

Economic impact assessment of rezoning land at Macquarie University

Report prepared for:

CRI

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EXECUTIVE SUMMARY

Macquarie University owns land at North Ryde which accommodates the University's teaching, research and student support needs. The University land accounts for approximately 30 per cent of the total land area contained within the Macquarie Park Corridor.

In addition to meeting the University's projected teaching and research requirements, the land also provides the opportunity for the University to develop commercial partnerships and to assist in meeting the employment objectives of the New South Wales government as set out in the 2005 Metropolitan Strategy. The Ryde Environmental Plan (LEP 137) excludes the majority of the University campus. This limits opportunity for development and does not provide the flexibility required by the University in the changing higher education environment.

This report addresses the economic impacts of the rezoning.

In a first step, we define as our base case the development that would occur in the Macquarie Park Corridor under the LEP without the rezoning of Macquarie University land. The LEP also identifies two substantial sites fronting Delhi Road and the M2 Motorway with deferred zoning that are currently being used as staging sites for the Chatswood to Epping Rail Link. In the future, these sites could be used to for office development and we consider their impact added onto the base case. Thirdly, we then address the nature of economic impacts arising from rezoning of Macquarie University land by comparing the outcome with the two base cases.

The major impacts identified were:

- An easing of Sydney's looming office site shortage.

The shortage has negative implications for rents and the competitiveness of Sydney for office based functions, including the leaking of activity to other cities.

To accommodate forecast office employment (growing at an average rate of 2.0 per cent per annum), Sydney needs an additional 4.2 to 5.5 million square metres¹ of office space over the next 24 years (see Table 2). This contrasts with around 2.1 million square metres of potential floorspace supply if all known vacant zoned land in existing office markets and business/office parks is developed into dedicated office space. Another 350,000 square metres could be supplied out of currently vacant stock, leaving a minimum shortfall over the next 24 years of 1.75 million square metres. However, the potential shortfall could be as high as 3.05 million square metres, depending on the workspace ratio that it is occupied at. The inclusion of the two 'zoning deferred' sites fronting Delhi Road and the M2 Motorway, would reduce the potential shortfall to between 1.6 million and 2.9 million square metres. The totals in the above calculations do not include re-development of currently occupied buildings or those which are vacant but are being advertised for lease. Redevelopment of existing occupied buildings is likely to boost the total floorspace potential over time, but the quantum of net additions produced will be reduced by the withdrawal of the existing buildings from stock.

As shown in Table 1, the land at Macquarie University has the potential to accommodate around 620,000 square metres of dedicated office space in gross floor area terms to 2044, (including 117,000 square metres identified in LEP 137 as immediately available).

¹ All office space figures relate to net lettable area (NLA) except where specified as gross floor area (GFA)

However, over a 24 year horizon to 2031 (i.e. the timeframe of the Metropolitan Strategy Plan), Macquarie University plans to make only about 400,000 square metres available for development. Converting gross floor area to net lettable area, 340,000 square metres will be made available for future office development on the Macquarie University lands (100,000 square metres identified in the LEP 137 and 240,000 square metres on land yet to be rezoned).

Table I: Potential for future office construction at Macquarie University ('000 square metres)

	GFA	NLA @0.85 GFA
Potential on a 37 year horizon (2007 to 2044) ¹	620	525
Potential on a 24 year horizon (2007 to 2031)	400	340
Potential for Macquarie University Land included in current LEP (137) ²	117	100
Potential for Macquarie University Land excluding LEP (137)	285	240
Potential between 2031 to 2044	220	185

¹ Potential office development contained in Campus Development Plan 2004

² Macquarie University Precinct Planning Strategy 2007

On that horizon, the available land at Macquarie University would help to ease Sydney's site shortage by reducing the shortfall of dedicated office space to between 1.36 and 2.66 million square metres. As such, it would help to ease the pressure on rental escalations, assisting Sydney to remain competitive against other cities with regard to office-based functions, while preventing a leakage of activity to other cities. Furthermore, the forecast shortage of dedicated office space over the next 24 years suggests that the additional 220,000 square metres GFA or 185,000 square metres of office space planned at the university over the 13 years to 2044 would be easily absorbed between now and 2031 were it made available.

The shortfall of required office space across the Sydney metropolitan areas presented in this report is substantially higher than our 2005 report, where a total shortfall including Macquarie University land lay between 435,000 and 1.4 million square metres. The main reason behind the large differences is the 24 year horizon adopted as opposed to a 20 year horizon presented in our 2005 report. Some vacant sites have also been developed since 2005, reducing the potential floorspace supply.

- The rezoning of land at Macquarie University would support additional development activity and growth in the Macquarie Park Corridor compared with the base case. Without the availability of sites for dedicated office buildings, development and construction activity could be forced to take place outside Sydney and, most likely, outside New South Wales. We estimate that office development activity for the 240,000 square metres on the yet to be rezoned University land would total around \$605 million, depending on the specification of buildings.

Table 2: Potential for future office construction, metropolitan Sydney, 24 year horizon, (2007 to 2031)

<i>Demand and supply</i>	<i>Office floorspace (sqm[^])</i>			
	<i>Current LEP (137)</i>	<i>Current LEP plus 2 deferred sites*</i>	<i>Incl. Macquarie University land</i>	<i>Inc. Macquarie University land and deferred sites</i>
Net absorption over coming 24 years	4,200,000 to 5,500,000			
Minus Current vacancy above 5 per cent balanced market rate	350,000			
Equals Additional floorspace required over coming 24 years	3,850,000 to 5,150,000			
Potential floorspace supply** All markets excluding Macquarie Park Corridor	1,570,000			
Macquarie Park Corridor	530,000	680,000	770,000 [#]	920,000
Total floorspace supply potential	2,100,000	2,250,000	2,340,000	2,490,000
Minimum shortfall	1,750,000	1,600,000	1,510,000	1,360,000
Maximum shortfall	3,050,000	2,900,000	2,810,000	2,660,000

[^]all figures relate to net lettable area (NLA)

* Two major sites fronting the M2 Motorway and Delhi Road covered by the LEP 137 have their zoning deferred. Currently both sites are being used as staging areas for the Chatswood to Epping Rail Link and represent potential future sites for office development for up to approximately 150,000 square metres.

**vacant sites

[#]includes sites at Macquarie University which could be developed over the next 24 years

- Under the Macquarie University proposal, additional employment would be brought into the Corridor and within close proximity of the planned Macquarie University rail station. Of the extra employment, a significant share would use CityRail for commuting, thus improving the state of New South Wales's return on its investment into the Epping to Chatswood stage of the Parramatta Rail Link and reducing car dependency. As such, car traffic generation would be kept to a minimum, with attendant environmental and economic benefits.

Locating additional office employment near existing infrastructure would also reduce the need for the New South Wales government and local councils to provide extra road and rail infrastructure associated with the development of office precincts in non-established areas. At the same time, the state of New South Wales and private operators would benefit from higher returns on investment in existing and planned toll roads in the region surrounding the Macquarie Park Corridor.

These are important broader economic considerations given the increasing costs to service new employment lands.

- Compared with the base case, the rezoning would contribute to higher revenues for Macquarie University. Revenue from the land and/or leasing of buildings would significantly boost the University's income, which will assist in improving investment in education in the

face of reduced federal government funding. Additional revenue would improve Macquarie University's ability to provide excellence in teaching and research, boosting its attractiveness for interstate and international students. Larger numbers of fee-paying students provide further revenue to the University, while their spending on consumer goods and services would also benefit the local and New South Wales economy.

Increasingly, some organisations need to be located on or adjacent to a university as the two organisations are able to establish mutual beneficial arrangements including research capacity, access to new staff, direction of curricula etc. This is an increasingly competitive market, with other universities in Australia and Asia competing to attract global knowledge-based companies.

The recent announcement by Cochlear Limited to locate their global headquarters on the Macquarie University campus highlights this point. Cochlear has indicated that had they not been able to locate on the Macquarie University campus, they would have chosen a campus location in Brisbane or alternatively in Asia rather than elsewhere within the Sydney metropolitan region. So, the choice for knowledge-based firms is not necessarily "Macquarie University" versus "Homebush"; rather "Macquarie University" versus "Shanghai" or "Brisbane". Thus, the economic implications are associated with *keeping* existing knowledge-based organisations and *attracting* others.

Accordingly, land that is located very close to the University—such as the Macquarie University Research Park—will remain highly sought by businesses dependent on the 'tacit knowledge' and synergies between the two parties.

There may be some further benefits for businesses that relate to clustering. Companies can tap into an existing pool of specialised and experienced capital resources located at the University. The close proximity of the University may also be able to attract specialists to the cluster, who felt that they work for the cluster rather than for one firm alone.

