ATTACHMENT A

PLANNING PROPOSAL:
904 BOURKE STREET ZETLAND

DATED DECEMBER 2014

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Planning Proposal

904 Bourke Street, Zetland

December 2014

Sydney2030/Green/Global/Connected

city of villages

INTRODUCTION

This Planning Proposal explains the extent of, and justification for, proposed amendments to *Sydney Local Environmental Plan 2012* (Sydney LEP 2012) as it applies to 904 Bourke Street, Zetland (the site). This Planning Proposal has been prepared in accordance with Section 55 of the *Environmental Planning and Assessment Act 1979* (the Act) and guidelines published by the Department of Planning and Environment including 'A guide to preparing planning proposals' and 'A guide to preparing local environmental plans'.

Specifically, this Planning Proposal seeks to amend the building height and floor space ratio controls for the site as contained in Sydney LEP 2012. More detailed planning controls for the site will be contained within an amendment to Sydney Development Control Plan 2012 (Sydney DCP 2012) which has been prepared alongside this Planning Proposal. The proposed amendments to Sydney DCP 2012 will support the proposed changes to Sydney LEP 2012.

The land affected by this Planning Proposal is shown hatched in red in Figure 1.

BACKGROUND

Site Identification

904 Bourke Street, Zetland is a single landholding located in the Green Square Urban Renewal Area in the southern part of the City of Sydney Local Government Area. Table 1 details the land affected by this Planning Proposal and the proposed amendments.

Site	Property Description	Proposed Amendment
904 Bourke Street, Zetland	Lot 20 DP 807178, Lots 1-7 SP 49583	Changes to height in metres and floor space ratio controls

Table 1 – Site description and proposed amendment

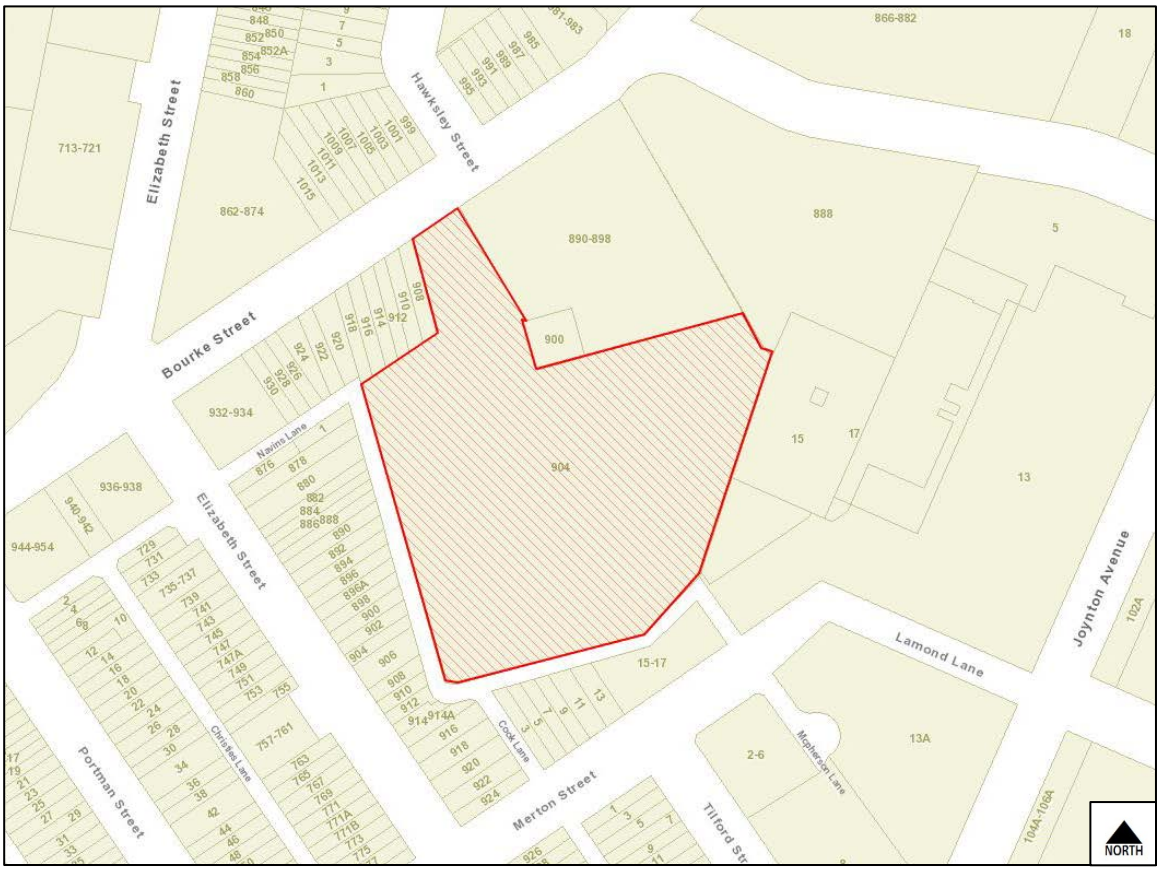


Figure 1 – Land affected by this Planning Proposal

Site Characteristics

904 Bourke Street is in the suburb of Zetland in the southern part of the City of Sydney Local Government Area and is within the Green Square Urban Renewal Area. It is situated to the north east of the proposed Green Square Town Centre and Green Square Train Station and to the west of the Victoria Park precinct and Emerald Park development.

It is an irregularly shaped site with a narrow 20 metre frontage to Bourke Street and a total site area of approximately 14,680 square metres. The site has been excavated and re-graded and is now generally flat resulting in significant changes in level to surrounding sites. The most significant level change is between the southern boundary of the site and McPherson Lane where there is a retaining wall of approximately 4 metres.

The southern and western boundaries of the site front McPherson Lane, a publicly accessible lane servicing the rear of properties on Merton Street and Elizabeth Street. The north eastern boundary fronts 890-898 Bourke Street, a site in Strata ownership which houses a number of commercial and industrial tenancies. The south eastern boundary fronts 13-17 Joynton Avenue, which is currently under redeveloped as a mixed use development known as 'Emerald Park'. On completion this will accommodate approximately 550 new dwellings and include the new public park known as Mary O'Brien Reserve.

904 Bourke Street was in strata ownership until late 2013 at which time it was sold. It is now under single ownership. There are currently a number of different commercial tenants operating on site. There are two other large sites (888 Bourke Street and 890-898 Bourke Street) in the same street block also under strata ownership. These two sites also house a number of commercial and light industrial units. The remainder of the street block is made up of the Emerald Park Development and smaller residential lots fronting Bourke Street.

The site is adjacent to the Zetland Estate Heritage Conservation Area. This conservation area contains a number of heritage items, two of which adjoin McPherson Lane and are in very close proximity to the site. The site also contains a Moreton Bay Fig tree which appears on the City of Sydney's Significant Tree Register. The tree is located on the western boundary of the site fronting McPherson Lane and is required to be retained and protected.

900 Bourke Street is a small lot situated between 904 Bourke Street and neighbouring 890-898 Bourke Street. It is owned by Sydney Water and contains a shaft which is used to periodically access underground infrastructure. The lot has no public road frontage so is accessed from Bourke Street via an easement over 904 Bourke Street. The easement follows the boundary of 900 Bourke Street to its south-eastern corner and terminates at that point. Sydney Water has confirmed that access to their asset via this easement is required irrespective of redevelopment plans.

Current Planning Controls

The site is zoned B4 Mixed Use under Sydney LEP 2012 which allows a wide range of uses including the commercial and light industrial uses for which the site is currently used and the residential use for which the site is proposed to be redeveloped.

A Floor Space Ratio (FSR) range is achievable on the site, dependent on delivering community infrastructure (refer to Clause 6.14 of Sydney LEP 2012) and demonstrating design excellence (refer to Clause 6.21 of Sydney LEP 2012). The FSR achievable is summarised in Table 2 below:

	Additional	**Total FSR**
Base	-	1.5:1
Community Infrastructure	up to 0.5:1	up to 2:1
Design Excellence	up to 10%	up to 2.2:1

Table 2 – FSR range available for 904 Bourke Street

Sydney LEP 2012 specifies a maximum building height of 15 metres across the whole site. An additional 10% height over and above the 15 metres control may be achieved where design excellence is successfully demonstrated (refer to clause 6.21 of Sydney LEP 2012). This clause specifies that either 10% height or 10% FSR, not both, may be achieved where design excellence is demonstrated

Sydney DCP 2012 requires provision of a setback to Bourke Street, a new 12 metre wide street and a public open space at 904 Bourke Street. The proposed 12 metre wide street connects with McPherson Lane in the south eastern corner of the site and continues north, running to the east of the Sydney Water owned site and through 890-898 Bourke Street where it connects with Bourke Street. Sydney DCP 2012 also requires a 20 metre wide street which runs through 890-898 Bourke Street and 888 Bourke Street and connects the proposed 12 metre wide street with O'Dea Avenue. The proposed 20 metre wide street does not require any land dedication from 904 Bourke Street.

Planning Proposal

In early 2014, JQZ approached the City of Sydney (the City) to discuss the redevelopment potential of 904 Bourke Street, Zetland. JQZ presented a scheme which sought to achieve an FSR of approximately 2:1 across the site via a Stage 1 and Stage 2 Development Application process. The schemes tabled for consideration were not compliant with the 15 metre height control as prescribed by Sydney LEP 2012. Given the degree of the non-compliance, the City advised JQZ that the most appropriate planning pathway was preparation of a Planning Proposal to amend the height controls in Sydney LEP 2012.

In April 2014 the City began the process of working with JQZ and their consultant team to develop this Planning Proposal. JQZ engaged a consultant team of planners, urban designers and traffic engineers to work with City staff. Supporting documentation prepared by the City and the consultant team is appended to this Planning Proposal

PART 1 – OBJECTIVES AND INTENDED OUTCOMES

This Planning Proposal will:

- enable orderly redevelopment of 904 Bourke Street, Zetland for residential and storage uses;
- ensure that new development responds sympathetically to the neighbouring Zetland Estate Heritage Conservation Area and heritage items within this conservation area;
- ensure that new development is appropriate to the surrounding built form context and serves as a transition between taller development to the north of the site and lower scale development to the south of the site;
- allow for the delivery of significant public domain improvements including new public open space, a new street and pedestrian and cycle links; and
- ensure that existing neighbouring properties, new development and the newly created public open spaces receive adequate solar access.

PART 2 – EXPLANATION OF PROVISIONS

To achieve the intended outcomes, this Planning Proposal seeks to amend planning controls in Sydney LEP 2012 as follows:

- Amend Height of Buildings Map Sheets 17 and 18 of *Sydney Local Environmental Plan 2012* in accordance with the proposed Height of Buildings Map shown at Part 4 of this Planning Proposal
- Amend Floor Space Ratio Map Sheets 17 and 18 of *Sydney Local Environmental Plan 2012* in accordance with the proposed Floor Space Ratio Map shown at Part 4 of this Planning Proposal
- Include a new clause under 'Division 5 Site Specific Provisions' of *Sydney Local Environmental Plan 2012* to enable an additional 0.25:1 FSR above that shown in the Floor Space Ratio Map for development on the site for the purposes of 'commercial premises' provided development is contained wholly within the basement and does not affect proposed building envelopes.

It should be noted that the above clause is intended to operate in such a way that any additional floor space awarded through a competitive design process would be calculated as a percentage of the total floor space achieved on site including commercial floor space permissible under the new clause.

PART 3 - JUSTIFICATION

Section A – Need for the planning proposal

Q1. Is the planning proposal a result of any strategic study or report?

In early 2014 the owner of 904 Bourke Street, JQZ, approached the City of Sydney (the City) to discuss redevelopment of the site for residential uses. Preliminary testing by JQZ illustrated that redevelopment which sought to achieve close to the maximum permissible FSR of 2:1 on the site while also dedicating land for public open space and street as required by Sydney Development Control Plan 2012, resulted in building heights which did not comply with the height control of 15 metres on the site and a poor urban design outcome. Likewise, a redevelopment scheme which complied with the maximum building height of 15 metres achieved an FSR of 1.4:1, significantly less than the maximum permissible 2:1.

The City advised JQZ that the most appropriate planning pathway to achieve closer to the maximum permissible density on the site was to prepare a Planning Proposal to amend the maximum height control. On this basis, in April 2014 JQZ engaged a consultant team to work with City staff to develop a master plan for the site.

The Urban Design Study at Appendix A to this Planning Proposal provides background on the context of the site and its constraints and details different design iterations that were considered as part of this master planning process. Throughout the process, the City and JQZ's consultant team examined and tested options for the layout of the future open space and street network and tested a number of different built form options to ensure building height, bulk and scale was appropriate to the context of the site and its surroundings. A Traffic Impact Assessment was prepared by Traffix Consultants in support of the proposed future street network and this is at Appendix B.

The result of this collaborative master planning process is this Planning Proposal. The Planning Proposal details how amendments to the current controls under Sydney LEP 2012, and associated changes to Sydney DCP 2012, can be realised with minimal adverse environmental impacts and demonstrable public benefits including a more legible public open space, greater activation of the site and development which respects neighbouring properties, particularly those within the Zetland Estate Heritage Conservation Area.

Q2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The master plan for the site supported by Council and the proponent is prohibited development as it exceeds the current height control under Sydney LEP 2012. A Planning Proposal is therefore required to amend the Sydney LEP 2012 height of buildings map.

Without this amendment, the master plan for the site cannot be realised despite it having significant merit and delivering significant public benefit. A Planning Proposal to progress an amendment of Sydney LEP 2012 is therefore the most effective way of allowing orderly and economic development of the land, allowing the community and surrounding landowners an opportunity to comment on changes to the controls and providing certainty for all affected stakeholders.

Section B – Relationship to strategic planning framework

Q3. Is the planning proposal consistent with the objectives and actions of the applicable regional or sub-regional strategy (including the Sydney Metropolitan Strategy and the exhibited draft strategies)?

In March 2013 the NSW Government published the draft *Metropolitan Strategy for Sydney to 2031*. Once adopted, it will replace the *Metropolitan Plan for Sydney 2036.* Consistency with both the current and draft Metropolitan Strategies and draft *Sydney City Subregional Strategy* is discussed below.

Metropolitan Plan for Sydney 2036

The Metropolitan Plan is a State Government strategic document that outlines a vision for Sydney to 2036. It identifies key challenges facing Sydney including a population increasing to 6 million by 2036, requiring 770,000 new homes and 760,000 new jobs.

In responding to these and other challenges, the Metropolitan Plan sets out five aims: enhancing liveability, strengthening economic competitiveness, ensuring fairness, protecting the environment and improving governance. To achieve these aims, the plan proposes nine strategic directions. These are: Strengthening a City of Cities, Growing and Renewing Centres, Transport for a Connected City, Housing Sydney's Population, Growing Sydney's Economy, Balancing Land Uses on the City Fringe, Tackling Climate Change, Protecting Sydney's Environment, Achieving Equity, Liveability and Social Inclusion and Delivering the Plan.

The Planning Proposal is consistent with relevant aims and objectives as demonstrated in the below table.

Consistency with Metropolitan Plan for Sydney 2036	
Strategic Direction	**Comment**
Strategic Direction A: *Strengthening a City of Cities*	The Metropolitan Plan continues to envisage Sydney as a 'City of Cities' and the continued success of Central Sydney as a global and iconic centre. It identifies Green Square as a 'Planned Major Centre' that will support central Sydney, offering a focus for housing, commercial activity and local services at a different scale to that of central Sydney. This Planning Proposal will facilitate redevelopment of a key site in the Green Square Urban Renewal Area and in doing so is consistent with this direction.
Strategic Direction B: *Growing and Renewing Centres* ***Strategic Direction E:*** *Growing Sydney's Economy*	Broadly, the provision of residential development facilitated by this Planning Proposal will support the role of the Green Square Town Centre as a major centre. Specifically, Action B1.3 under this direction is to locate 80% of all new housing within the walking catchment of existing and proposed centres with good public transport. This Planning Proposal will help achieve this action by facilitating residential redevelopment of a site which is located within 400 metres of the future Green Square Town Centre and Train Station. Action B3.3 under this direction is to protect heritage items in centres undergoing urban renewal. This Planning Proposal will ensure the protection of the amenity of the neighbouring Zetland Estate Conservation Area and a number of heritage items within this area through a sensitive transition in the scale of built form.
Strategic Direction C: *Transport for a Connected City*	This Planning Proposal will allow for residential redevelopment of a key site within 400 metres of the Green Square Train Station and a number of bus routes. As such, this Planning Proposal is consistent with Objective C2 which seeks to integrate transport and land use planning and decision making to support increased public transport mode share. Furthermore, the provision of an internal street and a pedestrian only link will result in greater permeability through the site and encourage more local trips by walking and cycling.

Consistency with Metropolitan Plan for Sydney 2036	
Strategic Direction	**Comment**
Strategic Direction D: *Housing Sydney's Population*	Redevelopment of the site, facilitated by this Planning Proposal, will deliver approximately 400 new dwellings. In this respect, this Planning Proposal will assist in achieving the dwelling targets set out in the Metropolitan Plan. It is also consistent with individual objectives and actions under this direction including Objective D4 which seeks to improve the quality of new housing and urban renewal and Action D1.1 which seeks to locate 70% of new housing within existing urban areas.
Strategic Direction F: *Balancing Land Uses on the City Fringe* ***Strategic Direction G:*** *Tackling Climate Change and Protecting Sydney's Natural Environment*	The Metropolitan Plan aims to build 70% of new homes in existing urban areas. This Planning Proposal is consistent with this aim and will facilitate the transition of a former commercial site to residential uses. This will assist in containing Sydney's urban footprint (objective F1) and protecting Sydney's natural environment.
Strategic Direction H: *Achieving Equity, Liveability and Social Inclusion*	This Planning Proposal will provide for residential development supported by and in close proximity to services, public transport and employment. A mix of housing types will be delivered on the site. The introduction of new public streets, pedestrian links and public open space on the site will ensure that the site becomes a healthy, safe, accessible and inclusive place to live and visit, consistent with action H3.1.

Draft Metropolitan Plan for Sydney to 2031

This Planning Proposal is consistent with the aims and objectives of draft Metropolitan Plan for Sydney to 2031 as demonstrated in the below table.

Consistency with draft Metropolitan Plan for Sydney to 2031	
Objective	**Consistency**
Objective 2: Strengthen and grow Sydney's centres	The site subject to this Planning Proposal is located 400 metres from the future Green Square Town Centre. As such, this Planning Proposal will provide additional housing close to existing and future services and transport and strengthen a planned major centre.
Objective 5: Deliver new housing to meet Sydney's growth	This Planning Proposal will facilitate the transformation of the site from light industrial and commercial to residential uses and in doing so will deliver new housing to meet Sydney's growth.
Objective 6: Deliver a mix of well-designed housing that meets the needs of Sydney's population	This Planning Proposal allows for redevelopment of the site and provides for the delivery of a mix of dwelling types including residential apartments SOHOs and lower-rise terraces.
Objective 8: Create socially inclusive places that promote social, cultural and recreational opportunities	The proposed public open space in the site will act as a focal point for the new community, encouraging community connections and inclusiveness among existing and new residents and offering recreational opportunities.
Objective 9: Deliver accessible and adaptable recreation and open space	This Planning Proposal provides for the delivery of approximately 2,700 square metres of public open space to act a local park for both active and passive recreation.
Objective 26: Improve accessibility and connectivity for centres and for new urban areas	The site is currently only accessible from its frontage to Bourke Street and does not connect to the surrounding street network. There is no pedestrian or vehicular connection through the site. This Planning Proposal will allow for realisation of a new street and pedestrian link through the site. This will improve general pedestrian and vehicular accessibility in the area.

Draft Sydney City Subregional Strategy

The NSW Government's draft Sydney City Subregional Strategy sets directions and actions for the implementation of the Metropolitan Strategy at a more detailed local level. Subregional planning provides a framework for coordinating planning, development, infrastructure, transport, open space networks and environmental actions across local and state government agencies. This Planning Proposal is consistent with the Sydney City Draft Subregional Strategy as demonstrated in the below table.

Consistency with Sydney City Draft Subregional Strategy	
Strategy B: Centres and Corridors	
Directions	***Consistency***
B2: Increase densities in centres while improving liveability. B6: Focus development in renewal corridors to maximise infrastructure use where demand and opportunities exist.	The current height control for the site acts as a constraint to the site realising close to its maximum permissible density of 2:1 FSR. This Planning Proposal seeks to amend the height controls on the site to allow redevelopment to achieve closer to this maximum permissible FSR while still delivering significant public benefit and a high quality urban design outcome. Furthermore this Planning Proposal will facilitate upgrades to the public domain, including the provision of public open space and in doing so will improve the liveability of the area.
Strategy C: Housing	
Directions	***Consistency***
C1: Ensure adequate supply of land and sites for residential development. C2: Plan for a housing mix near jobs, transport and services. C3: Renew local centres. C4: Improve housing affordability. C5: Improve the quality of new development and urban renewal.	This Planning Proposal will facilitate residential development on the site via increased height controls. The urban design study which underpins this Planning Proposal focussed on delivering a high quality built form outcome while minimising impacts on the amenity of surrounding properties including the Zetland Estate Heritage Conservation Area. As such, this Planning Proposal will ensure high quality new development.
Strategy D: Transport	
Directions	***Consistency***
D3: Influence travel choices to encourage more sustainable travel.	This Planning Proposal will facilitate redevelopment of the site to include the delivery of a new internal street and pedestrian and cycle connections. These and other improvements to the public domain including new public open space will encourage more trips by active transport.
Strategy E: Environment and Resources	
Directions	***Consistency***
E2: Protect Sydney's natural environment. E6: Conserve Sydney's cultural heritage.	The master plan that can be realised through the amendments sought by this Planning Proposal allows for the protection of a mature Moreton Bay Fig Tree on the western boundary of the site. This tree is listed in the City of Sydney's Protected Tree Register. This Planning Proposal and the associated DCP amendment provide an adequate curtilage to the tree to ensure its future health and protection. Due consideration has been given to the neighbouring Zetland Estate Conservation Area and key heritage items contained within during the preparation of this Planning Proposal. The master plan seeks to ensure that the amenity and significance of the heritage conservation area are not detrimentally affected. The DCP amendment contains a greater level of detail on how impacts of redevelopment on the conservation area will be mitigated.
Strategy F: Parks and Public Places	
Directions	***Consistency***
F1: Increase access to quality parks and public places. F2: Provide a diverse mix of parks and public places.	This Planning Proposal provides for the delivery of new public open space of approximately 2,700 square metres. Consideration has been given to the location of the park to ensure that it is legible as a public space, receives excellent year-round solar access and is accessible and as part of a wider open space network throughout the Green Square Urban Renewal Area.

Q4. Is the planning proposal consistent with a council's local strategy or other local strategic plan?

The City's Sustainable Sydney 2030 Strategic Plan is the vision for the sustainable development of the City to 2030 and beyond. It includes 10 strategic directions to guide the future of the City, as well as 10 targets against which to measure progress. This Planning Proposal is consistent with the key directions of Sustainable Sydney 2030 as demonstrated in the below table.

Consistency with Sustainable Sydney 2030	
Direction	**Comment**
Direction 1 – A globally competitive and innovative city	This Planning Proposal does not contain any aspects which are inconsistent with this direction.
Direction 2 – A leading environmental performer	Redevelopment of the site, facilitated by this Planning Proposal, will deliver new building stock with significantly better environmental performance than the current industrial buildings.
Direction 3 – Integrated transport for a connected city	The site is approximately 400 metres from Green Square Train Station which offers regular services to the airport and central Sydney. The site is also serviced by bus services which connect it to central Sydney and neighbouring areas. Maximum car parking rates as specified in *Sydney Local Environmental Plan 2012* apply to the site and will assist with managing car travel demand.
Direction 4 – A city for walking and cycling	This Planning Proposal will facilitate the delivery of new dwellings in close proximity to a range of existing and future services and in doing so encourage active transport. It will also facilitate delivery off a new street, pedestrian links and public open space on the site. These have been designed to reflect existing desire lines and encourage short trips to be taken by bicycle and by foot. The creation of open space and redevelopment to provide residential development will lead to greater activation of the public domain and a greater sense of security, encouraging further pedestrian activity. Individual entries to residential development at ground floor will further activate the public domain and provide an environment more conducive to active transport.
Direction 5 – A lively and engaging city centre	This Planning Proposal does not contain any aspects which are inconsistent with this direction.
Direction 6 – Vibrant local communities and economies	This Planning Proposal will facilitate the redevelopment of a large area of land for residential purposes. A new public park will lead to a new vibrancy and will meet a variety of recreational and community needs.
Direction 7 – A cultural and creative city	This Planning Proposal does not contain any aspects which are inconsistent with this direction.
Direction 8 – Housing for a diverse population	This Planning Proposal will facilitate the provision of approximately 400 new dwellings by the private market in accordance with objective 8.1. Development on the site will also be subject to the Green Square Affordable Housing Contributions levy required under Sydney LEP 2012.
Direction 9 – Sustainable development, renewal and design	This Planning Proposal seeks to establish new street and pedestrian links which will enhance the pedestrian experience in accordance with objective 9.2 of Direction 9. The built form envisaged by the master plan includes a variety of heights throughout the precinct, enhancing pedestrian amenity and legibility, visual interest and good solar access within the public domain.
Direction 10 – Implementation through effective partnerships	This Planning Proposal does not contain any aspects which are inconsistent with this direction.

Q5. Is the planning proposal consistent with applicable State Environmental Planning Policies (SEPPs)?

The consistency of this Planning Proposal with applicable State Environmental Planning Policies (SEPPs) is outlined in the table below. SEPPS which have been repealed or were not finalised are not included in this table.

Consistency with SEPPs	
State Environmental Planning Policy (SEPP)	**Comment**
SEPP No 1—Development Standards	Consistent - This Planning Proposal does not contradict or hinder application of this SEPP.
SEPP No 4—Development Without Consent and Miscellaneous Exempt and Complying Development	Not applicable.
SEPP No 6—Number of Storeys in a Building	Consistent - This Planning Proposal does not contradict or hinder application of this SEPP.
SEPP No 10—Retention of Low Cost Rental Accommodation	Not applicable.
SEPP No 14—Coastal Wetlands	Not applicable.
SEPP No 15—Rural Landsharing Communities	Not applicable.
SEPP No 19—Bushland in Urban Areas	Not applicable.
SEPP No 21—Caravan Parks	Not applicable.
SEPP No 22—Shops and Commercial Premises	Consistent - This Planning Proposal does not contradict or hinder application of this SEPP.
SEPP No 26—Littoral Rainforests	Not applicable.
SEPP No 29—Western Sydney Recreation Area	Not applicable.
SEPP No 30—Intensive Agriculture	Not applicable.
SEPP No 32—Urban Consolidation (Redevelopment of Urban Land)	Consistent - This Planning Proposal does not contradict or hinder application of this SEPP. This Planning Proposal presents an opportunity for urban renewal of a key site in the Green Square Urban Renewal Area.
SEPP No 33—Hazardous and Offensive Development	Consistent - This Planning Proposal does not contradict or hinder application of this SEPP.
SEPP No 36—Manufactured Home Estates	Not applicable.
SEPP No 39—Spit Island Bird Habitat	Not applicable.
SEPP No 41—Casino Entertainment Complex	Not applicable.
SEPP No 44—Koala Habitat Protection	Not applicable.
SEPP No 47—Moore Park Showground	Not applicable.
SEPP No 50—Canal Estate Development	Not applicable.
SEPP No 52—Farm Dams and Other Works in Land and Water Management Plan Areas	Not applicable.
SEPP No 53—Metropolitan Residential Development	Not applicable.
SEPP No 55—Remediation of Land	Consistent - This Planning Proposal does not contradict or hinder application of this SEPP.

