

25 July 2013

Dr John Roseth
Chair, Sydney East
Joint Regional Planning Panel
GPO Box 39
SYDNEY NSW 2001

Dear Dr Roseth,

**Re: RPA2013SYE002 – Marrickville Local Government Area
Masters Home Improvement Centre – 74 Edinburgh Road, Marrickville**

At the meeting with of the Sydney East Joint Regional Planning Panel (the JRPP) on 23 May 2013 acting as the relevant planning authority (the RPA) for the Masters Planning Proposal at 74 Edinburgh Road the JRPP made the following resolution:

- 1) *The Panel accepts the recommendation of the Department of Planning and Infrastructure to agree to the planning proposal proceeding to gateway determination under s56 of the EPA Act 1979, subject to the Panel being satisfied on the following three matters:*
 - a) *the Traffic Report being brought up to date by a revised analysis of traffic following the approval of the Metro Shopping Centre Extension;*
 - b) *the Analysis of Potential Alternative Sites being updated; and*
 - c) *a review of the industrial area enclosed by Sydenham Road, Victoria Road, Edinburgh Road and the railway line, including an analysis of existing land uses consistent with the zoning, vacancy rates and the implications of the proposed rezoning on the viability of this industrial area.*

In response to the resolution of the JRPP, revised information has been prepared by the proponent to address each of the issues raised. This information accompanies this correspondence, and is summarised below:

1 Traffic Implications

The Traffic Report prepared by Colstin Budd Hunt and Kafes which accompanied the Planning Proposal has been updated to include key land uses changes surrounding the subject site since lodgement of the Planning Proposal in September 2011. Most notably, the revised Traffic Report incorporates the road infrastructure upgrade requirements contained in the Planning and Assessment Commission (PAC) determination for the Marrickville Metro expansion.

The conclusions of the revised Traffic Report are summarised below:

- The cumulative impact of the Masters Home Improvement Store traffic with the approved Marrickville Metro approved road upgrades has been modelled using SIDRA and concludes that:

- The Edinburgh Road intersection with Victoria Road will have less than 30 seconds wait time per vehicle during peak periods, and that this provides a satisfactory level of service (LoS B/C).
- The Edinburgh Road intersection with Fitzroy Road and Sydney Steel Road will have less than 25 seconds wait time per vehicle during peak periods, and that this provides a good level of service (LoS B).
- The Edinburgh Road intersection with Smitmore Street will have less than 40 seconds wait time per vehicle during peak periods, and that this provides a satisfactory level of service (LoS C).
- Upgrades are proposed to the traffic signals at Edinburgh Road / Smidmore Street intersection, including right turn bays in both directions on Edinburgh Road and a fourth signalised approach to provide access for Masters.
- With the approved and proposed measures, the road network will be able to accommodate the additional traffic from the proposed development.

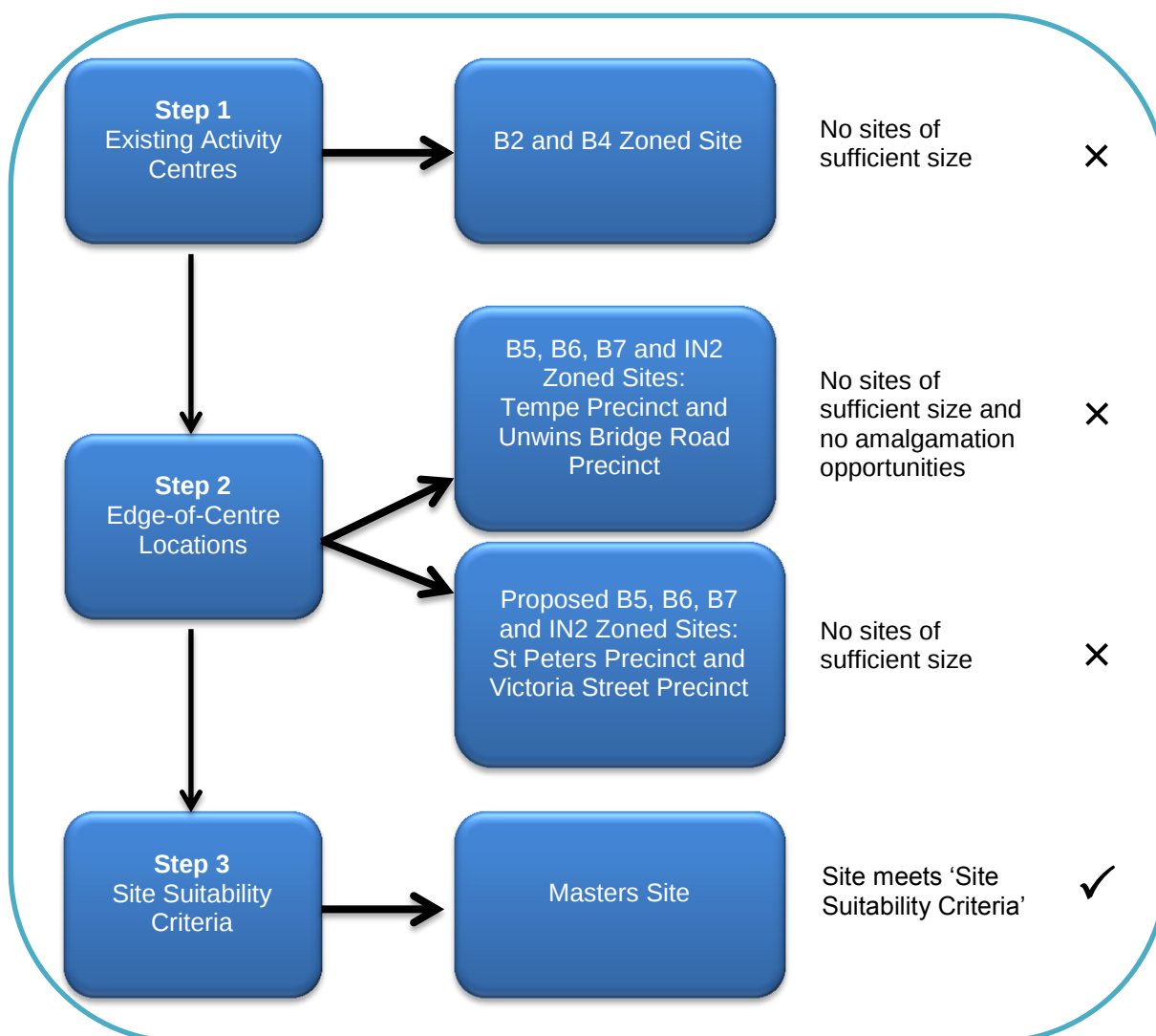
2 Updated Analysis of Potential Alternative Sites

The Planning Proposal included a detailed analysis of Potential Alternative Sites for a Masters Home Improvement Store in the Marrickville local government area as part of the strategic assessment of the proposal with the *Draft NSW Activity Centres Policy May 2010*. This assessment adopts the 'Sequential Test' which requires the following steps to be completed in order to determine if there are suitable sites in existing or planned activity centres or edge-of-centre locations, and if the proposed site is suitable for the intended use:

- Step 1 – Demonstrates there are no suitable sites within existing or planned activity centres.
- Step 2 – Demonstrates there are no suitable sites in edge-of-centre locations.
- Step 3 – The Masters site meets the suit suitability criteria to support an out-of-centre proposal.

This assessment process is detailed in the revised Section 3.7 of the Planning Proposal Report prepared by the proponent, which is attached as **Attachment 1** to this letter.

The key findings of this analysis have been summarised in the graphic below.



As illustrated in the graphic above, the assessment of activity centres identified all sites within B2 and B4 zones (noting that Marrickville do not adopt the B3 zone in the *Marrickville LEP 2011*), and concludes through a lot size analysis that there are no sites of sufficient size to support a Masters in existing activity centres.

The assessment of edge-of-centre locations identified two precincts where a Masters would be permissible, being:

- Tempe Precinct; and
- Unwins Bridge Road Precinct.

However each of these precincts contain substantial existing tenancy operations, with the balance of the Tempe Precinct which has potential for redevelopment not having sufficient size, even if amalgamated, to support a Masters Home Improvement Store.

Two additional precincts were also identified as being proposed edge-of-centre locations which would permit a Masters Home Improvement Store. These precincts are:

- St Peters Precinct; and
- Victoria Road Precinct.

Similarly with the current edge-of-centre precincts, these sites also do not have sufficient size to support a Masters Home Improvement Store, or offer opportunity for amalgamation to create sites of a sufficient scale.

Accordingly, the subject site of this Planning Proposal was considered against the 'Site Suitability Criteria'. This assessment is contained in **Table 1 of Attachment 1** and shows that the Masters site is consistent with each of the relevant criteria.

3 Review of Industrial Area

An *Industrial Market Impact Assessment* of the industrial precinct bounded by Sydenham Road, Victoria Road, Edinburgh Road and the railway line has been undertaken by Urbis' Property Economics and Valuations division. This study accompanies this letter as **Attachment 2**. In preparing the *Industrial Market Impact Assessment*, information was sourced from:

- External inspections of properties in the precinct; and
- Information collated with the use of Urbis' Geographic Information System (GIS) tools.

In summary, the key findings of the review of the industrial area are:

- There has been an overall decline in industrial jobs in the Marrickville LGA between 2006 and 2011, however in some industrial sectors there was growth:
 - Transport, postal and warehousing gained 250 jobs.
 - Construction gained 138 jobs.
- The nature of a Masters Home Improvement Store is considered to be highly complementary to the changing industrial structure which has occurred in Marrickville in recent years, and what is expected in the future.
- The decline in freight and logistics in the precinct between 2005 and 2011 offers opportunity for adaptive uses better suited to the current industrial structure of the precinct to enter the precinct, which can offer enhanced employment opportunities.

The study concludes that the expected overall economic impacts to be generated from the redevelopment of the site for a Masters Home Improvement Store are:

- *the Masters Home Improvement Store is expected to compliment the adjoining industrial precinct by increasing access and choice of building and construction materials to the construction sector, which increased its prevalence in the precinct between 2006 and 2011, and is expected to continue to become more prevalent in Marrickville LGA in the future;*
- *the 2.75 hectare subject site represents just 1.3% of all industrial zoned land in the draft Marrickville LEP 2010 (214.6 hectares), and 7% of industrial zoned land in the Study Area. Therefore, the rezoning will not have a material impact on industrial land supply in Marrickville or the Study Area;*

- *The Masters Home Improvement Store is expected to result in a net increase in jobs in the precinct, with 130 to 150 people expected to be employed at the Masters Home Improvement Store, compared to 15 workers employed on the site currently. It is also expected to generate more employment than what could be generated if another distribution centre occupied the site, with average employment densities for distribution centres / warehouses ranging from 1 job per 110 sq.m (universal average according to Urbis internal benchmarks) to 1 job per 262sq.m. of floorspace (average for the study area, as quantified through Urbis Study Area site Surveys), compared to an average 1 job per 110 sq.m for the Masters Home Improvement Stores.*
- *The Masters Home Improvement Store will increase the provision of retail jobs in Marrickville LGA, which actually declined between 2006 and 2011, while the number of Marrickville residents employed in retail jobs increased between 2006 and 2011, resulting in an increase in the size of the retail jobs deficit in Marrickville to 643 jobs by 2011. Such divergence between jobs and resident employment causes people to have to travel longer distances to work, and this has a range of adverse impacts on the local community, namely traffic congestion, vehicle pollution, pressure on road and other transport infrastructure and high costs of travel between work and home for Marrickville residents.*
- *Increased competition within the home improvement sector which should result in greater choice and price savings for customers;*
- *The site's location adjacent to Marrickville Metro shopping centre provides a convenient location for household shoppers, whilst its location close to other trades suppliers within Marrickville is also advantageous to the trades sector. Both factors have the potential to reduce overall travel distances for customers.*
- *Accordingly, there may be potential vehicle emission savings (particularly from trades vehicles) by minimising the need for customers to travel greater distances to make purchases; and*
- *Increased expenditure retention within the Main Trade Area reducing the amount of expenditure that is leaked to other LGAs.*

Accordingly, the *Industrial Market Impact Assessment* demonstrates that the precinct has been in decline between 2006 and 2011, suffering from high vacancy rates of 28% for IN1 General Industrial land and that the proposed rezoning to support a Masters Home Improvement Store provides a complementary land use to support areas of the industrial sector experiencing growth, while also delivering jobs to the retail sector which has recently experienced decline in the Marrickville LGA.

4 Conclusion

We trust this information satisfactorily addresses the concerns of the JRPP and demonstrate that:

- That the cumulative impact of the Masters proposal and the Marrickville Metro expansion, with the approved and proposed road upgrades will provide good or satisfactory levels of service at the surrounding intersections;
- That the road network will be able to accommodate the additional traffic from the proposed Masters development.
- There are no alternative sites in existing or planned activity centres, or existing or proposed edge of centre locations;

- That the site meets the 'Site Suitability Criteria' contained in the *draft Activity Centres Policy (May 2010)*;
- That the proposals offers a land use which is '*highly complementary*' to the changing nature of the precinct, and delivers jobs which will complement the growth in the construction industry within the LGA, while also providing retail jobs within the LGA which have seen decline between 2006 and 2011; and
- Deliver a net increase in jobs within the precinct, with Masters employing 130 to 150 people, on a site that currently provides employment for 15 workers.

Yours sincerely,



Danielle Pinkerton
Associate Director

HYDROX NOMINEES PTY LTD

TRANSPORT ASPECTS OF
PLANNING PROPOSAL FOR
PROPOSED MASTERS STORE,
MARRICKVILLE

JULY 2013

COLSTON BUDD HUNT & KAFES PTY LTD
ACN 002 334 296
Level 18 Tower A
Zenith Centre
821 Pacific Highway
CHATSWOOD NSW 2067

Telephone: (02) 9411 2411
Facsimile: (02) 9411 2422
Email: cbhk@cbhk.com.au

REF: 8053

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I. INTRODUCTION

I.1 Colston Budd Hunt and Kafes Pty Ltd has been commissioned by Hydrox Nominees Pty Ltd to assess the transport aspects of a planning proposal to permit a new Masters store on the corner of Edinburgh Road and Sydney Steel Road at Marrickville. The site location is shown in Figure I.

I.2 It is currently occupied by industrial development, including distribution and warehouse uses. The planning proposal would provide for a Masters home improvement centre of approximately 13,500m², with vehicular access from Edinburgh Road and Sydney Steel Road.

I.3 On 23 May 2013, the Sydney East Joint Regional Planning Panel resolved the following in relation to the development:

I) The Panel accepts the recommendation of the Department of Planning and Infrastructure to agree to the planning proposal proceeding to gateway determination under s56 of the EPA Act 1979, subject to the Panel being satisfied on the following three matters:

- a) The Traffic Report being brought up to date by a revised analysis of traffic following the approval of the Metro Shopping Centre Extension;*
- b) The Analysis of Potential Alternative Sites being updated; and*
- c) A review of the industrial area enclosed by Sydenham Road, Victoria Road, Edinburgh Road and the railway line, including an analysis of existing land uses consistent with the zoning, vacancy rates and the implication of the proposed re-zoning on the viability of the industrial area.*

I.4 This report assesses transport aspects of the proposed development in the following chapter, as requested by the JRPP in point a) above.

2. TRANSPORT ASPECTS OF PLANNING PROPOSAL

2.1 Transport aspects of the planning proposal are set down through the following sections:

- site location and road network;
- scale of development;
- Marrickville Metro development;
- policy context;
- public transport, walking and cycling;
- parking provision;
- access, servicing and internal layout;
- traffic generation and road works;
- consultation with authorities; and
- summary.

Site Location and Road Network

2.2 The site is on the south-western corner of the intersection of Edinburgh Road/Sydney Steel Road at Marrickville, as shown in Figure 1. It is occupied by industrial development, including distribution and warehouse uses. Vehicular access to the site is provided from Edinburgh Road and Sydney Steel Road.

2.3 The site is in an area which is largely industrial. There is residential development west of the site on Edinburgh Road. Marrickville Metro shopping centre is north of the site on Smidmore Street.

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- 2.4 Adjacent the site, Edinburgh Road provides one traffic lane and one parking lane in each direction, clear of intersections. It has a shared pedestrian and cycle path along the site frontage. It provides access to industrial properties and residential properties. There are bus stops on both sides of the road, close to the site.
- 2.5 Sydney Steel Road runs south from Edinburgh Road at an unsignalised t-intersection controlled by give way signs, with Edinburgh Road having priority. Sydney Steel Road is a dead end south of Edinburgh Road. It provides access to industrial properties and provides for two-way traffic with parking permitted on both sides. It is signposted as a bicycle route.
- 2.6 Smidmore Street runs north from Edinburgh Road, opposite the site. It has a signalised intersection with Edinburgh Road, with all turns permitted and pedestrian crossings on all approaches. Smidmore Street provides access to industrial properties and Marrickville Metro shopping centre. It provides for one traffic lane in each direction with parking permitted on both sides, clear of intersections. There are bus stops and taxi zones adjacent to the shopping centre.
- 2.7 West of the site, Fitzroy Street runs south from Edinburgh Road at a t-intersection controlled by a roundabout. Fitzroy Street provides access to industrial development and provides for one traffic lane and one parking lane in each direction, clear of intersections.

Scale of Development

- 2.8 The planning proposal would provide for a Masters of approximately 13,500m². Vehicular access is proposed from Edinburgh Road (through a fourth approach to the signalised intersection of Edinburgh Road with Smidmore Street, with all turns permitted) and Sydney Steel Road.
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Marrickville Metro Development

- 2.9 As previously discussed, the Marrickville Metro shopping centre is north of the site on Smidmore Street. The shopping centre has been approved for an extension of 16,767m² plus additional on-site car parking.
- 2.10 The approved redevelopment of Marrickville Metro includes the following changes to the road network in association with the redevelopment of the shopping centre:
- new left in/left out car park entry entry/exit point on Edinburgh Road, west of Sydney Steel Road (opposite the site);
 - median in Edinburgh Road in front of the new car park access (adjacent to the site), between Sydney Steel Road and Smidmore Street;
 - roundabout at the intersection of Edinburgh Road and Sydney Steel Road;
 - new bus stops on Edinburgh Road, east of Sydney Steel Road.
- 2.11 These measures are shown in drawings for the approved development, in Appendix A.

Policy Context

- 2.12 There are a number of strategic state policies which are relevant to future development in the Sydney metropolitan area. The policies include NSW 2021, the draft Metropolitan Strategy for Sydney to 2031 and The NSW Long Term Transport Master Plan. These policies are discussed below.
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□ NSW 2021

2.13 NSW 2021: A Plan to Make NSW Number One sets targets to increase the proportion of commuter trips made by public transport for various areas within Sydney by 2016, including:

- 80 per cent in the Sydney CBD;
- 50 per cent in the Parramatta CBD;
- 20 per cent in the Liverpool CBD; and
- 25 per cent in the Penrith CBD.

2.14 It also has targets to:

- improve road safety, reduce fatalities to 4.3 per 100,000 population by 2016;
- double the mode share of bicycle trips made in the metropolitan area by 2016; and
- increase the proportion of the population living within 30 minutes by public transport of a city or major centre in the metropolitan area.

□ Draft Metropolitan Strategy for Sydney to 2031

2.15 The draft Metropolitan Strategy for Sydney to 2031 provides a strategic plan to accommodate an additional 1.3 million people, 545,000 houses and 625,000 jobs.

2.16 It identifies a Global Economic Corridor for provision of much of the new employment, encompassing Port Botany, Sydney Airport, the CBD, North Sydney, St Leonards, Chatswood and Macquarie Park, with extension towards Norwest and Parramatta. A number of Urban Activation Precincts will be provided in this area.

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- 2.17 Other key areas in the strategy include Sydney Harbour, Parramatta, the Parramatta Road Corridor, Anzac Parade Corridor, North West Rail Link Corridor, Western Sydney Employment Area and the Metropolitan Rural Area.
- 2.18 The draft strategy identifies the following objectives for housing, employment and transport:
- provide 27,500 new houses per year, across all of Sydney's six sub-regions;
 - provide higher densities closer to major centres;
 - provide appropriate land to support jobs growth, including new business parks and industry clusters and hubs;
 - provide cross-city transport connections;
 - provide appropriate infrastructure to facilitate business growth, including an efficient port, airport and freight network, telecommunications and educational facilities;
 - use of the Urban Activation Precincts to demonstrate greater use of public transport, walking and cycling, and integrating land use and transport;
 - improve travel times and reduce congestion through improvements to six high priority transport corridors (Parramatta – CBD via Strathfield, Parramatta – CBD via Ryde, Liverpool – Sydney Airport, Sydney Airport – CBD, Mona Vale – Sydney CBD and Rouse Hill – Macquarie Park);
 - key transport measures, as outlined in the NSW Long Term Transport Master Plan) to support the strategy;
 - provision of other infrastructure, including schools and hospitals, to support the identified growth; and
 - improved environmental management by use of resources and energy more efficiently, better planning for natural disasters and increased green space.
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□ NSW Long Term Transport Master Plan

2.19 The NSW Long Term Transport Master Plan has been developed, in association with the Sydney Metropolitan and Regional Strategies and State Infrastructure Strategy, to support NSW 2021. The key measures identified are as follows:

- providing a fully integrated transport system;
- providing a modern railway system and increase capacity by 60 per cent;
- providing a modern light rail system in the CBD;
- providing a modern bus system to complement the rail networks;
- connect the motorway network, including WestConnex, F3/M2 link and F6;
- reduce congestion in the CBD, including removing the monorail, increasing light rail, improving pedestrian links, increasing ferry use, providing increased capacity on the rail system and improved walking and cycling infrastructure;
- support the growth of new economic centres including the north west and south west rail links, new roads in growth areas and new bus infrastructure;
- connect regional communities through major highway upgrades, and improved rail, bus and air services;
- improve freight efficiency and productivity;
- improve access to Sydney Airport and Port Botany;
- boost walking, cycling and its integration with public transport; and
- preserve future transport corridors.

Public Transport, Walking and Cycling

2.20 Local bus services are provided by Sydney Buses. The site is adjacent to bus services which operate along Edinburgh Road. Services also operate along Victoria Street, west of the site. Services include:

- route 308 – Marrickville Metro, St Peters, Alexandria, Redfern, city;
- route 352 – Marrickville Metro, Newtown, Sydney University, Chippendale, Surry Hills, Darlinghurst, Paddington, Bondi Junction; and
- route 355 – Marrickville Metro, Enmore, Newtown, Erskineville, Alexandria, Waterloo, Surry Hills, Moore Park, Bondi Junction.

2.21 There are existing on and off-road cycle paths on Sydney Steel Road and Edinburgh Road, adjacent to the site.

2.22 Existing public transport services will provide for people to access the development by public transport, walking and cycling, particularly for employees. To support accessibility by bicycles, appropriate bicycle parking, in accordance with Council requirements, is proposed to be provided.

2.23 The development will therefore satisfy the objectives of NSW 2021, the draft Metropolitan Strategy for Sydney to 2031 and the NSW Long Term Transport Master Plan as follows:

- enabling employees to readily access buses close to the site;
- providing an appropriate level of on-site parking, with reference to appropriate Council and RMS requirements, to encourage public transport use and increase the proportion of trips by public transport; and
- providing employment and retail facilities close to residential areas nearby to reduce the need for travel.

Parking Provision

2.24 Marrickville Development Control Plan No. 19 (Parking Strategy) does not include parking rates for home improvement centres.

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- 2.25 By comparison, RMS has undertaken recent surveys of the parking demands of home improvement centres. The results of these surveys are shown in Appendix B. Two of the centres (Bankstown and Minchinbury) have areas (14,111m² and 11,915m² respectively) similar in size to the proposed Marrickville Masters.
- 2.26 These stores provide some 472 and 403 parking spaces respectively, which represents rates of some 3.3 to 3.4 spaces per 100m².
- 2.27 The RMS parking demand surveys found peak parking demands of 318 and 264 spaces at Bankstown and Minchinbury respectively. These demands represent rates of some 2.2 to 2.3 spaces per 100m² at peak times.
- 2.28 Based on these rates, the proposed Masters would have parking demands of some 300 to 310 spaces. It is proposed to provide approximately 313 spaces for the proposed development, which will cater for these demands.
- 2.29 Appropriate disabled and bicycle parking should be provided in accordance with Council requirements.

Access, Servicing and Internal Layout

- 2.30 Access to the development is proposed from Edinburgh Road and Sydney Steel Road. The main access to the site is proposed via a fourth signalised approach to the Edinburgh Road/Smidmore Street intersection. Access is also proposed from Sydney Steel Road.
- 2.31 The main access location, as a new signalised approach to the Edinburgh Road/Smidmore Street intersection, would include provision for new right turn bays in both directions on Edinburgh Road, for turns into the site and Smidmore
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Street. Land is available to accommodate the right turn bays and two through lanes on Edinburgh Road, should it be required.

- 2.32 Appropriate queuing will be provided within the site for entering and exiting vehicles.
- 2.33 The access from Sydney Steel Road will be provided to accommodate turns by service vehicles. As previously discussed, there is a roundabout proposed for the intersection of Sydney Steel Road with Edinburgh Road, in association with the redevelopment of Marrickville Metro.
- 2.34 The detailed design of the service vehicle access and loading dock arrangements will be undertaken at the development application stage. However, the design will be provided to accommodate 19 metre semi-trailers and 12.5 metre large rigid trucks entering the development, manoeuvring into the loading docks and exiting in a forward direction.
- 2.35 Within parking areas, parking space dimensions, aisle widths, ramp grades and transitions should be provided in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking), AS 2890.1:2004 at the time that a development application is made.

Traffic Generation and Road Works

- 2.36 In order to gauge traffic conditions, counts were undertaken during Thursday afternoon and Saturday peak periods at the following intersections:
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- Edinburgh Road/Victoria Road;
- Edinburgh Road/Fitzroy Street;
- Edinburgh Road/Smidmore Street; and
- Edinburgh Road/Sydney Steel Road.

2.37 The results of the surveys are shown in Figures 2 and 3, and summarised in Table 2.1. Victoria Road carried some 1,000 to 1,600 vehicles per hour two-way during the surveyed weekday afternoon and Saturday peak periods. Edinburgh Road carried lower flows of some 450 to 1,250 vehicles per hour two-way. Fitzroy Street and Smidmore Street carried some 400 to 900 vehicles per hour two-way and Sydney Steel Road carried less than 100 vehicles per hour two-way.

