

**WOOLLAHRA MUNICIPAL COUNCIL  
PLANNING PROPOSAL TO PERMIT  
MIXED USE DEVELOPMENT  
ROSE BAY CARPARK SITES  
*Assessment of Traffic and  
Parking Implications***

October 2016  
(Rev D)

Reference 147/2016

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## 1. INTRODUCTION

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This report has been prepared to accompany a Planning Proposal to Woollahra Municipal Council for an amendment to Woollahra Local Environment Plan 2014 (WLEP2014) to facilitate development on the Wilberforce Avenue and Ian Street car park sites at Rose Bay (Figure 1).

The Rose Bay Centre has experienced a decline in retail and business activity over the past decade and the lack of amenity and car parking are considered to be prime factors contributing to this circumstance. Council, being concerned to arrest this decline and to improve the vibrancy of the centre, commissioned an Urban Design Study which is focused on potential redevelopment of the two Council owned car park sites. The objectives of the envisaged redevelopment are to:

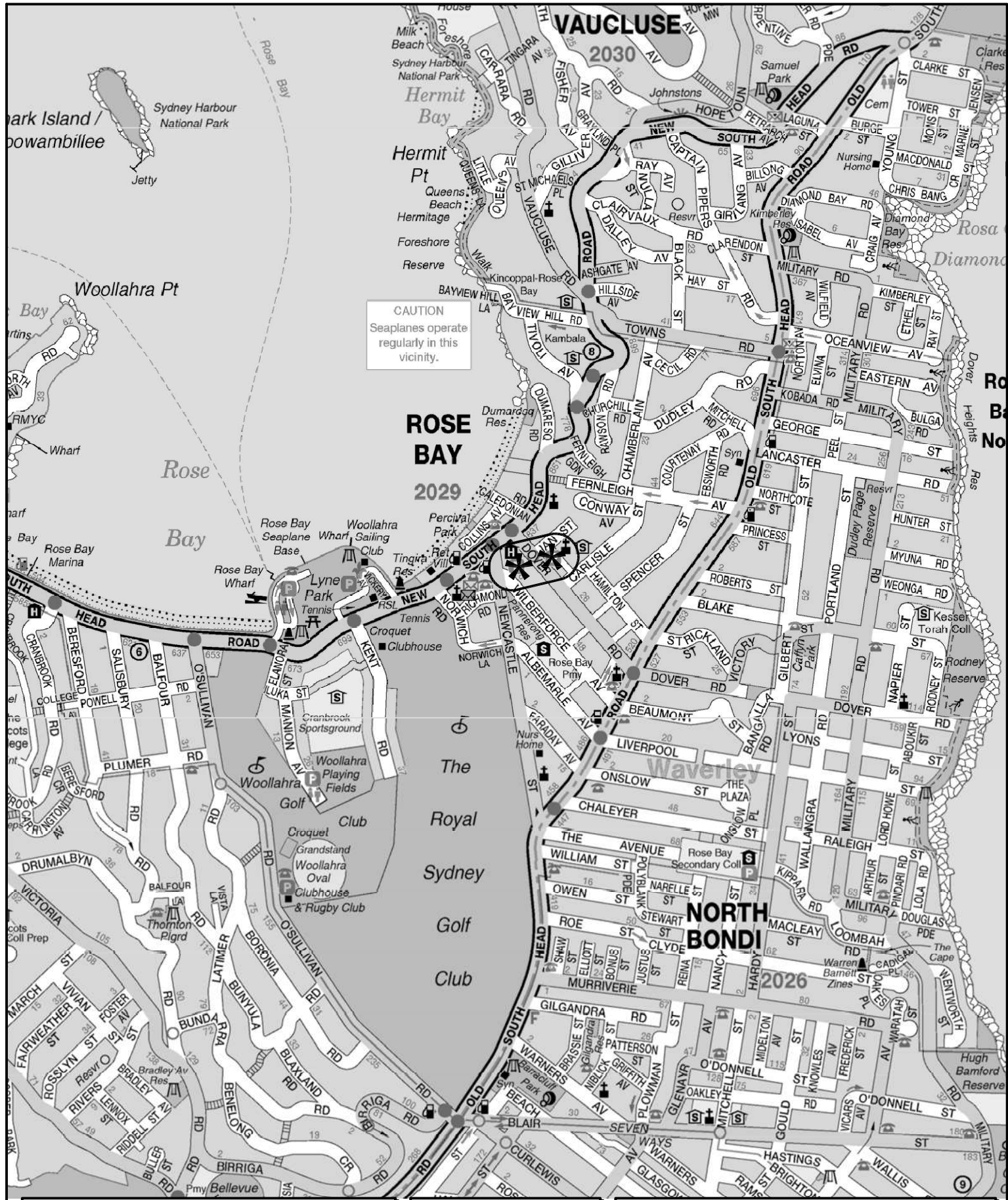
- Provide increased public parking
- Provide a new Community Centre and accessible public amenities
- Provide income generating opportunities for Council
- Provide improved connectivity and public domain/civic spaces

The Urban Design Study, supported by an earlier economic analysis by Hill PDA, identifies:

- \* Redevelopment of the Wilberforce Avenue site to provide public parking, Community Centre, retail and commercial elements
- \* Redevelopment of the Ian Street site to provide public parking, residential apartments and retail elements

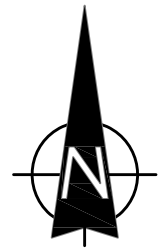
The purpose of this report is to:

- \* describe the sites, their context and the envisaged development outcomes
- \* describe the existing road network, traffic and transport circumstances in the vicinity of the sites
- \* assess the potential traffic implications of the envisaged development
- \* assess the appropriateness of the envisaged parking provisions
- \* assess the envisaged access, circulation and servicing arrangements



CAUTION  
Seaplanes operate  
regularly in this  
vicinity.

**LEGEND**



**LOCATION**

**FIG 1**

## 2. ENVISAGED DEVELOPMENT SCHEME

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### 2.1 SITE, CONTEXT AND EXISTING CIRCUMSTANCES

The sites are shown in their context on Figure 2 and comprise:

\* **Wilberforce Avenue Site**

This is a consolidation of 5 lots occupying an irregular shaped area of 2,555.7m<sup>2</sup> with frontages to Wilberforce Avenue and Dover Road. The existing open car park on the site comprises a total of 87 spaces with ingress/egress on Wilberforce Avenue and ingress on Dover Road.

\* **Ian Street Site**

This is a consolidation of 2 lots occupying an area of 1,132m<sup>2</sup> with frontages to Ian Street, Ian Lane and Dover Road. The existing open car park on the site comprises 53 spaces with ingress and egress on the Dover Road frontage.

The sites form the southern edge of the Rose Bay commercial/retail strip with residential uses extending to the south and to the east and west. The car parks have signpost parking restrictions of 2 HOUR period parking 8.30am – 6.00pm Monday to Friday and 8.30am – 12.30pm Saturday.

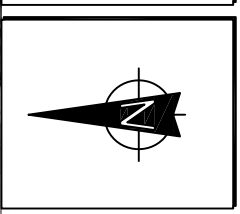
### 2.2 ENVISAGED DEVELOPMENT

The Urban Design Study recommendations require the LEP to be amended to provide for the following changes:

- |                |  |
|----------------|--|
| Zoning         | - Change the existing SP2 Infrastructure zoning for the Ian Street site to B2 Local Centre   |
| FSR            | - apply an FSR of 2:1 for the Ian Street site (currently none applies)   |
| Height Control | - Change the Ian Street site height control from 10.5m to 14.1m and the Wilberforce Avenue site height control from 14.1m to 17.2m |



SITE



LEGEND

The envisaged development outcomes under the Planning Proposal are as follows:

**Wilberforce Avenue Site**

Retail	359m <sup>2</sup>
Commercial	782m <sup>2</sup>
Community Centre	811m <sup>2</sup> (557m <sup>2</sup> + 254m <sup>2</sup> possible extension)
Amenities	
Public Parking	268 spaces

**Ian Street Site**

Residential apartments	
1 Bed	11
2 Bed	7
3 Bed	7
<b>Total:</b>	<b>25 apartments</b>
Retail	223m <sup>2</sup>
Residential Parking	32 spaces
Public Parking	37 spaces

Besides identifying appropriate design principles the Urban Design Study also identifies improved public domain and connectivity including:

- \* a pedestrian through site link (Shared Zone) connecting between Dover Road and Wilberforce Avenue/Newcastle Street
- \* a new Civic Square at the corner of Wilberforce Avenue and Newcastle Street with the upgrading of Pannerong Reserve

Details of the envisaged development scheme are shown on the plans prepared by Allen Jack + Cottier which accompany the Planning Proposal and are reproduced in part in Appendix A.



### 3. ROAD NETWORK AND TRAFFIC CONDITIONS

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#### 3.1 ROAD NETWORK

The road network serving the site (Figure 3) comprises:

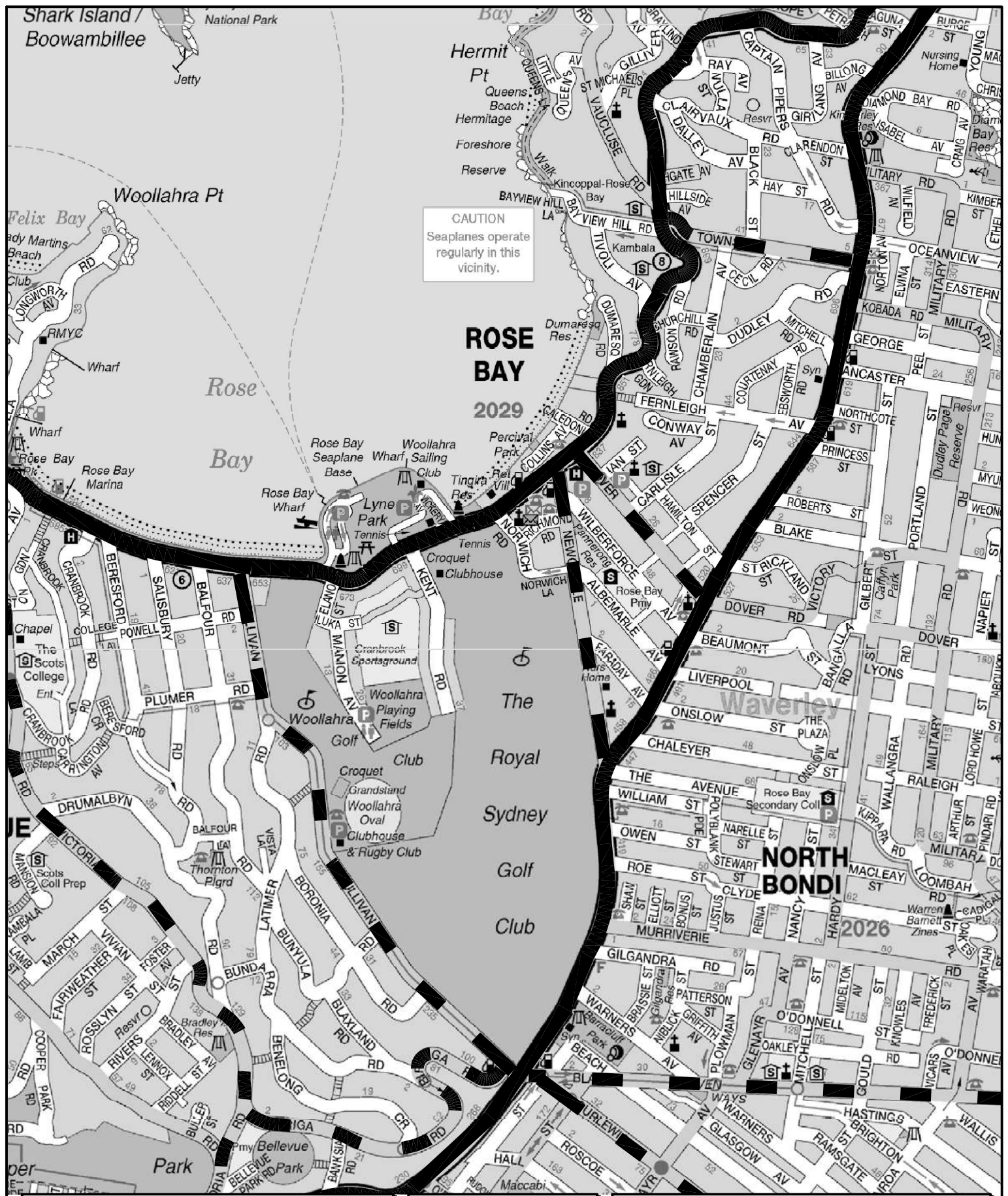
- \* *New South Head Road* – a State Road and arterial route being part of the principal link between the Sydney CBD and Vaucluse
- \* *Old South Head Road* – a State Road and arterial route connecting between Bondi Junction and South Head
- \* *O'Sullivan Road* – Regional Road and collector road route connecting between New South Head Road and Old South Head Road
- \* *Dover Road* – a collector road route connecting between New South Head Road and Old South Head Road
- \* *Newcastle Street* – a collector road connecting between the New South Head Road and Old South Head Road
- \* *Wilberforce Avenue, Ian Street and Ian Lane* – local access roads

Dover Road and Wilberforce Avenue in the vicinity of the site are some 12.8m wide with relatively straight and level alignments.

