase in urgency. The report recommends enhanced data collection to better understand the LGA's vulnerability.

Overview of Environmental Issues and Impacts from Major Activities

Industrial activities in many parts of the LGA create conflicts with residential and even commercial uses. Many of the zoning and development control measures identified in the Strategy address these. The environmental issues and impacts from the larger activity complexes are summarised below.

Sydney Airport

Environmental impacts generated by Sydney Airport include aircraft noise, traffic generation from private vehicles (passenger generated) and heavy vehicle movements (airfreight related), air quality and noise impacts from Airport transport, impacts on water sources from run-off into Botany Bay, and air quality impacts from jet fuel combustion, and visual impact of Airport development.

Port Botany

Environmental impacts from Port Botany include traffic generation from heavy vehicle movements (freight related), air quality and noise impacts from Port activity, air quality and noise impacts from freight transport, impacts on water sources from run-off into Botany Bay and Penhryn Estuary, hazard impacts from movement of dangerous goods by ship, rail and heavy vehicle, and visual impacts of Port development.

Botany Industrial Park

Located within the Banksmeadow industrial area, the Botany Industrial Park (BIP) contains the major chemical manufacturing operations. Hazardous goods are used and produced at the BIP and these contribute to the unique built forms on the site, including 70 metre flare towers, large water condensation structures and significant pipelines which supply the BIP with gases and other raw materials. Some pipelines extend as far as Moomba in South Australia.

The key environmental impact generated by the BIP activities is the storage, transportation and use of hazardous materials close to residential areas. Orica is currently remediating the Orica southlands site with its historical water and soil contamination. The Orica site also stores chemical manufacturing by-products, including Hexachlorobenzene (HCB)³. Orica is awaiting approval to export the HCB to Germany (waste treatment processes for HCB do not exist in Australia).

3. HCB is a synthetic compound which is resistant to degradation in the environment and is a suspected human carcinogen. HLA Environmental Assessment for Botany Bay City Council, 2007

Protecting the Natural Environment Objectives and Actions

Objective 7.1

Protect and expand high quality flora and fauna corridors and foreshore vegetation.

This strategy advocates greater public access to parts of the Botany Wetlands following a rationalisation and reduction of the areas occupied by golf courses. A new regional park should be created with movement and flora corridors to provide habitat for fauna.

Around Port Botany, important habitat is provided by saltmarsh, mud flats and sea grass, as well as Foreshore Beach. Saltmarsh and intertidal mud and sand flat habitat will be increased by the Port expansion.

Local planting elsewhere should use indigenous and native species.

Action	Implementation map ref/ detail	Timing
7.1.1 Council to work with Sydney Water and tenants to protect and establish habitat corridors Botany Wetlands in Botany Wetlands including revitalisation of existing ESBS communities.	<i>Council may not ultimately be the open space authority for this area. Approach to be determined.</i>	Medium Term
7.1.2 Promote the use of indigenous, 'water efficient' flora in the landscaping of local parks and reserves.	<i>Prepare a landscaping plan for all the LGA's open space areas.</i>	Ongoing
7.1.3 Council to work with Sydney Airport in the rehabilitation works in the SACL-managed 'Engine Ponds'.	Council should ensure State of Environment Reporting is of a high standard and is used by Sydney Airport and other stakeholders to set a benchmark for water quality.	Ongoing
7.1.4 Enhance vegetation along Botany Bay Foreshore and Foreshore Drive.	<i>Council to work with RTA and SPC to maintain and enhance vegetation along foreshore of Botany Bay and Foreshore.</i>	Short Term and Ongoing

Objective 7.2**Support improved water management for all forms of development.**

There are opportunities for Council to show leadership in its water management, particularly in relation to improving the water consumption performance of its own properties and collecting water from structures in open space areas to maintain water source options given restrictions on the use of groundwater for watering.

Good water management extends to Botany Bay itself and vigilance is required to ensure the Port expansion does not adversely affect the Penrhyn Estuary.

With an embargo on the extraction of groundwater from the Botany Bay Sands some heavy water users will have restricted operations. Monitoring of land use and other changes caused by the restrictions will be necessary.

Action	Implementation map ref/ detail	Timing
7.2.1 Apply best practice water management principles to all Council-owned properties.	<i>Adopt aggressive water reduction targets.</i>	Short Term
7.2.2 Adopt best practice principles for landscaping and streetscaping works undertaken by Council.	<i>Council should ensure guidelines for its own capital works reflect best practice in water management.</i>	Short Term and Ongoing
7.2.3 Support collection of rainwater from built form facilities on open space sites as well as use of water collected on other Council properties.	<i>Use Council purchasing power as part of implementing this action to buy in bulk and institute a resident scheme</i>	Medium Term
7.2.4 Ensure the Port expansion, in line with its development consent, incorporates measures which ensure tidal flushing and strict controls on runoff during construction and operation.	<i>Consider opportunities for monitoring.</i>	Short Term
7.2.5 Monitor change in land use caused by the restrictions on groundwater use in the Botany Bay Groundwater Extraction Exclusion Area and work with the Department of Water and Energy on alternative water use and management measures	<i>Approach Department of Water and Energy to establish guidelines for alternative water use and management techniques for uses affected by restrictions on groundwater extraction.</i>	Short Term and Ongoing
7.2.6 Development of water-efficiency and water sensitive urban design (WSUD) development controls for commercial and industrial development.	<i>This work should have regard to draft LEP provisions prepared by Sydney Water and CMA.</i>	Short Term and Ongoing

Also see

- **Action 7.1.2** Promote the use of indigenous, 'water efficient' flora in the landscaping of local parks and reserves

Objective 7.3**Support reduced energy consumption for all forms of development.**

Council can show leadership to reduce energy consumption, particularly in relation to practices in Council facilities, but also in considering incentive schemes for residents or businesses who demonstrate improved energy efficient practices.

Action	Implementation map ref/detail	Timing
7.3.1 Apply best practice energy efficient design management principles to all Council-owned properties, including in future renovations and re-fits.	<i>Adopt aggressive energy and greenhouse emissions reduction targets.</i>	Ongoing
7.3.2 Adopt best practice principles for energy efficient design and management for all forms of development and incorporate these into development controls.	<i>BASIX will typically apply to new residential development but encouragement is needed for existing and other new development types.</i>	Short Term
7.3.3 Investigate programs to provide financial and other incentives and assistance for residents and businesses to adopt energy saving options.	<i>City of Botany Bay Council investigate initiatives such as those being pursued by the City of Sydney to encourage large scale retro-fit of existing buildings.</i>	Short Term

Objective 7.4**Enhance the knowledge of environmental issues and constraints.**

The environmental assessment undertaken for the Strategy was effectively a desktop study. Significant information gaps need to be addressed in future to provide Council with the tools and strategies to deal with increasing environmental challenges.

Action	Implementation map ref/detail	Timing
7.4.1 Enhance local State of Environment reporting to ensure data is consistently collected and provides meaningful results to inform the community of areas of environmental risk.	<i>Working with major land owners and high impact operators, set up a data and monitoring scheme focused on local environmental impacts and risks.</i>	Medium Term
7.4.2 Undertake a flood study of the LGA.	<i>Partner with the Sydney Coastal Councils, CSIRO and University of the Sunshine Coast in investigating flood risks in the LGA, particularly in vulnerability to climate change impacts. This group produced the report titled 'Mapping Climate Change Vulnerability in the Sydney Coastal Councils Group'.</i>	Medium Term
7.4.3 Undertake an LGA wide contamination assessment, to investigate the nature and extent of contamination, and to provide recommendations on management and remediation.	<i>Seek contributions from industry.</i>	Short Term

Objective 7.5 Support flexible approach to car parking rates to assist small developers of land found to be contaminated	
<p>Provision of carparking for smaller developments on contaminated land can provide significant additional cost and could make development unfeasible. A flexible approach to the provision of car parking in centres where contamination is identified should be developed to allow for reduced car parking rates.</p>	
Action	Implementation map ref/detail Timing
<p>Also see</p> <p>1.7.2 Reduce parking provision for development around transport nodes to encourage lower private car usage.</p>	

Chapter 5: Implementation

Chapter 5: Implementation

Implementation Guidance

The implementation guidance provides recommendations to assist City of Botany Bay Council with the development of its comprehensive LEP, and a limited range of other support actions, to implement the Botany Bay LGA 2031 Draft Planning Strategy. It includes:

- detailed recommendations for land use zones (from the State Government's Standard Instrument for LEPs);
- a range of desirable Floor Space Ratios; and
- principles for the development of Development Control Plan controls.

The recommendations and guidance draw on the analysis of opportunities and constraints for the different parts of the LGA as outlined in Appendix 7.

These are ultimately only a guide for Council's consideration.

Additional guidance and principles for built form and public domain outcomes have been provided within the scope of the study. Other medium to long-term actions have been identified along with broad issues that should be considered to address these.

Land not identified for change of zoning or investigation should be transferred to a comparable zone under the Standard LEP template.

Standard Instrument Zones

The Standard Instrument zones have been applied to the LGA. A key challenge has been adopting the appropriate employment related zone to the diverse employment lands in the LGA (in the current LEP there are nine different zones applying to employment land). The rationale for choice of zones follows.

R3/R4 – Medium and High Density Residential. These Utilised around the core areas of the centres to promote medium and high density residential redevelopment.

B2 - Local Centre. Implies a retail and commercial core of centres to focus a 'town centre' heart as retail, but to also allow mixed use (for example, shop top housing)

B3 – Commercial Core. Used for major office and retail locations. Prohibits residential to ensure land values reflect and attract employment-related activities. Used in Mascot Station Precinct to develop the area as a major retail and commercial centre. Also appropriate for the Westfield Eastgardens site which is pure retail.

B4 – Mixed Use. Suitable for higher order centres around the retail and commercial core. Allows for a mix of residential and employment uses, with the latter activating the ground and street level. Proposed at Mascot Station to incorporate existing residential flat development and promote mixed use outcomes for undeveloped sites.

B5 – Business Development. Encourages a range of employment uses, from large format 'big-box' retailing, to small start-ups, to offices and light industrial activities. Prohibits residential development. Proposed to the west of the Botany centre to encourage new businesses and larger format retailing, and east of the Banksmeadow centre to facilitate Port-related commercial land uses. This addresses the objective of providing commercial land which can support the Port activities at Banksmeadow.

B6 – Enterprise Corridor. Provides opportunities for a range of employment activities which do not necessarily require a commercial context, along busy roads. Such uses provide a buffer between residential development and high traffic roads and can include land uses such as garden and building supplies, small industry units, showrooms and some larger niche retail. Parts of Gardeners Road have been given this designation.

B7 – Business Park. Used for concentrated office developments in larger floor plate configurations, with medium densities typically in high amenity settings. Applied to an expanded Lord Street Precinct, incorporating existing business park developments and providing opportunities for conversion of some existing industrial land.

IN1 – General Industrial. Suitable for general industrial uses requiring large lots and good road access such as warehousing, transport, freight and logistics. Proposed for Sydney Airport environs, Hale Street Precinct, Banksmeadow Precinct (south of freight line) and BAT site.

IN2 – Light Industrial. This zone applies to light industrial uses. It is used for local light industry and urban support and urban service land uses, generally serving local or subregional populations. It is proposed in employment areas with a buffer to residential land at Hillside, Baker Street Precinct, Botany South Precinct and employment land in Mascot (south).

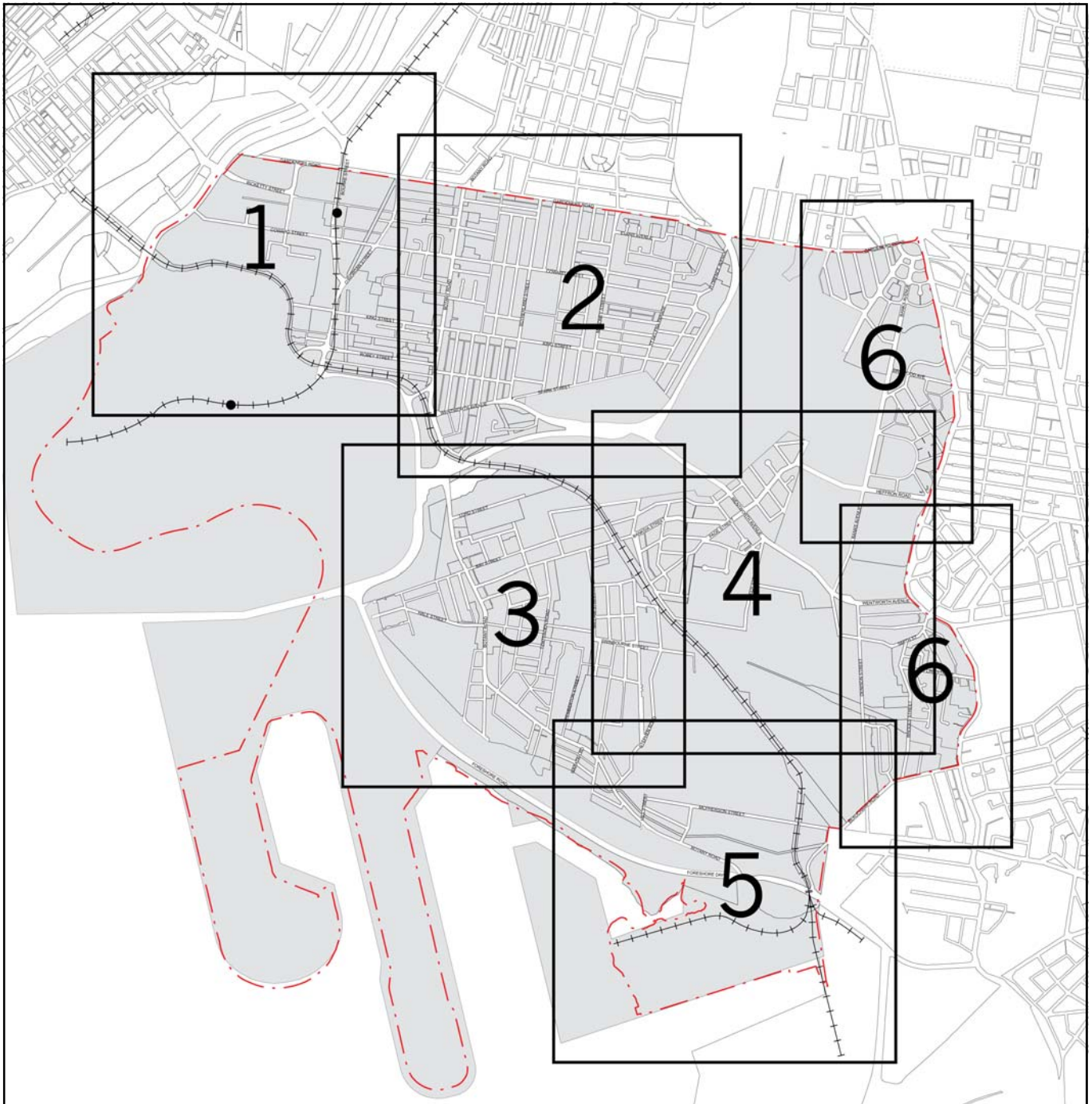
IN3 – Heavy Industrial. Applies to land used for offensive and hazardous industry. Proposed for the Botany Industrial Park land north of the freight line.

SP2 – Infrastructure. Applies to infrastructure or other special uses. It is more appropriate than SP1 which is for infrastructure that has minimal environmental impacts. This zone is proposed for the Port and Airport land.

RE1/RE2– Public Open Space/Private Open Space. Apply to public and private recreation areas respectively. RE1 is proposed to be applied to existing public open space areas and RE2 for existing zoned private open space and private open space zoned for residential development. The latter zone would apply, for example, at Le Strange Park, Mascot. Botany Wetlands is proposed as a public open space asset in the medium term and would require a RE1 zone.

Education facilities are permissible in 'prescribed zones' which include all residential and business zoned land under the provisions of the recently gazetted Infrastructure SEPP. Community facilities are permissible in most areas zoned residential.

Implementation Key Map



Area 1: Mascot Station and Sydney Airport

Area 2: Mascot, Rosebery, Eastlakes

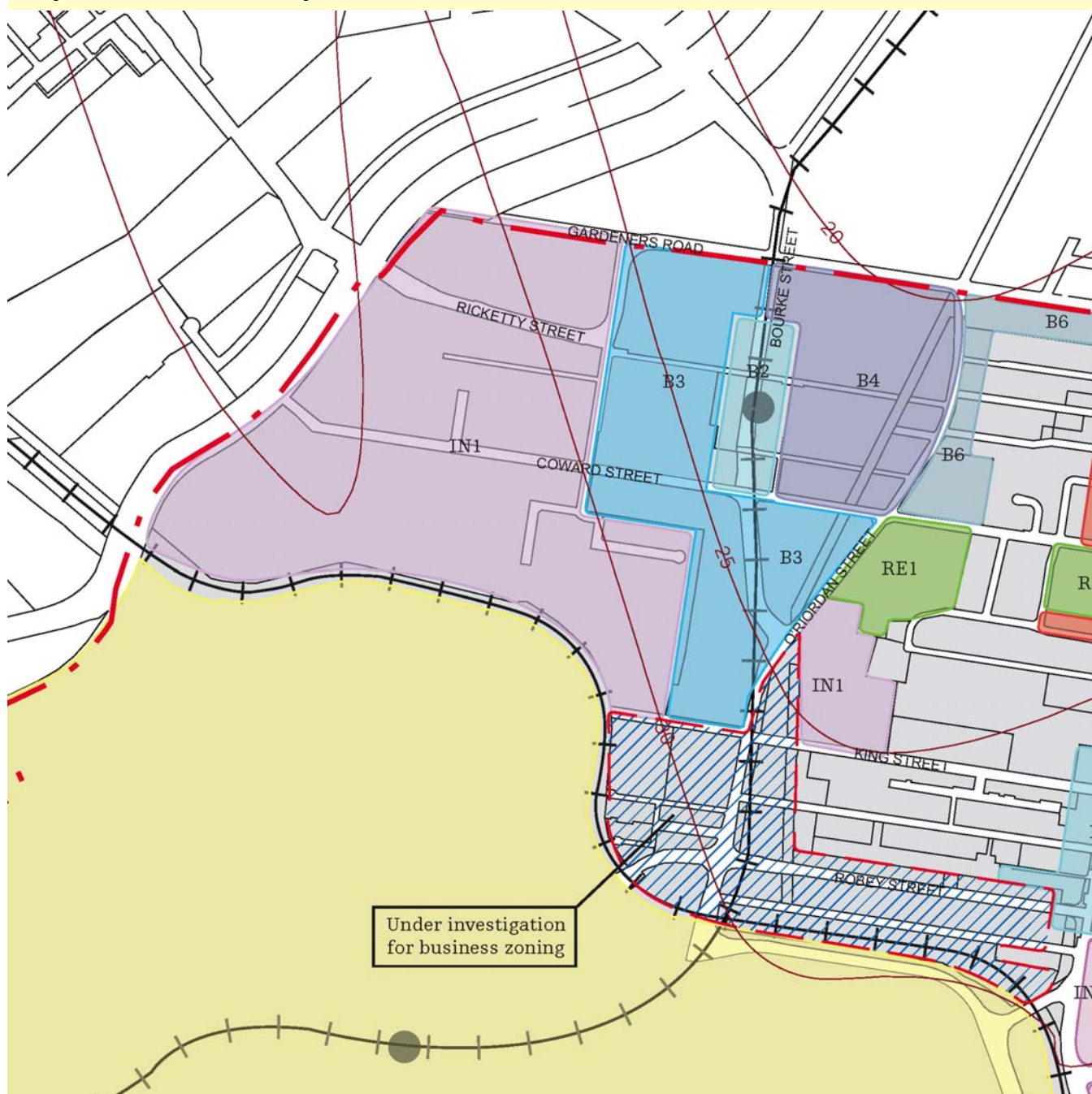
Area 3: Botany and Banksmeadow

Area 4: Pagewood and Banksmeadow

Area 5: Banksmeadow and Port Botany

Area 6: Daceyville to Hillsdale

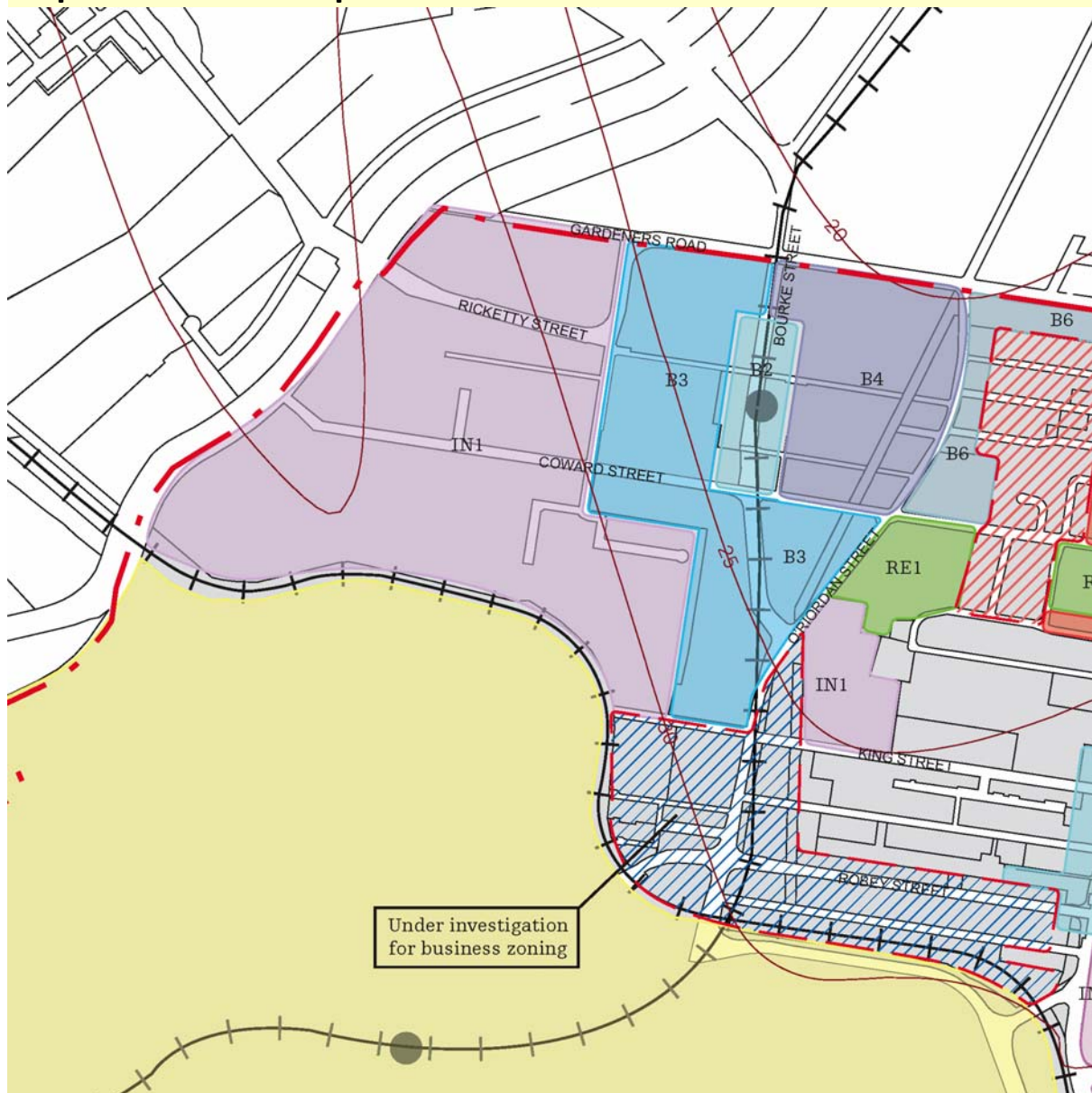
Area 1: Mascot Station and Sydney Airport Implementation Map—Short Term



SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
B5	Business Development zone	RE1	Public Open Space zone
B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

Area 1: Mascot Station and Sydney Airport Implementation Map – Medium Term



SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
B5	Business Development zone	RE1	Public Open Space zone
B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

MEDIUM TERM:

IN1	Investigate for General Industry
IN2	Investigate for Light Industry
	Investigate for higher density residential
	Investigate for business zoning

LONG TERM:

	Investigate for change of uses in longer term only
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Area 1 Actions	LEP and Development Control considerations	Timing
5.1.1 Facilitate the transition of specific land north of Sydney Airport for Airport related business activities (investigation area).	<ul style="list-style-type: none"> Establish an FSR 1.0:1 Establish minimum lot size (0.4ha) and restrict strata units. Investigate appropriate business zone in consultation with Department of Planning for this investigation area which does not allow significant residential and/or retail activity. 	Short to Medium Term
5.2.2 Encourage State (and possibly Federal) Government involvement in the restructure of the identified land north of the Airport (investigation area).	<ul style="list-style-type: none"> State (and possibly Federal) Government assistance would require appropriate consultation with and compensation (if appropriate) for residential land owners. 	Short to Medium Term
5.3.1 Develop a retail core and town centre around Mascot Station.	<ul style="list-style-type: none"> Establish an FSR 3.0:1 Reduce parking rates to lower costs for commercial development; facilitate podium and shared parking arrangements. 	Short Term
5.3.2 Ensure mixed use development at Mascot Station contains commercial/retail uses at the ground and first floors.	<ul style="list-style-type: none"> Add to DCP controls. 	Short Term
5.4.1 Concentrate commercial and office development west and south of Mascot Station to O’Riordan Gateway.	<ul style="list-style-type: none"> Establish an FSR 2.5:1 to 3.5:1 Limit retail spread to contain retailing around station. Reduce parking rates to lower costs for commercial development; facilitate podium and shared parking arrangements. <p><i>See Structure Planning Principles overleaf.</i></p>	Short Term
5.4.2 Develop O’Riordan Street and Gardeners Road as enterprise corridor.	<ul style="list-style-type: none"> Establish an FSR 1.5:1 Allow for residential set-back from the street as buffer and transition use to residential behind. If adjacent residential preferred for employment then use Business Development zone. 	Short Term
5.4.3 Develop and implement public domain and streetscape strategy for O’Riordan Street.	<i>See Structure Planning Principles overleaf.</i>	Short to Medium Term

Area 1: Mascot Station and Sydney Airport

Structure Planning Principles

Structure Planning Methodology

The scope of the study allowed for a broad assessment of the opportunities and constraints for the centres of Mascot Station and the Airport Gateway (see Appendix 7). The findings of the analysis have been incorporated into the strategy and implementation actions where short-term potential has been identified. Where residential intensification is a medium to long-term option, principles for future structure planning analysis are provided.

Airport Gateway

Issues identified in the Gateway include:

- poor streetscape conditions on O’Riordan Street
- poor pedestrian amenity
- limited office development around Mascot Station
- lack of local amenities, including retail facilities and local open space
- area provide no distinctive ‘gateway experience’
- dominant advertising and signage .

Opportunities were identified as:

- office development, short term accommodation, business address
- additional retail
- public domain upgrades
- mix of ‘office’ and ‘warehouse’ employment
- potential to celebrate arrival experience.

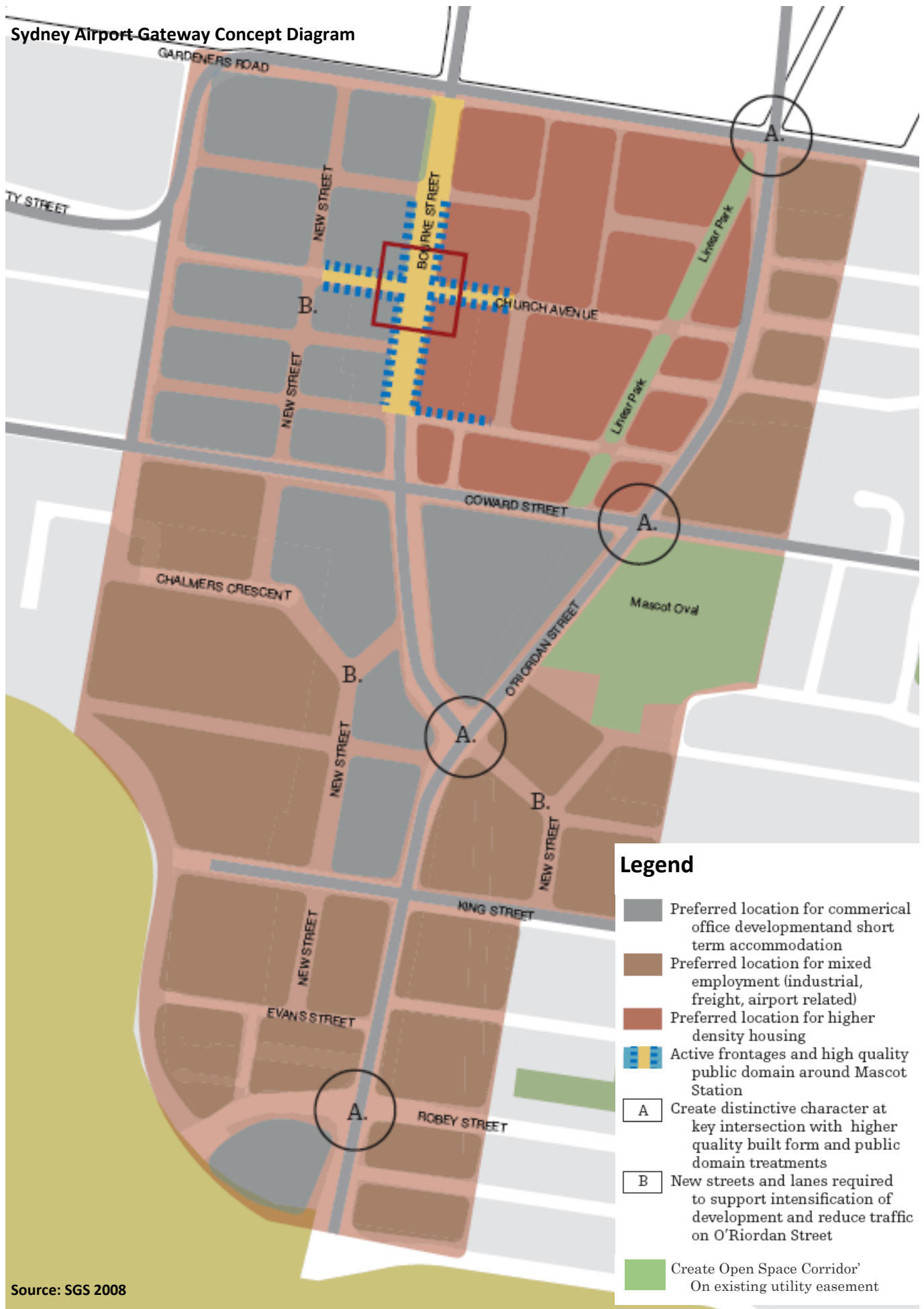
The concept structure plan provides guidance on the intensification of employment land uses in the gateway area which enhance street frontages and address the importance of this area for Airport-related industry.

The following principles are provided to guide the future development of the gateway.

Principles for Structure Planning

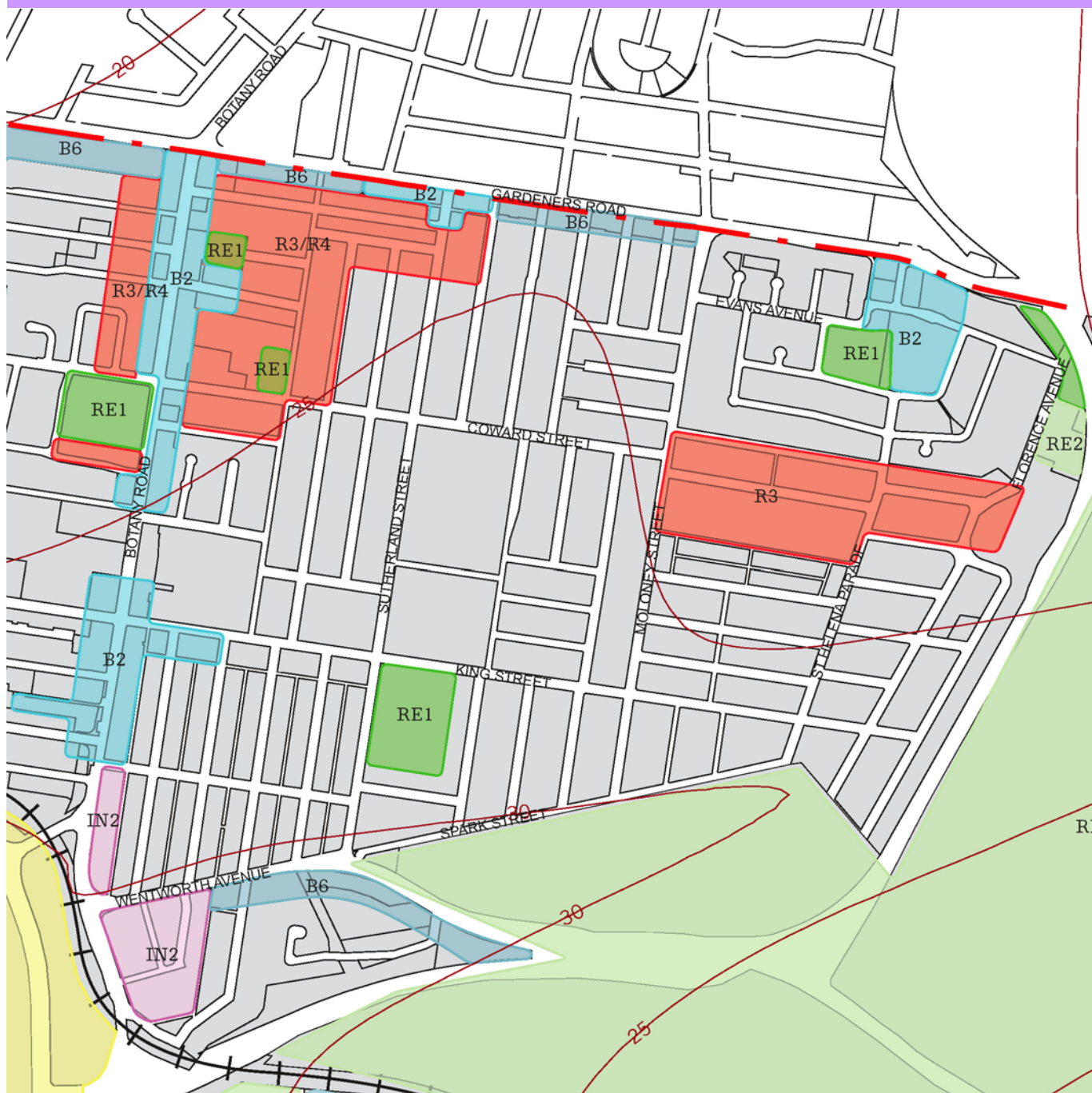
- Concentrate office development along the O’Riordan Street spine and within walking distance of Mascot Station.
- Provide a ‘gateway experience’ by combining distinctive architecture, landscape elements, high quality public domain and controls on signage.
- Create distinctive key intersections (Robey Street, King Street, Bourke Road, Coward Street, Church Street and Gardeners Road).
- Provide new street and access ways to increase permeability and reduce traffic congestion.
- Create green corridor along existing easement (Linear Park).

Sydney Airport Gateway Concept Diagram



Source: SGS 2008

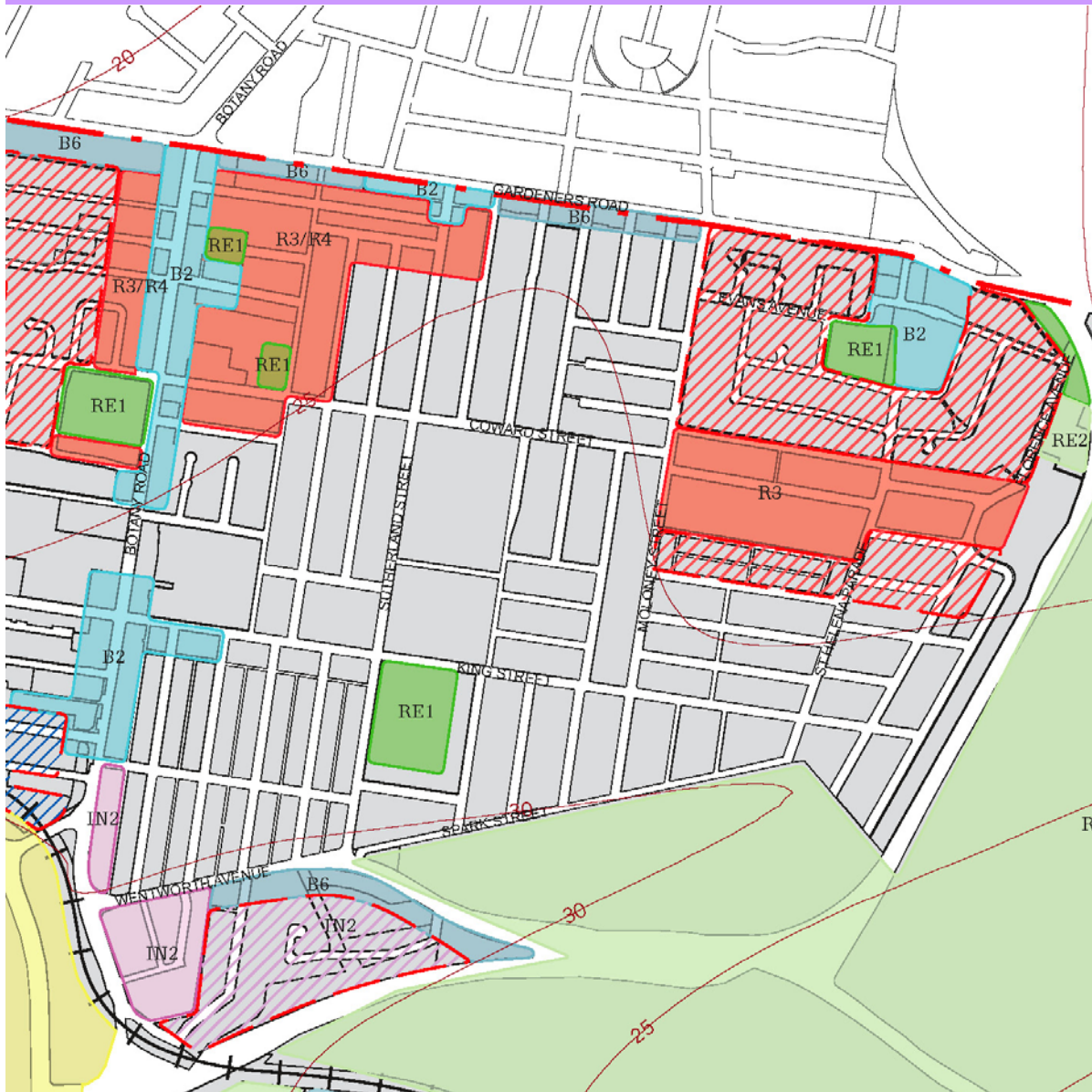
Area 2: Mascot, Rosebery, Eastlakes Implementation Map— Short Term



SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
B5	Business Development zone	RE1	Public Open Space zone
B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

Area 2: Mascot, Rosebery, Eastlakes Implementation Map—Medium Term



SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
B5	Business Development zone	RE1	Public Open Space zone
B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

MEDIUM TERM:

IN1	Investigate for General Industry
IN2	Investigate for Light Industry
	Investigate for higher density residential
	Investigate for business zoning

LONG TERM:

	Investigate for change of uses in longer term only
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Area 2 Actions	LEP and Development control considerations	Timing
1.2.2 Facilitate the transition of specific land bounded by Wentworth Ave and Southern Cross Drive, east of Todd Reserve (north of Dransfield Avenue) currently subject to high ANEF (aircraft noise) and adjacent to freight and major road corridors from residential landuses to light industry and related employment land uses.	<ul style="list-style-type: none"> • Prepare Structure Plan for site • Allow B5 zone along Wentworth Ave. • Investigate IN2 zone in medium term. This could involve State (and possibly Federal) Government assistance and appropriate consultation with and compensation (if appropriate) for residential land owners. 	Short to Medium Term
2.2.1 Expand the potential for town centre retail and residential activity in the Rosebery centre, along Botany Road to Tunbridge Street and about 100m into Rolfe Street (side street retailing).	<ul style="list-style-type: none"> • Establish an FSR 2.0:1 to 2.5:1 • Attract a larger supermarket as an anchor; requires site identification, negotiation and facilitation. • Implement active street frontage controls. 	Short Term
2.2.2 Increase residential density potential at Rosebery on either side of Botany Road and behind Gardeners Road to Harris Street.	<ul style="list-style-type: none"> • Proposed FSR 0.9:1 to 1.2:1, 1.5:1 to 2.0:1 for larger sites. • Remove minimum lot size and dwelling size restrictions. • Reduce parking rates • Investigate potential for minimum bedrooms/dwellings yield controls to ensure sites are not underdeveloped. • Ensure access and adaptability of dwelling (for seniors). <p><i>See principles for structure planning overleaf.</i></p>	Short Term
2.2.3 Create neighbourhood centre 'side street' retailing potential into Sutherland Street off Gardeners Road.	<ul style="list-style-type: none"> • Establish an FSR 2.0:1 	Short Term
2.2.4 Expand potential for town centre retail east of Botany Road along King Street.	<ul style="list-style-type: none"> • Establish an FSR 2.0:1 • Implement active street frontage controls required 	Short Term
3.1.1 Increase residential density potential at Eastlakes between Universal and Garden Street.	<ul style="list-style-type: none"> • Establish an FSR 0.9:1 to 1.2:1 • Remove minimum lot size and dwelling size restrictions. • Reduce parking rates. • Investigate potential for minimum bedrooms/dwellings yield controls to ensure sites are not underdeveloped. • Ensure access and adaptability of dwelling (for seniors). 	Short Term
3.2.2 Increase residential density potential around the Eastlakes centre, integrated with a redevelopment and expansion of the shopping centre.	<p><i>See principles for structure planning overleaf.</i></p>	Medium Term
4.1.3 Retain Mascot South industrial area for light industry activities.	<ul style="list-style-type: none"> • Maintain FSR of 1:1 	Short Term
4.2.3 Facilitate the development of a full-line supermarket in Rosebery.	Identify potential sites, working on pre-development plans and presenting these to possible supermarket operators.	Short Term

Area 2 Actions		LEP and Development control considerations	Timing
4.3.1	Increase potential for light industry activities on land between Hollingshed Street and Wentworth Avenue east of Botany Road.	<ul style="list-style-type: none"> Maintain FSR of 1:1 	Short Term
4.3.2	Establish an enterprise corridor to enhance small business opportunities along Gardeners Road (south side) to Maloney Street.	<ul style="list-style-type: none"> Establish an FSR 1:1 to 1.2:1 Use buffer and transition for residential land use behind. Allow for residential setback from the street. 	Short Term

Area 2: Mascot, Rosebery, Eastlakes

Structure Planning Principles

Structure Planning Methodology

The scope of the study allowed for a broad assessment of the opportunities and constraints for the centres of Mascot, Rosebery and Eastlakes (see Appendix 7). The findings of the analysis have been incorporated into the strategy and implementation actions where short-term potential has been identified. Where residential intensification is a medium to long-term option, principles for future structure planning analysis are provided.

Rosebery Centre

Issues identified with intensification of the Rosebery centre include:

- poor quality local open space
- generally small lots sizes
- heavy traffic (Botany and Gardeners Roads)
- blocks lacks permeability
- existing maximum FSR relatively modest
- existing parking rates relatively high

Opportunities for intensification of the Rosebery Centre are:

- potential for good local open space
- potential for higher density on smaller lots
- some large sites owned by Department of Housing
- good access to transport
- mixed use developments on both Botany and Gardeners Roads.