- Under LEP 137, we expect the Macquarie Park Corridor's stock of office space to increase by more than 700,000 square metres or 110 per cent to almost 1.4 million square metres over the coming 24 years, making it Sydney's second largest market for office space after the CBD. At the same time, our forecasts are for the stand-alone office workforce to more than double to about 60,000 people, resulting in net absorption of more than 600,000 square metres of office space. (See Appendix Table A.2). However, by about 2025, all known zoned vacant sites will have been used, with the remainder of the floorspace provided by the rezoning of the two major deferred sites and the re-development of existing high tech industrial buildings.

The additional land at Macquarie University has the potential to boost office floorspace by a further 240,000 square metres over the next 24 years (and another 185,000 square metres at a later stage) and office employment by 14,000 to 18,000 people (25,000 to 33,000 people), depending on workspace ratios. The attraction of the extra workforce would act as a catalyst to attract more business services to the Corridor, underpinning its status as a prime office market. A broader industry base would make the market less susceptible to downturns in individual sectors, thus smoothing the fluctuations in demand.

While we are forecasting a shortage of sites in the next 24 years, more significant problems will emerge in the subsequent years.

1. INTRODUCTION

1.1 Brief

Macquarie University owns land at North Ryde which accommodates the University's teaching, research and student support needs. The University land accounts for approximately 30 per cent of the total land area contained within the Macquarie Park Corridor.

In addition to meeting the University's projected teaching and research requirements, the land also provides the opportunity for the University to develop commercial partnerships and to assist in meeting the employment objectives of the New South Wales government as set out in the 2005 Metropolitan Strategy. The Ryde Environmental Plan (LEP 137) excludes the majority of the University campus. This limits opportunity for development and does not provide the flexibility required by the University in the changing higher education environment.

CRI Australia Pty Ltd has engaged BIS Shrapnel on behalf of Macquarie University to provide an update report (from our earlier 2005 study) addressing the economic impacts of the rezoning.

1.2 Methodology

In order to address the economic impacts we define as our base case:

- The development that would occur in the Macquarie Park Corridor under the LEP without the rezoning of Macquarie University land.

We then discuss the nature of the impacts of rezoning in terms of:

- Sydney's looming office site shortage with its implications for rents, competitiveness of Sydney for office based functions and additional development;
- The locating of office space close to existing infrastructure and services;
- Revenues and funding requirements for Macquarie University and its ability to provide services to students;
- The co-location of Macquarie University and a new office precinct;
- Its improved returns on transport infrastructure investment, and
- The increase in size of the Macquarie Park Corridor office market.

1.3 Definitions

- Throughout the report, office space figures relate to 'net lettable area' (NLA) unless otherwise specified.
- All estimates of potential office space at Macquarie University were derived by applying the principles of the Ryde Environmental Plan (LEP) to Macquarie University land where it currently falls within the LEP, or the estimates contained within the Campus Development Plan 2004.

2. ECONOMIC IMPACTS

2.1 Economic impacts on surrounding land uses

Predominant land uses in the area surrounding the University site are business special (R&D, employment, mixed activity), university, and open space (as identified in LEP 137), and residential.

The economic impact of the additional development at the University on surrounding land uses will be proportionate to the amount of development expected to occur as a result of LEP 137.

The additional office employment of an extra 14,000 to 18,000 people (see Section 2.5) at the University site would stimulate demand for the products and services of existing local businesses—particularly retailers and other service providers. It would also result in additional ticket sales for the PRL (see Section 2.2) and bus transport, although the providers are not necessarily local. Both impacts would be proportionate to the growth in employment (30,000+ between now and 2031) already taking place as a result of new planning controls introduced with LEP 137.

Under current development controls, the economic impact on *residential* land use surrounding the University site—and the area covered by LEP 137—is likely to be negligible. The only stimulus would be an increase in demand for goods and services from existing local businesses such as corner shops and cafes. Demand for accommodation is likely to grow—again proportionate to that already taking place due to LEP 137—although University students are more likely to be the prime source of demand. Overall, a local economic effect would be felt if residential development controls were to allow for higher densities.

Additional employment at the University would benefit the operators of the M2 (see Section 2.2). We estimate that the increase in car traffic would be proportional to that already occurring as a result of employment growth under LEP 137.

2.2 Easing Sydney's looming office site shortage

Sydney faces a looming office site shortage, which will place strong upward pressure on rents, with negative implications for the competitiveness of Sydney for office-based functions, including the leaking of activity to other cities. The location of back-office functions, particularly for companies operating nationally, is cost sensitive. Rents constitute a significant proportion of these costs. Higher rents in Sydney compared with other locations would be a significant factor in determining the location of these facilities. Melbourne, which has an abundance of lower cost land available for development, saw a recovery in demand for office space early than Sydney with strong net absorption in 2005 and 2006 before easing over the last 12 months. On the other hand, demand for office space in Sydney has been relatively weak for much of this decade, only really picking up some momentum in the last two years.

Additional land at Macquarie University would help to ease Sydney's site shortage and contribute to lower escalations in rents. As a result it would maintain Sydney's competitiveness and reduce the likelihood that organisations may consider opportunities in other cities. Furthermore, it would support additional development activity and growth in the Macquarie Park Corridor when compared with the base case.

Demand for office space

According to our forecasts of office employment growth, the Sydney metropolitan area will need an additional 4.2 to 5.5 million square metres (see Table 2.1) of dedicated office space over the

next 24 years. The range of demand estimates accords with a range of workspace ratios between 13 and 17 square metres per person.

At December 2007, we estimate vacancies across metropolitan Sydney amount will be around 900,000 square metres or 8.1 per cent of total office stock. Reducing the metropolitan vacancy rate to 5 per cent means that 350,000 square metres could be used to satisfy future demand. On our forecasts that means that Sydney still needs between 3.9 and 5.2 million square metres of additional dedicated office space between now and 2031.

Our calculations of demand are based on 15 year forecasts contained in our *Sydney Commercial Property 2007 to 2021* and *Sydney Suburban Centres and Office Parks 2007 to 2021* studies, extended by another ten years to 2031. It averages out at an annual growth rate of 2.0 per cent in the stand-alone office workforce, i.e., people working in dedicated office buildings. That compares with an average rate of 2.5 per cent per annum between 1972 and the end of December 2006.

We further assumed that reductions in workspace ratios will moderate the underlying demand for office space. At present, we estimate the average metropolitan-wide workspace ratio is around 18.8 square metres per person. New buildings are typically engineered to accommodate workspace ratios as low as 12 square metres, while new fitouts commonly provide for around 13 to 15 square metres per person. However, actual workspace ratios are higher as tenants frequently put aside some expansion space when they first move in and rarely work to maximum specifications. In the case of organisations that might be attracted to the Macquarie University campus—and Cochlear is a case in point—it is likely that workspace ratios achieved will be higher than the metropolitan average, as the projects are likely to comprise a mix of uses with a higher component of laboratory or research space and potentially a manufacturing component also. This will mean that such projects will require a greater floorspace to accommodate the same level of staff.

Supply of office sites

Given a best case scenario of developing all known vacant zoned land in existing office markets and business/office parks, we estimate that we can build another 2.1 million square metres of office space across Sydney over the next 24 years (see Table 2.1). The inclusion of two major sites at Macquarie Park that have their zoning 'deferred' would boost this potential to about 2.25 million square metres.