#### 3.2 TRAFFIC CONTROLS

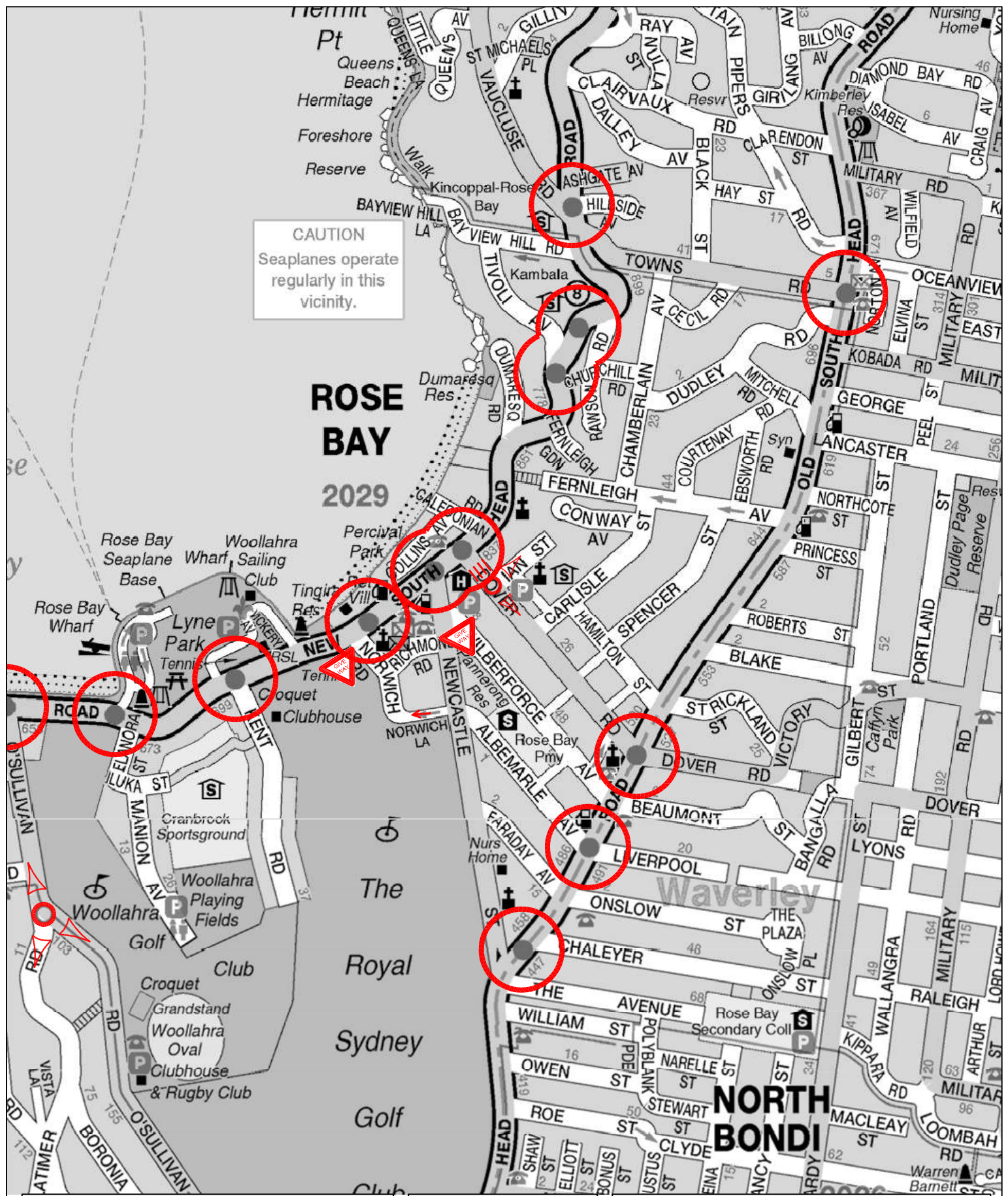
The traffic controls which have been applied to the road system in the vicinity of the site (Figure 4) comprise:

- \* the roundabout at the Dover Road and Ian Street intersection with an ingress connection into the Wilberforce Avenue car park and a pedestrian crossing across Dover Road on the north-west side



# ROAD NETWORK

**FIG 3**



- \* the traffic signals at the New South Head Road and Dover Road intersection. Details are provided on the design plan reproduced in Appendix B and include:
  - 2 through lanes each way on New South Head Road
  - green arrow for the right turn into Dover Road
  - signal controlled pedestrian crossings
- \* the traffic signals at the New South Head Road and Newcastle Street intersection. Details are provided on the design plan reproduced in Appendix B
- \* the pedestrian (mid-block) traffic signals on New South Head Road just to the east of Norwich Road
- \* the traffic control signals at the Old South Head Road and Dover Road intersection
- \* the 60kmph speed restriction on New South Head Road and 50kmph on the local and collector road system with 40kmph School speed zones on part of Wilberforce Avenue
- \* the sections of NO STOPPING restrictions along New South Head Road, Dover Road and Newcastle Street
- \* the various period parking restrictions (30min and 1 hour) on the roads in the centre

### **3.3 WALKING AND CYCLING**

Pedestrian movements in the Rose Bay Centre are facilitated by:

- \* the pedestrian crossing facilities incorporated into the traffic signals at:
  - New South Head Road and Dover Road intersection
  - New South Head Road and Newcastle Street intersection
  - Mid-block signals at New South Head Road east of Norwich Road
- \* the pedestrian crossing across Dover Road on the north-west side of Ian Street with raised platform

# Cycling in Waverley & Woollahra

## Legend

- Schools, colleges and universities
- Retail, cafes and entertainment
- Government buildings
- Parks and privatised open space
- Commercial or industrial usage
- Bicycle shop, shop with bike hire
- Rail/bus interchange, Ferry wharf
- Railway, station underground
- Walking path

## Key to bicycle routes

- Main bicycle routes on high-traffic streets
- Main bicycle routes on low-traffic streets
- Main bicycle routes off-road or shared paths
- Local bicycle routes on high-traffic streets
- Local bicycle routes on low-traffic streets
- Local bicycle routes off-road or shared paths
- Coastline Cycle Route - South Head to Botany Bay

## Getting the most out of this map

The bicycle routes on this map offer comfortable and direct ways of getting around Sydney's East by bicycle using existing roads and paths. Some roads have bicycle lanes while others don't. Roads have to be shared with motor vehicles and paths with walkers. Busy roads are shown in a different colour. Road conditions vary according to time of day and day of week. Some roads may only be busy in peak hours and in one direction so pick your route to suit conditions.

Though the area is hilly, the routes can be easily managed on most modern bikes with gears. The most heavily trafficked roads usually follow ridgelines and the easiest grades, so short steep sections are often necessary to avoid the traffic.

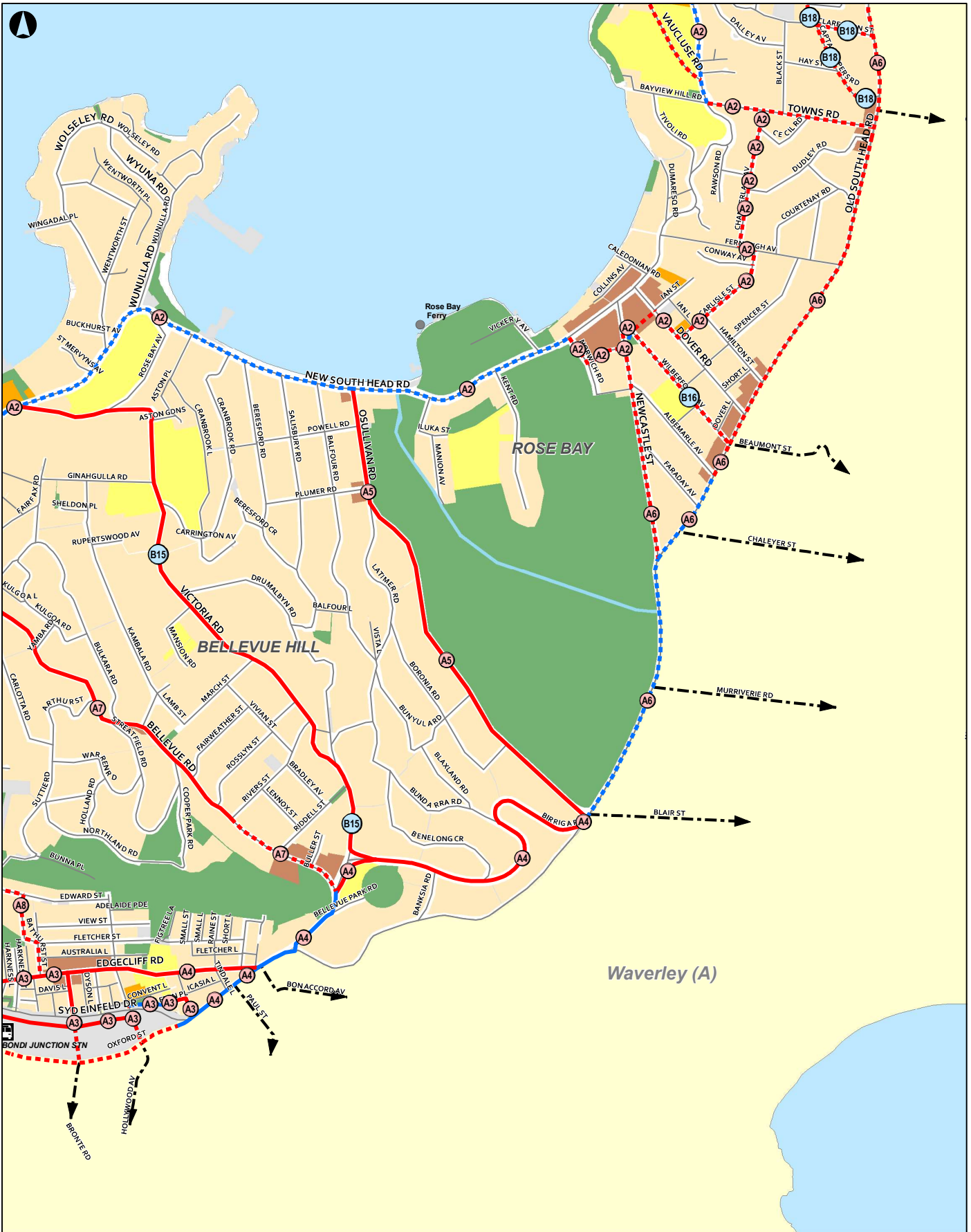
Your bicycle is the ideal short distance vehicle. On the flat you can easily ride 2.5 kilometres in 10 minutes - add more time for up hills. Of course you will get there even quicker if your route is mostly downhill. Bondi Junction to the City is less than 8km. It's almost all downhill, so, depending on your route, you can usually ride there in under half an hour door-to-door.

## Ride carefully

The routes on this map use some off-road paths shared with pedestrians, but mostly you will be riding on roads shared with other vehicles, so please always take care. The legend above shows you which roads are likely to be busy, particularly at peak times. Waverley and Woollahra Councils are committed to developing a comprehensive bicycle network to make it easier to get around Sydney's East.

This map contains incorrect information showing a route around the perimeter of the Royal Botanic Gardens. Please dismount from your bicycle while in the Royal Botanic Gardens as cycling is prohibited in this area. Cycling is permitted on Art Gallery Rd and Mrs Macquaries Rd.