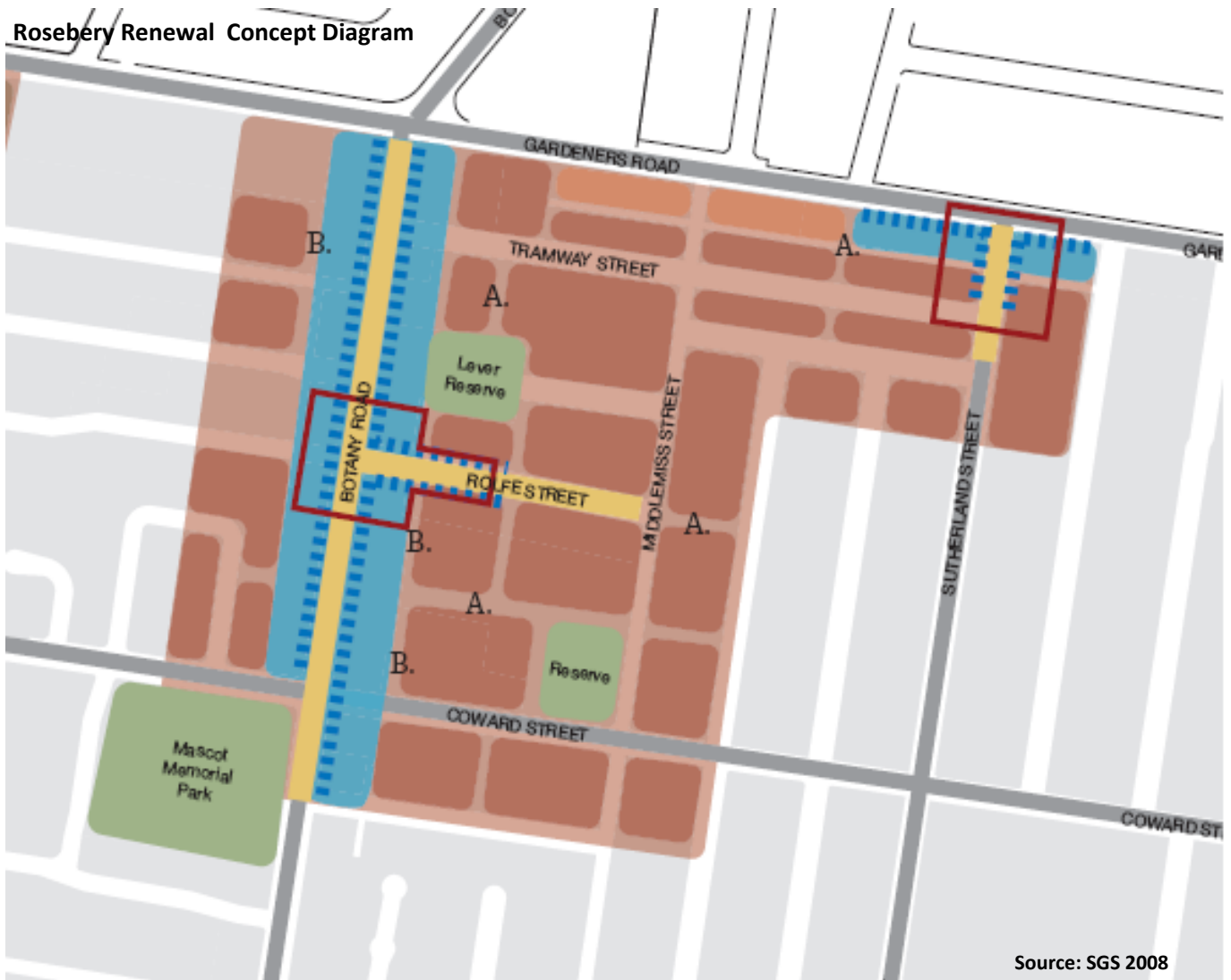
The Rosebery Renewal Concept Diagram guides the kind of spatial planning that would allow intensification of the centre, and capitalising on the quality attributes of the area.

Principles for structure planning

The following principles guide residential intensification in the Rosebery Centre:

- Encourage activities away from busy roads: permit active ground floor uses on Rolfe and Sutherland Streets.
- Upgrade Lever Reserve to provide high quality local open space, including a formal connection (right of way) to provide clear and direct access to Botany Road.
- Redevelop housing adjacent to Lever Reserve to provide better interfaces with park edges, permit passive surveillance and facilitate the provision of additional pedestrian linkages between Rolfe Street and the reserve.
- Redevelopment of significant Department of Housing assets in the areas identified for growth in Rosebery and Mascot to provide opportunities for additional public and private housing; public through site linkages to increase the permeability of these areas; rear lane access to private properties on Rolfe Street; and new and additional retail and commercial floor space.
- Allow rear lane access to properties on the northern side of Lever Street to facilitate intensification on these sites.
- Extend the existing partial network of rear lanes to properties with frontages to Botany Road to improve service access and enable dwellings to be located at the rear of these properties with direct address to a public thoroughfare.
- Develop housing models to facilitate appropriate intensification of small lots (requiring less lots to be amalgamated and/or permitting intensification on existing single lots).

Rosebery Renewal Concept Diagram



LEGEND

- Desirable locations for higher density housing
- Desirable locations for medium density housing
- Mixed Use development with active frontages
- A Increase permeability with new mid-block pedestrian and cycle connections
- B Consider new lanes for vehicle access/servicing to lots fronting Botany Road

Eastlakes Centre

Issues identified with intensification of the Eastlakes centre include:

- poor interfaces between existing housing and retail core
- poor interfaces between open space and retail core
- limited transport connections and only bus services
- lacks main street and integrated transport interchange
- high existing densities (80 – 200 dwellings per hectare), many feature strata title
- lack of permeability for pedestrians.

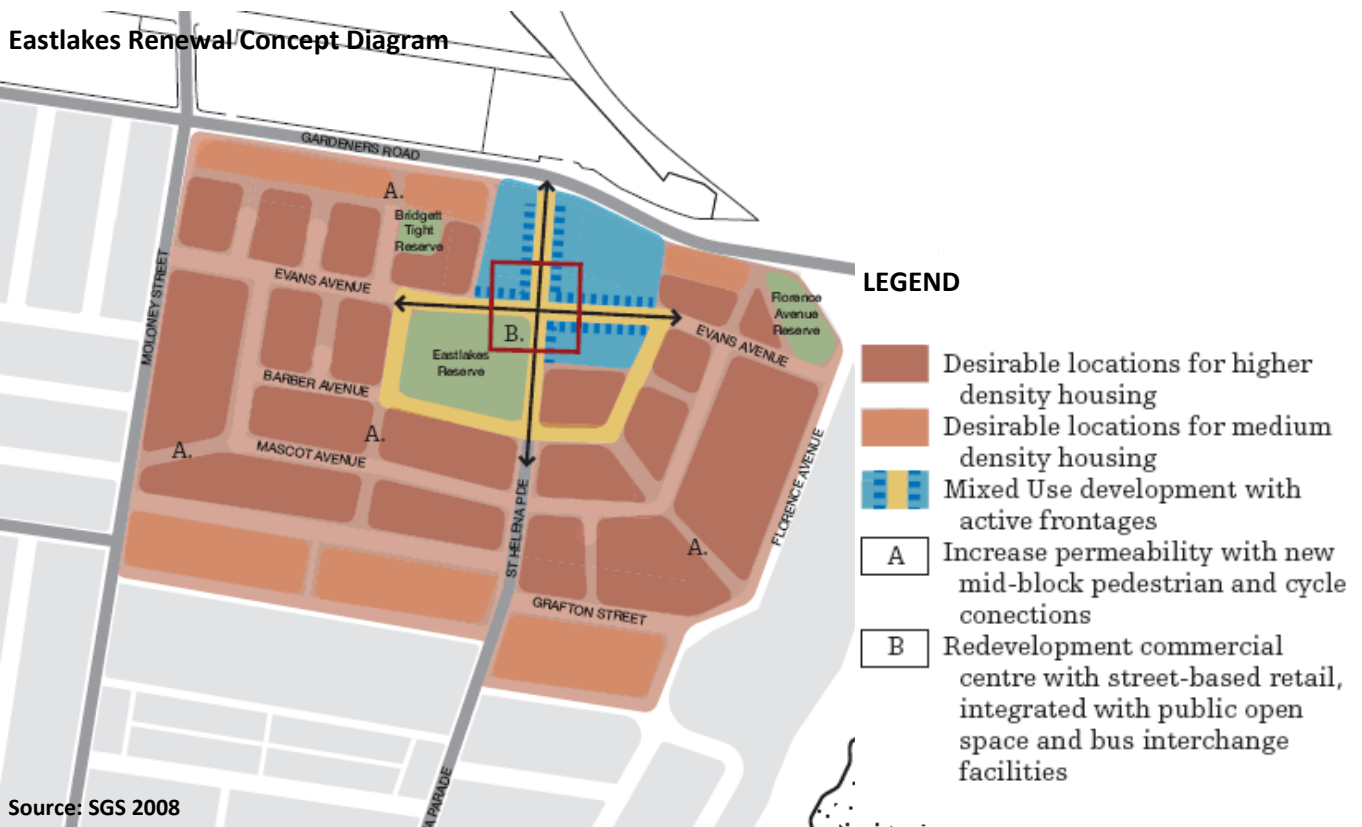
Opportunities for intensification of the Eastlakes Centre are:

- reconfigure shopping centre to be close to Gardeners Road
- development of a street-based retail core
- opportunities for mixed use redevelopment of centre with residential over retail
- divert all bus routes through the centre
- higher FSR to encourage development in and around centre.

Principles for structure planning

The following principles are provided to guide residential intensification at the Eastlakes Centre.

- Reconfigure the shopping centre to permit direct access (vehicular and loading) from Gardeners Road, remove loading areas from Barber Avenue, improve relationship with Eastlakes Reserve and facilitate development of main street retail areas on Racecourse Place and/or Evans Avenue.
- Integrate town centre with bus interchange located on Racecourse Place and/or Evans Avenue.
- Extend Racecourse Place to join St Helena Parade.
- Realign Evans Avenue to provide larger area for shopping centre redevelopment between Gardeners Road and Evans Avenue.
- Encourage residential development in the core of the centre to provide good amenity for residents and not restrict the operation and possible ongoing redevelopment of the centre.
- Increase permeability of blocks immediately adjacent to the centre with new street and through site links.
- Investigate appropriate plans for the redevelopment of the shopping centre to resolve current issues and improve amenity.



Area 2: Mascot, Rosebery, Eastlakes: Principles for Small Lot Redevelopment

Redevelopment Issues and Opportunities

Facilitating small lot redevelopment can provide significant benefits including:

- significant increase of potential supply of housing
- maintains the smaller scale and fine grain of existing residential areas
- lowers development costs and sale prices resulting in improved housing affordability
- provides new smaller dwellings close to services and facilities - key requirements for aged housing and housing for disabled persons.
- promotes contained growth in and around existing centres

The existing practice of providing the majority of new housing on large, former industrial sites tends to generate dwellings that are large, expensive and located in out-of-centre locations. As a result there is unmet need for affordable housing, aged housing and housing for disabled persons or housing with good access to services and facilities.

Impediments to small-lot redevelopment have been identified as:

- current controls require larger lots (800 sqm+) before medium density housing is permissible
- existing FSR for medium density housing are relatively modest which reduce yield potential and therefore development viability
- existing minimum dwelling sizes for apartments are high and therefore reduce dwelling yield which impacts on development viability
- existing parking rates for apartments are high, and in cases of contaminated land, accommodating parking at ground level may significantly reduce developable area.

Opportunities to allow small-lot redevelopment include:

- intensification on smaller lots requiring fewer or no amalgamation of lots
- alternative forms of infill housing including small apartment blocks, 'big house' style apartments buildings, row housing and secondary dwellings.



Principles for Development Control

To provide alternative forms of infill housing, the following concept dwelling types have been developed based on the following assumptions:

- lot depth is 26 metres (typical for Rosebery structure plan area)
- lot width is between 11 and 15 metres (typical for Rosebery structure plan area). Two lots amalgamated give width of 22 - 30 metres.
- all models provide reduced rates of off street parking
- rear lane access is necessary for models that do not have basement parking.
- three storey scale is acceptable at the street frontage
- minimum 20 per cent deep soil area.

Concept diagrams overleaf show the building envelope the dwelling types (1 to 5) occupy.

1. *Townhouse Model.*

- replace existing detached housing with attached townhouse
- two to three storeys
- rear lane access for garaging
- potential for studio dwellings above garage
- (concept drawing shows example of two dwellings replaced by six — four townhouses, each 180 sqm and two studios, each 35 sqm).

2. *'Big house' Model.*

- replace existing detached housing with four 'up and over' apartments in building that resembles a large house
- three storeys
- rear lane access for garaging - one car per apartment
- (concept drawing shows one dwelling replaced by four apartments, each 105 sqm).

3. *Apartment Model A (single lot)*

- replace existing detached housing with six one and two bed apartments
- three storeys
- rear lane access for garaging - four cars for six apartments
- (concept drawing shows one dwelling replaced by six apartments, each 55 to 80 sqm).

4. *Apartment Model B (2 lot)*

- replace existing detached housing with nine two and three bed apartments
- three storeys
- basement parking - one car per apartment.

Principles for Development Control (cont)

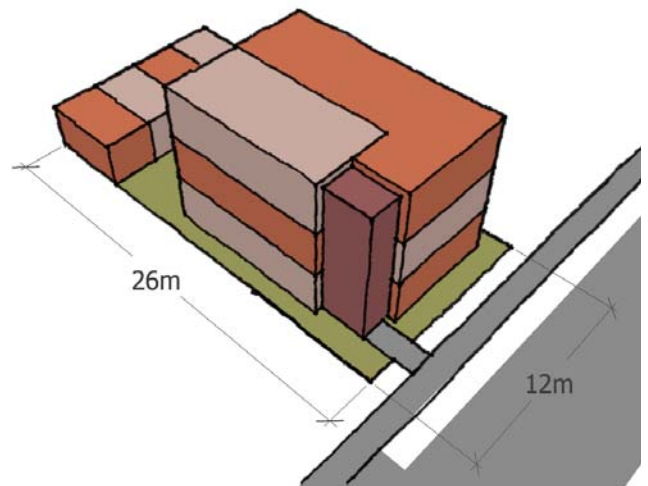
(surface parking/garaging possible with rear lane access)

- (concept drawing shows two dwellings replaced by nine apartments, each 70 - 100 sqm)

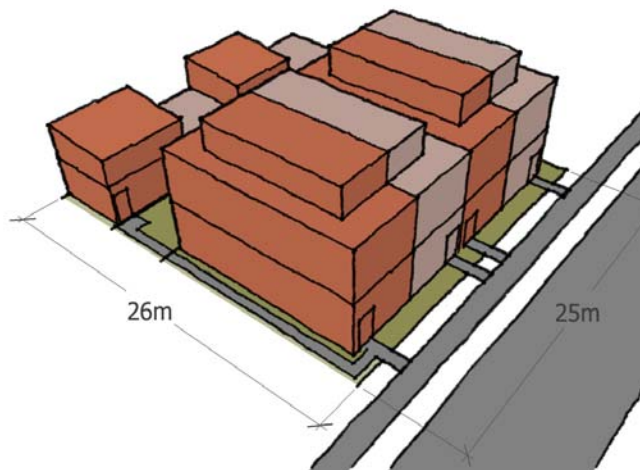
5. Apartment Model C (2 lot)

(additional frontage to public domain allow more intensive development of site).

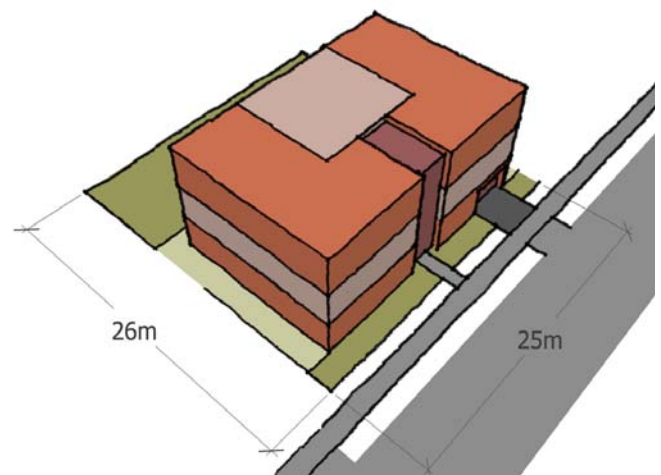
- replace existing detached housing with 12 one and two bed apartments.
- three storeys
- basement parking - one car per apartment.
- (concept drawing shows two dwellings replaced by 12 apartments, each 65 to 85 sqm).



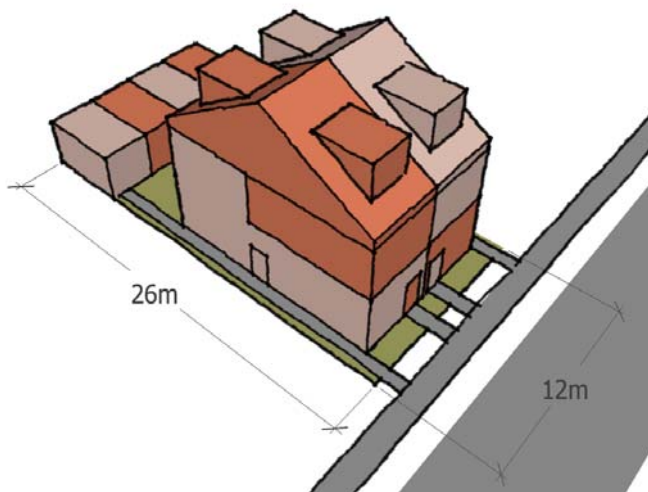
3. Apartment Model A



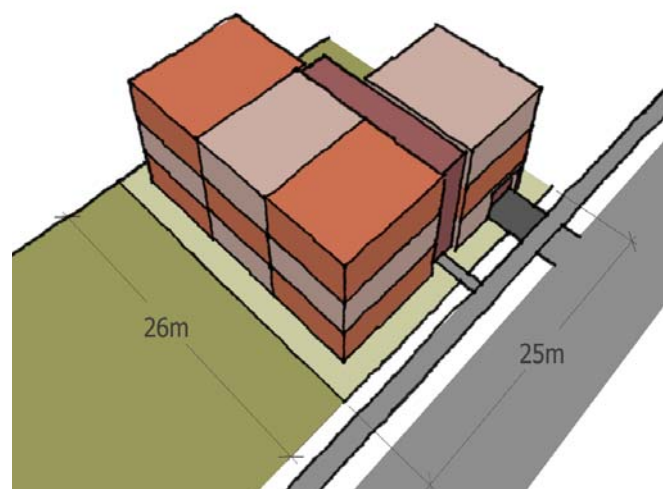
1. Townhouse Model



4. Apartment Model B

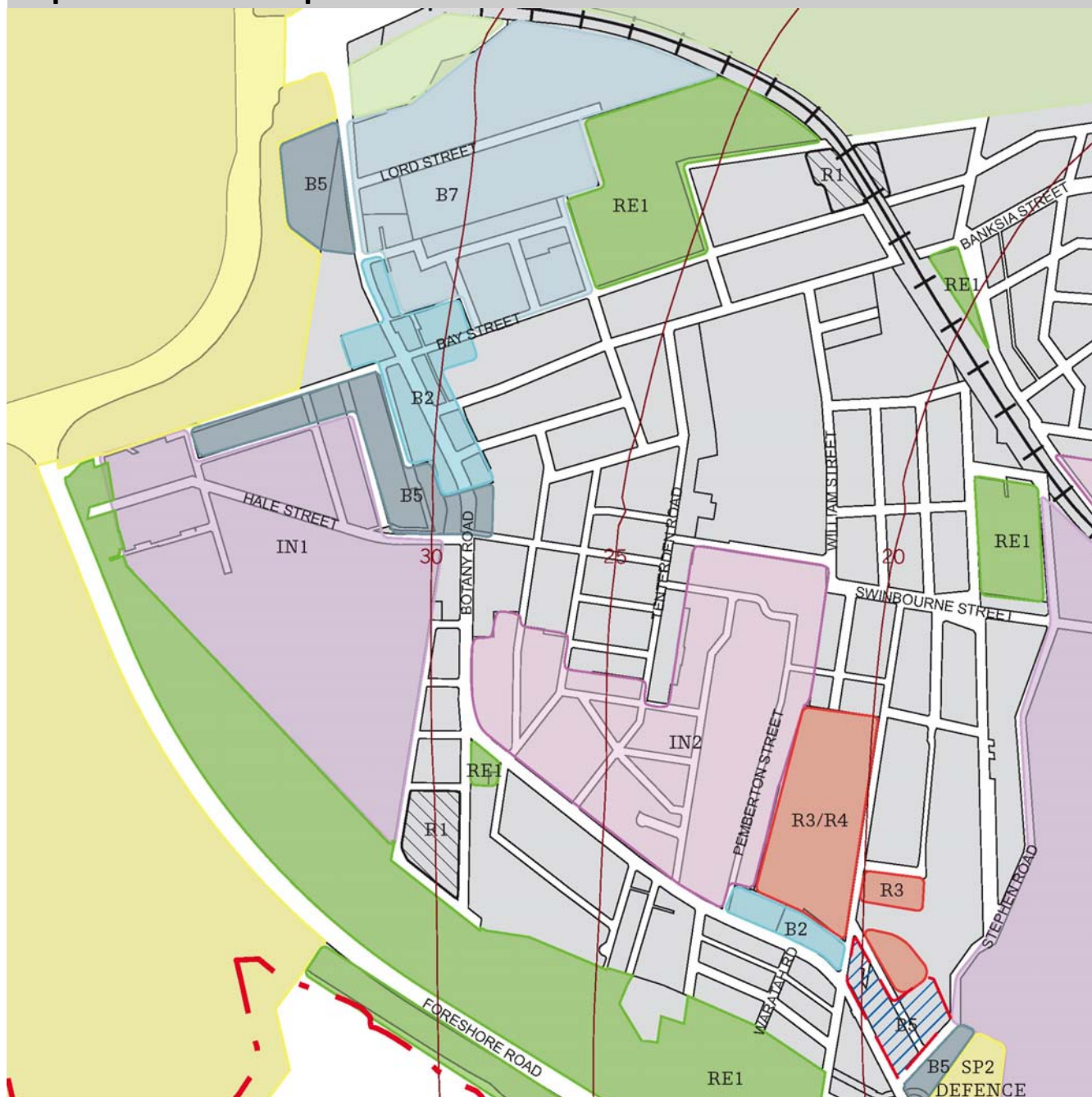


2. Big-house Model



5. Apartment Model C

Area 3: Botany and Banksmeadow Implementation Map—Short Term



SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
B5	Business Development zone	RE1	Public Open Space zone
B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

Area 3: Botany and Banksmeadow Implementation Map—Medium Term



SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
B5	Business Development zone	RE1	Public Open Space zone
B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

MEDIUM TERM:

IN1	Investigate for General Industry
IN2	Investigate for Light Industry
	Investigate for higher density residential
	Investigate for business zoning