Amongst individual submarkets:

- The *CBD* has only a couple of sites left capable of accommodating new office buildings. We estimate that they have the capacity to provide an additional 290,000 square metres of space. This estimate is less than half the 630,000 square metres suggested in our 2005 report. The reduction lies in the clarification of plans at Barangaroo (East Darling Harbour) and previously vacant sites being developed over the last two years. Previously, we assumed the 22 hectare Barangaroo site could accommodate 500,000 square metres of dedicated office space. However, the current plans propose only around 200,000 square metres of office space will be developed and there are doubts over whether this potential could be fully realised given its location away from mass public transport.
- *North Sydney*, *St Leonards* and *Chatswood* share the CBD's space constraints, with very few development sites left. Most of the sites left over from the late 1980s boom and early 1990s bust were taken up for residential development, limiting the potential of future office development. In *St Leonards*, potential office development increased by some 90,000 square metres compared to our previous 2005 survey to 140,000 square metres with the

Table 2.1: Potential for future office construction, metropolitan Sydney

<i>Demand and supply</i>	<i>Office floorspace (sqm[^])</i>			
	<i>Current LEP (137)</i>	<i>Current LEP plus 2 deferred sites*</i>	<i>Incl. Macquarie University land</i>	<i>Inc. Macquarie University land and deferred sites</i>
Net absorption over coming 24 years	4,200,000 to 5,500,000			
Minus Current vacancy above 5 per cent balanced market rate	350,000			
Equals				
Additional floorspace required over coming 24 years	3,850,000 to 5,150,000			
Potential floorspace supply**				
CBD (including East Darling Harbour)	290,000			
North Sydney	40,000			
St Leonards	140,000			
Chatswood	60,000			
Parramatta	150,000			
South Sydney/Mascot	370,000			
Pymont/Ultimo	50,000			
Olympic Park/Australia Centre	110,000			
Rhodes	40,000			
Norwest	270,000			
Other office/business parks	50,000			
Macquarie Park Corridor	530,000	680,000	770,000 [#]	920,000
Total floorspace supply potential	2,100,000	2,250,000	2,340,000	2,490,000
Minimum shortfall	1,750,000	1,510,000	1,435,000	1,360,000
Maximum shortfall	3,050,000	2,810,000	2,735,000	2,660,000

[^]all figures relate to net lettable area (NLA)

*Two major sites fronting the M2 Motorway and Delhi Road covered by the LEP 137 have their zoning deferred. Currently both sites are being used as staging areas for the Chatswood to Epping Rail Link and represent potential future sites for office development for up to approximately 150,000 square metres.

**vacant sites

[#]includes sites at Macquarie University which could be developed over the next 24 years

inclusion of land surrounding the Royal North Shore Hospital and the proposed Gore Hill Technology Park.

In St Leonards and Chatswood, vacancies are not always a good indicator of demand strength, as both are relatively small markets susceptible to large tenant movements.

- CBD fringe areas such as *Pymont & Ultimo*, *South Sydney* and *Mascot* will continue to provide some office space. In Pymont and Ultimo, there are a number of sites left that could accommodate new, modern office space, although competition with alternative uses such as mixed use or residential projects could see some sites lost. Potential also exists for

the conversion of old warehouses, although this is declining with most of the larger stores already developed.

- To the south, Mascot has some sites left in the vicinity of Mascot station and at the airport. Most businesses locating in the area are airport related, with few 'traditional' office space users prepared to locate that far away from the City. Access charges to railway stations also act as a deterrent for staff.

South Sydney has the potential to accommodate a sizeable amount of office space in the future, but many sites are still occupied by a mix of industrial uses. The largest vacant sites or sites with empty/derelict buildings include the Australian Technology Park at Eveleigh, Victoria Park (in the larger Green Square precinct), land surrounding the airport, the proposed Cooks Cove Business Park at Arncliffe and the former CUB site at Chippendale. The lack of critical mass and a clearly defined precinct are likely to prevent South Sydney from becoming a recognised office market this decade and for much of next decade.

We estimate vacant zoned sites or major sites with empty/derelict buildings on them have the potential to accommodate about 370,000 square metres of office space. The inclusion of Victoria Park, the Cooks Cove Business Park and the CUB site more than tripled the potential office development in the region when compared to our 2005 report.

- *Parramatta* is the only established major office market in the Sydney region that has several sites left and thus a large potential for future office development. We estimate that the Parramatta CBD has the potential to accommodate another 150,000 square metres of stock if no further sites are consumed by residential development.
- Under the LEP 137, we estimate that the *Macquarie Park Corridor* could accommodate another 530,000 square metres of office space if all vacant sites (including under-developed sites such as carparks) and those with empty and/or derelict buildings were to be developed into pure office space. This potential increases to 680,000 square metres if the two deferred zoning sites on the M2 Motorway and Delhi Road are included. LEP 137 aims to increase the densities around the railway stations by increasing FSR's within close proximity.
- We estimate that Sydney's business/office parks could accommodate up to 470,000 square metres of office space. The majority of this potential resides at Norwest Business Park in Baulkham Hills. The release of the final stage at the park has increased the potential office space development dramatically to about 270,000 square metres.

Olympic Park/Australia Centre has a number of identified sites that have the potential to accommodate a further 110,000 square metres of office space surrounding the existing sporting infrastructure. Rhodes and Sydney's remaining office/business parks are estimated to provide another 90,000 square metres of potential office space.

The shortfall

Taking the LEP 137 as it currently stands (excluding the two major deferred sites) results in a shortfall of 1.75 million to 3.05 million square metres of floorspace over the coming 24 years, but the deficit could be greater. The larger the deficit, the stronger the upward pressure on rents, which in turn places Sydney at a competitive disadvantage against other cities, with more affordable and plentiful office development sites.

Furthermore, scarcity of sites increases the likelihood of strong boom/bust construction cycles, such as occurred during the 1980s/early 1990s. Much of the overbuilding and over-investment in the last boom and bust was the result of site shortages during the 1980s, which led to pent-up demand as sites were consolidated, to higher rents and capital values, and to a stronger construction cycle at the end.

The future shortage means that the next 24 years will be problematic. However, the real problem will hit in the subsequent 20 years or so. The strength of underlying demand should be similar to that of the previous two decades, which will lead to an acute shortage of developable land.

Inclusion of land at Macquarie University

The inclusion of land at Macquarie University would help to ease Sydney's site shortage by providing another 425,000 square metres of potential floorspace. On a 24 year horizon, land at Macquarie University could provide up to 240,000 square metres, reducing the shortfall of dedicated office space to between 1.51 and 2.81 million square metres.

Metropolitan-wide vacancy rates of 6 per cent or lower are likely to result in strong rental growth. The availability of additional sites for office development at Macquarie University would help to ease the pressure on rental escalations, by providing the scope to add new stock. It would assist Sydney in remaining competitive against other cities with regard to office based functions, while preventing a leakage of activity. The contribution Macquarie University can play is especially important with respect to the knowledge-based economy.

Furthermore, the land inclusion would support additional development activity and growth in the Macquarie Park Corridor when compared with the base case. Without the availability of sites for dedicated office buildings, development and construction activity could be forced to take place outside Sydney and, most likely, outside New South Wales. We estimate that development on the yet to be rezoned land at Macquarie University activity would total around \$605 million², depending on the exact specification of buildings.

Employment growth under the 2005 Sydney Metropolitan Strategy

In December 2005, the New South Wales government released the Sydney Metropolitan Strategy, a planning framework for the metropolitan area over the next 25 years. A key element of the Strategy relating to employment was the 'Global Economic Corridor' stretching from North Sydney to Macquarie Park in the north and from the city to the airport and Port Botany in the south. It is within this global arc that substantial jobs growth is to be promoted between now and 2031.

According to the Strategy, over the 30 years to 2031 up to 500,000 additional jobs are projected in Sydney, with about 50 per cent expected to be located in Western Sydney and 30 per cent (or 150,000) planned to be accommodated within the 'Global Corridor'. Macquarie Park is identified as a Specialised Centre with a vital economic and employment role within the Sydney metropolitan area (Cox, 2006).

² Source: Rawlinsons Australian Construction Handbook, 2007 edition. Calculation based on average construction cost of 4 to 7 storey office building in Sydney, upper limit of standard office fitout plus basis workstations.

The *Inner Northern Subregion Draft Subregional Strategy* (2007) reiterated the importance of Macquarie Park in terms of its economic and employment role within the Sydney metropolitan area. As part of its role in accommodating future employment growth, Macquarie Park's employment capacity target for 2031 was increased to 55,300 people or some 23,100 more than in 2001.

While we envisage that existing vacant lands within Macquarie Park are likely to accommodate the Metropolitan Strategy employment targets over the forecast horizon, the University lands would in all probability be needed in order to meet the targets for the residual 'Global Corridor'.

2.3 Locating office space with existing infrastructure

Under the 2005 Metropolitan Strategy a key transport objective is provide access to jobs and services in the global economic corridor and direct public transport linking areas where jobs are concentrated. The New South Wales government has recognised the need for mass public transport in the fast developing Macquarie Park Corridor with construction of the Epping to Chatswood stage of the Parramatta Rail Link (PRL). The Parramatta to Epping stage has been deferred indefinitely.

Not only will the land at the Macquarie University well placed to accommodate 'spill over demand' for office space from Macquarie Park once its capacity is reached, but the area is well suited to satisfy this transport objective. The university is in close proximity to the orbital road network and will have its own dedicated train station in the soon to be completed Chatswood to Epping rail line.

The Chatswood to Epping rail line will not only improve access to the area but is expected to significantly reduce car dependency as well.

Under the Macquarie University proposal, additional employment would be brought into the Corridor and within close proximity to the planned Macquarie University rail station. Of the extra employment, a significant share would use CityRail for commuting, thus improving the state of New South Wales's return on its investment in the PRL.