**Legend**

**LEP Zoning**

- Residential
- Business
- School
- Park/ Open Space
- Community Facility
- Hospital
- R Rail Station/ Interchange

**Bike Route**

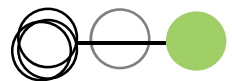
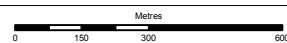
- Existing Off-Road
- Existing On-Road
- Proposed Off-Road
- Proposed On-Road
- Connecting Bike Routes

P7	26-08-09	BDM	BDM	DVD
Issue	Date	By	Chkd	Appd

Client  
**Woollahra Municipal Council**

Job Title  
**Woollahra Bike Strategy**

Drawing Title  
**Existing and Proposed Bike Network**



**GTA consultants**

www.gta.com.au

Scale at A3  
**1:12,000**

Drawing Status  
**Final Draft**

Job No <b>GS11920</b>	Drawing No <b>Figure E1-2</b>	Issue <b>P7</b>
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- \* the paved footpaths and kerb ramps
- \* the street lighting

Cyclist movements are provided for along New South Head Road, Newcastle Street and Wilberforce Avenue “on street”. There are no off-road or shared paths in the area as indicated on the Waverley and Woollahra Bicycle Map and Woollahra Bike Strategy extract reproduced overleaf.

### **3.4 TRAFFIC CONDITIONS**

An indication of the prevailing traffic conditions on the road system serving the site is provided by the results of traffic surveys undertaken during the weekday morning and afternoon peak periods which are provided in Appendix C and summarised in the following:

		<b>AM</b>	<b>PM</b>
New South Head Road	Eastbound	740	776
	Right turn	174	326
	Westbound	886	560
	Left turn	35	89
Dover Road	Right turn	94	73
	Left turn	296	166
New South Head Road	Eastbound	739	633
	Right turn	90	176
	Westbound	1,142	708
	Left turn	42	75
Newcastle Street	Right turn	142	118
	Left turn	106	92

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Dover Road	Northbound	319	246
	Right turn	5	6
	Left turn	54	37
	Southbound	193	419
	Right turn	37	39
	Left turn	11	13
Ian Street	Westbound	2	-
	Right turn	16	8
	Left turn	5	8
Wilberforce Avenue Carpark	IN	31	62
	OUT	94	123
	IN (Dover Road)	93	76
Ian Street Carpark	IN	74	72
	OUT	40	72

It is evident that:

- \* there are some eastbound bypass movements through the Wilberforce Avenue car park (i.e. avoiding the New South Head Road/Dover Road intersection or circulating due to the extremely long “block”)
- \* there are significant circulation movements by drivers entering the car parks looking for a parking space and departing because the car parks are fully occupied

The operational performance of the intersections in the area during the morning and afternoon peak periods is relatively satisfactory although traffic flows in are at times disrupted by the parking and turning manoeuvres on the arterial and collector roads.



## **3.5 TRANSPORT SERVICES**

### **Bus Services**

The Rose Bay Centre has good access for public transport services (buses) comprising:

- \* Routes 324, 325 and L24 which run along New South Head Road to/from Sydney CBD
  
- \* Routes 323 and 386 which run along New South Head Road and Dover Road to/from Edgecliff and Bondi Junction respectively

Details of these routes are provided overleaf while the start/finish and frequency details of these services are provided in Appendix D. These services provide connection to railway stations and the Metropolitan transport network.

### **Ferry Services**

Sydney Ferries operate Route F7 between Watsons Bay and Circular Quay with a stop at Rose Bay Wharf with frequent services in the weekday morning and afternoon peak periods. Details of the ferry network are provided overleaf while time table details are provided in Appendix D.



**Vaucluse**  
New South Head Rd

**South Head Cemetery**

**Dover Heights**  
Military Rd

**Dover Heights**

**North Bondi**

**North Bondi**

**Vaucluse**

**Rose Bay**

**Street Legend**  
 1. Birriga Rd  
 2. Bundarra Rd  
 3. Blaxland Rd  
 4. Bunyula Rd

**Point Piper**

**Bellevue Hill**

**Bondi Junction**

**Double Bay**

**Darling Point**

**Woollahra**

**Oxford St PREPAY**  
7am - 7pm weekdays

**X84 X89 PREPAY**

**200 328**

**380 352 440**

**381 380 382**

**389**

**X89 PREPAY**

**389**

**X84 PREPAY**

**389**

**X89 PREPAY**

**389**

**X84 X89 PREPAY**

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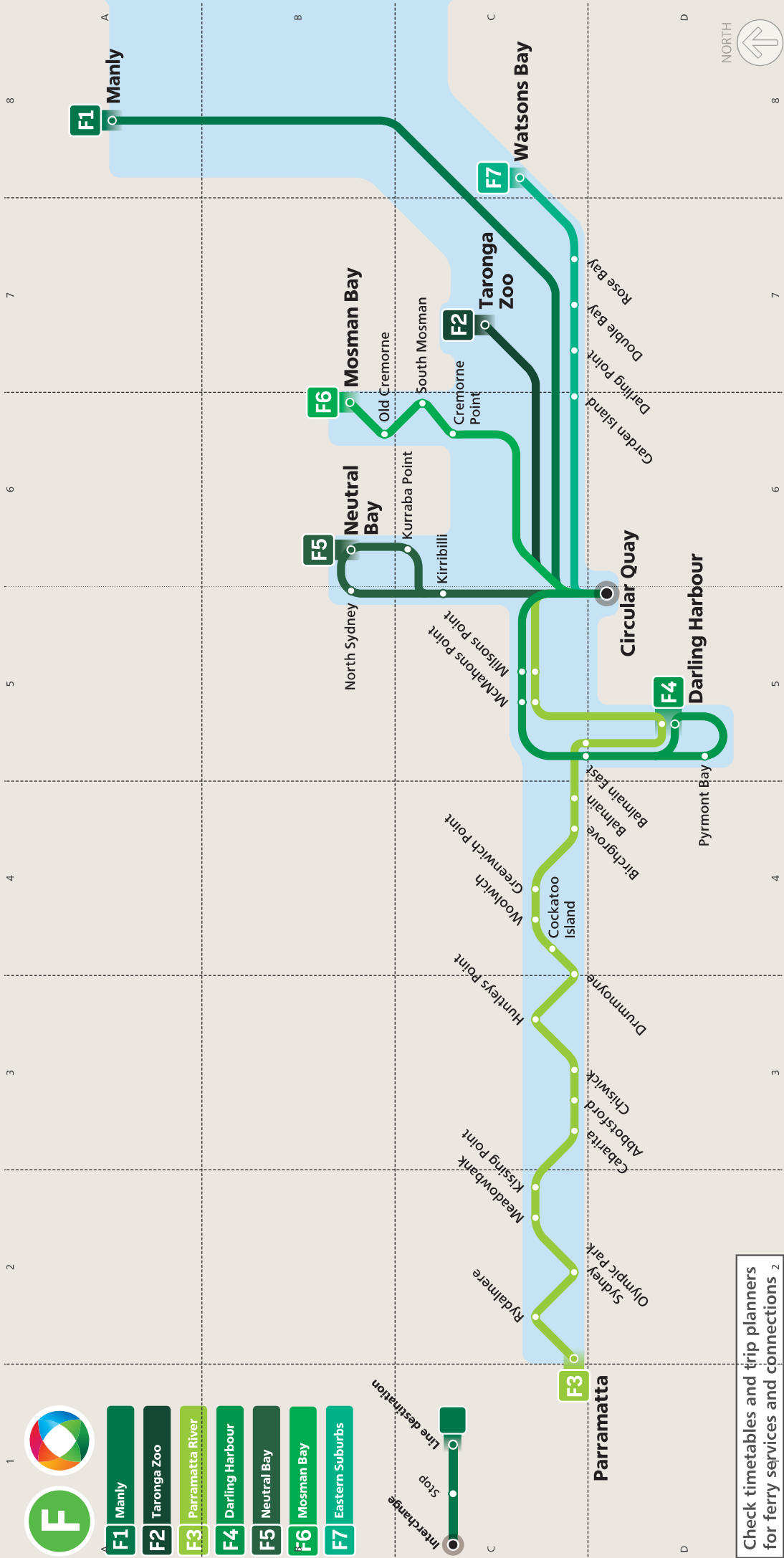
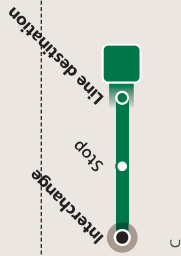
**389**



# Sydney Ferries Network



- F**
- F1** Manly
- F2** Taronga Zoo
- F3** Parramatta River
- F4** Darling Harbour
- F5** Neutral Bay
- F6** Mosman Bay
- F7** Eastern Suburbs



Check timetables and trip planners for ferry services and connections <sup>2</sup>

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Visit [transportnsw.info](http://transportnsw.info)



**Opal is your ticket to travel**  
Get it before you travel from a shop nearby or visit [opal.com.au](http://opal.com.au)

## **4. ACCESS, INTERNAL CIRCULATION, ROAD GEOMETRY AND SERVICING**

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### **ACCESS**

The envisaged vehicle access arrangements are as follows:

#### **Ian Street Site**

Combined ingress/egress driveway on the Dover Road frontage located at the southern side boundary.

#### **Wilberforce Avenue Site**

Combined ingress/egress driveways on the Dover Road and Wilberforce Avenue frontages for the Shared Zone corridor running along the southern side of the site.

The design of the envisaged driveways would comply with the requirements of AS2890 and adequate sight line splays and sight distances would be achieved.

### **INTERNAL CIRCULATION**

The envisaged design of the car park areas employs simple flexible two-way circulation arrangements and the parking bay dimensions would accord with the “user requirements” of AS2890.1 & 6.

The design of the Shared Zone will need to comply with RMS Technical Direction TTD 2016/001 with continuous foot path treatment complying with TDT 2013/05. The Shared Zone arrangement shown in the Urban Design Study diagram is only conceptual and detail design development will have regard for the RMS design principles which are reproduced in Appendix E particularly in relation to:

- regulatory signage
- absence of kerb and gutter
- vehicle speed constraint

In order to minimise “through” traffic it may be necessary to only permit egress to Dover Road (i.e. no ingress) or prohibit the left turn ingress on Dover Road. Ultimately RMS approval will be required for the Shared Zone to be implemented.

## **SERVICING**

The envisaged access corridors will include Loading Zone provisions for small delivery and refuse removal vehicles while small service vehicles (e.g. service personnel) will be able to use the public parking spaces. The occasional needs for larger service vehicles will be satisfied by the available kerbside parking (including some Loading Zone provisions) in the area as is normal for small developments of the nature envisaged.

## **ROAD GEOMETRY**

Changes to the existing road geometry are envisaged with:

- \* modification of the Dover Road/Ian Street intersection roundabout to provide for egress from the Wilberforce Avenue site
- \* closure of the existing section of Wilberforce Avenue connecting to Newcastle Street to provide the envisaged new Urban Square with a new road connection through the northern part of Pannerong Reserve

It is apparent that both of these changes can be made appropriately and in the case of the latter would present a preferable intersection geometry although consideration could be given to the provision of a roundabout at the new intersection with kerb extensions and splitter islands to assist pedestrian crossings.

## 5. PARKING

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An indication of the appropriate parking provision of the envisaged development is provided in Council's DCP as follows:

Residential Apartments (Mixed Use Developments)	
One-bedroom	0.5 space
Two-bedroom	1.0 spaces
Three-bedroom	1.5 spaces
Visitors	0.2 space
Retail	3.3 spaces per 100m <sup>2</sup> (0.7)*
Food and Drink	7.0 spaces per 100m <sup>2</sup> (0.6)*
Office	2.5 spaces per 100m <sup>2</sup> (0.5)*
Community Facility	2.0 spaces per 100m <sup>2</sup> (0.5)*

*\*( ) Rose Bay Centre Multiplier*

Application of this criteria to the envisaged development outcome would indicate the following:

### **Ian Street Site**

Residential Apartments	
11 x One-bedroom	5.5 spaces
7 x Two-bedroom	7.0 spaces
7 x Three-bedroom	10.5 spaces
Visitors (25)	5 spaces
<b>Total:</b>	<b>28 spaces</b>
Retail 223m <sup>2</sup>	7.4 spaces (5)
<b>Total:</b>	<b>33 spaces</b>

### **Wilberforce Avenue Site**

Retail 359m <sup>2</sup>	11.8 spaces (8)
Office 782m <sup>2</sup>	19.5 spaces (10)
Community 881m <sup>2</sup>	16.2 spaces (8)
<b>Total:</b>	<b>26 spaces</b>

The envisaged parking provision is as follows:

**Ian Street Site**

Residents and Visitors	32 spaces
Public	37 spaces
<b>Total:</b>	<b>69 spaces</b>

**Wilberforce Avenue Site**

Public	268 spaces
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It is proposed to provide 32 spaces in the Ian Street site for residents and visitors while the parking for retail, food & drink, office and community (i.e. 31 spaces) will be provided as part of the public parking provision. It is envisaged that there will be a total of 305 public parking spaces compared to the existing 140 spaces although it is not indicated in the concept plans how the required provision of accessible spaces, services or structure will impact on this outcome.