Table 2.1: Existing two-way (sum of both directions) peak hour traffic flows			
Road	Location	Weekday afternoon	Saturday lunchtime
Victoria Road	North of Edinburgh Road	1,220	1,005
	South of Edinburgh Road	1,565	1,390
Edinburgh Road	East of Victoria Road	1,035	965
	East of Fitzroy Street	1,210	1,220
	East of Smidmore Street	725	480
	East of Sydney Steel Road	710	470
Fitzroy Street	South of Edinburgh Road	425	445
Smidmore Street	North of Edinburgh Road	625	880
Sydney Steel Road	South of Edinburgh Road	55	40

2.38 The operations of the surveyed Edinburgh Road intersections have been analysed using the SIDRA program. SIDRA provides a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle. Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):

- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity

- For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required
43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

2.39 It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all

movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.

- 2.40 The analysis found that the signalised intersections of Edinburgh Road with Victoria Road and Smidmore Street are operating with average delays of less than 25 seconds per vehicle during Friday afternoon and Saturday peak periods. This represents LOS B, a good level of service.
- 2.41 The roundabout at the intersection of Edinburgh Road with Fitzroy Street is operating with average delays for the highest delayed movement of less than 20 seconds per vehicle during peak periods. This represents level of service B, a good level of service.
- 2.42 The unsignalised intersection of Edinburgh Road with Sydney Steel Road is operating with average delays for the highest delayed movement of less than 15 seconds per vehicle during peak periods. This represents level of service A/B, a good level of service.
- 2.43 The RMS surveys of similar home improvement centres (Appendix B) found the following two-way (sum of both directions) peak hour traffic generations for the home improvement centres at Bankstown and Minchinbury:
- 289 and 338 vehicles per hour two-way during the afternoon peak hour (representing rates of some 2.05 and 2.84 vehicles per hour per 100m² respectively); and

- 844 and 754 vehicles per hour two-way during the weekend peak hour (representing rates of some 5.98 and 6.33 vehicles per hour per 100m² respectively).
- 2.44 Using an average of the above rates, the proposed Masters home improvement centre would have the following two-way peak hour traffic generations:
- weekday afternoon peak hour: some 330 vehicles; and
 - weekend peak hour: some 830 vehicles.
- 2.45 The RMS guidelines indicate that some 20 per cent of retail traffic is passing trade, i.e. traffic which would have driven past the site regardless of its visit to the site. On this basis, the proposed home improvement centre would have the following additional two-way traffic generations on the surrounding road network:
- weekday afternoon peak hour: some 260 vehicles; and
 - weekend peak hour: some 660 vehicles.
- 2.46 The additional Masters development traffic has been assigned to the road network, including an allowance for 20 per cent passing trade. Existing flows plus the additional development traffic are summarised in Table 2.2. Traffic increases on Edinburgh Road, from where access is proposed, would be some 80 to 130 and 200 to 320 vehicles per hour two-way during weekday afternoon and Saturday peak hours respectively. Increases on Victoria Road, Fitzroy Street and Smidmore Street would be lower at some 40 to 60 and 100 to 150 vehicles per hour two-way during weekday afternoon and Saturday peak hours respectively.
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Table 2.2: Existing two-way peak hour traffic flows plus development traffic					
Road	Location	Weekday afternoon		Saturday lunchtime	
		Existing	Plus development	Existing	Plus development
Victoria Road	North of Edinburgh Road	1,220	+40	1,005	+100
	South of Edinburgh Road	1,565	+50	1,390	+110
Edinburgh Road	East of Victoria Road	1,035	+90	965	+210
	East of Fitzroy Street	1,210	+130	1,220	+320
	East of Smidmore Street	725	+80	480	+200
	East of Sydney Steel Road	710	+80	470	+200
Fitzroy Street	South of Edinburgh Road	425	+40	445	+110
Smidmore Street	North of Edinburgh Road	625	+60	880	+150
Sydney Steel Road	South of Edinburgh Road	55	-	40	-

- 2.47 As previously discussed, it is proposed to upgrade the signalised intersection of Edinburgh Road with Smidmore Street to provide for access to the site. A roundabout is also approved at the Edinburgh Road/Sydney Steel Street intersection in association with the Marrickville Metro development.
- 2.48 The Edinburgh Road intersections have been reanalysed with SIDRA for the additional development traffic flows, including the upgrades discussed above. The upgrade to the Edinburgh Road/Smidmore Street intersection has included right turn bays in both directions on Edinburgh Road.
- 2.49 The analysis has also included traffic from the approved Marrickville Metro development.
- 2.50 The analysis found that with the additional Masters development traffic, plus the additional traffic from Marrickville Metro, the intersection of Edinburgh Road with

Victoria Road would operate with average delays of less than 30 seconds per vehicle during peak periods. This represents level of service B/C, a satisfactory level of service.

- 2.51 The roundabouts at the intersections of Edinburgh Road with Fitzroy Street and Sydney Steel Road would operate with average delays for the highest delayed movements of less than 25 seconds per vehicle during peak periods. This represents level of service B, a good level of service.
- 2.52 The proposed upgraded signalised intersection at Edinburgh Road/Smidmore Street would operate with average delays of less than 40 seconds per vehicle during peak periods. This represents level of service C, a satisfactory level of service. The SIDRA output summaries are provided in Appendix C.

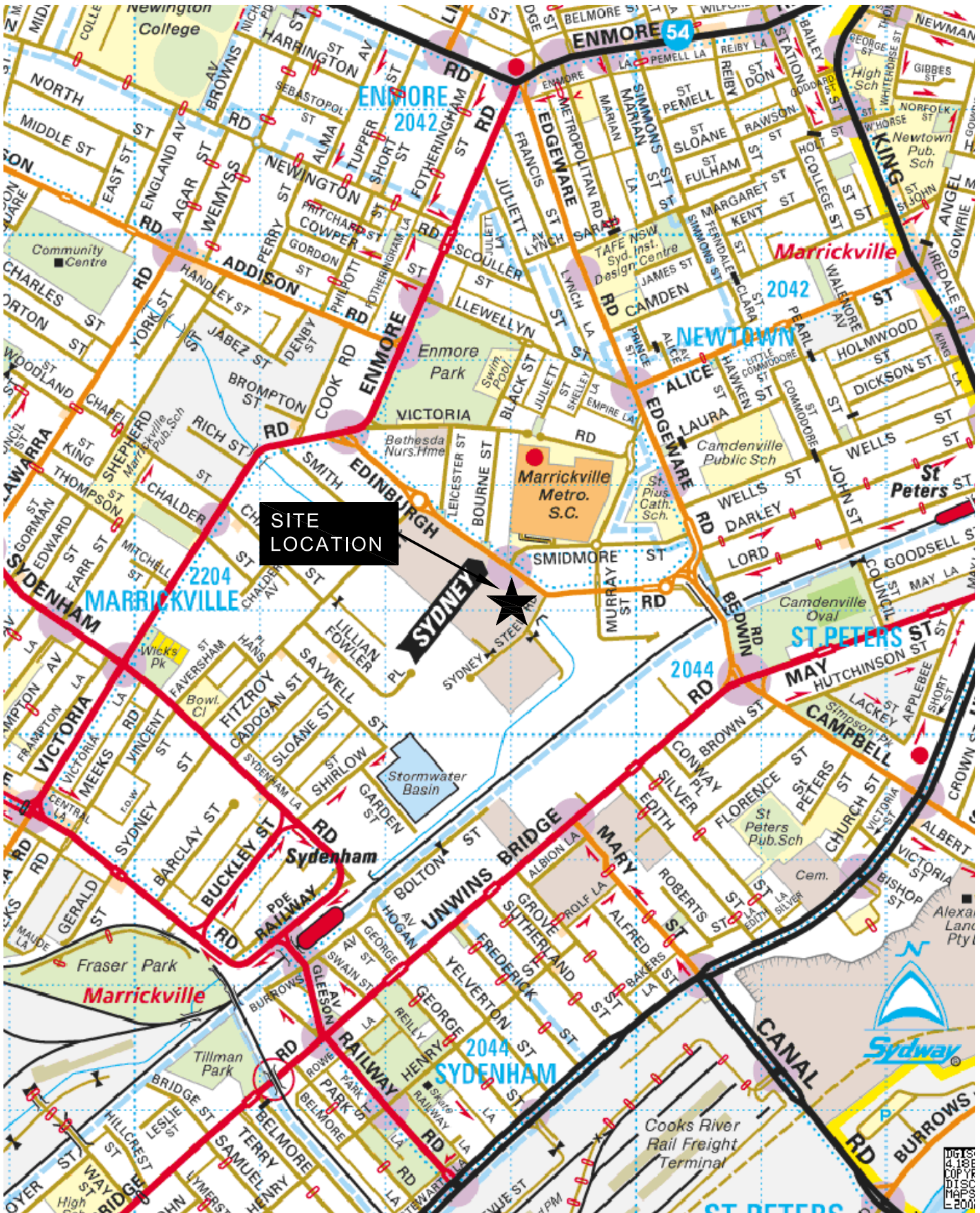
Consultation with Authorities

- 2.53 In a meeting with Council on 12 November 2010, Council's traffic engineer (George Tsaprounis) agreed that access through the signalised Smidmore Street intersection would be the most appropriate access to the site.
- 2.54 At the RMS Regional Development Committee meeting on 2 December 2010, RMS generally accepted that access may be possible through the signalised intersection. This would be subject to the application and approval processes, including traffic analysis at the development application stage.
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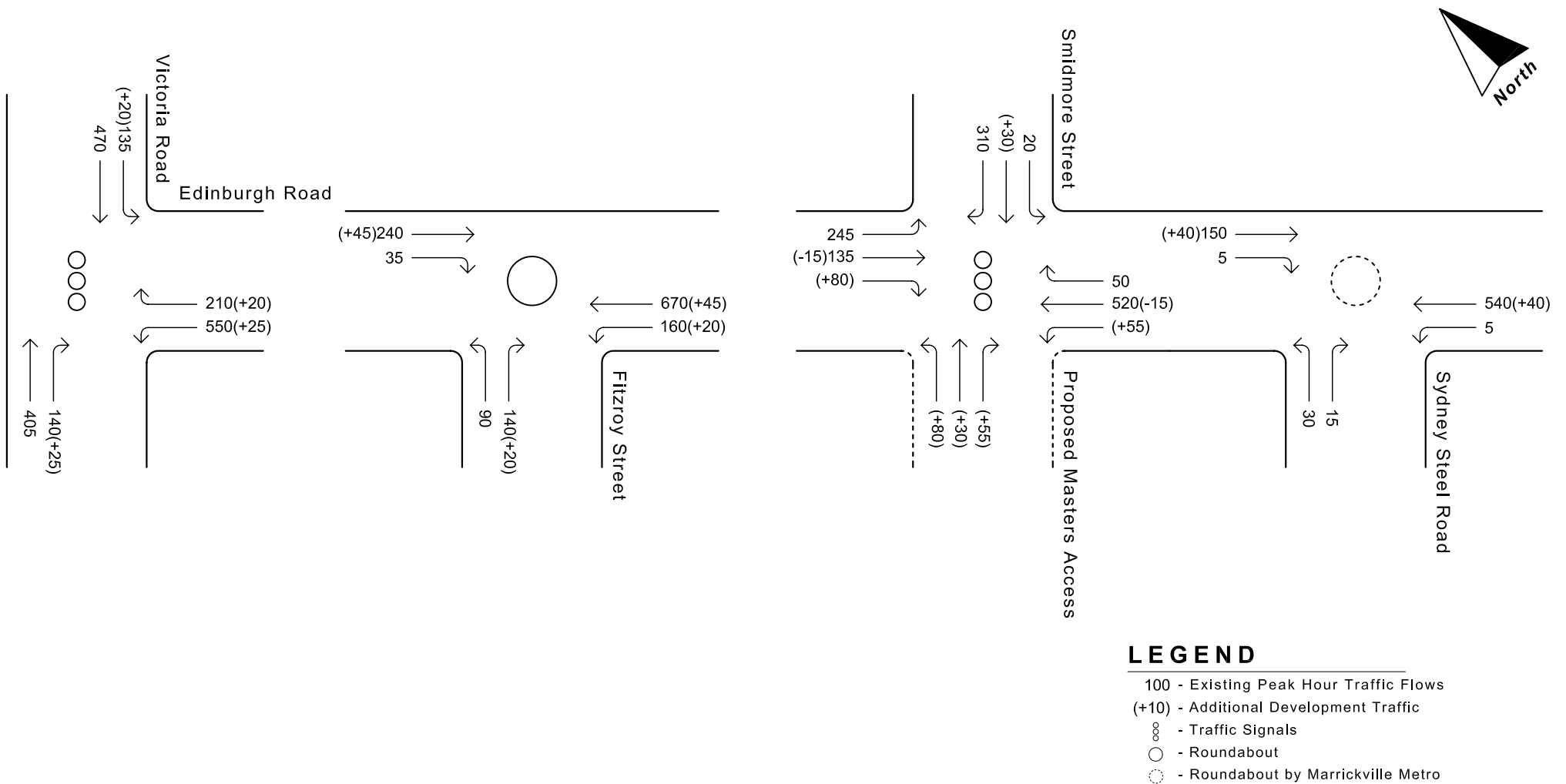
Summary

2.55 In summary, the main points relating to the transport aspects of the planning proposal are as follows:

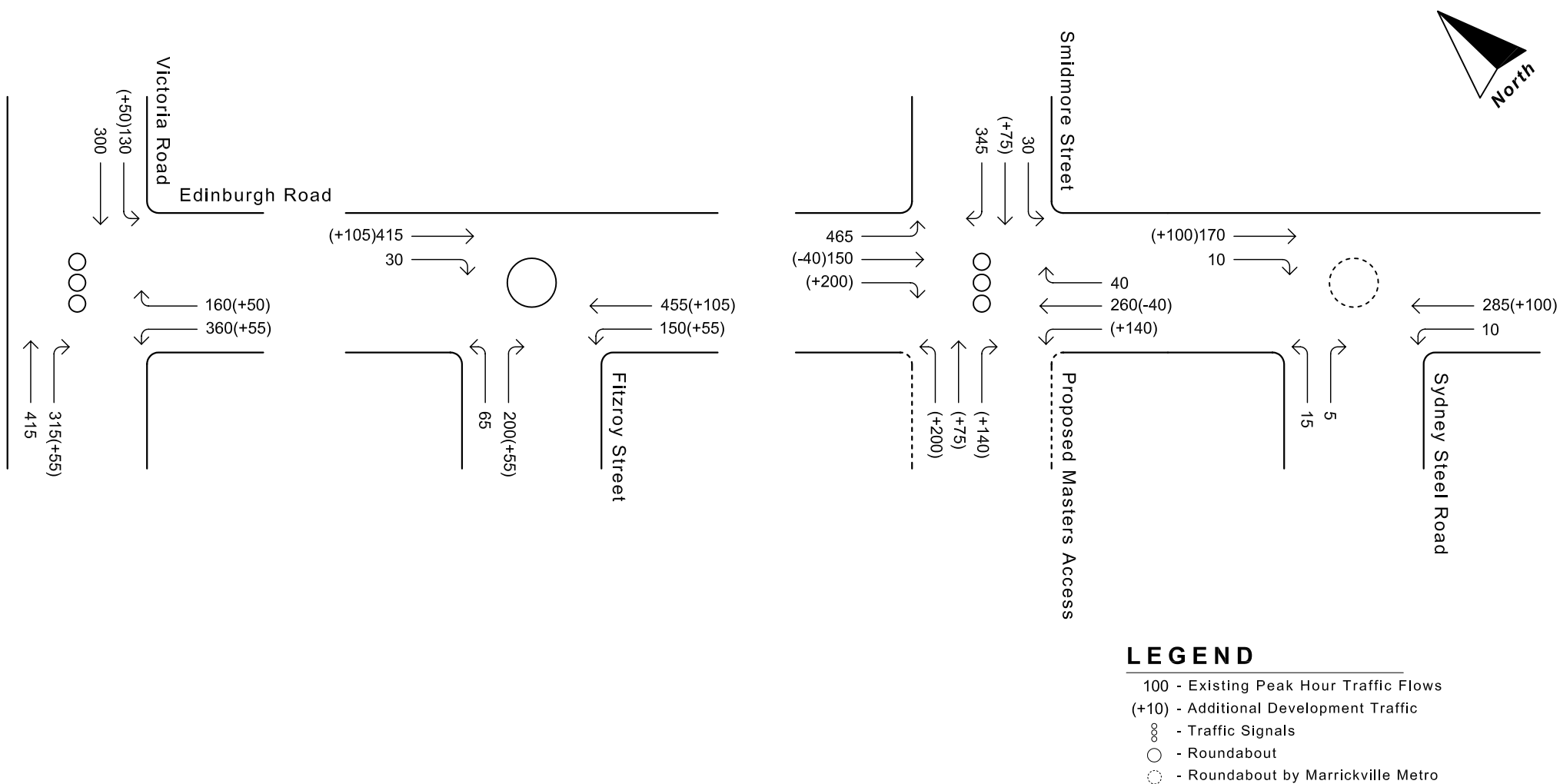
- i) the proposed development will be readily accessible by existing public transport services;
 - ii) the planning proposal would provide for a Masters store of approximately 13,500m²;
 - iii) an extension has been approved for the Marrickville Metro shopping centre, north of the site;
 - iv) a number of road and transport measures are approved in association with the Marrickville Metro development, including a roundabout at Edinburgh Road/Sydney Steel Road;
 - v) the proposed parking provision is considered appropriate;
 - vi) the proposed access arrangements Edinburgh Road and Sydney Steel Road are considered appropriate;
 - vii) appropriate arrangements for service vehicles will be provided;
 - viii) an upgrade is proposed to the traffic signals at Edinburgh Road/Smidmore Street, including right turn bays in both directions on Edinburgh Road and a fourth signalised approach to provide access for Masters;
 - ix) with the approved and proposed measures, the road network will be able to accommodate the additional traffic from the proposed development.
-



Location Plan



**Existing Thursday afternoon peak hour
traffic flows plus development traffic**



**Existing Saturday midday peak hour
traffic flows plus development traffic**

APPENDIX A

MARRICKVILLE METRO APPROVED MEASURES



MURRAY ST

EDINBURGH RD

SYDNEY STREET ROAD



Masters Site

NOT CONSTRUCTION ISSUE

AMP capital
INVESTORS

Bovis
Lend Lease

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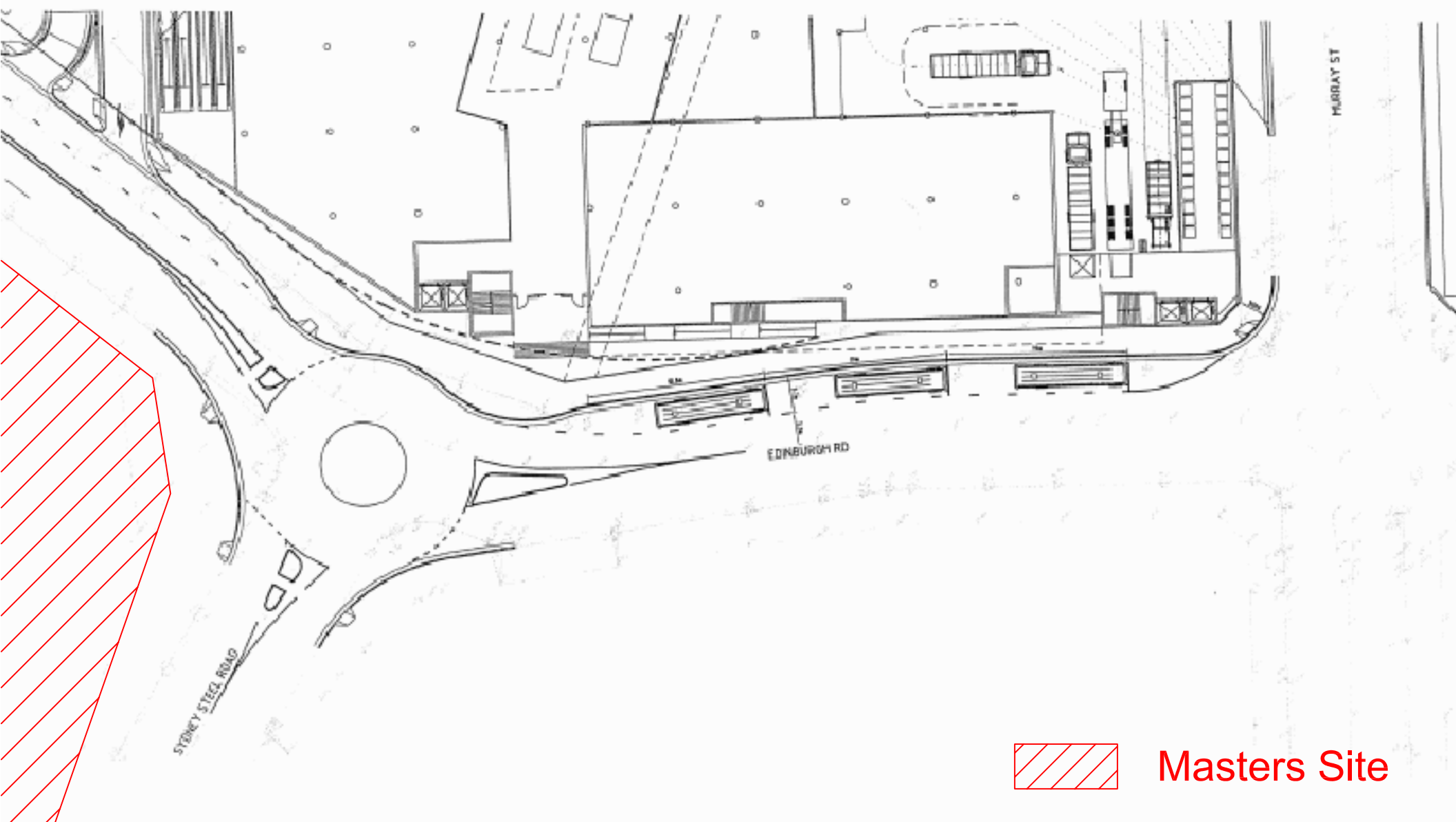
Cardno
Cardno Group
100 South Street, Suite 100, Sydney, NSW 1585
Phone 02 9555 1100 Fax 02 9555 1101
Email info@cardno.com.au Website www.cardno.com.au

Quality
Certified
Company

Plot	21.10.10
Design	21.10.10
Drawn	21.10.10
Checked	21.10.10
Approved	21.10.10

AMP Capital Investors Limited
Bovis Lend Lease
Marikella Refr Shopping Centre
- EDINBURGH ROAD BUS TERMINAL

FOR INFORMATION				
REV	DATE	BY	DATE	BY
1	OCT '10	AMP	1.2008	AT
210026-SK-009				C



 Masters Site

1. SITE LOCATION 2. REVISIONS 3. DRAWING TITLE		AMP capital INVESTORS Bovis Lend Lease		© Crown in 2008 AMM (Pty) Ltd AMM (Pty) Ltd is a subsidiary of Bovis Lend Lease AMM (Pty) Ltd is a subsidiary of Bovis Lend Lease AMM (Pty) Ltd is a subsidiary of Bovis Lend Lease		Cardno Cardno is a subsidiary of Bovis Lend Lease Cardno is a subsidiary of Bovis Lend Lease Cardno is a subsidiary of Bovis Lend Lease		AMP Capital Investors Limited Bovis Lend Lease Murwillumbah Metro Shopping Centre EDMUNDOUR ROAD BUS TERMINAL		FOR INFORMATION 210Q26-SK-009 C	
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APPENDIX B

RMS SURVEY RESULTS

Table 2-2 Site Details of the Selected Sites – Hardware/DIY

Site ID	HW1	HW2	HW3	HW4	HW5	HW6	HW7	HW8	HW9
Name	Bunnings	Bunnings	Mitre10	Bunnings	Mitre10	Mitre10	Mitre10	Bunnings	Mitre10
Suburb	North Parramatta	Bankstown Airport	Windsor	Minchinbury	Narallan	Morriset	Pictou	South Nowra	Orange
	2152	2200	2756	2770	2507	2264	2571	2541	2800
Region	Sydney	Sydney	Sydney	Sydney	Sydney	Northern	Northern	Northern	Southern
Network Peak Hours									
Year of Network Survey	2007	2005	2007	2007	2005	2004	2009	2009	2005
Dates							6/4-12/4	18/3-24/3	
AM Peak - Weekdays	0800-0900	0700-0800	0800-0900	0800-0900	0800-0900	0800-0900	0900-1000	0800-0900	0800-0900
PM Peak - Weekdays	1700-1800	1600-1700	1500-1600	1700-1800	1600-1700	1600-1700	1600-1700	1500-1600	1600-1700
Peak - Weekends	1200-1300	1200-1300	1100-1200	1100-1200	1100-1200	1100-1200	1200-1300	1100-1200	1100-1200
Site Details - Bulky Goods/Hardware									
Area Dimension (m ²)			8,700		3,500		3,600		Unknown
Gross floor area (m ²)	9,800	14,111	1,800	11,915	2,400	2,000	1,600	9,948	1,800
No. of Employee (Total)			42		20		12		23
No. of employee (at one time)			34		15		12		8
Year Constructed			1990		1991-1992		Unknown		1980
Accessibility Score	<79	<79	<79	<79	<79	0.5	1	0	2
Opening Hours									
Mon-Fri	0700-2100	0700-2100	0630-1700	0700-2100	0700-1730	0630-1730	0730-1700	0700-2100	0700-1730
Sat	0800-1800	0800-1800	0800-1600	0800-1800	0730-1600	0700-1600	0700-1600	0800-1800	0800-1600
Sun	0800-1800	0800-1800	0900-1500	0800-1800	0900-1600	0700-1600	0900-1400	0800-1800	0900-1600
Parking Spaces									
Customers	263	464	44	397	35	29	75	209	28
Disabled	2	8	0	6	2	1	0	4	2
Staff			0		0	0	0		10
Loading Bay			2		1	0	5		2
Total	265	472	46	403	38	30	80	213	42
Survey Results									
Date of Survey - Weekdays	12/03/09	26/03/09	19/03/09	19/03/09	19/03/09	12/03/09	26/03/09	26/03/09	19/03/09
	(Thurs)	(Thurs)	(Thurs)	(Thurs)	(Thurs)	(Thurs)	(Thurs)	(Thurs)	(Thurs)
Weather	Sunny	Sunny	Sunny	Sunny	Sunny	Sunny	Sunny	Sunny/Rain	Sunny
								Evening	
Date of Survey - Weekend	14/03/09	28/03/09	21/03/09	21/03/09	21/03/09	14/03/09	28/03/09	28/03/09	21/03/09
	(Sat)	(Sat)	(Sat)	(Sat)	(Sat)	(Sat)	(Sat)	(Sat)	(Sat)
Weather	Sunny	Sunny	Sunny	Sunny	Sunny	Sunny/Rain	Sunny	Sunny	Sunny
						Evening			