Locating additional office employment near existing infrastructure would also reduce the need for the New South Wales government and local councils to provide new infrastructure. No extra roads would need to be built with only minor road upgrades expected to be necessary.

The state of New South Wales and private operators would also improve their return on investment on new road infrastructure in the region surrounding the Macquarie Park Corridor. In particular, those employees unable to utilise the Epping to Chatswood rail line or preferring to travel by car will continue to pay tolls when using the M2, the M7 (Westlink), and the Lane Cove Tunnel. A future F3 link would also be likely to attract a toll to underwrite construction.

2.4 Impact on Macquarie University and government

Compared with the base case, the proposal would contribute to higher revenues for Macquarie University. Income from the leasing of land and buildings would significantly boost the University's income. At the same time, it would reduce its reliance on federal government funding.

The additional revenue would improve Macquarie University's ability to provide excellence in teaching and research. Investment in new facilities, staff and research projects boosts its attractiveness to interstate and international students, with larger numbers of fee-paying students providing further revenue.

Apart from the University and the Federal government, the New South Wales government would also benefit under the proposal. Additional employment at the University would bring an increase in payroll tax revenue.

Further, under the Macquarie University proposal, New South Wales and the regional economy surrounding the University would benefit from higher consumer spending by the additional interstate and overseas students.

2.5 Impact of co-locating Macquarie University and office precinct

Increasingly, some organisations need to be located on or adjacent to a university as the two organisations are able to establish mutual beneficial arrangements including research capacity, access to new staff, offering of scholarships and bursaries, direction of curricula etc. The extent of that depends on how much their business model derives from the exchange of 'tacit knowledge' that is bound up in face-to-face contact. Spillovers do occur between corporations, institutions and other participants in the innovation process when they are in close proximity. Accordingly, some of the proposed land that is located very close to the academic core will remain highly sought by businesses dependent on 'tacit knowledge'.

As highlighted earlier, the recent decision by Cochlear to locate their global headquarters on the Macquarie University campus highlights this point. Were they unable to locate on the campus, they would have chosen a location either in another city's university campus or in Shanghai. Their choice was based on the 'partnership' opportunities that could be created between the university and Cochlear.

There can also be benefits for businesses wishing to locate in close proximity to the University that relate to clustering. The Macquarie Park Corridor has now developed into a significant technology-oriented precinct with many businesses having strong links to the University, particularly in the Macquarie University Research Park. Companies can tap into an existing pool of specialised and experienced capital resources located at the University. The close proximity of the University may also be able to attract specialists to the cluster, who felt that they actually work for the cluster rather than for one firm alone.

2.6 Impact on the Macquarie Park Corridor office precinct

Under LEP 137, we expect the Macquarie Park Corridor's stock of office space to increase by more than 700,000 square metres or 110 per cent to almost 1.4 million square metres over the coming 24 years, making it Sydney's second largest market for office space after the CBD. At the same time, the stand-alone office workforce will more than double to about 60,000 people, resulting in net absorption of more than 600,000 square metres of office space.

However, in 17 years time all known zoned vacant sites will have been used, with the remainder of the floorspace provided by the rezoning of the two major deferred sites and the re-development of existing high tech industrial buildings. The real problem is the following 20 years.

The additional land at Macquarie University has the potential to boost office floorspace by a further 240,000 square metres over the next 24 years (and another 185,000 square metres at a later stage) and office employment by 14,000 to 18,000 people (25,000 to 33,000 people), depending on workspace ratios. The attraction of the extra workforce would act as a catalyst to attract more business services to the Corridor, underpinning its status as a prime office market. A broader industry base would make the market less susceptible to downturns in individual sectors, thus smoothing the fluctuations in demand.

Demand for office space in the Macquarie Park Corridor will be underwritten by the strength of metropolitan-wide employment growth, as well as 'overflow' demand that cannot be satisfied by other submarkets for reasons of space constraints and/or cost of accommodation. However, demand for office space is cyclical, its strength generally corresponding to growth in the economy.

Short term outlook for the Macquarie Park Corridor office market

The Macquarie Park Corridor office market is in the midst of a strong construction phase, driven by strengthening demand across the metropolitan area.

We expect a substantial increase in the stand alone office workforce and net absorption in North Ryde this year and next year, underpinned by a number of major tenants moving into pre-committed developments. The relocation of Optus and Sonic Health Care, among others is expected to underwrite net absorption of the order of 120,000 square metres this year, with net take-up of more than 70,000 square metres next year.

The North Ryde area remains popular with the IT&T sector and bio-technology and research companies and we expect these sectors to be key drivers of demand over the short term as part of solid growth forecast for business services. In addition, demand has come from a wider range of businesses in recent times, attracted by lower accommodation costs for quality stock compared with the CBD and other major North Shore centres and the benefits of clustering with like businesses. The removal of the requirement of companies to have a research and development function (with the exception of the Riverside Corporate Park) will see North Ryde's tenant base expand to include more of the 'traditional' office users over time.

Based on the high level of pre-commitments already achieved for most of the projects under construction in North Ryde, we expect that net absorption will keep pace with net additions, marginally reducing vacancies in the market (as a proportion of stock) next year.

On the supply side, 12 new office buildings currently under construction or recently completed will provide just over 200,000 square metres of office space by the end of 2008. The largest is the 84,000 square metres Optus campus on Lyon Park Road. Most new buildings in the current round of projects have been underwritten by pre-commitments, although some projects have commenced without securing a tenant.

Another 10 to 14 new projects could proceed in the short term subject to financial feasibility/pre-commitment, including four at the Riverside Corporate Park, at least two at the Macquarie University Research Park and the remainder at Macquarie Park. However, with market rents still lagging pre-commitment rents, we expect most developers to delay projects until a major pre-commitment is secured. This is likely to result in a reduction in completions in the market (and indeed throughout the metropolitan market) through 2009 and 2010.

Longer term outlook for the Macquarie Park Corridor office market

According to our forecasts, demand for office space will weaken across the metropolitan area in 2009 and 2010 in response to a mild set back to the New South Wales economy. This will also have an impact on the Macquarie Park Corridor, with a weakening in net absorption further delaying (metropolitan wide) commencements.

In the early years of next decade, we forecast demand for office space in Sydney to recover strongly as the New South Wales economy enters a strong growth phase. The delay in commencements in 2009 and 2010 will see the metropolitan office market tighten significantly, pushing up rents. The shortage of sites in the CBD and major north shore markets will force tenants to look at alternative locations to fulfil their accommodation requirements.

Of the major office markets, only Parramatta and the Macquarie Park Corridor are capable of capturing significant overflow demand because they offer plenty of sites. In that context, the Macquarie Park Corridor is well positioned to increase its share of metropolitan office stock. Beyond that, tenants would need to seek accommodation on the CBD fringe, smaller suburban centres or business/office parks. The Macquarie Park Corridor's prospects of capturing overflow is further boosted by the fact that Parramatta is seen by many CBD and North Shore tenants as being too far from the CBD, especially for those businesses which need to be closer to clients located in the city centre.

By 2025 we expect the Macquarie Park market will approach capacity under LEP 137. The inclusion of the two major deferred sites facing the M2 Motorway and Delhi Road will assist in easing the capacity squeeze for about four years to about 2029, however, large scale re-development will still be necessary to realise the Corridor's full potential. That means that the inflow of new employment may be constrained by the availability of suitable development sites. The probability of this scenario increases when looking at a 24 year horizon when, according to our forecasts, net additions to stock will have exceeded 700,000 square metres for a total floorspace stock of almost 1.4 million and total stand-alone office employment will be more than double the current level (see Table A1 in the Appendix).

While the timing and magnitude of the cyclical demand and construction may turn out to be a little different from our forecasts, the magnitude of office space required over the 24 year period will depend on growth in the Australian, New South Wales and Sydney economies.

3. CONCLUSION

In order to address the economic impacts of the proposed rezoning of Macquarie University land we defined as our base case the development that would take place in the Macquarie Park Corridor LEP 137 without the inclusion of rezoned land.