It is apparent that the proposed parking provision will be adequate and appropriate in relation to the envisaged development elements. It is also apparent that the design development process will need to address the issue of “managing” the public parking spaces to ensure appropriate use and availability (and potential income). This could have some influence on the design of the ingresses and egresses if boom gates and ticket machines are ultimately required or that “number of spaces available” technology is to be included to avoid unnecessary entry circulation and congestion.

## 6. TRAFFIC

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The survey results of the existing car park access movements cannot be used to assess the potential traffic generation of the envisaged development due to:

- the significant bypass movement through the existing Wilberforce Avenue carpark
- the significant existing entry and exit of drivers seeking and not being able to obtain a parking space

Reference to the RMS Working Paper (Halcrow) for Shopping Centres in the Sydney Metropolitan Area provides data relative to “Number of Parking Spaces” and “Peak Traffic Generation” for AM and PM peaks. Aggregation of this data reveals the following traffic generation (vtph) per parking space:

<b>AM</b>	<b>PM</b>
0.4 vtph	0.8 vtph

Application of this to the envisaged 305 public parking spaces would indicate the following:

	<b>AM</b>	<b>PM</b>
Ian Street (37 spaces)	15 vtph	30 vtph
Wilberforce Avenue (268 spaces)	108 vtph	216 vtph

The RMS traffic generation rate for residential apartments (no easy access to rail services) is 0.29 vtph per apartment and application to the envisaged 25 apartments on the Ian Street site would indicate:

<b>AM</b>				<b>PM</b>	
<b>IN</b>		<b>OUT</b>		<b>IN</b>	<b>OUT</b>
2		8		8	2



Assessment of the overall traffic outcome is as follows:

**Ian Street Site**

<b>AM</b>		<b>PM</b>	
<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>
10	15	23	17

**Wilberforce Avenue Site**

	<b>AM</b>		<b>PM</b>	
	<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>
Dover Road	27	27	54	54
Wilberforce Avenue	27	27	54	54

It is apparent that the traffic outcome of the envisaged development scheme will be satisfactory even if:

- the peak traffic generation per public parking space is somewhat greater (i.e. than the RMS surveyed rate)
- there is some constraint imposed on ingress to the Wilberforce Avenue site from Dover Road to prevent bypass traffic movements through the Shared Zone

## 7. PEDESTRIAN, BICYCLES AND PUBLIC TRANSPORT

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### PEDESTRIANS

It is evident with the envisaged development plans that pedestrians will be provided with improved connectivity along with upgraded public domain and civic spaces. Consideration could however be given to improved provision for pedestrians at the new Newcastle Street/Wilberforce Avenue intersection and careful design consideration will need to be given to the envisaged Shared Zone.

### BICYCLES

Council's Draft DCP contains the following requirements for bicycles and motorcycles in new developments:

	<b>Residents</b>	<b>Visitors</b>
Residential Apartments	1 per 4 apartments	1 per 10 apartments
	<b>Staff</b>	<b>Customers</b>
Office	1 per 150m <sup>2</sup>	1 per 400m <sup>2</sup>
Shop / Café	1 per 250m <sup>2</sup>	2 + 1 per 100m <sup>2</sup> over 100m <sup>2</sup>
Community Facility	1 per 10 staff	2 + 1 per 200m <sup>2</sup>

The DCP also specifies the provision of 1 motorcycle per 10 car spaces for all types of development.

Application of this to the envisaged development would indicate:

	<b>Bicycles</b>		<b>Motorcycles</b>
<b>Ian Street Site</b>	<b>Residents</b>	<b>Visitors</b>	
25 apartments	7 spaces	3 spaces	
	<b>Total: 10 spaces</b>		<b>7 spaces</b>

<b>Wilberforce Avenue Site</b>		<b>Bicycles</b>		<b>Motorcycles</b>
Office	782m <sup>2</sup>	5 spaces	2 spaces	
Retail	359m <sup>2</sup>	1 space	5 spaces	
Community	811m <sup>2</sup>	1 space	6 spaces	
		<b>Total: 20 spaces</b>		<b>27 spaces</b>

### **PUBLIC TRANSPORT**

The envisaged development will not have any implications for public transport services. The existing bus movements along Dover Road and the bus stops will not be impacted in anyway.

## **8. CONCLUSION**

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Council is concerned to arrest the decline in retail and business activity in the Rose Bay Centre and to achieve the objectives of the envisaged development on the two existing car park sites. This supplementary assessment has concluded that the proposed planning control changes and envisaged development will:

- \* not have any adverse traffic implications
- \* will have suitable and appropriate parking provisions
- \* will have satisfactory access and circulation arrangements
- \* will provide the opportunity for improved pedestrian and cyclist connectivity
- \* will not have any adverse impact on public transport services