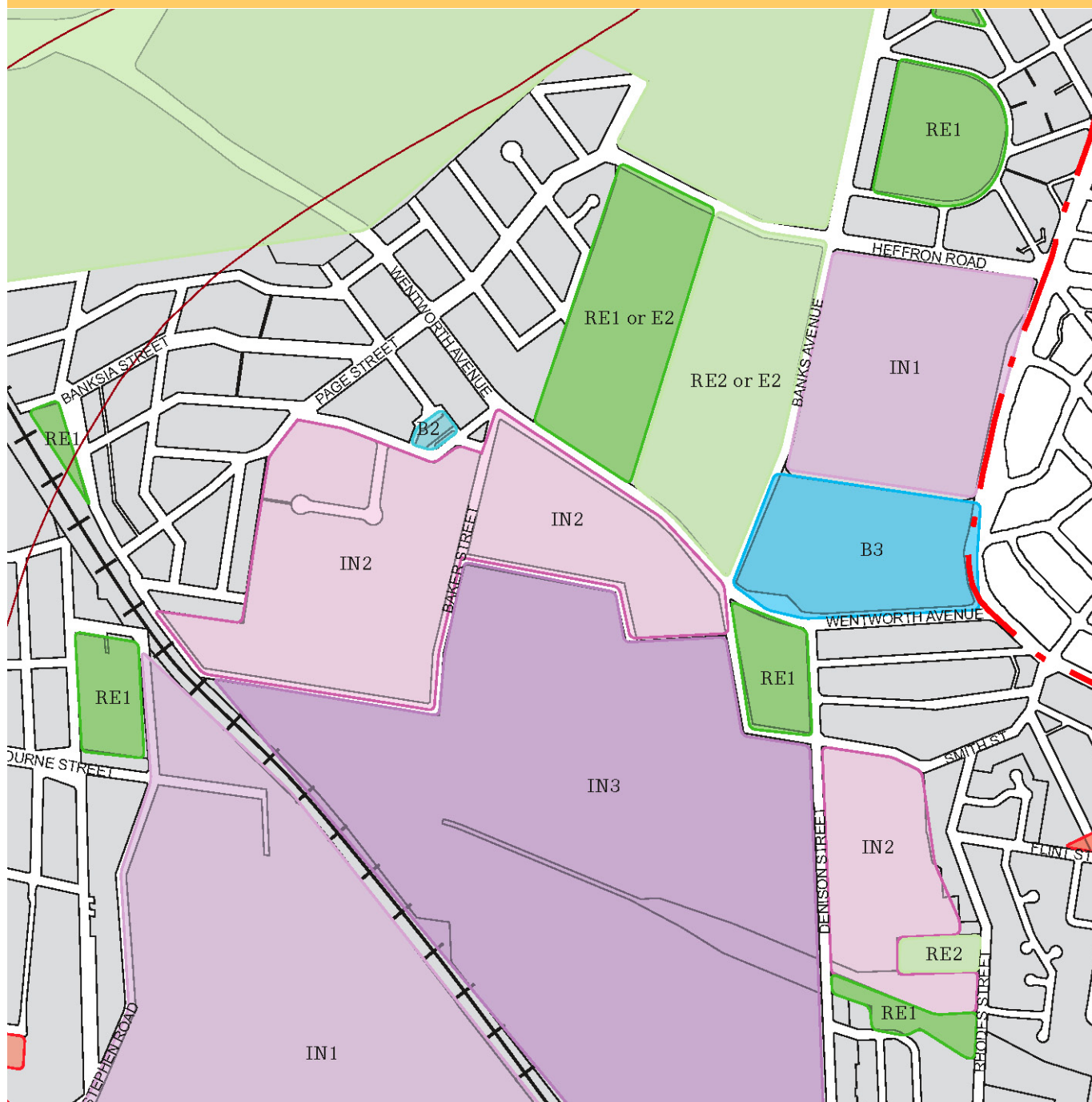
LONG TERM:

	Investigate for change of uses in longer term only
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Area 3 Actions	LEP and Development control considerations	Timing
1.2.1 Ensure densities in residential areas already affected by aircraft noise or adjacent to freight and major road corridors are not increased, and seek opportunities for conversion to non-residential uses less affected by these constraints.	<ul style="list-style-type: none"> • Ensure densities in residential areas already affected by aircraft noise or adjacent to freight and major road corridors are not increased, and seek opportunities for conversion to non-residential uses less affected by these constraints. 	Ongoing
2.2.5 Facilitate expansion of commercial activity potential north of Botany centre (Flyover site, Lord Street to Bay Street).	<ul style="list-style-type: none"> • Establish an FSR 1.2:1 to 1.5:1 • Limit retail to maintain centre activity in Botany centre • Create new road network, particularly north-south • Enhance connections to the centre • Ensure active frontages • Apply B7 zone to Lord Street Precinct land east of Botany Road to expand the business park precinct. • Apply B5 zone to Flyover site. Tailor the B2 zone through both additional zone objectives and list of permissible land uses to ensure the commercial/retail activities in the Botany centre is not compromised. 	Short Term
2.2.7 Create 'side-street' retailing potential into Bay Street	<ul style="list-style-type: none"> • Establish an FSR 2.0:1 	Short Term
2.2.9 Retain Wilson-Pemberton for live/work	<ul style="list-style-type: none"> • Establish an FSR 1.2:1 to 1.8:1 • Increase over current density. • Remove minimum lot size and dwelling size restrictions. • Reduce parking rates • Investigate potential for minimum bedrooms/dwellings yield controls to ensure sites are not underdeveloped. • Ensure access and adaptability of dwelling (for seniors). 	Short Term
2.2.10 Increase residential density potential east of Wilson Street (at corners of Wiggins and Herford)	<ul style="list-style-type: none"> • Proposed FSR 0.9:1 to 1.2:1 • Remove minimum lot size and dwelling size restrictions. • Reduce parking rates • Investigate potential for minimum bedrooms/dwellings yield controls to ensure sites are not underdeveloped. • Ensure access and adaptability of dwelling (for seniors). 	Short Term
2.2.12 Increase residential density potential around shops at Swinbourne Avenue to create small centre (near Garnet Jackson Reserve)	<i>Stage in relation to development at Banksmeadow</i>	Medium Term
2.2.13 Increase residential density potential south of Botany Road to Sir Joseph Banks Park (from Livingstone Avenue to Dent Street)	<i>Subject to further investigation of noise impacts from expanded Port.</i>	Medium Term
4.1.1 Retain South Botany area for light industry activities (with the exception of the Wilson-Pemberton Street Precinct)	<ul style="list-style-type: none"> • Establish an FSR 1.0:1 to 1.2:1 • Ensure transition buffer to residential. • Retain 'live-work' area. 	Short Term
6.1.5 Retain Hale Street area for Port related and other general industrial activities	<ul style="list-style-type: none"> • Maintain FSR of 1:1 • Establish minimum lot size (0.6ha) and restrict strata units. 	Short Term
4.2.1 Extend main street retail north to Hickson Street at Botany centre (east side of Botany Road)	<ul style="list-style-type: none"> • Establish an FSR 2.0:1 	Short Term
4.2.2 Expand business and larger format retailing potential at Botany centre (west to Underwood Street and south to Hale Street, and along south side of Bay Street to McFall Street)	<ul style="list-style-type: none"> • Establish an FSR 1.2:1 to 1.5:1 	Short Term

Area 3 Actions		LEP and Development control considerations	Timing
4.2.3	Facilitate the development of a full-line supermarket in Botany.	<ul style="list-style-type: none"> Identify potential sites, working on pre-development plans and present these to possible supermarket operators. 	Short Term
4.2.4	Extend Banksmeadow main street retail (west to Pemberton Street)	<ul style="list-style-type: none"> Establish an FSR 2.0:1 Investigate the merit of establishing an 'arcade' style side street to the north. 	Medium Term
6.1.3	Investigate the creation of a small precinct for office light industry and other business activities between Banksmeadow centre and Port Botany. This will formalise existing activity of this nature in the identified area and require the rezoning of some land for this purpose.	<ul style="list-style-type: none"> Rezone land at Stephen Road and Botany Road to B5. Establish an FSR 1.2:1 to 1.5:1 Control bulky or other large format retailing in favour of higher order employment retailing. 	Short Term
		<p>Investigate specific land either side of Stephen Road to support the expansion of office, light industry and other business land uses to support Port related activities:</p> <ul style="list-style-type: none"> Land with frontage to Botany Road between Wilson Road and Stephen Road. Land bounded by Botany Road, Exell Street, Greenfield Street and Hill Street. 	Medium Term
6.1.4	Extend precinct for office, light industry and other business activities from Stephen Road to the Banksmeadow centre	<ul style="list-style-type: none"> Establish an FSR 1.2:1 to 1.5:1 Control bulky or other large format retailing in favour of higher order employment retailing. 	Medium Term

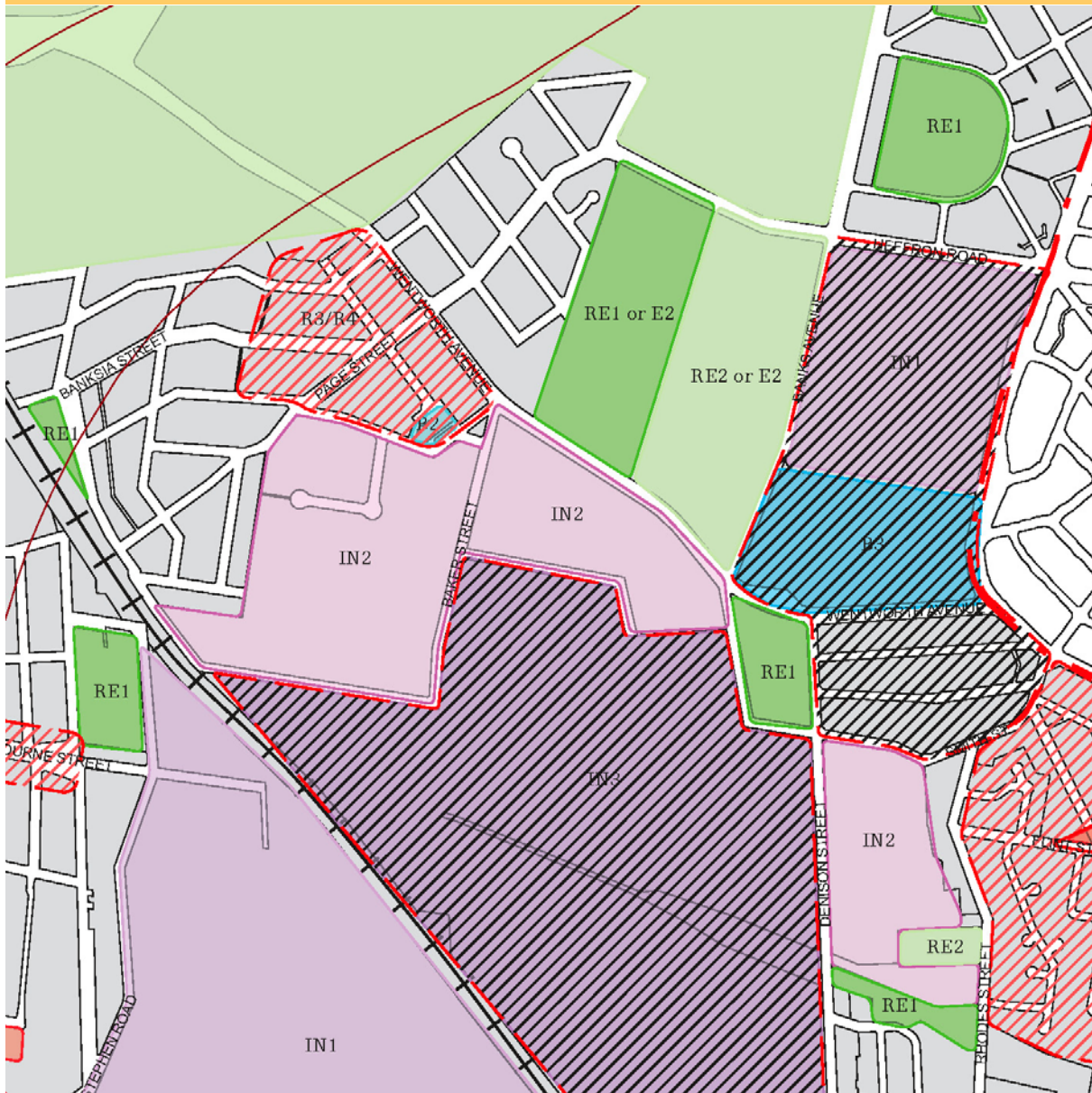
Area 4: Pagewood and Banksmeadow Implementation Map— Short Term



SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
B5	Business Development zone	RE1	Public Open Space zone
B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

Area 4: Pagewood and Banksmeadow Implementation Map—Medium and Long Term



SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
B5	Business Development zone	RE1	Public Open Space zone
B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

MEDIUM TERM:

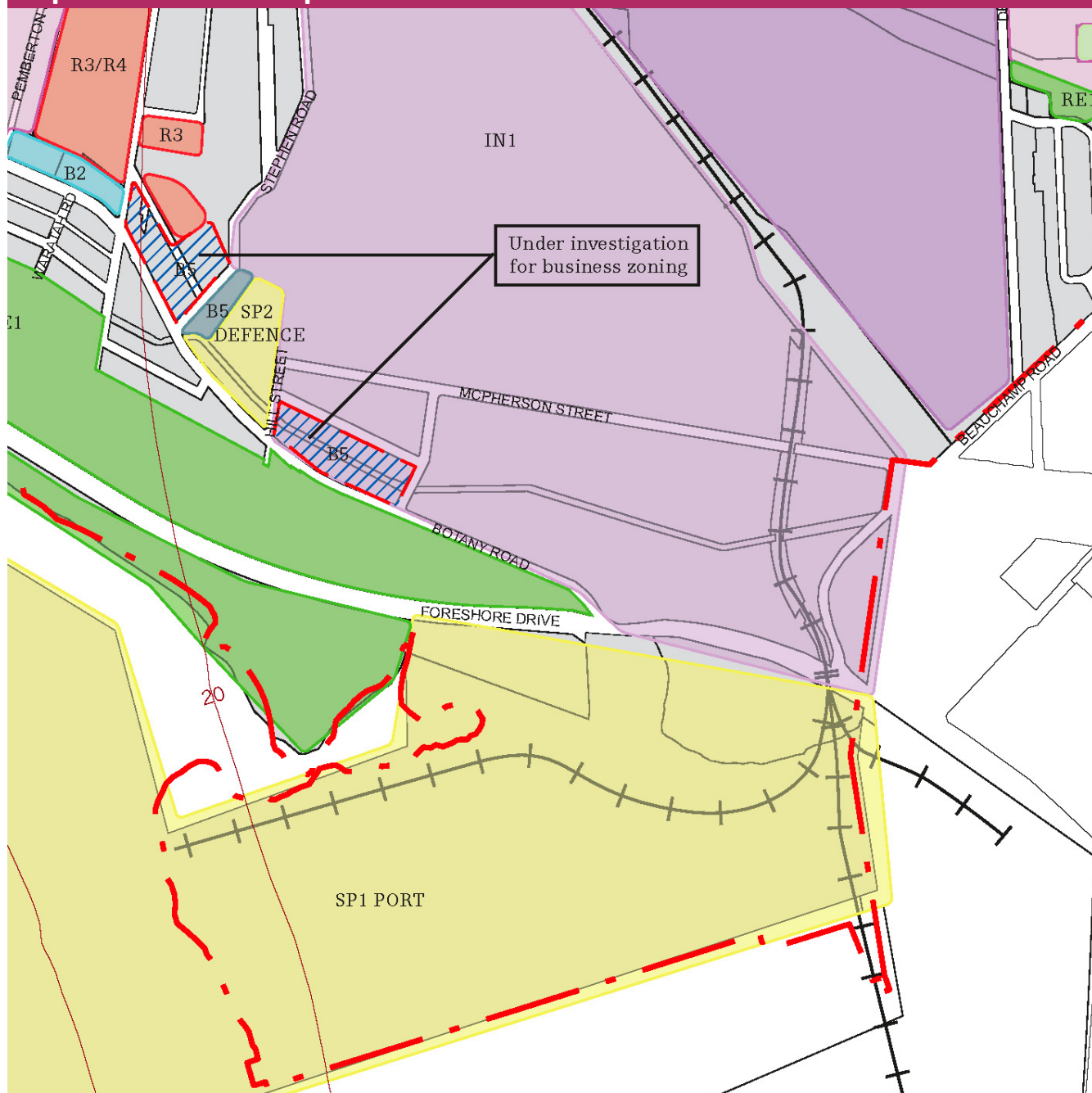
IN1	Investigate for General Industry
IN2	Investigate for Light Industry
	Investigate for higher density residential
B2	Investigate for business zoning

LONG TERM:

	Investigate for change of uses in longer term only
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Area 4 Actions		LEP and Development control considerations	Timing
3.2.3	Increase residential density potential at Pagewood (south west of Wentworth Avenue, halfway to Dudley Street)	<ul style="list-style-type: none"> Identify an appropriate location for the centre. Confirm extent of higher density residential. Stage, subject to development at other short term centres. 	Medium Term
3.2.4	Undertake detailed structure planning to the north of, and elsewhere around Eastgardens to determine the appropriate mix of uses in the long-term.	<ul style="list-style-type: none"> Subject to BAT departure and industrial land demand Undertake comprehensive structure planning for area from Heffron Road to Smith Street including 'main street' for BAT site. 	Long Term
4.1.2	Retain Baker Street area for light industry activities	<ul style="list-style-type: none"> Maintain FSR of 1:1 	Short Term
6.1.1	Retain Banksmeadow (north) for heavy industry activities.	<ul style="list-style-type: none"> Resolve contamination. 	Short Term
6.1.6	Investigate use of Banksmeadow (north) for Port related freight and logistics activities if heavy industry activities depart in the long run.	<ul style="list-style-type: none"> Protect from subdivision should current chemical manufacturing use change (minimum 0.6ha subdivision) and strata units. Restrict land subdivision and strata subdivision. 	Long Term

Area 5: Banksmeadow and Port Botany Implementation Map—Short and Medium Term

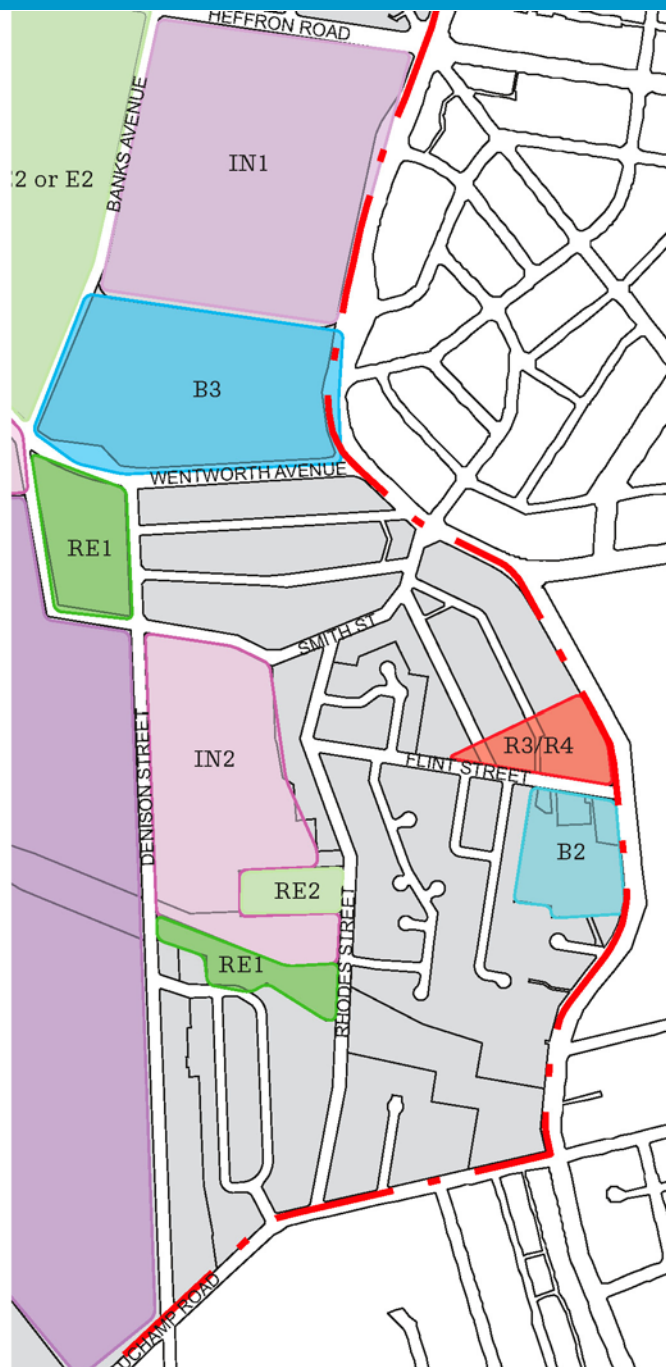
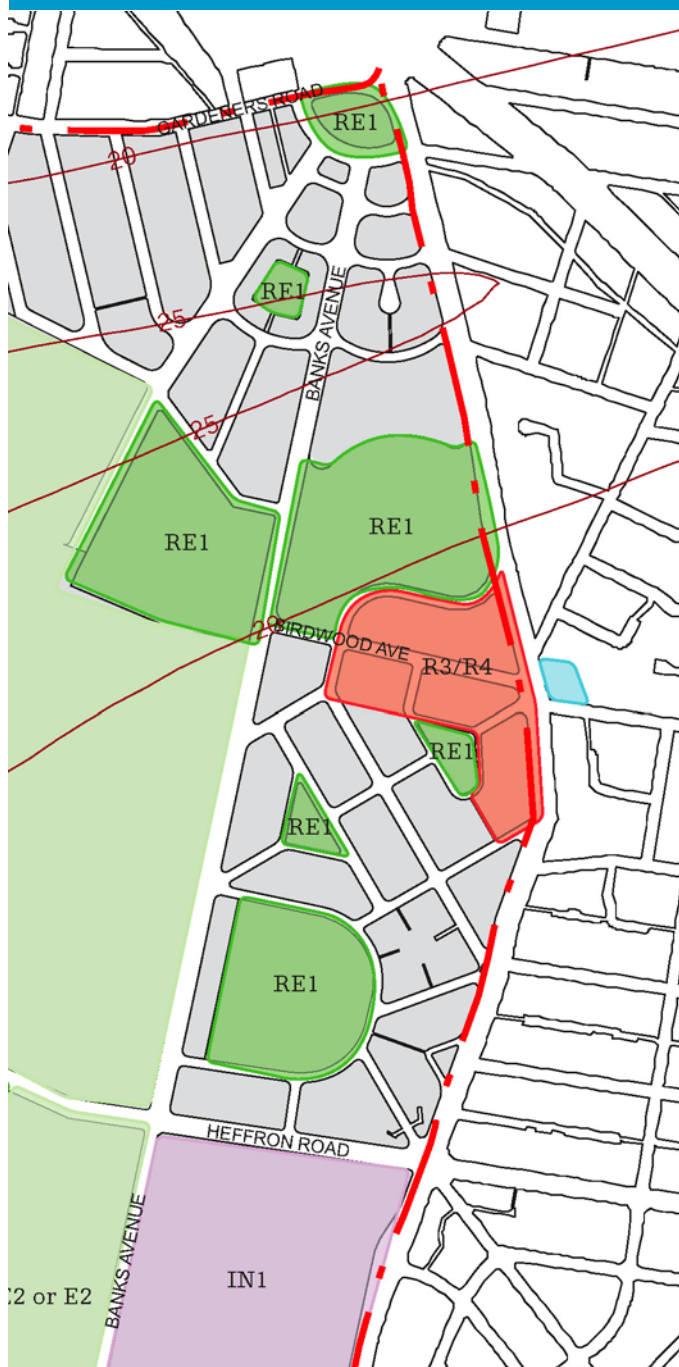


SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
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B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