Consistency with SEPPs	
State Environmental Planning Policy (SEPP)	**Comment**
SEPP No 59—Central Western Sydney Regional Open Space and Residential	Not applicable.
SEPP No 60—Exempt and Complying Development	Consistent - This Planning Proposal does not contradict or hinder application of this SEPP.
SEPP No 62—Sustainable Aquaculture	Not applicable.
SEPP No 64—Advertising and Signage	Consistent - This Planning Proposal does not contradict or hinder application of this SEPP.
SEPP No 65—Design Quality of Residential Flat Development	Consistent - This Planning Proposal does not contradict or hinder application of this SEPP. The built form analysis which underpins the proposed height and building envelope controls reflects the requirements of the Residential Flat Design Code.
SEPP No 70—Affordable Housing (Revised Schemes)	Consistent - The Planning Proposal does not contradict or hinder application of this SEPP. The Green Square Affordable Housing Scheme will continue to apply to this site under Sydney LEP 2012.
SEPP No 71—Coastal Protection	Not applicable.
SEPP (Building Sustainability Index: BASIX) 2004	Consistent - The Planning Proposal does not contradict or hinder application of this SEPP.
SEPP (Housing for Seniors or People with a Disability) 2004	Consistent - The Planning Proposal does not contradict or hinder application of this SEPP.
SEPP (Major Development) 2005	Consistent - The Planning Proposal does not contradict or hinder application of this SEPP.
SEPP (Sydney Region Growth Centres) 2006	Not applicable.
SEPP (Infrastructure) 2007	Consistent - The Planning Proposal does not contradict or hinder application of this SEPP.
SEPP (Kosciuszko National Park— Alpine Resorts) 2007	Not applicable.
SEPP (Mining, Petroleum Production and Extractive Industries) 2007	Not applicable.
SEPP (Temporary Structures) 2007	Consistent - The Planning Proposal does not contradict or hinder application of this SEPP.
SEPP (Exempt and Complying Development Codes) 2008	Consistent - The Planning Proposal does not contradict or hinder application of this SEPP.
SEPP (Rural Lands) 2008	Not applicable.
SEPP (Western Sydney Parklands) 2009	Not applicable.
SEPP (Affordable Rental Housing) 2009	Consistent - The Planning Proposal does not contradict or hinder application of this SEPP.
SEPP (Western Sydney Employment Area) 2009	Not applicable.
SEPP (Development on Kurnell Peninsula) 2005	Not applicable.

The below table shows the consistency of this Planning Proposal with former Regional Environmental Plans (REPs) for the Sydney and Greater Metropolitan Regions, which are deemed to have the weight of SEPPs.

Consistency with REPs	
Regional Environmental Plan (REPs)	**Comment**
Sydney REP No 5—(Chatswood Town Centre)	Not applicable.
Sydney REP No 8 (Central Coast Plateau Areas)	Not applicable.
Sydney REP No 9—Extractive Industry (No 2—1995)	Not applicable.
Sydney REP No 11—Penrith Lakes Scheme	Not applicable.
Sydney REP No 13—Mulgoa Valley	Not applicable.
Sydney REP No 16—Walsh Bay	Not applicable.
Sydney REP No 17—Kurnell Peninsula (1989)	Not applicable.
Sydney REP No 18—Public Transport Corridors	Not applicable.
Sydney REP No 19—Rouse Hill Development Area	Not applicable.
Sydney REP No 20—Hawkesbury- Nepean River (No 2—1997)	Not applicable.
Sydney REP No 24—Homebush Bay Area	Not applicable.
Sydney REP No 25—Orchard Hills	Not applicable.
Sydney REP No 26—City West	Not applicable.
Sydney REP No 28—Parramatta	Not applicable.
Sydney REP No 29—Rhodes Peninsula	Not applicable.
Sydney REP No 30—St Marys	Not applicable.
Sydney REP No 33—Cooks Cove	Not applicable.
Sydney REP (Sydney Harbour Catchment) 2005	Consistent - The Planning Proposal does not contradict or hinder application of this REP.
Drinking Water Catchments REP No 1	Not applicable.
Greater Metropolitan REP No 2—Georges River Catchment	Not applicable.

Q6. Is the planning proposal consistent with applicable Ministerial Directions (s.117 directions)?

This Planning Proposal has been assessed against each Section 117 direction. Consistency with these directions is shown in the table below.

No.	Title	Comment
1. Employment and Resources		
1.1	Business and Industrial Zones	Not applicable
1.2	Rural Zones	Not applicable
1.3	Mining, Petroleum Production and Extractive Industries	Not applicable
1.4	Oyster Aquaculture	Not applicable
1.5	Rural Lands	Not applicable
2. Environment and Heritage		
2.1	Environment Protection Zones	Not applicable
2.2	Coastal Protection	Not applicable

No.	Title	Comment
2.3	Heritage Conservation	Consistent. This Planning Proposal will ensure the on going protection of heritage items within the Zetland Estate Heritage Conservation Area which is adjacent to the subject site.
2.4	Recreation Vehicle Areas	Not applicable
3. Housing Infrastructure and Urban Development		
3.1	Residential Zones	Consistent. This Planning Proposal will facilitate the delivery of approximately 400 new dwellings on the site, increasing the amount and variety of housing in the City of Sydney LGA.
3.2	Caravan Parks and Manufactured Home Estates	Not applicable
3.3	Home Occupations	Consistent. This Planning Proposal does not contradict or hinder application of the home occupation provisions in Sydney LEP 2012.
3.4	Integrating Land Use and Transport	Consistent. This Planning Proposal is consistent with the aims, objectives and principles of *Improving Transport Choice – Guidelines for planning and development* (DUAP 2001), and *The Right Place for Business and Services – Planning Policy* (DUAP 2001).
3.5	Development Near Licensed Aerodromes	Not applicable
3.6	Shooting Ranges	Not applicable
4. Hazard and Risk		
4.1	Acid Sulfate Soils	Consistent. This Planning Proposal does not contradict or hinder application of acid sulphate soils provisions in Sydney LEP 2012.
4.2	Mine Subsidence and Unstable Land	Not applicable
4.3	Flood Prone Land	Consistent. This Planning Proposal does not contradict or hinder application of flood prone land provisions in Sydney LEP 2012.
4.4	Planning for Bushfire Protection	Not applicable
5. Regional Planning		
5.1	Implementation of Regional Strategies	Not applicable
5.2	Sydney Drinking Water Catchments	Not applicable
5.3	Farmland of State and Regional Significance on the NSW Far North Coast	Not applicable
5.4	Commercial and Retail Development along the Pacific Highway, North Coast	Not applicable
5.8	Second Sydney Airport, Badgerys Creek	Not applicable
5.9	North West Rail Link Corridor Strategy	Not applicable
6. Local Plan Making		
6.1	Approval and Referral Requirements	Consistent. This Planning Proposal does not include any concurrence, consultation or referral provisions nor does it identify any development as designated development.

No.	Title	Comment
6.2	Reserving Land for Public Purposes	This Planning Proposal will not affect any land reserved for public purposes.
6.3	Site Specific Provisions	Consistent. This Planning Proposal does not contradict or hinder the application of this direction.
7. Metropolitan Planning		
7.1	Implementation of the Metropolitan Plan for Sydney 2036	Consistent. This Planning Proposal does not contradict or hinder application of the Metropolitan Plan for Sydney 2036.

Section C – Environmental, social and economic impact

Q7. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

There is a single large Moreton Bay Fig Tree (Ficus macrophylla) in the western boundary of the site fronting McPherson Lane. This tree is listed on the City of Sydney's Significant Tree Register and is required to be retained and protected. The master plan locates a public open space to the north of this tree to allow integration of the tree into a future public park. The master plan further allows for this tree to be retained and protected through the implementation of appropriate setbacks in accordance with advice from the City of Sydney's Urban Forest Manager. These setbacks will ensure that the future built form will not adversely impact the health and condition of the tree and will result in the tree receiving greater solar access than it does currently.

This Planning Proposal provides the opportunity for the enhancement of local biodiversity through the establishment of a new public open space, landscaped setbacks and new street trees.

In considering a future development application for the site, the consent authority must have regard to the suitability of the land for development and any environmental impact which may be generated by the development.

Q8. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

This Planning Proposal seeks to amend the height control contained in Sydney LEP 2012 for the site and in doing so allow realisation of a master plan for residential redevelopment of the site. A range of potential environmental effects were considered during the preparation of the master plan and this Planning Proposal and are discussed in detail below.

Residential Amenity

This Planning Proposal seeks to amend the height of buildings controls map in Sydney LEP 2012 from a site-wide control of 15 metres to a number of different height bands ranging from 3 metres to 42 metres. An associated proposed amendment to Sydney DCP 2012 will provide supporting controls guiding the design of built form and the public domain.

The building heights and public domain layout proposed to be reflected in these amendments was established through a detailed urban design study and master planning process undertaken by the City in collaboration with JQZ's consultant team. This detailed work is outlined and presented in the Urban Design Report at Appendix A.

The Urban Design Study tested a number of alternative public domain layouts and built form outcomes. The primary objective through this process was to ensure that built form respected the existing character of the neighbouring Zetland Estate Conservation Area dwellings to the south and west while integrating well with the taller residential character of the Emerald Park Development to the north east and provided a transition between the two. Figure 2 shows a 3D perspective image illustrating the transition in height.

Figure 2 – 3D Perspective Model (facing south east)

Detailed overshadowing analysis of the master plan was undertaken to ensure compliance with solar access and overlooking provisions of the Residential Design Flat Code and Sydney DCP 2012. Particular attention was paid to the private open spaces of dwellings on Merton Street, Elizabeth Street and the communal private open space of the Emerald Park Development.

Figure 3 – Overshadowing at 12 noon on 21 June.

Broadly, compliance with overshadowing and overlooking provisions are achieved through limiting taller built form to the centre of the site and providing for 2 and 3 storey buildings around the western and southern boundaries of the site and requiring a front setback from McPherson Lane to these buildings. Taller built form in the northern part of the site steps down in height from 12 storeys to 6 storeys where it is closest to the boundary with the Emerald Park Development. This ensures that overshadowing and overlooking is minimised and the communal open space of the neighbouring development maintains adequate solar access. Overshadowing at 12 noon on 21 June is shown in Figure 3 and a full set of overshadowing diagrams are included in the Urban Design Report at Appendix A.

This Planning Proposal will therefore facilitate delivery of a new residential development which integrates with the character and protects the amenity of existing residential areas.

Notwithstanding the detailed analysis undertaken to support this Planning Proposal, compliance with SEPP 65 will need to be demonstrated at the development application stage and this will ensure any overshadowing and overlooking is within acceptable limits.

Open Space

Sydney DCP 2012 currently requires provision of a public open space on the subject site fronting McPherson Lane. The Urban Design Study undertaken by the City and JQZ's consultant team concluded that while that location provides a buffer between dwellings backing on to McPherson Lane and future higher intensity development on the subject site, that the location had a number of potential disadvantages. These include a constrained linear dimension, limited flexibility of future uses, limited legibility as a public space and a poor outlook onto McPherson Lane. The result would likely be poorly activated and utilised public space.

The Urban Design Study tested a number of alternative locations for the public space in terms of solar access, legibility as a public place, connectivity to the surrounding open space network and flexibility for future uses. The proposed new location for the public open space, illustrated in Figure 4, achieves these objectives to a much greater extent than the location currently required by Sydney DCP 2012.

The Urban Design Report at Appendix A illustrates the alternative locations which were tested and illustrates how the location proposed in the master plan delivers an optimum outcome.

This Planning Proposal will therefore facilitate delivery of a new public open space of approximately 2,700 square metres which will integrate with the surrounding open space network and serve a vital function as a community focal point and space for passive recreation for the existing and future residential communities.

Traffic and Transport

Sydney DCP 2012 requires provision of a 12m wide street through the subject site connecting with McPherson Lane in the south east corner of the site and continuing through 890-898 Bourke Street to ultimately connect with Bourke Street south of the O'Dea Avenue intersection.

A detailed traffic and transport study undertaken by Varga Consultants on behalf of JQZ, at Appendix B, assessed the suitability of this proposed street network and identified alternative street network layouts which could deliver suitable access to and connectivity through the site while ensuring that impacts of any increases in traffic on the surrounding residential areas were minimised.

Based on the findings of the report and detailed work undertaken by the City, the master plan proposes an alternative street network as illustrated in Figure 4. This alternative network will provide access and street frontage to the site and two other sites in the street block and vehicular permeability through the site between Bourke Street and O'Dea Avenue. Varga's report found that the proposed connection between the new street and McPherson Lane would create unacceptable vehicular and pedestrian safety issues due to the narrow dimension of McPherson Lane. As such, the alternative street network does not connect with McPherson Lane.

Figure 4 – Proposed public domain layout

The report concludes that the proposed development will not result in significant adverse impacts on the local road network. It should be noted that this Planning Proposal swill not give rise to development of a density in excess of that already permitted by Sydney LEP 2012 and as such will not result in a residential population greater than that already planned for the area. Notwithstanding this, a detailed Traffic Impact Assessment will be required at the development application stage and this will provide a detailed assessment of the anticipated impact to the local road network. More broadly, the report concludes that the site is adequately supported by existing public transport infrastructure including Green Square Train Station (400 metres away) and a number of bus services.

More broadly, since early 2000 long term planning for the Green Square Urban Renewal Area (including this site) has included a number of transport studies and management plans which examine road capacity, traffic management and transport infrastructure required to support the redevelopment of Green Square. These studies have identified that measures to improve transport must be implemented as development occurs. Some key actions which the City is pursuing include:

- Continuing advocacy by the City for improved public transport in Green Square
- Working the NSW Government and landowners to secure land to allow delivery of the future Eastern Transit Corridor which will connect the Green Square Town Centre with Central.
- Planning and designing to allow for increased and improved pedestrian and cycle connections to encourage sustainable travel behaviour and achieve better integration between transport modes
- Continuing work between the City and Transport for NSW to develop measures to improve transport in the area including improving reliability and capacity of public transport services.

Contamination

As with all brownfield urban renewal, contaminated land is a potential environmental issue. The site is currently occupied by industrial and commercial uses which may have an associated risk of contamination. However, given that residential development is already permissible on the site (by way of the B4 Mixed Use zoning) the proposal does not give rise to additional implications in this regard. Detailed information relating to contamination will be required at the development application stage and will be required to address different future land uses such as use of land for public open space. Remediation of land will be required where necessary.

Flooding

The City is currently developing a Flood Management Study and Plan for the wider Alexandria Canal Catchment within which the site is located. The final Flood Management Plan will inform potential future changes to the planning controls.

While the subject site is within the study area, City engineers have confirmed that it is not subject to significant flooding issues. Notwithstanding this, redevelopment of the site will be subject to flooding provisions contained in clause 7.15 of Sydney LEP 2012 which will ensure that future development will not result in adverse impacts on flood behaviour and the environment.

Q9. Has the planning proposal adequately addressed any social and economic effects?

Residential redevelopment of the site, as facilitated by this Planning Proposal will deliver a number of social and economic benefits including greater housing choice, a new public street and park and more pedestrian connections through the area which will encourage a more vibrant and activated public domain generally. Furthermore, the development will help to contain residential growth across Sydney within existing urban areas in close proximity to existing infrastructure and thus reduce the pressure on surrounding commercial land to incorporate residential uses.

Section D – State and Commonwealth interests

Q10. Is there adequate public infrastructure for the planning proposal?

The site is very well serviced by public transport infrastructure being within 400 metres of the Green Square Train Station which has direct services to Central Sydney and Sydney Airport and 10 bus routes which travel to a variety of destinations. The traffic and transport report prepared by Varga Consultants, at Appendix B, provides a high level assessment of the site access and street network as well as public transport, walking and cycling opportunities.

New public social infrastructure will be provided within walking and cycling distance of the site including Mary O'Brien Park, a new Aquatic Centre and park in the Epsom Park Precinct to the south east, community facilities and a childcare centre at the former South Sydney Hospital Site and a new library and other civic and community facilities in the Green Square Town Centre. Some of this infrastructure is being delivered through private development of sites while some is being delivered by the City.

The full range of utility services including electricity, telecommunications, water, sewer and stormwater are all currently available on the site. It is expected that these services would be upgraded where required by the developer.

Q11. What are the views of state and Commonwealth public authorities consulted in accordance with the Gateway determination?

The Gateway Determination will advise the full list of public authorities to be consulted as part of the Planning Proposal process and any views expressed will be included in this Planning Proposal following consultation.

Clause 7.16 of Sydney LEP 2012 sets out requirements for consultation with the relevant Commonwealth body where proposed development penetrates the Limitation or Operations Surface for Sydney Airport. The Sydney Airport Obstacle Limitation Surface for the site is 51m AHD. This Planning Proposal seeks to allow development up to approximately RL 63 on the site. As such, consultation with the relevant Commonwealth body will be required under Clause 7.16 as part of the development assessment process. Furthermore, it is proposed that Sydney Airport will be consulted during the public exhibition of this Planning Proposal.

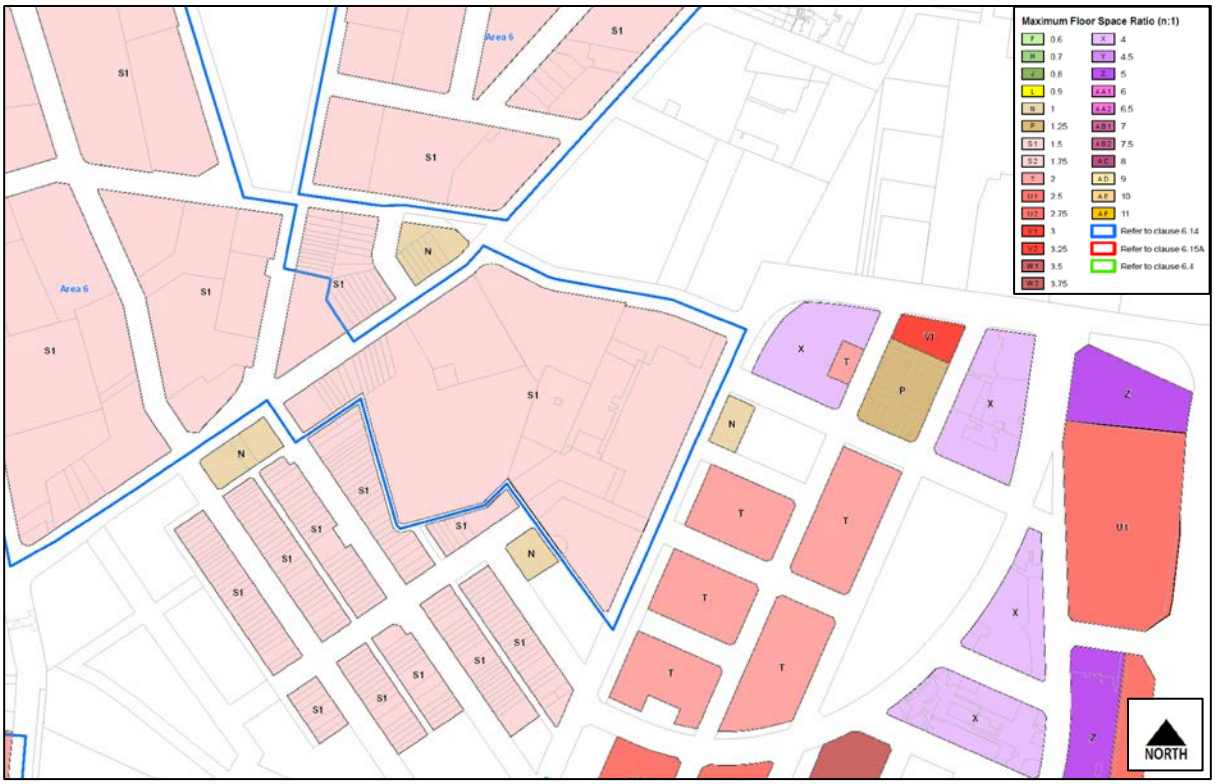
PART 4 - MAPPING

This Planning Proposal seeks to amend the height in metres and floor space ratio maps contained in *Sydney Local Environmental Plan 2012* as they apply to the subject site in accordance with map extracts on the following pages.

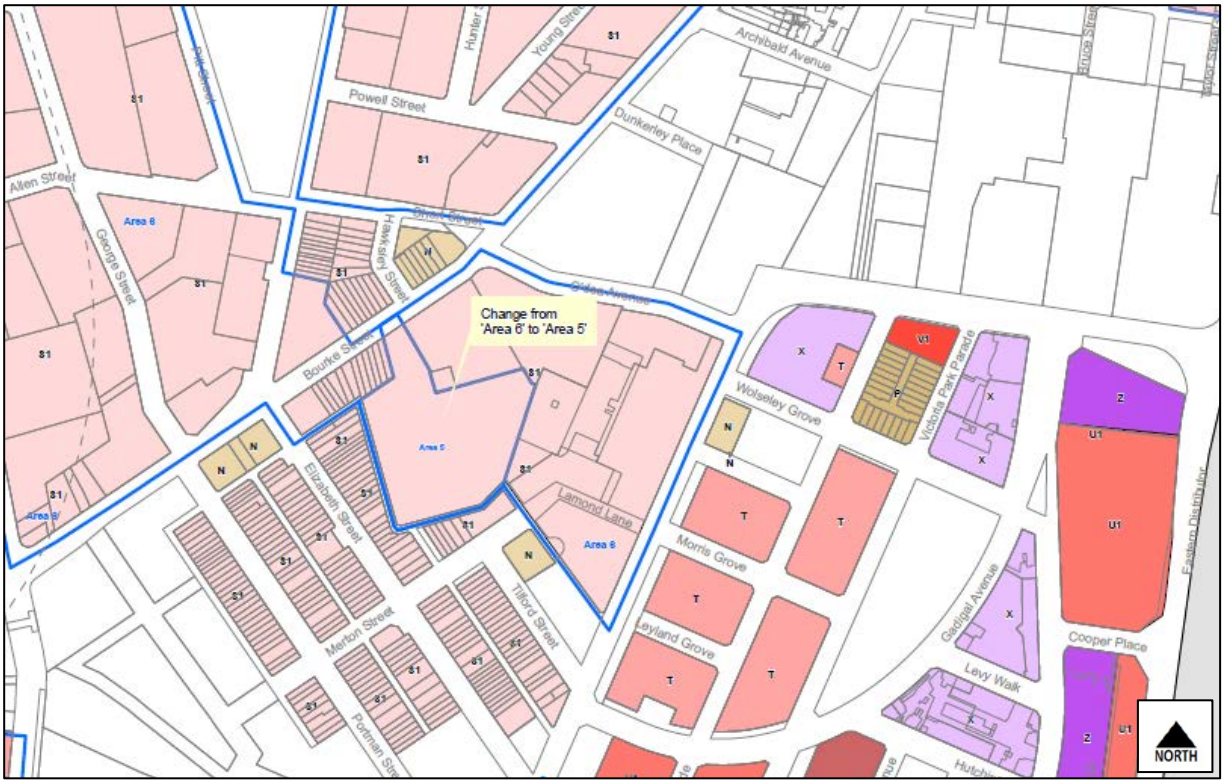
NB. The site is split between map sheet 17 and 18. For clarity, the below maps have been produced to show the site as a whole and do not reflect the exact boundaries of sheets 17 and 18.

Floor Space Ratio Map: Sheet FSR_017 and Sheet FSR_018

As current:



As proposed:



Height Map: Sheet HOB_017 and Sheet HOB_018

As current:

As proposed:

PART 5 – COMMUNITY CONSULTATION

Public consultation will be undertaken in accordance with the requirements of the Gateway Determination.

It is proposed that, at a minimum, this will involve the notification of the public exhibition of the Planning Proposal:

- on the City of Sydney website;
- in the Sydney Morning Herald and/or a relevant local newspaper; and
- in writing to the owners and occupiers of adjoining and nearby properties and relevant community groups.

It is expected that the Planning Proposal will be publicly exhibited for a period of not less than 28 days in accordance with section 5.5.2 of 'A guide to preparing local environmental plans'.

It is proposed that exhibition material will be made available on the City of Sydney Website and at the following Council locations:

- Town Hall House, 456 Kent Street, Sydney
- Green Square, 100 Joynton Avenue, Zetland

Consultation with relevant NSW agencies and authorities and other relevant organisations will be undertaken in accordance with the Gateway Determination.

PART 6 – PROJECT TIMELINE

The following project timeline will assist with tracking the progress of the planning proposal through its various stages of consultation and approval. It is estimated that this amendment to *Sydney Local Environmental Plan 2012* will be completed by November 2015.

Stage	Timeframe
Submit Planning Proposal to Department of Planning and Environment seeking a Gateway Determination	December 2014
Receive Gateway Determination	February 2015
Public exhibition and public authority consultation of Planning Proposal and DCP Amendment	March 2015
Review of submissions received during public exhibition and public authority consultation	April to June 2015
Council and Central Sydney Planning Committee approval of Planning Proposal and DCP Amendment	July 2015
Drafting of instrument and finalisation of mapping	August to October 2015
Amendment to *Sydney Local Environmental Plan 2012* legally drafted and made	November 2015

APPENDIX A – URBAN DESIGN STUDY PREPARED BY CITY OF SYDNEY

Please refer to Attachment C of the subject report

APPENDIX B – TRAFFIC AND TRANSPORT STUDY PREPARED BY VARGA

ATTACHMENT A

Planning Proposal for a
Proposed Residential Development

904 Bourke Street, Zetland

TRAFFIC AND PARKING ASSESSMENT REPORT

13 October 2014

Ref 14306

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

Suite 6, 20 Young Street, Neutral Bay NSW 2089 - PO Box 1868, Neutral Bay NSW 2089
Ph: 9904 3224 Fax: 9904 3228

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

1. INTRODUCTION

This report has been prepared to accompany a Planning Proposal to the City of Sydney Council for a residential development proposal to be located at 904 Bourke Street, Zetland (Figures 1 and 2).

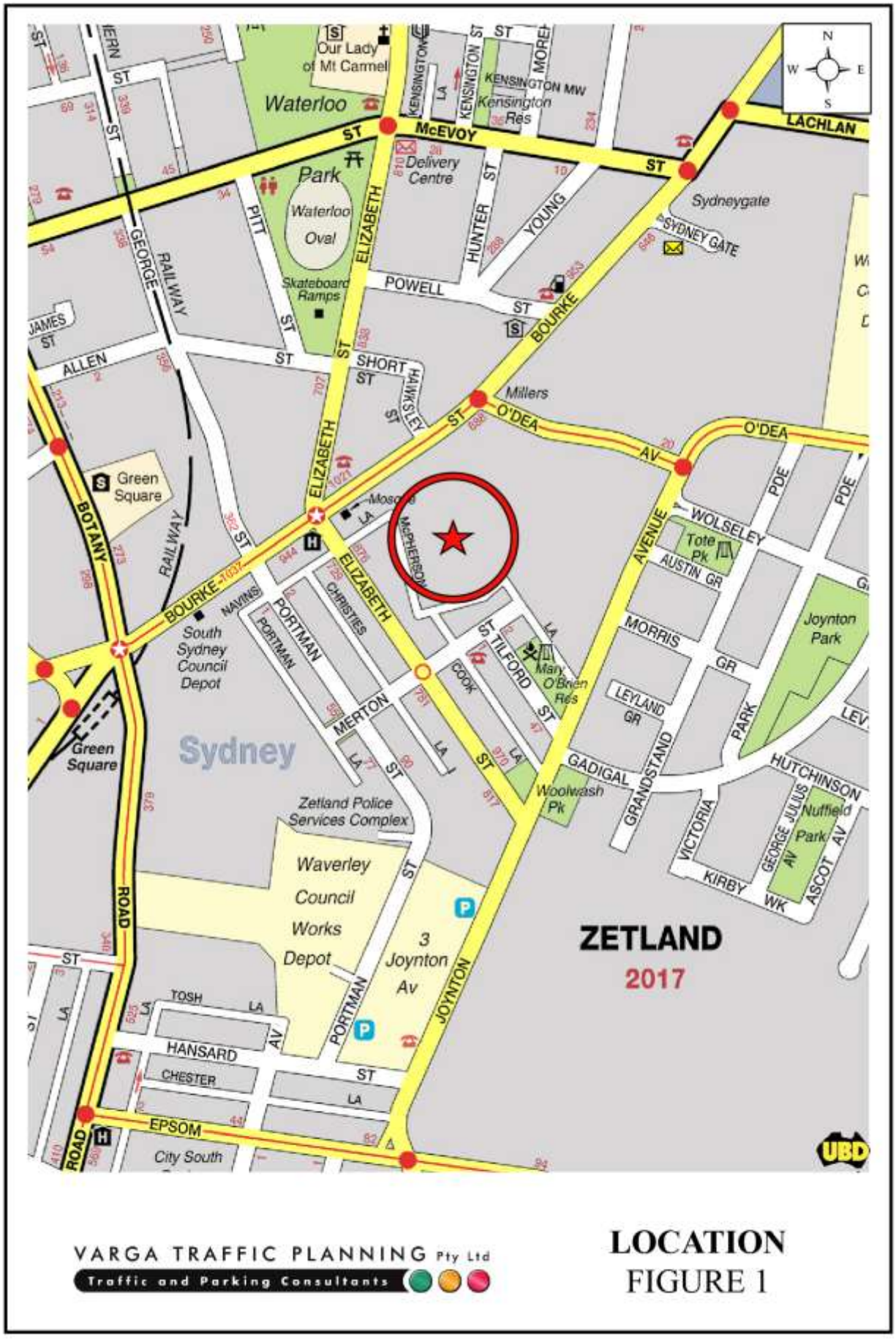
The Planning Proposal envisages the demolition of the existing industrial buildings on the site to facilitate the construction of a new residential apartment development comprising five buildings over two basement car parking areas and dedicated open space. Redevelopment of the site is subject to a future Development Application.