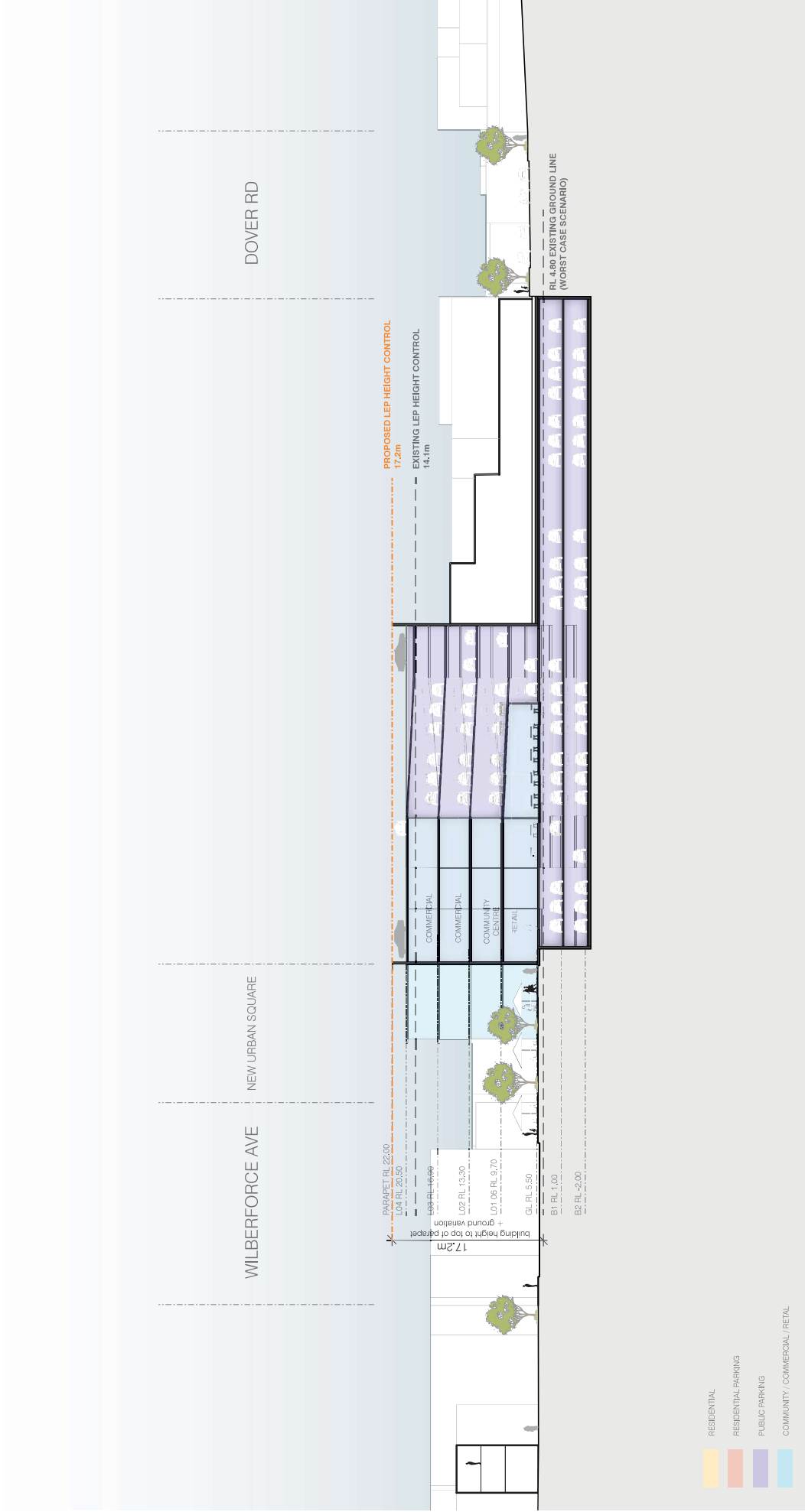
**APPENDIX A**

**CONCEPT DEVELOPMENT PLANS**



# 5 ARCHITECTURAL CONCEPTS

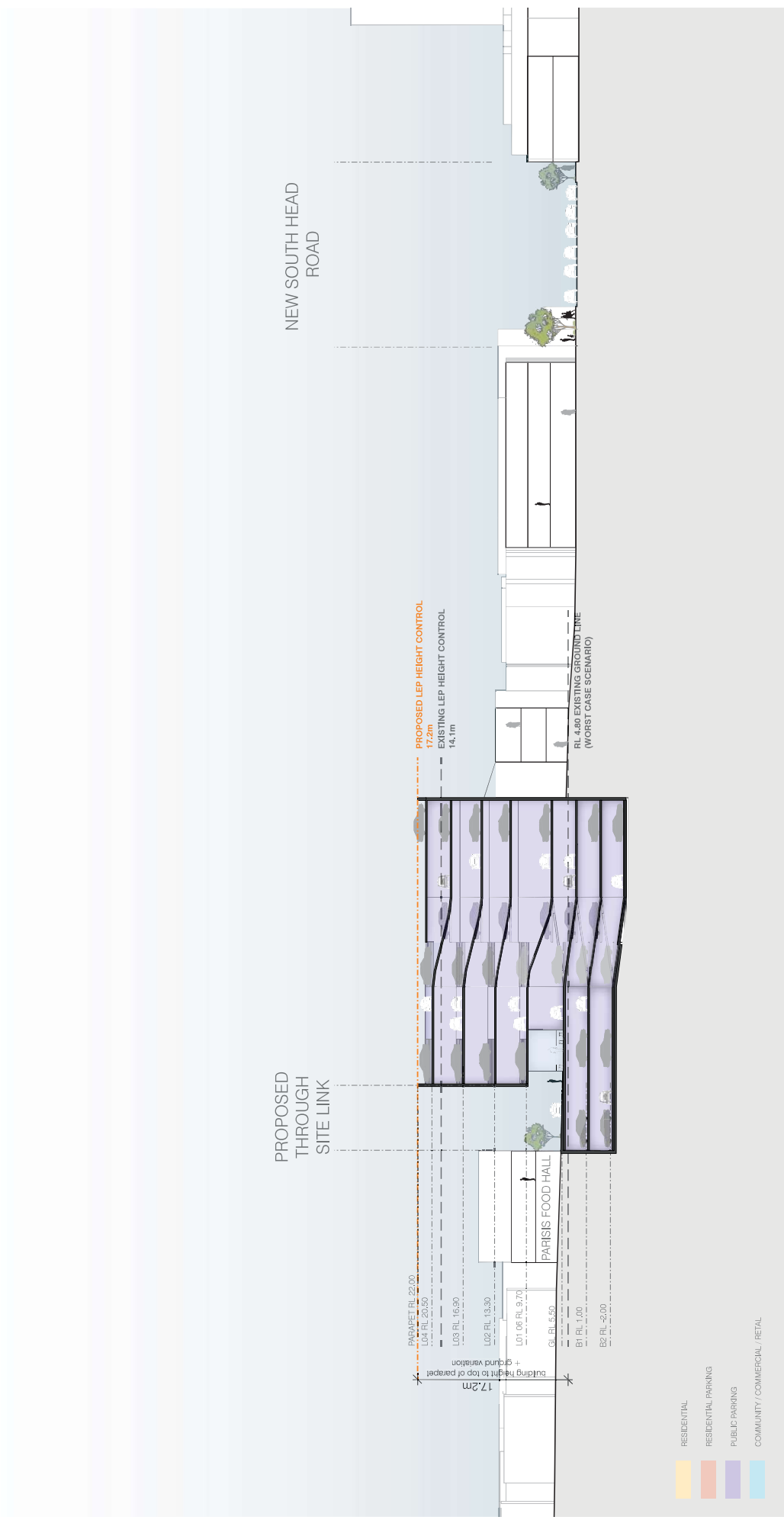
5.1 Wilberforce Ave Car Park



Section A-A

# 5 ARCHITECTURAL CONCEPTS

## 5.1 Wilberforce Ave Car Park



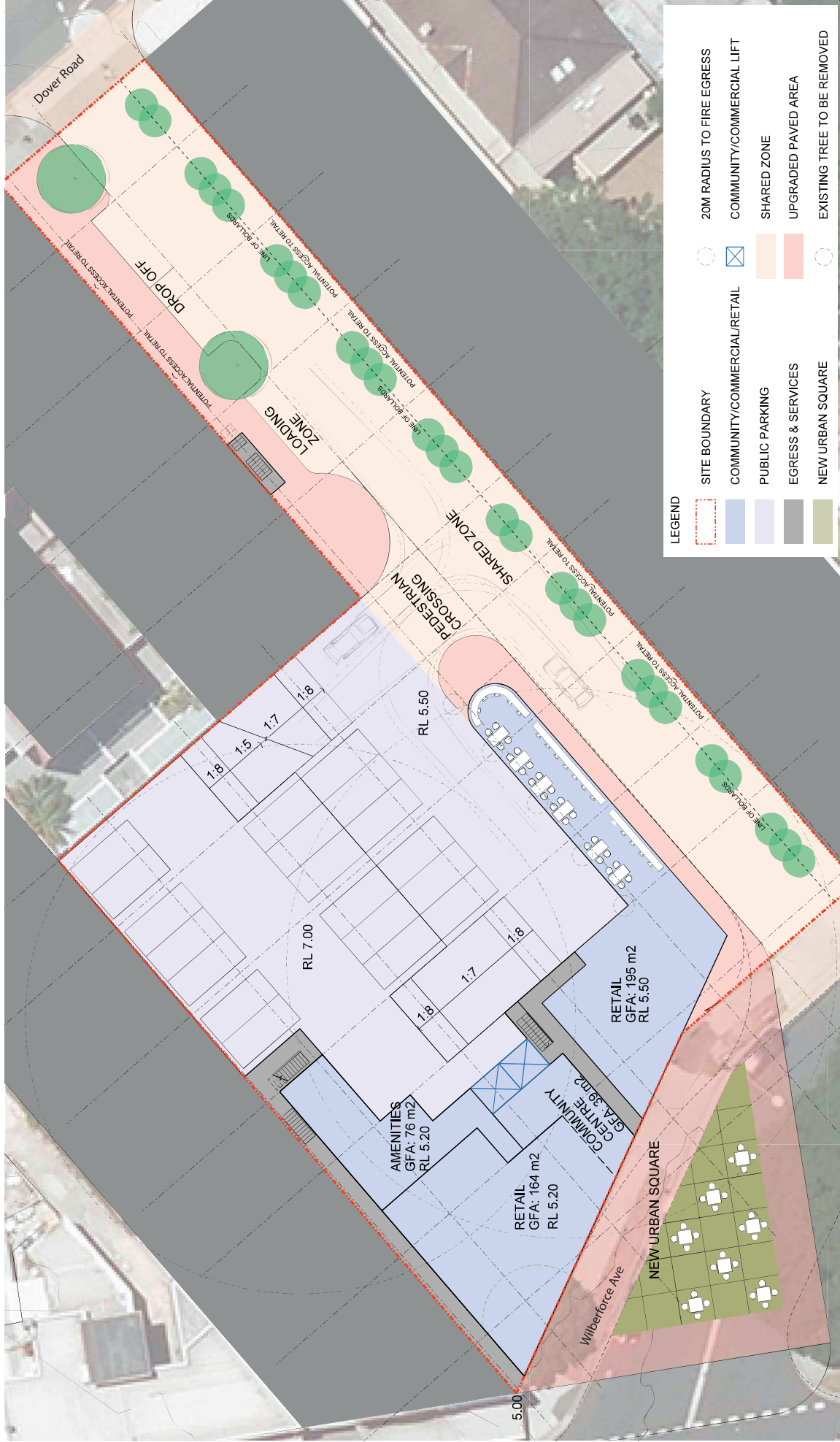
Section B-B





# 5 ARCHITECTURAL CONCEPTS

## 5.1 Wilberforce Ave Car Park



**LEGEND**

[Red dashed line]	SITE BOUNDARY	[Green circle]	20M RADIUS TO FIRE EGRESS
[Blue shaded area]	COMMUNITY/COMMERCIAL/RETAIL	[Blue square with X]	COMMUNITY/COMMERCIAL LIFT
[Purple shaded area]	PUBLIC PARKING	[Orange shaded area]	SHARED ZONE
[Grey shaded area]	EGRESS & SERVICES	[Red shaded area]	UPGRADED PAVED AREA
[Green shaded area]	NEW URBAN SQUARE	[Green circle with X]	EXISTING TREE TO BE REMOVED

Rose Bay Car Parks  
WILBERFORCE AVE

GROUND LEVEL FLOOR PLAN

GL COMMUNITY/COMMERCIAL PARKING: 19 CARS

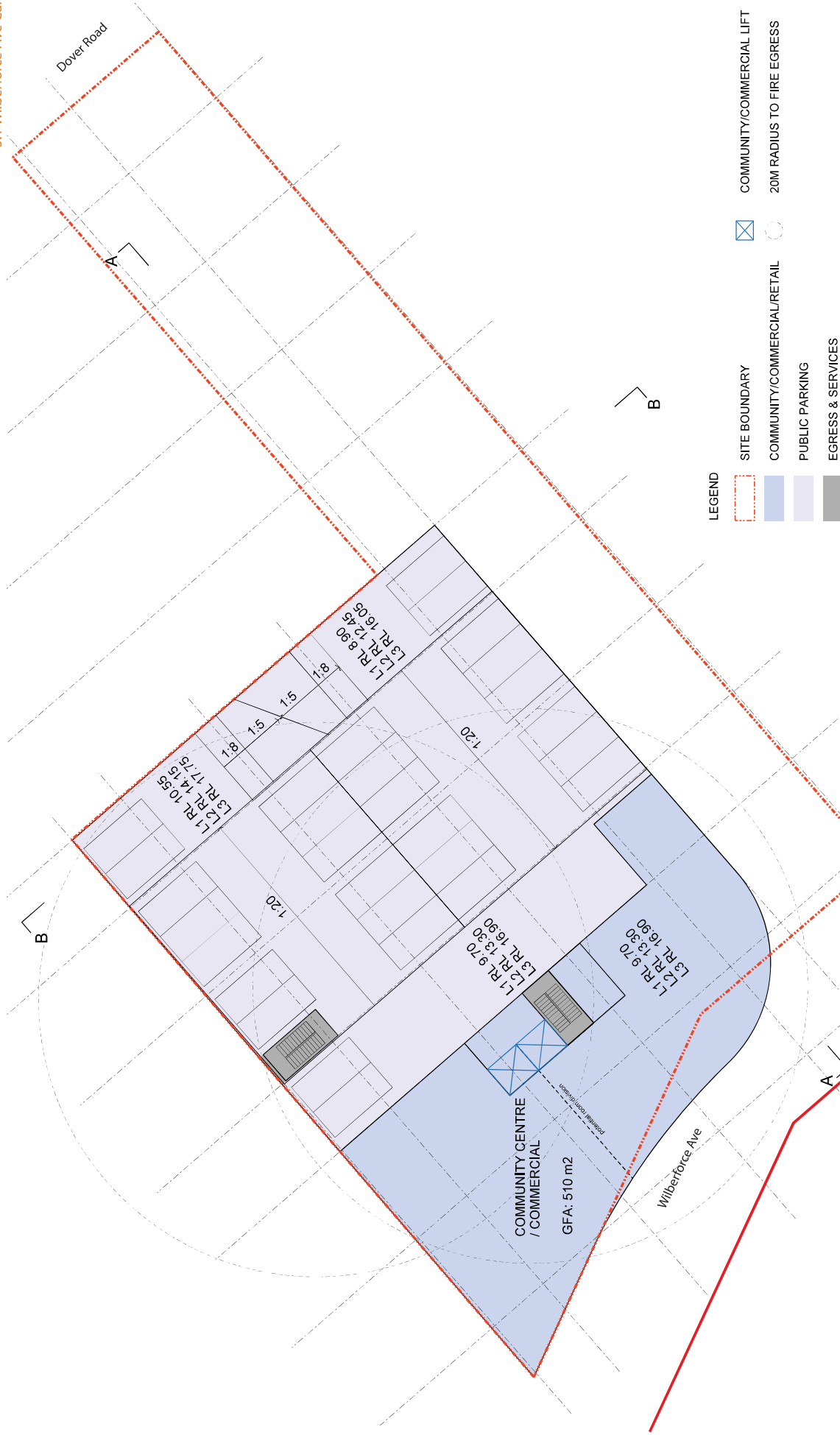
15043 1:250 at A3 14/10/2015



ALLEN JACKSON  
79 Myrtle Street, Chippendale NSW 2008 AUSTRALIA  
PH: +61 2 9311 8522 FAX: +61 2 9311 8600 ARLN:53.003.782.250