Area 5 Action		LEP and Development control considerations	Timing
6.1.2	Retain Banksmeadow (south) area for Port-related and other general industrial activities.	<ul style="list-style-type: none"> Retain FSR 1:1 Establish minimum lot size (0.6ha) and restrict strata units. 	Short Term
6.1.3	Investigate the creation of a small precinct for office light industry and other business activities between Banksmeadow centre and Port Botany. This will formalise existing activity of this nature in the identified area and require the rezoning of some land for this purpose.	<ul style="list-style-type: none"> Rezone land at Stephen Road and Botany Road to B5. Establish an FSR 1.2:1 to 1.5:1 Control bulky or other large format retailing in favour of higher order employment retailing. 	Short Term
		<p>Investigate specific land either side of Stephen Road to support the expansion of office, light industry and other business land uses to support Port related activities:</p> <ul style="list-style-type: none"> Land with frontage to Botany Road between Wilson Road and Stephen Road. Land bounded by Botany Road, Exell Street, Greenfield Street and Hill Street. 	Medium Term

Area 6: Daceyville to Hillsdale Implementation Map—Short Term



SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
B5	Business Development zone	RE1	Public Open Space zone
B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

Area 6: Daceyville to Hillsdale Implementation Map—Medium and Long Term



SHORT TERM:

B2	Local Centre zone	R4	High Density Residential zone
B3	Commercial Core zone	R3	Medium Density Residential zone
B4	Mixed Use zone		Change from 2(b) to zone shown on map
B5	Business Development zone	RE1	Public Open Space zone
B6	Enterprise Corridor zone	RE2	Private Open Space zone
B7	Business Park zone	E2	Environmental Conservation zone
IN1	General Industry zone	SP1	Special Activities zone
IN2	Light Industry zone	SP2	Infrastructure zone
IN3	Heavy Industry zone		ANEF contours
			Botany Bay LGA boundary

MEDIUM TERM:

IN1	Investigate for General Industry
IN2	Investigate for Light Industry
	Investigate for higher density residential
	Investigate for business zoning

LONG TERM:

	Investigate for change of uses in longer term only
--	--

Area 6 Actions		LEP and development control considerations	Timing
3.1.2	Increase residential density potential at Hillsdale (corner of Flint Street and Bunnerong Road)	<ul style="list-style-type: none"> Establish FSR 0.9:1 to 1.2:1 Remove minimum lot size and dwelling size restrictions. Reduce parking rates Investigate potential for minimum bedrooms/dwellings yield controls to ensure sites are not underdeveloped. Ensure access and adaptability of dwellings (for seniors). 	Short Term
3.1.3	Increase residential density potential on certain land around Birdwood Avenue.	<ul style="list-style-type: none"> Establish an FSR 0.9:1 to 1.2:1 Work with Randwick Council to enhance Snape Street. And investigate higher density of development. Remove minimum lot size and dwelling size restrictions. Reduce parking rates Investigate potential for minimum bedrooms/dwellings yield controls to ensure sites are not underdeveloped. Enable access and adaptability of dwellings (for seniors). Build up Neighbourhood centre 	Short to Medium Term
3.2.1	Increase residential density potential around Hillsdale/Southpoint (east of Rhodes Street).	<ul style="list-style-type: none"> Undertake comprehensive structure planning Stage, subject to development at other short term centres 	Medium Term
4.1.4	Protect Hillsdale for light industry activities.	<ul style="list-style-type: none"> Establish an FSR 1.0:1 	Short Term

Glossary and Acronyms

ABS— Australian Bureau of Statistics

ANEF— Aircraft Noise Exposure Forecast

DCP— Development Control Plan

Eastern Subregion— This area, defined by the Metropolitan Strategy, consists of Botany, Randwick, Waverley and Woollahra LGAs

JTW— Journey to Work

LEP— Local Environmental Plan

LGA— Local Government Area

Long Term— this has been defined as beyond 2015

Medium Term— this has been defined as being over the next four to seven years

OLS— Obstacle Limitation Surface, which is relevant for planning in proximity to the Airport

Short Term— this has been defined as being over the next four years

TZ—Travel Zone—this is the smallest area of analysis for which Journey to Work data can be obtained

Appendices

Appendix 1: Dwelling Yields and Assumptions

Table A1: Dwelling Yields and Assumptions

Area	dwelling numbers area	existing dwellings	area for change (based on planning options work)						mixed uses area to be developed		
			area for change (based on planning options work)	tag from planning options	areas from planning options (ha)	areas from draft strategy (ha)	take up proportion	area after take proportion (ha)	mix use as proportion	area (ha)	existing density (dw/ha)
1	Mascot Station	350	Existing dwellings Mascot Station Total								
2	Rosebery/ Gardeners Road	940	Existing dwellings								
			Rosebery stage 1	2	18.4	20.0	50%	10.0	20%	2.0	40
			Rosebery stage 2	1	7.5	7.5	80%	6.0	0%	-	-
			Total								
	Eastlakes	2,060	Existing dwellings								
			Eastlakes stage 1	4	6.5	8.0	80%	6.4	0%	-	-
			Eastlakes stage 2	3	27.0	25.5	50%	12.8	5%	0.6	-
			Total								
	Mascot	1,460	Existing dwellings								
	Infill - Rosebery/Mascot	780	Existing dwellings								
	Infill - Eastlakes	840	Existing dwellings								
3	Botany	970	Existing dwellings								
	Banksmeadow	580	Existing dwellings								
			Banksmeadow Stage 1	6	7.8	10.0	50% a	5.0	0%	-	-
			Banksmeadow Stage 2	7	10.0	8.0	80%	6.4	10%	0.6	20
			Total								
	Swinbourne	800	Existing dwellings								
			Swinbourne Avenue	5	1.5	1.5	80%	1.2	5%	0.1	25
	Infill - Botany/Banksmeadow	390	Existing dwellings								
4	Pagewood West	160	Existing dwellings								
			Pagewood West	8	4.8	4.8	80%	3.9	5%	0.2	20
			Total								
	Infill - Pagewood West	600	Existing dwellings								
6	Kingsford	550	Existing dwellings								
	Birdwood	270	Existing dwellings								
			Birdwood	9	5.2	5.2	80%	4.1	0%	-	-
			Total								
	Infill - Eastgardens	380	Existing dwellings								
	Hillsdale	1,560	Existing dwellings								
			Hillsdale Stage 1	#	1.1	1.1	80%	0.9	5%	0.0	30
			Hillsdale Stage 2	#	-	5.0	50%	2.5	0%	-	-
			Total								
	Infill Hillsdale	440	Existing dwellings								
	Other infill (net)		(New)								
	New since 2004		(New)								
		13,130	TOTAL		89.8	96.6		59.1		3.6	

developed					residential area to be developed								total mixed and residential				time frame
existing dwellings	new density (dw/ha)	new dwellings in mix area to be developed (dw/ha)	net density (dw/ha)	net new dwellings	proportion	area (ha)	existing density (dw/ha)	existing dwellings	new density (dw/ha)	new dwellings in mix area to be developed (dw/ha)	net density (dw/ha)	net new dwellings	existing dwellings	new dwellings	net new dwellings	dwellings total rounded down	
													-	715	715	350 710 1,060	
80	90	180	50	100	80%	8.0	30	240	130	1,040	100	800	320	1,220	900	940 900	short
-	-	-	-	-	100%	6.0	20	119	100	597	80	478	119	597	478	470 2,310	med
-	-	-	-	-	100%	6.4	35	224	105	672	70	448	224	672	448	2,060 440	short
-	60	38	60	38	95%	12.1	100	1,211	220	2,665	120	1,454	1,211	2,703	1,492	1,490 3,990	med
-	-	-	-	-				-		-						1,460	
-	-	-	-	-				-		-						780	
-	-	-	-	-				-		-						840	
-	-	-	-	-				-		-						970	
-	-	-	-	-	100%	5.0	-	-	100	500	100	500	-	500	500	580 500	short
13	70	45	50	32	90%	5.8	20	115	120	691	100	576	128	736	608	600 1,680	med
2	65	4	40	2	95%	1.2	25	29	105	121	80	92	30	125	95	800 90 890	med
-	-	-	-	-				-		-						390	
4	60	12	40	8	95%	3.7	20	73	100	367	80	294	77	379	302	160 300 460	med
-	-	-	-	-				-		-						600	
-	-	-	-	-				-		-						550	
-	-	-	-	-	100%	4.1	20	83	100	414	80	332	83	414	332	270 330 600	short
-	-	-	-	-				-		-						380	
1	80	4	50	2	95%	0.8	30	25	130	108	100	83	26	112	86	1,560 80	short
-	-	-	-	-	100%	2.5	80	200	180	450	100	250	200	450	250	250 1,890	med
-	-	-	-	-				-		-						440	
													100	400	300	300	n/a
													-	861	861	860	n/a
282				183		55.6				7,627		5,306	2,520	9,885	7,365	20,450	

Appendix 2: Employment Land Audit Methodology

The objective of the employment land use audit was to provide floorspace and land consumption data for industrial land use activities. Three levels of information were collected about each lot:

- Level 1 Zoning, size of lot from Cadastre with LEP overlay
- Level 2 Building envelope, above-ground car parking - from GIS base for on-ground verification (digitised building outlines using aerial photographs)
- Level 3 Building size, condition/land-use activity (categories of land-use) - Collected through on-ground field survey

ABS' categorisation of industries is not particularly helpful in understanding the way that businesses occupy land as the categories cut across land use types and zones. For example, for the manufacturing industry category, parts of a manufacturing business may be in heavy industrial areas, other parts may be in light industrial areas and jobs in head office/administrative functions in the same manufacturing firms may be in commercial areas (in offices). Different industries operate at different geographic scales and have different key drivers. Local service industry – automotive repairs, printing, domestic storage etc – needs to be relatively close to customers, and is responsive to (and changes with) population growth.

On the other hand, large transport and warehouse distribution centres, are more sensitive to state or nationwide population growth and shifts in freight technologies and dependencies. They have different locational and access needs. These issues have significant implications for forecasting the demand for industrial or employment lands. As such, **Broad Land use Categories** were used as listed in table A2 below.

Table A2: SGS Scaled TDC employment data

Land Use Category	Description
Freight and Logistics (FL)	<ul style="list-style-type: none"> • 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 major transport infrastructure.
Local light industrial and urban support (LL)	<ul style="list-style-type: none"> • Car service and repair; joinery, construction and building supplies; and domestic storage. • Wide range of businesses that service other business (components, maintenance and support) and subregional populations. Needed at local (LGA) to subregional level.
Manufacturing – Heavy (MH)	<ul style="list-style-type: none"> • 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 in decline in Sydney, but will continue to cluster in some locations such as Wetherill Park, Campbelltown/Ingleburn etc. There are strong arguments for collocation in terms of raw material delivery and to concentrate externalities (though impacts on surrounding uses are generally moderate).
Manufacturing – Light (ML)	<ul style="list-style-type: none"> • Clothing manufacturing, boat building and electrical equipment manufacturing • Small scale production with lower noise and emission levels than heavy manufacturing.
Urban Services (US)	<ul style="list-style-type: none"> • Concrete batching, waste recycling and transfer, construction and local and State Government depots, sewerage, water supply, electricity construction yards. • These typically have noise dust and traffic implications and need to be isolated or buffered from other land uses. Needed in each subregion.
Office (O)	<ul style="list-style-type: none"> • Administration, clerical, business services and research. • Office buildings that are independent (ie, are not ancillary to another use on site and likely to accommodate a significant number of administration staff (> 10 people).
Business / Office Parks (BP)	<ul style="list-style-type: none"> • Integrated warehouse, storage, R&D, 'back-room' management and administration with up to 40 per cent office component.
Retail - Main Street (RM)	<ul style="list-style-type: none"> • Retailing services traditionally found in main street locations (like supermarkets) and small cluster or strips of stores located next to a street or road.
Retail – Big Box (RB)	<ul style="list-style-type: none"> • Large shopping complexes, including Westfield.
Retail Bulky Goods (RBG)	<ul style="list-style-type: none"> • Typically large, one-story buildings surrounded by car-parking, usually located out of centre and in high exposure (main road) locations.
Special Activities (S)	<ul style="list-style-type: none"> • Tertiary level education, health, and community services. Typically require strategic locations and needed in each subregion.
Dispersed Activities (D)	<ul style="list-style-type: none"> • Primary and secondary education, lower level health, social and community services, trades construction, other 'nomads'.
Residential (R)	<ul style="list-style-type: none"> • Residential development.
Accommodation (Short Term) (AST)	<ul style="list-style-type: none"> • Hotels and Motels (not including pubs), backpacker establishments.
Carpark (CP)	<ul style="list-style-type: none"> • Stand-alone car parking stations
Vacant Building (VBL)	<ul style="list-style-type: none"> • Empty building (lots with vacant buildings counted as vacant sites in calculations except where not a significant proportion of a lot).
Vacant Site (VS)	<ul style="list-style-type: none"> • No development on the site

Source: TDC 2006,2001, and 1996 JTW data; SGS Scaling Factors 2007

The field work utilised technology developed by SGS and the Department of Planning, building on the **Level 1** and **Level 2** data inputted via GIS. Each field survey included direct data entry through the use of hand-held Palm Pilots. The field surveys were undertaken for all Travel Zones in Botany Bay LGA.

Airport and Port Off-site Land Demand

Table A3 also shows how land use in each travel zone was attributed to the Port or Airport. This was based on assumptions informed by site visits to Botany Bay LGA.

Table A3: Travel zones attributed to Port and Airport Activity

	Travel Zone	Land Use Classification
Port Botany	137	On site Port
Hillsdale	138	Off site land use Port
Banksmeadow	139	Off site land use Port
Botany	140	Off site land use Airport and Port (assume 50 per cent each)
Pagewood	141	No/low Port and Airport land use
Eastlakes	143	No/low Port and Airport land use
Mascot East	144	Off site land use Airport and Port (assume 50 per cent each)
Mascot	145	Off site land use Airport
Domestic Terminal	146	On site Airport
International Terminal	147	On site Airport
Botany Bay	707	On site Airport
Tempe East	155	Off site land use Airport, note: not in the Botany LGA

Source: SGS, 2007.

In order to classify land uses into Port and Airport related activities, the following assumptions were made:

- **‘Logistics and Freight’ activities.** While not all of these activities are Port and Airport related, experience ‘on the ground’ suggests that the vast majority are. To take this into account, a 10 per cent error assumption was built into the modelling, attributing 10 per cent of the activity in this category to non-Port and Airport uses.
- **Some ‘vacant’ land categories.** Some area were counted as vacant supply suitable for Port and Airport uses. Vacant sites in the Botany travel zone (140) were excluded as ‘on the ground’ experience indicates these are small sites unsuited to freight and logistics uses.
- **Other.** All activities except those mentioned above were counted as other. This does not mean they are not Port and Airport related (for example, some office facilities and accommodation facilities are directly related to Port or Airport operations). However, based on the data obtained it was not possible to establish this relationship.

Land use in the ‘Port Botany’ and ‘Airport’ Travel Zones was not included in ‘off site Port and Airport land use’ as these Travel Zones take in the Port and Airport facilities themselves. The analysis indicated that employment land uses associated with Port Botany take up around 110 hectares in the Botany LGA, while Airport-related land uses take up around 37 hectares. These results are used to estimate future land demand.

Appendix 3: Employment Data and Land Demand Analysis Tables

Table A4: SGS Scaled TDC employment data

	2006	% of total	2001	change to 2006	1996	change to 2001
Agriculture, Forestry and Fishing	38	0%	78	-51%	48	-64%
Mining	11	0%	5	139%	26	82%
Manufacturing	6103	13%	8658	-30%	10758	20%
Electricity, Gas & Water Supply	59	0%	152	-61%	24	-534%
Construction	1502	3%	1878	-20%	2108	11%
Wholesale Trade	3387	7%	3238	5%	2917	-11%
Retail Trade	4423	9%	4669	-5%	3833	-22%
Accommodation, Cafes & Rest.	1904	4%	2897	-34%	1560	-86%
Transport & Storage	22471	47%	25190	-11%	20242	-24%
Communication Services	952	2%	1217	-22%	678	-80%
Finance & Insurance	527	1%	541	-3%	668	19%
Property & Business Services	3229	7%	3765	-14%	2475	-52%
Government Administration. & Defence	761	2%	1073	-29%	670	-60%
Education	511	1%	514	-1%	457	-12%
Health & Community Services	866	2%	742	17%	621	-19%
Cultural & Recreational Services	408	1%	345	18%	233	-48%
Personal & Other Services	588	1%	704	-16%	499	-41%
Not Stated	480	1%			521	
TOTAL	48219	100%	55665	-13%	48337	-15%

Source: TDC 2006, 2001, and 1996 JTW data; SGS Scaling Factors

Note: Total employment in this strategy differs from that used in the baseline employment land capacity analysis which was based on estimate as 2006 TDC data had not been released at the time of reporting.

Table A5: Raw TDC by Travel Zone employment data

TZ No.	Travel Zone	2001	2006	2006%	change	% change]
138	HILLSDALE	901	774	2%	-127	-14%
139	BANKSMEADOW	3937	4261	11%	324	8%
140	BOTANY	5447	6306	16%	859	16%
141	PAGEWOOD	3133	3323	8%	190	6%
142	DACEYVILLE	273	220	1%	-53	-19%
143	EASTLAKES	631	627	2%	-4	-1%
144	MASCOT EAST	3154	1784	4%	-1370	-43%
145	MASCOT	17962	15327	38%	-2635	-15%
146	DOMESTIC TERMINAL	7376	7812	19%	436	6%
707	BOTANY BAY	3	6	0%	3	100%
TOTAL		42817	40440	100%	-2377	-6%

Note: This is raw TDC data unscaled by SGS. Scaling was not possible as the travel zone geographies between 2001 and 2006 have changed and concordance at the travel zone level by industry sector has not been provided by TDC.

Source: TDC 2006 and 2001 JTW data

Table A6: Employment Floorspace Gap Analysis

TZ Name	(A) SGS estimated 2006 Jobs*	(B) SGS Subregional target jobs	(C) Total jobs in 2031 A+B	SGS jobs per m2	2031 total floorspace required SGS	TPF (Adjusted)	TPF Gap analysis
				ratios			
Hillsdale (TZ138)	800	150	950	50	67450	84700	17250
Banksmeadow (TZ139)	3250	1100	4350	200	873500	1115750	242250
Botany (TZ140)	5150	3950	9100	50	635900	605700	-30200
Pagewood (TZ141)	3150	150	3300	50	232700	259500	26800
Daceyville (TZ 142)	300	0	-	-	-	-	-
Eastlakes (TZ 143)	650	150	800	0	16850	21700	4800
Mascot East (TZ144)	3550	350	3900	50	155900	89600	-66300
Mascot (TZ145)	21450	5500	26950	50	755200	1365600	610400
Domestic Terminal (146)	9900	5300	15200	50	531850	1185300	653450
Botany Bay (TZ 707)	>50 jobs	-	-			0	
TOTALS	48,200	16,650	64550	-	3,269,350	4,706,150	1,458,450

* Note: Figures rounded to nearest 50.

Source: SGS 2007

Appendix 4: Land Use Activity Conflicts Management Plan

Minimising land use conflicts between residential and non-residential activities is best managed by avoiding instances where land use zones permit new residential development adjacent to higher impact industrial developments, busy roads, freight rail corridors and/or dangerous goods routes. Many existing conflicts between adjoining land uses are the result of past zoning practices that have not adhered to this principle.

This strategy recommends that no residential intensification occur in areas immediately adjacent to higher impact industrial developments, busy roads, freight rail corridors and/or dangerous goods routes. Light industrial activities, when properly designed, can provide a good buffer between residential areas and heavier industrial activities. As a result the strategy proposes some light industrial zoning in employment precincts adjacent to residential areas in both Hillsdale and Pagewood.

Where land uses conflicts cannot be avoided the planning and design responses must be tailored to the severity and type of the conflict. The following plan identifies three levels of severity: critical, moderate for each type of conflict and potential. Within these categories subsets of conflict types are identified. The proposed responses are outlined in the table below.

Most instances of land use conflict occur 'across the road' where noise from traffic disrupts residential or 'main street' amenity. 'Over the fence' conflicts are fewer, and can often be managed by design, buffer and operational controls as described in the table below and illustrated in Figure A.

Elsewhere the strategy advocates for the preparation of a traffic management plan. This plan should also identify areas of significant traffic impact from industrial activities on residential development. High interface areas with significant access by heavy vehicle traffic should consider a range of traffic calming measures including reduced speeds in affected stretches of road with associated road treatments and restriction of heavy vehicle traffic on these residential streets. Additional transport infrastructure improvements to move heavy vehicle traffic away from residential areas (such as the Hale Street Extension and internal roads through Banksmeadow Industrial area) should be investigated as part of the traffic management plan.

Level	Type	Description	Location	Response
1. CRITICAL ACTIVITY CONFLICT AREAS				
	A	Residential or Open Space zones adjoining General Industry or Heavy Industry zone	Mascot Station, Mascot, Botany, Banksmeadow	<p>Design controls: Noise sources (such as machinery, loading and manoeuvring areas or large apertures in buildings) located as far away from residential areas as possible. Areas immediately adjacent to existing housing should be utilised for buildings without openings to provide a buffer between housing and industrial activities. Trees and landscaping or, where appropriate, solid fencing, should be provided to reduce the visual and noise impacts of industrial buildings and activities.</p> <p>Operational controls: Operational hours should be restricted to limit impacts of noise from manufacturing activities and heavy vehicle traffic.</p>
	B	Mixed Use and Residential zones immediately adjoining road with high traffic volumes or designated hazardous goods route	Mascot Station, Banksmeadow, Hillsdale	<p>Mixed Use zone: Encourage non-residential development immediately adjacent busy roads.</p> <p>Residential zones: Prohibit intensification of residential development.</p>
	C	Residential zone is immediately adjoining the freight rail line	Mascot, Botany, Pagewood	<p>General: Prohibit intensification of residential development. Where appropriate consider longer term possibility of alternative non-residential land uses in these locations.</p>
2. MODERATE ACTIVITY CONFLICT AREAS				
	D	Residential zone is adjoining Light industry, Business Development, Enterprise Corridor or Business Park zonings	Rosebery, Mascot, Botany, Banksmeadow, Pagewood, Hillsdale	<p>Design controls: As for 'A' above.</p> <p>Where industrial development addresses a residential street particular regard should be given to providing a high quality interface that enhances the streetscape through both the design of the built form, minimising the extent of hard stand areas and the use of trees and landscaping.</p> <p>Operational controls: As for 'A' above.</p>

Level	Type	Description	Location	Response
3. POTENTIAL ACTIVITY CONFLICT AREAS				
	E	Residential zone adjoining Local Centre zone	Rosebery, Mascot, Botany, Banksmeadow, Hillsdale	Design controls: Where commercial and/or retail development is immediately adjacent to a Residential zone particular regard should be given to providing an appropriate interface between these uses. Ideally such uses will be separated by a lane or right-of-way that provides vehicular and pedestrian access to both types of development. Where this is not possible, appropriate setbacks, orientation of the operational areas of retail/commercial developments, and screening or planting should be adopted to ensure the amenity of adjacent residential development is not compromised. New residential developments should be designed to minimise potential conflicts by locating quieter areas such as bedrooms away from potential noise sources and utilising screening and/or planting.
	F	Commercial core zone adjoining to General Industry zone	Mascot Station	Design controls: Where industrial development is immediately adjacent to the Commercial Core zone particular regard should be given to providing a high quality interface that contributes to the commercial character of the Commercial Core zone, through both the design of built form, minimising hard stand areas and the use of trees and landscaping.
	G	Mixed Use zone adjoining Commercial Core and Local Centre zones	Mascot Station	Design controls: Where commercial and/or retail development is immediately adjacent to residential development in the Mixed Use zone, refer to design controls set out at E above.
	H	Business Development adjacent to General Industry zones	Botany	Design controls: Where industrial development is immediately adjacent to the Business Development zone, particular regard should be given to providing a high quality interface that contributes to a mixed commercial and industrial character of the Business Development zone through both the design of built form, minimising hard stand areas and the use of trees and landscaping.
	I	Light Industry zoning adjacent Wentworth Avenue	Pagewood	Design controls: Where industrial development addresses Wentworth Avenue particular regard should be given to providing a high quality interface that enhances the streetscape through both the design of the built form, minimising the extent of hard stand areas and the use of trees and landscaping.
	J	BAT site - all interfaces	Pagewood	General: Particular regard should be given to providing a high quality interface that enhances the streetscape through both the design of the built form, minimising the extent of hard stand areas and the use of trees and landscaping.