Our analysis reveals the following impacts:

- Predominant land uses in the area surrounding the University site are business special (R&D, employment, mixed activity), university, and open space (as identified in LEP 137), and residential. The economic impact of the additional development at the University on surrounding land uses will be proportionate to the amount of development expected to occur as a result of LEP 137.
- The rezoning of land at Macquarie University would ease Sydney's looming office site shortage by bringing an additional 240,000 square metres of potential floorspace to the market. As such, it would help to ease upward pressures on rents, assisting Sydney in remaining competitive against other cities with regard to office-based functions, while preventing a leakage of economic activity. Furthermore, given the forecasts shortfall of office space by 2031 of between 1.51 and 2.81 million square metres, it is highly likely that the potential for a further 185,000 square metres of office space planned at Macquarie University over the 13 years to 2044 will be needed between now and 2031.
- The rezoning of land at Macquarie University will also assist in meeting the employment and transport objectives of the 2005 Sydney Metropolitan Strategy. According to the Strategy, over the 30 years to 2031, up to 500,000 additional jobs are projected in Sydney metropolitan area, with about 30 per cent (150,000) planned to be accommodated in the 'Global Corridor' from Macquarie Park to Port Botany. As part of its role in accommodating future employment growth, Macquarie Park's employment capacity target for 2031 was increased to 55,000 people or some 22,700 (70 per cent) more than in 2001. While we envisage that existing vacant lands within Macquarie Park are likely to accommodate the Metropolitan Strategy employment targets over the forecast horizon, the University lands would, in all probability be needed in order to meet the targets for the residual 'Global Corridor'.

A transport objective of the Metropolitan Strategy is to provide access to jobs and services in the global economic corridor and direct public transport linking areas where jobs are concentrated. Not only will the land at the Macquarie University be needed to accommodate 'spill over demand' for office space from Macquarie Park over the next 24 years, but the area is well suited to satisfy this transport objective. The University is in close proximity to the orbital road network and will have its own dedicated train station in the soon to be completed Chatswood to Epping rail line.

- The rezoning of land at Macquarie University would support additional development activity and growth in the Macquarie Park Corridor when compared with the base case. Without the availability of sites for dedicated office buildings, development and construction activity could be forced to take place outside Sydney and, most likely, outside New South Wales. We estimate that development activity between now and 2031 would total around \$605 million, depending on the exact specification of buildings.
- Under the Macquarie University proposal, additional employment would be brought into the Corridor and within close proximity of the planned Macquarie University rail station. Of the

extra employment, a significant share would use CityRail for commuting, thus improving the state of New South Wales's return on its PRL investment and reducing car dependency. As such, car traffic generation would be kept to a minimum, with only minor upgrading of road intersections required.

- Locating additional office employment near existing infrastructure would also reduce the need for extra road and rail infrastructure that is typically associated with the development of office precincts in non-established areas. At the same time, the state of New South Wales and private operators would benefit from higher returns on investment in existing and planned toll roads in the region surrounding the Macquarie Park Corridor.
- The rezoning would contribute to higher revenues for Macquarie University. Revenue from the land and/or leasing of buildings would significantly boost the University's income, while reducing its reliance on federal government funding. Additional funds flowing into teaching and research would increase its attractiveness for interstate and international students. Larger numbers of fee-paying students would provide further revenue to the University and their expenditure on consumer goods and services would benefit the local and New South Wales economy.
- Any additional benefit for office-type businesses to locate in close proximity to the Macquarie University would appear to be negligible given advances in knowledge technology. Only companies whose business model depends on the exchange of 'tacit knowledge' that is bound up in face-to-face contact are likely to benefit. Accordingly, land that is located very close to the University—such as the Macquarie University Research Park—will remain highly sought by businesses dependent on 'tacit knowledge'.

There may further be some benefits for businesses that relate to clustering. Companies can tap into an existing pool of specialised and experienced capital resources located at the University. The close proximity of the University may also be able to attract specialists to the cluster, who felt that they work for the cluster rather than for one firm alone.

- Under LEP 137, we expect the Macquarie Park Corridor to run out of development sites by around 2025. The inclusion of the two major deferred sites facing the M2 Motorway and Delhi Road could provide another 4 years worth of supply potential. While additional space can be provided by the re-development of existing high tech industrial buildings, the site shortage problem would come to a head in the subsequent 20 years or so.
- The additional land at Macquarie University has the potential to boost office floorspace by a further 240,000 square metres over the next 24 years (and another 185,000 square metres at a later stage) and office employment by 14,000 to 18,000 people (25,000 to 33,000 people), depending on workspace ratios. The extra workforce would attract more business services to the Corridor, underpinning its status as a prime office market. A broader industry base would make the market less susceptible to downturns in individual sectors, thus smoothing the fluctuations in demand.

APPENDIX

A.1 Sydney's office cycle

The Sydney office market is building momentum through a cyclical upswing that we expect to last until early next decade. Despite the solid pick-up in demand over recent years, Sydney was late into the current Australia-wide commercial property upswing and continues to lag other major capital cities. While new construction is now gathering pace, particularly in non-CBD markets, the weakness of the NSW economy over recent years has impacted on business confidence and caused developers to delay some major office projects. Cautious development decisions have seen new commencements soften and, in the absence of more pre-commitments in the short term, net additions will be lower in two to three years time. But this bodes well for Sydney. It means that Sydney will miss most of the excesses likely in other city markets over the next few years, with insufficient time to build up construction before demand weakens later in the decade. As a result, we expect the cycle to last longer, with the main upswing delayed until early next decade.

Patterns of demand and supply over the last cyclical upswing

Sydney led the recovery in Australian office markets, with metropolitan office employment rising strongly from 1994. This translated into rapidly falling vacancies, and strong rises in effective rents and property values. Since the 1993 cyclical trough, prime gross effective CBD rents have risen by 90 per cent in nominal terms and by around 37 per cent in real terms.

While the recovery stalled through 1998, as fears of a recession led by the Asian crisis saw leasing and investment decisions deferred, the market recovery resumed during 1999. In 2000, the release of pent-up demand and strong employment growth drove record net absorption across most of the metropolitan markets. In total, over 800,000 square metres of office space were absorbed during 1999 and 2000.

In 2001, demand reversed, as the economic downturn—exacerbated by the tech wreck—led to negative net absorption, accompanied by increases in vacant space. The trend continued through 2002 and much of 2003, as the recovery was held back by a combination of unusual circumstances, including world recession, domestic drought and SARS.

On the supply side, Sydney experienced a mini-boom in construction during the second half of the 1990s, focusing initially on the CBD. Catering for demand, around 425,000 square metres of new stock were completed in the CBD between 1997 and the end of 2000. Metropolitan completions fell away through the early part of this decade in the wake of the low demand discussed above which impacted on business confidence. Since 2004, office commencements have been strengthening again. Initially, activity was concentrated in the CBD, but since 2005 the non-CBD has dominated activity. In the CBD, only a handful of major new projects are currently under way with completion due in the next 12 to 18 months. The largest projects include the 23,000 square metre ATO building, American Express' 14,000 square metre development and the 13,000 square metre Skyvue project on George Street. Once withdrawals are accounted for, little space by way of net additions will be added to stock.

Outside the CBD, most construction since 1998 has occurred in North Ryde/Riverside Corporate Park. However, smaller business/office parks and emerging centres such as the Norwest Business Park, the Australia Centre at Homebush, Pyrmont/Ultimo, South Sydney/Mascot and Rhodes Corporate Park have also seen significant new office construction. Most development continues to occur in response to pre-commitments, although some projects,

especially those built for the strata market, were commenced on a speculative basis. Rising rental amongst many of the non-CBD markets have underpinned new construction. Some 730,000 square metres of new and refurbished space are forecast to be completed across the non-CBD markets during 2007 and 2008, reflecting the highest amount of construction in any two year period since the early 1990s.

Among the established suburban centres, North Sydney and Crows Nest & St Leonards witnessed the completion of a small number of new buildings between 2000 and 2002. Activity in North Sydney then languished until last year, when Leighton Properties'/ISPT's 22,500 square metre building at 100 Pacific Highway was completed. However, withdrawal of stock for refurbishment or conversion to alternative uses limited net additions to stock and helped to push vacancies lower. This year, stock will be further boosted by the completion of Tenix's 100 Arthur Street development, but developers remain reluctant to push ahead with other mooted projects. Recent activity in St Leonards and Chatswood has been limited generally to refurbishments of smaller properties.

Steady levels of new construction have taken place in Parramatta this decade. 2006 saw around 30,000 square metres of new and refurbished stock completed, including the 10,300 square metre building at 27 Argyle Street. This year, pre-commitment driven developments as well as speculative space will add around 70,000 square metres of new and refurbished stock to the market, the highest level since 1990.

The unprecedented length and severity of the setback in demand between 2001 and the end of 2004 and the completion of a moderate amount of supply caused average vacancy to increase in most metropolitan submarkets. In the CBD, the vacancy rate more than doubled to 11.3 per cent between December 2000 and December 2004. As a result, prime effective rents fell by about 15 per cent over the same period as building owners ramped up incentives. Since then, the market has staged a recovery, with the CBD vacancy rate falling to 5.6 per cent at June 2007.