# 5 ARCHITECTURAL CONCEPTS

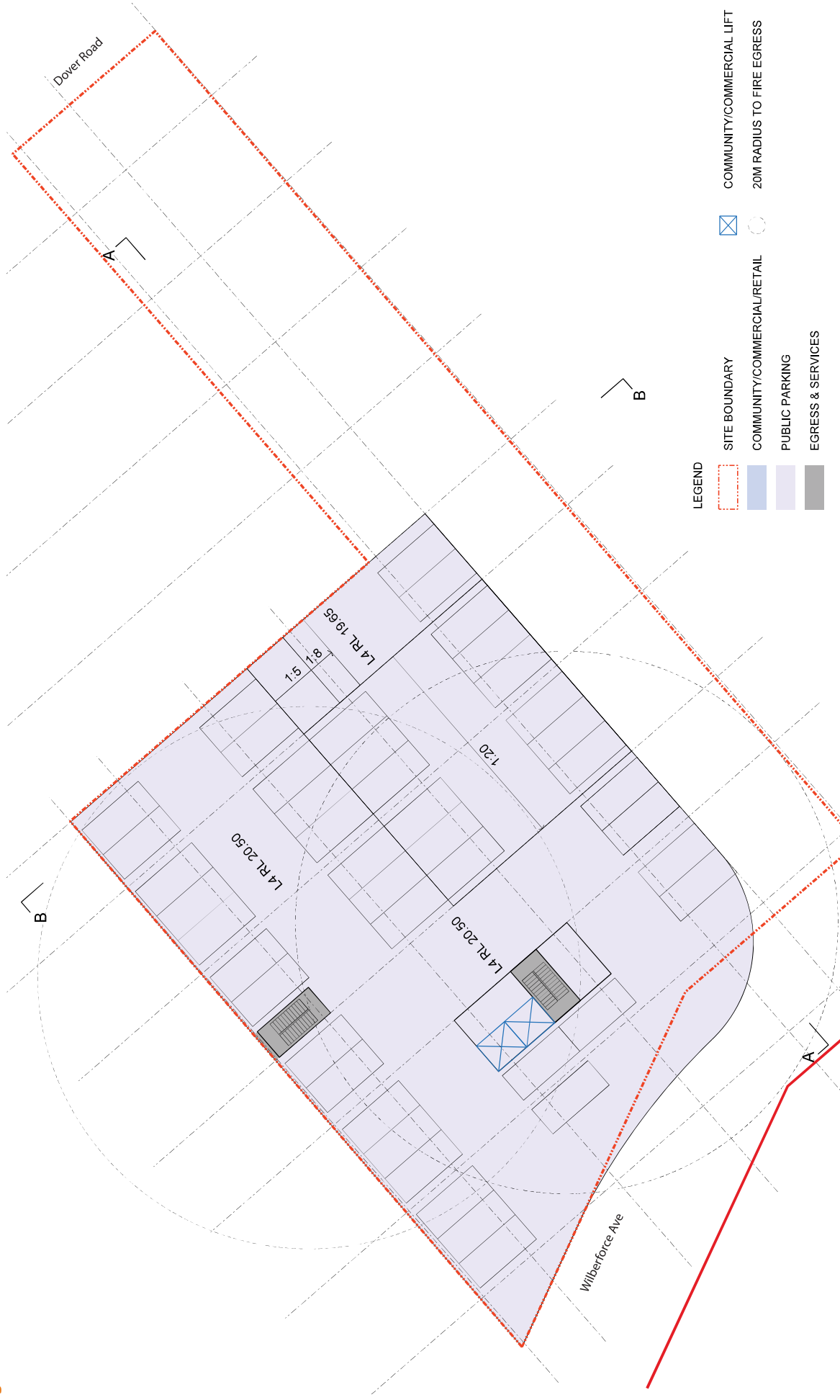
5.1 Wilberforce Ave Car Park



Rose Bay Car Parks  
WILBERFORCE AVE  
LEVEL 1-3 FLOOR PLAN

# 5 ARCHITECTURAL CONCEPTS

## 5.1 Wilberforce Ave Car Park



Rose Bay Car Parks  
**WILBERFORCE AVE**

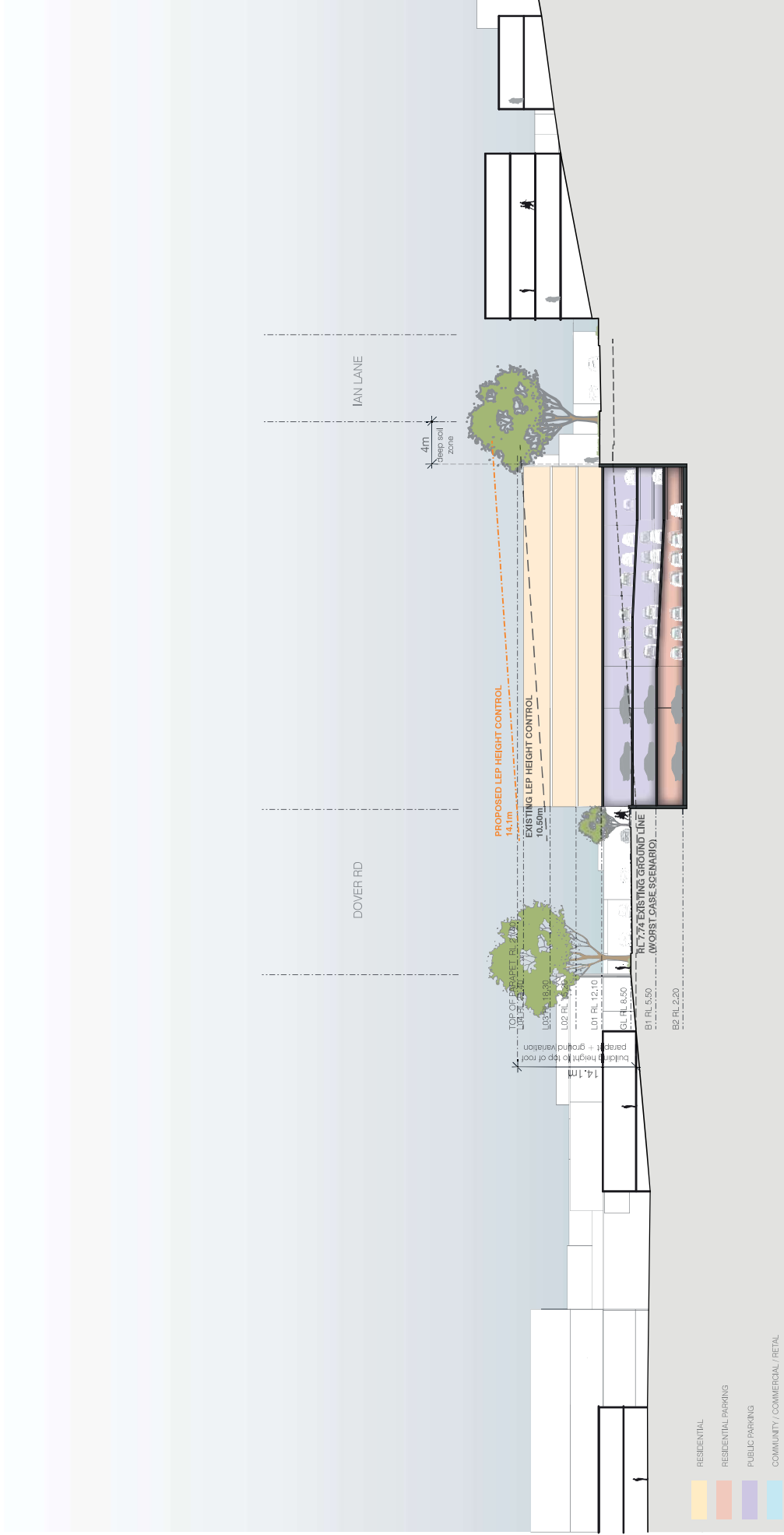
15043 1:250 at A3 12/10/2015

L4 (ROOF) COMMUNITY/COMMERCIAL PARKING: 44 CARS

**AJ+C**  
ALUN JONES COTTER  
 79 Myrtle Street, Chippendale NSW 2008 AUSTRALIA  
PH: +61 2 9511 8222 FAX: +61 2 9511 8200 ABA: 55,003 722 250

# 5 ARCHITECTURAL CONCEPTS

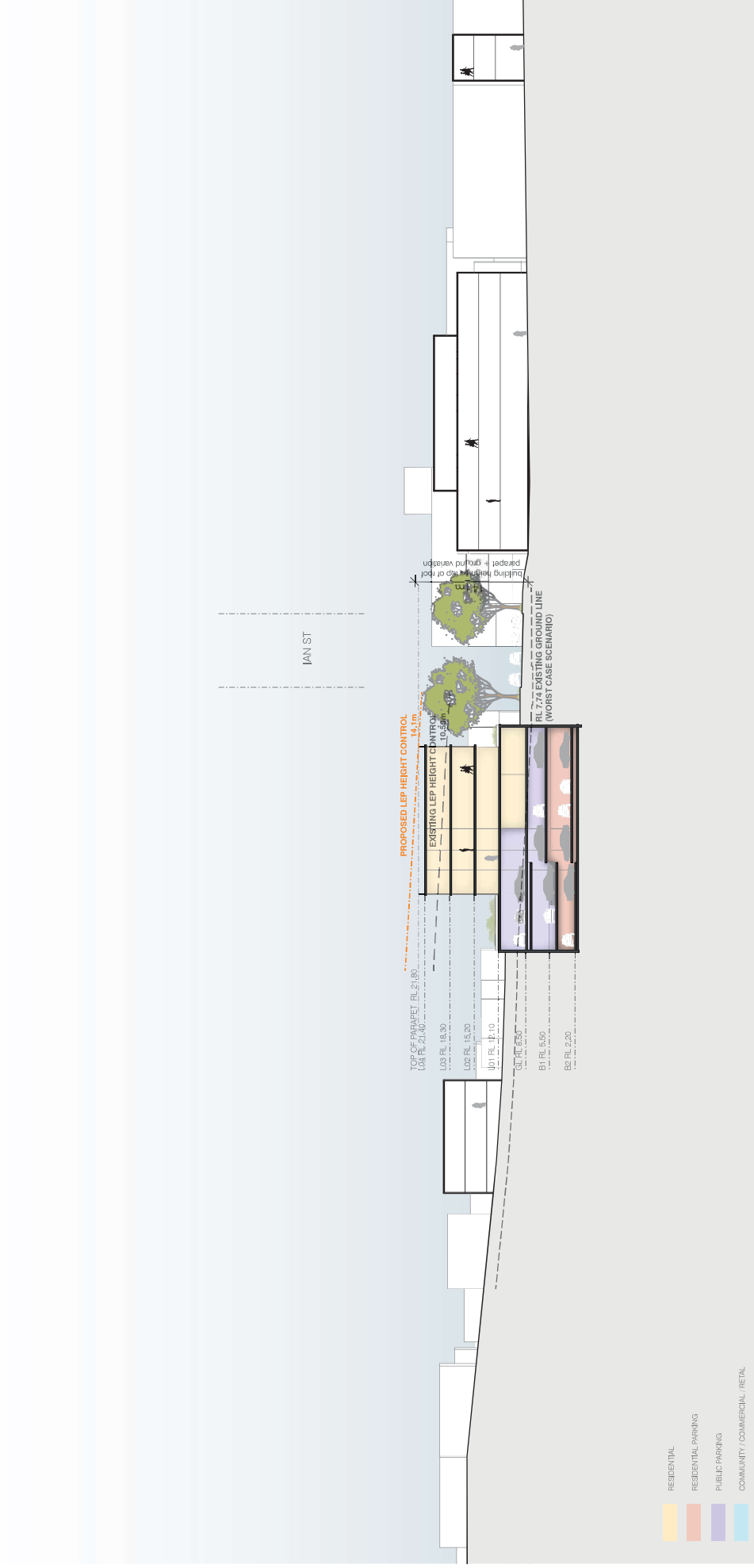
## 5.2 Ian Street Car Park



Section C-C

# 5 ARCHITECTURAL CONCEPTS

## 5.2 Ian Street Car Park



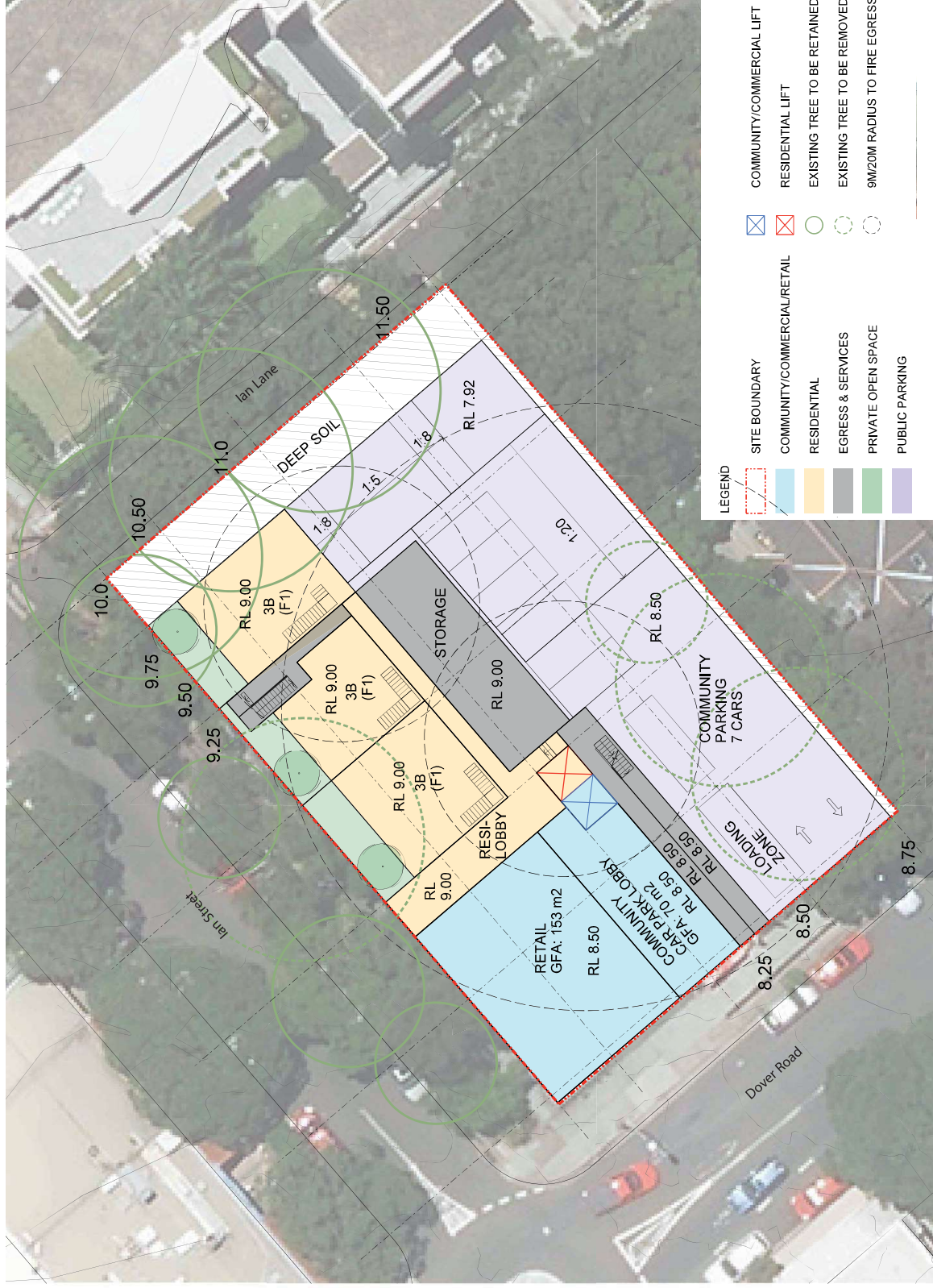
Section D-D

## 5 ARCHITECTURAL CONCEPTS

### 5.2 lan Street Car Park

#### Design Concept:

- + Built Form outcomes that are generally consistent with the outcomes of the B2 Local Centre.
- + Provide retail activation to corner of Dover Road and lan Street
- + Clear separation of residential lobby and community car park lobby.
- + Two storey 'townhouse' style apartments with an address to lan Street.
- + Retain significant vegetation along lan Lane.
- + Provision of additional community/public car parking facilities on 1 consolidated basement level
- + Significant side setbacks (6m) to south-eastern boundary and adjoining single detached dwelling.