Land Use Conflicts Management Map

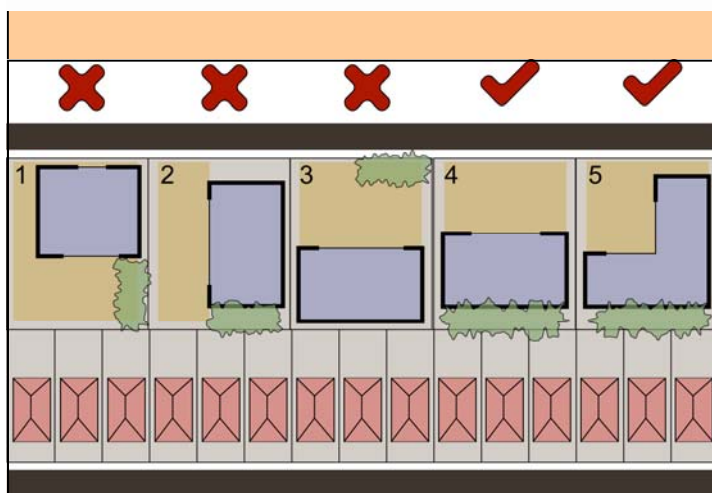


Figure A: Examples of appropriate interface treatment

Examples 1 and 2 have loading or external work areas not oriented away from the residential development. Examples 3 does not provide adequate space for a landscaped buffer area. Examples 4 and 5 areas have loading or external work areas away from residential development, use buildings as a buffer and provide adequate area for trees and landscaping immediately adjacent to the residential dwellings.

Appendix 5: Airport Land Demand Inputs

Table A7: Sydney Airport Off-site Land Demand Model

Sydney Airport			
	Value	Unit	Source
Existing throughput	550,000	tonnes	Airport Masterplan 2003/4**
Existing land take: on and off site	70	ha	SGS Land Audit
Existing land take: per unit throughput	0.00013	ha per tonne	SGS Calculation
Throughput: 2025	1,297,000	tonnes	Airport Masterplan 2003/4
Land take 2025: existing density	165	ha	SGS Calculation
Intensification allowance	1.4		SGS Assumption*
Land take 2025: future density	118	ha	SGS Calculation
Additional land take 2025: future density	48	ha	SGS Calculation
Available land off site	34	ha	SGS Land Audit
Demand - supply gap	14	ha	SGS Calculation

Source: SGS 2007

Appendix 6: Port Botany Off-site Land Demand Inputs

Table A8: Port Botany Land Demand Model

Port			
	Value	Unit	Source
Existing throughput	1,620,000	TEUs	Sydney Ports Corporation
Existing land take: on site	210	ha	Sydney Ports Corporation
Existing land take: indirect	67	ha	SGS Land Audit
Existing land take: on site per unit throughput	0.0001296	ha per TEU	SGS Calculation
Existing land take: indirect per unit throughput	4.124E-05	ha per TEU	SGS Calculation
Throughput: 2025	3,200,000	TEUs	Sydney Ports Corporation
Land take 2025: on site (existing density)	415	ha	Sydney Ports Corporation
Land take 2025: indirect (existing density)	132	ha	SGS Calculation
Intensification allowance	1.2		SGS Assumption*
Displaced around intermodal	20	%	SGS Assumption*
Land take 2025: on site (future density)	346	ha	SGS Calculation
Land take 2025: indirect (future density)	88	ha	SGS Calculation
Land take 2025: displaced to intermodal (future density)	22	ha	SGS Calculation
Total future land take	434	ha	SGS Calculation
Additional land take 2025: indirect (future density)	21	ha	SGS Calculation
Available land off-site	29	ha	SGS Land Audit
Demand - supply gap	-8	ha	SGS Calculation

Source: SGS 2007

Appendix 7: Area Specific Context and Opportunities and Constraints

Area 1: Mascot Station and Sydney Airport

AREA AND ZONING:

Area bounded by Gardeners Road, Alexandra Canal, Qantas Drive and the area in the vicinity of to O’Riordan Street.

Area: 155 Hectares

Residential zoned land: 2(a): 30ha (19%); 2(b): 8ha (5%); 10(a): 12ha (8%) [Total: 33%]

Employment zoned land: 4(a): 12ha (7%); 4(c1): 29ha (19%); 4(c2): 37ha (24%); 10(b): 10ha (7%) [57%]

Population (approx.): 1,860; Dwellings (dwellings): 867.

EMPLOYMENT:

A wide range of employment uses are dispersed throughout the area, housed in various accommodation including multi-storey office buildings, business parks and warehouses. Activities are predominantly Airport related and there is a number of hotels in the vicinity of O’Riordan Street.

HOUSING:

Older housing is generally detached and located to the east of O’Riordan Street. Newer apartments have been built between O’Riordan Street and Mascot Station.

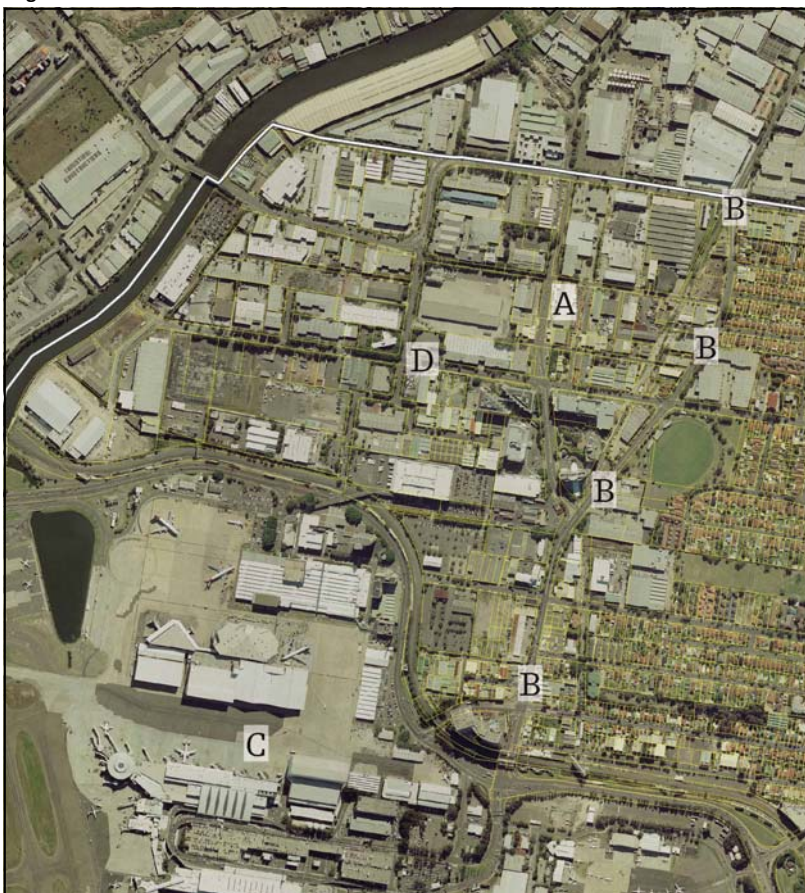
PUBLIC DOMAIN + OPEN SPACE:

The quality of the public domain is generally very poor as a result of poor building interfaces, significant hard stand areas and high traffic volumes. O’Riordan Street is a particularly poor example. The area immediately adjacent to Mascot Station lacks active uses. Mascot Park is the only major open space and features interfaces with rear fences and busy roads.

TRANSPORT:

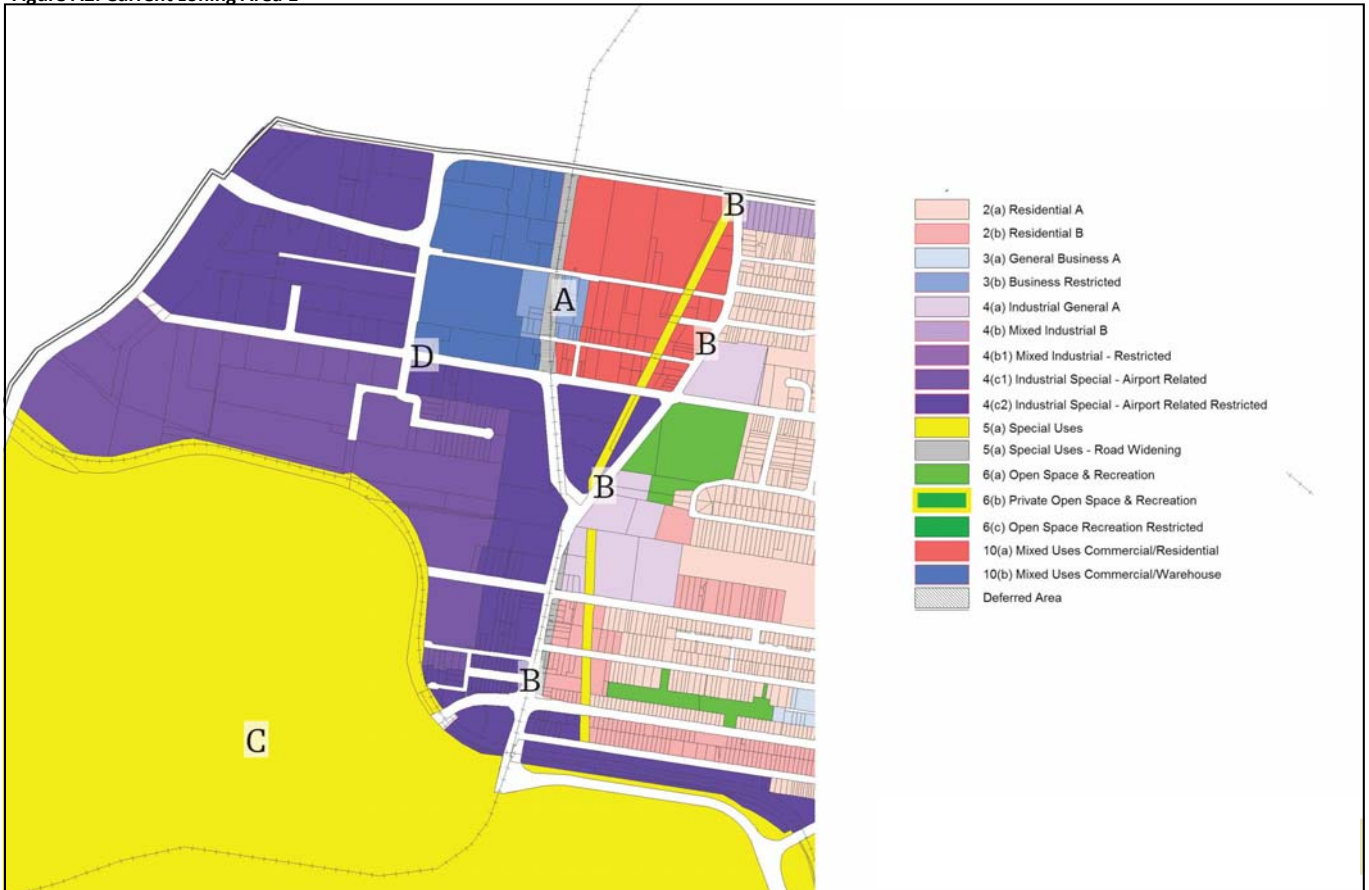
The Mascot Station is a key transport node that connects to the city. Bus routes generally follow Gardeners Road, O’Riordan Street and Coward Street providing services to the Railway Square, Bondi Junction, Sydenham, Botany, the Domestic Airport and Rockdale.

Figure A1: Aerial view Area 1



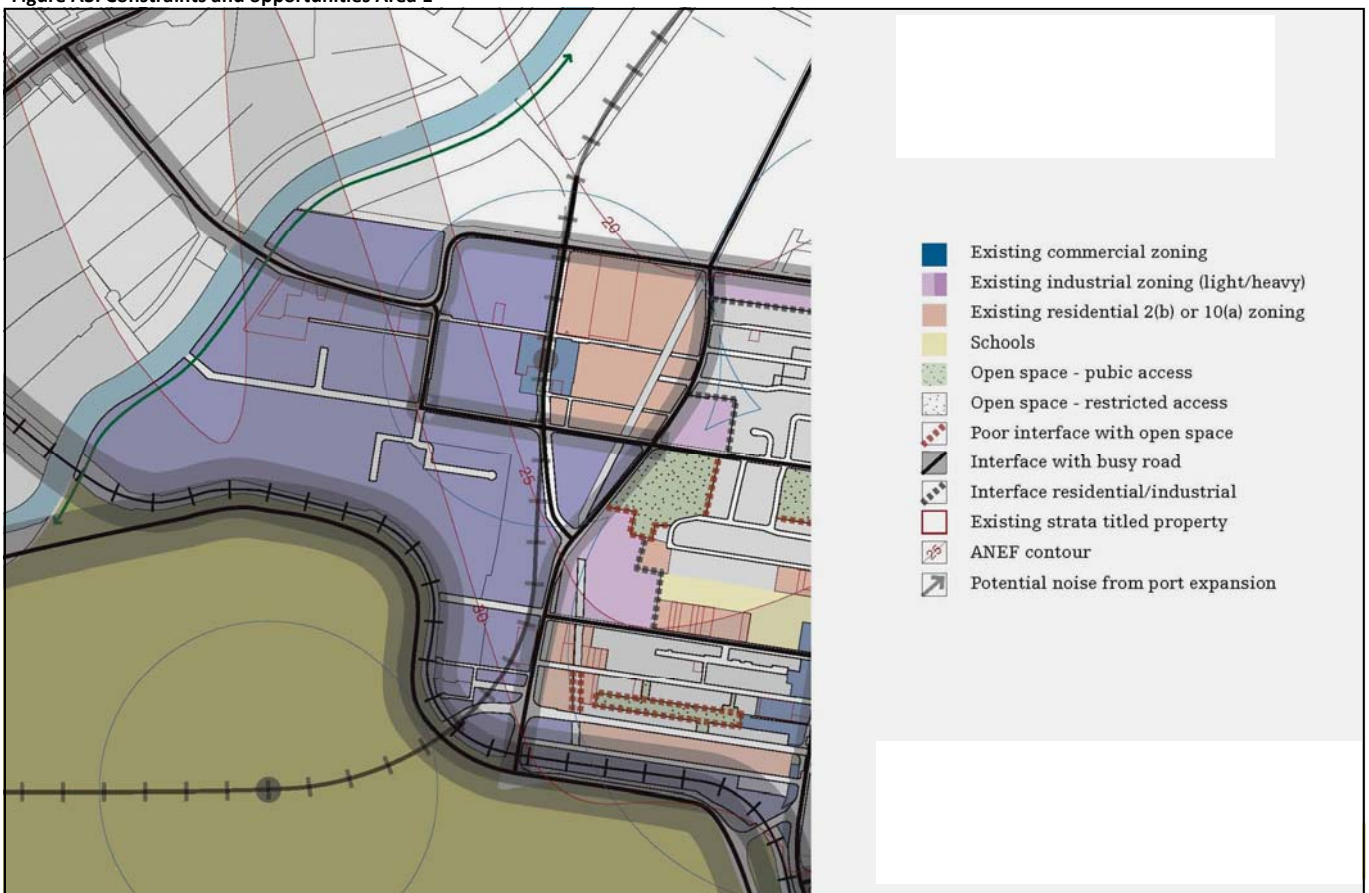
- A. Mascot Station
- B. O’Riordan Street corridor
- C. Airport Domestic Terminal
- D. Mascot employment

Figure A2: Current zoning Area 1



Source: City of Botany Bay 2007

Figure A3: Constraints and opportunities Area 1



Source: City of Botany Bay 2007

Area 1: Mascot Station and Sydney Airport

Constraints and Opportunities

<p>CONSTRAINTS:</p> <ul style="list-style-type: none"> • All land is subject to ANEF greater than 20, and some areas greater than 25 and even 30. • Existing high density residential zoning in areas with ANEF greater than 25. • Very poor public domain quality on O’Riordan Street. • Poor public domain in Mascot Station area. • Poor integration between Mascot Rail Station and adjacent employment and residential areas. • Incomplete street network and traffic congestion hampers functioning of employment areas, particularly access to and from the Airport. • Many instances of interfaces between residential and industrial zones. • Limited existing local retail to support employment and residential uses. 	<p>OPPORTUNITIES:</p> <ul style="list-style-type: none"> • Mascot Station provides a major public transport node and could support substantial employment uses in the precinct. • O’Riordan Street has potential to provide a high quality ‘gateway’ between the Airport and the city and high quality major commercial address. • Proximity to the Airport presents an opportunity for additional Airport related uses including office development, short term accommodation, meeting and conference facilities. • Significant vacant sites and areas devoted to surface car parking suggest opportunities to intensify employment uses on existing industrial sites. • Interface with Alexandra Canal has potential for high quality business address and recreational paths for pedestrians and cyclists.
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Area 2: Mascot, Rosebery, Eastlakes

<p>AREA AND ZONING: Area generally bounded by Gardeners Road and Southern Cross Drive and the area in the vicinity of to Botany Road. Area: 185 hectares Residential zoned land: 2(a): 113ha (61%); 2(b): 29ha (16%) [Total: 77%] Employment zoned land: 3(a): 12ha (7%); 4(b): 3ha (2%) [9%] Population (approx.): 15,917; Dwellings (dwellings): 6,320.</p>	
<p>EMPLOYMENT: Economic activity focuses along the traditional shopping strips on Gardeners Road and Botany Road, and in Eastlakes centre which is based around two small shopping centres. A small industrial area is located at the very southern corner.</p>	<p>HOUSING: Predominantly detached housing and walk-ups with some examples of shop-top housing, villas and townhouses.</p>
<p>PUBLIC DOMAIN + OPEN SPACE: The quality of residential streetscapes is generally good. However traditional centres however feature varied quality public domain and are impacted by heavy traffic volumes. With the exception of Memorial Park, open spaces are poor in terms of facilities, passive surveillance and co-location with other amenities.</p>	<p>TRANSPORT: Bus routes are focused along Botany Road, Gardeners Road, King Street and Maloney Street, providing services to the City (via Rosebery and the University of New South Wales), Bondi Junction, Sydenham, Botany, Domestic Airport and Rockdale.</p>

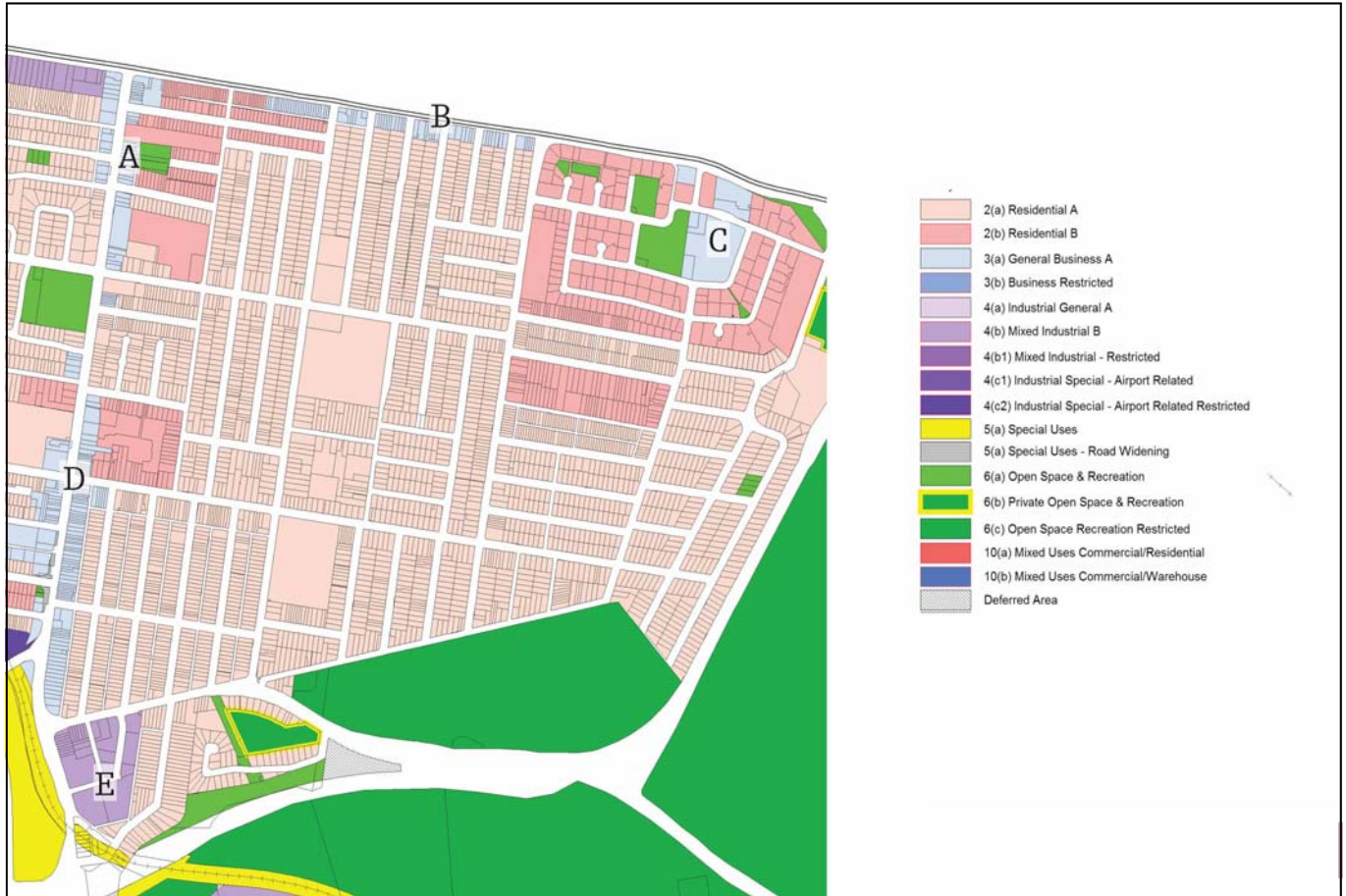
Figure A4: Aerial view Area 2



- A. Rosebery, Botany Road
- B. Rosebery, Gardeners Road
- C. Eastlakes
- D. Mascot, Botany Road
- E. Mascot South industrial area