In the non-CBD, vacancies also doubled, to 11 per cent between late 2000 and the end of 2003. Worst affected was the Macquarie Park Corridor, which recorded an average vacancy rate of 23 per cent at December 2002, but this has since fallen back to be below 8 per cent at June 2007. Amongst other major centres, current vacancies range within a reasonably narrow band of 7 and 10 per cent.

A.2 CBD versus non-CBD markets

The Sydney office market consists of a number of submarkets which compete with each other. The largest of these is the CBD, followed by—in order of size—North Sydney, Parramatta, the Macquarie Park Corridor, Crows Nest & St Leonards and Chatswood, plus several smaller centres and office/business parks. By the end of this year, we expect office stock in the Macquarie Park Corridor to surpass Parramatta and become Sydney's third largest submarket.

Over the 20 years to the end of the 1980s, employment in Sydney's CBD was static with the quantum of construction in the suburban centres leading to a shift of activity. The CBD was a large but declining proportion of the aggregate office market in Sydney, with the CBD share of metropolitan office employment falling from over 55 per cent in 1974 to 45 per cent in 1989. Immediately after the bust of the early 1990s, the CBD's share of metropolitan employment fell to just 41 per cent before climbing higher through the latter part of the 90s. Over recent years, the CBD has struggled to maintain its share of metropolitan employment in the face of strong construction activity in the non-CBD markets.

Demand and supply have to be matched not at the CBD level but at the metropolitan level. Conditions as represented for example in the vacancy rate are assessed for the Sydney office market as a whole. Where that vacancy will be, where supply and demand will be, is a secondary problem, an allocation issue.

In the longer term, aggregate metropolitan supply of space is demand led. Short term, however, the magnitude of investment cycles can lead to substantial overbuilding and, later, periods of under-building necessary to absorb the excess stock created during the previous boom. Supply tends to respond to current market conditions without sufficient recognition of the lead times involved and the quantum of supply that will come on stream. Hence the property investment cycle.

At the sub-regional level, demand is supply led. The developer determines where buildings go. And, short to medium term, tenants go where the buildings are.

How does this relate to CBD versus suburban space? It was the boom in construction in the CBD at the end of the 1980s which led to substantial increases in CBD stock and a reprieve from the trend away from the CBD to the suburban centres. CBD (stand-alone) office employment rose substantially as a result. But given that the buildings commenced at the peak of the boom were only completed through the early to mid 1990s and took time to fill, CBD employment did not pick up until 1994. The growth was supply led.

Equally, the construction mini boom in the CBD temporarily halted the shift away from the CBD both in terms of the percentage of stock and in terms of an increase in employment. However, the CBD's share will continue to decline in the longer term.

Why was there so much construction in the CBD in the late 1990s rather than in the suburban centres? The answer lies in the developers' logic. With many vacant sites still available following the last bust, it was more sensible to develop the better return sites first, i.e. those in the CBD. Similarly, after completion of a number of buildings in North Sydney and St Leonards between 2000 and 2002, there are very few sites left on the North Shore—most of those left over from the last cycle have gone to residential.

The notable exception is the Macquarie Park Corridor where the availability and comparatively low cost of land has fuelled design-and-construct, as well as speculative, projects of pure office space since 1998. Already, the Macquarie Park Corridor has become a major office market by virtue of its size, which eclipses both St Leonards and Chatswood and will be larger than Parramatta by the end of this year.

There are still plenty of sites in Parramatta, but it is a considerable distance in both distance and time from the City and hence does not hold the same appeal for all office users. The Sydney metropolitan area has two major nodes—the CBD and Parramatta—with the sphere of influence of the CBD extending to Chatswood, the Macquarie Park Corridor and perhaps Rhodes and Homebush, but not as far as Parramatta. The exception is the state government, whose policy is to move administrative functions out to Parramatta while the legislature remains in the CBD.

Long term there is a secular trend away from the CBD towards the suburban centres. But in the short term this has been punctuated by two major investment phases in the CBD which have drawn both office activity and employment back to the CBD.

The cyclical movements of rents can impact on the medium term allocation of demand. Near the trough of the cycle, when rents are cheap and incentives operate in the market, many

'footloose' companies can afford to lease space in the more prestigious CBD or North Shore markets. They become 'temporary' residents who will be forced back into more affordable locations as soon as rents start to rise strongly during the later part of the upswing. The trigger to move is thus not the rental differential between markets but budget hurdles.

The economic cycle also plays a role in the short term allocation of demand, particularly in the business services sector. During a downturn in the economy, accountancy firms, lawyers, architects etc. resident in the CBD or one of the established centres see demand for their services drop off, with many forced to shed staff. However, rather than become unemployed, many of the retrenched professionals—together with some of their staff—will elect to establish their own company or work as consultants from premises located in smaller, suburban centres. Once the economy recovers, many either move their business to the more prestigious CBD or join larger firms already established there.

A.3 Future supply of sites for dedicated office development

Future supply of office space

The CBD

After the commencement of the most recent round of office buildings, the CBD has now virtually run out of vacant sites. The one remaining vacant site in the CBD is on the corner of Pitt, Campbell and Hay Streets, initially favoured for residential development. With the downturn in the inner city apartment market, commercial development is again being considered, although the site is likely to be developed as a mixed use development.

In addition, the NSW government controls the two major development sites in the CBD which currently house non office structures but which both have major office development plans. The first is the former Sega World at Darling Harbour (on the periphery of the CBD) and the second is Barangaroo (formerly known as East Darling Harbour).

In total we estimate these three sites (which are either vacant or have empty buildings on them) have the potential to provide about 290,000 square metres of net lettable office space.

The proposal for the 1.5 hectare former Sega World site includes a number of uses including retail space and up to 60,000 square metres of office space with construction not likely to commence until next year. For the 22 hectare Barangaroo site, the concept plan offers the potential for net lettable office space of about 200,000 square metres, with construction scheduled to begin in 2008. Given the typical construction lag times, completion of the first office towers is unlikely until 2010 or 2011 at the earliest.

East Darling Harbour's disadvantage is the lack of nearby mass urban transport, i.e. railway. The nearest station is at Wynyard, from where it is over 400 metres to the nearest corner of the site. However, the furthest corner would be a one kilometre walk from the station. These distances could be seen as unacceptable to CBD office workers, particularly since the terrain is not flat. That means that businesses may be reluctant to locate at East Darling Harbour, with developers cautious about the risk of building space that far from the railway. Even so, with few easily developable sites available, we do expect Barangaroo to capture demand especially if land is released in a staged process.

Over the next three years, we forecast CBD completions of about 350,000 square metres. Supply additions remain heavily dependent on pre-commitment to underwrite construction, with only one speculative project currently under way in the CBD. Given the shortage of vacant

sites, most of these projects will require site consolidation and demolition of existing stock to proceed. In the short term, most of the construction will involve refurbishment. As a result, net additions to stock in the CBD over the next few years will be low by historical standards. With demand expected to exceed net additions to stock, vacancies will continue to fall steadily over the remainder of this decade.

We acknowledge some estimates place the CBD's maximum potential for office space using current floor space ratios as high as 25 per cent above current stock levels or more than 1 million additional square metres. This total is the theoretical maximum based on gross floor areas that in reality would be difficult to achieve as it would likely require the demolition and rebuilding of much of the CBD's office buildings. Our estimate of potential floor space at 290,000 square metres is based on the net lettable area for development that could occur on known vacant zoned sites or sites which have empty or derelict buildings.

CBD Fringe

Outside the City, CBD fringe areas such as Pyrmont & Ultimo, South Sydney and Mascot will continue to provide some office space. Pyrmont and Ultimo have potential for the conversion of older industrial warehousing space into office buildings, but the apartment boom in the early part of this decade has swallowed much of the available land at the northern end of the Peninsula. Even so, there are still sites capable of being developed for office space. GPT/Citta Group have commenced construction of a 17,900 square metre building which will form the third stage of Darling Island—due for completion late 2008. Another smaller building is also under construction at 14–20 Mountain Street. Several other projects are mooted, although most will require a major pre-commitment to proceed. In total, we estimate vacant zoned sites in the area could accommodate a further 50,000 square metres of office space.

To the south, Mascot has seen the completion of several pure office buildings around the airport precinct, close to Mascot station and within airport lands throughout this decade. Most businesses locating in the area are airport related, with few 'traditional' office space users prepared to locate that far away from the City to date. However, several buildings are currently under construction across Eveleigh, Mascot and Alexandria that are expected to add around 40,000 square metres to stock this year. The largest project due for completion is at 163 O'Riordan Street, Mascot and will contribute about 13,500 square metres. According to the Sydney Airport Corporation's Master Plan of 2003–04, at least 120,000 square metres of commercial development is planned on surplus airport lands over a 20 year time frame.