The Planning Proposal also involves the staged construction of a new internal public roadway which ultimately seeks to connect the existing site access driveway located in Bourke Street, through to O'Dea Avenue. In the short term however (i.e. until neighbouring sites are redeveloped), all vehicular access is to be provided via the existing driveway located in Bourke Street.

The purpose of this report is to assess the traffic and parking implications of the Planning Proposal and to that end this report:

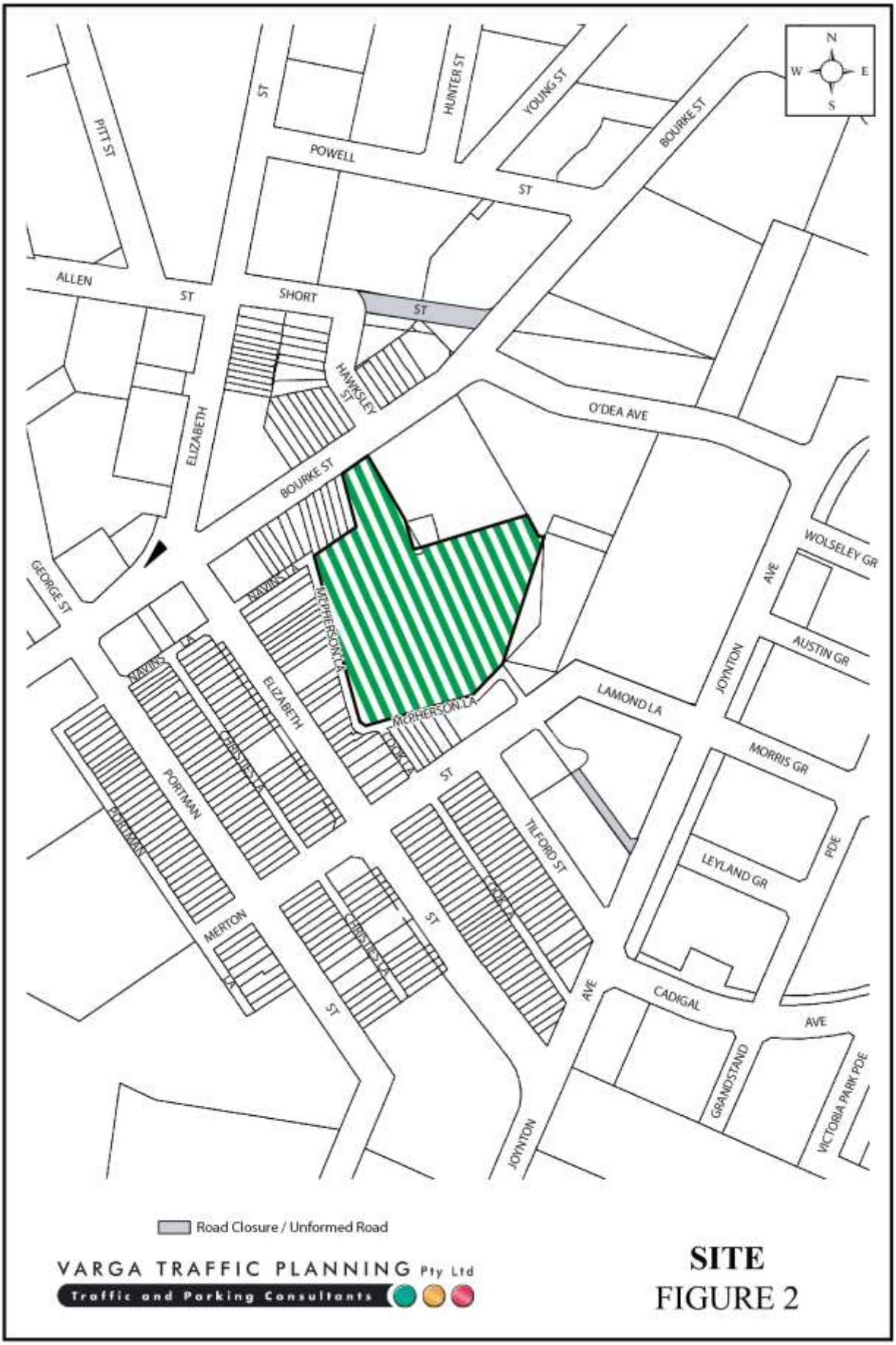
- describes the site and provides details of the Planning Proposal
- reviews the public transport services available within close proximity to the site
- reviews the road network in the vicinity of the site, and the traffic conditions on that road network
- estimates the traffic generation potential of the Planning Proposal, and assigns that traffic generation to the road network serving the site
- assesses the traffic implications of the Planning Proposal in terms of road network capacity

- assesses the adequacy and suitability of the quantum of off-street car parking proposed on the site.



VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants

LOCATION
FIGURE 1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E
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PITT ST
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HUNTER ST
YOUNG ST
BOURKE ST
ALLEN ST
SHORT ST
HAWKSLEY ST
ELIZABETH
BOURKE ST
O'DEA AVE
WOLSELEY GR
AUSTIN GR
JOYNTON AVE
LAMOND LA
MORRIS GR
LEYLAND GR
PDE
GEORGE ST
NAVLINS LA
MCPHERSON LA
ELIZABETH
CHRISTIE ST
PORTMAN
MERTON ST
TILFORD ST
CADIGAL AVE
GRANDSTAND
VICTORIA PARK PDE
JOYNTON
Road Closure / Unformed Road
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
SITE
FIGURE 2

2. PROPOSED DEVELOPMENT

Site

The subject site is located on the eastern side of Bourke Street, in between Elizabeth Street and O'Dea Avenue, and extends through to McPherson Lane. The site has a street frontage approximately 20m in length to Bourke Street, approximately 210m in length to McPherson Lane and occupies an area of approximately 1.46ha.

The subject site is currently occupied by two large one/two-storey precast concrete industrial buildings with ancillary office space. The cumulative floor area of the existing industrial development is approximately 9,269m^2.

Off-street parking is provided for the existing industrial unit complex at numerous outdoor locations throughout the site. Vehicular access to the car parking facilities is provided via a large entry/exit driveway located in Bourke Street designed to accommodate heavy vehicle truck traffic, including semi-trailers.

Loading/servicing for the existing industrial development is currently undertaken by a variety of commercial vehicles up to and including articulated semi-trailers. Vehicular access to the existing loading areas is also provided via the abovementioned site access driveway located in Bourke Street.

The subject site includes an easement which benefits a free-standing Sydney Water building adjacent to the site. All vehicular access to the Sydney Water building is currently provided via the abovementioned heavy vehicle entry/exit driveway located in Bourke Street.

Green Square

The site lies within the Green Square Urban Renewal Area, an area which is strategically located between the City, Sydney Airport and Port Botany, and offers opportunities for large scale regeneration of former industrial land.

In order to accommodate the needs of the additional dwellings and the employment targets set by the NSW Government, substantial new infrastructure is needed, including public streets, pedestrian and bike links, parks and community facilities.

Assessment of Existing DCP 2012 Provision

The proposed new public roads are detailed in Council's *Development Control Plan 2012* and include a new road connecting Bourke Street to McPherson Lane (in the vicinity of the Merton Street and Lamond Lane intersection) as well as a new road connecting to O'Dea Avenue, as shown on the DCP extract below.

Source: City of Sydney Council DCP 2012

Potential Alternatives

Since the release of *DCP 2012*, the suitability of the proposed road network as outlined in the *DCP 2012* has been reviewed. Consideration has been given to the suitability of the proposed road network outlined within the *DCP 2012*, as well as an assessment of potential alternatives. These alternatives have considered maintaining a road through to Bourke Street from McPherson Lane however at different alignments to provide a consolidated entrance at either Bourke Street or O'Dea Avenue, and providing a new road directly from Bourke Street to O'Dea Avenue with and without a potential pedestrian and/or bicycle link to McPherson Lane.

Whilst parts of the proposed road network in the vicinity of the site are considered to be appropriate in principle, such as the new road connecting to O'Dea Avenue, other parts are not considered appropriate, such as the new road connecting Bourke Street through the site to McPherson Lane.

As discussed below, the proposal involves maintaining vehicular access to the site via the existing two/way driveway located in Bourke Street. It is therefore considered that the proximity of the existing/proposed site access driveway to the proposed new road intersection (a distance of approximately 40m) is not suitable, nor is the proposed new road intersection's proximity to the O'Dea Avenue intersection (a distance of approximately 60m). Consolidation of the access points is therefore a more desirable outcome, particularly given the Hawksley Street intersection which is located between the two access points on the opposite site of Bourke Street.

A consolidated access point in Bourke Street is also a more desirable outcome for pedestrian and cyclist amenity as it reduces the potential for conflicts with vehicles as they pull into/out of the side street/access point.

A more suitable arrangement would be a new consolidated access point in Bourke Street located in approximately the same position as the existing site access driveway – i.e. just west of Hawksley Street and approximately midway between Elizabeth Street and O'Dea Avenue.

As discussed above, the *DCP's* proposed connection to O'Dea Avenue is considered to be appropriate in principle and should be maintained as it distributes the traffic effectively. As such it is proposed to maintain the O'Dea Avenue vehicular access point, albeit slightly shifted to the west, closer to the Bourke Street intersection.

The proposed road network detailed in *DCP 2012* also makes provision for a new road through the site which connects to McPherson Lane. The road width of McPherson Lane is approximately 4.4m, and given kerbside parking is currently permitted along one side of the laneway, utilising this as a site access point, albeit a secondary one, is not considered suitable.

Whilst an access point to McPherson Lane is still considered an attractive outcome, the potential exists for the link to be dedicated to pedestrians and perhaps local cyclists. However, given the significant difference in levels between the rear of the site and McPherson Lane (which would be connected via stairs), cyclists would need to dismount and walk up/down the stairs with their bicycles. This arrangement doesn't necessarily restrict the link to pedestrians only (cyclists walk their bicycle up/down stairs at locations all over the City), however formally adding the link to the City's cycle network would be undesirable, noting the existing extensive cycle network in the vicinity of the site which is detailed in Chapter 3 of this report.

A plan of this arrangement has been reproduced on page 12 of this report.

Indicative Masterplan

The indicative Masterplan, attached to the Planning Proposal, envisages the demolition of the existing industrial buildings on the site to facilitate the construction of a new residential apartment development comprising a number of buildings that range in height from three storeys to twelve storeys. Redevelopment is subject to a future development application.

The indicative Masterplan has identified a potential dwelling density in the order of 385 residential apartments based upon a 2.0:1 FSR or 410 units based upon a 2.2:1 FSR (which takes into consideration a 10% bonus for design competitions). The estimated bedroom mix is as follows:

	%	**2.0:1 FSR**	**2.2:1 FSR**
1 bedroom apartments:	40%	154 dwellings	164 dwellings
2 bedroom apartments:	50%	193 dwellings	205 dwellings
3 bedroom apartments:	10%	38 dwellings	40 dwellings
TOTAL APARTMENTS:	**100%**	**385 dwellings**	**410 dwellings**

It is envisaged that off-street parking will be provided for between 280 cars (based on a 2.0:1 FSR) and 300 cars (based on a 2.2:1 FSR). Off-street car parking will likely be provided in a two-level basement car parking area, including one basement level. Vehicular access to the car parking area is likely to be provided via a two-way driveway located on the southern side of the new internal public roadway, just east of the site through-link.

In the short term (i.e. prior to the redevelopment of the adjacent sites), it is envisaged that the new road will extend from the existing site access driveway in Bourke Street, wrapping around the western side of the Sydney Water building, and extending east to the site boundary. During this period, all vehicular access will be via Bourke Street only.

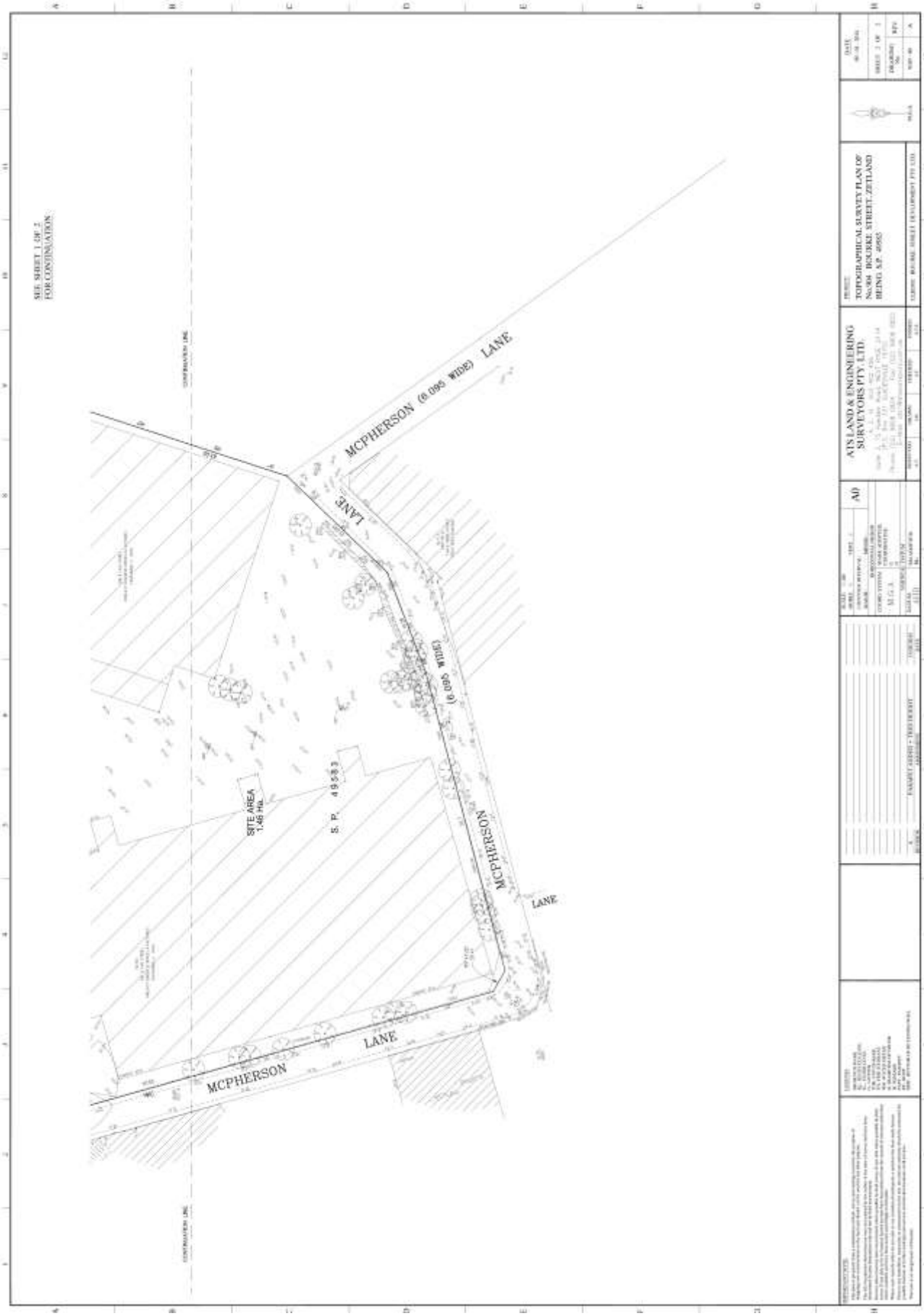
In the long term (i.e. once the redevelopment of the adjacent sites are complete), it is envisaged that the new road will be extended north to O'Dea Avenue. The adjacent sites are also expected to have their site access driveways connecting to the new internal public road. This is considered to be appropriate as vehicular access directly onto Bourke Street and/or O'Dea Avenue would likely not be supported by Council.

As discussed above, it is pertinent to note that given the geometry of McPherson Lane and the site's proximity to neighbouring residential terraces, it is not considered achievable or appropriate to provide vehicular access directly into the site or the basement car parking area from McPherson Lane.

Loading/servicing for the proposed development is expected to be undertaken by a variety of commercial vehicles up to and including Council's 9.2m long rigid garbage truck. All loading, for both garbage collection and removalists, will be undertaken wholly within the site. The new internal public roadway and on-site manoeuvring areas will ultimately be designed to accommodate the swept turning path requirements of these trucks, allowing them to enter and exit the site in a forward direction at all times.

Existing detailed survey plans have been prepared by *ATS Land & Engineering Surveyors Pty Ltd* as well as plans illustrating the indicative Masterplan and new internal public road, attached to the Planning Proposal, are reproduced in the following pages.


SEE SHEET 2 OF 2
FOR CONTINUATION
SITE AREA
1.46 Ha
S. P. 4 9 5 8 3
BOURKE
STREET
MCPHERSON
LANE
ATS LAND & ENGINEERING
SURVEYORS PTY. LTD.
TOPOGRAPHICAL SURVEY PLAN OF
No.304 BOURKE STREET, ZETLAND
BEING S.P. 49583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SITE AREA
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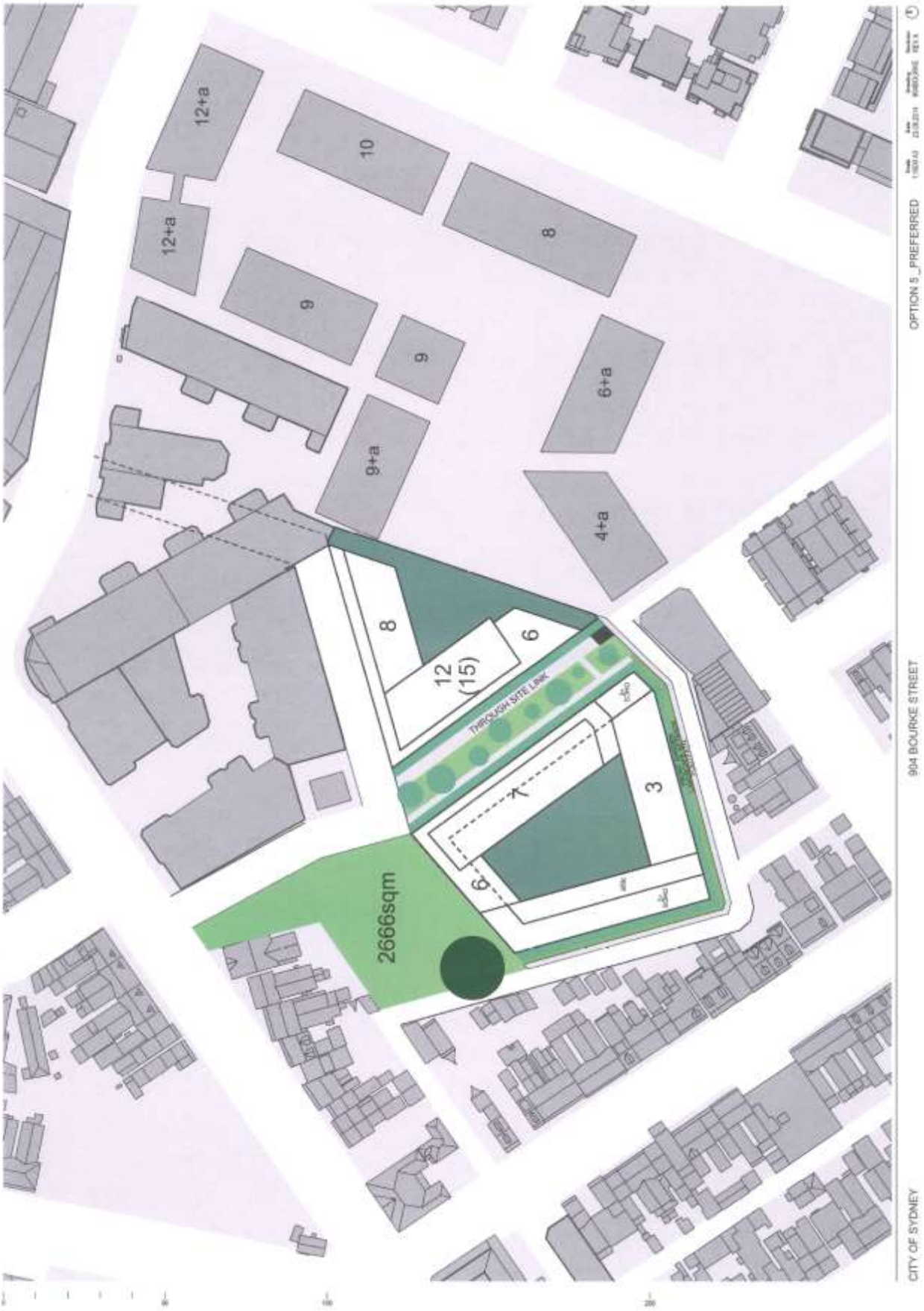
S. P. 49583
SEE SHEET 1 OF 2
FOR CONTINUATION
ATS LAND & ENGINEERING
SURVEYORS PTY. LTD.
TOPOGRAPHICAL SURVEY PLAN OF
No.904 BOURKE STREET, ZETLAND
BEING S.P. 49583


12+a
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6+a
4+a
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(15)
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THROUGH SITE LINK
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6
2666sqm
OPTION 5_PREFERRED
904 BOURKE STREET
CITY OF SYDNEY

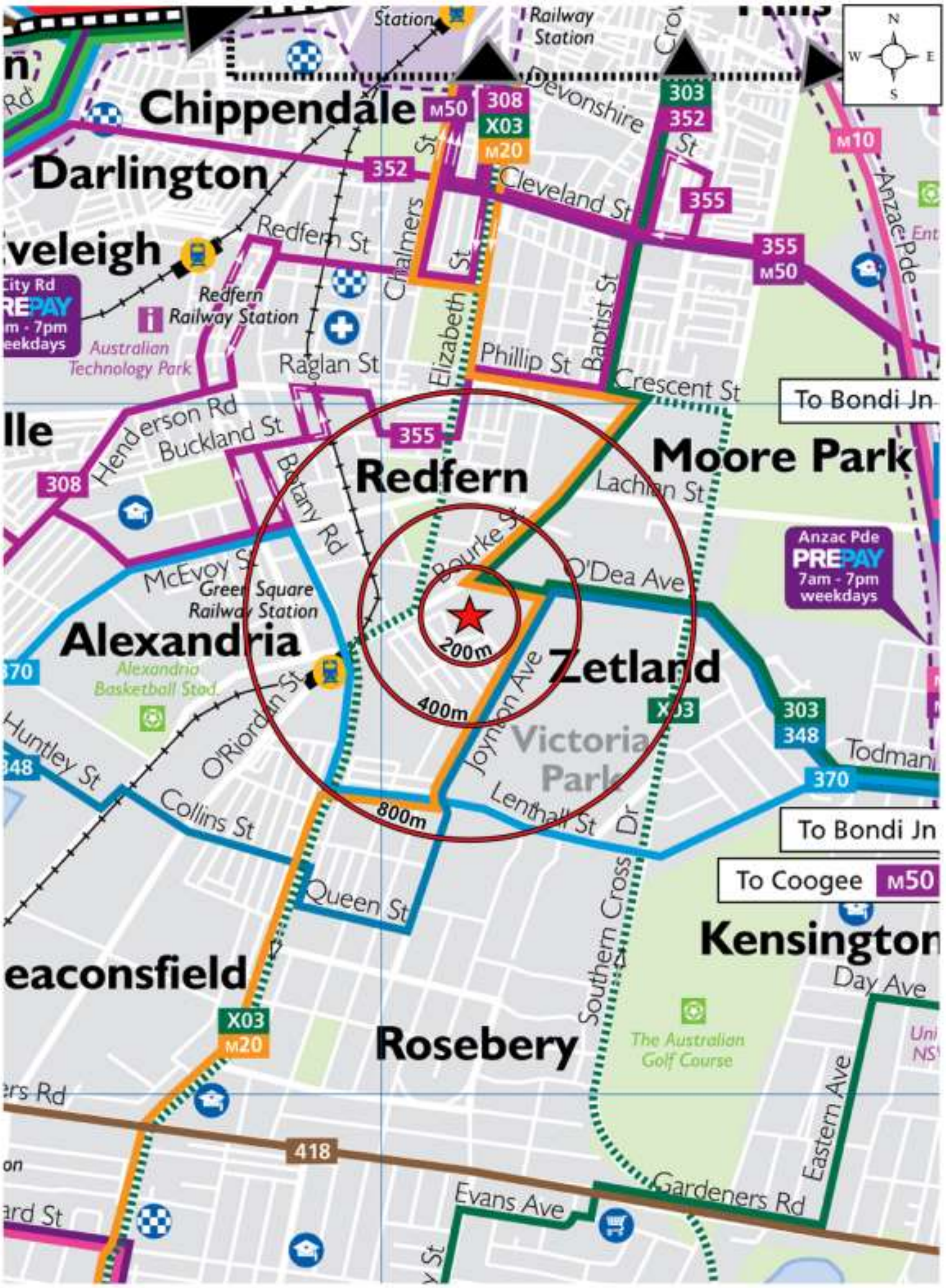
3. TRANSPORT AND ACCESSIBILITY

Bus Services

The existing public transport bus services available to the site are illustrated on Figure 3. There are currently approximately 10 bus routes travelling within approximately 400m walking distance of the main site access driveway in Bourke Street or the secondary site access in McPherson Lane, including the high-frequency intra-regional *Metrobus M20*. The *M20* service operates between Gore Hill and Botany which operates seven days per week with weekday services every 15 minutes (every 10 minutes during the morning and afternoon peak) and weekend services every 20 minutes. An additional 4 bus routes are also available within approximately 800m walking distance from the site.