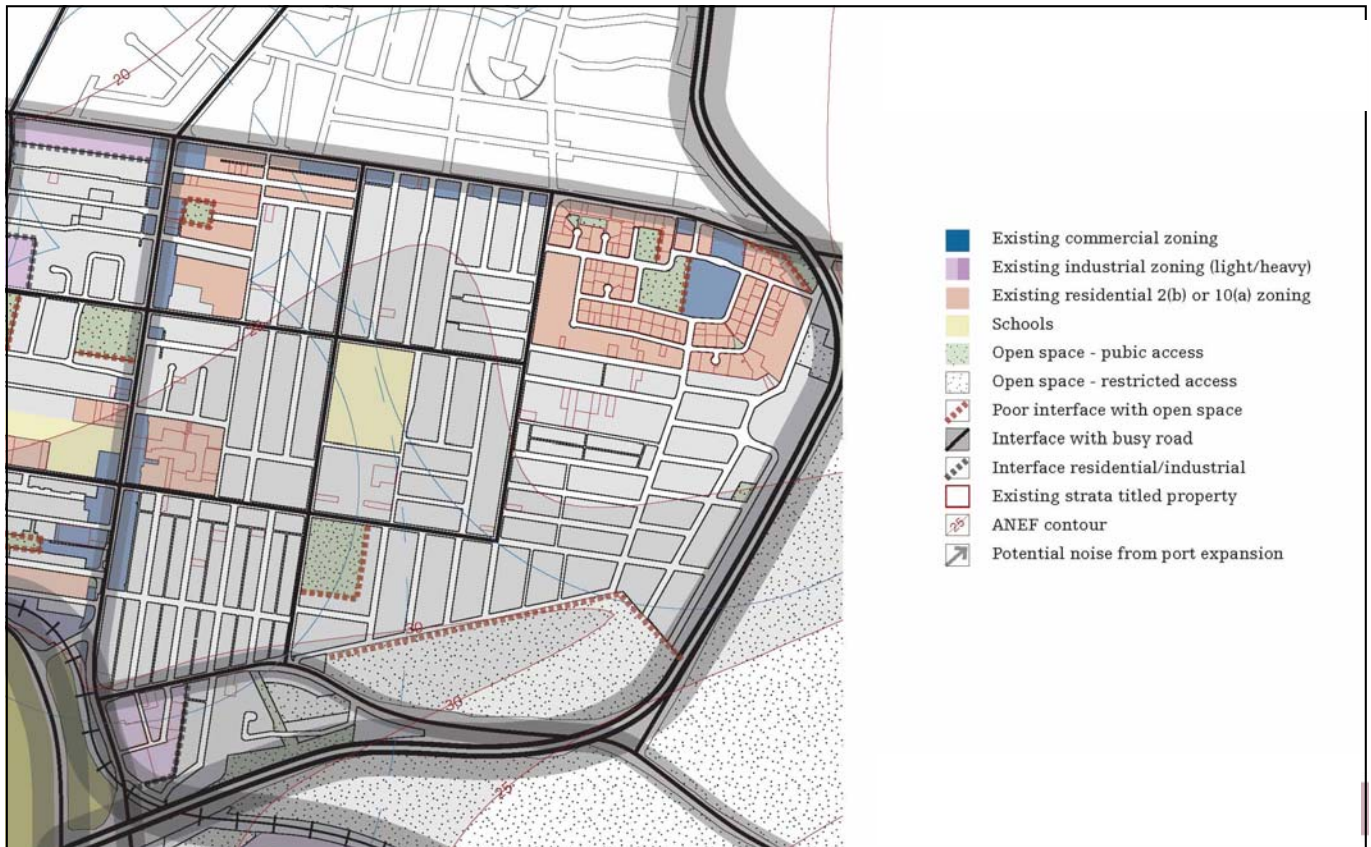
Source: City of Botany Bay 2007

Figure A5: Current zoning Area 2



Source: City of Botany Bay 2007

Figure A6: Constraints and opportunities Area 2



Source: City of Botany Bay 2007

Area 2: Mascot, Rosebery, Eastlakes

Constraints and Opportunities

CONSTRAINTS:	OPPORTUNITIES:
<ul style="list-style-type: none"> • A large proportion of residential land is ANEF 25 or above. • Other busy roads with poor amenity for pedestrians are Botany Road, Gardeners Road, Wentworth Avenue • Generally poor quality public domain, poor quality open space and/or poor interfaces at edges. • Residential area south of Wentworth has ANEF greater than 30 and is bounded by busy roads and close to the freight rail line. • The centre core of Eastlakes centre is predominantly strata-titled. • Public transport is limited to buses and subject to congestion at peak periods. 	<ul style="list-style-type: none"> • Potential for residential intensification near centres and along main public transport routes (Botany and Gardeners Road (provided amenity impacts can be addressed), and in low density residential areas close to these centres. • Potential for additional employment land (enterprise corridor) on Botany and Gardeners Roads. • Potential intensification/extension of employment in the South Mascot industrial area. • Traditional centres provide opportunities to increase housing near transport and services. • Potential new centre at Rosebery (City of Sydney) will improve amenity. • New mass transit initiatives (light rail) along Botany Road and/or Dalmeny Avenue will improve access in the long term.

Area 3: Botany and Banksmeadow

<p>AREA AND ZONING: Area composed of the suburbs of Botany Bay and Banksmeadow (however this excludes the Banksmeadow industrial park.) Area (approx. excludes roads): 278 hectares Residential land: 2(a): 82ha (29%); 2(b): 35ha (12%) [Total: 41%] Employment land: 3(a): 4ha (1%); 4(a): 31ha (11%); 4(b): 35ha (13%); 4(b1): 9ha (3%) [28%] Open space: 6(a): 71ha (26%) Population (approx.): 7,845; Dwellings (dwellings): 3,080.</p>	
<p>EMPLOYMENT: Considerable areas feature industrial zonings and support a range of employment activities. The Lord Street and Hale Street areas contain predominantly freight, transport and logistics activities, whereas the South Botany industrial area contains more 'traditional' local light industries. The Botany and Banksmeadow villages contain modest amounts of retail.</p>	<p>HOUSING: Traditional detached housing occupies a large proportion of residential land, although more recent villas, townhouses and apartments (generally located on former industrial sites) provide a significant number of dwellings, particularly in the east. Some shop-top housing in traditional centres.</p>
<p>PUBLIC DOMAIN + OPEN SPACE: The quality of residential streetscapes varies although is generally good. Traditional centre however feature average quality public domain and are impacted by heavy traffic volumes. Open space is generally larger parks that lack facilities and are located towards the edges of the area.</p>	<p>TRANSPORT: Bus routes on Botany Road provide services to the City (via Rosebery), Port Botany and Matraville. A service diverts at the Botany village to connect to Eastgardens via Banksia and Page Streets.</p>

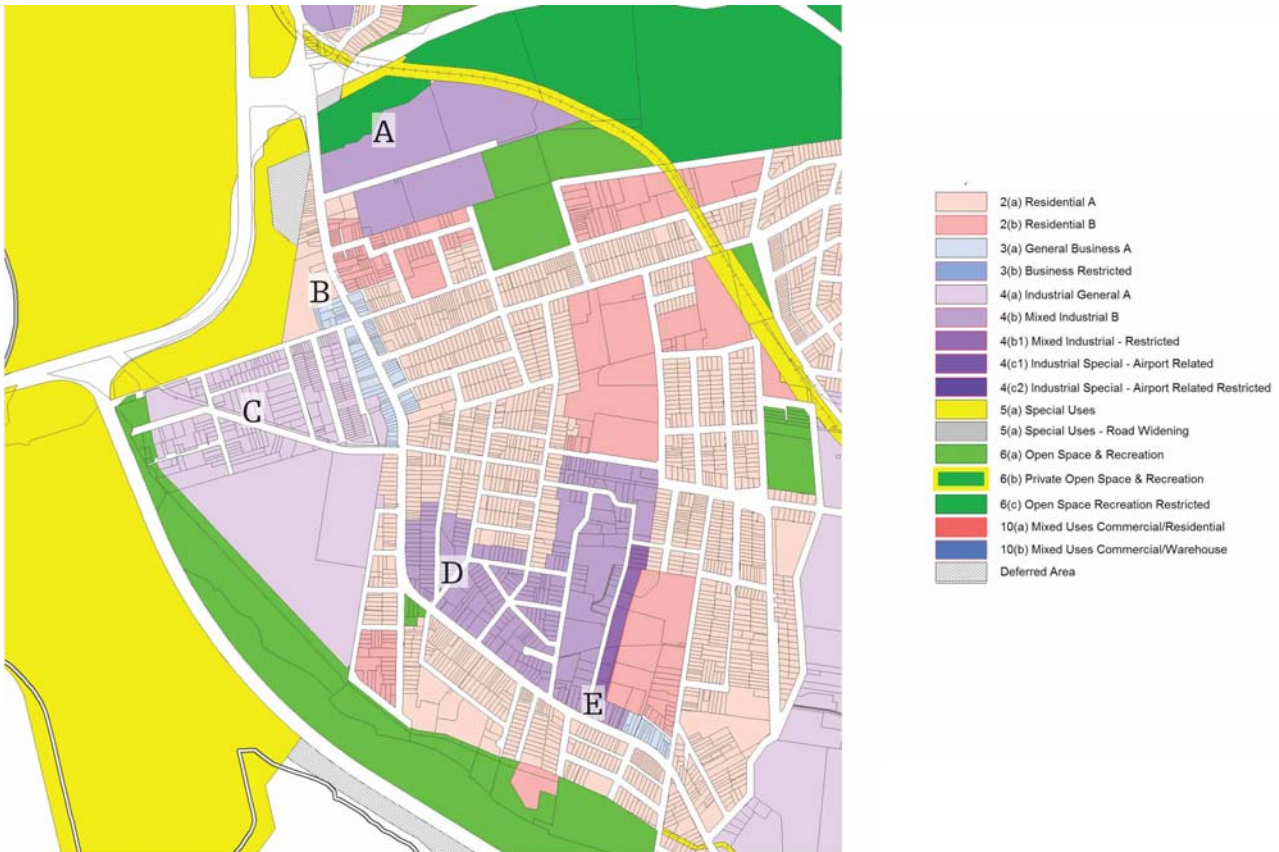
Figure A7: Aerial view Area 3



- A. Lord Street employment precinct
- B. Botany village centre
- C. Hale Street employment precinct
- D. South Botany employment
- E. Banksmeadow village centre

Source: City of Botany Bay 2007

Figure A8: Current Zoning Area 3



Source: City of Botany Bay 2007

Figure A9: Constraints and Opportunities Area 3



Source: City of Botany Bay 2007

Area 3: Botany and Banksmeadow

Constraints and Opportunities

<p>CONSTRAINTS:</p> <ul style="list-style-type: none"> • A large proportion of residential land is subject to ANEF greater than 25 • Botany Road carries substantial traffic and offers poor amenity for pedestrians. • Port expansion may have noise and traffic impacts, particularly at the southern edge of Banksmeadow, and adjacent the freight rail line. • Many existing 2(b) zoned area are either away from centres, close to the freight rail line, and proposed Port expansion, or in areas with ANEF greater than 25. • Many instances of interfaces between industrial and residential land uses. • Some examples of poor interfaces with public open space. • Narrow streets in South Botany limit access. 	<p>OPPORTUNITIES:</p> <ul style="list-style-type: none"> • Opportunity for renewal through employment generation rather than residential intensification given the high residential constraints in this area. • Potential for intensification of employment near traditional centres and along existing public transport routes (in both Botany and Banksmeadow). • Additional residential development near Banksmeadow village will provide additional dwellings, local open space and enhance the viability. • Sir Joseph Banks Reserve provides good quality open space with a range of activities. • New mass transit initiatives (light rail) along Botany Road will improve access in the long term.
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Area 4: Pagewood and Banksmeadow

<p>AREA AND ZONING: Area immediately north of the freight rail line, west of Denison Street, east and south of Botany wetlands. Area: 181 hectares Residential zoned land: 2(a): 38ha (21%); 2(b): 2ha (1%) [Total: 22%] Employment zoned land: 4(a):103ha (57%); 4(b): 9ha (5%) [62%] Open space: 6(c): 25ha (14%) Population (approx.): 2,204 Dwellings (dwellings): 820.</p>	
<p>EMPLOYMENT: The Baker Street employment precinct supports a broad range of industrial land uses. The Banksmeadow industrial area contains predominantly heavy manufacturing uses.</p>	<p>HOUSING: Predominantly detached housing. Some shop-top housing, walk ups near Pagewood neighbourhood centre and villa and townhouses and more recent townhouse and apartment developments at the north western corner of the area.</p>
<p>PUBLIC DOMAIN + OPEN SPACE: The quality of residential streetscapes is generally good. Much Park is located near the centre although on the opposite side of Wentworth Avenue. Many residential areas have interfaces with the Botany Wetlands although there is no public access.</p>	<p>TRANSPORT: Bus routes on Wentworth Avenue provide services to Bondi Junction, Sydenham, Botany, Domestic Airport and Rockdale. Services on Page Street provide connections to Eastgardens, Botany, Mascot and the City (via Rosebery).</p>

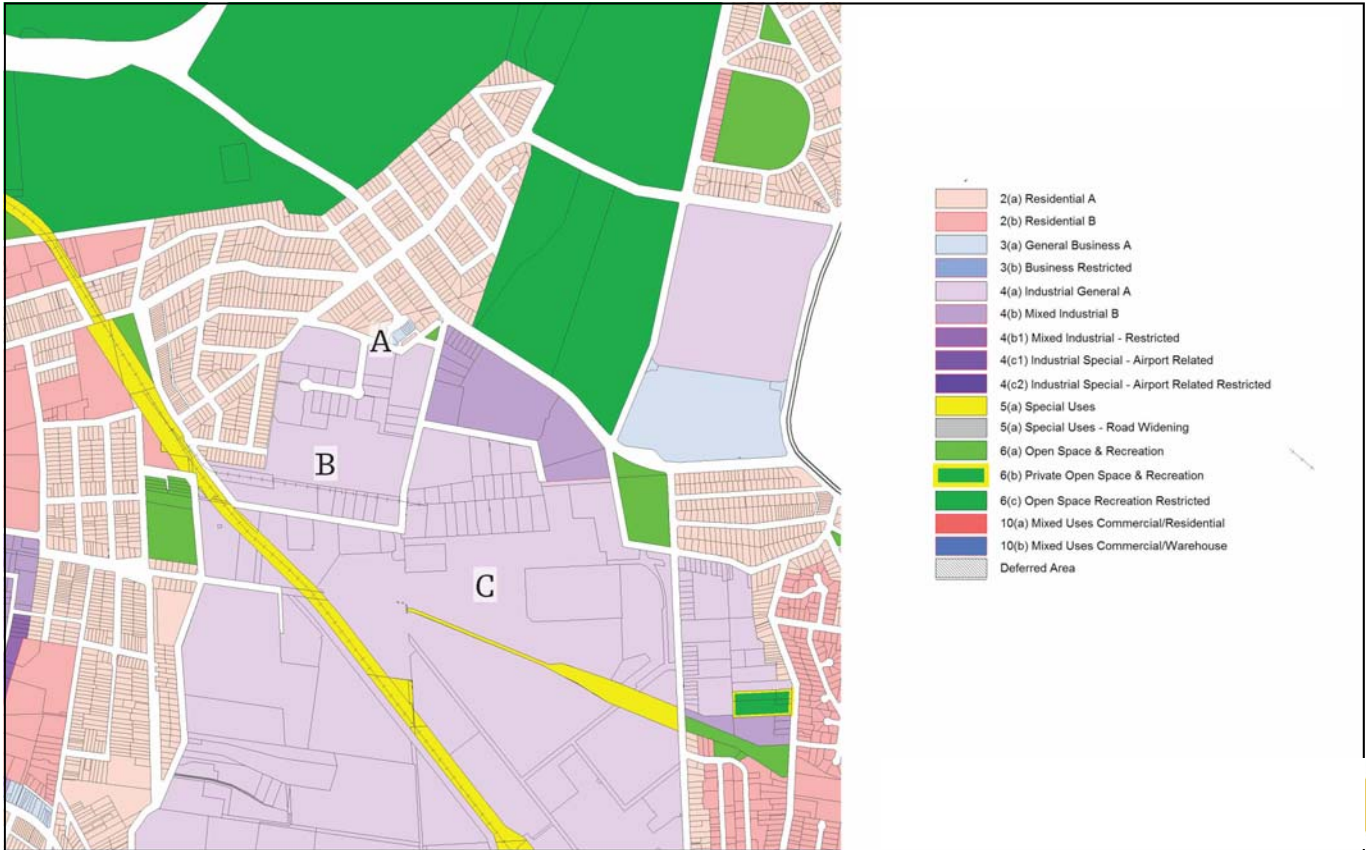
Figure A10: Aerial View Area 4



- A. Pagewood West neighbourhood centre
- B. Baker Street employment precinct
- C. Banksmeadow employment precinct (north)