3.3.1 Hardware / DIY

Table 3-1 Traffic Results Summary – Hardware/DIY

	Sydney Metropolitan Area					Non-Metropolitan Area			
Site ID	HW1	HW2	HW3	HW4	HW5	HW6	HW7	HW8	HW9
Gross floor area (m2)	9,800	14,111	1,800	11,915	2,400	2,000	1,600	9,948	1,800
Weekdays									
Person-based Trips									
- Site Peak Hour	484	565	101	688	119	128	97	393	100
Trips/ 100m ² GFA	4.94	4.00	5.61	5.77	4.98	6.40	6.06	3.95	5.58
- Vehicle Network AM Peak	162	92	49	273	65	49	76	127	61
Trips/ 100m ² GFA	1.65	0.65	2.72	2.29	2.71	2.45	4.75	1.28	3.39
- Vehicle Network PM Peak	281	350	88	474	79	93	66	278	64
Trips/ 100m ² GFA	2.87	2.48	4.89	3.98	3.29	4.65	4.13	2.79	3.56
Daily Total Person Trips	4,397	4,639	816	6,346	858	868	667	2,907	703
Trips/ 100m ² GFA	44.87	32.88	45.33	53.26	35.75	43.40	41.69	29.22	39.06
Vehicle-based Trips									
- Site Peak Hour	403	444	84	491	98	112	75	273	83
Trips/ 100m ² GFA	4.11	3.15	4.67	4.12	4.09	5.00	4.89	2.74	4.61
- Network AM Peak	140	84	40	243	51	42	62	108	53
Trips/ 100m ² GFA	1.43	0.60	2.22	2.04	2.13	2.10	3.88	1.09	2.94
- Network PM Peak	225	289	64	338	68	76	50	198	58
Trips/ 100m ² GFA	2.30	2.05	3.58	2.84	2.75	3.80	3.13	1.99	3.22
Daily Total LV Trips	3,441	3,643	514	4,558	605	718	623	2,055	576
Trips/ 100m ² GFA	35.11	25.82	28.56	38.25	25.21	35.90	32.89	20.66	31.94
Daily Total HV Trips	122	139	111	178	51	45	13	89	33
Trips/ 100m ² GFA	1.24	0.99	6.17	1.49	2.13	2.25	1.19	0.89	1.83
Daily Total Vehicle Trips	3,563	3,782	625	4,736	656	763	542	2,124	608
Trips/ 100m ² GFA	36.36	26.80	34.72	39.75	27.33	38.15	33.88	21.35	33.78
% HV	3.4%	3.7%	17.8%	3.8%	7.8%	5.9%	3.5%	3.2%	5.4%
Peak Parking Accumulation	119	155	14	199	25	38	30	104	20
Peak Parking/ 100m ² GFA	1.21	1.10	0.78	1.67	1.04	1.90	1.88	1.05	1.11
Weekend									
Person-based Trips									
- Site Peak Hour	1,000	1,331	123	1,256	205	184	122	739	147
Trips/ 100m ² GFA	10.20	9.43	6.83	10.54	8.54	9.20	7.63	7.43	8.17
- Vehicle Network Peak	925	1,282	108	1,244	192	174	122	709	120
Trips/ 100m ² GFA	9.44	9.00	6.00	10.44	8.00	8.70	7.63	7.13	6.67
Daily Total Person Trips	7,100	8,590	665	8,664	1,238	998	855	4,738	723
Trips/ 100m ² GFA	72.45	60.87	36.94	74.39	51.58	49.90	40.94	47.63	40.17
Vehicle-based Trips									
- Site Peak Hour	656	844	77	754	151	112	78	447	111
Trips/ 100m ² GFA	6.69	5.93	4.28	6.33	6.29	5.60	4.88	4.49	6.17
- Network Peak	593	805	65	754	119	104	78	426	96
Trips/ 100m ² GFA	6.05	6.70	3.61	6.33	4.96	5.20	4.88	4.28	5.33
Daily Total LV Trips	4,780	5,493	396	5,440	882	644	488	2,809	571
Trips/ 100m ² GFA	48.78	38.93	22.00	45.66	36.75	32.20	30.66	28.24	31.72
Daily Total HV Trips	27	115	16	60	3	5	0	15	2
Trips/ 100m ² GFA	0.28	0.61	0.89	0.50	0.13	0.25	0.00	0.15	0.11
Daily Total Vehicle Trips	4,807	5,608	412	5,500	885	649	488	2,824	573
Trips/ 100m ² GFA	49.05	39.74	22.89	46.16	36.88	32.45	30.56	28.39	31.83
% HV	0.6%	2.1%	3.9%	1.1%	0.3%	0.8%	0.0%	0.5%	0.3%
Peak Parking Accumulation	196	318	30	264	36	29	45	152	27
Peak Parking/ 100m ² GFA	2.00	2.59	1.67	2.22	1.50	1.45	2.81	1.53	1.50

APPENDIX C

SIDRA OUTPUT SUMMARIES

MOVEMENT SUMMARY

Site: Ex Thu PM

Victoria Road & Edinburgh Road

Existing Thursday afternoon peak hour

Signals - Fixed Time Cycle Time = 121 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Victoria Road south											
2	T1	405	2.0	0.446	22.8	LOS B	15.8	112.2	0.72	0.63	35.7
3	R2	140	2.0	0.446	39.1	LOS C	6.3	44.9	0.79	0.81	29.7
Approach		545	2.0	0.446	27.0	LOS B	15.8	112.2	0.74	0.68	33.9
East: Edinburgh Road											
4	L2	550	2.0	0.459	11.6	LOS A	9.5	67.7	0.39	0.73	46.0
6	R2	210	2.0	0.133	31.4	LOS C	9.5	67.7	0.64	0.76	32.9
Approach		760	2.0	0.459	17.1	LOS B	9.5	67.7	0.46	0.74	41.5
North: Victoria Road north											
7	L2	135	2.0	0.333	20.7	LOS B	9.7	69.3	0.66	0.70	37.6
8	T1	470	2.0	0.333	21.1	LOS B	11.0	78.4	0.66	0.62	37.0
Approach		605	2.0	0.333	21.0	LOS B	11.0	78.4	0.66	0.64	37.1
All Vehicles		1910	2.0	0.459	21.2	LOS B	15.9	112.2	0.60	0.69	37.7

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	27.2	LOS C	0.1	0.1	0.67	0.67	
P2	East Full Crossing	53	22.1	LOS C	0.1	0.1	0.60	0.60	
All Pedestrians		105	24.6	LOS C			0.64	0.64	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: Ex Sat mid

Victoria Road & Edinburgh Road

Existing Saturday lunchtime peak hour

Signals - Fixed Time Cycle Time = 120 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Victoria Road south											
2	T1	415	2.0	0.287	5.0	LOS A	7.6	53.8	0.34	0.30	51.1
3	R2	315	2.0	0.463	16.4	LOS B	7.6	54.3	0.45	0.76	42.1
Approach		730	2.0	0.463	9.9	LOS A	7.6	54.3	0.39	0.50	46.8
East: Edinburgh Road											
4	L2	360	2.0	0.315	9.4	LOS A	2.2	15.9	0.18	0.67	48.1
6	R2	160	2.0	0.291	59.1	LOS E	4.2	30.2	0.93	0.77	23.6
Approach		520	2.0	0.315	24.7	LOS B	4.2	30.2	0.41	0.70	36.5
North: Victoria Road north											
7	L2	130	2.0	0.149	7.9	LOS A	2.4	17.3	0.27	0.58	48.9
8	T1	300	2.0	0.149	5.4	LOS A	3.4	24.5	0.29	0.35	51.1
Approach		430	2.0	0.149	6.2	LOS A	3.4	24.5	0.29	0.42	50.4
All Vehicles		1680	2.0	0.463	13.5	LOS A	7.6	54.3	0.37	0.54	43.8

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95	
P2	East Full Crossing	53	6.4	LOS A	0.1	0.1	0.33	0.33	
All Pedestrians		105	30.3	LOS D			0.64	0.64	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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SIDRA INTERSECTION 6.0.9.3896

Project: G:\Traffic\SIDRA 6.0\8053 Marrickville Masters\Victoria Road & Edinburgh Road.sip6

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SIDRA
INTERSECTION 6

MOVEMENT SUMMARY

 Site: Ex Thu PM

Edinburgh Road & Fitzroy Street
Existing Thursday afternoon peak hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fitzroy Street											
1	L2	90	2.0	0.342	16.2	LOS B	2.1	14.9	0.76	1.78	42.2
3	R2	140	2.0	0.342	16.2	LOS B	2.1	14.9	0.76	1.78	42.2
Approach		230	2.0	0.342	16.2	LOS B	2.1	14.9	0.76	0.89	42.2
East: Edinburgh Road east											
4	L2	160	2.0	0.569	8.5	LOS A	5.7	40.4	0.26	1.10	48.1
5	T1	670	2.0	0.569	8.5	LOS A	5.7	40.4	0.26	1.10	48.1
Approach		830	2.0	0.569	8.5	LOS A	5.7	40.4	0.26	0.55	48.1
West: Edinburgh Road west											
11	T1	240	2.0	0.252	9.4	LOS A	1.6	11.6	0.41	1.22	47.3
12	R2	35	2.0	0.252	9.4	LOS A	1.6	11.6	0.41	1.22	47.3
Approach		275	2.0	0.252	9.4	LOS A	1.6	11.6	0.41	0.61	47.3
All Vehicles		1335	2.0	0.569	10.0	LOS A	5.7	40.4	0.38	0.62	46.8

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA INTERSECTION 6.0.9.3896

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

 Site: Ex Sat mid

Edinburgh Road & Fitzroy Street
Existing Saturday lunchtime peak hour
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fitzroy Street											
1	L2	65	2.0	0.323	14.6	LOS B	1.9	13.6	0.64	1.63	43.5
3	R2	200	2.0	0.323	14.6	LOS B	1.9	13.6	0.64	1.63	43.5
Approach		265	2.0	0.323	14.6	LOS B	1.9	13.6	0.64	0.81	43.5
East: Edinburgh Road east											
4	L2	150	2.0	0.417	8.5	LOS A	3.4	24.4	0.20	1.12	48.4
5	T1	455	2.0	0.417	8.5	LOS A	3.4	24.4	0.20	1.12	48.4
Approach		605	2.0	0.417	8.5	LOS A	3.4	24.4	0.20	0.56	48.4
West: Edinburgh Road west											
11	T1	415	2.0	0.427	9.8	LOS A	3.1	22.4	0.55	1.31	46.8
12	R2	30	2.0	0.427	9.8	LOS A	3.1	22.4	0.55	1.31	46.8
Approach		445	2.0	0.427	9.8	LOS A	3.1	22.4	0.55	0.66	46.8
All Vehicles		1315	2.0	0.427	10.2	LOS A	3.4	24.4	0.41	0.64	46.8

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA INTERSECTION 6.0.9.3896

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

Site: Ex Thu PM

Edinburgh Road & Smidmore Street

Existing Thursday afternoon peak hour

Signals - Fixed Time Cycle Time = 80 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Edinburgh Road east											
5	T1	520	2.0	0.540	13.1	LOS A	11.3	80.4	0.65	0.59	36.7
6	R2	50	2.0	0.540	13.9	LOS A	11.3	80.4	0.69	0.64	36.2
Approach		570	2.0	0.540	13.1	LOS A	11.3	80.4	0.66	0.59	36.7
North: Smidmore Street											
7	L2	20	2.0	0.034	26.4	LOS B	0.5	3.8	0.71	0.69	30.7
9	R2	310	2.0	0.538	30.8	LOS C	10.0	71.0	0.86	0.82	28.8
Approach		330	2.0	0.538	30.5	LOS C	10.0	71.0	0.85	0.81	28.9
West: Edinburgh Road west											
10	L2	245	2.0	0.157	7.2	LOS A	0.8	6.0	0.18	0.64	42.5
11	T1	135	2.0	0.134	10.3	LOS A	2.7	19.0	0.54	0.44	38.7
Approach		380	2.0	0.157	8.3	LOS A	2.7	19.0	0.31	0.57	41.1
All Vehicles		1280	2.0	0.540	16.2	LOS B	11.3	80.4	0.60	0.64	35.4

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	27.3	LOS C	0.1	0.1	0.83	0.83	
P3	North Full Crossing	53	13.8	LOS B	0.1	0.1	0.59	0.59	
P4	West Full Crossing	53	27.3	LOS C	0.1	0.1	0.83	0.83	
All Pedestrians		158	22.8	LOS C			0.75	0.75	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Processed: Monday, 1 July 2013 12:59:16 PM

SIDRA INTERSECTION 6.0.9.3896

Project: G:\Traffic\SIDRA 6.0\8053 Marrickville Masters\Edinburgh Road & Smidmore Street.sip6

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

Site: Ex Sat mid

Edinburgh Road & Smidmore Street

Existing Saturday lunchtime peak hour

Signals - Fixed Time Cycle Time = 80 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Edinburgh Road east											
5	T1	260	2.0	0.411	20.8	LOS B	7.0	49.6	0.77	0.66	32.2
6	R2	40	2.0	0.411	22.0	LOS B	7.0	49.6	0.80	0.70	31.6
Approach		300	2.0	0.411	21.0	LOS B	7.0	49.6	0.77	0.66	32.1
North: Smidmore Street											
7	L2	30	2.0	0.034	18.5	LOS B	0.6	4.4	0.56	0.68	34.7
9	R2	345	2.0	0.412	21.4	LOS B	8.7	62.1	0.69	0.79	33.1
Approach		375	2.0	0.412	21.2	LOS B	8.7	62.1	0.68	0.78	33.2
West: Edinburgh Road west											
10	L2	465	2.0	0.299	7.3	LOS A	1.8	13.1	0.22	0.66	42.4
11	T1	150	2.0	0.208	18.3	LOS B	4.0	28.3	0.72	0.58	33.4
Approach		615	2.0	0.299	10.0	LOS A	4.0	28.3	0.34	0.64	39.8
All Vehicles		1290	2.0	0.412	15.8	LOS B	8.7	62.1	0.54	0.68	35.8

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	18.3	LOS B	0.1	0.1	0.68	0.68	
P3	North Full Crossing	53	21.8	LOS C	0.1	0.1	0.74	0.74	
P4	West Full Crossing	53	18.3	LOS B	0.1	0.1	0.68	0.68	
All Pedestrians		158	19.4	LOS B			0.70	0.70	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Processed: Monday, 1 July 2013 1:00:26 PM

SIDRA INTERSECTION 6.0.9.3896

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

▽ Site: Ex Thu PM

Edinburgh Road & Sydney Steel Road
Existing Thursday afternoon peak hour
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sydney Steel Road											
1	L2	30	2.0	0.032	8.8	LOS A	0.1	0.8	0.49	0.68	41.3
3	R2	15	2.0	0.014	8.6	LOS A	0.1	0.8	0.47	0.67	41.5
Approach		45	2.0	0.032	8.8	LOS A	0.1	0.8	0.48	0.68	41.4
East: Edinburgh Road east											
4	L2	5	2.0	0.049	0.4	LOS A	0.0	0.0	0.00	0.05	49.6
5	T1	540	2.0	0.049	0.1	LOS A	0.0	0.0	0.00	0.01	49.9
Approach		545	2.0	0.235	0.1	NA	0.0	0.0	0.00	0.01	49.9
West: Edinburgh Road west											
11	T1	150	2.0	0.083	2.6	LOS A	0.7	4.7	0.55	0.03	43.5
12	R2	5	2.0	0.083	2.6	LOS A	0.7	4.7	0.55	0.03	43.5
Approach		155	2.0	0.083	2.6	NA	0.7	4.7	0.55	0.03	43.5
All Vehicles		745	2.0	0.235	1.1	NA	0.7	4.7	0.14	0.05	47.8

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Monday, 1 July 2013 1:11:39 PM

SIDRA INTERSECTION 6.0.9.3896

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SIDRA
INTERSECTION 6

MOVEMENT SUMMARY

▽ Site: Ex Sat mid

Edinburgh Road & Sydney Steel Road
Existing Saturday lunchtime peak hour
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sydney Steel Road											
1	L2	15	2.0	0.012	7.5	LOS A	0.0	0.3	0.34	0.58	42.0
3	R2	5	2.0	0.004	7.8	LOS A	0.0	0.3	0.38	0.59	41.8
Approach		20	2.0	0.012	7.6	LOS A	0.0	0.3	0.35	0.58	41.9
East: Edinburgh Road east											
4	L2	10	2.0	0.028	1.2	LOS A	0.0	0.0	0.00	0.16	48.6
5	T1	265	2.0	0.028	0.2	LOS A	0.0	0.0	0.00	0.03	49.8
Approach		295	2.0	0.125	0.2	NA	0.0	0.0	0.00	0.03	49.7
West: Edinburgh Road west											
11	T1	170	2.0	0.096	1.5	LOS A	0.6	4.4	0.40	0.05	44.9
12	R2	10	2.0	0.096	1.5	LOS A	0.6	4.4	0.40	0.05	44.9
Approach		180	2.0	0.096	1.5	NA	0.6	4.4	0.40	0.05	44.9
All Vehicles		495	2.0	0.125	1.0	NA	0.6	4.4	0.16	0.06	47.5

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Monday, 1 July 2013 1:12:42 PM

SIDRA INTERSECTION 6.0.9.3896

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SIDRA
INTERSECTION 6

MOVEMENT SUMMARY

Site: Ex Thu PM + MM

Victoria Road & Edinburgh Road

Existing Thursday afternoon peak hour + Marrickville Metro

Signals - Fixed Time Cycle Time = 120 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Victoria Road south											
2	T1	405	2.0	0.377	15.7	LOS B	13.0	92.8	0.60	0.53	40.5
3	R2	185	2.0	0.510	33.0	LOS C	7.7	54.6	0.74	0.81	32.2
Approach		590	2.0	0.510	21.1	LOS B	13.0	92.8	0.64	0.62	37.5
East: Edinburgh Road											
4	L2	590	2.0	0.522	11.6	LOS A	10.5	74.6	0.40	0.74	46.0
6	R2	290	2.0	0.232	39.5	LOS C	10.5	74.6	0.76	0.79	29.5
Approach		880	2.0	0.522	20.8	LOS B	10.5	74.6	0.52	0.75	38.9
North: Victoria Road north											
7	L2	200	2.0	0.305	16.1	LOS B	8.5	60.6	0.54	0.69	41.2
8	T1	460	2.0	0.305	15.3	LOS B	10.0	71.4	0.56	0.55	41.1
Approach		660	2.0	0.305	15.5	LOS B	10.0	71.4	0.56	0.59	41.2
All Vehicles		2130	2.0	0.522	19.2	LOS B	13.0	92.8	0.57	0.67	39.1

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	34.6	LOS D	0.1	0.1	0.76	0.76
P2	East Full Crossing	53	16.1	LOS B	0.1	0.1	0.52	0.52
All Pedestrians		105	25.3	LOS C			0.64	0.64

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Processed: Friday, 19 July 2013 5:39:49 PM

SIDRA INTERSECTION 6.0.9.3896

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

Site: Ex Sat mid + MM

Victoria Road & Edinburgh Road

Existing Saturday lunchtime peak hour + Marrickville Metro

Signals - Fixed Time Cycle Time = 120 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Victoria Road south											
2	T1	395	2.0	0.274	5.0	LOS A	7.1	50.5	0.34	0.30	51.2
3	R2	395	2.0	0.651	18.8	LOS B	12.4	88.0	0.57	0.80	40.3
Approach		790	2.0	0.651	11.9	LOS A	12.4	88.0	0.46	0.55	45.1
East: Edinburgh Road											
4	L2	440	2.0	0.383	9.6	LOS A	3.3	23.7	0.21	0.68	47.9
6	R2	300	2.0	0.546	61.4	LOS E	8.3	59.3	0.97	0.81	23.0
Approach		740	2.0	0.546	30.6	LOS C	8.3	59.3	0.52	0.73	33.3
North: Victoria Road north											
7	L2	250	2.0	0.176	9.3	LOS A	1.8	13.1	0.19	0.67	48.1
8	T1	280	2.0	0.176	5.0	LOS A	4.2	29.8	0.30	0.30	51.5
Approach		530	2.0	0.176	7.0	LOS A	4.2	29.8	0.25	0.47	49.8
All Vehicles		2060	2.0	0.651	17.4	LOS B	12.4	88.0	0.43	0.60	40.9

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95	
P2	East Full Crossing	53	6.4	LOS A	0.1	0.1	0.33	0.33	
All Pedestrians		105	30.3	LOS D			0.64	0.64	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Processed: Monday, 1 July 2013 1:32:29 PM

SIDRA INTERSECTION 6.0.9.3896

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

 Site: Ex Thu PM + MM

Edinburgh Road & Fitzroy Street
Existing Thursday afternoon peak hour + Marrickville Metro
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fitzroy Street											
1	L2	90	2.0	0.416	18.8	LOS B	2.9	20.5	0.84	1.95	40.3
3	R2	155	2.0	0.416	18.8	LOS B	2.9	20.5	0.84	1.95	40.3
Approach		245	2.0	0.416	18.8	LOS B	2.9	20.5	0.84	0.98	40.3
East: Edinburgh Road east											
4	L2	175	2.0	0.656	8.6	LOS A	7.9	56.6	0.31	1.07	47.9
5	T1	790	2.0	0.656	8.6	LOS A	7.9	56.6	0.31	1.07	47.9
Approach		965	2.0	0.656	8.6	LOS A	7.9	56.6	0.31	0.54	47.9
West: Edinburgh Road west											
11	T1	350	2.0	0.353	9.5	LOS A	2.6	18.2	0.47	1.24	47.1
12	R2	35	2.0	0.353	9.5	LOS A	2.6	18.2	0.47	1.24	47.1
Approach		385	2.0	0.353	9.5	LOS A	2.6	18.2	0.47	0.62	47.1
All Vehicles		1595	2.0	0.656	10.3	LOS A	7.9	56.6	0.43	0.62	46.4

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Monday, 1 July 2013 1:34:18 PM

SIDRA INTERSECTION 6.0.9.3896

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

 Site: Ex Sat mid + MM

Edinburgh Road & Fitzroy Street
Existing Saturday lunchtime peak hour + Marrickville Metro
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fitzroy Street											
1	L2	65	2.0	0.434	17.7	LOS B	3.0	21.4	0.80	1.89	41.1
3	R2	225	2.0	0.434	17.7	LOS B	3.0	21.4	0.80	1.89	41.1
Approach		290	2.0	0.434	17.7	LOS B	3.0	21.4	0.80	0.94	41.1
East: Edinburgh Road east											
4	L2	175	2.0	0.575	8.5	LOS A	6.4	45.7	0.26	1.09	48.1
5	T1	675	2.0	0.575	8.5	LOS A	6.4	45.7	0.26	1.09	48.1
Approach		850	2.0	0.575	8.5	LOS A	6.4	45.7	0.26	0.54	48.1
West: Edinburgh Road west											
11	T1	615	2.0	0.629	10.7	LOS A	6.2	44.1	0.73	1.42	46.1
12	R2	30	2.0	0.629	10.7	LOS A	6.2	44.1	0.73	1.42	46.1
Approach		645	2.0	0.629	10.7	LOS A	6.2	44.1	0.73	0.71	46.1
All Vehicles		1785	2.0	0.629	10.8	LOS A	6.4	45.7	0.52	0.67	46.1

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Monday, 1 July 2013 1:35:16 PM

SIDRA INTERSECTION 6.0.9.3896

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SIDRA
INTERSECTION 6

MOVEMENT SUMMARY

Site: Ex Thu PM + MM

Edinburgh Road & Smidmore Street

Existing Thursday afternoon peak hour + Marrickville Metro

Signals - Fixed Time Cycle Time = 80 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Edinburgh Road east											
5	T1	620	2.0	0.657	13.7	LOS A	14.0	100.0	0.69	0.62	36.2
6	R2	50	2.0	0.657	14.7	LOS B	14.0	100.0	0.74	0.68	35.6
Approach		670	2.0	0.657	13.8	LOS A	14.0	100.0	0.69	0.63	36.2
North: Smidmore Street											
7	L2	95	2.0	0.160	27.4	LOS B	2.7	18.9	0.75	0.74	30.2
9	R2	345	2.0	0.672	31.7	LOS C	11.5	81.8	0.89	0.83	28.5
Approach		440	2.0	0.672	30.8	LOS C	11.5	81.8	0.86	0.81	28.8
West: Edinburgh Road west											
10	L2	280	2.0	0.180	7.2	LOS A	1.0	7.0	0.19	0.64	42.5
11	T1	225	2.0	0.223	10.9	LOS A	4.7	33.4	0.57	0.48	38.2
Approach		505	2.0	0.223	8.9	LOS A	4.7	33.4	0.36	0.57	40.5
All Vehicles		1615	2.0	0.672	16.9	LOS B	14.0	100.0	0.63	0.66	34.9

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	27.3	LOS C	0.1	0.1	0.83	0.83	
P3	North Full Crossing	53	13.8	LOS B	0.1	0.1	0.59	0.59	
P4	West Full Crossing	53	27.3	LOS C	0.1	0.1	0.83	0.83	
All Pedestrians		158	22.8	LOS C			0.75	0.75	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Processed: Monday, 1 July 2013 1:36:27 PM

SIDRA INTERSECTION 6.0.9.3896

Project: G:\Traffic\SIDRA 6.0\8053 Marrickville Masters\Edinburgh Road & Smidmore Street.sip6
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SIDRA
INTERSECTION 6

MOVEMENT SUMMARY

Site: Ex Sat mid + MM

Edinburgh Road & Smidmore Street

Existing Saturday lunchtime peak hour + Marrickville Metro

Signals - Fixed Time Cycle Time = 80 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Edinburgh Road east											
5	T1	425	2.0	0.621	20.2	LOS B	11.1	79.0	0.79	0.69	32.4
6	R2	40	2.0	0.621	21.8	LOS B	11.1	79.0	0.84	0.74	31.6
Approach		465	2.0	0.621	20.4	LOS B	11.1	79.0	0.80	0.69	32.3
North: Smidmore Street											
7	L2	145	2.0	0.181	21.4	LOS B	3.4	24.6	0.65	0.74	33.1
9	R2	425	2.0	0.643	24.6	LOS B	12.2	87.0	0.78	0.81	31.5
Approach		570	2.0	0.643	23.8	LOS B	12.2	87.0	0.75	0.80	31.9
West: Edinburgh Road west											
10	L2	540	2.0	0.347	7.3	LOS A	2.3	16.1	0.23	0.66	42.4
11	T1	300	2.0	0.378	17.6	LOS B	8.2	58.2	0.74	0.63	33.7
Approach		840	2.0	0.378	11.0	LOS A	8.2	58.2	0.41	0.65	38.8
All Vehicles		1875	2.0	0.643	17.2	LOS B	12.2	87.0	0.61	0.71	34.8