## Rose Bay Car Parks IAN ST CAR PARK

## GROUND LEVEL FLOOR PLAN

GL COMMUNITY PARKING, 7 CARS

15043 1:250 at A3 7/10/2015

AJ+C

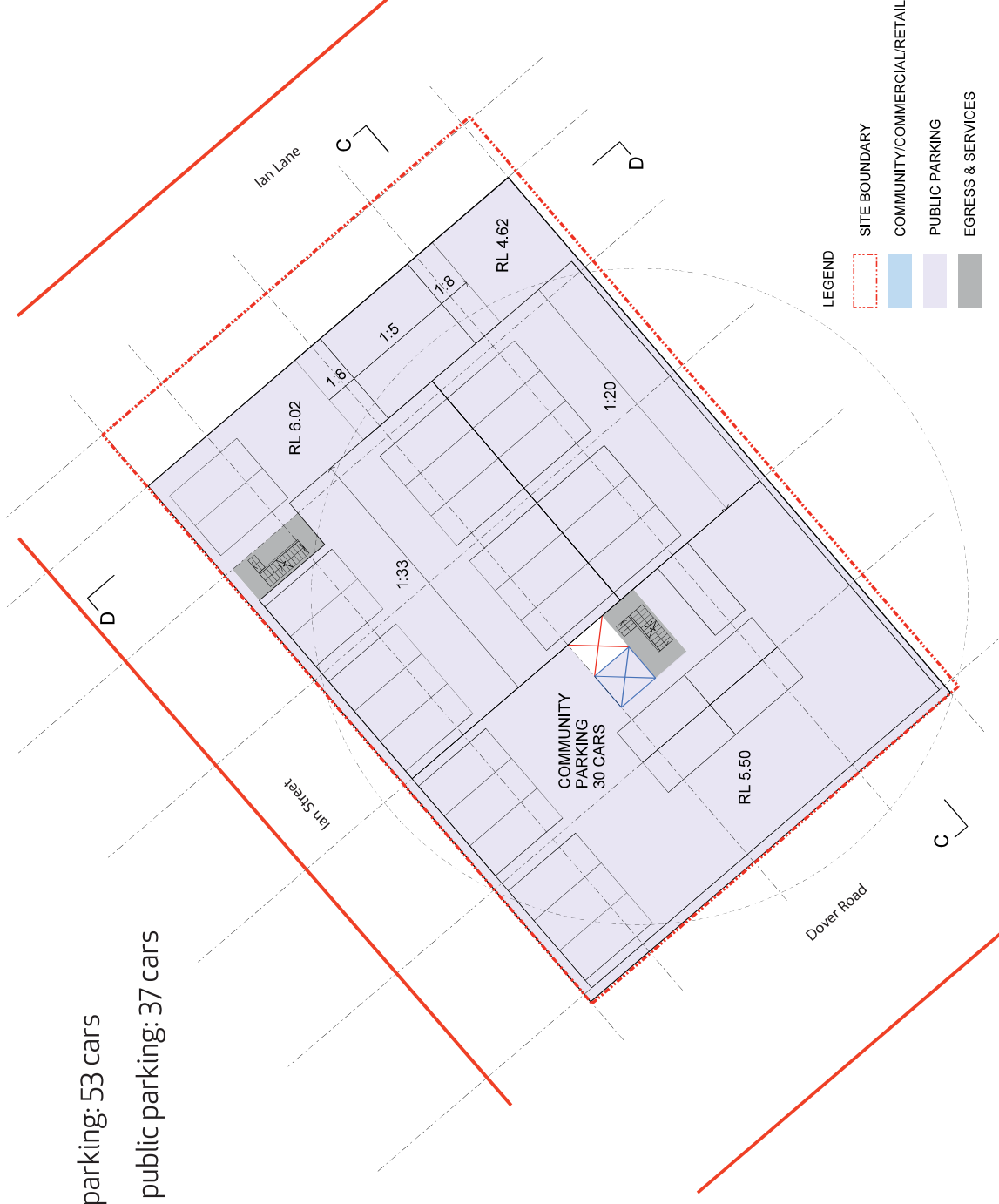
ALUMINUM CENTER  
79 Myrtle Street Chippendale NSW 2008 AUSTRALIA  
ph: +61 2 3611 6222 fx: +61 2 3611 6200 ASN: 651 003 782 260

# 5 ARCHITECTURAL CONCEPTS

## 5.2 Ian Street Car Park

Existing public parking: 53 cars

AJ+C proposed public parking: 37 cars



Rose Bay Car Parks  
IAN ST CAR PARK

15043\_MP2101\_Ian St\_B1.dgn

ROSE BAY CAR PARKS URBAN DESIGN STUDY

15027 September 2016

15043 1:250 at A3 7/09/2016



B1 COMMUNITY PARKING, 30 CARS

AJ+C

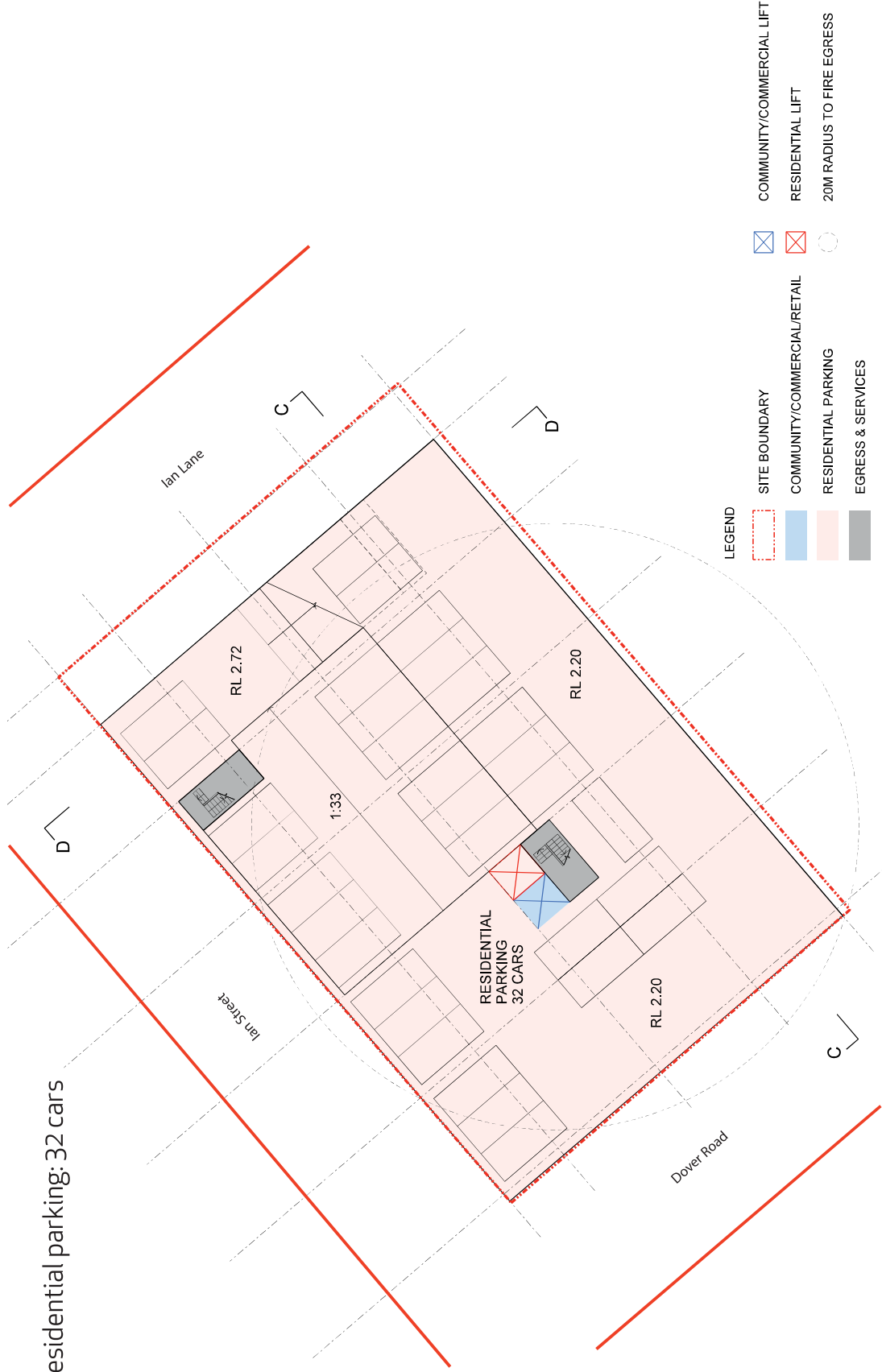
ALUN JACKSON  
79 Myrtle Street, Chippendale NSW 2008 AUSTRALIA  
ph +61 2 9311 8222 fx +61 2 9311 8200 ABN 53 003 782 250



# 5 ARCHITECTURAL CONCEPTS

## 5.2 lan Street Car Park

AJ+C proposed residential parking: 32 cars



15043 1:250 at A3 7/09/2015

15043

B2 RESIDENTIAL PARKING, 32 CARS

N  
NORTH

Rose Bay Car Parks  
IAN ST CAR PARK

15043\_MP2100\_lan St\_B2.dgn

AJ+C  
ARCHITECTURE

79 Myrtle Street, Chippendale NSW 2008 AUSTRALIA  
ph +61 2 9311 8222, fx +61 2 9311 8200, ABN 59 003 782 250

LEGEND

- [Red dashed line] SITE BOUNDARY
- [Blue square] COMMUNITY/COMMERCIAL LIFT
- [Red 'X' square] COMMUNITY/COMMERCIAL/RETAIL
- [Red 'X' square] RESIDENTIAL LIFT
- [Pink square] RESIDENTIAL PARKING
- [Grey square] EGRESS & SERVICES
- [Circle with 'X'] 20M RADIUS TO FIRE EGRESS