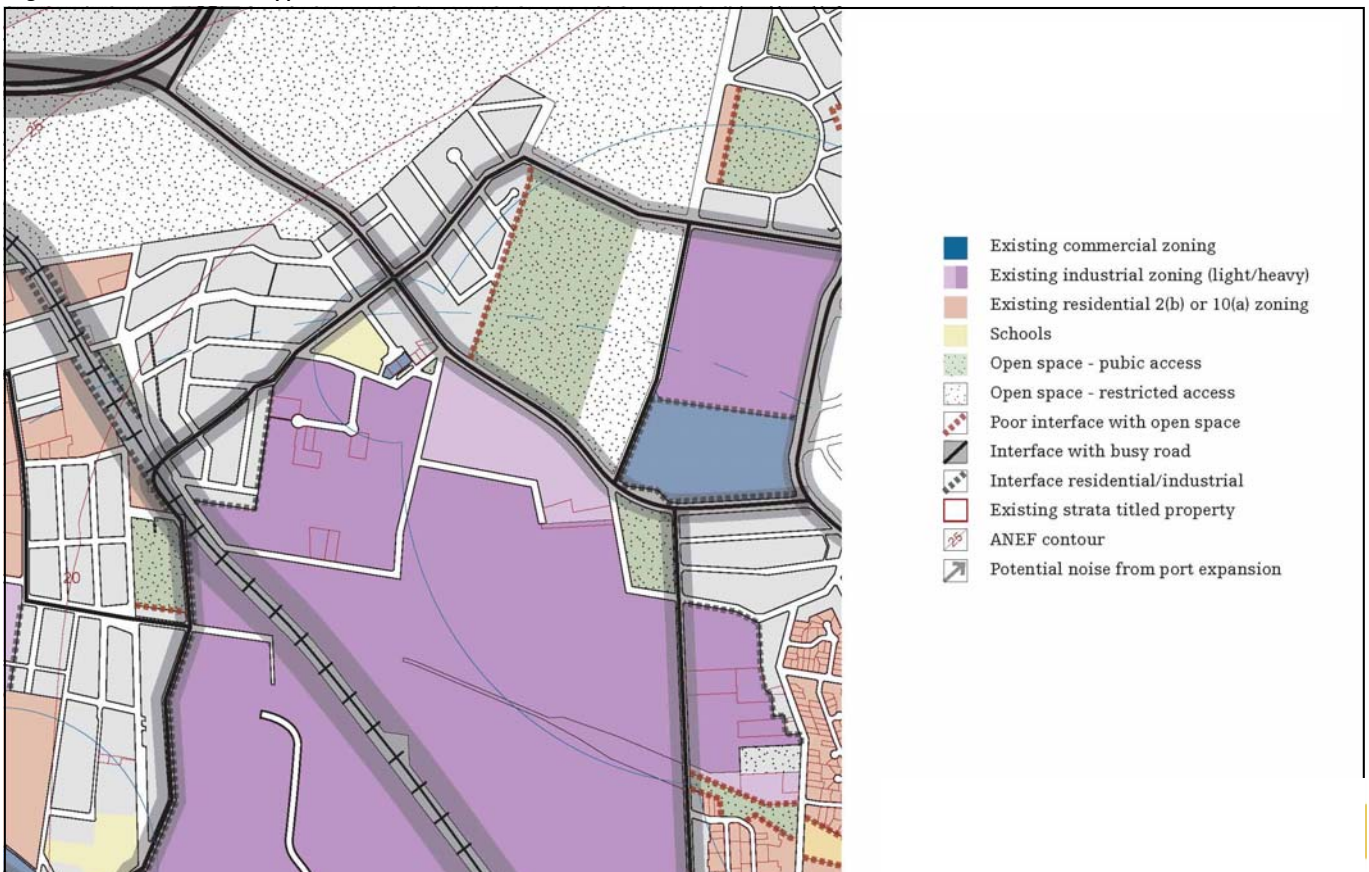
Source: City of Botany Bay 2007

Figure A11: Current Zoning Area 4



Source: City of Botany Bay 2007

Figure A12: Constraints and Opportunities Area 4



Source: City of Botany Bay 2007

Area 4: Pagewood and Banksmeadow

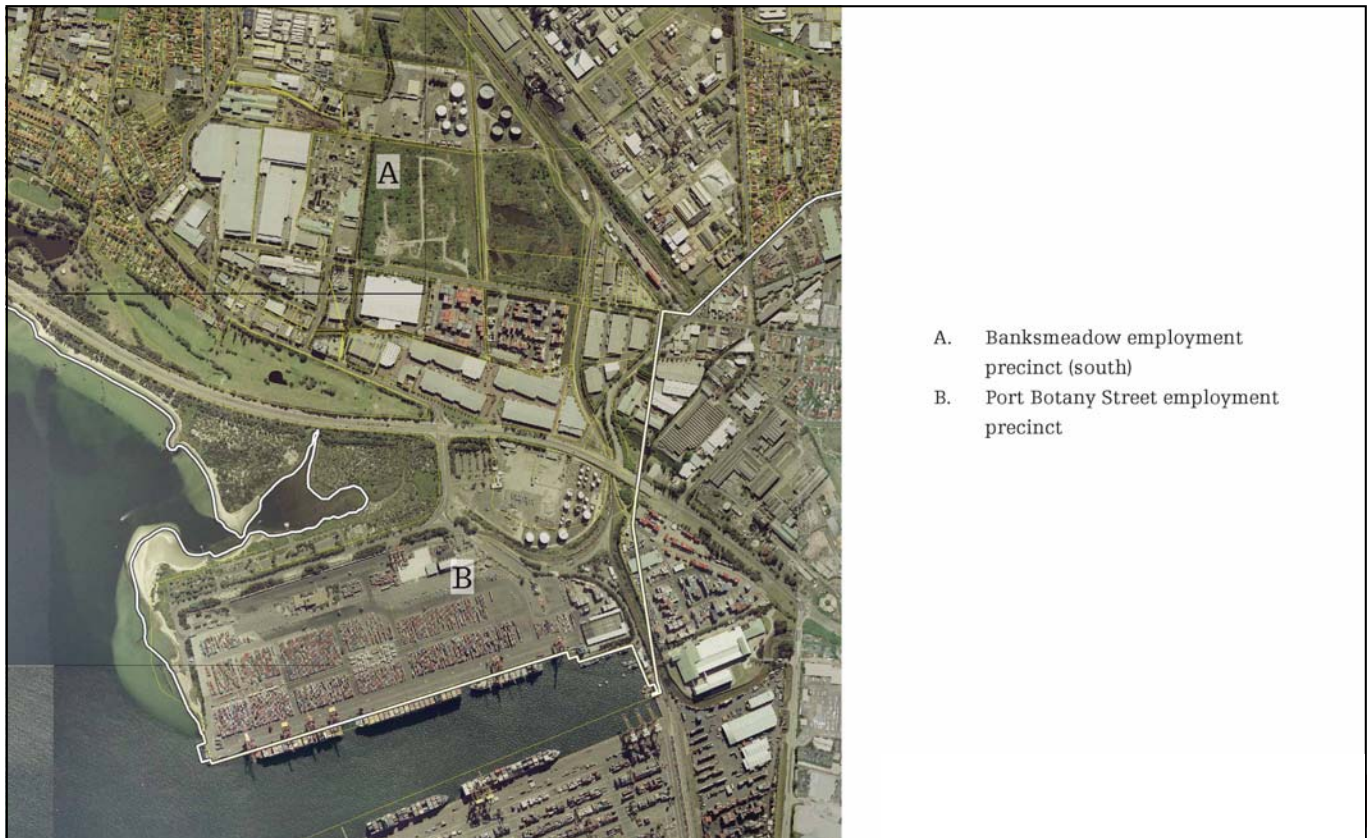
Constraints and Opportunities

<p>CONSTRAINTS:</p> <ul style="list-style-type: none"> • Limited local retail and services. • Some residential properties are close to the freight rail line and industrial land uses. • Limited access to local open space. 	<p>OPPORTUNITIES:</p> <ul style="list-style-type: none"> • All residential land in this area is beyond the current ANEF 20 contour. • Potential for residential intensification near the Pagewood neighbourhood centre and school. • Potential intensification of employment uses nearer the Pagewood neighbourhood centre. • Potential for future access to regional open space (Botany Wetlands).
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Area 5: Banksmeadow and Port Botany

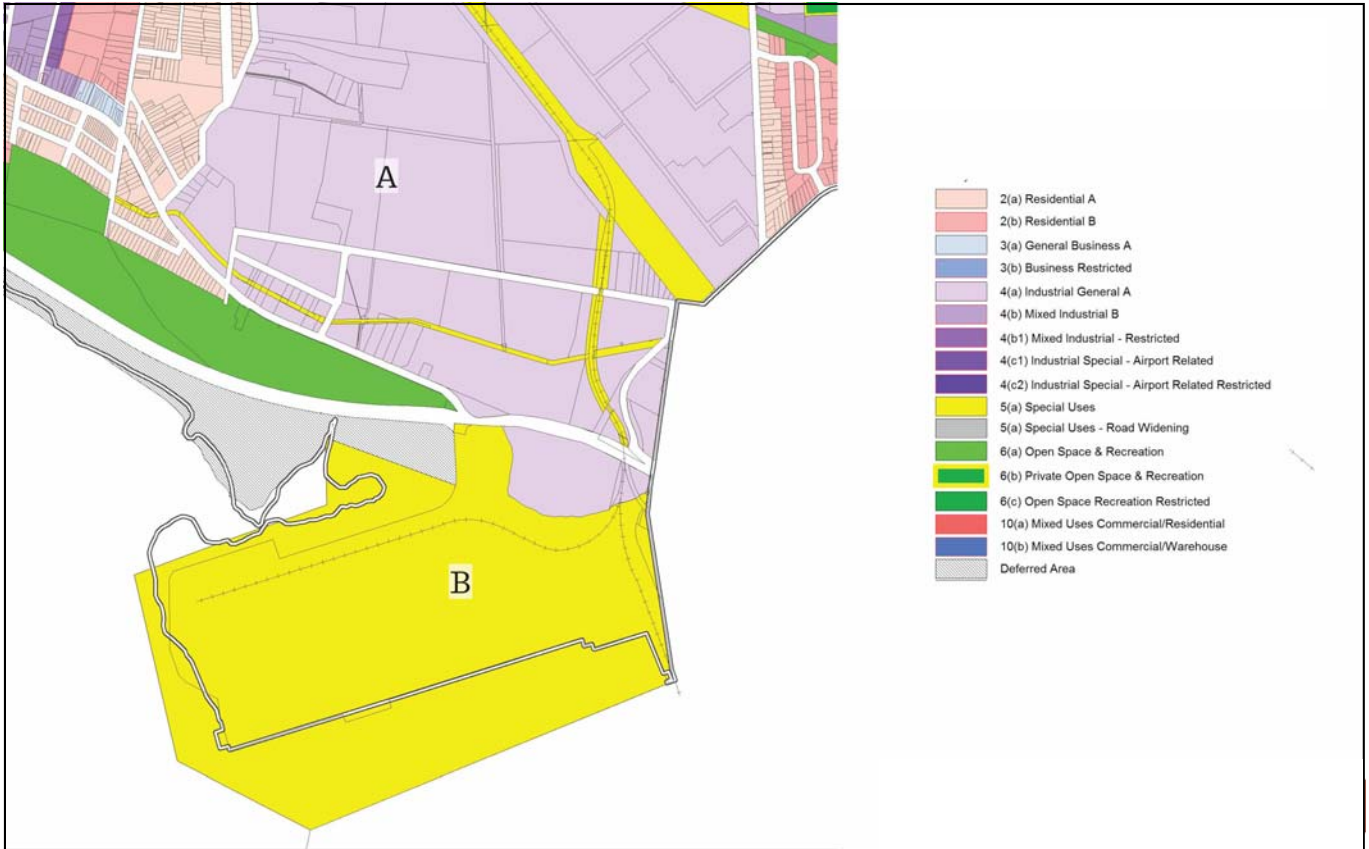
<p>AREA AND ZONING: Area of industrial and Port related land, south of the freight rail line, east of Stephen Road, west of Denison Street. Area: 193 Ha Employment zoned land: 4(a): 60ha (31%); 5(a): 133ha (69%) [100%] Population (approx.): 47; Dwellings (dwellings): 15.</p>	
<p>EMPLOYMENT: The southern portion of the Banksmeadow industrial area contains predominantly freight and logistics uses and some manufacturing. The area of Port Botany within the Botany Bay LGA is entirely devoted to freight and logistics activities.</p>	<p>HOUSING: By nature of the definition of this area it contains no housing. There is however detached housing in the immediate vicinity of Botany Road, Stephen Road and Denison Street.</p>
<p>PUBLIC DOMAIN + OPEN SPACE: Public domain in this area is generally poor. The only open space is the area currently occupied by the Botany golf course, between Foreshore Drive and Botany Road.</p>	<p>TRANSPORT: Bus routes on Botany Road provide services to the city (via Rosebery), Port Botany and Matraville.</p>

Figure A13: Aerial View Area 5



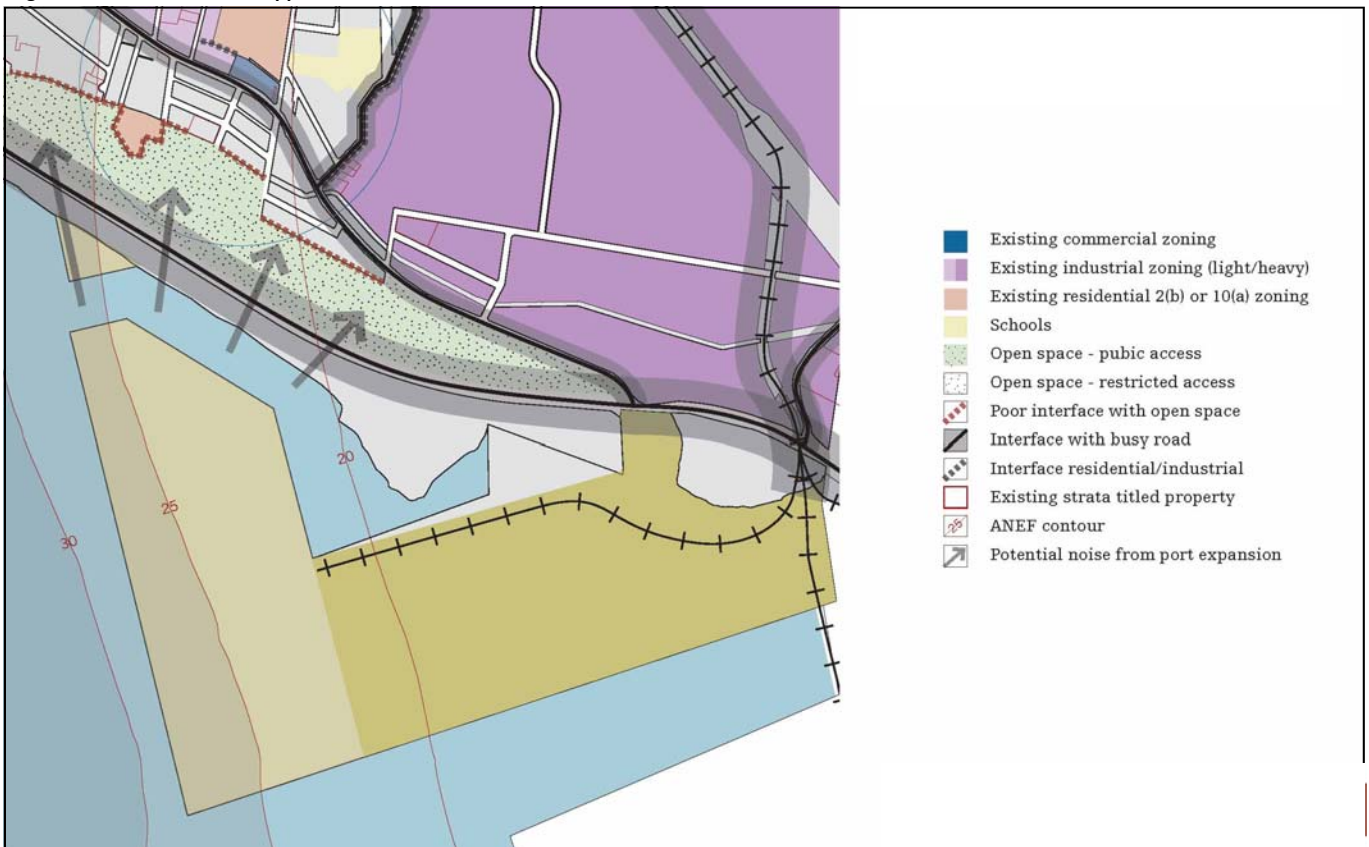
Source: City of Botany Bay 2007

Figure A14: Current Zoning Area 5



Source: City of Botany Bay 2007

Figure A15: Constraints and Opportunities Area 5



Source: City of Botany Bay 2007

Area 5: Banksmeadow and Port Botany Constraints and Opportunities

<p>CONSTRAINTS:</p> <ul style="list-style-type: none"> • Road network is constrained, particularly access to and from McPherson Street to Botany Road (only access to Port Feeder road). • Contamination presently prevents use of large areas of land. • Some residential properties are close to industrial land uses. • Planned expansion of Port facilities likely to introduce additional traffic and congestion to the area. 	<p>OPPORTUNITIES:</p> <ul style="list-style-type: none"> • Potential for intensification of employment uses nearer to Banksmeadow village centre. • Large area of land available in the Banksmeadow industrial area for Port related activities, once remediation has been completed.
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Area 6: Daceyville to Hillsdale

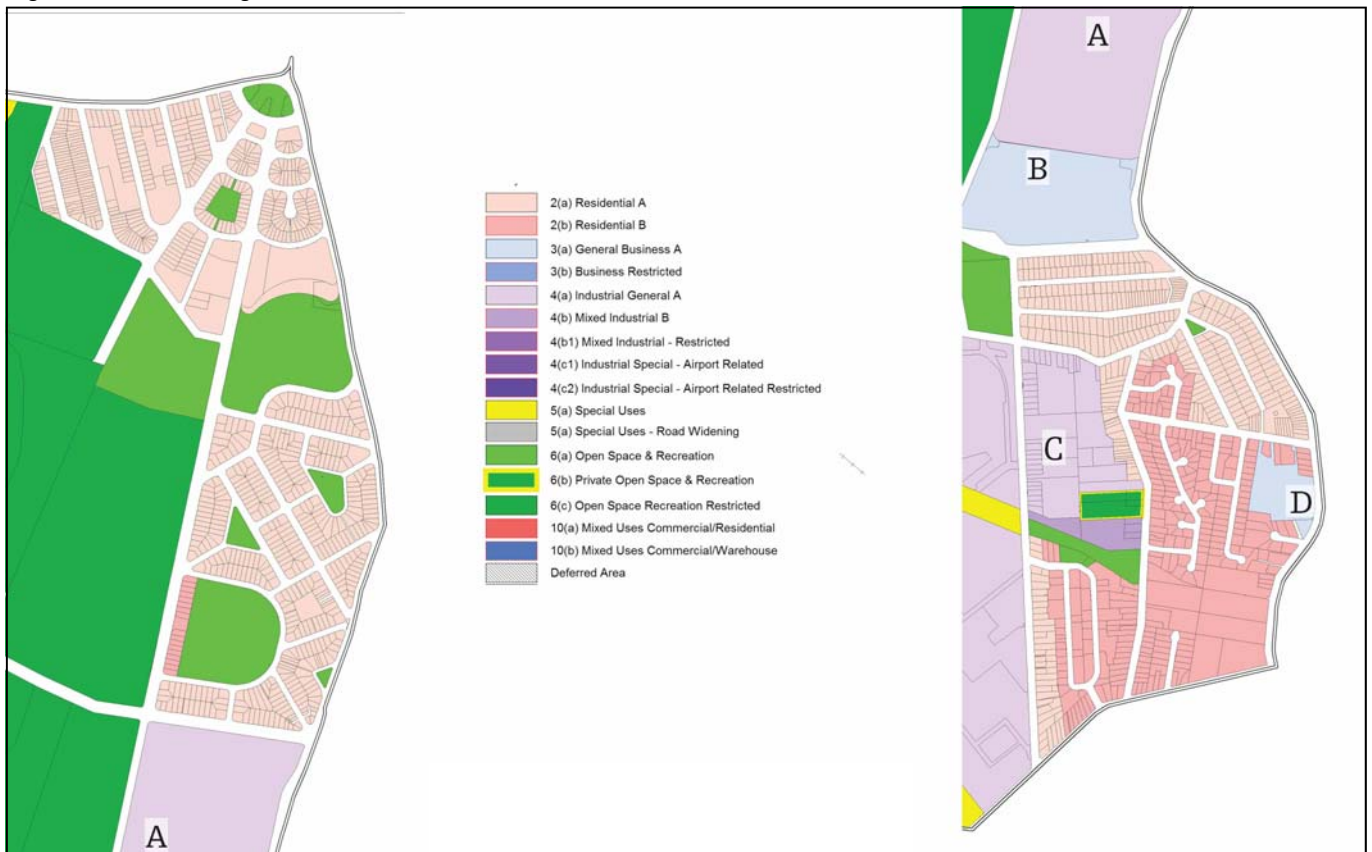
<p>AREA AND ZONING: Area composed of the eastern suburbs of Botany Bay. Area: 163 hectares Residential zoned land: 2(a): 45ha (27%); 2(b): 54ha (33%) [Total: 60%] Employment zoned land: 3(a): 12ha (7%); 4(a): 25ha (15%); 4(b): 2ha (1%) [23%] Open space: 6(a): 25ha (16%) Population (approx.): 8,137; Dwellings (dwellings): 3,636.</p>	
<p>EMPLOYMENT: The Eastgardens and South Point shopping centres are the major areas of economic activity. The British American Tobacco site is an isolated example of manufacturing in the area.</p>	<p>HOUSING: Predominantly detached housing in the northern suburbs on Daceyville and Pagewood with some multi-unit housing. Hillsdale features a large concentration of two and three storey walk-ups with townhouses and detached housing. Interfaces between industrial and residential land uses occur in Hillsdale only.</p>
<p>PUBLIC DOMAIN + OPEN SPACE: The public domain quality of residential areas of Daceyville, Pagewood East and Eastgardens are generally very good and both Daceyville and Pagewood East feature good quality open space. The quality of streetscapes and open space in Hillsdale are generally poor by comparison.</p>	<p>TRANSPORT: The areas is variously served by bus routes on Gardeners Road, Bunnerong Road, Maroubra Road and Wentworth Avenue, providing connectivity to the city (via Kingsford, Rosebery or Anzac Parade), La Perouse, Maroubra Beach, Maroubra Junction, Bondi Junction, Sydenham, Botany, Domestic Airport and Rockdale.</p>

Figure A16: Aerial View Area 6



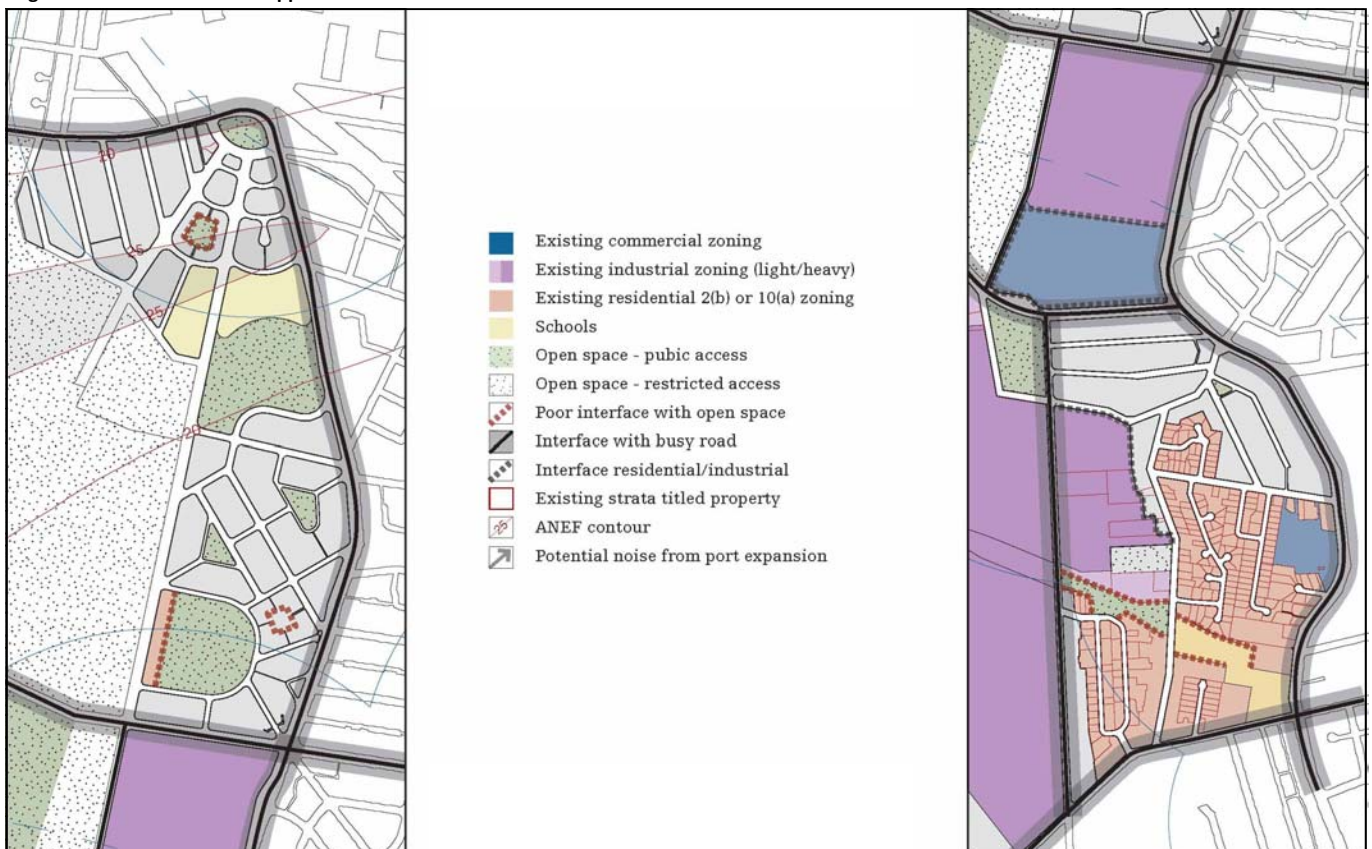
Source: City of Botany Bay 2007

Figure A17: Current Zoning Area 6



Source: City of Botany Bay 2007

Figure A18: Constraints and Opportunities Area 6



Source: City of Botany Bay 2007

Area 6: Daceyville to Hillsdale

Constraints and Opportunities

CONSTRAINTS:

- Busy roads divide the area reducing amenity for pedestrians: Bunnerong Road, Maroubra Road and Wentworth Avenue.
- Poor quality public domain and open space in Hillsdale.
- Shopping centres do not provide civic qualities of traditional centres and are oriented towards car-based visitation (Southpoint, Hillsdale and Eastgardens).
- Heritage status of Daceyville limits opportunities for change.
- Many properties in the Hillsdale centre core are strata-titled.

OPPORTUNITIES:

- The majority of residential land is outside the 25 ANEF contour.
- Good access to the eastern suburbs (centres, transport routes, open space, coast).
- Potential for residential intensification near traditional centres and along main public transport routes.