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	53	20.4	LOS C	0.1	0.1	0.71	0.71	
P3	North Full Crossing	53	19.6	LOS B	0.1	0.1	0.70	0.70	
P4	West Full Crossing	53	20.4	LOS C	0.1	0.1	0.71	0.71	
All Pedestrians		158	20.1	LOS C			0.71	0.71	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Processed: Monday, 1 July 2013 1:37:32 PM

SIDRA INTERSECTION 6.0.9.3896

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

 Site: Ex Thu PM + MM

Edinburgh Road & Sydney Steel Road
Existing Thursday afternoon peak hour + Marrickville Metro
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sydney Steel Road											
1	L2	30	2.0	0.072	12.5	LOS A	0.4	3.0	0.72	1.51	38.6
3	R2	15	2.0	0.072	12.5	LOS A	0.4	3.0	0.72	1.51	38.6
Approach		45	2.0	0.072	12.5	LOS A	0.4	3.0	0.72	0.76	38.6
East: Edinburgh Road east											
4	L2	5	2.0	0.448	6.6	LOS A	3.6	25.9	0.42	1.07	42.4
5	T1	540	2.0	0.448	6.6	LOS A	3.6	25.9	0.42	1.07	42.4
Approach		545	2.0	0.448	6.6	LOS A	3.6	25.9	0.42	0.53	42.4
West: Edinburgh Road west											
11	T1	215	2.0	0.217	8.1	LOS A	1.7	11.9	0.13	1.16	44.1
12	R2	5	2.0	0.217	8.1	LOS A	1.7	11.9	0.13	1.16	44.1
12u	U	100	2.0	0.217	8.1	LOS A	1.7	11.9	0.13	1.16	44.1
Approach		320	2.0	0.217	8.1	LOS A	1.7	11.9	0.13	0.58	44.1
All Vehicles		910	2.0	0.448	7.4	LOS A	3.6	25.9	0.33	0.56	42.8

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Monday, 1 July 2013 1:43:39 PM

SIDRA INTERSECTION 6.0.9.3896

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

 Site: Ex Sat mid + MM

Edinburgh Road & Sydney Steel Road
Existing Saturday lunchtime peak hour + Marrickville Metro
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sydney Steel Road											
1	L2	15	2.0	0.026	10.3	LOS A	0.1	1.0	0.60	1.31	40.1
3	R2	5	2.0	0.026	10.3	LOS A	0.1	1.0	0.60	1.31	40.1
Approach		20	2.0	0.026	10.3	LOS A	0.1	1.0	0.60	0.65	40.1
East: Edinburgh Road east											
4	L2	10	2.0	0.282	7.1	LOS A	1.8	12.9	0.46	1.15	42.2
5	T1	285	2.0	0.282	7.1	LOS A	1.8	12.9	0.46	1.15	42.2
Approach		295	2.0	0.282	7.1	LOS A	1.8	12.9	0.46	0.58	42.2
West: Edinburgh Road west											
11	T1	270	2.0	0.278	8.5	LOS A	2.3	16.1	0.07	1.23	44.4
12	R2	10	2.0	0.278	8.5	LOS A	2.3	16.1	0.07	1.23	44.4
12u	U	165	2.0	0.278	8.5	LOS A	2.3	16.1	0.07	1.23	44.4
Approach		445	2.0	0.278	8.5	LOS A	2.3	16.1	0.07	0.62	44.4
All Vehicles		760	2.0	0.282	8.0	LOS A	2.3	16.1	0.23	0.60	43.4

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Monday, 1 July 2013 1:45:09 PM

SIDRA INTERSECTION 6.0.9.3896

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

Site: Ex Thu PM + MM + dev

Victoria Road & Edinburgh Road

Existing Thursday afternoon peak hour + Marrickville Metro + Masters

Signals - Fixed Time Cycle Time = 120 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Victoria Road south											
2	T1	405	2.0	0.356	13.4	LOS A	12.0	85.6	0.56	0.49	42.3
3	R2	210	2.0	0.554	31.2	LOS C	8.6	61.2	0.73	0.82	33.1
Approach		615	2.0	0.554	19.5	LOS B	12.0	85.6	0.62	0.60	38.6
East: Edinburgh Road											
4	L2	615	2.0	0.556	11.7	LOS A	11.5	81.8	0.42	0.75	45.9
6	R2	310	2.0	0.275	43.0	LOS D	11.5	81.8	0.80	0.79	28.2
Approach		925	2.0	0.556	22.2	LOS B	11.5	81.8	0.55	0.76	38.0
North: Victoria Road north											
7	L2	220	2.0	0.296	14.3	LOS A	7.8	55.8	0.49	0.68	42.7
8	T1	460	2.0	0.296	13.2	LOS A	9.6	68.2	0.52	0.52	42.8
Approach		680	2.0	0.296	13.6	LOS A	9.6	68.2	0.51	0.57	42.8
All Vehicles		2220	2.0	0.556	18.8	LOS B	12.0	85.6	0.56	0.66	39.5

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	37.7	LOS D	0.1	0.1	0.79	0.79
P2	East Full Crossing	53	14.0	LOS B	0.1	0.1	0.48	0.48
All Pedestrians		105	25.9	LOS C			0.64	0.64

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Processed: Friday, 19 July 2013 5:40:40 PM

SIDRA INTERSECTION 6.0.9.3898

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

Site: Ex Sat mid + MM + dev

Victoria Road & Edinburgh Road

Existing Saturday lunchtime peak hour + Marrickville Metro + Masters

Signals - Fixed Time Cycle Time = 120 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Victoria Road south											
2	T1	395	2.0	0.290	6.7	LOS A	8.3	59.0	0.39	0.35	49.0
3	R2	450	2.0	0.497	32.2	LOS C	14.8	105.1	0.72	0.90	32.6
Approach		845	2.0	0.497	20.3	LOS B	14.8	105.1	0.57	0.64	38.7
East: Edinburgh Road											
4	L2	495	2.0	0.357	11.9	LOS A	7.2	51.4	0.35	0.72	45.8
6	R2	350	2.0	0.499	56.7	LOS E	9.3	66.2	0.94	0.81	24.1
Approach		845	2.0	0.499	30.4	LOS C	9.3	66.2	0.59	0.76	33.4
North: Victoria Road north											
7	L2	300	2.0	0.486	32.4	LOS C	16.2	115.3	0.76	0.80	32.0
8	T1	280	2.0	0.486	41.7	LOS C	16.2	115.3	0.88	0.78	27.6
Approach		580	2.0	0.486	36.9	LOS C	16.2	115.3	0.82	0.79	29.7
All Vehicles		2270	2.0	0.499	28.3	LOS B	16.2	115.3	0.64	0.72	34.1

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	49.6	LOS E	0.2	0.2	0.91	0.91
P2	East Full Crossing	53	46.0	LOS E	0.2	0.2	0.88	0.88
All Pedestrians		105	47.8	LOS E			0.89	0.89

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 **Site: Ex Thu PM + MM + Masters**

Edinburgh Road & Fitzroy Street
Existing Thursday afternoon peak hour + Marrickville Metro + Masters
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fitzroy Street											
1	L2	90	2.0	0.471	20.6	LOS B	3.6	25.6	0.88	2.04	39.1
3	R2	175	2.0	0.471	20.6	LOS B	3.6	25.6	0.88	2.04	39.1
Approach		265	2.0	0.471	20.6	LOS B	3.6	25.6	0.88	1.02	39.1
East: Edinburgh Road east											
4	L2	195	2.0	0.691	8.6	LOS A	9.2	65.7	0.34	1.06	47.8
5	T1	825	2.0	0.691	8.6	LOS A	9.2	65.7	0.34	1.06	47.8
Approach		1020	2.0	0.691	8.6	LOS A	9.2	65.7	0.34	0.53	47.8
West: Edinburgh Road west											
11	T1	385	2.0	0.395	9.7	LOS A	3.0	21.2	0.52	1.27	46.9
12	R2	35	2.0	0.395	9.7	LOS A	3.0	21.2	0.52	1.27	46.9
Approach		420	2.0	0.395	9.7	LOS A	3.0	21.2	0.52	0.64	46.9
All Vehicles		1705	2.0	0.691	10.7	LOS A	9.2	65.7	0.47	0.63	46.0

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Friday, 19 July 2013 5:58:22 PM

SIDRA INTERSECTION 6.0.9.3896

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**SIDRA
INTERSECTION 6**

MOVEMENT SUMMARY

 Site: Ex Sat mid + MM + Masters

Edinburgh Road & Fitzroy Street
Existing Saturday lunchtime peak hour + Marrickville Metro + Masters
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Fitzroy Street											
1	L2	65	2.0	0.574	22.4	LOS B	5.1	36.1	0.90	2.13	37.9
3	R2	275	2.0	0.574	22.4	LOS B	5.1	36.1	0.90	2.13	37.9
Approach		340	2.0	0.574	22.4	LOS B	5.1	36.1	0.90	1.06	37.9
East: Edinburgh Road east											
4	L2	225	2.0	0.672	8.6	LOS A	9.7	69.0	0.34	1.05	47.8
5	T1	775	2.0	0.672	8.6	LOS A	9.7	69.0	0.34	1.05	47.8
Approach		1000	2.0	0.672	8.6	LOS A	9.7	69.0	0.34	0.52	47.8
West: Edinburgh Road west											
11	T1	715	2.0	0.773	14.4	LOS A	11.4	81.1	0.93	1.73	43.6
12	R2	30	2.0	0.773	14.4	LOS A	11.4	81.1	0.93	1.73	43.6
Approach		745	2.0	0.773	14.4	LOS A	11.4	81.1	0.93	0.87	43.6
All Vehicles		2085	2.0	0.773	12.9	LOS A	11.4	81.1	0.64	0.73	44.4

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Friday, 19 July 2013 5:59:59 PM

SIDRA INTERSECTION 6.0.9.3896

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SIDRA
INTERSECTION 6

MOVEMENT SUMMARY

Site: Ex Thu PM + MM + dev

Edinburgh Road & Smidmore Street

Existing Thursday afternoon peak hour + Marrickville Metro + Masters

Signals - Fixed Time Cycle Time = 80 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: RoadName											
1	L2	84	2.0	0.141	20.5	LOS B	2.6	18.8	0.62	0.71	38.5
2	T1	32	2.0	0.141	20.5	LOS B	2.6	18.8	0.62	0.71	38.5
3	R2	58	2.0	0.122	28.4	LOS B	1.6	11.1	0.71	0.74	34.5
Approach		174	2.0	0.141	23.1	LOS B	2.6	18.8	0.65	0.72	37.0
East: Edinburgh Road east											
4	L2	58	2.0	0.415	25.8	LOS B	7.7	54.8	0.84	0.74	31.2
5	T1	620	2.0	0.717	27.0	LOS B	15.5	110.3	0.91	0.81	29.5
6	R2	50	2.0	0.364	47.5	LOS D	2.0	14.2	0.99	0.74	23.5
Approach		728	2.0	0.717	28.3	LOS B	15.5	110.3	0.91	0.80	29.1
North: Smidmore Street											
7	L2	95	2.0	0.152	19.1	LOS B	2.9	20.7	0.62	0.70	35.2
8	T1	32	2.0	0.152	19.1	LOS B	2.9	20.7	0.62	0.70	35.2
9	R2	345	2.0	0.715	32.5	LOS C	12.4	88.4	0.92	0.88	28.2
Approach		472	2.0	0.715	28.9	LOS C	12.4	88.4	0.84	0.83	29.8
West: Edinburgh Road west											
10	L2	280	2.0	0.489	31.0	LOS C	9.0	64.1	0.86	0.81	28.8
11	T1	225	2.0	0.374	23.3	LOS B	9.0	64.1	0.82	0.69	30.8
12	R2	84	2.0	0.613	51.5	LOS D	3.5	24.9	1.00	0.80	25.6
Approach		589	2.0	0.613	31.0	LOS C	9.0	64.1	0.87	0.76	28.9
All Vehicles		1962	2.0	0.717	28.8	LOS C	15.5	110.3	0.86	0.79	29.8

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	25.7	LOS C	0.1	0.1	0.80	0.80
P2	East Full Crossing	53	25.7	LOS C	0.1	0.1	0.80	0.80
P3	North Full Crossing	53	25.7	LOS C	0.1	0.1	0.80	0.80
P4	West Full Crossing	53	25.7	LOS C	0.1	0.1	0.80	0.80
All Pedestrians		211	25.7	LOS C			0.80	0.80

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: Ex Sat mid + MM + dev

Edinburgh Road & Smidmore Street

Existing Saturday lunchtime peak hour + Marrickville Metro + Masters

Signals - Fixed Time Cycle Time = 88 seconds (Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: RoadName											
1	L2	211	2.0	0.559	23.5	LOS B	6.7	47.5	0.90	0.81	36.4
2	T1	79	2.0	0.559	23.5	LOS B	6.7	47.5	0.90	0.81	36.4
3	R2	147	2.0	0.654	49.4	LOS D	6.4	45.4	0.99	0.84	26.2
Approach		437	2.0	0.654	32.3	LOS C	6.7	47.5	0.93	0.82	32.1
East: Edinburgh Road east											
4	L2	147	2.0	0.549	41.2	LOS C	8.2	58.6	0.95	0.81	27.6
5	T1	385	2.0	0.823	41.9	LOS C	14.9	106.1	0.99	0.96	24.5
6	R2	40	2.0	0.160	43.9	LOS D	1.6	11.1	0.92	0.73	24.4
Approach		572	2.0	0.823	41.8	LOS C	14.9	106.1	0.97	0.90	25.3
North: Smidmore Street											
7	L2	145	2.0	0.243	17.9	LOS B	5.4	38.7	0.60	0.69	36.3
8	T1	79	2.0	0.243	17.9	LOS B	5.4	38.7	0.60	0.69	36.3
9	R2	425	2.0	0.860	46.8	LOS D	18.1	128.8	1.00	1.11	23.7
Approach		649	2.0	0.860	36.8	LOS C	18.1	128.8	0.86	0.97	27.0
West: Edinburgh Road west											
10	L2	540	2.0	0.811	25.3	LOS B	14.5	102.9	0.96	0.91	31.2
11	T1	260	2.0	0.660	35.9	LOS C	14.5	102.9	0.97	0.83	25.8
12	R2	211	2.0	0.843	56.9	LOS E	10.1	72.1	1.00	0.93	24.1
Approach		1011	2.0	0.843	34.6	LOS C	14.5	102.9	0.97	0.89	27.9
All Vehicles		2669	2.0	0.860	36.3	LOS C	18.1	128.8	0.94	0.90	27.7

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	35.5	LOS D	0.1	0.1	0.90	0.90
P2	East Full Crossing	53	39.2	LOS D	0.1	0.1	0.95	0.95
P3	North Full Crossing	53	35.5	LOS D	0.1	0.1	0.90	0.90
P4	West Full Crossing	53	39.2	LOS D	0.1	0.1	0.95	0.95
All Pedestrians		211	37.4	LOS D			0.92	0.92

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: Ex Thu PM + MM + dev

Edinburgh Road & Sydney Steel Road
Existing Thursday afternoon peak hour + Marrickville Metro + Masters
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sydney Steel Road											
1	L2	30	2.0	0.075	12.9	LOS A	0.4	3.2	0.74	1.54	38.2
3	R2	15	2.0	0.075	12.9	LOS A	0.4	3.2	0.74	1.54	38.2
Approach		45	2.0	0.075	12.9	LOS A	0.4	3.2	0.74	0.77	38.2
East: Edinburgh Road east											
4	L2	5	2.0	0.478	6.6	LOS A	4.1	28.9	0.44	1.07	42.3
5	T1	580	2.0	0.478	6.6	LOS A	4.1	28.9	0.44	1.07	42.3
Approach		585	2.0	0.478	6.6	LOS A	4.1	28.9	0.44	0.53	42.3
West: Edinburgh Road west											
11	T1	255	2.0	0.242	7.8	LOS A	1.9	13.7	0.13	1.14	44.0
12	R2	5	2.0	0.242	7.8	LOS A	1.9	13.7	0.13	1.14	44.0
12u	U	100	2.0	0.242	7.8	LOS A	1.9	13.7	0.13	1.14	44.0
Approach		360	2.0	0.242	7.8	LOS A	1.9	13.7	0.13	0.57	44.0
All Vehicles		990	2.0	0.478	7.3	LOS A	4.1	28.9	0.34	0.56	42.7

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA INTERSECTION 6.0.9.3896

Project: G:\Traffic\SIDRA 6.0\8053 Marrickville Masters\Edinburgh Road & Sydney Steel Road.sip6
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SIDRA
INTERSECTION 6

MOVEMENT SUMMARY

 Site: Ex Sat mid + MM + dev

Edinburgh Road & Sydney Steel Road
Existing Saturday lunchtime peak hour + Marrickville Metro + Masters
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Sydney Steel Road											
1	L2	15	2.0	0.029	11.2	LOS A	0.2	1.2	0.66	1.36	39.5
3	R2	5	2.0	0.029	11.2	LOS A	0.2	1.2	0.66	1.36	39.5
Approach		20	2.0	0.029	11.2	LOS A	0.2	1.2	0.66	0.68	39.5
East: Edinburgh Road east											
4	L2	10	2.0	0.370	7.2	LOS A	2.6	18.5	0.49	1.17	42.1
5	T1	385	2.0	0.370	7.2	LOS A	2.6	18.5	0.49	1.17	42.1
Approach		395	2.0	0.370	7.2	LOS A	2.6	18.5	0.49	0.59	42.1
West: Edinburgh Road west											
11	T1	370	2.0	0.338	8.0	LOS A	3.0	21.5	0.07	1.19	44.3
12	R2	10	2.0	0.338	8.0	LOS A	3.0	21.5	0.07	1.19	44.3
12u	U	165	2.0	0.338	8.0	LOS A	3.0	21.5	0.07	1.19	44.3
Approach		545	2.0	0.338	8.0	LOS A	3.0	21.5	0.07	0.60	44.3
All Vehicles		960	2.0	0.370	7.7	LOS A	3.0	21.5	0.26	0.59	43.3

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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INTERSECTION 6

Revised Analysis of Potential Alternative Sites

In response to the decision of the JRPP on 23 May 2013, a revised analysis of the potential alternative sites has been undertaken by Urbis. A summary of this analysis is provided below. Due to the nature of this work and to provide suitable context to this work, the revised analysis has been prepared as previously provided in the original Planning Proposal document, being in the form of the Sequential Test and Site Suitability Criteria as outlined in the *NSW Draft Activities Centres Policy* (May 2010). Accordingly a revised Section 3.7 of the Planning Proposal report is provided below.

3.7 DRAFT NSW ACTIVITY CENTRES POLICY MAY 2010

The *NSW Draft Activities Centres Policy* (May 2010) (the 'draft Centres Policy') sets out the fundamental aims and principles to guide the formulation of regional and local planning strategies and the consideration of new development proposals.

The *draft Centres Policy* establishes key principles that form a state-wide policy context for the preparation of regional and subregional strategies and LEPs, and assists in determining the best location for new retail entrants such as Masters.

The aims of the *draft Centres Policy* are to:

- *"Promote a network of activity centres that cater for the needs of business and places where people want to live, work, learn, play and visit;*
- *Provide sufficient flexibility within the planning system so that it can accommodate demand for a broad range of uses to help encourage investment and facilitate competition; and*
- *Provide guidance on how to manage broad scale expansion of dynamic business sectors".*

The *draft Centres Policy* is based on six key planning principles to guide future development in and around activity centres and to provide for the emergence of new entrants.

1. Commercial development should be located in activity centres.
2. Activity centres should be able to grow and new activity centres form in a manner that is consistent with relevant and up to date regional or sub-regional strategies.
3. Market determines need for development.
4. The supply of development should accommodate market demand.
5. Activity centres should support a range of uses and contribute to a competitive market.
6. Activity centres should be well designed, sustainable and integrated with surrounding uses.

The six key planning principles area addressed in Section 7 of the Planning Proposal report and the Economic Impact Assessment included as **Appendix B** of the Planning Proposal report.

In considering out-of-centre proposals, the *draft Centres Policy* outlines a Sequential Test which should be used to inform the determination of appropriate new centre locations. Further, Site

Suitability Criteria should be used when considering the merits of alternative locations to accommodate development. These criteria are to be applied when assessing the merits of sites on the edge or outside of an existing or planned new activity centre when considering:

- Alternative sites to accommodate demand as part of the strategic planning processes;
- Spot rezoning proposals and development applications for individual sites.

The *draft Centres Policy* states that priority should be given to sites which perform best against the criteria. It is not necessary for a proposal to meet all the criteria in order to be supported.

Accordingly, both Sequential Test and Site Suitability Criteria have been used in the analysis undertaken below to identify whether sufficient opportunity exists for new development within the region or subregion.

3.7.1 THE SEQUENTIAL TEST

The Sequential Test has been used to consider the best location for the proposed Masters development. When considering an out-of-centre site, the Sequential Test calls for the following steps to be undertaken:

- **Step 1** – firstly, it must be demonstrated that there are no suitable sites within an existing or planned new activity centre that can satisfy the demand to be accommodated. This may be achieved by adjusting future intentions for a centre and could include:
 - Increasing height and floor space controls,
 - permitting a broader mix of uses, or
 - actions to facilitate site availability or site consolidation.
- **Step 2** – secondly, it must be then demonstrated that there are no suitable sites in an edge-of-centre location that can satisfy the demand to be accommodated.
- **Step 3** - thirdly, an out-of-activity centre site that can satisfy the demand to be accommodated may be considered if it meets the Site Suitability Criteria and is consistent with relevant local or regional planning strategy.

An assessment following these key steps has been undertaken by the proponent in preparing this Planning Proposal and is outlined below.

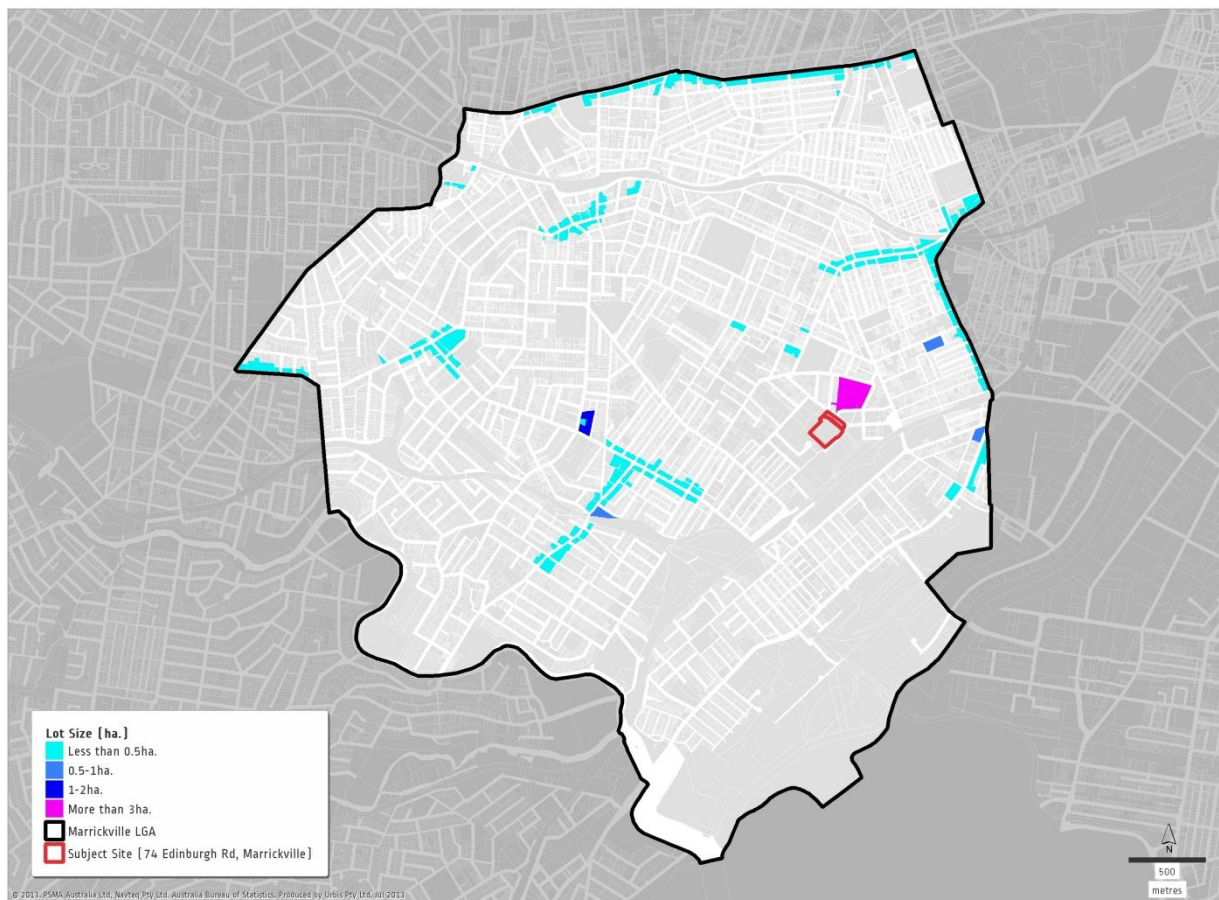
3.7.2 STEP 1: EXISTING ACTIVITY CENTRES IN MARRICKVILLE LGA

There are a number of Activity Centres within the Marrickville LGA which are zoned B2 – Local Centre or B4 - Mixed Use under the *Marrickville LEP 2011* (the MLEP 2011). It is noted that no land is zoned B3 – Commercial Core under MLEP 2011.

Based on the Planning Circular issued by the Department of Planning and Infrastructure '*How to Characterise Development*' (February 2013), the principle purpose of a Masters Home Improvement Store is '*hardware and building supplies*' which is mandated permissible in the B2 and B4 zones under the *Standard Instrument (Local Environmental Plan) Order 2006*.

An analysis of the lot size of the B2 and B4 zones has been prepared and illustrated in **Figure 3**. This analysis indicates that whilst the proposed Masters Home Improvement Store would be permissible in the B2 and B4 zones, aside from the Marrickville Metro site there are no sites large enough in the either zone to accommodate the Masters Home Improvement Store (all B2 zoned lots are less than 10,500m² and all B4 zoned lots are less than 8,500m² excluding the Marrickville Metro site). There are therefore no suitably zoned or sized sites within the B2 and B4 zone that could accommodate a Masters Home Improvement Store.