There are more than 510 bus services available in the vicinity of the site on weekdays, decreasing to approximately 280 bus services per day on Saturdays and approximately 240 bus services on Sunday and public holidays, as set out below:

Bus Routes and Frequencies							
Route No.	**Route**	**Weekdays**		**Saturday**		**Sunday**	
		IN	**OUT**	**IN**	**OUT**	**IN**	**OUT**
301	Eastgardens to Circular Quay	48	47	28	29	24	25
302	Eastgardens to Circular Quay	8	7	10	10	8	10
303/X03	Sans Souci to Circular Quay	45	48	21	20	17	17
309/X09/L09	Port Botany to Circular Quay	79	83	43	46	30	29
310/X10	Eastgardens to Circular Quay	53	58	37	37	26	26
343	Kingsford to City	109	109	54	49	47	49
345	Rosebery to Central Station	1	1	-	-	-	-
348	Wolli Creek to Bondi Junct	25	24	-	-	-	-
355	Marrickville to Bondi Junct	27	26	20	21	20	21
370	Coogee to Leichhardt	59	63	31	28	31	28
M20	Gore Hill to Botany	~63	~63	~36	~36	~36	~36
TOTAL		**517**	**529**	**280**	**276**	**239**	**238**



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Traffic and Parking Consultants

PUBLIC TRANSPORT
FIGURE 3

Suburban Rail Services

Green Square Railway Station is located on the corner of O'Riordan Street and Botany Road and is approximately 400m walking distance west of the main site access driveway in Bourke Street. Green Square Railway Station is situated on the Airport, Inner West and South Lines and is located one stop south of Central Railway Station.

Bicycle Network

The site is conveniently located in close proximity to a number of cycle routes. The Bourke Street cycle path is located approximately 1km to the north of the site (approximately 3 minutes cycle time). It comprises a dedicated cycle path separated from the main roadway, providing a safe and convenient cycling environment into and out of the City.

A map of the nearby cycle routes is provided on Figure 4.

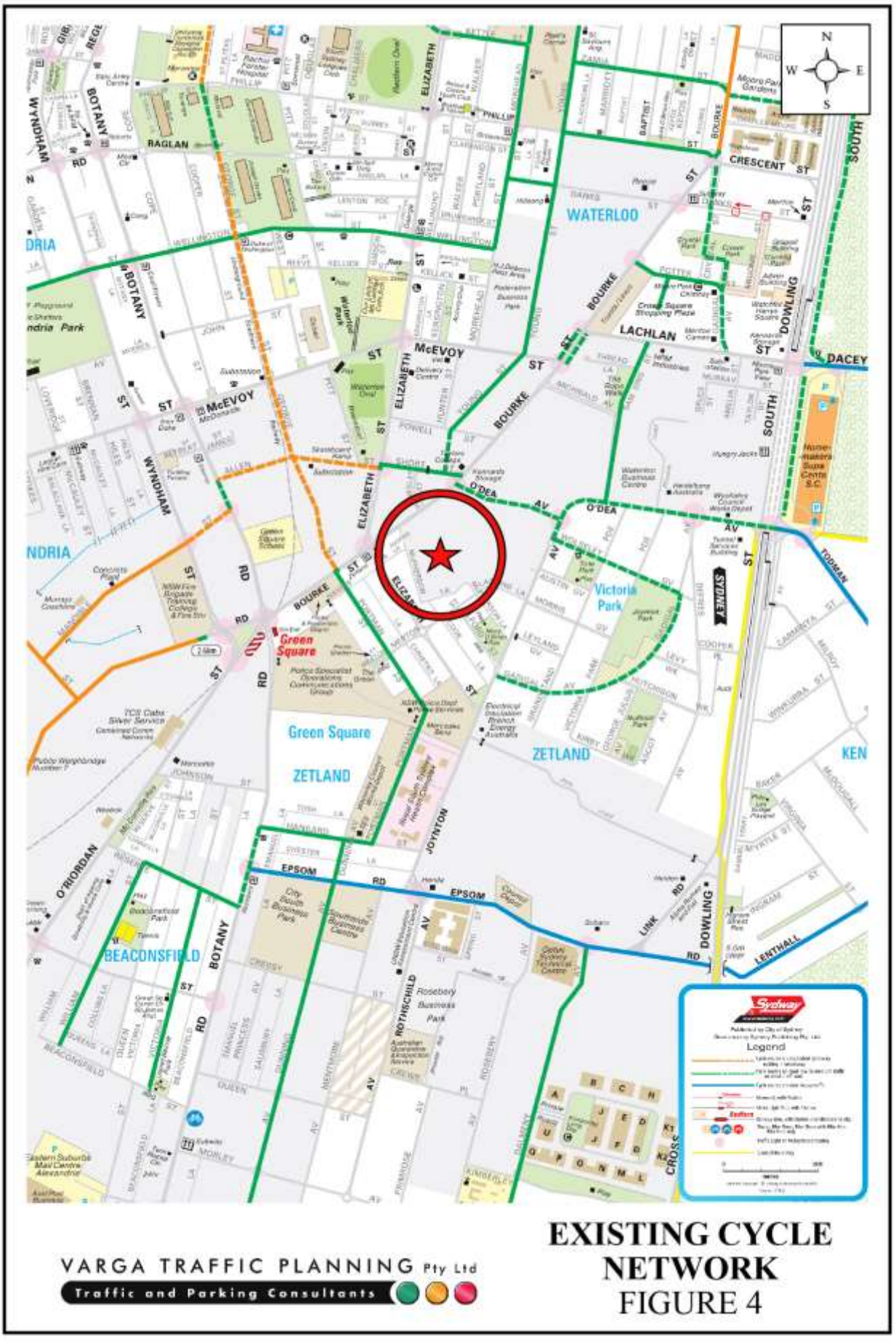
The completed development will ultimately provide individual lock-up storage cages within the basement car parking areas for every apartment, which are capable of storing a bicycle. Additional publicly accessible bicycle parking spaces will also be provided on the ground floor level for visitors in a convenient location.

Travel Plan

Council's *Development Control Plan 2012* requires that a Travel Plan must be prepared for all new residential developments over a certain size. A Travel Plan is a package of actions designed to encourage safe, healthy and sustainable travel options. The objectives of a Travel Plan are to remove barriers to active travel for all users of developments, and to maximise the number of people who walk, cycle or take public transport to and from the development.

In this instance, it is clear that the site is ideally located to facilitate reduced private car usage and to encourage alternate forms of transport such as walking, cycling and public transport.

A key feature of the Travel Plan will be a *Transport Access Guide* plan detailing the location of all public transport services as well as key facilities such as shops, banks, post office etc.


N
W
E
S
WATERLOO
Victoria Park
Green Square
Green Square
ZETLAND
ZETLAND
BEACONSFIELD
EPSOM
EPSOM
BOTANY
BOTANY
WYNDHAM
WYNDHAM
McEVOY
McEVOY
BOURKE
BOURKE
ELIZABETH
ELIZABETH
O'DEA
O'DEA
LACHLAN
CRESCENT
DACEY
DOWLING
SYDNEY
JOYNTON
O'RIORDAN
ROTHSCHILD
Rosebery Business Park
Legend
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
EXISTING CYCLE NETWORK
FIGURE 4

which are located within walking distance of the site. In this regard it is noted that the site is located within the Green Square Urban Renewal Area and in close proximity to a number of currently-under-construction and future mixed-use areas including Green Square Town Centre and Waterloo, which will ultimately offer a wide variety of shops and services and are readily accessible by walking for the prospective future residents of the site.

A Travel Plan will be prepared at DA stage setting out the goals and incentives for achieving sustainable travel behaviour. The Travel Plan will also recommend the establishment of a Travel Plan coordinator to be nominated by the Owners Corporation who will have responsibility for the ongoing monitoring and development of the Travel Plan. Key tasks of the Travel Plan coordinator will include:

- undertake regular surveys to identify the travel modes of building occupants
- maintain an update of the information provided in the Transport Access Guide, and
- set new travel mode targets on an ongoing basis in consultation with the Owners Corporation.

4. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 5.

Botany Road is classified by the RMS as a *State Road* and provides the key north-south road link in the area, linking Port Botany to Waterloo. It typically carries two traffic lanes in each direction in the vicinity of the site with turning bays provided at key locations. Kerbside parking is generally permitted on both sides of the road outside of commuter peak periods.

McEvoy Street / Lachlan Street are also classified by the RMS as *State Roads* which provide the key east-west road link in the area, linking Euston Road to Dacey Avenue and South Dowling Street. They typically carry one traffic lane in each direction in the vicinity of the site with additional traffic lanes provided during respective morning and afternoon commuter peak periods.

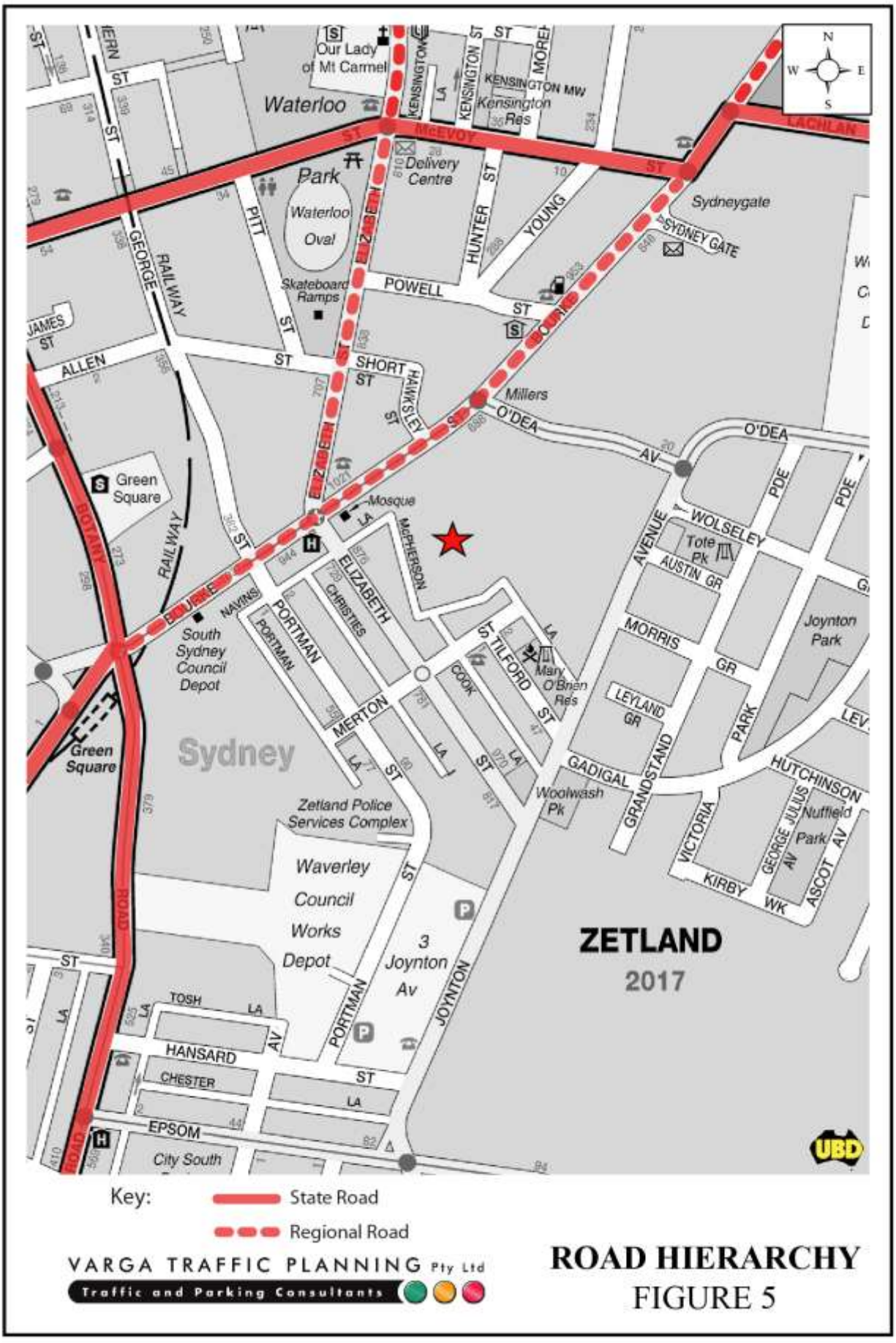
Bourke Street is classified by the RMS as a *Regional Road* which provides another key north-south road link in the area, linking Mascot to Woolloomooloo. It typically carries one traffic lane in each direction in the vicinity of the site, with an additional traffic lane provided during respective morning and afternoon commuter peak periods. Kerbside parking is generally permitted on both sides of the road outside of commuter peak periods.

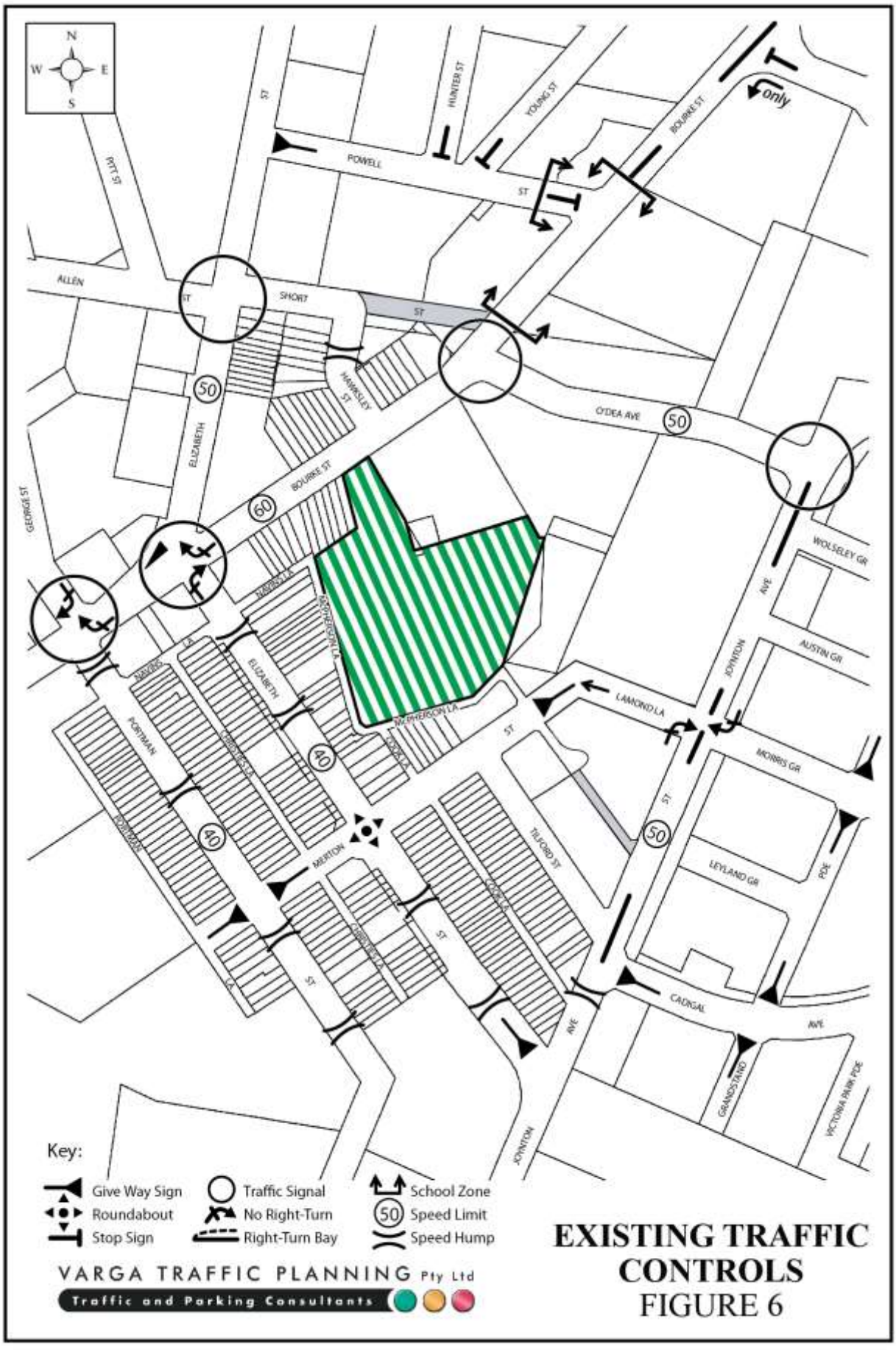
McPherson Lane is a local, unclassified laneway which is primarily used to provide rear vehicular and pedestrian access to properties fronting Elizabeth Street, Merton Street and also Tilford Street. Kerbside parking is permitted at selected locations only.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 6. Key features of those traffic controls are:

- a 60 km/h SPEED LIMIT which applies to Bourke Street


Our Lady of Mt Carmel
Waterloo
KENSINGTON MW
Kensington Res
McEVOY ST
LACHLAN
Park
Delivery Centre
Waterloo Oval
Skateboard Ramps
Sydneygate
SYDNEY GATE
POWELL ST
ALLEN ST
SHORT ST
Millers
O'DEA AV
Green Square
Mosque
WOLSELEY
Tote Pk
AUSTIN GR
Joynton Park
MORRIS GR
LEYLAND GR
South Sydney Council Depot
Sydney
Mary O'Brien Res
TILFORD ST
Zetland Police Services Complex
Waverley Council Works Depot
3 Joynton Av
Woolwash Pk
GADIGAL
HUTCHINSON
Nutfield Park
KIRBY WK
ASCOT AV
TOSH
HANSARD AV
CHESTER ST
EPSOM
City South
ZETLAND
2017
Key:
State Road
Regional Road
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
ROAD HIERARCHY
FIGURE 5


N
W
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POWELL ST
HUNTER ST
YOUNG ST
BOURKE ST
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ALLEN ST
SHORT ST
HARMSLEY ST
ELIZABETH ST
GEORGE ST
50
60
40
O'DEA AVE
WOLSELEY GR
AUSTIN GR
JOHNSTON AVE
LAMOND LA
MORRIS GR
LEYLAND GR
PDE
TELFORD ST
MERTON ST
PORTMAN ST
HENRY LA
ANDERSON LA
CADIGAL AVE
GRANDSTAND
VICTORIA PARK PDE
Key:
Give Way Sign
Roundabout
Stop Sign
Traffic Signal
No Right-Turn
Right-Turn Bay
School Zone
50 Speed Limit
Speed Hump
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
EXISTING TRAFFIC CONTROLS
FIGURE 6

- a 50 km/h SPEED LIMIT which applies to O'Dea Avenue and also Joynton Avenue

- a 40 km/h SPEED LIMIT which applies to Elizabeth Street and also Portman Street

- TRAFFIC SIGNALS in Bourke Street where it intersects with Portman Street, Elizabeth Street and also O'Dea Avenue

- NO RIGHT-TURN southbound restrictions in Bourke Street turning onto Elizabeth Street and also George Street

- NO RIGHT-TURN northbound restrictions in Elizabeth Street turning onto Bourke Street.

Existing Traffic Conditions

An indication of the existing traffic conditions on the road network in the vicinity of the site is provided by reference to the RMS's most recently available *Annual Average Daily Traffic* data. The relevant count station nearest to the subject site is summarised below.

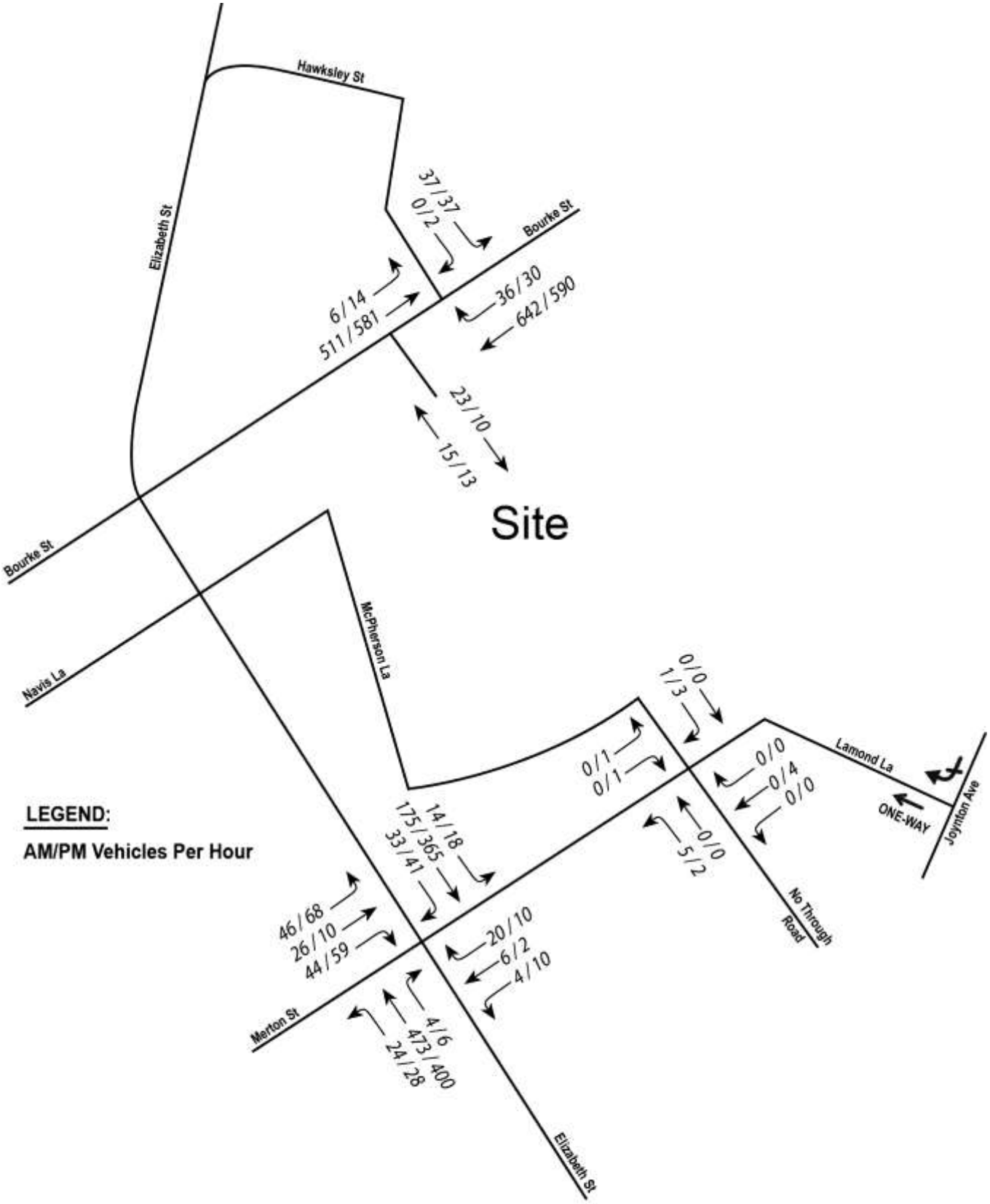
Roads & Maritime Services of NSW

Annual Average Daily Traffic Volumes

Station No.	Location	1996	1999	2002	2005
00.230	Bourke Street & Elizabeth Street (TCS)	31,418	37,286	27,301	27,883

A more detailed indication of the existing traffic conditions on the road network in the vicinity of the site is provided by peak period traffic surveys undertaken as part of this Planning Proposal. The traffic surveys were undertaken at the Bourke Street/Hawksley Street intersection, the Elizabeth Street/Merton Street intersection and also the Merton Street/McPherson Lane intersection. The results of the traffic surveys are reproduced in full in Appendix A and summarised on Figure 7a, revealing that:

- two-way traffic flows in Bourke Street past the site frontage are typically in the order of 1,200 vehicles per hour (vph) during peak periods



EXISTING TRAFFIC VOLUMES
FIGURE 7a

- two-way traffic flows in Hawksley Street are significantly lower, typically in the order of 80 vph during peak periods

- two-way traffic flows in Elizabeth Street are typically in the order of 800 vph during peak periods

- two-way traffic flows in Merton Street, west of Elizabeth Street are typically in the order of 200 vph during peak periods

- two-way traffic flows in Merton Street, east of Elizabeth Street are typically in the order of 70 vph during peak periods

- two-way traffic flows in McPherson Lane and Lamond Lane are typically in the order of *less than* 10 vph during peak periods.

The traffic surveys were also used to identify the level of traffic activity generated by the existing industrial unit complex on the site. Those surveys revealed that the site currently generated in the order of 38 vehicles per hour during the AM peak period and approximately 23 vehicles per hour during the PM peak period.

Projected Traffic Generation

Council have indicated that their preferred traffic generation rate for high density residential developments is *0.19 peak hour vehicle trips per dwelling*, which is detailed in the Roads and Maritime Service's *Technical Direction TDT 2013/04a.*

Application of the above traffic generation rate to the expected yield of 385 dwellings (based on 2.0:1 FSR) as outlined in the Planning Proposal yields a traffic generation potential of 73 peak hour vehicle trips.

That projected future traffic generation potential should however, be offset or *discounted* by the traffic generation potential and the existing uses of the site, in order to determine the *nett increase (or decrease)* in traffic generation potential expected to occur as a consequence of the development proposal.

Reference is also made to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002)* which states a traffic generation rate for industrial developments of *1.0 peak hour vehicle trip per 100m^2*.

Application of the "industrial" traffic generation rate nominated in the RMS *Guidelines* to the existing industrial buildings on the site (9,269m^2) yields a traffic generation potential of approximately 93 peak hour vehicle trips.

Accordingly, it is likely that the proposed development will result in a *nett reduction* in the traffic generation "potential" the site, as set out in the table below:

Projected Nett Decrease in Peak Hour Traffic Generation Potential of the Site as a consequence of the development proposal

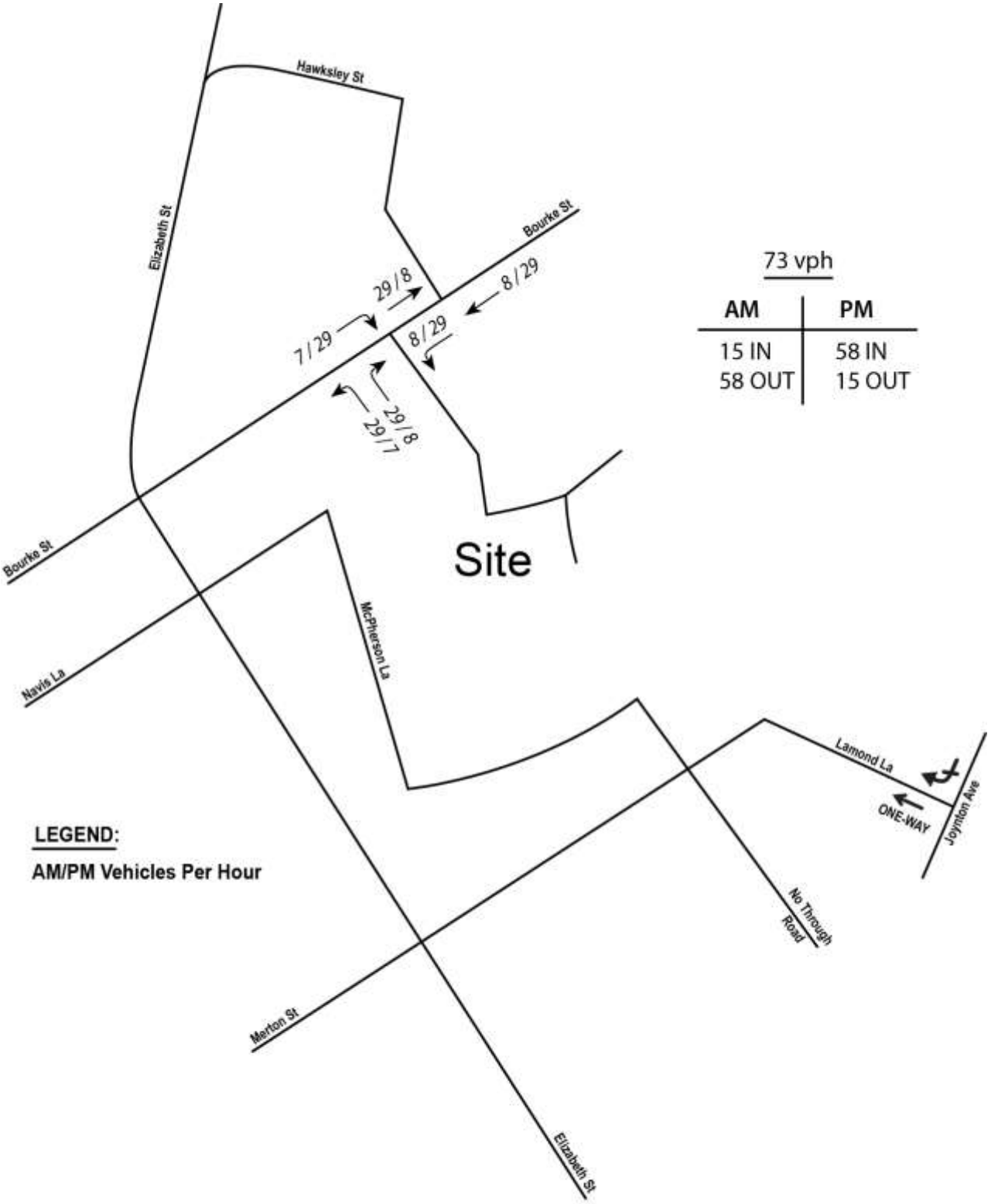
Projected Future Traffic Generation Potential:	73 vehicles per hour
Less Existing Traffic Generation Potential:	-93 vehicles per hour
NETT DECREASE IN TRAFFIC GENERATION POTENTIAL:	**-20 vehicles per hour**

Notwithstanding, it is noted that the site is *underutilised* at present, and currently generates 38 vph during the AM peak period and 23 vph during the PM peak period such that the practical increase in peak hour traffic flows is more.