South Sydney has the potential to accommodate a sizeable amount of office space in the future, and there are some major projects mooted. In all, about 100,000 square metres of dedicated office space could be developed at Green Square and Victoria Park under the current planning regulations in the Green Square Town Centre and Victoria Square precincts. Elsewhere in the southern corridor, land around Redfern, Wolli Creek and the former Carlton and United Breweries site may also offer longer term potential for commercial development.

Our estimate of the total potential office floorspace supply on zoned vacant land (including major sites occupied by vacant or derelict buildings) for the South Sydney/Mascot area is approximately 370,000 square metres. We are aware that some estimates place the gross floor area potential of office development at South Sydney higher than our estimate. Our calculations include only dedicated office buildings that could potentially be built on known vacant zoned land.

North Sydney, St Leonards and Chatswood

On the North Shore, North Sydney, St Leonards and Chatswood share the CBD's space constraints, with very few development sites left. Most of the sites left over from the late 1980s boom and early 1990s bust were taken up for residential development, limiting the potential of future office development. In North Sydney, a number of initiatives are in progress to boost its appeal as an office centre, including an upgrade to the train station and a planning review aimed at allowing an additional 250,000 square metres of office space by way of increased floorspace ratios. While the planning changes are likely to encourage greater development over the medium term, development in the short term will require further rises in rentals to underpin feasibility or significant pre-commitment. We expect major supply additions in North Sydney will be mainly limited to refurbishments until 2010. Indeed, while 141,000 square metres of new and refurbished stock is forecast to be completed in the market between 2007 and 2010, net additions to stock are only expected to rise by 54,000 square metres.

There are currently only three vacant or unused sites in North Sydney including the site for the second stage of 60 Miller Street, a section of Luna Park and 18-40 Mount Street on which Investa is about to commence a major office project. In all, these sites have the potential to deliver about 40,000 square metres of office space.

In St Leonards, there are very few sites left for future office development and no major office projects planned in the short term. Furthermore, re-development of existing sites is very limited, with at least one council requiring residential space to be incorporated into any new high-rise developments. The recent sale of the Gore Hill Technology Park has delayed plans for office development on this site. Plans are in the initial stages for a mixed use development on another potential site, on land adjacent to the Royal North Shore Hospital, which offers the potential for between 50,000 and 100,000 square metres of office space.

Like St Leonards, Chatswood only has one or two sites left for future office development. Virtually all sites left over from the last bust in the office market have been taken up by high-rise residential buildings, while the airspace above the new railway interchange is also likely to be used for residential development. Overall, expansion of Chatswood as an office market is severely restricted. Indeed, with the likely withdrawal of three older office buildings associated with the planned expansion of Chatswood Chase in 2009 and potential conversion of stock later this decade to capitalise on the next residential upswing, Chatswood's share of metropolitan office stock will continue to fall.

Parramatta

Parramatta is the only established major office market in the Sydney region that has plenty of sites left and thus a large potential for future office development. The market is well positioned in the short to medium term to capture some of the overflow demand from the site-constrained CBD and major north shore markets. The strong levels of completions due in 2007 are forecast to be sustained over the next few years, with the completion of Sydney Water's headquarters the largest project under way. Continued development will be boosted also by the proposal to increase height limits and floorspace ratios within the centre under the Council's Draft City Centre Plan. Complementing this is the planned Civic Place redevelopment, which offers the potential for about 65,000 square metres of office space (including the 24,000 square metre Sydney Water building). However, for the Civic Place project to proceed in its entirety, a handful of existing office buildings will need to first be demolished. Over the three years to 2009, we anticipate 94,000 square metres of new stock will be completed in Parramatta. While some sites in the longer term are likely to fall prey to a recovering residential sector, Parramatta is

expected to maintain its share of the metropolitan office stock throughout the next 15 to 20 years.

The Macquarie Park Corridor

The Macquarie Park Corridor—commonly referred to as North Ryde and consisting of Macquarie Park, the Riverside Corporate Park and land along Delhi Road—is Sydney's newest major office market, featuring an estimated 670,000 square metres at December 2007. Apart from Riverside Corporate Park, much of the Macquarie Park Corridor market has the characteristics of a business park, with a mix of high-tech industrial buildings, research and development facilities and increasingly, new office buildings.

The Macquarie Park Corridor has seen strong development activity since the late 1990s, the overwhelming majority of which has resulted in the creation of pure office space. Prior to the introduction of LEP 137, occupants in the Macquarie Park Corridor were required to be engaged in research and development (for at least a section of their business) and/or to have a link to Macquarie University. The new LEP has done away with the R&D requirement and lifted floorspace ratios in various precincts. Around the three new railway stations, currently under construction and expected to be opened in mid 2008, the maximum FSR is now 3:1.

Under the new LEP and associated Draft DCP No 55, we estimate that the Macquarie Park Corridor could accommodate an additional 530,000 square metres of office space if all vacant sites (including under-developed sites such as carparks) and those with empty and/or derelict buildings were to be developed into pure office space. The inclusion of two deferred sites, the first bounded by Epping Road and the M2 Motorway and the second on the corner of the M2 Motorway and Delhi Road would boost the potential to 680,000 square metres. Resolution of the zoning of these two state government owned sites is expected after the completion of the Epping to Chatswood rail line. The totals in the above calculations do not include re-development of currently occupied buildings or those which are vacant but are being advertised for lease. In addition, the land occupied by Macquarie University outside the boundary of the LEP could potentially accommodate a further 425,000 square metres.

Currently, 12 new office buildings are currently under construction or have recently been completed that will provide just over 200,000 square metres of office space by the end of 2008. Most significant is Optus' new Campus headquarters at Lyon Park Road. However, another 10 to 14 new projects could proceed in the short term subject to financial feasibility/pre-commitment, including four at the Riverside Corporate Park, at least two at the Macquarie University Research Park and the remainder at Macquarie Park.

In contrast to many of the other major submarkets, North Ryde has plenty of sites capable of accommodating substantial office development. However, with market rents still lagging pre-commitment rents, we expect most developers to delay further projects until a major pre-commitment is secured. This is likely to result in a reduction in completions in the market (and indeed throughout the metropolitan market) through 2009 and 2010. Over the longer term, North Ryde will be well positioned to increase its share of metropolitan stock.

Sydney's other business/office parks

We estimate that Sydney's other business/office parks could accommodate up to 470,000 square metres of office space. The majority of this potential resides at Norwest Business Park (including over the medium to longer term the Norbrik site) in Baulkham Hills (up to 270,000 square metres), Olympic Park/Australia Centre and Rhodes (110,000 and 40,000 square metres respectively). Sydney's remaining office/business parks are estimated to provide

another 50,000 square metres of potential office space. In all, we estimate the Sydney metropolitan potential adds up to about 2.49 million square metres.

The major pre-commitment by the Commonwealth Bank to three buildings comprising 56,000 square metres at the Australia Centre, together with speculative construction will result in more than 80,000 of additional stock in the precinct by the end of 2008. Several other sites will result in further office development over the medium term.

We have to stress that the above estimates are our best case scenario. It is based on estimates of remaining vacant zoned land in each location and on currently permissible uses and floorspace ratios. Any change in the use of vacant land would reduce the potential for office construction, particularly where several different uses compete for space. This is particularly the case in re-development areas such as the CBD fringe and South Sydney. In the CBD, office space competes strongly with residential high-rise development, which at times is the only financially feasible alternative for land holders. Competition is strongest where it involves re-development of prime harbour-frontage land such as East Darling Harbour.