FIGURE 1 – LOT SIZE ANALYSIS OF ACTIVITY CENTRES (B2 AND B4 ZONES) UNDER MARRICKVILLE LEP 2011



It is noted that the vast majority of land surrounding the B2 and B4 zones (i.e. edge-of-centre land) is zoned for residential development, with some pockets of land zoned IN2, B5, B6 and B7 under MLEP 2011. *'Hardware and building supplies'* is prohibited in all residential zonings under the MLEP 2011, however is permissible in B5, B6, B7 and IN2 zones.

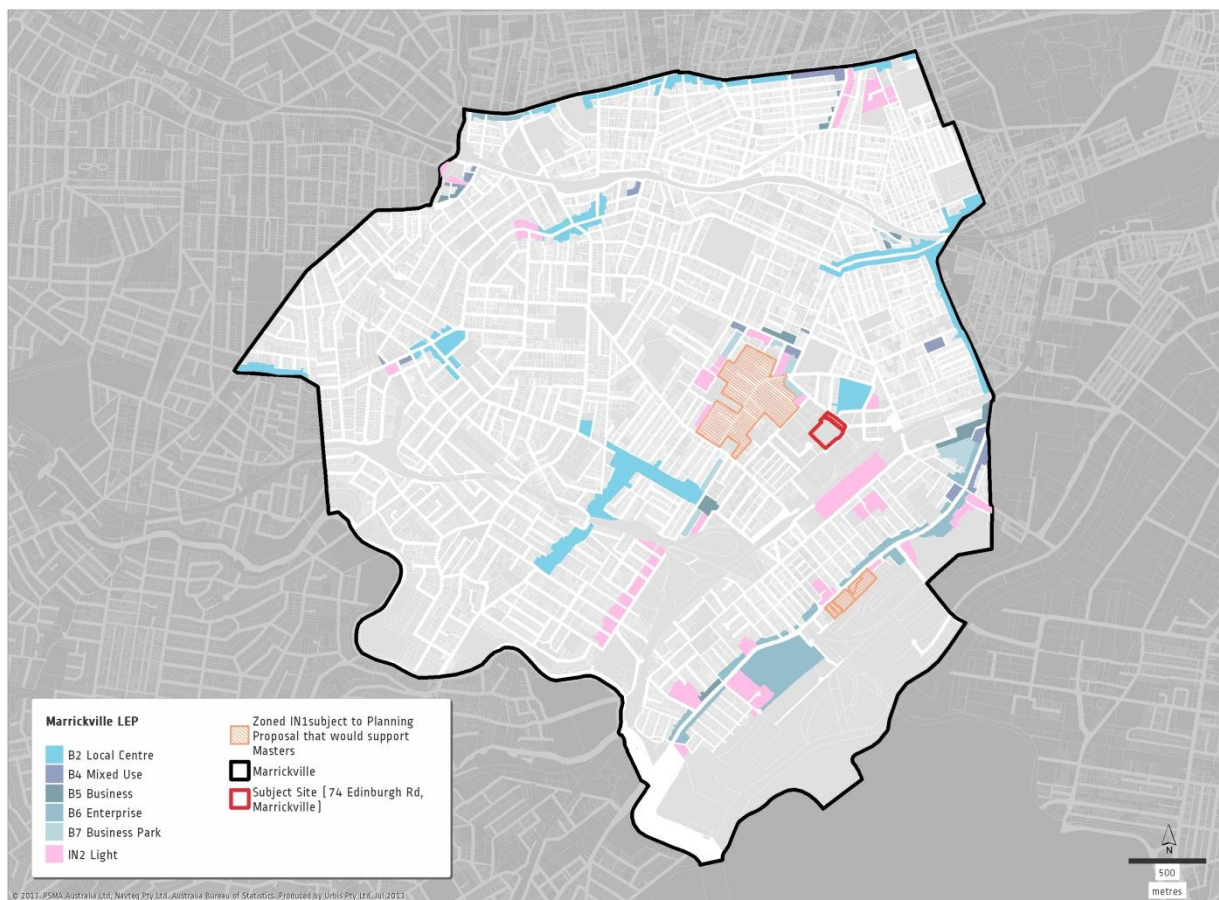
The *draft Centres Policy* states that where a development for the purpose of *'hardware and building supplies'* cannot be accommodated within an Activity Centre or an edge-of-centre location, they should be accommodated within a bulky goods cluster or on a busy road. Where the impacts are comparable to industrial uses and a significant proportion of customers are likely to come from the building sector, they may be located in industrial areas. This approach has been endorsed in the recently exhibited *Draft Metropolitan Strategy for Sydney*.

'Bulky goods premises' is permissible in the B2, B4, B5 and B6 zones under the MLEP 2011. An assessment of B2 and B4 zoned land has been undertaken above, while the assessment of the B5 and B6 zoned land is undertaken below concurrently with the assessment of these lands to support 'hardware and building supplies' which are both permissible uses within the B5 and B6 zones.

3.7.3 STEP 2: EDGE-OF-CENTRE LOCATIONS IN MARRICKVILLE

Under the MLEP 2010 'hardware and building supplies' is permissible in the B2, B4, B5, B6, B7 and IN2 zone. **Figure 2** shows the locations of all land within these zones under the MLEP 2011. These sites are identified as potential 'edge-of-centre' sites to accommodate a Masters Home Improvement Store.

FIGURE 2 – SITES WHERE 'HARDWARE AND BUILDING SUPPLIES' IS PERMISSIBLE OR PORPOSED TO BE PERMISSIBLE UNDER MLEP 2011



Existing Sites Zoned to Support Masters

The locations of the zones that would permit a Masters Home Improvement Store are primarily located along major transit routes and on the periphery of industrial lands, including the following areas:

- Old Canterbury Road, Dulwich Hill (B4, B5 and IN2 zone).
- New Canterbury Road, Dulwich Hill (B4 and IN2 zone).

- Parramatta Road, Petersham and Lewisham (B4, B5 and B6 zone).
- Bridge Road, Stanmore (B5 and IN2 zone).
- Alice Street, Newtown (B4 zone).
- Crystal Street, Petersham (B4 zone).
- Denison Street, Camperdown (IN2 zone).
- Land to the north of Enmore Road, Stanmore (B5 and B7 zone).
- Addison Road, Marrickville (B4, B5, B7 and IN2 zone).
- May Street and Hutchinson Street, St Peters (B4, B5 and B7 zone).
- Princes Highway, St Peters (B4, B5, B6 and IN2 zone).
- Marrickville Road, Marrickville (B5 zone).
- Unwins Bridge Road and Mary Street, St Peters (IN2 zone).

Due to the scale of a Masters Home Improvement Store, a site with a minimum area of approximately 3 hectares is required. Based on this site requirement, there are two potential precincts where a Masters Home Improvement Store could be accommodated under the current land use zoning:

- Tempe Precinct – located on the Princes Highway and including the IKEA, Salvation Army and 'Pretty Girl' sites.
- Unwins Bridge Road Precinct – comprising RailCorp and Council services land.

Sites Proposed to be rezoned to Support Masters

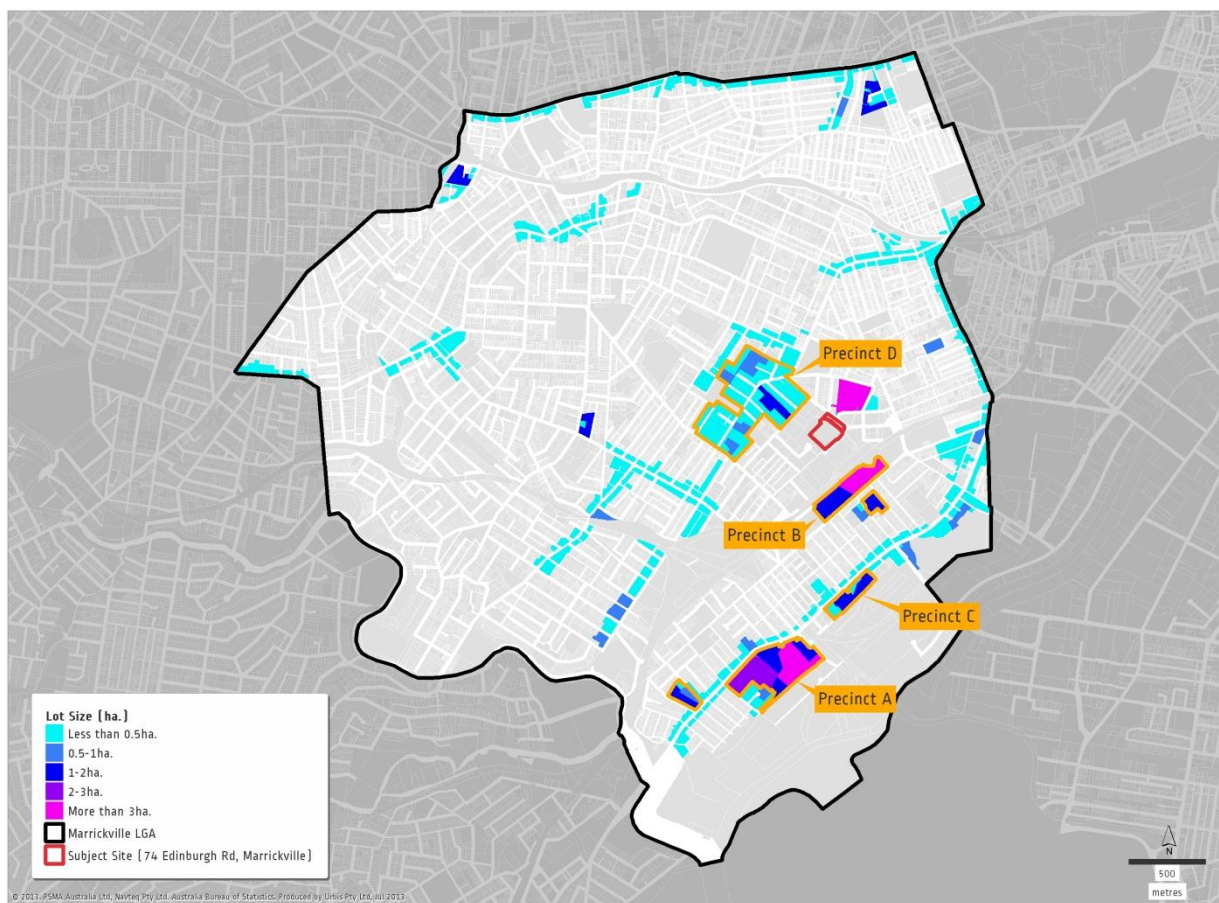
There are two sites within the Marrickville LGA which are the subject of planning proposals to rezone the sites which would support a Masters Home Improvement Store in the future. Each of these sites is considered below:

- St Peters Precinct – A planning proposal to rezone the site at 396 – 576 Princes Highway from its current IN1 General Industrial zoning to B6 Business Enterprise has received a gateway determination to proceed on 24 August 2012. This proposal was exhibited as part of Amendment 1 to the *MLEP 2011*, and at the Council meeting of 20 November 2012 Council resolved to adopt the documentation of the site as exhibited and forward to DoPI for gazettal. It is understood that a draft amendment instrument is currently being finalised by Parliamentary Counsel. Accordingly, due to the imminence of the rezoning which would permit a Masters Home Improvement Store under the revised zoning, a detailed analysis of this site (identified as "Precinct C") has been undertaken below.
- Victoria Road Precinct – In May 2012 Marrickville Council resolved to consider a Planning Proposal to rezone approximately 21.5 hectares of industrial land forming part of the Sydenham Industrial Precinct for urban renewal. This precinct is referred to as the Victoria Road Precinct (identified as "Precinct D"). While the Planning Proposal has not yet been formally submitted to Council, and therefore the future land uses to be supported in this precinct are unknown, it has been recognised a precinct undergoing a land use transition and therefore has been analysed in

detail below to determine its potential to support a Masters Home Improvement Store in the short to medium term.

A lot size analysis of all land zoned B2, B4, B5, B6, B7 and IN2, as well as the two proposed rezoning sites is illustrated in **Figure 3** below. This illustrates that there are four precincts of sufficient size to consider amalgamation of sites to determine their viability to support a Masters development. An analysis of each of these precincts is outlined below.

FIGURE 3 – LOT SIZE ANALYSIS OF LAND WHERE ‘HARDWARE AND BUILDING SUPPLIES’ IS A PERMISSIBLE USE UNDER THE MARRICKVILLE LEP 2011



3.7.4 ANALYSIS OF LOT SIZES OF EGDE-OF-CENTRE SITES

Precinct A – Tempe Precinct: Princes Highway Tempe and Tempe Bus Depot Site

The Tempe Precinct is located along the Princes Highway and is generally bounded by Bellevue Street to the north and Smith Street to the south. This precinct includes IKEA, the Salvos site, industrial warehouses on Wood Street, Tempe Bus Depot and Pretty Girl Fashion Group. It is noted ‘*bulky goods premises*’ are permissible on land in this precinct under Schedule 1 of the MLEP 2011.

IKEA and Salvos Sites

IKEA occupy approximately 10 hectares of the Tempe Precinct. The IKEA development was approved by the DoPI as a Part 3A Project in 2009, and open to the public in the last quarter of 2011. Adjoining the IKEA site to the north-east, the site known as 5-7 Bellevue Street is partly occupied by a Salvation Army recycling store (Salvos site) and partly vacant. However, this site is only approximately 1.2ha in size, which is not sufficient to accommodate a Masters Home Improvement Store. Furthermore, it is understood that there is a DA approval DA200900547 to subdivide the site into two lots (the Salvos currently occupy the proposed larger lot, which is approximately 7,500m² and the proposed smaller lot, which is currently vacant, is approximately 4,500m²). At the time of writing the subdivision had not been registered.

FIGURE 4 – PRECINCT A – TEMPE PRECINCT



Pretty Girl Site

The site known as the 'Pretty Girl' site at 728-750 Princes Highway is zoned IN2 and has a site area greater than 1ha in size. This site is approximately 2ha and is occupied by a locally significant heritage item known as the Former Westpac Stores, however is currently used as a clothing factory and warehouse by the Pretty Girl Fashion Group. The building is heritage listed and generally in good condition. Furthermore, it is understood there is a DA currently before Marrickville Council for a bulky goods development of approximately 16,000sq.m across two-level on the site which preserves the heritage façade. At the time of writing the DA for the 'Pretty Girl' site has not been determined. Redevelopment of this site for a Masters Home Improvement Store could not occur without demolition of the heritage item as the Masters Concept could not be accommodated within the existing heritage building. This site is therefore is not considered to be a practical or realistic option.

Tempe Bus Depot

The Tempe Bus Depot consists of three lots zoned IN2 site and varying in size from approximately 2,042sq.m to 1.2ha. This site is occupied by the Tempe Bus Depot and is listed as a locally significant heritage item known as 'Tempe Bus Depot'. The site is currently occupied by a child care centre, bus storage and the Sydney Bus Museum, which is currently located in the former tram shed on the adjoining sites. It is understood that development consent was recently granted for refurbishment and upgrade of the bus depot to provide the garaging, servicing and administrative facilities for the Metrobus Network Strategy (DA201000035).

Given, the heritage status of the Tempe Bus Depot and its current land uses, redevelopment of this site for a Masters Home Improvement Store is not considered to be a practical or realistic option.

FIGURE 5 – PRECINCT A – TEMPE PRECINCT LOT SIZE ANALYSIS



Precinct B – Unwins Bridge Road Precinct, St Peters

The Unwins Bridge Road Precinct extends from Hogan Avenue to Bedwin Road and is approximately 6.2 hectares made comprising three sites. The Unwins Bridge Road Precinct is identified in the *Draft Metropolitan Strategy for Sydney* as employment lands. There are two sites zoned IN2 in the Unwins Bridge Road Precinct which are greater than 1ha in size. The largest site at 5-13 Unwins Bridge Road (approximately 3.6ha) is owned by Railcorp and currently contains a significant number of shipping containers and related industry. It is understood that Railcorp use this as their Depot site.

To the south of the Railcorp land is the Marrickville Council depot on a 1.3ha site.

Further to the south is 17-19 Unwins Bridge Road which is a 1.3ha site occupied by a range of industrial factory units containing glaziers and car repairs. The site was the subject of a rezoning requested in 2002 to permit bulky goods, however was not supported by Council primarily due to inconsistency of the proposal with strategic planning policy and potential traffic impacts.

An isolated site approximately 1.3ha in area, containing industrial warehouses is also located with frontage to Mary Street and Edith Street. Aside from the site not having sufficient size to accommodate a Masters development, the site is located in a primarily low-density residential street with limited through traffic.

FIGURE 6 – PRECINCT B: UNWINS BRIDGE ROAD PRECINCT, ST PETERS



FIGURE 7 –PRECINCT B: UNWIN ROAD PRECINCT, ST PETERS LOT SIZE ANALYSIS



Only the Railcorp site is large enough to accommodate the proposed Masters Home Improvement Store, without consolidation of sites, however no operational policy of Railcorp indicates this land will become available for redevelopment in the short to medium term.

Due to the mixed land ownership within the Unwins Bridge Road Precinct, amalgamation of these sites is not considered to be a practical or realistic option. Railcorp have advised that this site is unlikely to be redeveloped in the short to medium term.

Precinct C – St Peters Precinct (Princes Highway)

The St Peters Precinct comprises five properties known as 396-576 Princes Highway as illustrated in **Figure 8** below. This precinct is currently zoned IN1 General Industrial under the MLEP 2011, however is the subject of a Planning Proposal to rezone the land B6 Business Enterprise, which is currently with Parliamentary Counsel awaiting gazettal. Of these lots, 500 Princes Highway currently operates as a bulky goods centre and is permissible under MLEP 2011 by what of a Schedule 1 additional permissible use.

The St Peters Precinct is currently occupied by:

- 500 Pacific Highway – a home furnishing centre, a car wash, Hungry Jacks, a bulky goods/office/light industrial complex. Tenants include (amongst others) REPCO, automotive services, Printatape and Metropolitan Demolition Group
- 396 Princes Highway – a second hand building materials receivership, a conveyor and hoist rental centre, and a recycling yard at the rear.

FIGURE 8 – PRECINCT C: ST PETERS PRECINCT



A lot size analysis carried out on the St Peters Precinct is shown in **Figure 9** below. In summary, the precinct comprises a number of small lots (3,163sq.m to 1.3ha), which are individually not of sufficient scale to support a Masters Home Improvement Store. While there are some allotments in common ownership, due to the current improvements on the sites and existing tenants, amalgamation of numerous sites is not considered a practical or realistic option.

FIGURE 9 – PRECINCT C: ST PETERS PRECINCT LOT SIZE ANALYSIS



Precinct D – Victoria Road Urban Renewal Precinct

The Victoria Road Urban Renewal Precinct is an area of approximately 21.5 hectares of industrial zoned land adjacent to Victoria Road Marrickville, which forms part of the Sydenham Industrial Area. The land which is zoned IN1 General Industrial under the *MLEP 2011*. It is understood preliminary discussions have been held with Marrickville Council and the Department of Planning and Infrastructure (DoPI) as part of the preparation of a Planning Proposal to request the precinct be rezoned to support urban renewal of the area.

FIGURE 10 – PRECINCT D: VICTORIA ROAD URBAN RENEWAL PRECINCT



A letter from DoPI dated 24 April 2012 provided clarification of the State government's policy position on employment lands, and indicated in-principle support for a rezoning to support urban renewal of this area to progress. The DoPI correspondence was considered at the Marrickville Council meeting on 1 May 2012 which resolved to advise the proponents of the Planning Proposal that Council would consider a revised planning proposal for the Victoria Road Urban Renewal Precinct. At the time of writing, a revised Planning Proposal has not been submitted to Council for consideration.

An analysis of the lot sizes within the Victoria Road Urban Renewal Precinct is illustrated below in **Figure 11**, which illustrates that all sites are less than 1 hectare (with the exception of 56 Fitzroy Street which has an area of 1.55 hectares) which falls significantly short of the 3 hectares required to support a Masters Home Improvement Store.

FIGURE 11 – PRECINCT D: VICTORIA ROAD URBAN RENEWAL PRECINCT LOT SIZE ANALYSIS



Accordingly, due to the early stage of precinct planning for the Victoria Road Precinct, and the fragmentation of land, the precinct does not present any viable alternative sites in the short to medium term to support a Masters Home Improvement Store.

3.7.5 CONSIDERATION OF AVAILABLE SITES

In considering the best location for a regionally oriented home improvement centre offer, the following criteria are used:

- Minimum site area of approximately 3 hectares.
- Generally flat topography.
- Regular shape to enable a 'big box' construction with adequate space for at grade car parking to accommodate approximately 400 vehicles.
- Good multi-directional vehicle access.
- Good site visibility from a major road.
- Regional accessibility to ensure draw from a large retail catchment.
- Proximity to other similar uses.
- Land use permissibility.

GIS mapping provided above demonstrates that the subject site and precinct best meets all the criteria for the type of development proposed and is the preferred option. As discussed, the analysis of lot sizes shows that there are:

- no appropriately zoned sites under the MLEP 2011;
- No suitable sites in the St Peters Precinct (with a gateway determination supporting rezoning to B6 Business Enterprise);
- No sites in the proposed Victoria Road Precinct large enough to accommodate a Masters developed without consolidation of sites.

Amalgamation of numerous sites which are presently tenanted is not a practical or realistic option to achieve development in the medium term.

In summary, the analysis in **Figure 5, Figure 7, Figure 9, and Figure 11** demonstrates that there are no suitable sites currently zoned under MLEP 2011 or proposed to be zoned to permit '*hardware and building supplies*' which are of a sufficient size to support a large home improvement centre proposed.

Furthermore, the proposed Masters Home Improvement Store will be located in close proximity to Marrickville Metro Shopping Centre on the northern side of Edinburgh Road. An expansion of the retail centre was approved by the PAC on 19 March 2012, which will see the centre extend further south east, towards the site's frontage on Edinburgh Road. The proposed development involves broadening the existing range of home improvement retailing adjacent to an established shopping centre and in an area which contains a number of trade suppliers. It is beneficial from a town planning perspective to locate such uses in close proximity wherever possible, and would be consistent with the *draft Centres Policy* direction to consider sites adjacent to existing centres.

3.7.6 STEP 3: SITE SUITABILITY CRITERIA

The Site Suitability Criteria is designed for use when considering the merits of alternative locations to accommodate development to assist in the assessment of this Planning Proposal.

TABLE 1 – SITE SUITABILITY CRITERIA

CRITERIA	RESPONSE
Strategy Consistent: is the proposed use of the site consistent with or implementing the relevant regional, sub-regional or local strategy?	The proposed use of the site is generally consistent with the Metropolitan Plan and the draft South Sub-Regional Strategy as demonstrated at Sections 3.3 and 3.4 of the Planning Proposal Report. Further, it is consistent with the <i>Draft Metropolitan Strategy for Sydney</i>, which supports retailing in industrial zones ‘where is it ancillary to the main industrial use, goods are produced on site or where retailing has industrial-scale impacts’, which is consistent with the nature of a Masters Home Improvement Store.
Infrastructure: capacity to support future demands, e.g. traffic capacity, sewerage and water services. If not, are arrangements in place for these to be provided?	The Planning Proposal is unlikely to adversely impact upon the surrounding road network. There is capacity within the surrounding road system to service the proposed development, with road infrastructure upgrades in accordance with the traffic report prepared by Colstin Budd Hunt and Kafes which accompanies this Planning Proposal. The site can be suitably serviced to meet the demand of the future Home Improvement Centre development.
Access Considerations: Good public transport and road access for employees, customers and suppliers Good pedestrian access If not, are arrangements in place for these to be provided?	The site has good public transport access particularly given the site’s location adjacent to Marrickville Metro, providing opportunities for employees to access the site by public transport. Bus Routes 352 and 355 between Marrickville Metro and Bondi Junction run past the site along Edinburgh Road, while both Sydenham and St Peters Train Stations are approximately 1 kilometre from the site. The site has good road access utilising Edinburgh Road, which connects with the Princes Highway to the south. The site is also readily accessible by pedestrians.
Urban Design Opportunities: potential to: Integrate with surrounding land uses Increase the amenity of the local areas	The Planning Proposal will facilitate a Home Improvement Centre, which will be designed to integrate with the surrounding mix of land uses. This will be detailed further at Development Application stage.

Competing land issues: impact on Housing supply and affordability Industrial land supply On choice and competition in the locality For instance, does the proposal affect delivery of other targets or objectives for the area – for example if the land is currently residential and is proposed to be changed to commercial, would this affect achieving dwelling targets.	There will be no impact on housing supply or affordability. The proposal will result in increased competition within the Home Improvement sector, which should result in greater choice and price savings for customers. The Planning Proposal is consistent with the need to adapt localities to reflect changing economic conditions. As many older employment areas are experiencing a declining level of activity, the proposal to facilitate a Home Improvement Centre on the periphery of a larger industrial precinct is considered appropriate. The proposed development will not undermine the integrity of the Sydenham industrial precinct. Given the peripheral location of the site, the use is unlikely to directly hinder any airport related uses.
Proximity to labour markets and associated housing (jobs closer to home) For workers with required skills For management.	The proposed use provides the opportunity to create employment close to home for Marrickville residents. The development of a Masters Home Improvement Centre provides a variety of job opportunities, with approximately 130-150 additional jobs within the inner west of Sydney.
Environmental Considerations Hazards, such as flooding, bushfire, or coastal, contaminated land Opportunities to contribute positively to environmental outcomes	There are no known environmental constraints that would prevent the development of the site for retailing. A detailed assessment of environmental impacts will be undertaken as part of any future Development Application.
Public benefit considerations Provides a broader public benefit from being located at the alternative site Priority should be given to sites which perform best against the criteria. It is not necessary for a proposal to meet all the criteria in order to be supported.	The proposed development will increase the range of goods and services available and competition in the region for home improvement supplies and will provide employment for local residents.

The proposal is considered to meet the relevant site suitability criteria under the draft Centres Activity Policy.



Marrickville Masters Home Improvement Store

Assessment of Implications for the Marrickville
Industrial Precinct

July 2013

URBIS STAFF RESPONSIBLE FOR THIS REPORT:

Director	Clinton Ostwald
Associate Director	Chrystal Desange
Consultant	Ryan McKenzie
GIS Consultant	Sally Pearce
Job Code	SPE0398
Report Number	1

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Executive Summary

STUDY BACKGROUND

The purpose of this study is to assess the impacts the Hydrox Nominees' proposed Masters Home Improvement store at 74 Edinburgh Road Marrickville in relation to the industrial precinct in which it sits.