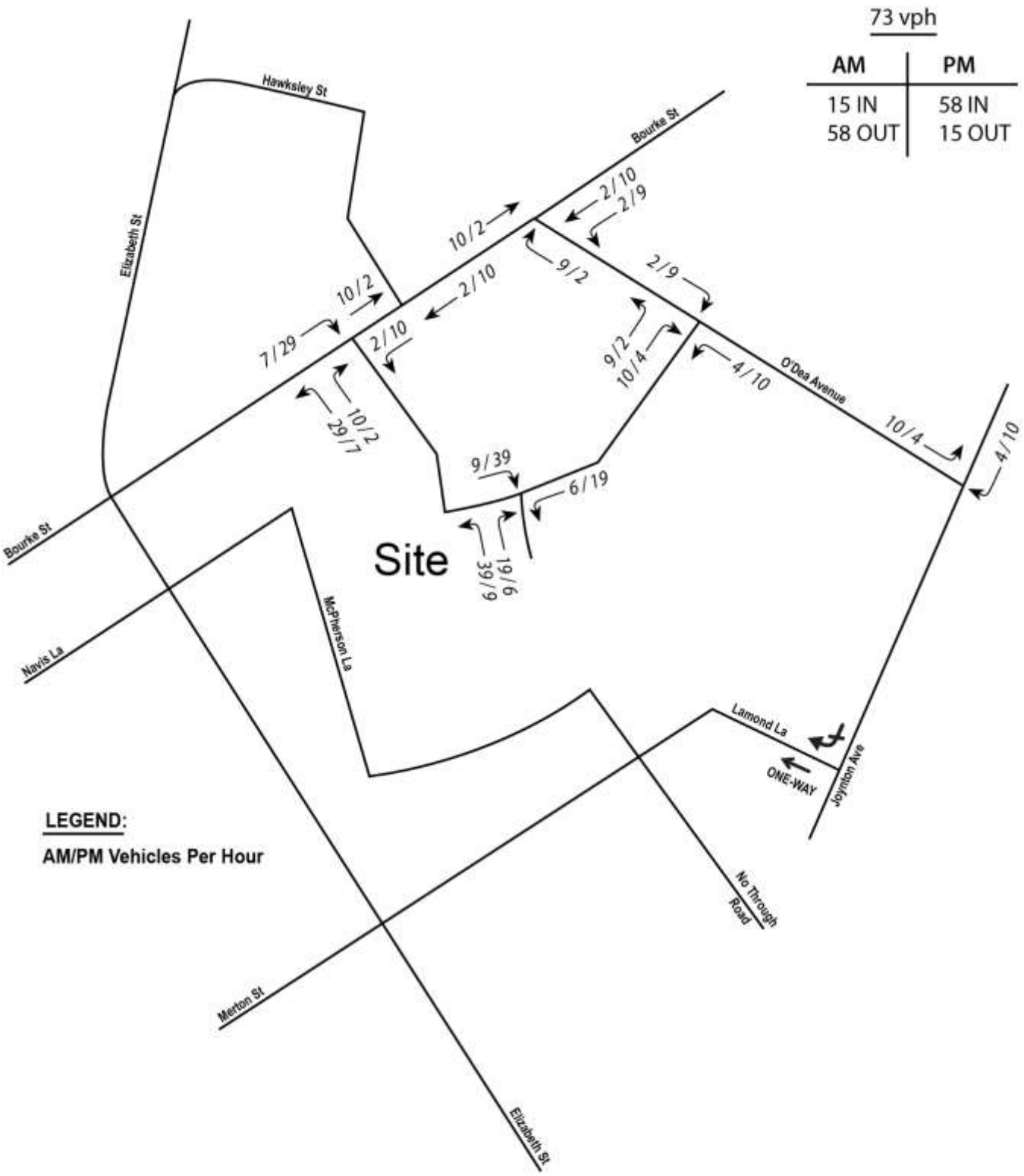
Therefore in order to provide a more *rigorous* traffic assessment, it has been assumed that *all* of the projected future traffic flows of 73 vph (based on 2.0:1 FSR) will be new or *additional* to the existing traffic flows currently using the adjacent road network, as illustrated on Figure 7b and 7c.

Figure 7b illustrates the expected traffic distribution during the short-term – i.e. with all traffic accessing the site via Bourke Street. Figure 7c illustrates the expected traffic distribution during the long-term – i.e. when the adjacent sites are redeveloped and the new road is extended out to O'Dea Avenue.

Council have also indicated that consideration should be given to the potential impact of additional traffic movements on the lower order streets such as McPherson Lane, Lamond Lane, Cook Lane, Tilford Street and Merton Street.



SHORT-TERM ACCESS ARRANGEMENTS
PROJECTED ADDITIONAL
TRAFFIC VOLUMES
FIGURE 7b



LONG-TERM ACCESS ARRANGEMENTS
PROJECTED ADDITIONAL
TRAFFIC VOLUMES
FIGURE 7c

Given that the preferred road network scheme discussed in Chapter 2 of this report does not provide a vehicular site through link to McPherson Lane, there is expected to be a negligible change to the operational performances of these intersections, if any.

In any event, the projected increase in traffic activity as a consequence of the Planning Proposal is minimal when distributed in all directions, and will not have any unacceptable traffic implications in terms of road network capacity as is demonstrated by the following section of this report.

Traffic Implications - Road Network Capacity

The traffic implications of development proposals primarily concern the effects that any *additional* traffic flows may have on the operational performance of the nearby road network. Those effects can be assessed using the SIDRA program which is widely used by the RMS and many LGA's for this purpose. Criteria for evaluating the results of SIDRA analysis are reproduced in the following pages, and the detailed results are reproduced in Appendix B.

For comparison purposes, this assessment also provides an analysis of an industrial development scenario whereby the existing industrial buildings are *fully utilised*, thus generating traffic flows of 92 vph which are new or *additional* to the existing traffic flows currently using the adjacent road network.

The results of the SIDRA analysis of the Bourke Street/site access driveway intersection during the short-term are summarised on Table 3.1 below, revealing that:

- if the existing industrial buildings on the site were fully utilised, the Bourke Street/site access driveway intersection would operate at *Level of Service "A"*, with average vehicle delays in the order of 2 seconds per vehicle

- under the projected future traffic demands expected to be generated by the Planning Proposal, the Bourke Street/site access driveway intersection is expected to also operate at *Level of Service "A"* during peak periods, with average vehicle delays also in the order of 2 seconds/vehicle.

The results of the SIDRA analysis of the Bourke Street/Hawksley Street intersection during the short-term are summarised on Table 3.2 below, revealing that:

- the Bourke Street/Hawksley Street intersection currently operates at *Level of Service "A"* under the existing traffic demands with total average vehicle delays in the order of 2 seconds/vehicle

- if the existing industrial buildings on the site were fully utilised, the intersection would continue to operate at *Level of Service "A"*, with increases in total average vehicle delays of ***less than*** 1 second per vehicle

- under the projected future traffic demands expected to be generated by the Planning Proposal, the Bourke Street/Hawksley Street intersection will also continue to operate at *Level of Service "A"* during peak periods, with increases in average vehicle delays of also ***less than*** 1 second/vehicle.

In the circumstances, it is clear that the proposed development will not have any unacceptable traffic implications in terms of road network capacity, and that no road improvements or intersection upgrades would be required as a consequence of the development proposal.

TABLE 3.1 - RESULTS OF SIDRA ANALYSIS OF BOURKE STREET / SITE ACCESS DRIVEWAY

Key Indicators	Fully Utilised Industrial Uses		Projected Development Traffic Demand	
	AM	PM	AM	PM
Level of Service	A	A	A	A
Degree of Saturation	0.296	0.314	0.282	0.328
TOTAL AVERAGE VEHICLE DELAY	**1.3**	**2.0**	**1.2**	**1.9**

TABLE 3.2 - RESULTS OF SIDRA ANALYSIS OF BOURKE STREET / HAWKSLEY STREET

Key Indicators	Existing Traffic Demand		Fully Utilised Industrial Uses		Projected Development Traffic Demand	
	AM	PM	AM	PM	AM	PM
Level of Service	A	A	A	A	A	A
Degree of Saturation	0.300	0.306	0.315	0.325	0.303	0.309
TOTAL AVERAGE VEHICLE DELAY	**1.8**	**1.1**	**1.9**	**1.2**	**1.8**	**1.2**

Criteria for Interpreting Results of Sidra Analysis

1. Level of Service (LOS)

LOS	Traffic Signals and Roundabouts	Give Way and Stop Signs
'A'	Good operation.	Good operation.
'B'	Good with acceptable delays and spare capacity.	Acceptable delays and spare capacity.
'C'	Satisfactory.	Satisfactory but accident study required.
'D'	Operating near capacity.	Near capacity and accident study required.
'E'	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode.	At capacity and requires other control mode.
'F'	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode.

2. Average Vehicle Delay (AVD)

The AVD provides a measure of the operational performance of an intersection as indicated on the table below which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (ie inner city conditions) and on some roads (ie minor side street intersecting with a major arterial route).

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	less than 14	Good operation.	Good operation.
B	15 to 28	Good with acceptable delays and spare capacity.	Acceptable delays and spare capacity.
C	29 to 42	Satisfactory.	Satisfactory but accident study required.
D	43 to 56	Operating near capacity.	Near capacity and accident study required.
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode.	At capacity and requires other control mode.

3. Degree of Saturation (DS)

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by traffic signals[1] both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a roundabout or GIVE WAY or STOP signs, satisfactory intersection operation is indicated by a DS of 0.8 or less.

[1] *The values of DS for intersections under traffic signal control are only valid for cycle length of 120 secs.*

5. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 8 and comprise:

- NO STOPPING restrictions in Bourke Street in the vicinity of the Hawksley Street and O'Dea Avenue intersections, including along the site frontage

- NO STOPPING restrictions along the western side of Bourke Street during the *morning* commuter peak period

- NO STOPPING restrictions along the eastern side of Bourke Street during the *afternoon* commuter peak period

- NO STOPPING / NO PARKING restrictions along the McPherson Lane site frontage

- generally UNRESTRICTED kerbside parking along the opposite side of McPherson Lane in the vicinity of the site

- BUS ZONES at regular intervals along both sides of Bourke Street and also O'Dea Avenue.

Off-Street Parking Provisions

The *maximum* off-street parking requirements applicable to the development proposal are specified in Council's *Local Environmental Plan 2012, Part 7, Division 1 – Car Parking Ancillary to other Development* document in the following terms:

Residential Flat Buildings (Category B) - Maximum

1 bedroom apartments:	0.4 spaces per dwelling
2 bedroom apartments:	0.8 spaces per dwelling
3 bedroom apartments:	1.1 spaces per dwelling


N
W
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S
2P*
NS 6am-10am
HANNOLEY ST
NS 6am-10am
ST
O'DEA
BZ
NP
AM+PM Peak
AVE
BZ
BOURKE
NS 3pm-7pm
NAVAN LA
2P*
NP 3:30pm-5:30pm
ELIZABETH
2P*
BZ
COOK LA
2P*
LAMOND LA
ST
2P*
MERTON
2P*
C/S
COOK LA
2P*
TILFORD ST
2P* 60'
CHRISTIES LANE
Key:
No Stopping
No Parking
Restricted Parking
BZ Bus Zone
* Permit Holders Excepted
C/S Car Share
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
EXISTING PARKING RESTRICTIONS
FIGURE 8

Visitors:	0.167 spaces per dwelling (up to 30 dwellings), *and*
	0.1 spaces per dwelling (between 30 and 70 dwellings), *and*
	0.05 spaces per dwelling (greater than 70 dwellings)
Car Share Scheme:	1.0 space per 60 spaces (inclusive of total maximum requirement)
Service Vehicles:	1.0 space for the first 50 dwellings; 0.5 spaces per 50 dwellings thereafter

Application of the above parking requirements to the expected yield of between 385 dwellings (2.0:1 FSR) and 410 dwellings (2.2:1 FSR) as outlined in the Planning Proposal yields a *maximum* off-street parking requirement of between 287 parking spaces and 305 parking spaces as set out below:

	2.0:1 FSR (385 dwellings)	**2.2:1 FSR (410 dwellings)**
Residential:	258 spaces	274 spaces
Visitors:	25 spaces	26 spaces
Service Vehicles:	4 spaces	5 spaces
TOTAL:	**287 spaces**	**305 spaces**

Based on the above parking requirement, the Planning Proposal also requires 5 car share spaces to be provided for the common use of all the residents living within the development.

Council's *LEP 2010* also specifies the following motorcycle parking requirement under Clause 7.8.4 of the *DCP*:

> **7.8.4 Motorcycle Parking Spaces**
>
> (i) In all buildings that provide on-site parking, the area equivalent to 1 parking space is to be provided as separate parking for motorcycles for every 50 car parking spaces provided, or part thereof.

Based on the above parking requirement, the Planning Proposal also requires that the area equivalent to 6 car parking spaces be provided for motorcycle parking, equating to 24 motorcycle spaces.

Council's *LEP 2010* also specifies the following bicycle parking requirement detailed in Table 3.5 of the *DCP*:

Residents :	1 bicycle space per dwelling
Visitors:	1 bicycle space per 10 dwellings

Application of the above requirements to the Planning Proposal yields a bicycle requirement of between 385 and 410 spaces for residents and between 38 and 41 spaces for visitors. It should be noted that residential bicycles can be stored within basement storage cages provided that the storage cages meet the minimum dimensional requirements specified in *AS2890.3.* Visitor bicycle parking must be provided in an easily accessible location.

At this stage the precise number of off-street car, motorcycle and bicycle parking spaces to be provided on the site is not yet known however it is understood that the Planning Proposal will comply with Council's requirements.

The geometric design layout of the proposed car parking facilities will ultimately be designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1* in respect of parking bay dimensions, ramp gradients and aisle widths.

Loading/Servicing Provisions

The proposed new mixed-use building is expected to be serviced by a variety of commercial vehicles up to and including Council's 9.2m long rigid garbage truck. All loading, for both garbage collection and removalists, will be undertaken wholly within the site. The new internal public roadway and on-site manoeuvring areas will ultimately be designed to accommodate the swept turning path requirements of these trucks, allowing them to enter and exit the site in a forward direction at all times.

In summary, the proposed parking and loading facilities will ultimately satisfy the relevant requirements specified in both Council's Parking Code as well as the Australian Standards and it is therefore concluded that the Planning Proposal will not have any unacceptable parking or loading implications.

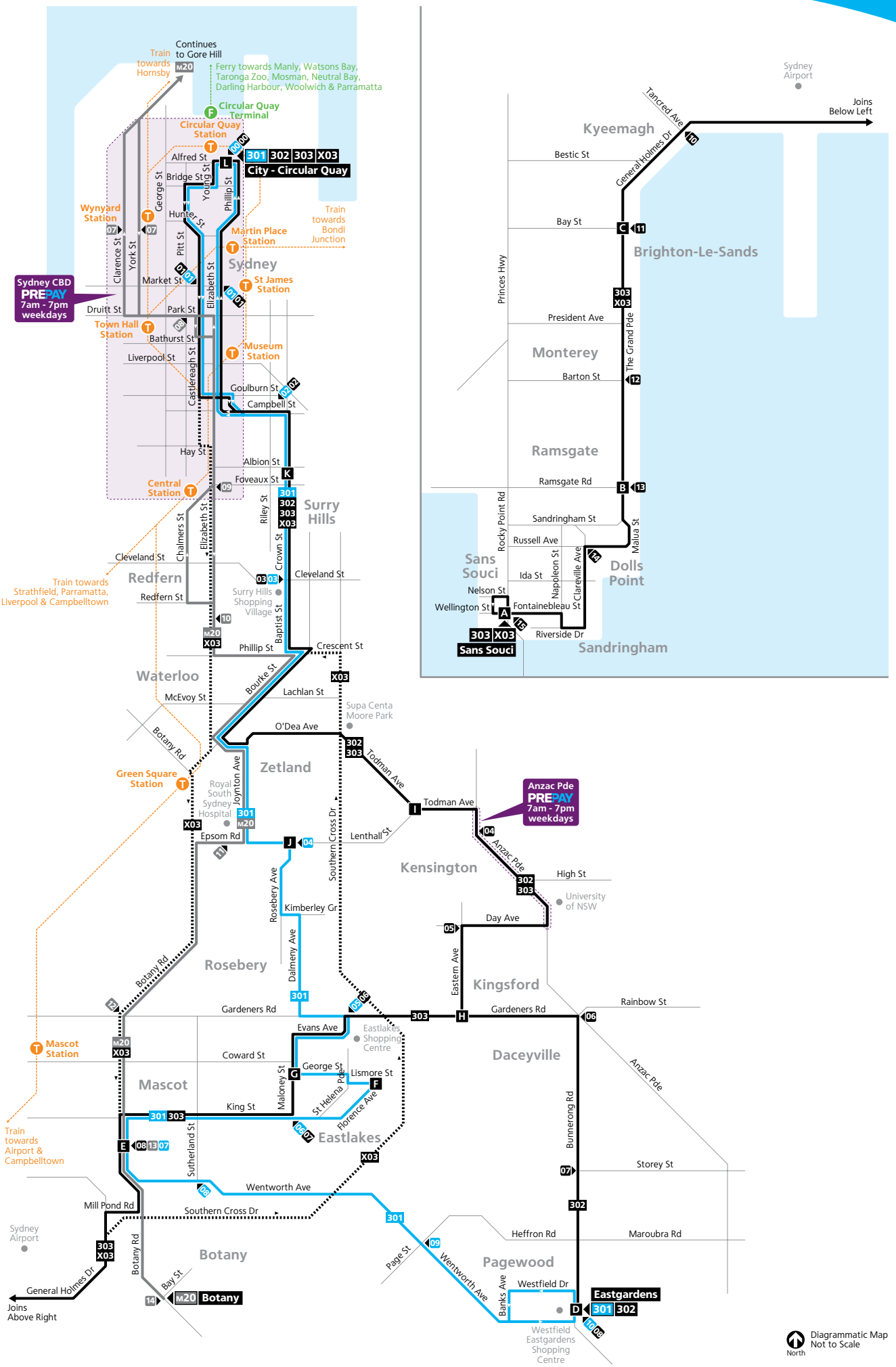
APPENDIX A

SYDNEY BUS ROUTE MAPS

Bus route map

301, 302, 303, X03

ATTACHMENT A



Legend

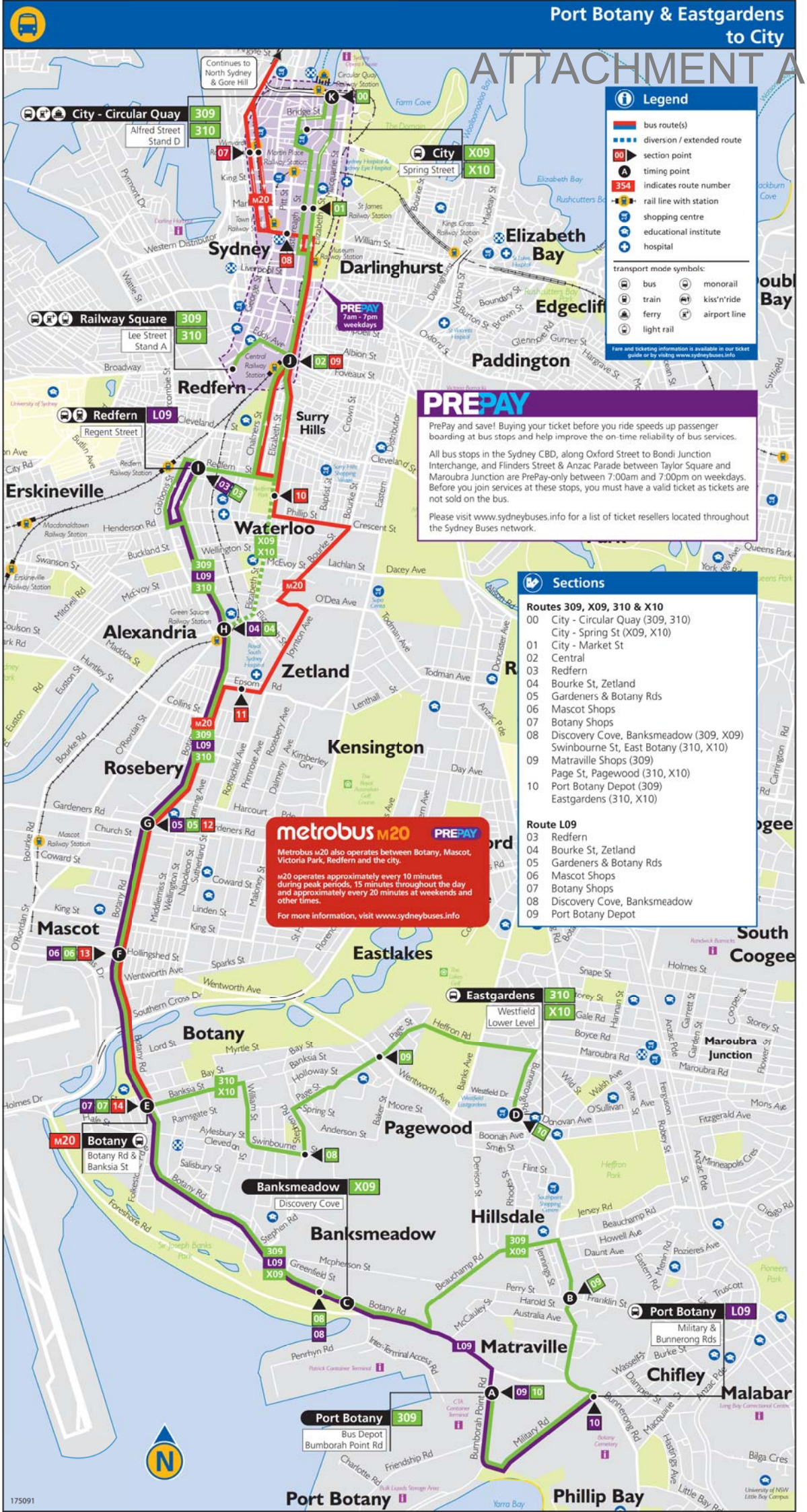
- Bus route
- 301 Bus route number
- A Timing point
- 04 Section point
- Train line/station
- Ferry route/wharf