A.4 Forecasts for the Sydney metropolitan and North Ryde office market

Table A1: Supply and demand for Sydney metropolitan office space, 1970 to 2021

Year ended December	Office stock 000m ²	Office completions		Returbished 000m ² % of stock	Net additions 000m ² % of stock	Vacancy rate	Occupied space 000m ²	Net absorption 000m ²	Stand alone office workforce '000	Workspace ratio m ² / person	% ch
		New stock 000m ² % of stock	Office completions 000m ² % of stock								
1970	2761.8					1.9					
1971	2980.8	280.6	10.2		281.5	4.5	2846.0	5.1	226.7	13.3	
1972	3262.4	330.1	11.1		246.7	7.4	3020.9	6.1	235.0	13.5	1.4
1973	3509.1	299.8	9.2		246.7	9.6	3173.9	5.1	238.7	14.3	5.6
1974	3758.8	301.1	8.6		269.0	9.4	3405.8	7.3	234.3	14.6	2.4
1975	4027.8	293.0	7.8		282.3	15.0	3423.5	0.5	234.8	15.1	3.5
1976	4310.1	302.5	7.5		226.2	17.6	3551.1	3.7	234.8	16.4	8.4
1977	4536.3	241.4	5.6		226.2	12.3	3977.6	12.0	242.7	17.3	5.7
1978	4762.9	264.3	5.8		226.7	9.6	4307.7	8.3	248.6	17.8	2.7
1979	4882.5	223.8	4.7		129.6	7.8	4511.6	4.7	253.5	18.0	1.4
1980	4941.8	140.0	2.9		49.3	4.5	4718.3	4.6	206.6	17.5	-2.9
1981	4993.5	178.1	3.6		51.8	4.4	4772.7	1.2	272.5	17.7	1.3
1982	5182.3	291.2	5.8		188.7	4.4	4953.9	3.8	279.2	17.5	-1.4
1983	5257.5	201.7	3.9	not separately recorded prior to 1987	75.3	4.4	4993.8	0.8	285.4	17.7	0.9
1984	5483.1	337.1	6.4		225.6	5.3	5192.3	4.0	294.0	17.7	-0.4
1985	5818.3	407.3	7.4		335.2	4.4	5560.4	7.1	316.1	18.1	5.6
1986	6044.9	291.0	5.0		424.7	3.0	5862.3	5.4	320.6	18.3	4.0
1987	6469.6	505.7	8.4		386.7	2.9	6279.2	7.1	347.7	18.1	-1.2
1988	6856.3	574.4	8.9		386.7	4.4	6555.3	4.4	343.8	19.1	5.6
1989	7056.6	361.1	5.3		200.3	5.3	6684.5	2.0	361.7	18.5	-3.1
1990	7649.5	850.0	12.0		592.9	10.0	6884.1	3.0	372.2	18.5	0.1
1991	8001.8	519.7	6.8		352.2	4.6	6776.5	-1.6	366.4	18.5	0.0
1992	8588.4	626.9	7.8		556.6	7.0	6888.0	1.6	356.2	19.3	4.5
1993	8743.3	271.8	3.2		184.9	2.2	7093.2	184.9	347.3	20.4	5.6
1994	8797.8	188.7	2.2		54.4	0.6	7564.6	6.6	471.4	19.6	-4.2
1995	8828.5	171.4	1.9		30.7	0.3	7930.4	4.8	397.0	20.0	2.0
1996	8860.7	196.9	2.2		32.2	0.4	8174.0	3.1	408.7	20.0	0.1
1997	8841.9	74.6	0.8	136.3	-18.8	-0.2	8248.8	0.9	420.5	19.6	-1.9
1998	8993.5	120.8	1.4	170.0	151.6	1.7	8356.4	1.3	442.8	18.9	-3.8
1999	9276.4	250.6	2.8	142.8	151.6	6.6	8665.5	3.7	464.7	18.6	-1.2
2000	9689.6	340.0	3.7	162.6	413.3	4.5	9179.2	5.9	499.9	18.4	-1.5
2001	9824.4	178.3	1.8	41.7	134.7	1.4	9117.5	-0.7	490.1	18.6	1.3
2002	9947.6	155.9	1.6	107.4	123.2	1.3	8981.5	-1.5	493.5	18.2	-2.2
2003	10062.2	164.8	1.7	82.6	114.7	1.2	9025.9	0.5	44.4	18.1	-0.7
2004	10338.2	242.2	2.4	174.5	276.0	2.7	9216.9	2.1	191.0	18.4	1.5
2005	10554.4	268.9	2.6	86.9	227.1	2.2	9533.8	3.4	522.5	18.2	-0.6
2006	10762.2	232.1	2.2	85.8	196.1	1.9	9890.5	3.7	531.3	18.6	2.0
forecast											
2007	11137	424	3.9	112	374	3.5	10232	3.4	544	18.8	1.0
2008	11381	279	2.5	125	244	2.2	10525	2.9	556	18.9	0.8
2009	11534	166	1.5	123	153	1.3	10683	1.5	564	18.9	0.0
2010	11722	204	1.8	105	188	1.6	10830	1.4	576	18.8	-0.8
2011	11854	188	1.6	80	133	1.1	11137	2.8	597	18.6	-0.8
2012	11962	243	2.0	94	107	0.9	11467	3.0	613	18.7	0.3
2013	12214	307	2.6	148	253	2.1	11592	1.1	619	18.7	0.2
2014	12740	523	4.3	175	526	4.3	11607	0.1	626	18.5	-1.0
2015	13344	575	4.5	135	604	4.7	11799	1.7	641	18.4	-0.8
2016	13578	233	1.7	85	235	1.8	12278	4.1	667	18.4	0.0
2017	13730	165	1.2	63	152	1.1	12634	2.9	681	18.6	0.8
2018	13864	155	1.1	68	134	1.0	12800	-0.3	678	18.6	0.2
2019	14034	175	1.3	71	170	1.2	12507	-0.7	688	18.2	-2.2
2020	14170	153	1.1	51	136	1.0	12580	0.6	700	18.0	-1.3
2021	14265	110	0.8	53	95	0.7	12777	1.6	715	17.9	-0.5

Table A.2: Supply and demand for North Ryde office space, 1995 to 2021

Year ended December	Office stock '000m ²	Share of metropolitan stock %	Office completions		Net additions '000m ²	Vacancy rate %	Occupied space		Net absorption '000m ²	Stand alone office workforce '000	Workspace ratio m ² / person	% ch
			new '000m ²	refurbished '000m ²			% of stock	% ch				
1995	262.0	5.5	8.6			5.0	248.9		11.1		22.5	
1996	280.7	5.9	18.7	7.1	18.7	10.0	252.6	1.5	11.3	2.5	22.3	-0.9
1997	285.7	5.9	5.0	1.8	5.0	4.7	272.3	7.8	12.2	8.1	22.2	-0.3
1998	291.0	5.9	8.3	2.9	5.3	4.5	277.9	2.1	12.9	5.3	21.6	-3.1
1999	322.9	6.4	36.9	12.7	31.9	4.8	307.4	10.6	14.6	13.4	21.0	-2.4
2000	382.4	7.3	69.0	21.4	59.5	2.4	373.2	21.4	17.9	22.7	20.8	-1.1
2001	441.6	8.2	64.7	16.9	59.2	12.0	388.6	4.1	17.1	-4.9	22.8	9.5
2002	475.7	8.7	34.0	7.7	34.1	7.7	366.3	-5.7	16.6	-3.0	22.1	-2.9
2003	506.0	9.0	33.3	7.0	30.3	6.4	399.7	9.1	18.3	10.3	21.9	-1.1
2004	526.6	9.2	25.1	5.0	20.6	4.1	450.7	12.7	20.4	11.9	22.1	0.8
2005	527.5	9.0	8.2	1.6	-1.2	9.8	475.8	5.6	25.1	5.2	22.1	0.3
2006	544.8	9.1	17.6	3.3	17.6	9.2	494.9	4.0	22.1	2.7	22.4	1.3
forecast												
2007	667	11	124	22.8	122	7.6	616	24.4	27	23.5	22.6	0.8
2008	744	11	82	12.3	78	7.4	689	11.9	30	11.3	22.7	0.5
2009	759	11	11	1.5	15	7.3	704	2.2	31	2.2	22.7	0.0
2010	774	11	15	2.0	15	7.7	715	1.5	32	2.6	22.5	-1.0
2011	782	11	10	1.3	8	5.0	743	4.0	33	4.5	22.4	-0.5
2012	801	11	25	3.2	19	3.9	770	3.7	34	3.4	22.4	0.2
2013	841	12	40	5.0	40	6.5	786	2.1	35	1.8	22.5	0.2
2014	909	12	60	7.1	68	13.3	789	0.3	35	1.3	22.3	-0.5
2015	980	12	80	8.8	71	17.5	809	2.5	37	3.3	22.1	-0.7
2016	985	12	8	0.8	5	11.3	874	8.1	40	8.1	22.1	0.0
2017	999	12	15	1.5	14	8.8	912	4.4	41	3.6	22.3	0.8
2018	1019	12	20	2.0	20	10.9	909	-0.4	41	-0.7	22.3	0.3
2019	1039	12	20	2.0	20	13.2	902	-0.8	41	1.3	21.9	-2.0
2020	1044	12	5	0.5	5	13.2	906	0.5	42	2.0	21.6	-1.5
2021	1049	12	5	0.5	5	11.4	930	2.6	43	3.1	21.4	-0.5
2031	1384					10.6	1238		60		20.5	