The study has been prepared in response to the Sydney East Joint Regional Planning Panel's (JRPP) decision to allow to Hydrox's planning proposal proceeding to Gateway determination subject to the following being undertaken:

a review of the industrial area enclosed by Sydenham Road, Victoria Road, Edinburgh Road and the railway line, including an analysis of existing land uses consistent with the zoning, vacancy rates and the implications of the proposed rezoning on the viability of this industrial area.

The subject property has frontages to both Edinburgh Road and Sydney Steel Road and is set on the fringe of an industrial precinct approximately bounded by Edinburgh Road to the north, Railway Parade and the railway line to the east, Marrickville Road/the railway line to the south and Meeks Rd/Farr Street/Shepherd Street to the west.

The site falls within Marrickville Local Government Area (LGA) which belongs to the South Sydney Subregion, also comprising Kogarah, Hurstville, Canterbury, Rockdale and Sutherland LGAs, as defined by the NSW DoP&I.

LOCAL EMPLOYMENT & JOBS PROFILE

The Bureau of Transport Statistics (BTS), a division of Transport for NSW, publishes jobs and employment data for small areas known as Destination Zones (DZN). The Study Area mostly closely matches DZN 414 (for DZN boundaries see Map 2 in the report proper). Jobs located in DZN 414 are approximately equally split between industrial and non-industrial sectors.

The retail trade sector – which the proposed Masters Home Improvement store would fall within – accounted for just 5% of all jobs in DZN 414 in 2011. With growth in jobs in the precinct over time, the introduction of the Masters Home Improvement store is not likely to result in a significant increase in the retail trade sectors' share of jobs in the precinct. At 5% of jobs, the representation of retail trade is marginal, and it is not considered to be at a level which will detract from or threaten the viability of surrounding industrial activities. In any event, a significant proportion of the staff within a Masters Home Improvement store are recruited on the basis of having skills or experience in trade sectors and would therefore align with industrial based employment.

The number of jobs located in Marrickville LGA remained virtually constant between 2006 and 2011 (1% growth). Over the same period, Marrickville's resident population grew by 4,700. Therefore, proportionate to the number of residents, jobs have actually fallen over time.

The number of jobs in industrial sectors declined between 2006 and 2011. This was primarily attributed to the large decrease in manufacturing jobs – the impact of structural economic changes occurring at the national level.

However, some industrial sectors in Marrickville actually grew – the transport, postal & warehousing sector gained 250 jobs and the construction sector gained 138 jobs.

BTS expects that the overall number of industrial jobs located in Marrickville LGA will continue to fall in the future. However, BTS estimates that the construction sector is expected to continue to be an anomaly to this trend, with an additional 392 construction jobs expected to be located in Marrickville by 2046.

Given that the construction (trades) sector is a major customer of Masters Home Improvement stores, accounting for approximately 20% of anticipated store turnover, the introduction of the store on the subject site is considered to be highly complementary to the changing industry structure which has occurred in Marrickville in past years, and which is expected to continue to occur in the future.

The Store will provide construction businesses located in Marrickville easy access to construction materials. In this way the proposed Masters Home Improvement store would compliment and support, rather than hinder, the growing construction sector in the immediate precinct, and in the broader Marrickville LGA.

Compared to 2006, fewer Marrickville residents were employed in industrial sectors (-363) and more residents were employed in non-industrial sectors (+2,358) in 2011. Manufacturing experienced the greatest decline (-212), while Professional, Scientific and Technical Services experienced the greatest increase (+1,029).

The number of Marrickville residents employed in the Retail sector increased between 2006 and 2011 (+109) but the number of retail jobs located in Marrickville LGA declined (-5). The same was experienced at the subregional level. The proposed Masters Home Improvement store would assist to offset this divergence between resident employment and jobs, which ultimately results in more people travelling longer distances to work. This has a range of adverse environmental, social and economic impacts (for instance, increased pollution from fuels, increased pressure on road infrastructure and associated higher maintenance costs, reduced time spent with families, increased costs of travel for workers and reduced worker productivity) and is in conflict with the DoP&I's objective of providing more jobs closer to homes.

Of the people who work in Marrickville LGA, 29% travel more than 20 kilometres, and 10% travel more than 30 kilometres. The high dependency on workers from outside of Marrickville can be attributed to the fact that the jobs located in Marrickville do not closely match the employment profile of Marrickville residents.

STUDY AREA SITE SURVEYS

To better understand the nature of industrial activities occurring near the subject site, and in order to fully consider the impacts of the proposed Masters Home Improvement store on the adjoining industrial precinct, Urbis undertook external inspections of properties in the precinct. This was supplemented with information collated with the use of Urbis' Geographic Information Systems (GIS) tools.

There are 301 properties in the Study Area, of which 255 (87%) are zoned IN1. The bulk of the balance of properties are zoned B7 and IN2.

The total Study Area comprises a total site area of around 384,000sq.m., and total building floor space of approximately 238,000sq.m.

There is currently around 4,000sq.m. of retail floorspace in the study area, which represents approximately 1.7% of all building floorspace. The proposed Masters Home Improvement store would result in a total of around 17,000sq.m. of retail floor space in the Study Area – which is equivalent to around 8% of existing building floor space. Therefore, the precinct would continue to be dominated by industrial buildings, and the overall share of retail floorspace would remain marginal.

Freight & logistics / warehouses – the most prominent building type in the Study Area – has the lowest employment density of all properties in the precinct, employing 1 person per 262sq.m. of floorspace or 460sq.m. of site area. Studios / industrial workshops – the second most prominent building type in the precinct – has the second lowest employment density. Therefore, the precinct supports a low level of employment, relative to other industrial precincts occupied by more intensive industrial uses.

If the freight & logistics / warehouse properties (which are expected to become less relevant as businesses operating in the sector move to alternative locations) are adapted to better suit the changing industry structure of the precinct (e.g. growing prevalence of construction businesses), there is considered to be significant opportunity for total employment to increase, and the overall economic importance of the precinct to be enhanced. The introduction of the proposed Masters Home Improvement store is not expected to inhibit this adaptation from occurring. However, changes to land use permissibility and development controls are required for adaptation to occur.

A high level of vacancy and underutilisation was observed in the Study Area. Vacant is defined to comprise all lots that were vacant, derelict or for sale (and untenanted); underutilised floorspace is defined to comprise properties which were not occupied on any of the days that Urbis undertook site

surveys (3 days) and which were not believed to be regularly utilised based on their physical appearance (for instance, they were run-down, boarded/chained up and without any signage).

Businesses in the precinct primarily felt that the proposed Masters Home Improvement store would have a neutral to positive impact on their activities, and on the wider precinct. The general view was that the predominate hardware focus of Masters was compatible with the local industrial uses.

Positive impacts were largely expected to be generated through the improved range and access of hardware goods that will be provided by the Masters Home Improvement store.

In terms of possible negative impacts, some businesses expressed that traffic congestion was a concern but felt that congestion could be mitigated through appropriate traffic management. Some of the service industrial businesses actually felt that the possible increase in passing traffic would increase customer exposure and have an overall positive impact on their business.

Only one construction supplies business, occupying a 500sq.m. site, expected that the Masters Home Improvement store would take trade away from it and have an overall negative impact.

ECONOMIC IMPACTS OF PROPOSED DEVELOPMENT

Economic outcomes expected to be generated by the proposed Masters Home Improvement store in Marrickville are summarised as follows:

- it is expected to compliment the adjoining industrial precinct by increasing access and choice of building and construction materials to the construction sector, which increased its prevalence in the precinct between 2006 and 2011, and is expected to continue to become more prevalent in Marrickville LGA in the future;
- the 2.75 hectare subject site represents just 1.3% of all industrial zoned land in the draft Marrickville LEP 2010 (214.6 hectares), and 7% of industrial zoned land in the Study Area. Therefore, the rezoning will not have a material impact on industrial land supply in Marrickville or the Study Area;
- it is expected to result in a net increase in jobs in the precinct, with 130 to 150 people expected to be employed at the store, compared to 15 workers employed on the site currently. It is also expected to generate more employment than what could be generated if another distribution centre occupied the site, with average employment densities for distribution centres / warehouses ranging from 1 job per 110 sq.m (universal average according to Urbis internal benchmarks) to 1 job per 262sq.m. of floorspace (average for the study area, as quantified through Urbis Study Area site Surveys), compared to an average 1 job per 90-105sq.m for Masters Home Improvement stores.
- the Masters Home Improvement store will increase the provision of retail jobs in Marrickville LGA, which actually declined between 2006 and 2011, while the number of Marrickville residents employed in retail jobs increased between 2006 and 2011, resulting in an increase in the size of the retail jobs deficit in Marrickville to 643 jobs by 2011. Such divergence between jobs and resident employment causes people to have to travel longer distances to work, and this has a range of adverse impacts on the local community, namely traffic congestion, vehicle pollution, pressure on road and other transport infrastructure and high costs of travel between work and home for Marrickville residents.
- increased competition within the home improvement sector which should result in greater choice and price savings for customers;
- the site's location adjacent to Marrickville Metro shopping centre provides a convenient location for household shoppers, whilst its location close to other trades suppliers within Marrickville is also advantageous to the trades sector. Both factors have the potential to reduce overall travel distances for customers.
- accordingly, there may be potential vehicle emission savings (particularly from trades vehicles) by minimising the need for customers to travel greater distances to make purchases; and
- increased expenditure retention within the Main Trade Area reducing the amount of expenditure that is leaked to other LGAs.

1 Study Background

1.1 STUDY PURPOSE

The purpose of this study is to assess the impacts the Hydrox Nominees' proposed Masters Home Improvement store at 74 Edinburgh Road Marrickville in relation to the industrial precinct in which it sits, having regard for:

- existing land uses and business activities;
- vacancy rates;
- site location and attributes;
- resident and workforce employment profile;
- future intentions of tenants;
- the number of jobs expected to be created by the development.

1.2 PROPOSED DEVELOPMENT

The Masters Home Improvement store will comprise of approximately 13,500sq.m. which will include a main floor area for a range of home improvement products, a nursery for landscape and garden products, a trade area for drive-thru sales of all goods, restaurant/café and associated parking.

1.3 SITE LOCATION & CONTEXT

The property has frontages to both Edinburgh Road and Sydney Steel Road and is set on the fringe of an industrial precinct approximately bounded by Edinburgh Road to the north, Railway Parade and the railway line to the east, Marrickville Road/the railway line to the south and Meeks Rd/Farr Street/Shepherd Street to the west.

Marrickville Metro shopping centre lies immediately north of the site. A redevelopment of the centre was approved in 2012 which will see the centre extend further south east, towards the subject site's frontage on Edinburgh Road.

The site falls within Marrickville Local Government Area (LGA) which belongs to the South Sydney Subregion, also comprising Kogarah, Hurstville, Canterbury, Rockdale and Sutherland LGAs, as defined by the NSW DoP&I.

Map 1 overleaf shows the site's location, and the 'Study Area' that was defined by the JRPP, which encompasses the area bounded by Sydenham Road, Victoria Road, Edinburgh Road and the railway line.

MAP 1 – SUBJECT SITE & STUDY AREA



2 Local Employment & Jobs Profile

This section assesses the potential impacts of the proposed site rezoning on the industrial precinct that it sits within, having regard for the resident employment and jobs profile of the Study Area, Marrickville LGA and South Sydney Subregion. Note that jobs and resident employment are distinctly different and are defined as follows:

- **Jobs:** this is based on place of employment and refers to the jobs that are actually located in a given area.
- **Resident Employment:** this is based on place of residence and refers to the jobs that residents of a given area are employed in, regardless of where those jobs are.

2.1 JOBS BY INDUSTRY

2.1.1 STUDY AREA

The New South Wales Bureau of Transport Statistics (BTS) – an independent entity within Transport for New South Wales – publishes jobs data for small areas referred to as Destination Zones (DZN).

The Study area for this assessment – comprising the area bounded by Sydenham Road, Victoria Road, Edinburgh Road and the railway line – does not exactly match one DZN, however it primarily falls within DZN 414, except for a small portion to the east which falls within DZN 418. The study area and DZN boundaries are illustrated in Map 2 overleaf.

As noted, the total DZN 414 covers 80 hectares, of which the Study Area accounts for 48 hectares, or 60%. The part of the DZN which is outside of the Study Area includes a significant proportion of residential properties to the north-west, as illustrated in Map 2. Therefore, we can assume that the Study Area is likely to account for more than 60% of jobs in the DZN – Urbis estimates it to be in the order of 70%.

Based on the fact that DZN 414 contains 3,221 jobs, and assuming that 70% of those jobs fall within the Study Area, the total number of jobs in the Study Area is quantified to be in the order of 2,255.

Table 1 shows the breakdown of jobs by industry in the DZN 414, in 2011 – this provides an indication of the nature of jobs in the Study Area. We note that the travel zone boundaries changed between 2006 and 2011, and therefore a like for like comparison of jobs in 2006 and 2011 cannot be provided, as per the analysis presented in Sections 2.1.2 and 2.1.3 for Marrickville and South Sydney Subregion respectively.

As noted, in 2011 there was an approximately equal split between industrial and non-industrial jobs. Manufacturing was the most prominent activity occurring in the precinct, accounting for more than one third of all jobs.

The retail trade sector – which the proposed Masters Home Improvement store would fall within – accounted for just 5% of all jobs in the DZN in 2011. With growth in jobs in the precinct over time, the introduction of the Masters Home Improvement store is not likely to result in an increase in the retail trade sectors' share of jobs in the precinct. At 5% of jobs, the representation of retail trade is marginal, and it is not considered to be at a level which would detract from or threaten the viability of any industrial activities.

TABLE 1 – STUDY AREA JOBS BY INDUSTRY, 2006-2011

Jobs by Industry - Historic

STUDY AREA (DESTINATION ZONE 113261414), 2011

Industry Sectors	2011	
	%	#
Agriculture, Forestry and Fishing	0%	0
Mining	0%	3
Manufacturing	38%	1,209
Electricity, Gas & Waste	0%	5
Construction	7%	237
Transport, Postal & W'housing	5%	158
Industrial Sectors	50%	1,612
Wholesale Trade	17%	558
Retail Trade	5%	164
Accommodation & Food	4%	115
Rental, Hiring & Real Estate	1%	22
Education and Training	1%	25
Healthcare & Social Assistance	3%	101
Arts and Recreation Services	2%	59
Other Services	8%	246
Info Media & Telecomms	1%	34
Finance & Insurance	0%	10
Profess'nal, Scient. & Tech.	4%	113
Administration & Support	3%	85
Public Admin. & Safety	0%	7
Non-Industrial Sectors	48%	1,539
Not State / NA	2%	71
Total	100%	3,222

Source : ABS Census 2006 and 2011; NSW Bureau of Transport Statistics; Urbis

MAP 2 – DESTINATION ZONE & STUDY AREA BOUNDARIES



2.1.2 MARRICKVILLE LGA

As noted in Table 2, the number of jobs located in Marrickville LGA remained virtually constant between 2006 and 2011 (1% growth). Over the same period, Marrickville's resident population grew by 4,700. Therefore, proportionate to the number of residents, jobs have actually fallen over time.

The manufacturing sector experienced the greatest decline over the period, with 729 fewer jobs in 2011 compared to 2006. The decline in these industrial jobs was partially offset by an increase in Transport, Postal & Warehousing jobs (+250) and construction jobs (+138), resulting in a net loss in industrial jobs of 380.

An additional 606 jobs in non-industrial sectors were created in Marrickville over the period, with the largest winners being Professional, Scientific & Technical Services and Healthcare & Social Assistance Services.

The changing jobs profile of Marrickville is generally consistent with the changing resident employment profile, with fewer Marrickville residents employed in industrial jobs in 2011 compared to 2006 (discussed in Section 2.2.1.)

A notable anomaly is that the number of retail jobs located in Marrickville LGA decreased by 5 while the number of residents employed in retail jobs increased by 109. Such divergence in jobs and resident employment profiles causes people to have to travel longer distances to work. The proposed Masters Home Improvement store could assist to address this divergence, providing retail jobs to Marrickville residents who currently travel elsewhere to work.

TABLE 2 – MARRICKVILLE LGA JOBS BY INDUSTRY, 2006-2011

Jobs by Industry - Historic

MARRICKVILLE LGA, 2006 TO 2011

Industry Sectors	2006		2011		Actual Change 2006-2011	
	%	#	%	#	#	%
Agriculture, Forestry and Fishing	0%	51	0%	7	-44	-86%
Mining	0%	3	0%	10	7	233%
Manufacturing	18%	4,208	15%	3,479	-729	-17%
Electricity, Gas & Water	0%	47	0%	45	-2	-4%
Construction	5%	1,210	6%	1,348	138	11%
Transport, Postal and Warehousing	5%	1,202	6%	1,452	250	21%
Industrial Sectors	29%	6,721	27%	6,341	-380	-6%
Wholesale Trade	9%	2,173	8%	1,975	-198	-9%
Retail Trade	11%	2,642	11%	2,637	-5	0%
Accommodation & Food	6%	1,431	7%	1,542	111	8%
Rental, Hiring & Real Estate	2%	347	2%	352	5	1%
Education and Training	8%	1,941	9%	2,045	104	5%
Healthcare & Social Assistance	8%	1,745	9%	2,055	310	18%
Arts and Recreation Services	2%	413	2%	537	124	30%
Other Services	6%	1,361	5%	1,238	-123	-9%
Information Media & Telecomms	2%	543	2%	514	-29	-5%
Financial and Insurance Services	2%	436	1%	348	-88	-20%
Profess'nal, Scient. & Tech.	6%	1,346	8%	1,755	409	30%
Administration & Support	2%	546	2%	523	-23	-4%
Public Administration and Safety	5%	1,074	5%	1,083	9	1%
Non-Industrial Sectors	69%	15,998	71%	16,604	606	4%
Not Stated/Inadequately described	1%	340	1%	315	-25	-7%
Total		23,059		23,260	201	1%

Source : ABS Census 2006 and 2011; NSW Bureau of Transport Statistics; Urbis

Table 3 overleaf shows the estimated future number of jobs located in Marrickville LGA by industry to 2046, as projected by BTS. As noted, the observed decline in industrial jobs and growth in non-industrial jobs is expected to continue into the future, with the share of industrial jobs forecast to fall to 9% by 2046.

The largest fall is expected to be in the manufacturing sector, with 848 fewer jobs projected by 2046. However, manufacturing is still expected to maintain a presence in Marrickville, with some 1,378 jobs expected to remain by 2046.

Some of the fall in industrial jobs is expected to be offset by a rise in construction jobs (+392). Given that the construction (trades) sectors are major customers of Masters Home Improvement stores, accounting for an estimated 20% of turnover, the introduction of the Home Improvement store on the subject site is highly complimentary to the changing industry structure which has occurred in Marrickville in past years, and which is expected to continue to occur in the future.

The Masters Home Improvement store will provide construction businesses located in Marrickville easy access to construction materials. In this way it would compliment and support, rather than hinder, the growing construction sector in the immediate precinct, and in the broader Marrickville LGA.

For reference, the construction sector is comprised of the activities noted below, as per Australian & New Zealand Standard Industry Classifications (ANZSIC):

- House Construction
- Residential Building Construction n.e.c.
- Non-Residential Building Construction
- Road and Bridge Construction
- Non-Building Construction n.e.c.
- Site Preparation Services
- Concreting Services
- Bricklaying Services
- Roofing Services
- Structural Steel Erection Services
- Plumbing Services
- Electrical Services
- Air Conditioning and Heating Services
- Fire and Security System Services
- Plastering and Ceiling Services
- Carpentry Services
- Tiling and Carpeting Services
- Painting and Decorating Services
- Landscaping Services
- Construction Services n.e.c.

TABLE 3 – MARRICKVILLE LGA JOBS BY INDUSTRY, 2011-2046

Jobs by Industry - Forecast

MARRICKVILLE LGA, 2006 TO 2046

Industry Sectors	2011		2016		2021		2026		2031		2036		2041		2046		2011-2046	
	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	#	%
																	Change	Change
Agriculture, Forestry and Fishing	0%	7	0%	7	0%	7	0%	7	0%	7	0%	8	0%	9	0%	9	2	28%
Mining	0%	10	0%	10	0%	10	0%	10	0%	10	0%	10	0%	10	0%	10	0	0%
Manufacturing	15%	3,479	12%	2,965	10%	2,461	9%	2,300	8%	2,167	8%	2,113	7%	2,100	7%	2,154	-1,325	-38%
Electricity, Gas & Water	0%	45	0%	19	0%	9	0%	4	0%	1	0%	0	0%	0	0%	0	-45	-100%
Construction	6%	1,348	6%	1,488	6%	1,550	6%	1,522	6%	1,528	6%	1,557	6%	1,592	6%	1,649	301	22%
Transport, Postal and Warehousing	6%	1,452	6%	1,379	5%	1,343	5%	1,256	5%	1,248	5%	1,254	4%	1,280	4%	1,331	-121	-8%
Industrial Sectors	27%	6,341	24%	5,867	21%	5,379	20%	5,099	19%	4,961	18%	4,941	17%	4,991	17%	5,153	-1,188	-19%
Wholesale Trade	8%	1,975	8%	2,088	9%	2,221	9%	2,352	9%	2,462	9%	2,577	9%	2,694	9%	2,798	823	42%
Retail Trade	11%	2,637	12%	3,030	12%	3,051	12%	3,106	12%	3,155	12%	3,229	12%	3,323	12%	3,456	819	31%
Accommodation & Food	7%	1,542	7%	1,654	7%	1,663	7%	1,704	7%	1,758	7%	1,832	7%	1,923	7%	1,996	454	29%
Rental, Hiring & Real Estate	2%	352	1%	363	1%	369	1%	372	1%	385	1%	406	2%	439	2%	455	103	29%
Education and Training	9%	2,045	9%	2,116	9%	2,368	10%	2,578	10%	2,741	10%	2,886	11%	3,019	11%	3,151	1,106	54%
Healthcare & Social Assistance	9%	2,055	9%	2,292	10%	2,517	10%	2,708	11%	2,849	11%	2,968	11%	3,073	11%	3,207	1,152	56%
Arts and Recreation Services	2%	537	2%	569	2%	564	2%	576	2%	583	2%	589	2%	601	2%	625	88	16%
Other Services	5%	1,238	5%	1,250	5%	1,265	5%	1,282	5%	1,297	5%	1,312	5%	1,327	5%	1,349	111	9%
Information Media & Telecomms	2%	514	2%	563	2%	584	2%	611	2%	634	2%	659	2%	693	2%	718	204	40%
Financial and Insurance Services	1%	348	1%	337	1%	361	1%	371	1%	388	1%	403	1%	419	1%	434	86	25%
Profess'nal, Scient. & Tech.	8%	1,755	8%	1,914	9%	2,157	9%	2,380	10%	2,560	10%	2,707	10%	2,841	10%	2,959	1,204	69%
Administration & Support	2%	523	2%	572	2%	569	2%	573	2%	575	2%	581	2%	597	2%	620	97	19%
Public Administration and Safety	5%	1,083	5%	1,243	5%	1,320	5%	1,398	5%	1,472	6%	1,553	6%	1,638	6%	1,705	622	57%
Non-Industrial Sectors	71%	16,604	73%	17,990	75%	19,008	77%	20,011	78%	20,859	79%	21,703	79%	22,587	79%	23,472	6,868	41%
Not Stated/Inadequately described	1%	315	4%	907	4%	923	4%	941	4%	956	4%	972	3%	988	3%	1,012	697	221%
Total		23,260		24,764		25,310		26,051		26,776		27,617		28,566		29,637	6,377	27%

Source : ABS Census 2006 and 2011; NSW Bureau of Transport Statistics; Urbis

2.1.3 SOUTH SYDNEY SUBREGION

Table 4 shows the change in the number of jobs located in the South Sydney Subregion by industry, between 2006 and 2011.

As per the experience of Marrickville LGA, there was a decline in industrial jobs and an increase in non-industrial jobs in South Sydney between 2006 and 2011.

The biggest winners were Healthcare & Social Assistance Services (+3,100) and Professional, Scientific & Technical Service (+1,468). The biggest losers were Manufacturing (-3,445) and Retail Trade (-1,275).

TABLE 4 – SOUTH SYDNEY SUBREGION JOBS BY INDUSTRY, 2006-2011

Jobs by Industry - Historic

SOUTH SYDNEY SUB-REGION, 2011 TO 2046

Industry Sectors	2006		2011		Actual Change 2011-2046	
	%	#	%	#	#	%
Agriculture, Fishery & Forestry	0%	211	0%	122	-89	-42%
Mining	0%	71	0%	78	7	10%
Manufacturing	11%	18,104	9%	14,659	-3,445	-19%
Electricity, Gas & Waste	1%	834	1%	952	118	14%
Construction	6%	10,190	7%	10,715	525	5%
Transport, Postal & Whousing	5%	8,063	5%	8,406	343	4%
Industrial Sectors	23%	37,473	22%	34,932	-2,541	-7%
Wholesale Trade	6%	9,169	5%	8,436	-733	-8%
Retail Trade	14%	22,823	13%	21,548	-1,275	-6%
Accommodation & Food	7%	11,431	7%	11,987	556	5%
Rental, Hiring & Real Estate	2%	3,205	2%	2,974	-231	-7%
Education and Training	8%	13,300	9%	14,105	805	6%
Healthcare & Social Assistance	13%	20,590	15%	23,690	3,100	15%
Arts and Recreation Services	1%	2,212	1%	2,341	129	6%
Other Services	5%	7,778	5%	7,719	-59	-1%
Info Media & Telecomms	1%	1,800	1%	1,573	-227	-13%
Finance & Insurance	4%	6,251	3%	5,148	-1,103	-18%
Profess'nal, Scient. & Tech.	6%	9,639	7%	11,107	1,468	15%
Administration & Support	3%	4,115	3%	4,318	203	5%
Public Admin. & Safety	6%	9,515	6%	9,362	-153	-2%
Non-Industrial Sectors	76%	121,828	77%	124,308	2,480	2%
Not State / NA	1%	1,788	1%	1,808	20	1%
Total		161,089		161,048	-41	0%

Source : ABS Census 2006 and 2011; NSW Bureau of Transport Statistics; Urbis

Like Marrickville LGA, there is expected to be a decline in industrial jobs in South Sydney Subregion, in particular manufacturing, which is expected to have almost 8,000 fewer jobs by 2046. However, consistent with Marrickville LGA, construction jobs are expected to increase by some 6,600 jobs, thereby offsetting some of the decline in industrial jobs.