Diagrammatic Map Not to Scale

North

Transport

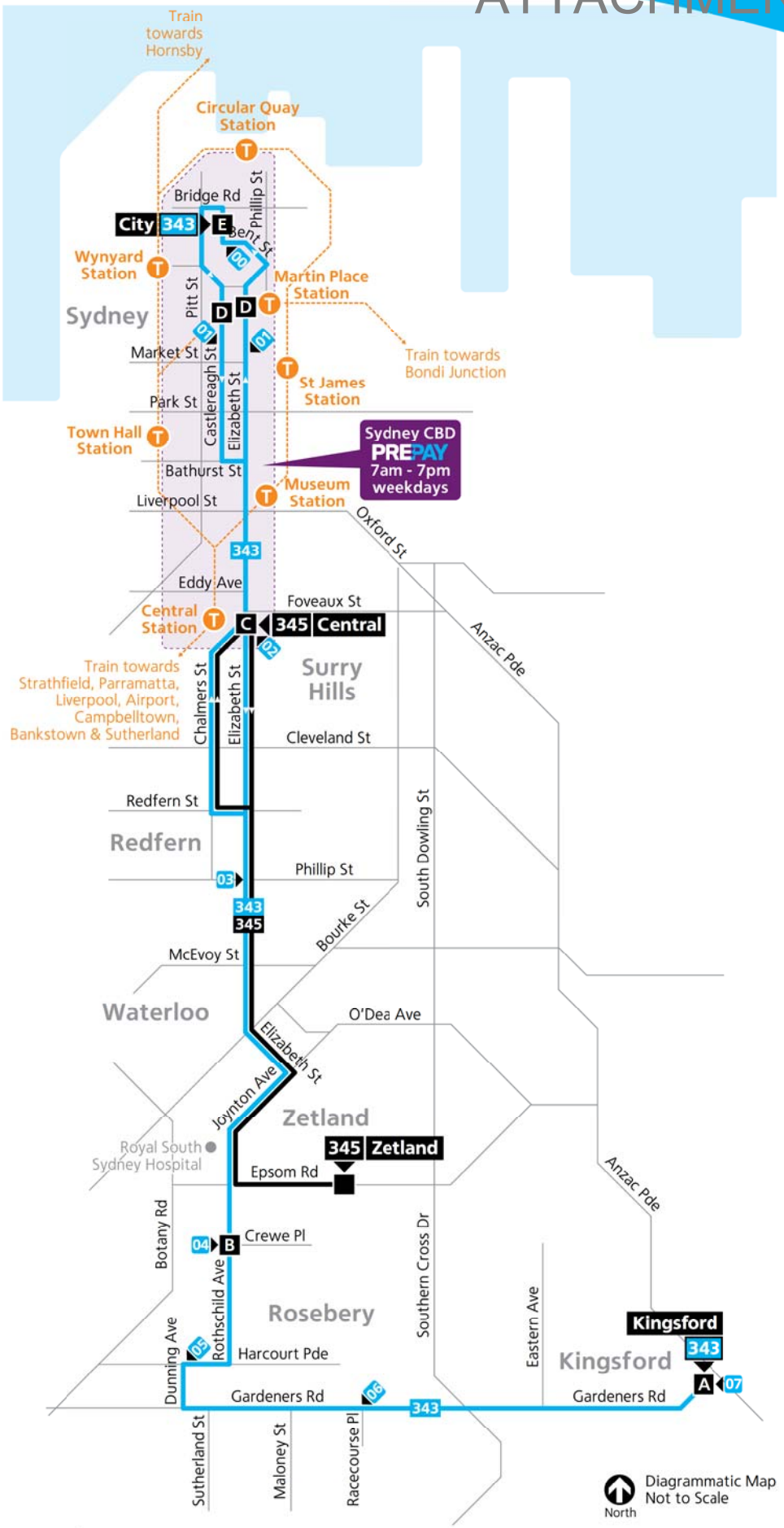
Port Botany & Eastgardens to City



Bus route map

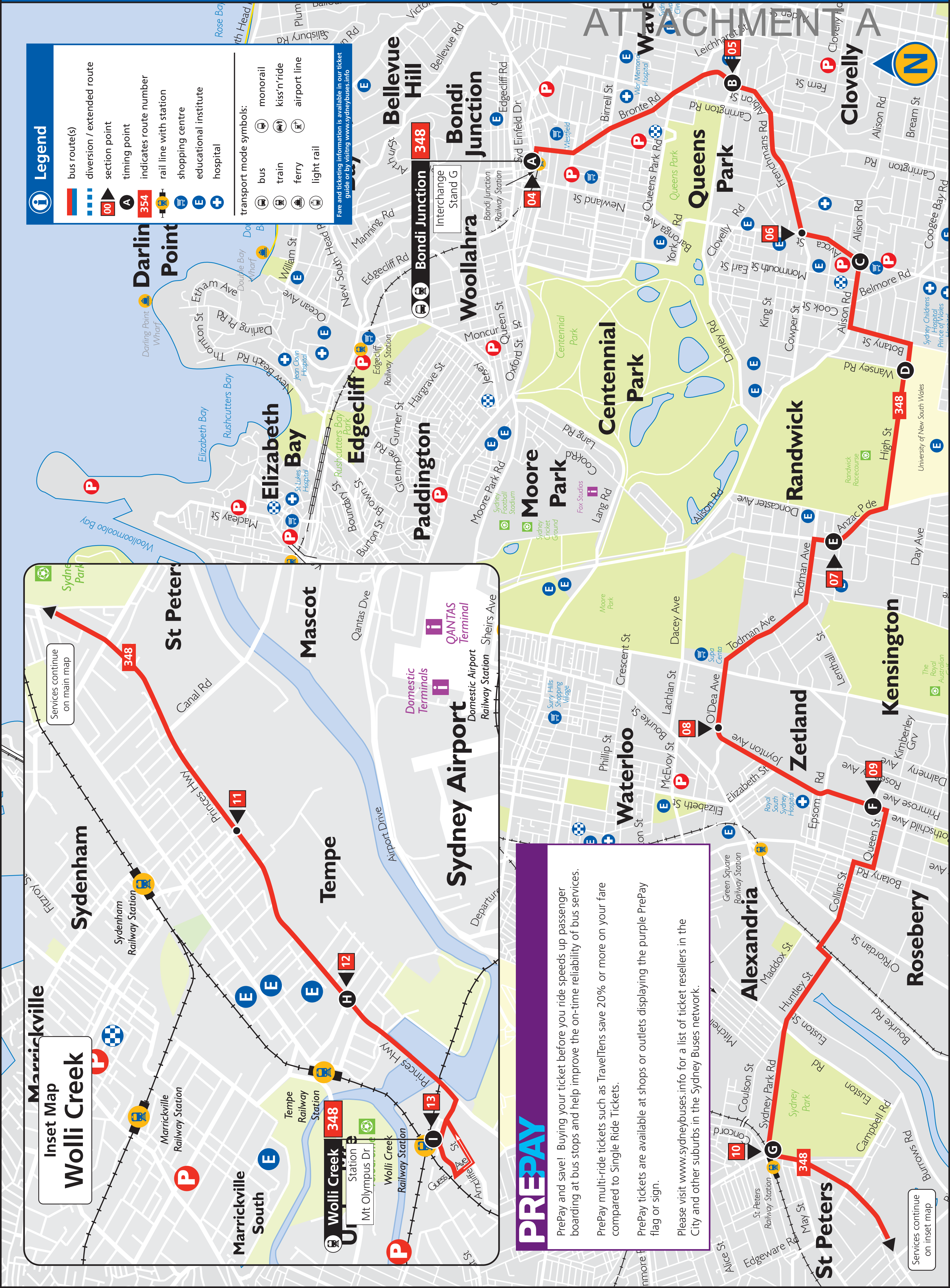
343, 345

ATTACHMENT A



Bondi Junction to Wolli Creek via UNSW

ATTACHMENT A



PREPAY

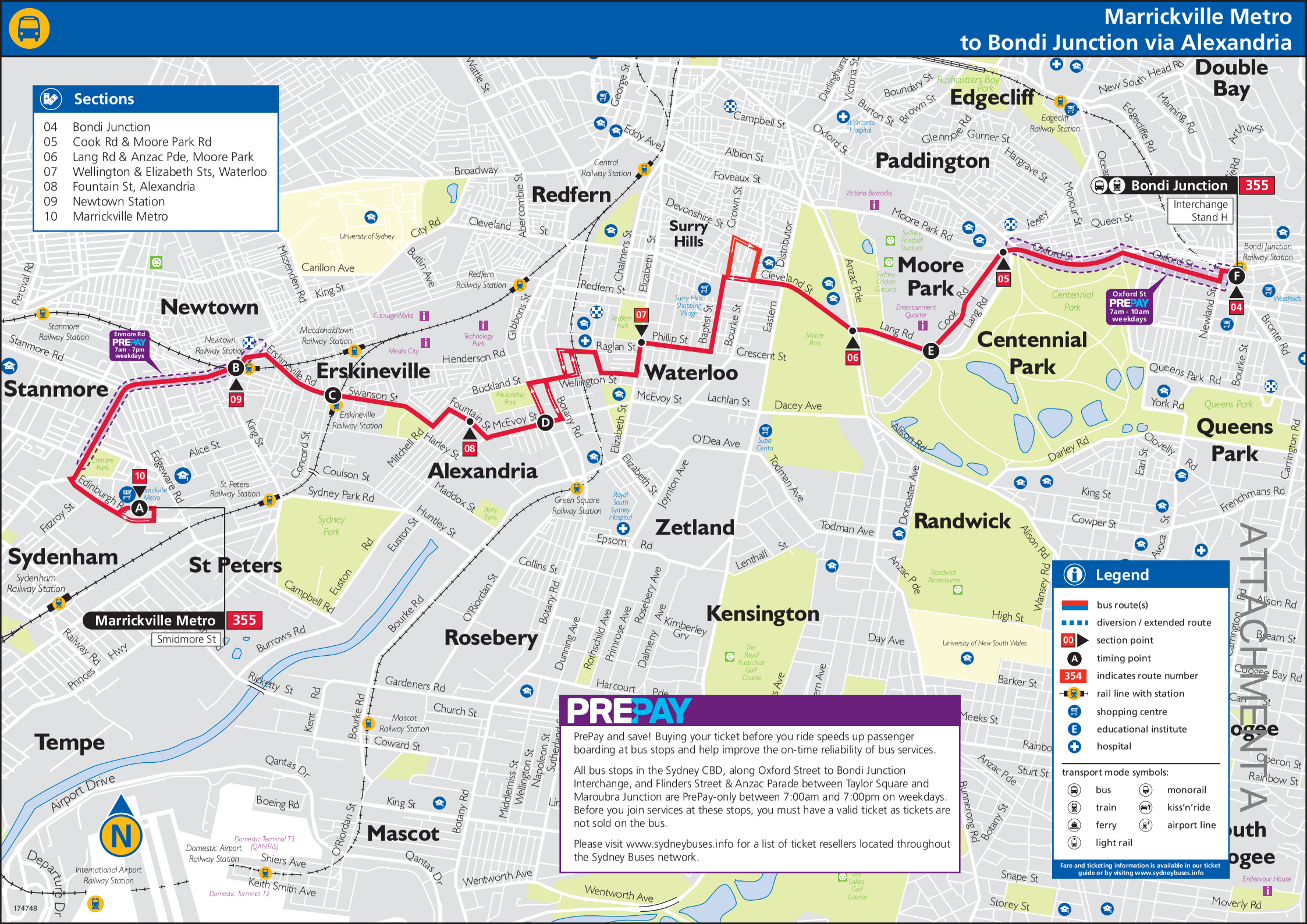
PrePay and save! Buying your ticket before you ride speeds up passenger boarding at bus stops and help improve the on-time reliability of bus services.

PrePay multi-ride tickets such as TravelTens save 20% or more on your fare compared to Single Ride Tickets.

PrePay tickets are available at shops or outlets displaying the purple PrePay flag or sign.

Please visit www.sydneybuses.info for a list of ticket resellers in the City and other suburbs in the Sydney Buses network.

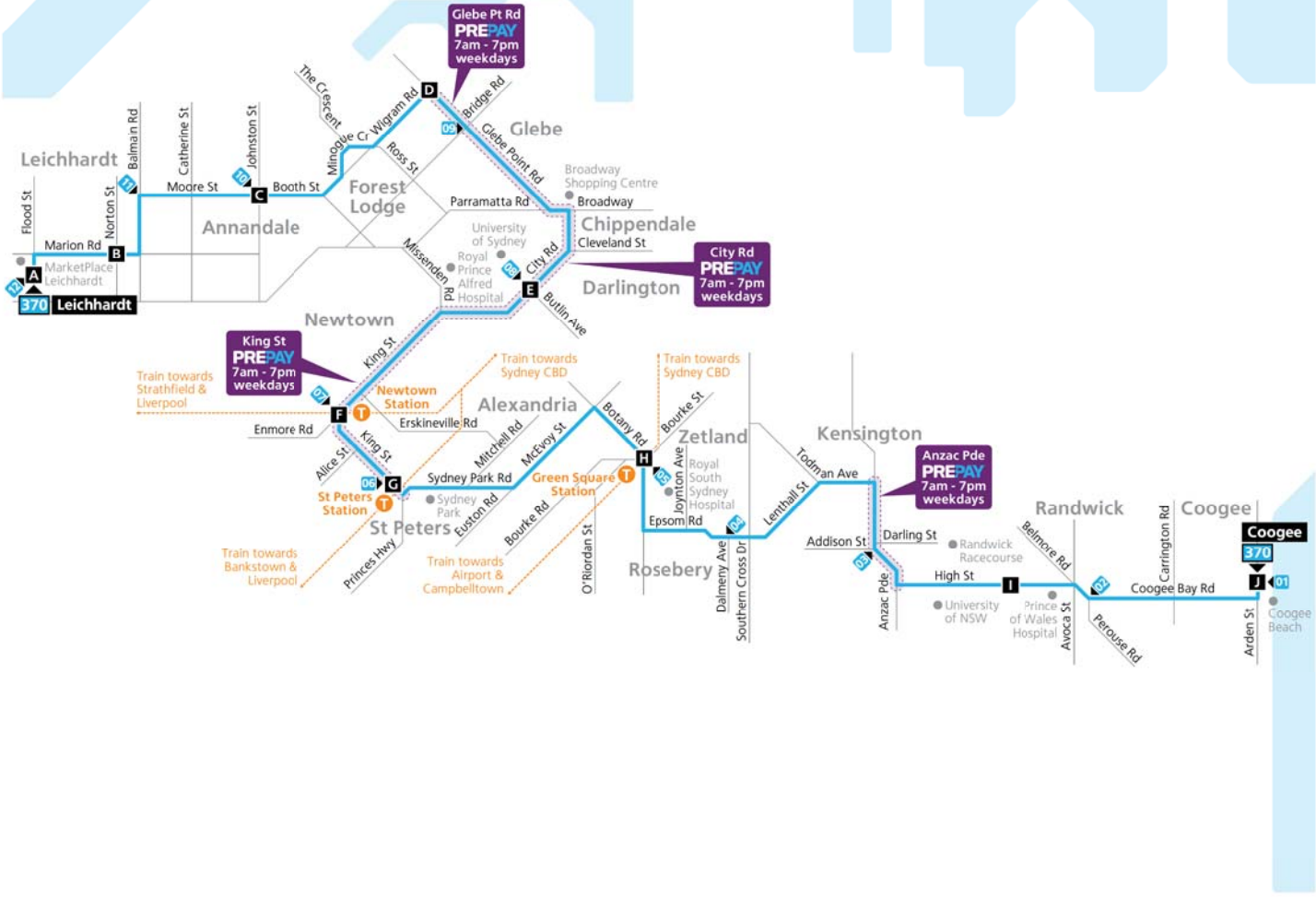
Marrickville Metro to Bondi Junction via Alexandria



ATTACHMENT A

Bus route map

370

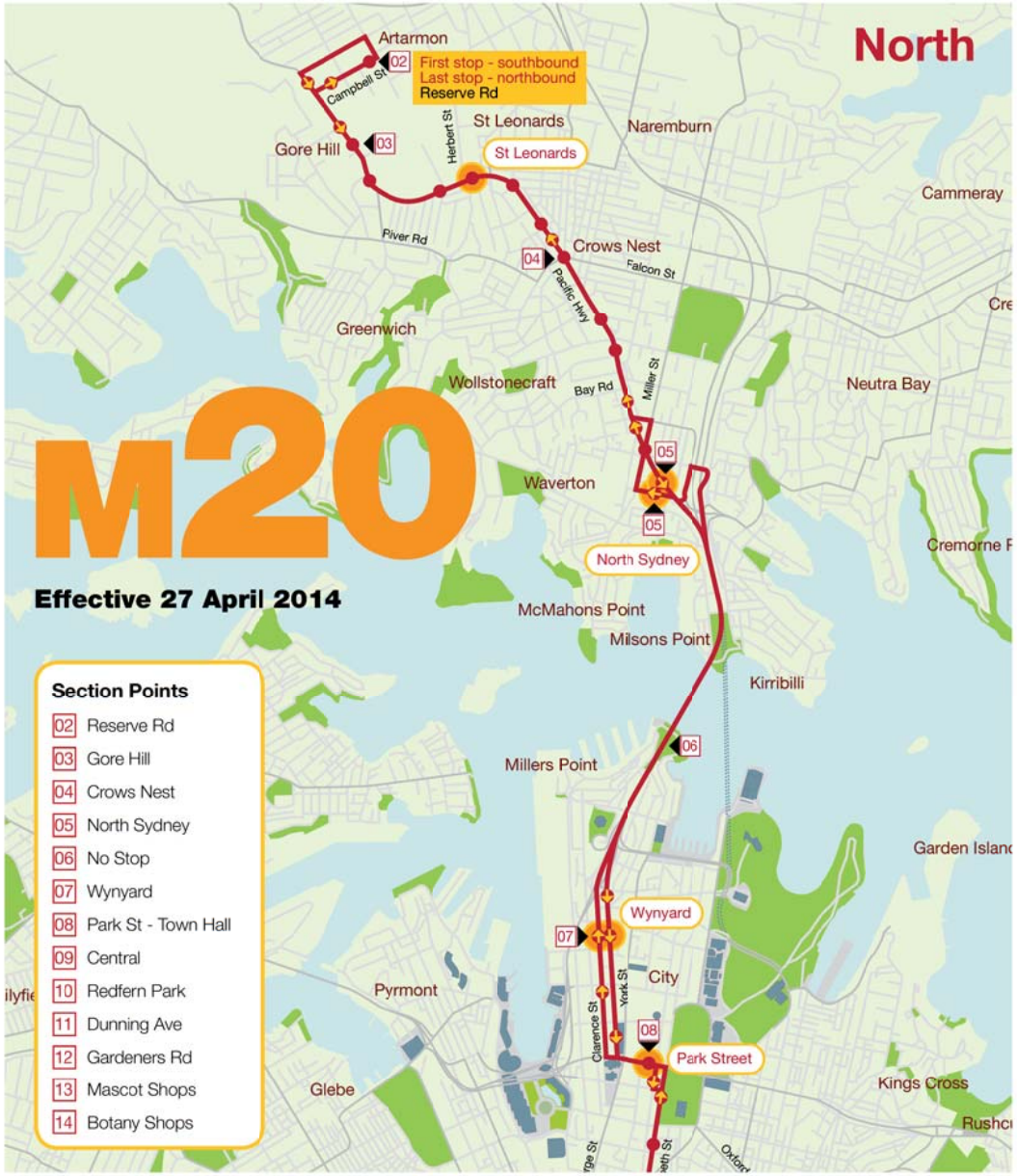


Diagrammatic Map
Not to Scale
North

Legend

- Bus route
- 370 Bus route number
- A Timing point
- 04 Section point
- T Train line/station

Transport



ATTACHMENT A

APPENDIX B

TRAFFIC SURVEY DATA

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849.
Mobile.0418239019

Client : Varga Traffic Planning
Job No/Name : 5170 ZETLAND 904 Bourke St
Day/Date : Friday 23rd May 2014

PEDS	WEST	NORTH	EAST	
Time Per	*Bourke St*	*Hawksley St*	*Bourke St*	TOT
0630 - 0645	1	6	2	**9**
0645 - 0700	2	11	1	**14**
0700 - 0715	1	10	0	**11**
0715 - 0730	2	10	2	**14**
0730 - 0745	3	9	0	**12**
0745 - 0800	9	21	3	**33**
0800 - 0815	4	26	1	**31**
0815 - 0830	1	33	2	**36**
0830 - 0845	3	24	0	**27**
0845 - 0900	3	60	0	**63**
0900 - 0915	2	23	0	**25**
0915 - 0930	0	19	0	**19**
Per End	**31**	**252**	**11**	**294**

PEDS	WEST	NORTH	EAST	
Peak Per	*Bourke St*	*Hawksley St*	*Bourke St*	TOT
0630 - 0730	6	37	5	**48**
0645 - 0745	8	40	3	**51**
0700 - 0800	15	50	5	**70**
0715 - 0815	18	66	6	**90**
0730 - 0830	17	89	6	**112**
0745 - 0845	17	104	6	**127**
0800 - 0900	11	143	3	**157**
0815 - 0915	9	140	2	**151**
0830 - 0930	8	126	0	**134**
PEAK HR	**17**	**104**	**6**	**127**

Lights	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Time Per	T	L	R	L	R	T	TOT
0630 - 0645	117	1	0	6	1	89	**214**
0645 - 0700	124	0	3	5	5	89	**226**
0700 - 0715	134	1	0	3	3	122	**263**
0715 - 0730	120	1	1	3	1	110	**236**
0730 - 0745	122	0	0	5	6	133	**266**
0745 - 0800	116	1	0	6	13	139	**275**
0800 - 0815	115	1	0	12	10	155	**293**
0815 - 0830	124	3	0	8	7	160	**302**
0830 - 0845	144	1	0	9	9	166	**329**
0845 - 0900	110	1	0	8	8	144	**271**
0900 - 0915	92	0	0	6	3	141	**242**
0915 - 0930	120	0	0	5	4	148	**277**
Per End	**1438**	**10**	**4**	**76**	**70**	**1596**	**3194**

Heavies	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Time Per	T	L	R	L	R	T	TOT
0630 - 0645	1	0	0	0	0	1	**2**
0645 - 0700	0	0	0	0	0	4	**4**
0700 - 0715	1	0	0	0	1	2	**4**
0715 - 0730	10	0	0	0	0	4	**14**
0730 - 0745	5	0	0	0	0	3	**8**
0745 - 0800	2	0	0	0	0	4	**6**
0800 - 0815	4	0	0	0	0	4	**8**
0815 - 0830	2	0	0	0	1	5	**8**
0830 - 0845	7	0	0	0	0	7	**14**
0845 - 0900	5	0	0	0	1	1	**7**
0900 - 0915	3	0	0	0	0	6	**9**
0915 - 0930	3	0	0	0	1	4	**8**
Per End	**43**	**0**	**0**	**0**	**4**	**45**	**92**

Combined	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Time Per	T	L	R	L	R	T	TOT
0630 - 0645	118	1	0	6	1	90	**216**
0645 - 0700	124	0	3	5	5	93	**230**
0700 - 0715	135	1	0	3	4	124	**267**
0715 - 0730	130	1	1	3	1	114	**250**
0730 - 0745	127	0	0	5	6	136	**274**
0745 - 0800	118	1	0	6	13	143	**281**
0800 - 0815	119	1	0	12	10	159	**301**
0815 - 0830	126	3	0	8	8	165	**310**
0830 - 0845	151	1	0	9	9	173	**343**
0845 - 0900	115	1	0	8	9	145	**278**
0900 - 0915	95	0	0	6	3	147	**251**
0915 - 0930	123	0	0	5	5	152	**285**
Per End	**1481**	**10**	**4**	**76**	**74**	**1641**	**3286**

Lights	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Peak Per	T	L	R	L	R	T	TOT
0630 - 0730	495	3	4	17	10	410	**939**
0645 - 0745	500	2	4	16	15	454	**991**
0700 - 0800	492	3	1	17	23	504	**1040**
0715 - 0815	473	3	1	26	30	537	**1070**
0730 - 0830	477	5	0	31	36	587	**1136**
0745 - 0845	499	6	0	35	39	620	**1199**
0800 - 0900	493	6	0	37	34	625	**1195**
0815 - 0915	470	5	0	31	27	611	**1144**
0830 - 0930	466	2	0	28	24	599	**1119**
PEAK HR	**499**	**6**	**0**	**35**	**39**	**620**	**1199**

Heavies	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Peak Per	T	L	R	L	R	T	TOT
0630 - 0730	12	0	0	0	1	11	**24**
0645 - 0745	16	0	0	0	1	13	**30**
0700 - 0800	18	0	0	0	1	13	**32**
0715 - 0815	21	0	0	0	0	15	**36**
0730 - 0830	13	0	0	0	1	16	**30**
0745 - 0845	15	0	0	0	1	20	**36**
0800 - 0900	18	0	0	0	2	17	**37**
0815 - 0915	17	0	0	0	2	19	**38**
0830 - 0930	18	0	0	0	2	18	**38**
PEAK HR	**15**	**0**	**0**	**0**	**1**	**20**	**36**

Combined	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Peak Per	T	L	R	L	R	T	TOT
0630 - 0730	507	3	4	17	11	421	**963**
0645 - 0745	516	2	4	16	16	467	**1021**
0700 - 0800	510	3	1	17	24	517	**1072**
0715 - 0815	494	3	1	26	30	552	**1106**
0730 - 0830	490	5	0	31	37	603	**1166**
0745 - 0845	514	6	0	35	40	640	**1235**
0800 - 0900	511	6	0	37	36	642	**1232**
0815 - 0915	487	5	0	31	29	630	**1182**
0830 - 0930	484	2	0	28	26	617	**1157**
PEAK HR	**514**	**6**	**0**	**35**	**40**	**640**	**1235**

ATTACHMENT A

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849.
Mobile.0418239019

Client : Varga Traffic Planning
Job No/Name : 5170 ZETLAND 904 Bourke St
Day/Date : Friday 23rd May 2014

PEDS	WEST	NORTH	EAST	
Time Per	*Bourke St*	*Hawksley St*	*Bourke St*	TOT
1530 - 1545	0	4	0	**4**
1545 - 1600	0	20	0	**20**
1600 - 1615	3	43	1	**47**
1615 - 1630	1	21	0	**22**
1630 - 1645	1	9	0	**10**
1645 - 1700	2	23	2	**27**
1700 - 1715	0	45	0	**45**
1715 - 1730	4	14	1	**19**
1730 - 1745	2	9	0	**11**
1745 - 1800	2	14	1	**17**
1800 - 1815	0	11	0	**11**
1815 - 1830	1	12	0	**13**
Per End	**16**	**225**	**5**	**246**

PEDS	WEST	NORTH	EAST	
Peak Per	*Bourke St*	*Hawksley St*	*Bourke St*	TOT
1530 - 1630	4	88	1	**93**
1545 - 1645	5	93	1	**99**
1600 - 1700	7	96	3	**106**
1615 - 1715	4	98	2	**104**
1630 - 1730	7	91	3	**101**
1645 - 1745	8	91	3	**102**
1700 - 1800	8	82	2	**92**
1715 - 1815	8	48	2	**58**
1730 - 1830	5	46	1	**52**
PEAK HR	**4**	**98**	**2**	**104**

Lights	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Time Per	T	L	R	L	R	T	TOT
1530 - 1545	148	1	1	6	6	144	**306**
1545 - 1600	121	4	0	6	2	152	**285**
1600 - 1615	132	4	1	11	8	160	**316**
1615 - 1630	148	1	0	10	7	152	**318**
1630 - 1645	143	4	0	6	9	157	**319**
1645 - 1700	127	2	0	8	9	145	**291**
1700 - 1715	160	2	1	11	10	159	**343**
1715 - 1730	148	4	0	8	6	138	**304**
1730 - 1745	147	4	1	8	9	150	**319**
1745 - 1800	125	4	0	10	5	141	**285**
1800 - 1815	120	3	0	11	4	124	**262**
1815 - 1830	123	3	1	10	5	103	**245**
Per End	**1642**	**36**	**5**	**105**	**80**	**1725**	**3593**

Heavies	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Time Per	T	L	R	L	R	T	TOT
1530 - 1545	1	0	0	0	0	3	**4**
1545 - 1600	2	0	0	0	0	3	**5**
1600 - 1615	1	0	0	0	0	3	**4**
1615 - 1630	0	0	0	0	0	1	**1**
1630 - 1645	0	0	0	0	0	2	**2**
1645 - 1700	0	0	0	0	0	0	**0**
1700 - 1715	0	0	0	0	0	2	**2**
1715 - 1730	1	0	0	0	0	0	**1**
1730 - 1745	0	0	0	0	0	0	**0**
1745 - 1800	0	0	0	0	0	0	**0**
1800 - 1815	0	1	0	0	0	0	**1**
1815 - 1830	1	0	0	0	0	0	**1**
Per End	**6**	**1**	**0**	**0**	**0**	**14**	**21**

Combined	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Time Per	T	L	R	L	R	T	TOT
1530 - 1545	149	1	1	6	6	147	**310**
1545 - 1600	123	4	0	6	2	155	**290**
1600 - 1615	133	4	1	11	8	163	**320**
1615 - 1630	148	1	0	10	7	153	**319**
1630 - 1645	143	4	0	6	9	159	**321**
1645 - 1700	127	2	0	8	9	145	**291**
1700 - 1715	160	2	1	11	10	161	**345**
1715 - 1730	149	4	0	8	6	138	**305**
1730 - 1745	147	4	1	8	9	150	**319**
1745 - 1800	125	4	0	10	5	141	**285**
1800 - 1815	120	4	0	11	4	124	**263**
1815 - 1830	124	3	1	10	5	103	**246**
Per End	**1648**	**37**	**5**	**105**	**80**	**1739**	**3614**

Lights	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Peak Per	T	L	R	L	R	T	TOT
1530 - 1630	549	10	2	33	23	608	**1225**
1545 - 1645	544	13	1	33	26	621	**1238**
1600 - 1700	550	11	1	35	33	614	**1244**
1615 - 1715	578	9	1	35	35	613	**1271**
1630 - 1730	578	12	1	33	34	599	**1257**
1645 - 1745	582	12	2	35	34	592	**1257**
1700 - 1800	580	14	2	37	30	588	**1251**
1715 - 1815	540	15	1	37	24	553	**1170**
1730 - 1830	515	14	2	39	23	518	**1111**
PEAK HR	**578**	**9**	**1**	**35**	**35**	**613**	**1271**

Heavies	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Peak Per	T	L	R	L	R	T	TOT
1530 - 1630	4	0	0	0	0	10	**14**
1545 - 1645	3	0	0	0	0	9	**12**
1600 - 1700	1	0	0	0	0	6	**7**
1615 - 1715	0	0	0	0	0	5	**5**
1630 - 1730	1	0	0	0	0	4	**5**
1645 - 1745	1	0	0	0	0	2	**3**
1700 - 1800	1	0	0	0	0	2	**3**
1715 - 1815	1	1	0	0	0	0	**2**
1730 - 1830	1	1	0	0	0	0	**2**
PEAK HR	**0**	**0**	**0**	**0**	**0**	**5**	**5**

Combined	WEST		NORTH		EAST		
	Bourke St		*Hawksley St*		*Bourke St*		
Peak Per	T	L	R	L	R	T	TOT
1530 - 1630	553	10	2	33	23	618	**1239**
1545 - 1645	547	13	1	33	26	630	**1250**
1600 - 1700	551	11	1	35	33	620	**1251**
1615 - 1715	578	9	1	35	35	618	**1276**
1630 - 1730	579	12	1	33	34	603	**1262**
1645 - 1745	583	12	2	35	34	594	**1260**
1700 - 1800	581	14	2	37	30	590	**1254**
1715 - 1815	541	16	1	37	24	553	**1172**
1730 - 1830	516	15	2	39	23	518	**1113**
PEAK HR	**578**	**9**	**1**	**35**	**35**	**618**	**1276**