Again, the proposed Masters Home Improvement store will provide increased access to construction materials to the growing pool of construction businesses in the Subregion, and in this way it is expected to complement the neighbouring industrial activities.

TABLE 5 – SOUTH SYDNEY SUBREGION JOBS BY INDUSTRY, 2011-2046

Jobs by Industry - Forecast

SOUTH SYDNEY SUB-REGION, 2011 TO 2046

Industry Sectors	2011		2016		2021		2026		2031		2036		2041		2046		2011-2046	
	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	# Change	% Change
Agriculture, Fishery & Forestry	0%	122	0%	108	0%	102	0%	103	0%	106	0%	111	0%	117	0%	122	0%	0
Mining	0%	78	0%	85	0%	94	0%	102	0%	109	0%	116	0%	123	0%	128	64%	50
Manufacturing	9%	14,659	7%	12,630	6%	10,866	5%	10,070	5%	9,587	5%	9,459	4%	9,521	4%	9,781	-33%	-4,878
Electricity, Gas & Waste	1%	952	0%	651	0%	565	0%	526	0%	503	0%	495	0%	501	0%	517	-46%	-435
Construction	7%	10,715	7%	11,989	7%	12,651	7%	12,544	6%	12,704	6%	13,047	6%	13,406	6%	13,885	30%	3,170
Transport, Postal & W'housing	5%	8,406	5%	8,129	4%	8,144	4%	7,779	4%	7,747	4%	7,815	4%	7,936	4%	8,252	-2%	-154
Industrial Sectors	22%	34,932	20%	33,592	18%	32,422	16%	31,125	16%	30,756	15%	31,044	15%	31,604	15%	32,686	-6%	-2,246
Wholesale Trade	5%	8,436	5%	8,805	5%	9,316	5%	9,783	5%	10,142	5%	10,540	5%	10,920	5%	11,339	34%	2,903
Retail Trade	13%	21,548	14%	23,708	14%	24,587	13%	25,545	13%	26,335	13%	27,344	13%	28,276	13%	29,408	36%	7,860
Accommodation & Food	7%	11,987	7%	12,472	7%	12,755	7%	13,182	7%	13,638	7%	14,243	7%	14,851	7%	15,408	29%	3,421
Rental, Hiring & Real Estate	2%	2,974	2%	3,022	2%	3,072	2%	3,033	2%	3,025	1%	3,060	1%	3,091	1%	3,205	8%	231
Education and Training	9%	14,105	9%	14,632	9%	16,391	9%	17,868	10%	18,996	10%	19,998	10%	20,917	10%	21,831	55%	7,726
Healthcare & Social Assistance	15%	23,690	16%	27,082	17%	30,172	17%	32,813	18%	34,825	18%	36,555	18%	38,080	18%	39,740	68%	16,050
Arts and Recreation Services	1%	2,341	1%	2,367	1%	2,378	1%	2,473	1%	2,533	1%	2,591	1%	2,667	1%	2,773	18%	432
Other Services	5%	7,719	5%	7,740	4%	7,808	4%	7,884	4%	7,949	4%	8,075	4%	8,186	4%	8,497	10%	778
Info Media & Telecomms	1%	1,573	1%	1,728	1%	1,866	1%	1,965	1%	2,041	1%	2,134	1%	2,194	1%	2,273	45%	700
Finance & Insurance	3%	5,148	3%	5,595	4%	6,401	4%	6,926	4%	7,343	4%	7,689	4%	7,901	4%	8,202	59%	3,054
Profess'nal, Scient. & Tech.	7%	11,107	7%	12,658	8%	14,902	9%	16,844	9%	18,367	10%	19,679	10%	20,684	10%	21,540	94%	10,433
Administration & Support	3%	4,318	3%	4,956	3%	5,299	3%	5,569	3%	5,771	3%	6,018	3%	6,191	3%	6,433	49%	2,115
Public Admin. & Safety	6%	9,362	6%	11,032	7%	11,879	7%	12,703	7%	13,467	7%	14,279	7%	15,100	7%	15,718	68%	6,356
Non-Industrial Sectors	77%	124,308	79%	135,797	81%	146,827	83%	156,589	83%	164,433	84%	172,204	84%	179,058	84%	186,366	50%	62,058
Not State / NA	1%	1,808	1%	1,878	1%	1,954	1%	2,035	1%	2,105	1%	2,179	1%	2,250	1%	2,339	29%	531
Total		161,048		171,268		181,203		189,749		197,295		205,427		212,912		221,390	37%	60,342

Source : ABS Census 2006 and 2011; NSW Bureau of Transport Statistics; Urbis

2.2 RESIDENT EMPLOYMENT BY INDUSTRY

2.2.1 MARRICKVILLE LGA

Compared to 2006, fewer Marrickville residents were employed in industrial sectors (-363) and more residents were employed in non-industrial sectors (+2,358) in 2011. Manufacturing experienced the greatest decline (-212), while Professional, Scientific and Technical Services experienced the greatest increase (+1,029).

As noted in Section 2.1.2 the number of Marrickville residents employed in the Retail sector increased between 2006 and 2011 (+109) but the number of retail jobs located in Marrickville LGA declined (-5). The proposed Masters Home Improvement store would assist to offset this divergence between resident employment and jobs, which ultimately results in more people travelling longer distances to work. This has a range of adverse environmental, social and economic impacts, and is in conflict with the DoP&I's objective of providing more jobs closer to homes.

TABLE 6 – MARRICKVILLE RESIDENT EMPLOYMENT BY INDUSTRY, 2006-2011

Resident Employment by Industry - Historic

MARRICKVILLE LGA, 2006 TO 2011

Industry Sectors	2006		2011		2006-2011	
	%	#	%	#	% Change	# Change
Agriculture, forestry & fishing	0%	63	0%	44	-30%	-19
Mining	0%	52	0%	50	-4%	-2
Manufacturing	7%	2,510	5%	2,298	-8%	-212
Electricity, as, water & waste services	1%	203	1%	254	26%	52
Construction	5%	1,876	4%	1,790	-5%	-86
Transport, postal & warehousing	5%	1,817	4%	1,721	-5%	-96
Industrial Sectors	17%	6,521	15%	6,158	-6%	-363
Wholesale trade	4%	1,633	4%	1,647	1%	15
Retail trade	8%	3,171	8%	3,280	3%	109
Accommodation & food services	7%	2,659	7%	2,831	6%	172
Rental, hiring & real estate services	2%	569	1%	581	2%	12
Education & training	10%	3,906	11%	4,679	20%	773
Health care & social assistance	11%	4,067	11%	4,750	17%	684
Arts & recreation services	3%	990	3%	1,282	29%	292
Other services	4%	1,459	4%	1,484	2%	25
Information media & telecommunications	6%	2,185	6%	2,532	16%	346
Financial & insurance services	6%	2,369	7%	2,731	15%	361
Professional, scientific & technical services	11%	4,196	12%	5,225	25%	1,029
Administrative & support services	4%	1,415	4%	1,645	16%	231
Public Administration & safety	7%	2,656	7%	3,047	15%	391
Non-Industrial Sectors	83%	31,275	85%	35,715	14%	2,358
Total	100%	37,796	100%	41,873	5%	1,995

Source : ABS Census 2006 and 2011; Urbis

2.2.2 SOUTH SYDNEY SUBREGION

As per the experience of Marrickville LGA, fewer residents across the entire South Sydney subregion were employed in industrial sectors in 2011 compared to 2006, as noted in Table 7. Again, the largest fall was in the number of residents employed in the manufacturing sector (-2,961).

As per the experience in Marrickville, the number of residents of South Sydney subregion who were employed in the retail sector increased between 2006 and 2011 (+261), but the number of retail sector jobs located in South Sydney subregion fell (-1,275). By 2011 around 35,000 South Sydney residents were employed in the retail sector, but there was just 21,000 retail jobs located in South Sydney subregion.

Once again, the incorporation of a Masters Home Improvement store in Marrickville would assist to offset the growing retail jobs deficit in the South Sydney subregion.

TABLE 7 – SOUTH SYDNEY SUBREGION RESIDENT EMPLOYMENT BY INDUSTRY, 2006-2011

Resident Employment by Industry - Historic

SOUTH SYDNEY SUBREGION, 2006 TO 2011

Industry Sectors	2006		2011		2006-2011	
	%	#	%	#	% Change	# Change
Agriculture, forestry & fishing	0%	548	0%	345	-37%	-202
Mining	0%	304	0%	448	47%	144
Manufacturing	9%	29,753	7%	26,792	-10%	-2,961
Electricity, as, water & waste services	1%	2,739	1%	2,927	7%	187
Construction	7%	23,573	7%	24,666	5%	1,093
Transport, postal & warehousing	7%	24,130	7%	24,934	3%	804
Industrial Sectors	24%	81,047	22%	80,112	-1%	-935
Wholesale trade	5%	17,559	5%	17,321	-1%	-238
Retail trade	11%	35,088	10%	35,305	1%	217
Accommodation & food services	7%	23,107	7%	25,183	9%	2,076
Rental, hiring & real estate services	2%	6,148	2%	6,307	3%	159
Education & training	8%	26,139	8%	30,261	16%	4,122
Health care & social assistance	10%	32,962	11%	39,221	19%	6,260
Arts & recreation services	2%	5,486	2%	6,576	20%	1,090
Other services	4%	13,563	4%	13,820	2%	258
Information media & telecommunications	3%	10,450	3%	11,236	8%	785
Financial & insurance services	6%	21,148	6%	22,749	8%	1,601
Professional, scientific & technical services	8%	28,253	9%	33,206	18%	4,953
Administrative & support services	4%	11,664	4%	13,490	16%	1,827
Public Administration & safety	6%	20,602	6%	22,646	10%	2,044
Non-Industrial Sectors	76%	252,168	78%	277,322	126%	25,154
Total	100%	333,215	100%	357,434	124%	24,219

Source : ABS Census 2006 and 2011; Urbis

2.3 JOB PROVISION

Tables 6 and 7 compare the number of jobs, by industry, located in Marrickville LGA and South Sydney subregion respectively, with the number of Marrickville LGA and South Sydney subregion residents employed, by industry. The analysis highlights the industries where there is a jobs deficit i.e. where there are more residents of an area employed in an industry than the number of jobs available in that industry in the same area.

As noted, there is a deficit of some 19,000 jobs in non-industrial sectors, and a surplus of some 183 jobs in industrial sectors in Marrickville LGA. Across the total South Sydney subregion, there is a jobs deficit in both industrial and non-industrial sectors, but it is significantly greater in non-industrial sectors.

Whilst some imbalance between jobs and resident employment is to be expected at the local level, and it is unrealistic to aim to achieve equilibrium in all sectors, too large of a deficit is inefficient as it causes people to have to travel longer distances to work. This has a range of adverse economic, social and environment impacts (for instance, increased pollution from fuels, increased pressure on road infrastructure and associated higher maintenance costs, reduced time spent with families, increased costs of travel for workers and reduced worker productivity).

The introduction of the proposed Masters Home Improvement store would assist to offset some of the imbalance between resident employment and jobs in Marrickville by providing more retail jobs, which are currently in deficit (-643 at the local level; -13,000 at the subregional level).

TABLE 8 – MARRICKVILLE LGA JOBS DEFICIT

Jobs Deficit

MARRICKVILLE LGA, 2011

Industry Sectors	Workers	Jobs	Jobs Gap
Agriculture, forestry & fishing	44	7	-37
Mining	50	10	-40
Manufacturing	2,298	3,479	1,181
Electricity, as, water & waste services	254	45	-209
Construction	1,790	1,348	-442
Transport, postal & warehousing	1,721	1,452	-269
Industrial Sectors	6,158	6,341	183
Wholesale trade	1,647	1,975	328
Retail trade	3,280	2,637	-643
Accommodation & food services	2,831	1,542	-1,289
Rental, hiring & real estate services	581	352	-229
Education & training	4,679	2,045	-2,634
Health care & social assistance	4,750	2,055	-2,695
Arts & recreation services	1,282	537	-745
Other services	1,484	1,238	-246
Information media & telecommunications	2,532	514	-2,018
Financial & insurance services	2,731	348	-2,383
Professional, scientific & technical services	5,225	1,755	-3,470
Administrative & support services	1,645	523	-1,122
Public Administration & safety	3,047	1,083	-1,964
Non-Industrial Sectors	35,715	16,604	-19,111
Total	41,873	22,945	-18,928

Source : ABS Census 2006 and 2011; Urbis

TABLE 9 – SOUTH SYDNEY SUBREGION JOBS DEFICIT

Jobs Deficit

SOUTH SYDNEY SUBREGION, 2011

Industry Sectors	Workers	Jobs	Jobs Gap
Agriculture, forestry & fishing	345	122	-223
Mining	448	78	-370
Manufacturing	26,792	14,659	-12,133
Electricity, as, water & waste services	2,927	952	-1,975
Construction	24,666	10,715	-13,951
Transport, postal & warehousing	24,934	8,406	-16,528
Industrial Sectors	80,112	34,932	-45,180
Wholesale trade	17,559	8,436	-9,123
Retail trade	35,088	21,548	-13,540
Accommodation & food services	23,107	11,987	-11,120
Rental, hiring & real estate services	6,148	2,974	-3,174
Education & training	26,139	14,105	-12,034
Health care & social assistance	32,962	23,690	-9,272
Arts & recreation services	5,486	2,341	-3,145
Other services	13,563	7,719	-5,844
Information media & telecommunications	10,450	1,573	-8,877
Financial & insurance services	21,148	5,148	-16,000
Professional, scientific & technical services	28,253	11,107	-17,146
Administrative & support services	11,664	4,318	-7,346
Public Administration & safety	20,602	9,362	-11,240
Non-Industrial Sectors	92,118	31,508	-60,610
Total	172,229	66,440	-105,789

Source : ABS Census 2006 and 2011; Urbis

2.4 JOURNEY TO WORK

2.4.1 RESIDENTS

The inability of Marrickville to adapt its economic base to the changing employment profile of its residents has resulted in the LGA achieving a very low employment containment ratio of 15%, meaning that just 15% of working Marrickville residents are employed within the LGA. The remainder travel beyond for work, primarily to Sydney LGA (presumably mostly the CBD), North Sydney LGA and a dispersed mix of other LGAs, as noted in Table 11. Marrickville residents' journey to work patterns are illustrated in Map 3.

Table 12 benchmarks Marrickville's employment containment ratio against employment containment ratios achieved in a sample of other LGAs across Sydney. As noted, Marrickville has the lowest employment containment rate of all benchmarked LGAs.

This situation is contrary to Council's and the DoP's goal of providing jobs close to homes, and has adverse impacts on the local community, namely traffic congestion, vehicle pollution, pressure on road and other transport infrastructure and high costs of travel between work and home for Marrickville residents.

The development of a Masters Home Improvement store on the subject site would contribute to improving Marrickville's employment containment rate, as it will provide retail jobs – which are currently in deficit – to Marrickville residents.

TABLE 10 – MARRICKVILLE AND SOUTH SYDNEY SUBREGION RESIDENTS' PLACE OF WORK, 2011

Worker Place of Residence

MARRICKVILLE LGA & SOUTH SYDNEY SUBREGION, 2011

Place of Residence, LGA	Employed Within Marrickville LGA		Employed Within South Sydney Subregion	
Marrickville	5,682	24%	7,396	5%
Canterbury	2,547	11%	14,525	9%
Sydney	1,337	6%	3,074	2%
Rockdale	1,214	5%	13,737	9%
Sutherland Shire	1,063	5%	54,286	34%
Bankstown	1,061	5%	8,142	5%
Randwick	721	3%	2,471	2%
Hurstville	669	3%	12,829	8%
Ashfield	639	3%	1,420	1%
Leichhardt	602	3%	1,051	1%
Canada Bay	585	3%	1,481	1%
Kogarah	560	2%	9,923	6%
Liverpool	461	2%	3,483	2%
Blacktown	422	2%	1,509	1%
Parramatta	402	2%	1,488	1%
Campbelltown	373	2%	2,448	2%
Fairfield	366	2%	1,721	1%
Ryde	311	1%	922	1%
Auburn	309	1%	1,177	1%
Waverley	305	1%	748	0%
Other	3,633	16%	17,218	11%
Total	23,262	100%	161,049	100%

Source : ABS Census 2011; Urbis

TABLE 11 – EMPLOYMENT CONTAINMENT BENCHMARKS, 2011

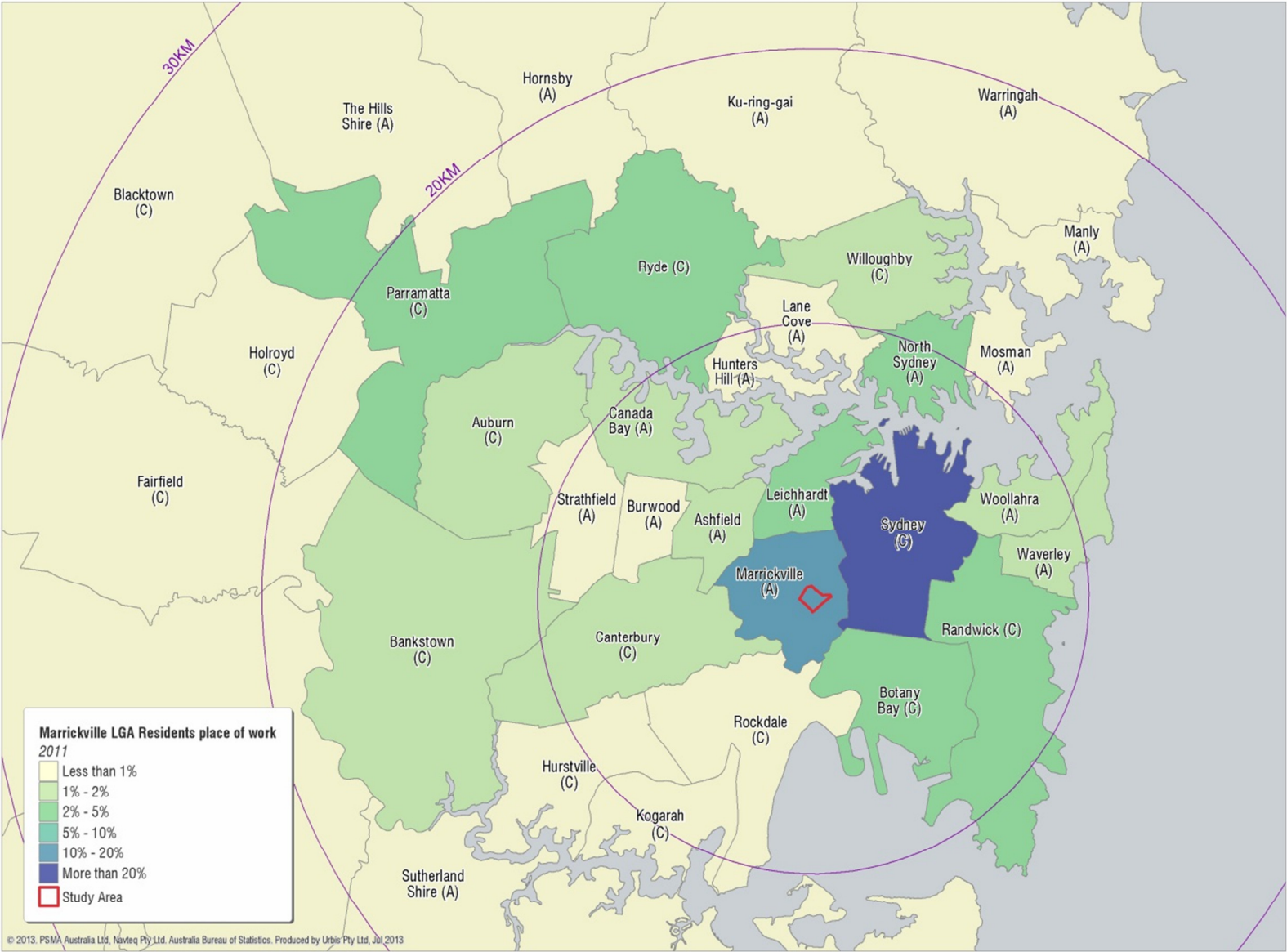
Employment Containment Rates

SAMPLE LGAS, 2011

LGA	%
Warringah	38%
Waverley	27%
Ryde	28%
Parramatta	25%
Botany Bay	24%
Mosman	20%
Leichhardt	18%
Marrickville	14%

ABS, 2011

MAP 3 – MARRICKVILLE RESIDENTS' PLACE OF WORK



2.4.2 WORKERS

Table 12 shows the places of residence of people who work in Marrickville LGA and South Sydney subregion. The key points to note are:

- 24% of people that work in Marrickville also live in Marrickville, with the remaining 76% travelling to work in Marrickville from a broad range of areas. 29% of workers travel more than 20 kilometres to work in Marrickville, and 10% travel more than 30 kilometres to work in Marrickville. The journey to work patterns of Marrickville workers is illustrated in Map 4.
- The high dependency on workers from outside of Marrickville can be attributed to the fact that there is a significant mismatch between the types of jobs located in Marrickville and the types of jobs that Marrickville residents are employed in.
- Masters Home Improvement store would assist to address this issue by providing more jobs in an industry that a large proportion of Marrickville residents are employed in (retail), and where there is an undersupply of jobs currently.

TABLE 12 – MARRICKVILLE AND SOUTH SYDNEY SUBREGION WORKERS' PLACE OF RESIDENCE, 2011

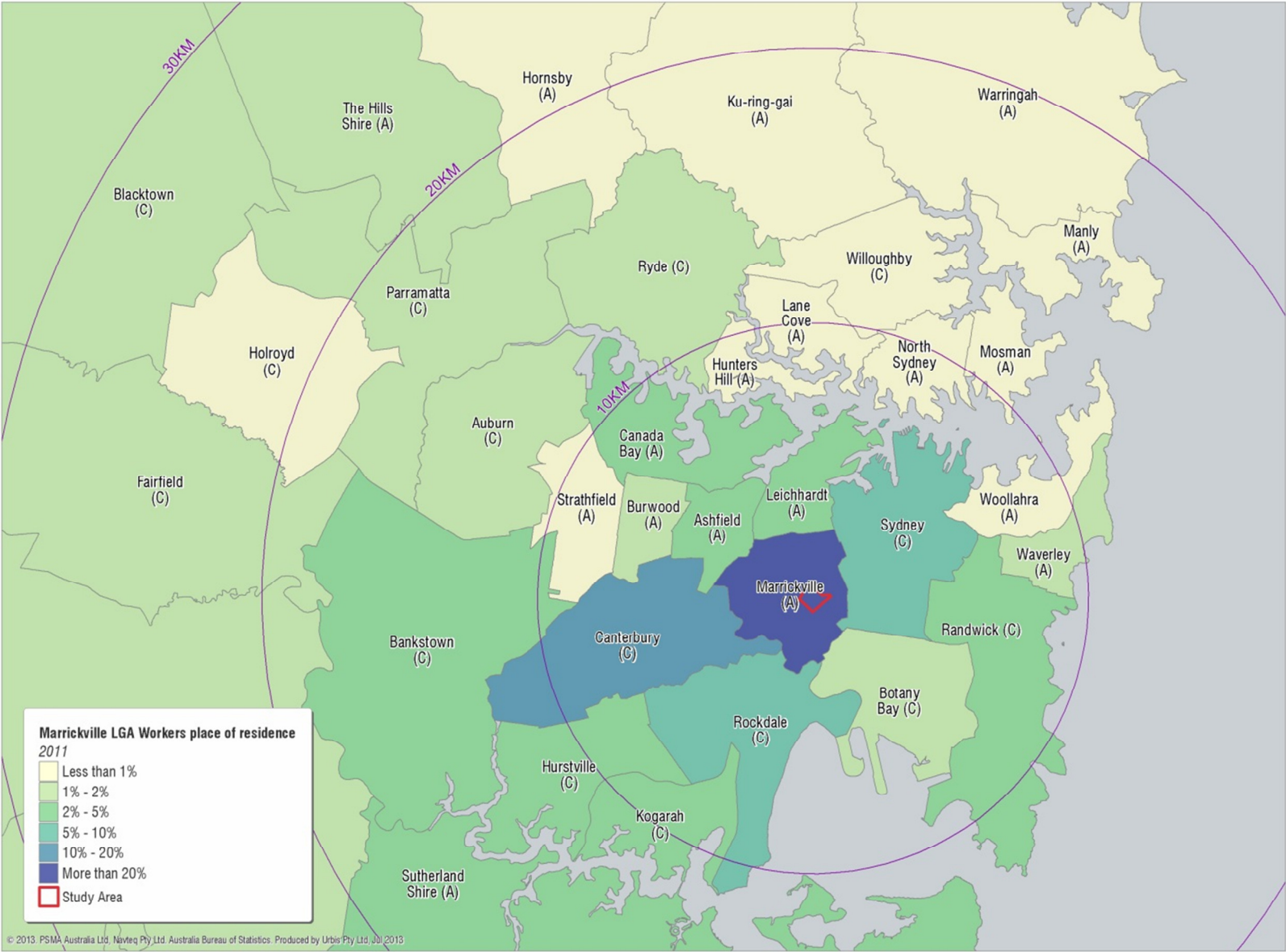
Worker Place of Residence

MARRICKVILLE LGA & SOUTH SYDNEY SUBREGION, 2011

Place of Residence, LGA	Employed Within Marrickville LGA		Employed Within South Sydney Subregion	
Marrickville	5,682	24%	7,396	5%
Canterbury	2,547	11%	14,525	9%
Sydney	1,337	6%	3,074	2%
Rockdale	1,214	5%	13,737	9%
Sutherland Shire	1,063	5%	54,286	34%
Bankstown	1,061	5%	8,142	5%
Randwick	721	3%	2,471	2%
Hurstville	669	3%	12,829	8%
Ashfield	639	3%	1,420	1%
Leichhardt	602	3%	1,051	1%
Canada Bay	585	3%	1,481	1%
Kogarah	560	2%	9,923	6%
Liverpool	461	2%	3,483	2%
Blacktown	422	2%	1,509	1%
Parramatta	402	2%	1,488	1%
Campbelltown	373	2%	2,448	2%
Fairfield	366	2%	1,721	1%
Ryde	311	1%	922	1%
Auburn	309	1%	1,177	1%
Waverley	305	1%	748	0%
Other	3,633	16%	17,218	11%
Total	23,262	100%	161,049	100%

Source : ABS Census 2011; Urbis

MAP 4 – MARRICKVILLE WORKERS' PLACE OF RESIDENCE



2.5 SUMMARY

Key findings from the preceding analysis are summarised as follows:

- Jobs located in the study area – comprising the area bounded by Sydenham Road, Victoria Road, Edinburgh Road and the railway line – are largely in the manufacturing and wholesale trade industries.
- In Marrickville LGA and South Sydney subregion, the number of industrial jobs is in decline and this is forecast to continue in the future. This is predominately being driven by the decline in the manufacturing sector – a structural economic transformation that is occurring nationally.
- An exception to this is construction jobs, which grew in Marrickville and South Sydney subregion between 2006 and 2011, and which are projected to continue to grow in the future.
- The proposed Masters Home Improvement store could service the growing construction (trade) industry – which is forecast to account for around 20% of Masters' turnover. In this way, it is expected to compliment, rather than hinder, the industrial activities occurring in neighbouring areas, and in the broader South Sydney Subregion.
- The Masters Home Improvement store will also contribute to addressing the growing jobs deficit in Marrickville LGA by providing more retail jobs (which declined between 2006 and 2011) to Marrickville residents employed in the retail sector (which grew between 2006 and 2011). This is in line with the DoP&I's goal of creating more jobs close to peoples' homes, and is associated with a range of economic, social and environmental benefits.