ATTACHMENT A

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client	: Varga Traffic Planning
Job No/Name	: 5170 ZETLAND 904 Bourke St
Day/Date	: Friday 23rd May 2014

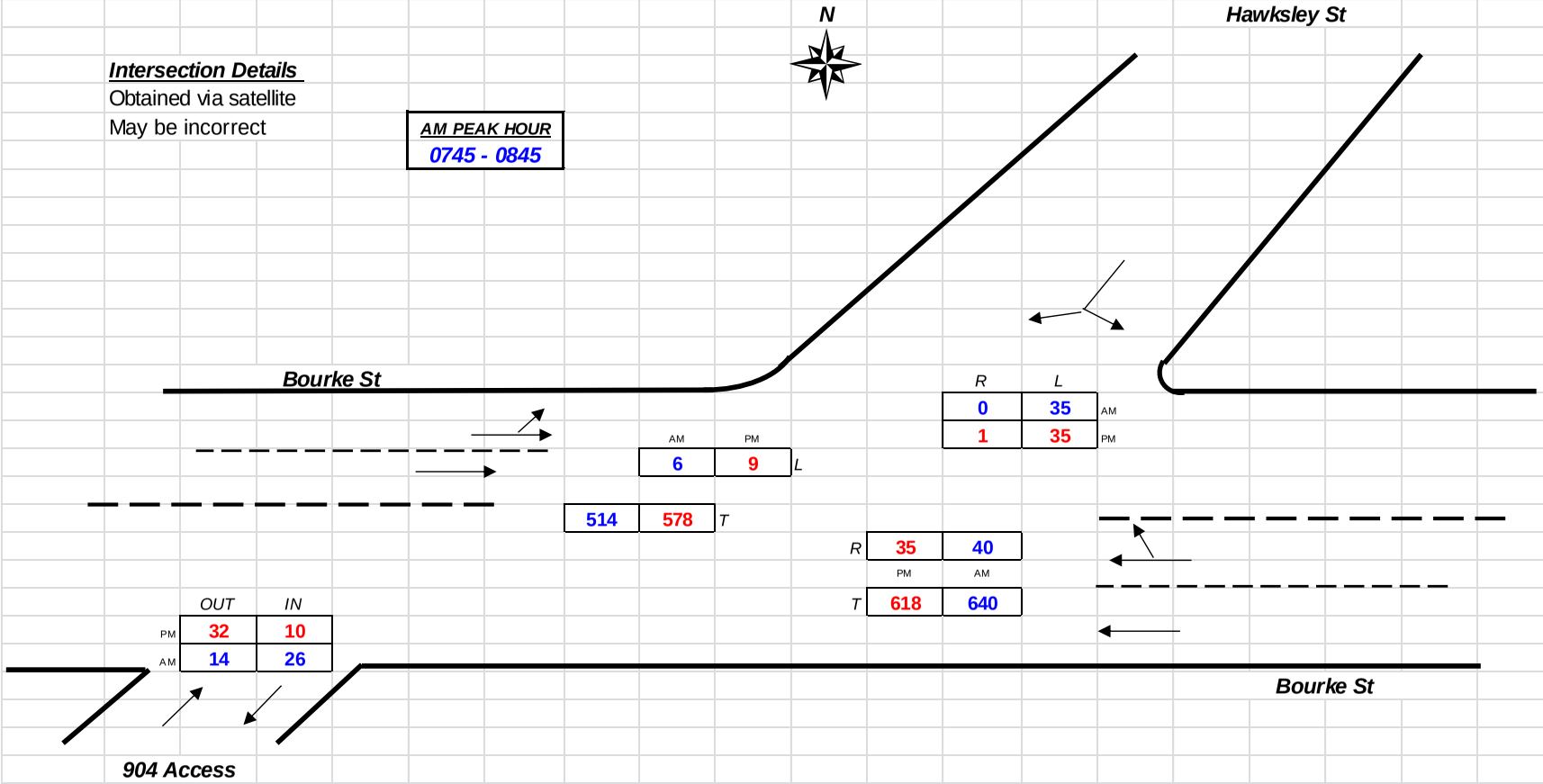
Intersection Details

Obtained via satellite

May be incorrect

AM PEAK HOUR

0745 - 0845



Combined figures only

PM PEAK HOUR

1615 - 1715

Weather >>>

ATTACHMENT A

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client	: Varga Traffic Planning
Job No/Name	: 5170 ZETLAND 904 Bourke St
Day/Date	: Friday 23rd May 2014

Lights	BOURKE ST 904 Access		
Time Per	N-bound	S-bound	TOT
0630 - 0645	0	3	**3**
0645 - 0700	3	11	**14**
0700 - 0715	0	6	**6**
0715 - 0730	1	5	**6**
0730 - 0745	1	6	**7**
0745 - 0800	2	3	**5**
0800 - 0815	3	1	**4**
0815 - 0830	3	9	**12**
0830 - 0845	3	6	**9**
0845 - 0900	6	7	**13**
0900 - 0915	2	4	**6**
0915 - 0930	1	4	**5**
Per End	**25**	**65**	**90**

Heavies	BOURKE ST 904 Access		
Time Per	N-bound	S-bound	TOT
0630 - 0645	0	0	**0**
0645 - 0700	0	0	**0**
0700 - 0715	0	0	**0**
0715 - 0730	0	0	**0**
0730 - 0745	0	0	**0**
0745 - 0800	0	0	**0**
0800 - 0815	0	0	**0**
0815 - 0830	0	0	**0**
0830 - 0845	0	0	**0**
0845 - 0900	0	0	**0**
0900 - 0915	0	0	**0**
0915 - 0930	0	0	**0**
Per End	**0**	**0**	**0**

Combined	BOURKE ST 904 Access		
Time Per	N-bound	S-bound	TOT
0630 - 0645	0	3	**3**
0645 - 0700	3	11	**14**
0700 - 0715	0	6	**6**
0715 - 0730	1	5	**6**
0730 - 0745	1	6	**7**
0745 - 0800	2	3	**5**
0800 - 0815	3	1	**4**
0815 - 0830	3	9	**12**
0830 - 0845	3	6	**9**
0845 - 0900	6	7	**13**
0900 - 0915	2	4	**6**
0915 - 0930	1	4	**5**
Per End	**25**	**65**	**90**

Lights	BOURKE ST 904 Access		
Peak Per	N-bound	S-bound	TOT
0630 - 0730	4	25	**29**
0645 - 0745	5	28	**33**
0700 - 0800	4	20	**24**
0715 - 0815	7	15	**22**
0730 - 0830	9	19	**28**
0745 - 0845	11	19	**30**
0800 - 0900	15	23	**38**
0815 - 0915	14	26	**40**
0830 - 0930	12	21	**33**
PEAK HR	**14**	**26**	**40**

Heavies	BOURKE ST 904 Access		
Peak Per	N-bound	S-bound	TOT
0630 - 0730	0	0	**0**
0645 - 0745	0	0	**0**
0700 - 0800	0	0	**0**
0715 - 0815	0	0	**0**
0730 - 0830	0	0	**0**
0745 - 0845	0	0	**0**
0800 - 0900	0	0	**0**
0815 - 0915	0	0	**0**
0830 - 0930	0	0	**0**
PEAK HR	**0**	**0**	**0**

Combined	BOURKE ST 904 Access		
Peak Per	N-bound	S-bound	TOT
0630 - 0730	4	25	**29**
0645 - 0745	5	28	**33**
0700 - 0800	4	20	**24**
0715 - 0815	7	15	**22**
0730 - 0830	9	19	**28**
0745 - 0845	11	19	**30**
0800 - 0900	15	23	**38**
0815 - 0915	14	26	**40**
0830 - 0930	12	21	**33**
PEAK HR	**14**	**26**	**40**

AM PEAK HOUR

0815 - 0915

BOURKE ST

	0
14	26
14	26
0	

904 Access

N

BOURKE ST

	0
25	65
25	65
0	

904 Access

TOTAL VOLUMES FOR COUNT PERIOD

ATTACHMENT A

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client	: Varga Traffic Planning
Job No/Name	: 5170 ZETLAND 904 Bourke St
Day/Date	: Friday 23rd May 2014

Lights

	BOURKE ST 904 Access		
Time Per	N-bound	S-bound	TOT
1530 - 1545	11	5	**16**
1545 - 1600	5	0	**5**
1600 - 1615	10	4	**14**
1615 - 1630	6	1	**7**
1630 - 1645	6	2	**8**
1645 - 1700	3	2	**5**
1700 - 1715	5	6	**11**
1715 - 1730	2	3	**5**
1730 - 1745	4	1	**5**
1745 - 1800	2	0	**2**
1800 - 1815	6	2	**8**
1815 - 1830	3	1	**4**
Per End	**63**	**27**	**90**

Heavies

	BOURKE ST 904 Access		
Time Per	N-bound	S-bound	TOT
1530 - 1545	0	0	**0**
1545 - 1600	0	0	**0**
1600 - 1615	0	0	**0**
1615 - 1630	0	0	**0**
1630 - 1645	0	0	**0**
1645 - 1700	0	0	**0**
1700 - 1715	0	0	**0**
1715 - 1730	0	0	**0**
1730 - 1745	0	0	**0**
1745 - 1800	0	0	**0**
1800 - 1815	0	0	**0**
1815 - 1830	0	0	**0**
Per End	**0**	**0**	**0**

Combined

	BOURKE ST 904 Access		
Time Per	N-bound	S-bound	TOT
1530 - 1545	11	5	**16**
1545 - 1600	5	0	**5**
1600 - 1615	10	4	**14**
1615 - 1630	6	1	**7**
1630 - 1645	6	2	**8**
1645 - 1700	3	2	**5**
1700 - 1715	5	6	**11**
1715 - 1730	2	3	**5**
1730 - 1745	4	1	**5**
1745 - 1800	2	0	**2**
1800 - 1815	6	2	**8**
1815 - 1830	3	1	**4**
Per End	**63**	**27**	**90**

Lights

	BOURKE ST 904 Access		
Peak Per	N-bound	S-bound	TOT
1530 - 1630	32	10	**42**
1545 - 1645	27	7	**34**
1600 - 1700	25	9	**34**
1615 - 1715	20	11	**31**
1630 - 1730	16	13	**29**
1645 - 1745	14	12	**26**
1700 - 1800	13	10	**23**
1715 - 1815	14	6	**20**
1730 - 1830	15	4	**19**
PEAK HR	**32**	**10**	**42**

Heavies

	BOURKE ST 904 Access		
Peak Per	N-bound	S-bound	TOT
1530 - 1630	0	0	**0**
1545 - 1645	0	0	**0**
1600 - 1700	0	0	**0**
1615 - 1715	0	0	**0**
1630 - 1730	0	0	**0**
1645 - 1745	0	0	**0**
1700 - 1800	0	0	**0**
1715 - 1815	0	0	**0**
1730 - 1830	0	0	**0**
PEAK HR	**0**	**0**	**0**

Combined

	BOURKE ST 904 Access		
Peak Per	N-bound	S-bound	TOT
1530 - 1630	32	10	**42**
1545 - 1645	27	7	**34**
1600 - 1700	25	9	**34**
1615 - 1715	20	11	**31**
1630 - 1730	16	13	**29**
1645 - 1745	14	12	**26**
1700 - 1800	13	10	**23**
1715 - 1815	14	6	**20**
1730 - 1830	15	4	**19**
PEAK HR	**32**	**10**	**42**

PM PEAK HOUR

1530 - 1630

TOTAL VOLUMES FOR COUNT PERIOD

ATTACHMENT A

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client	: Varga Traffic Planning
Job No/Name	: 5170 ZETLAND 904 Bourke St
Day/Date	: Friday 23rd May 2014

Lights	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0645	2	22	1	1	2	11	1	52	2	0	2	1	**97**
0645 - 0700	1	39	6	0	3	23	2	48	7	0	1	0	**130**
0700 - 0715	4	30	5	5	7	24	4	63	2	2	2	7	**155**
0715 - 0730	1	20	4	4	3	18	3	78	1	7	0	4	**143**
0730 - 0745	1	28	3	8	6	13	6	87	1	1	0	2	**156**
0745 - 0800	2	54	8	14	3	16	3	106	1	1	2	2	**212**
0800 - 0815	5	37	7	12	3	14	4	110	2	1	0	6	**201**
0815 - 0830	3	39	7	12	8	7	5	119	0	0	1	7	**208**
0830 - 0845	2	36	13	11	10	12	6	110	0	2	4	3	**209**
0845 - 0900	4	50	6	11	5	11	8	115	2	1	1	4	**218**
0900 - 0915	2	49	5	12	4	13	7	94	1	3	0	4	**194**
0915 - 0930	3	27	1	12	4	8	3	78	0	2	2	1	**141**
Period End	**30**	**431**	**66**	**102**	**58**	**170**	**52**	**1060**	**19**	**20**	**15**	**41**	**2064**

Lights	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0730	8	111	16	10	15	76	10	241	12	9	5	12	**525**
0645 - 0745	7	117	18	17	19	78	15	276	11	10	3	13	**584**
0700 - 0800	8	132	20	31	19	71	16	334	5	11	4	15	**666**
0715 - 0815	9	139	22	38	15	61	16	381	5	10	2	14	**712**
0730 - 0830	11	158	25	46	20	50	18	422	4	3	3	17	**777**
0745 - 0845	12	166	35	49	24	49	18	445	3	4	7	18	**830**
0800 - 0900	14	162	33	46	26	44	23	454	4	4	6	20	**836**
0815 - 0915	11	174	31	46	27	43	26	438	3	6	6	18	**829**
0830 - 0930	11	162	25	46	23	44	24	397	3	8	7	12	**762**
PEAK HOUR	**14**	**162**	**33**	**46**	**26**	**44**	**23**	**454**	**4**	**4**	**6**	**20**	**836**

Heavies	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0645	0	1	0	0	0	0	0	2	0	0	0	0	**3**
0645 - 0700	0	1	0	0	0	0	0	1	0	0	0	0	**2**
0700 - 0715	0	2	0	0	0	1	0	2	0	0	0	0	**5**
0715 - 0730	0	1	0	0	0	0	0	2	0	0	0	0	**3**
0730 - 0745	0	2	0	0	0	0	0	3	0	0	0	0	**5**
0745 - 0800	0	4	0	0	0	0	0	2	0	1	0	0	**7**
0800 - 0815	0	4	0	0	0	0	1	6	0	0	0	0	**11**
0815 - 0830	0	2	0	0	0	0	0	4	0	0	0	0	**6**
0830 - 0845	0	3	0	0	0	0	0	7	0	0	0	0	**10**
0845 - 0900	0	4	0	0	0	0	0	2	0	0	0	0	**6**
0900 - 0915	0	3	0	0	0	0	0	5	0	0	0	0	**8**
0915 - 0930	0	0	0	0	0	0	0	1	0	0	0	0	**1**
Period End	**0**	**27**	**0**	**0**	**0**	**1**	**1**	**37**	**0**	**1**	**0**	**0**	**67**

Heavies	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Peak Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0730	0	5	0	0	0	1	0	7	0	0	0	0	**13**
0645 - 0745	0	6	0	0	0	1	0	8	0	0	0	0	**15**
0700 - 0800	0	9	0	0	0	1	0	9	0	1	0	0	**20**
0715 - 0815	0	11	0	0	0	0	1	13	0	1	0	0	**26**
0730 - 0830	0	12	0	0	0	0	1	15	0	1	0	0	**29**
0745 - 0845	0	13	0	0	0	0	1	19	0	1	0	0	**34**
0800 - 0900	0	13	0	0	0	0	1	19	0	0	0	0	**33**
0815 - 0915	0	12	0	0	0	0	0	18	0	0	0	0	**30**
0830 - 0930	0	10	0	0	0	0	0	15	0	0	0	0	**25**
PEAK HOUR	**0**	**13**	**0**	**0**	**0**	**0**	**1**	**19**	**0**	**0**	**0**	**0**	**33**

Combined	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0645	2	23	1	1	2	11	1	54	2	0	2	1	**100**
0645 - 0700	1	40	6	0	3	23	2	49	7	0	1	0	**132**
0700 - 0715	4	32	5	5	7	25	4	65	2	2	2	7	**160**
0715 - 0730	1	21	4	4	3	18	3	80	1	7	0	4	**146**
0730 - 0745	1	30	3	8	6	13	6	90	1	1	0	2	**161**
0745 - 0800	2	58	8	14	3	16	3	108	1	2	2	2	**219**
0800 - 0815	5	41	7	12	3	14	5	116	2	1	0	6	**212**
0815 - 0830	3	41	7	12	8	7	5	123	0	0	1	7	**214**
0830 - 0845	2	39	13	11	10	12	6	117	0	2	4	3	**219**
0845 - 0900	4	54	6	11	5	11	8	117	2	1	1	4	**224**
0900 - 0915	2	52	5	12	4	13	7	99	1	3	0	4	**202**
0915 - 0930	3	27	1	12	4	8	3	79	0	2	2	1	**142**
Period End	**30**	**458**	**66**	**102**	**58**	**171**	**53**	**1097**	**19**	**21**	**15**	**41**	**2131**

Combined	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Peak Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0730	8	116	16	10	15	77	10	248	12	9	5	12	**538**
0645 - 0745	7	123	18	17	19	79	15	284	11	10	3	13	**599**
0700 - 0800	8	141	20	31	19	72	16	343	5	12	4	15	**686**
0715 - 0815	9	150	22	38	15	61	17	394	5	11	2	14	**738**
0730 - 0830	11	170	25	46	20	50	19	437	4	4	3	17	**806**
0745 - 0845	12	179	35	49	24	49	19	464	3	5	7	18	**864**
0800 - 0900	14	175	33	46	26	44	24	473	4	4	6	20	**869**
0815 - 0915	11	186	31	46	27	43	26	456	3	6	6	18	**859**
0830 - 0930	11	172	25	46	23	44	24	412	3	8	7	12	**787**
PEAK HOUR	**14**	**175**	**33**	**46**	**26**	**44**	**24**	**473**	**4**	**4**	**6**	**20**	**869**

ATTACHMENT A

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client	: Varga Traffic Planning
Job No/Name	: 5170 ZETLAND 904 Bourke St
Day/Date	: Friday 23rd May 2014

Lights

	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Time Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1545	3	53	1	9	2	12	3	99	2	2	0	6	**192**
1545 - 1600	1	65	9	13	5	10	5	86	0	3	2	5	**204**
1600 - 1615	2	75	11	16	1	14	7	82	2	2	0	4	**216**
1615 - 1630	2	68	10	15	4	11	3	98	0	3	1	3	**218**
1630 - 1645	5	85	7	12	2	7	4	66	1	1	0	0	**190**
1645 - 1700	3	78	7	6	5	16	4	74	1	1	1	7	**203**
1700 - 1715	5	80	11	23	3	12	8	103	3	6	0	6	**260**
1715 - 1730	5	93	12	25	2	24	2	90	1	4	2	3	**263**
1730 - 1745	3	100	9	12	3	9	12	111	0	0	0	0	**259**
1745 - 1800	5	79	9	8	2	14	6	84	2	0	0	1	**210**
1800 - 1815	2	66	5	11	3	14	3	73	2	1	0	2	**182**
1815 - 1830	4	72	2	7	1	12	1	55	0	2	0	1	**157**
Period End	**40**	**914**	**93**	**157**	**33**	**155**	**58**	**1021**	**14**	**25**	**6**	**38**	**2554**

Lights

	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Peak Time	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1630	8	261	31	53	12	47	18	365	4	10	3	18	**830**
1545 - 1645	10	293	37	56	12	42	19	332	3	9	3	12	**828**
1600 - 1700	12	306	35	49	12	48	18	320	4	7	2	14	**827**
1615 - 1715	15	311	35	56	14	46	19	341	5	11	2	16	**871**
1630 - 1730	18	336	37	66	12	59	18	333	6	12	3	16	**916**
1645 - 1745	16	351	39	66	13	61	26	378	5	11	3	16	**985**
1700 - 1800	18	352	41	68	10	59	28	388	6	10	2	10	**992**
1715 - 1815	15	338	35	56	10	61	23	358	5	5	2	6	**914**
1730 - 1830	14	317	25	38	9	49	22	323	4	3	0	4	**808**
PEAK HOUR	**18**	**352**	**41**	**68**	**10**	**59**	**28**	**388**	**6**	**10**	**2**	**10**	**992**

Heavies

	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Time Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1545	0	1	0	0	0	0	0	3	0	0	0	0	**4**
1545 - 1600	0	3	0	0	0	0	0	3	0	0	0	0	**6**
1600 - 1615	0	2	0	0	0	0	0	4	0	0	0	0	**6**
1615 - 1630	0	0	0	0	0	0	0	5	0	0	0	0	**5**
1630 - 1645	0	2	0	0	0	0	0	2	0	0	0	0	**4**
1645 - 1700	0	3	0	0	0	0	0	2	0	0	0	0	**5**
1700 - 1715	0	2	0	0	0	0	0	3	0	0	0	0	**5**
1715 - 1730	0	2	0	0	0	0	0	4	0	0	0	0	**6**
1730 - 1745	0	3	0	0	0	0	0	3	0	0	0	0	**6**
1745 - 1800	0	6	0	0	0	0	0	2	0	0	0	0	**8**
1800 - 1815	0	2	0	0	0	0	0	2	0	0	0	0	**4**
1815 - 1830	0	4	0	0	0	0	0	2	0	0	0	0	**6**
Period End	**0**	**30**	**0**	**0**	**0**	**0**	**0**	**35**	**0**	**0**	**0**	**0**	**65**

Heavies

	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Peak Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1630	0	6	0	0	0	0	0	15	0	0	0	0	**21**
1545 - 1645	0	7	0	0	0	0	0	14	0	0	0	0	**21**
1600 - 1700	0	7	0	0	0	0	0	13	0	0	0	0	**20**
1615 - 1715	0	7	0	0	0	0	0	12	0	0	0	0	**19**
1630 - 1730	0	9	0	0	0	0	0	11	0	0	0	0	**20**
1645 - 1745	0	10	0	0	0	0	0	12	0	0	0	0	**22**
1700 - 1800	0	13	0	0	0	0	0	12	0	0	0	0	**25**
1715 - 1815	0	13	0	0	0	0	0	11	0	0	0	0	**24**
1730 - 1830	0	15	0	0	0	0	0	9	0	0	0	0	**24**
PEAK HOUR	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**25**

Combined

	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Time Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1545	3	54	1	9	2	12	3	102	2	2	0	6	**196**
1545 - 1600	1	68	9	13	5	10	5	89	0	3	2	5	**210**
1600 - 1615	2	77	11	16	1	14	7	86	2	2	0	4	**222**
1615 - 1630	2	68	10	15	4	11	3	103	0	3	1	3	**223**
1630 - 1645	5	87	7	12	2	7	4	68	1	1	0	0	**194**
1645 - 1700	3	81	7	6	5	16	4	76	1	1	1	7	**208**
1700 - 1715	5	82	11	23	3	12	8	106	3	6	0	6	**265**
1715 - 1730	5	95	12	25	2	24	2	94	1	4	2	3	**269**
1730 - 1745	3	103	9	12	3	9	12	114	0	0	0	0	**265**
1745 - 1800	5	85	9	8	2	14	6	86	2	0	0	1	**218**
1800 - 1815	2	68	5	11	3	14	3	75	2	1	0	2	**186**
1815 - 1830	4	76	2	7	1	12	1	57	0	2	0	1	**163**
Period End	**40**	**944**	**93**	**157**	**33**	**155**	**58**	**1056**	**14**	**25**	**6**	**38**	**2619**

Combined

	NORTH			WEST			SOUTH			EAST			
	Elizabeth St			*Merton St*			*Elizabeth St*			*Merton St*			
Peak Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1630	8	267	31	53	12	47	18	380	4	10	3	18	**851**
1545 - 1645	10	300	37	56	12	42	19	346	3	9	3	12	**849**
1600 - 1700	12	313	35	49	12	48	18	333	4	7	2	14	**847**
1615 - 1715	15	318	35	56	14	46	19	353	5	11	2	16	**890**
1630 - 1730	18	345	37	66	12	59	18	344	6	12	3	16	**936**
1645 - 1745	16	361	39	66	13	61	26	390	5	11	3	16	**1007**
1700 - 1800	18	365	41	68	10	59	28	400	6	10	2	10	**1017**
1715 - 1815	15	351	35	56	10	61	23	369	5	5	2	6	**938**
1730 - 1830	14	332	25	38	9	49	22	332	4	3	0	4	**832**
PEAK HOUR	**18**	**365**	**41**	**68**	**10**	**59**	**28**	**400**	**6**	**10**	**2**	**10**	**1017**

ATTACHMENT A

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client	: Varga Traffic Planning
Job No/Name	: 5170 ZETLAND 904 Bourke St
Day/Date	: Friday 23rd May 2014

Intersection Layout

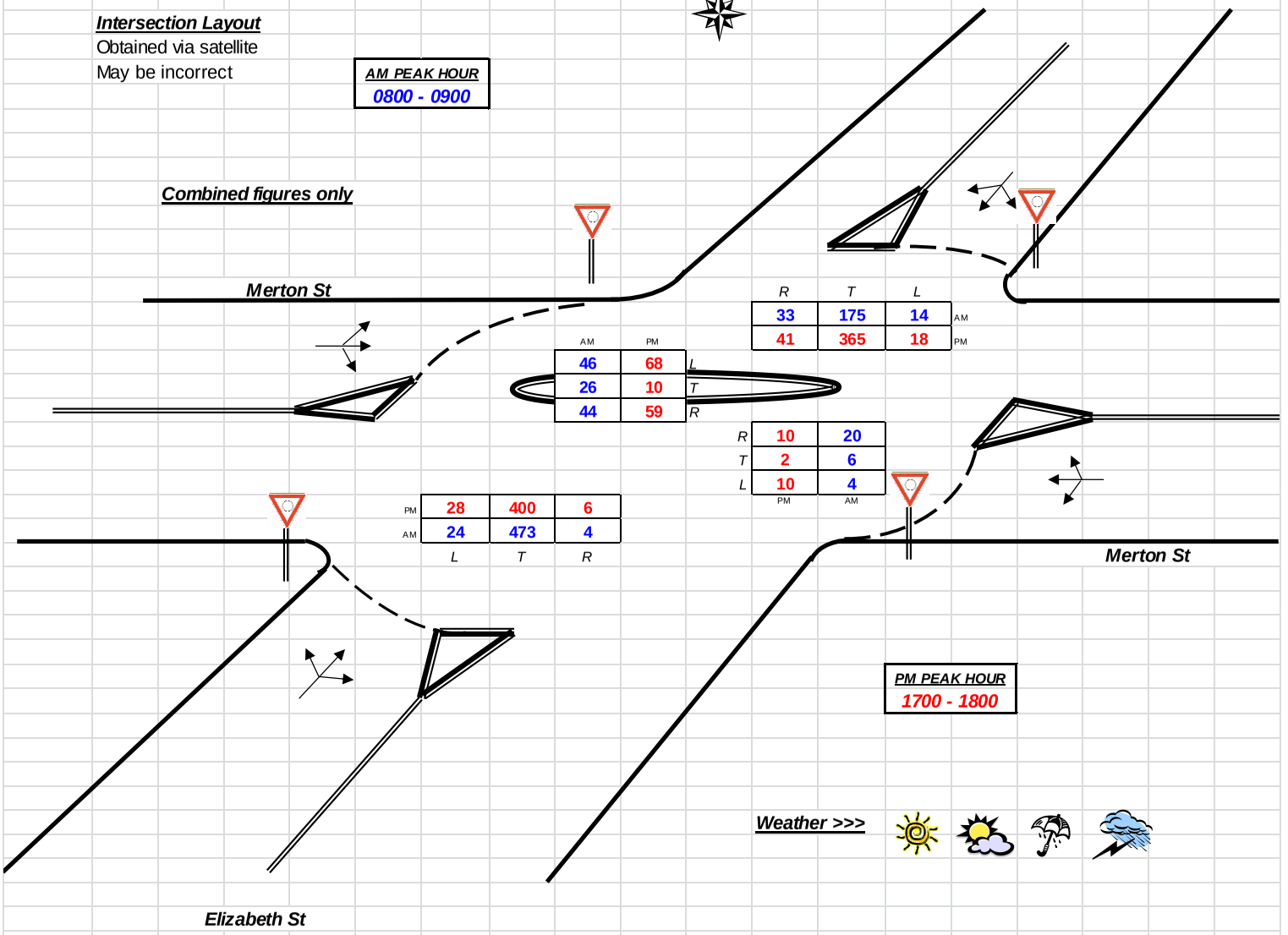
Obtained via satellite

May be incorrect

AM PEAK HOUR

0800 - 0900

Combined figures only



PM PEAK HOUR

1700 - 1800

Weather >>>

ATTACHMENT A

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client : Varga Traffic Planning
Job No/Name : 5170 ZETLAND 904 Bourke St
Day/Date : Friday 23rd May 2014