3 Study Area Survey

To better understand the nature of industrial activities occurring near the subject site, and in order to fully consider the impacts of the proposed Masters Home Improvement store on the adjoining industrial precinct, Urbis undertook external inspections of properties in the precinct. This was supplemented with information collated with the use of Urbis' Geographic Information Systems (GIS) tools.

This section presents the findings from the site surveys, including analysis of the following metrics:

- Site areas
- Floor space
- Zoning types
- Building types
- Business types
- Vacancy rates
- Employment densities

The assessment incorporates all properties within the Study Area boundaries, being Sydenham Road, Victoria Road, Edinburgh Road and the railway line.

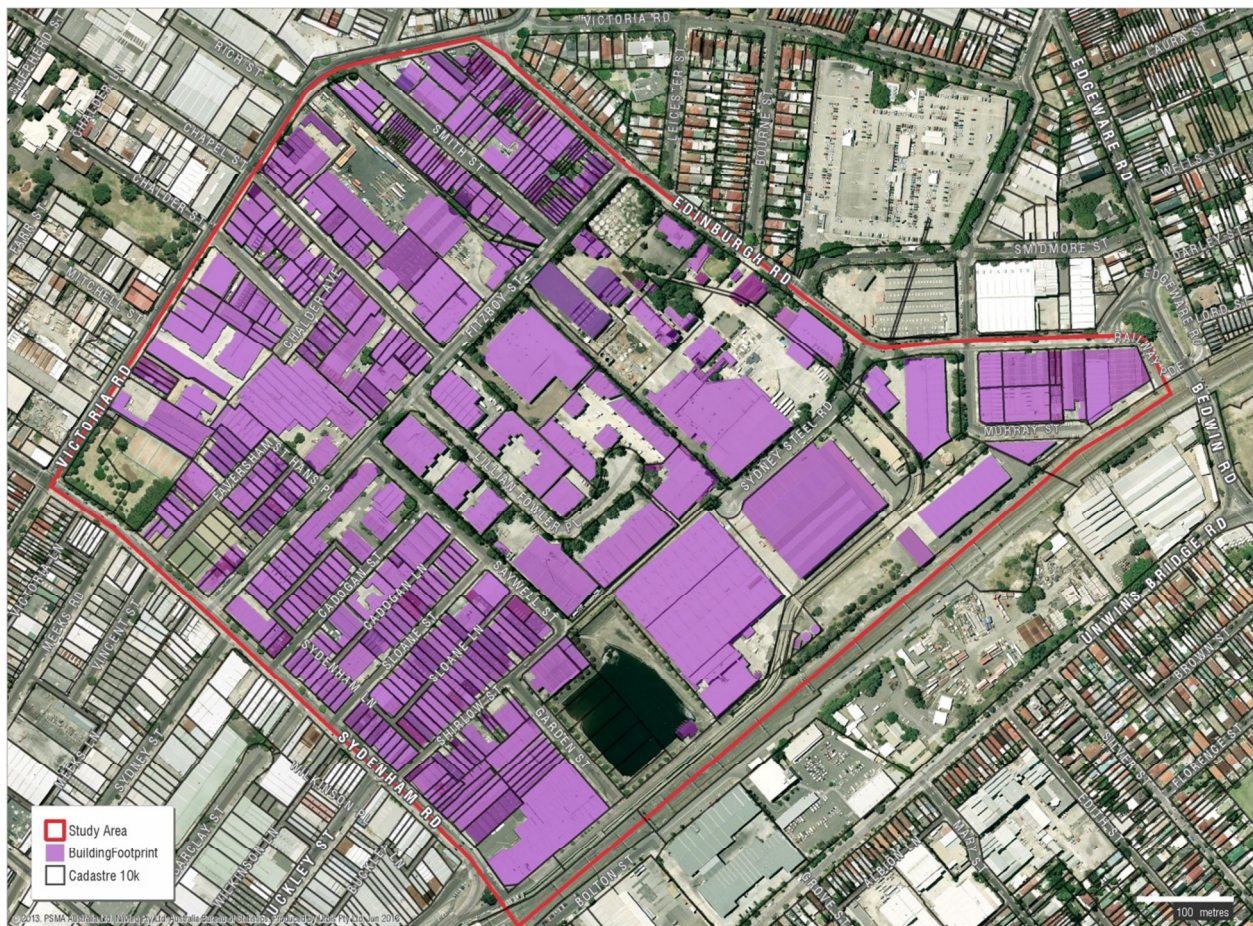
3.1 ZONING TYPES

There are 301 properties in the Study Area, of which 255 (87%) are zoned IN1. The bulk of the balance of properties are zoned B7 and IN2.

The total Study Area comprises around 384,000sq.m. and total building floor space of approximately 238,000sq.m. Site areas and floor spaces were quantified by mapping the site boundaries and building floor plates using GIS software (illustrated in Map 5 overleaf), and assigning zonings using Marrickville Council's zoning plans.

TABLE 13 – ZONING TYPE DISTRIBUTION, STUDY AREA

	IN1	B7	IN2	RE1	RE2	SP2	TOTAL
Number of properties	263	17	15	1	1	3	301
Site area (sq.m.)	346,709	6,126	8,276	473	1,551	20,983	384,118
Floor area (sq.m.)	227,967	4,119	4,669	459	926	296	238,737



3.2 BUILDING TYPES

There is a broad range of building types in the study area, accommodating a range of different activities. As illustrated in Figures 1 and 2, freight and logistics / warehouse buildings accounted for the largest share of business and floor space, of the properties that could be fairly categorised through physical survey (some properties were not identifiable from the street and could be not be entered as they were unoccupied).

As noted in Section 2.1.2, BTS has projected a decline in the transport & storage sector in Marrickville in the future. Therefore, given the extensive supply of freight & logistics accommodation / warehouses, the Study Area is at risk of becoming underutilised if land uses are not permitted to be adapted to align with the changing nature of industrial activities (e.g. an increase in construction related activities).

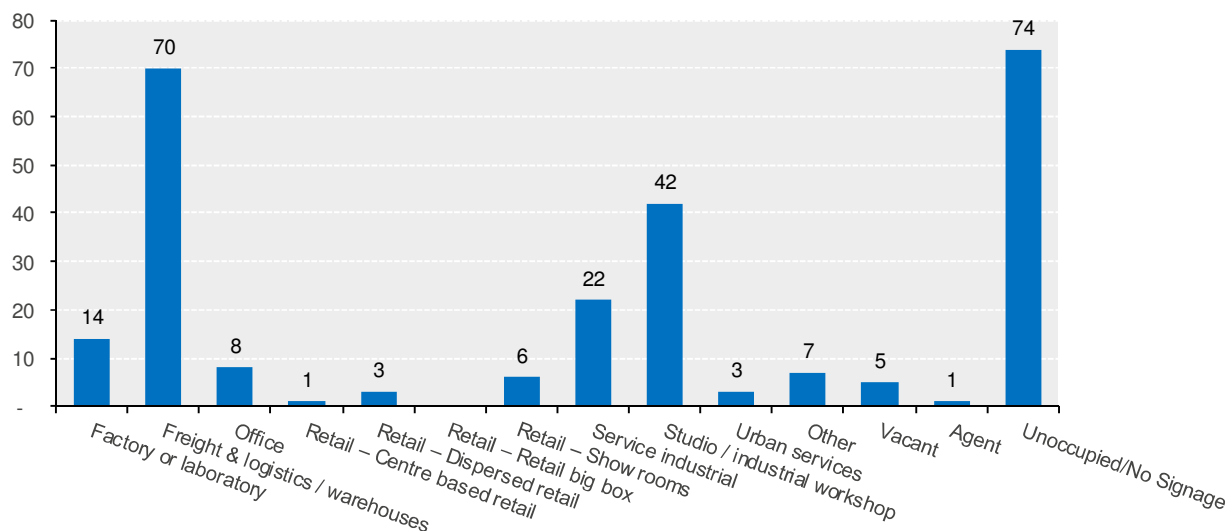
With transport & storage properties having amongst the lowest employment densities of all property types, other industrial activities which could potentially take the place of existing transport & storage businesses (such as construction related) could potentially generate more employment and economic activity than what is currently present. In this way, there is considered to be strong prospects for industrial activities in the Study Area if land uses are not adapted to respond to changing industry structures, as the Masters Home Improvement store seeks to do.

As illustrated in Figure 2, there is currently around 4,000sq.m. of retail floorspace in the study area, equivalent to 1.7% of total building floor space. The proposed Masters Home Improvement store would result in a total of around 17,000sq.m. of retail floor space in the Study Area – which is equivalent to around 8% of existing building floor space. Therefore, the precinct would continue to be dominated by industrial buildings, and the overall representation of retail floorspace would remain marginal, and uncompromised.

FIGURE 1 – BUILDING TYPES , STUDY AREA

Number of Businesses by Building Type

STUDY AREA

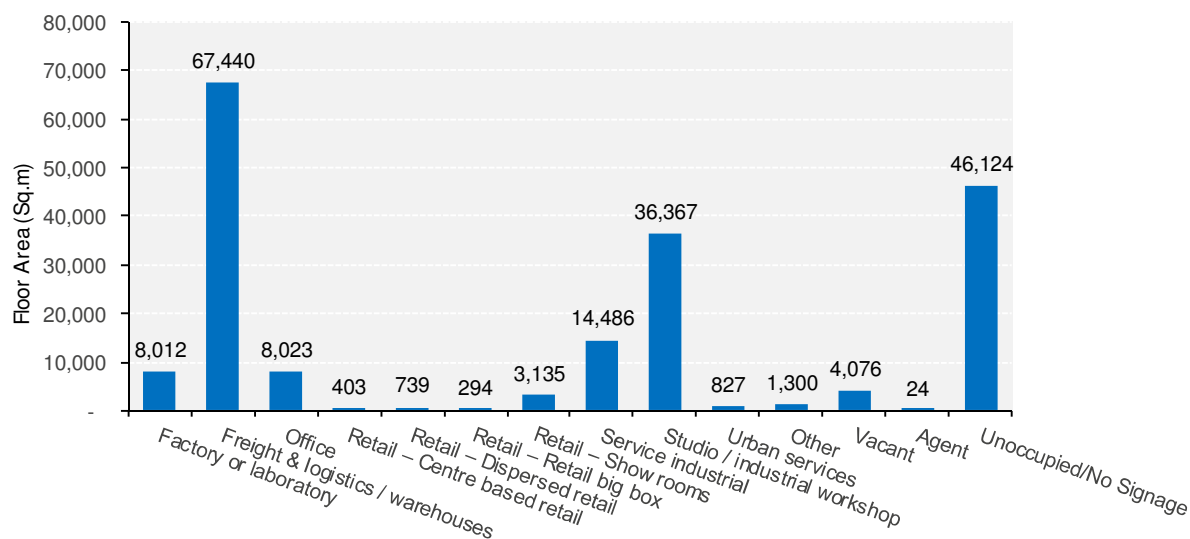


Source : Urbis

FIGURE 2 – FLOOR AREA BY BUILDING TYPES, STUDY AREA

Floor Area by Building Type

STUDY AREA



Source : Urbis

3.3 EMPLOYMENT

Through site surveys, employee numbers were obtained for 73 businesses (25%) in the precinct. The remaining properties were either vacant / not occupied on the day that fieldwork was undertaken, or were not willing to provide information.

As noted in Table 14 below, freight & logistics / warehouses – the most prominent building type in the Study Area – has the lowest employment density of all properties in the precinct, employing 1 person per 262sq.m. of floorspace 460sq.m. of site area. Studios / industrial workshops – the second most prominent building type in the precinct – has the second lowest employment density. Therefore, the precinct supports a low level of employment, relative to other industrial precincts occupied by more intensive industrial uses.

If the freight & logistics / warehouse properties (which are expected to become less relevant as businesses operating in the sector move to alternative locations) are adapted to better suit the changing industry structure of the precinct (e.g. growing prevalence of construction businesses), there is significant opportunity for total employment to increase, and the overall economic importance of the precinct to be enhanced. The introduction of the proposed Masters Home Improvement store, by virtue of its site / building area alone, would not stop this adaptation from occurring.

TABLE 14 – STUDY AREA EMPLOYMENT DENSITIES

BUILDING TYPE	EMPLOYMENT DENSITY SQ.M. FLOOR SPACE / EMPLOYEE	EMPLOYMENT DENSITY SQ.M. SITE AREA / EMPLOYEE
Factory or laboratory	105	124
Freight & logistics / warehouses	262	460
Office	116	140
Retail – Centre based retail	100	142
Retail – Dispersed retail	92	179
Retail – Retail big box	NA	NA
Retail – Showrooms	46	55
Service industrial	63	77
Studio / industrial workshop	239	411
Urban services	28	213
Other	62	66
Precinct Average	111	187

3.4 VACANT & UNDERUTILISED PROPERTIES

A high level of vacancy and underutilisation was observed in the Study Area. In this instance, vacancy is defined to comprise all lots that were vacant, derelict or for sale (untenanted); underutilised floorspace is defined to comprise properties which were not occupied on any of the days that Urbis undertook site surveys (3 days) and which were not believed to be regularly utilised based on their physical appearance (for instance, they were run-down, boarded/chained up and without any signage).

Based on information obtained through site surveys, there is estimated to be approximately 64,000sq.m. (27%) of vacant or underutilised IN1 floorspace and 577sq.m. (12%) of vacant or underutilised IN2 floorspace in the Study Area.

3.5 FUTURE INTENTIONS OF TENANTS

Where possible, tenants were asked of their intentions to remain or relocate from their current premises. Of the 76 businesses that were willing or able to respond, 4 (5% of respondents) indicated that they planned to move from the area.

3.6 PERCEIVED OUTCOMES OF PROPOSED MASTERS HOME IMPROVEMENT STORE

Businesses were also asked for their views on how the proposed Masters Home Improvement store would affect their business and the precinct in general.

Businesses primarily felt that it would have a neutral or positive impact on their activities, and on the wider precinct.

Positive impacts were largely expected to be generated through the improved range and access of hardware goods that will be provided by the Masters Home Improvement store.

In terms of possible negative impacts, some businesses expressed that traffic congestion was a concern but felt that congesting could be mitigated through appropriate traffic management. Some of the service industrial businesses actually felt that the possible increase in passing traffic would increase customer exposure and have an overall positive impact on their business.

Only one construction supplies business, occupying a 500sq.m. site, expected that the Masters Home Improvement store would take trade away from it and have an overall negative impact.

3.7 SUMMARY

The rezoning of some industrial lands in the Study Area to permit complimentary uses – such as the proposed Masters Home Improvement store – is not expected to have an adverse impact on the industrial activities in the precinct.

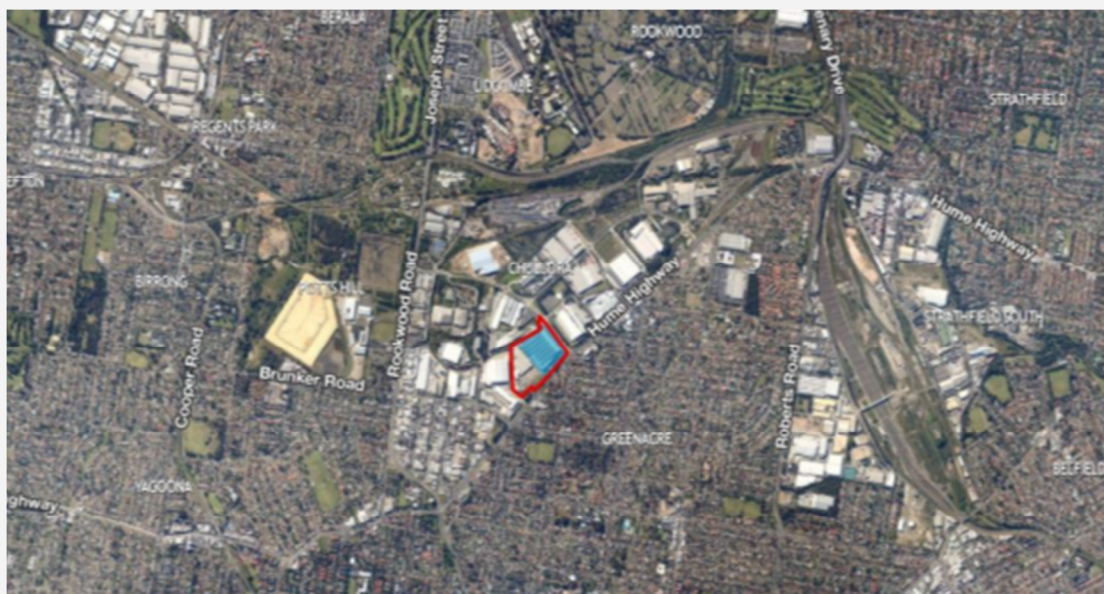
Rather, it is expected that the future viability of the precinct will be largely dependent on existing industrial accommodation (primarily transport & logistics buildings / warehouses) to adapt to accommodate emerging industrial sectors, such as construction.

If this does occur, there is significant opportunity for total employment in the precinct to increase – due to the introduction of more employment intensive industrial uses as well as other complimentary uses – and for the overall economic significance of the area to be enhanced.

4 Home Improvement Store Case Studies

MASTERS CHULLORA (BANKSTOWN LGA)

Location Description	Masters Chullora is located at 62 Hume Highway, on the site of the former Coles distribution centre at the Chullora, Greenacre and Potts Hill Industrial Area (CGPHIA). The CGPHIA contains in excess of 500,000 sq.m commercial floorspace incorporating a range of light and general industrial uses including printing, manufacturing, food processing, freight and logistics. Chullora Marketplace – a subregional shopping centre comprising 17,000sq.m. of floorspace – is approximately 1 kilometre away.
Development Description	Chullora was among the first Masters Home Improvement stores to be approved and third to be constructed in NSW. It comprises approximately 13,500sq.m. of floor space.
Relationship to Surrounding Industrial Precinct	Bulky goods/hardware retail has a relationship with industrial operators, providing retail building supplies. Co-locating with industrial estates can localise a proportion of industrial operators supply chain, thereby increasing the local areas' overall expenditure capture.
Similarities to Marrickville Proposal	- Located within an industrial precinct accommodating a broad range of light and heavy industrial uses - Close (although not adjacent) to a subregional shopping centre



BUNNINGS ARTARMON (WILLOUGHBY LGA)

Location Description	Bunnings Artarmon is located at 71 Reserve Rd, Artarmon within the Artarmon employment area which extends north of Campbell Street towards the Gore Hill Freeway, and north-east of the Pacific Highway. There are a number of consolidated business/showroom developments located along the Pacific Highway to the north of the site, as well as a cluster of home improvement retail businesses within the centre of the industrial precinct located on Reserve Road, Artarmon. The remainder of this area is dominated by small industrial businesses, with a particular focus on the automotive industry.
Development Description	The property was developed by BBC Hardware Limited in 2000, and purchased by the Bunnings Warehouse Property Trust in February 2003.
Relationship to Surrounding Industrial Precinct	▪ The Artarmon Employment Area contains a consolidated business/showroom development in the centre of the precinct, with the remaining precinct comprised mainly of industrial businesses. ▪ The established 'home improvement precinct' serves a mix of residents and trades people/local businesses. The co-location with industrial businesses has placed Bunnings Artarmon close to wholesale business customers as well as a residential area of Willoughby, St Leonards and Lane Cove.
Similarities to Marrickville Proposal	▪ Similar to the proposed Masters Home Improvement store in Marrickville, it is located within an established industrial precinct, with a mix of small and large industrial lots, and businesses. ▪ Like the proposed Masters Marrickville store, Bunning Artarmon is located in an area with a predominately white collar workforce. The demand for industrial jobs by local residents has reduced over time, while the demand for non-industrial jobs has increased. The introduction of complimentary uses like, Bunnings, into the Artarmon Employment Area has contributed to meeting demand for non-industrial jobs.



BUNNINGS ALEXANDRIA (SYDNEY LGA)

Location Description	Bunnings Alexandria is located at 8-40 Euston Road, Alexandria. It is part of the Alexandria Industrial Precinct, which primarily consists of small to medium scale warehousing and factory facilities, some dating to the 1940's / 1950's. Many of the larger facilities from this period have been redeveloped or adapted to accommodate multiple users. Pockets of more contemporary employment related development have emerged in recent years shifting from 'traditional' low intensity industrial warehousing facilities towards alternate broader higher intensity employment generating uses.
Development Description	The store comprises approximately 20,000 sq.m, of floorspace with 17,200 sq.m allocated to Hardware and 2,800 to Home Improvement. The site is 2.6 hectares.
Relationship to Surrounding Industrial Precinct	▪ Bulky goods/hardware retail has a relationship with industrial operators, providing wholesaling retail building supplies. Co-located with industrial estates can localise a proportion of industrial operators supply chain. ▪ Based on a recent review of employment lands in South Sydney, the City of Sydney intends to largely retain much of the industrial zoning in the precinct, but introduce some rezonings to allow for a broader mix of uses. Whilst this would result in a reduction in industrial zoned land, new and more intensive industrial uses entering the precinct are expected to drive a net increase in industrial jobs.
Similarities to Marrickville Proposal	▪ Located in an industrial precinct containing a high proportion of older industrial stock on small lots/stratified ownership. ▪ It is transitioning from lower employment intensity 'traditional warehousing', moving to more flexible industrial/commercial/retail uses, such as low rise commercial office buildings, strata office suites, showrooms, adaptive re-use of former industrial facilities and quasi retail / commercial / industrial uses. ▪ The local resident demographic profile is relatively comparable. In particular, the white collar workforce has increased and the blue collar workforce has decreased over time, like Marrickville.



5 Economic Impacts of Proposed Development

This section of the report considers implications of the proposed Marrickville Masters Home Improvement store in relation to the industrial precinct in which it sits, as well as broader economic impacts of the proposal.

5.1 IMPLICATIONS FOR SURROUNDING INDUSTRIAL ACTIVITIES

Key points to note in regards to the relationship between the proposed Masters Home Improvement store and the surrounding industrial uses are as follows:

- The proposed Masters Home Improvement store is expected to compliment the adjoining industrial precinct by increasing access and choice of building and construction materials to the construction sector, which increased its prevalence in the precinct between 2006 and 2011, and is expected to continue to become more prevalent in Marrickville LGA, according to BTS forecasts.
- The 2.75 hectare subject site represents just 1.3% of all industrial zoned land in the draft Marrickville LEP 2010 (214.6 hectares), and 7% of industrial zoned land in the Study Area. Therefore, the rezoning will not have a material impact on industrial land supply in Marrickville or the Study Area.

5.2 EMPLOYMENT IMPACTS

The proposed Masters Home Improvement store is expected to have the following employment impacts:

- According to Masters, the Home Improvement store will employ approximately 180 people directly during construction, and 130 to 150 people during operation – a substantial increase on the 15 people currently employed by the warehouse and distribution uses currently on the site.
- The proposed development (1 job per 90-105sq.m.) presents an opportunity to accommodate more jobs on the site than what is currently accommodated, and more than what would likely be accommodated if another distribution centre occupied the site (1 job per 110sq.m. according to Urbis universal averages, or 1 job per 262sq.m. which is the average in the Study Area as quantified through site surveys and presented in Section 3.3).
- The Home Improvement store will increase the provision of retail jobs in Marrickville LGA, which actually declined between 2006 and 2011, while the number of Marrickville residents employed in retail jobs increased between 2006 and 2011, resulting in an increase in the size of the retail jobs deficit in Marrickville to 643 jobs by 2011. Such divergence between jobs and resident employment causes people to have to travel longer distances to work, and this has a range of adverse impacts on the local community, namely traffic congestion, vehicle pollution, pressure on road and other transport infrastructure and high costs of travel between work and home for Marrickville residents.

5.3 OTHER IMPACTS

Other benefits associated with the proposed development include:

- Increased competition within the home improvement sector which should result in greater choice and price savings for customers;
- The site's location adjacent to Marrickville Metro shopping centre provides a convenient location for household shoppers, whilst its location close to other trades suppliers within Marrickville is also advantageous to the trades sector. Both factors have the potential to reduce overall travel distances for customers.
- Accordingly, there may be potential vehicle emission savings (particularly from trades vehicles) by minimising the need for customers to travel greater distances to make purchases; and
- Increased expenditure retention within the Main Trade Area reducing expenditure leakage to other LGAs.

5.4 SUMMARY

Taking into account the jobs and resident employment profile of Marrickville, and the nature of surrounding land uses and activities, the key anticipated outcomes of the proposed Masters Home Improvement store are summarised as follows:

- It is not expected to undermine the role of the adjoining industrial precinct;
- It is seen as being complimentary to neighbouring industrial activities, particularly those relating to construction;
- It will generate a net increase in jobs;
- It will provide more retail jobs thereby contributing to reducing the current retail jobs deficit in Marrickville LGA;
- The expected employment impacts are highly consistent with the DoP&I's objective of providing more jobs closer to peoples' homes;
- Overall, the proposed Masters Home Improvement store is expected to generate a net economic benefit.

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Sydney

Tower 2, Level 23, Darling Park
201 Sussex Street Sydney, NSW 2000
t +02 8233 9900
f +02 8233 9966

Melbourne

Level 12, 120 Collins Street
Melbourne, VIC 3000
t +03 8663 4888
f +03 8663 4999

Brisbane

Level 7, 123 Albert Street
Brisbane, QLD 4000
t +07 3007 3800
f +07 3007 3811

Perth

Level 1, 55 St Georges Terrace
Perth, WA 6000
t +08 9346 0500
f +08 9221 1779

Australia • Asia • Middle East
w urbis.com.au **e** info@urbis.com.au