Lights

Time Per	NORTH McPherson L			WEST Merton St			SOUTH McPherson L			EAST Driveway			
	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0645	0	0	0	6	0	0	0	0	0	0	1	1	**8**
0645 - 0700	0	1	0	0	0	2	1	1	0	0	1	2	**8**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	1	1	**2**
0715 - 0730	0	0	0	1	0	0	0	0	0	0	2	0	**3**
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0745 - 0800	0	0	0	1	0	0	1	0	0	0	1	0	**3**
0800 - 0815	0	0	0	0	1	0	0	0	0	0	0	0	**1**
0815 - 0830	0	0	0	0	1	0	2	0	0	0	0	0	**3**
0830 - 0845	0	0	1	0	0	0	2	0	0	0	0	0	**3**
0845 - 0900	0	0	0	0	0	0	1	0	0	0	0	0	**1**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	3	1	**4**
0915 - 0930	0	0	0	0	0	0	0	0	0	0	3	0	**3**
Period End	**0**	**1**	**1**	**8**	**2**	**2**	**7**	**1**	**0**	**0**	**12**	**5**	**39**

Lights

Peak Time	NORTH McPherson L			WEST Merton St			SOUTH McPherson L			EAST Driveway			
	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0730	0	1	0	7	0	2	1	1	0	0	5	4	**21**
0645 - 0745	0	1	0	1	0	2	1	1	0	0	4	3	**13**
0700 - 0800	0	0	0	2	0	0	1	0	0	0	4	1	**8**
0715 - 0815	0	0	0	2	1	0	1	0	0	0	3	0	**7**
0730 - 0830	0	0	0	1	2	0	3	0	0	0	1	0	**7**
0745 - 0845	0	0	1	1	2	0	5	0	0	0	1	0	**10**
0800 - 0900	0	0	1	0	2	0	5	0	0	0	0	0	**8**
0815 - 0915	0	0	1	0	1	0	5	0	0	0	3	1	**11**
0830 - 0930	0	0	1	0	0	0	3	0	0	0	6	1	**11**
PEAK HOUR	**0**	**1**	**0**	**7**	**0**	**2**	**1**	**1**	**0**	**0**	**5**	**4**	**21**

Heavies

Time Per	NORTH McPherson L			WEST Merton St			SOUTH McPherson L			EAST Driveway			
	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Period End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Heavies

Peak Per	NORTH McPherson L			WEST Merton St			SOUTH McPherson L			EAST Driveway			
	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0645 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0715 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0730 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0745 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0815 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0830 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PEAK HOUR	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Combined

Time Per	NORTH McPherson L			WEST Merton St			SOUTH McPherson L			EAST Driveway			
	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0645	0	0	0	6	0	0	0	0	0	0	1	1	**8**
0645 - 0700	0	1	0	0	0	2	1	1	0	0	1	2	**8**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	1	1	**2**
0715 - 0730	0	0	0	1	0	0	0	0	0	0	2	0	**3**
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0745 - 0800	0	0	0	1	0	0	1	0	0	0	1	0	**3**
0800 - 0815	0	0	0	0	1	0	0	0	0	0	0	0	**1**
0815 - 0830	0	0	0	0	1	0	2	0	0	0	0	0	**3**
0830 - 0845	0	0	1	0	0	0	2	0	0	0	0	0	**3**
0845 - 0900	0	0	0	0	0	0	1	0	0	0	0	0	**1**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	3	1	**4**
0915 - 0930	0	0	0	0	0	0	0	0	0	0	3	0	**3**
Period End	**0**	**1**	**1**	**8**	**2**	**2**	**7**	**1**	**0**	**0**	**12**	**5**	**39**

Combined

Peak Per	NORTH McPherson L			WEST Merton St			SOUTH McPherson L			EAST Driveway			
	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0730	0	1	0	7	0	2	1	1	0	0	5	4	**21**
0645 - 0745	0	1	0	1	0	2	1	1	0	0	4	3	**13**
0700 - 0800	0	0	0	2	0	0	1	0	0	0	4	1	**8**
0715 - 0815	0	0	0	2	1	0	1	0	0	0	3	0	**7**
0730 - 0830	0	0	0	1	2	0	3	0	0	0	1	0	**7**
0745 - 0845	0	0	1	1	2	0	5	0	0	0	1	0	**10**
0800 - 0900	0	0	1	0	2	0	5	0	0	0	0	0	**8**
0815 - 0915	0	0	1	0	1	0	5	0	0	0	3	1	**11**
0830 - 0930	0	0	1	0	0	0	3	0	0	0	6	1	**11**
PEAK HOUR	**0**	**1**	**0**	**7**	**0**	**2**	**1**	**1**	**0**	**0**	**5**	**4**	**21**

ATTACHMENT A

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client : Varga Traffic Planning
Job No/Name : 5170 ZETLAND 904 Bourke St
Day/Date : Friday 23rd May 2014

Lights

	NORTH			WEST			SOUTH			EAST			
	McPherson L			*Merton St*			*McPherson L*			*Driveway*			
Time Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1545	0	0	1	0	0	1	1	0	0	0	2	0	**5**
1545 - 1600	0	0	0	0	1	0	0	0	0	0	5	0	**6**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	1	0	**1**
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1645 - 1700	0	0	0	0	0	1	0	0	0	0	0	0	**1**
1700 - 1715	0	0	1	1	0	1	2	0	0	0	4	0	**9**
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1730 - 1745	0	0	1	0	0	0	0	0	0	0	0	0	**1**
1745 - 1800	0	0	1	0	0	0	0	0	0	0	0	0	**1**
1800 - 1815	0	0	0	0	0	0	0	0	0	0	1	0	**1**
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Period End	**0**	**0**	**4**	**1**	**1**	**3**	**3**	**0**	**0**	**0**	**13**	**0**	**25**

Lights

	NORTH			WEST			SOUTH			EAST			
	McPherson L			*Merton St*			*McPherson L*			*Driveway*			
Peak Time	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1630	0	0	1	0	1	1	1	0	0	0	8	0	**12**
1545 - 1645	0	0	0	0	1	0	0	0	0	0	6	0	**7**
1600 - 1700	0	0	0	0	0	1	0	0	0	0	1	0	**2**
1615 - 1715	0	0	1	1	0	2	2	0	0	0	4	0	**10**
1630 - 1730	0	0	1	1	0	2	2	0	0	0	4	0	**10**
1645 - 1745	0	0	2	1	0	2	2	0	0	0	4	0	**11**
1700 - 1800	0	0	3	1	0	1	2	0	0	0	4	0	**11**
1715 - 1815	0	0	2	0	0	0	0	0	0	0	1	0	**3**
1730 - 1830	0	0	2	0	0	0	0	0	0	0	1	0	**3**
PEAK HOUR	**0**	**0**	**1**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**8**	**0**	**12**

Heavies

	NORTH			WEST			SOUTH			EAST			
	McPherson L			*Merton St*			*McPherson L*			*Driveway*			
Time Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Period End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Heavies

	NORTH			WEST			SOUTH			EAST			
	McPherson L			*Merton St*			*McPherson L*			*Driveway*			
Peak Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1545 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1615 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1630 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1645 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1715 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1730 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	**0**
PEAK HOUR	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Combined

	NORTH			WEST			SOUTH			EAST			
	McPherson L			*Merton St*			*McPherson L*			*Driveway*			
Time Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1545	0	0	1	0	0	1	1	0	0	0	2	0	**5**
1545 - 1600	0	0	0	0	1	0	0	0	0	0	5	0	**6**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	1	0	**1**
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1645 - 1700	0	0	0	0	0	1	0	0	0	0	0	0	**1**
1700 - 1715	0	0	1	1	0	1	2	0	0	0	4	0	**9**
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1730 - 1745	0	0	1	0	0	0	0	0	0	0	0	0	**1**
1745 - 1800	0	0	1	0	0	0	0	0	0	0	0	0	**1**
1800 - 1815	0	0	0	0	0	0	0	0	0	0	1	0	**1**
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Period End	**0**	**0**	**4**	**1**	**1**	**3**	**3**	**0**	**0**	**0**	**13**	**0**	**25**

Combined

	NORTH			WEST			SOUTH			EAST			
	McPherson L			*Merton St*			*McPherson L*			*Driveway*			
Peak Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1630	0	0	1	0	1	1	1	0	0	0	8	0	**12**
1545 - 1645	0	0	0	0	1	0	0	0	0	0	6	0	**7**
1600 - 1700	0	0	0	0	0	1	0	0	0	0	1	0	**2**
1615 - 1715	0	0	1	1	0	2	2	0	0	0	4	0	**10**
1630 - 1730	0	0	1	1	0	2	2	0	0	0	4	0	**10**
1645 - 1745	0	0	2	1	0	2	2	0	0	0	4	0	**11**
1700 - 1800	0	0	3	1	0	1	2	0	0	0	4	0	**11**
1715 - 1815	0	0	2	0	0	0	0	0	0	0	1	0	**3**
1730 - 1830	0	0	2	0	0	0	0	0	0	0	1	0	**3**
PEAK HOUR	**0**	**0**	**1**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**8**	**0**	**12**

ATTACHMENT A

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client	: Varga Traffic Planning
Job No/Name	: 5170 ZETLAND 904 Bourke St
Day/Date	: Friday 23rd May 2014

Intersection Details

Obtained via satellite

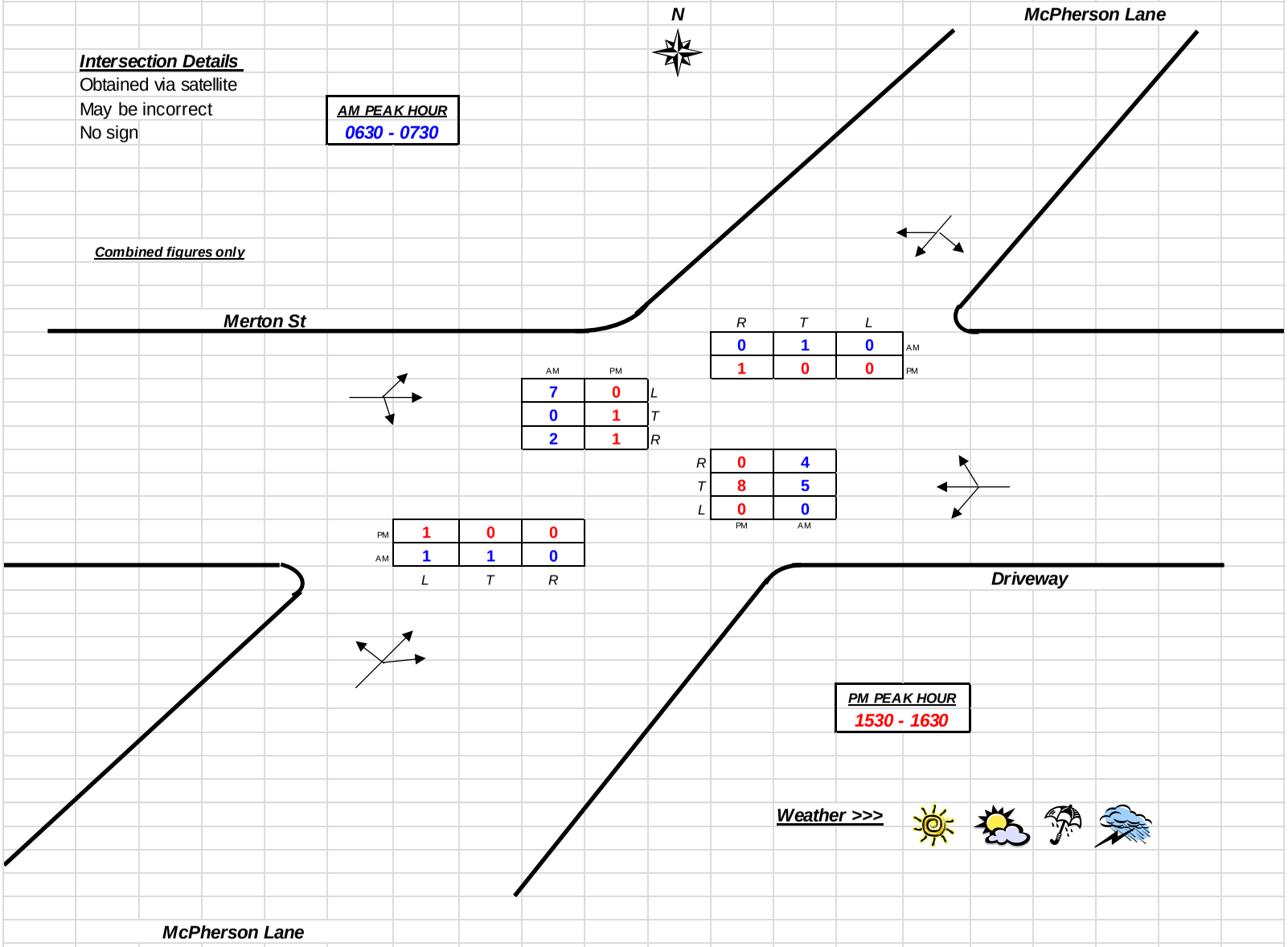
May be incorrect

No sign

AM PEAK HOUR

0630 - 0730

Combined figures only



	AM	PM
L	7	0
T	0	1
R	2	1

	R	T	L
AM	0	1	0
PM	1	0	0

	R	T	L
R	0	4	
T	8	5	
L	0	0	
	PM	AM	

	L	T	R
PM	1	0	0
AM	1	1	0

PM PEAK HOUR

1530 - 1630

Weather >>>

ATTACHMENT A

APPENDIX C

SIDRA ANALYSIS RESULTS

MOVEMENT SUMMARY

ATTACHMENT A

Site: Proposed IND AM

Bourke St & Site Access Driveway, Zetland
Giveway / Yield (Two-Way)

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	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bourke St (S)											
2	T1	517	3.5	0.160	1.7	LOS A	1.3	9.4	0.23	0.05	52.3
3	R2	37	0.0	0.160	9.6	LOS A	1.3	9.4	0.57	0.12	39.1
Approach		554	3.2	0.160	2.2	NA	1.3	9.4	0.26	0.05	49.6
East: Site Access Driveway (E)											
4	L2	9	0.0	0.042	10.2	LOS A	0.2	1.1	0.26	0.52	34.7
6	R2	9	0.0	0.042	10.3	LOS A	0.2	1.1	0.26	0.52	34.5
Approach		18	0.0	0.042	10.2	LOS A	0.2	1.1	0.26	0.52	34.6
North: Bourke St (N)											
7	L2	37	0.0	0.059	5.5	LOS A	0.0	0.0	0.00	0.20	54.8
8	T1	642	2.6	0.059	0.0	LOS A	0.0	0.0	0.00	0.02	59.0
Approach		679	2.5	0.296	0.3	NA	0.0	0.0	0.00	0.03	58.4
All Vehicles		1251	2.8	0.296	1.3	NA	1.3	9.4	0.12	0.05	53.0

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.

MOVEMENT SUMMARY

ATTACHMENT A

Site: Proposed IND PM

Bourke St & Site Access Driveway, Zetland
Giveway / Yield (Two-Way)

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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bourke St (S)											
2	T1	595	0.2	0.314	2.9	LOS A	3.0	21.1	0.54	0.01	49.3
3	R2	9	0.0	0.314	8.4	LOS A	3.0	21.1	0.54	0.01	40.4
Approach		604	0.2	0.314	3.0	NA	3.0	21.1	0.54	0.01	48.9
East: Site Access Driveway (E)											
4	L2	37	0.0	0.139	9.2	LOS A	0.5	3.8	0.52	0.64	35.2
6	R2	37	0.0	0.139	9.3	LOS A	0.5	3.8	0.52	0.64	35.0
Approach		74	0.0	0.139	9.3	LOS A	0.5	3.8	0.52	0.64	35.1
North: Bourke St (N)											
7	L2	9	0.0	0.155	5.5	LOS A	0.0	0.0	0.00	0.02	57.1
8	T1	592	0.3	0.155	0.0	LOS A	0.0	0.0	0.00	0.01	59.6
Approach		601	0.3	0.155	0.1	NA	0.0	0.0	0.00	0.01	59.5
All Vehicles		1279	0.2	0.314	2.0	NA	3.0	21.1	0.29	0.05	50.0

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.

MOVEMENT SUMMARY

ATTACHMENT A

Site: Proposed RES AM

Bourke St & Site Access Driveway, Zetland
Giveway / Yield (Two-Way)

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	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bourke St (S)											
2	T1	517	3.5	0.139	1.8	LOS A	1.3	9.2	0.26	0.01	52.9
3	R2	6	0.0	0.139	9.2	LOS A	1.3	9.2	0.53	0.02	39.8
Approach		523	3.4	0.139	1.9	NA	1.3	9.2	0.26	0.01	52.3
East: Site Access Driveway (E)											
4	L2	24	0.0	0.107	10.0	LOS A	0.4	2.8	0.32	0.54	34.8
6	R2	24	0.0	0.107	10.1	LOS A	0.4	2.8	0.32	0.54	34.6
Approach		48	0.0	0.107	10.0	LOS A	0.4	2.8	0.32	0.54	34.7
North: Bourke St (N)											
7	L2	6	0.0	0.056	5.5	LOS A	0.0	0.0	0.00	0.03	56.9
8	T1	642	2.6	0.056	0.0	LOS A	0.0	0.0	0.00	0.01	59.7
Approach		648	2.6	0.282	0.1	NA	0.0	0.0	0.00	0.01	59.7
All Vehicles		1219	2.9	0.282	1.2	NA	1.3	9.2	0.13	0.03	52.9

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.

MOVEMENT SUMMARY

ATTACHMENT A

Site: Proposed RES PM

Bourke St & Site Access Driveway, Zetland
Giveway / Yield (Two-Way)

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	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bourke St (S)											
2	T1	595	0.2	0.328	3.1	LOS A	3.3	23.1	0.57	0.03	48.3
3	R2	24	0.0	0.328	8.6	LOS A	3.3	23.1	0.57	0.03	40.2
Approach		619	0.2	0.328	3.4	NA	3.3	23.1	0.57	0.03	47.3
East: Site Access Driveway (E)											
4	L2	6	0.0	0.023	8.9	LOS A	0.1	0.6	0.50	0.59	35.4
6	R2	6	0.0	0.023	9.0	LOS A	0.1	0.6	0.50	0.59	35.2
Approach		12	0.0	0.023	8.9	LOS A	0.1	0.6	0.50	0.59	35.3
North: Bourke St (N)											
7	L2	24	0.0	0.159	5.5	LOS A	0.0	0.0	0.00	0.05	56.7
8	T1	592	0.3	0.159	0.0	LOS A	0.0	0.0	0.00	0.02	59.1
Approach		616	0.3	0.159	0.2	NA	0.0	0.0	0.00	0.02	58.8
All Vehicles		1247	0.2	0.328	1.9	NA	3.3	23.1	0.29	0.03	51.8

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.

MOVEMENT SUMMARY

ATTACHMENT A

Site: Existing AM

Bourke St & Hawksley St, Zetland
Giveway / Yield (Two-Way)

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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bourke St (S)											
1	L2	6	0.0	0.136	5.5	LOS A	0.0	0.0	0.00	0.01	57.2
2	T1	511	3.5	0.136	0.0	LOS A	0.0	0.0	0.00	0.01	59.7
Approach		517	3.5	0.136	0.1	NA	0.0	0.0	0.00	0.01	59.6
North: Bourke St (N)											
8	T1	642	2.6	0.300	2.5	LOS A	2.9	20.9	0.40	0.04	50.2
9	R2	36	5.6	0.300	8.8	LOS A	2.9	20.9	0.52	0.05	46.8
Approach		678	2.8	0.300	2.8	NA	2.9	20.9	0.41	0.04	49.8
West: Hawksley St (W)											
10	L2	37	0.0	0.035	5.6	LOS A	0.1	1.0	0.33	0.53	43.8
12	R2	1	0.0	0.004	16.5	LOS B	0.0	0.1	0.76	0.74	36.4
Approach		38	0.0	0.035	5.9	LOS A	0.1	1.0	0.34	0.54	43.6
All Vehicles		1233	3.0	0.300	1.8	NA	2.9	20.9	0.23	0.04	52.6

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.

MOVEMENT SUMMARY

ATTACHMENT A

Site: Existing PM

Bourke St & Hawksley St, Zetland
Giveway / Yield (Two-Way)

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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bourke St (S)											
1	L2	14	0.0	0.306	5.5	LOS A	0.0	0.0	0.00	0.01	57.2
2	T1	581	0.2	0.306	0.0	LOS A	0.0	0.0	0.00	0.01	59.4
Approach		595	0.2	0.306	0.1	NA	0.0	0.0	0.00	0.01	59.3
North: Bourke St (N)											
8	T1	590	0.3	0.166	1.4	LOS A	1.3	9.3	0.23	0.03	53.9
9	R2	30	0.0	0.166	8.5	LOS A	1.3	9.3	0.51	0.07	46.6
Approach		620	0.3	0.166	1.7	NA	1.3	9.3	0.24	0.03	53.0
West: Hawksley St (W)											
10	L2	37	0.0	0.038	6.9	LOS A	0.2	1.2	0.51	0.63	42.9
12	R2	2	0.0	0.006	13.9	LOS A	0.0	0.1	0.72	0.75	37.7
Approach		39	0.0	0.038	7.3	LOS A	0.2	1.2	0.52	0.63	42.6
All Vehicles		1254	0.2	0.306	1.1	NA	1.3	9.3	0.14	0.04	54.6

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.

MOVEMENT SUMMARY

ATTACHMENT A

Site: Proposed IND AM

Bourke St & Hawksley St, Zetland
Giveway / Yield (Two-Way)

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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bourke St (S)											
1	L2	6	0.0	0.138	5.5	LOS A	0.0	0.0	0.00	0.01	57.2
2	T1	520	3.5	0.138	0.0	LOS A	0.0	0.0	0.00	0.01	59.7
Approach		526	3.4	0.138	0.1	NA	0.0	0.0	0.00	0.01	59.6
North: Bourke St (N)											
8	T1	679	2.5	0.315	2.7	LOS A	3.3	23.4	0.42	0.04	49.8
9	R2	36	5.6	0.315	9.0	LOS A	3.3	23.4	0.54	0.05	46.6
Approach		715	2.7	0.315	3.0	NA	3.3	23.4	0.42	0.04	49.4
West: Hawksley St (W)											
10	L2	37	0.0	0.035	5.6	LOS A	0.1	1.0	0.33	0.53	43.8
12	R2	1	0.0	0.004	17.6	LOS B	0.0	0.1	0.77	0.75	35.7
Approach		38	0.0	0.035	5.9	LOS A	0.1	1.0	0.34	0.54	43.5
All Vehicles		1279	2.9	0.315	1.9	NA	3.3	23.4	0.25	0.04	52.3

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.

MOVEMENT SUMMARY

ATTACHMENT A

Site: Proposed IND PM

Bourke St & Hawksley St, Zetland
Giveway / Yield (Two-Way)

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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bourke St (S)											
1	L2	14	0.0	0.325	5.5	LOS A	0.0	0.0	0.00	0.01	57.2
2	T1	618	0.2	0.325	0.0	LOS A	0.0	0.0	0.00	0.01	59.4
Approach		632	0.2	0.325	0.1	NA	0.0	0.0	0.00	0.01	59.3
North: Bourke St (N)											
8	T1	599	0.3	0.169	1.5	LOS A	1.4	9.8	0.24	0.03	53.5
9	R2	30	0.0	0.169	8.8	LOS A	1.4	9.8	0.54	0.07	46.4
Approach		629	0.3	0.169	1.8	NA	1.4	9.8	0.26	0.04	52.6
West: Hawksley St (W)											
10	L2	37	0.0	0.040	7.1	LOS A	0.2	1.2	0.53	0.64	42.8
12	R2	2	0.0	0.006	14.8	LOS B	0.0	0.2	0.74	0.76	37.1
Approach		39	0.0	0.040	7.5	LOS A	0.2	1.2	0.54	0.65	42.4
All Vehicles		1300	0.2	0.325	1.2	NA	1.4	9.8	0.14	0.04	54.5

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 (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

ATTACHMENT A

Site: Proposed RES AM

Bourke St & Hawksley St, Zetland
Giveway / Yield (Two-Way)

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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bourke St (S)											
1	L2	6	0.0	0.142	5.5	LOS A	0.0	0.0	0.00	0.01	57.2
2	T1	535	3.4	0.142	0.0	LOS A	0.0	0.0	0.00	0.01	59.7
Approach		541	3.3	0.142	0.1	NA	0.0	0.0	0.00	0.01	59.6
North: Bourke St (N)											
8	T1	648	2.6	0.303	2.7	LOS A	3.1	21.9	0.42	0.04	49.7
9	R2	36	5.6	0.303	9.1	LOS A	3.1	21.9	0.54	0.05	46.5
Approach		684	2.8	0.303	3.0	NA	3.1	21.9	0.43	0.04	49.3
West: Hawksley St (W)											
10	L2	37	0.0	0.035	5.6	LOS A	0.1	1.0	0.34	0.54	43.8
12	R2	1	0.0	0.004	17.1	LOS B	0.0	0.1	0.77	0.75	36.0
Approach		38	0.0	0.035	5.9	LOS A	0.1	1.0	0.35	0.54	43.5
All Vehicles		1263	2.9	0.303	1.8	NA	3.1	21.9	0.24	0.04	52.4

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.

MOVEMENT SUMMARY

ATTACHMENT A

Site: Proposed RES PM

Bourke St & Hawksley St, Zetland
Giveway / Yield (Two-Way)

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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bourke St (S)											
1	L2	14	0.0	0.309	5.5	LOS A	0.0	0.0	0.00	0.01	57.2
2	T1	587	0.2	0.309	0.0	LOS A	0.0	0.0	0.00	0.01	59.4
Approach		601	0.2	0.309	0.1	NA	0.0	0.0	0.00	0.01	59.3
North: Bourke St (N)											
8	T1	614	0.3	0.173	1.4	LOS A	1.4	9.8	0.24	0.03	53.8
9	R2	30	0.0	0.173	8.6	LOS A	1.4	9.8	0.52	0.07	46.6
Approach		644	0.3	0.173	1.7	NA	1.4	9.8	0.25	0.03	52.9
West: Hawksley St (W)											
10	L2	37	0.0	0.038	6.9	LOS A	0.2	1.2	0.52	0.63	42.9
12	R2	2	0.0	0.006	14.4	LOS A	0.0	0.2	0.73	0.75	37.4
Approach		39	0.0	0.038	7.3	LOS A	0.2	1.2	0.53	0.64	42.6
All Vehicles		1284	0.2	0.309	1.2	NA	1.4	9.8	0.14	0.04	54.5

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 (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.