**APPENDIX B**

**INTERSECTION PLANS**

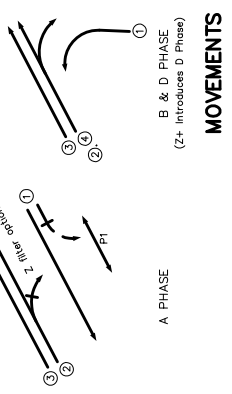
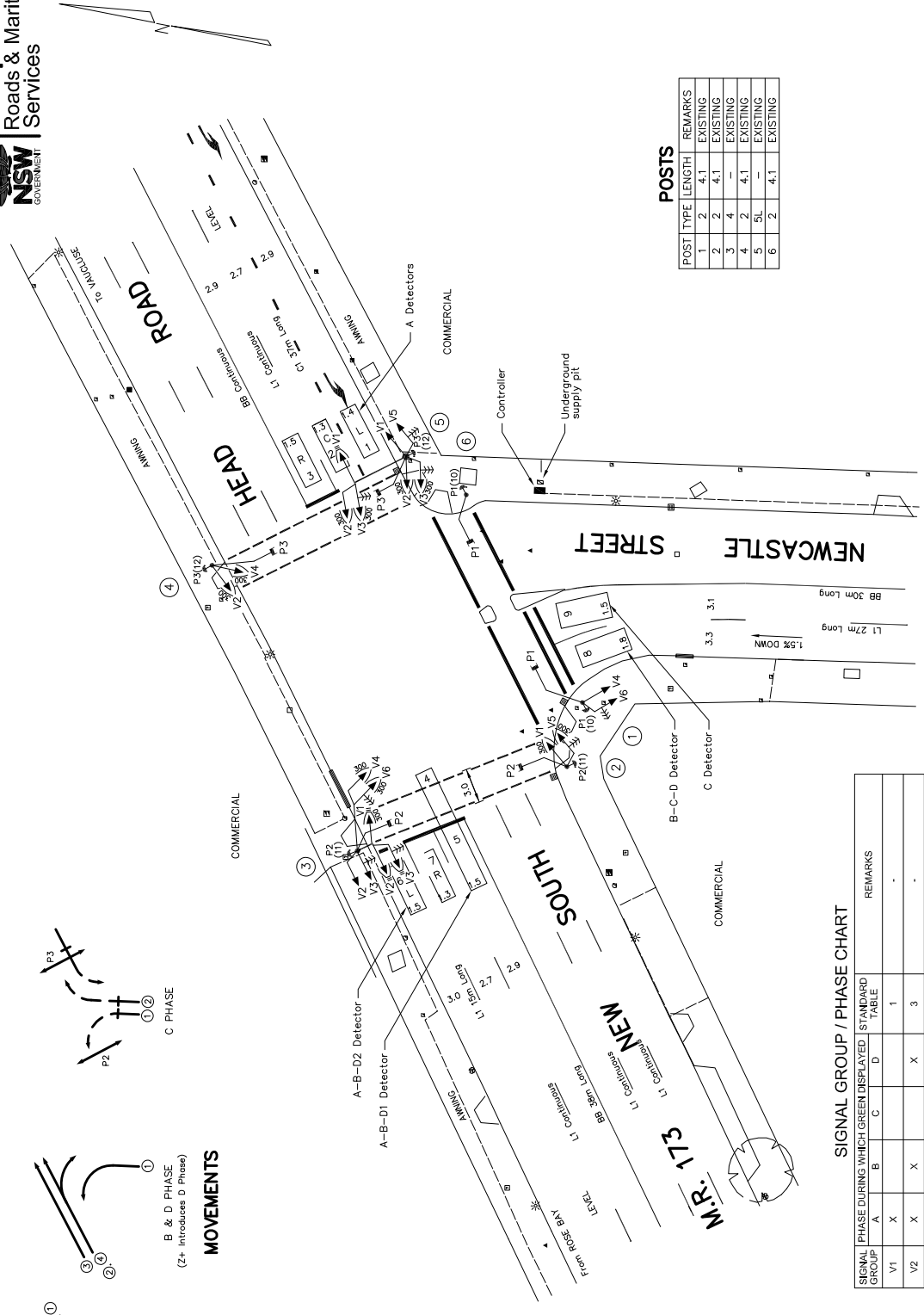
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**DRAWN BY USING CAD  
DO NOT AMEND MANUALLY**

DATE IN SERVICE : 22/4/94

0173.499.VV.0698



**DETECTOR SPECIFICATION**

Detector	Specifications
A	FN AL (A/E1) A
DS	— A
SG/PS	— A
A-B-D	FN B(PR) D(E4) D(E4)
Approach	— A B D
DS	— Z+ A(NEXT) A(NEXT)
A-B-D	FN AL(BL) D(L) A(E2) A
Approach	— Z+ A-B-D(PR) B(NEXT) D(NEXT)
cont.	FN B(E2) D(E2) D
A-B-D	DS A(NEXT) D(NEXT) A(NEXT) B(NEXT)
Approach	— A(L) V2 A(E3) A
A-B-D	DS B(E3) D(E3) D
cont.	FN B(E3) B
A-B-D	DS A(NEXT) D(NEXT) A(NEXT) B(NEXT)
Approach	— B(GD) B(GD) B
B-C-D	DS C Z+ C C(NEXT) D(NEXT)
cont.	FN C(E1) D(E1) D
B-C-D	DS B(NEXT) D(NEXT) B(NEXT) C(NEXT)
Approach	— C C
C	FN A(PB) C(L)
P1	SG/PS P1(WALK) A.PT(WALK)
P.B.	DS — B.G.D. B
P2	FN C(PB) A(L)
P.B.	SG/PS P2(WALK) C.P2(WALK)
DS	— A.E.D. A
P3	FN C(PB) A(L)
P.B.	SG/PS P3(WALK) C.P3(WALK)
DS	— A.E.D. A

**SIGNAL GROUP / PHASE CHART**

SIGNAL GROUP	PHASE DURING WHICH GREEN DISPLAYED				REMARKS
	A	B	C	D	
V1	X				-
V2	X	X			-
V3		X	X		Timed R.A. protection for P1 pedestrians. Z-filter option.
V4			C		Timed red protection for P3 pedestrians.
V5		C			Timed R.A. protection for P1 pedestrians.
V6		X	C		Timed R.A. protection for P2 pedestrians. Walk and part clearance subject to timer.
P1	X				-
P2		X			-
P3			X		-

**POSTS**

POST TYPE	LENGTH	REMARKS
1	2	4.1 EXISTING
2	2	4.1 EXISTING
3	4	— EXISTING
4	2	4.1 EXISTING
5	5L	— EXISTING
6	2	4.1 EXISTING

**NOTES**

- This site is SCATS linked.
- Special STOP sign (R1-4) is placed on post 1.
- Audio-tactile push buttons are provided on all posts.
- (i) V2 and V3 overhead lanterns on Post 3 are to have horizontal louvers in the green aspect and to be lowered to minimise visibility from TCS 2150.
- (ii) V1 overhead lanterns on Posts 3 and 5 are to have horizontal louvers in the green aspect and to be lowered to minimise visibility from TCS 619.

**DESIGN LAYOUT**

PUBLIC UTILITY LEGEND	SYMBOLS/ABRS.	REFERENCE PLANS	DATE
STOP VALVE	SV	MAP 237 MID	12-09-2013
STAY POLE	SP	MAP 237 MID	12-09-2013
TELEPHONE POLE	TP	MAP 237 MID	12-09-2013
TELEPHONE CABLE	TC	MAP 237 MID	12-09-2013
TELEPHONE CABLE	TC	MAP 237 MID	12-09-2013

**ROADS AND MARITIME SERVICES**  
WOOLLAHRA COUNCIL AREA  
NEW SOUTH HEAD ROAD (MRT173) AND  
NEWCASTLE STREET  
ROSE BAY

TCS No. **0698**

DESIGN LAYOUT

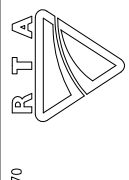
APPROVED: [Signature]  
PERSON ENGINEER  
DATE: 21-03-1993

ACCEPTED: [Signature]  
DATE: 21-03-1993

FILE: 499 TS 265  
SHEET: 1/D  
ISSUE: E

0173.499.VV.0698

1



DATE IN SERVICE : 26/05/70

**POST CHART**

POST TYPE	LENGTH	REMARKS
1	2	3.0 EXISTING
2	2	3.0 EXISTING
3	2	3.0 EXISTING
4	2	4.1 EXISTING
5	2	2.8 EXISTING
6	2	3.2 EXISTING

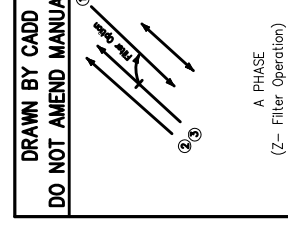
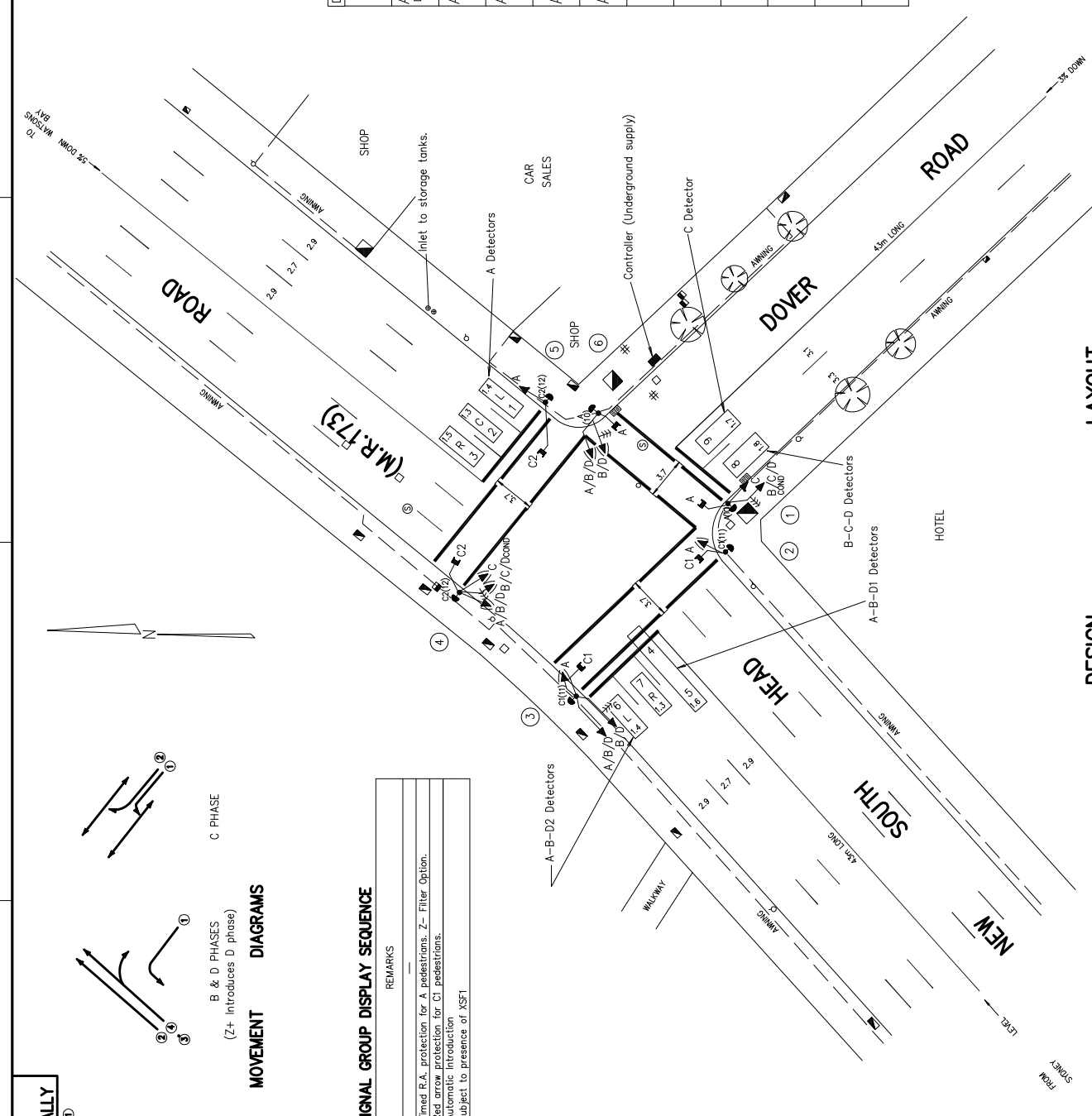
Z BRACKET

**DETECTOR SPECIFICATION**

Detector	Specifications
A	FN A(L) A(E1) A
A-B-D	FN B(PR) D(PR) B(E 4) D(E 4)
Approach	DS A A(A(NEXT) B(NEXT))
A-B-D	FN A(L) B(L) D(L) A(E 3) A
Approach	DS A-B-D(PR) B(NEXT) D(NEXT)
A-B-D	FN A(L) B(E 3) B(E 3) D(E 3)
Approach	DS A(NEXT) D(NEXT) A(NEXT) B(NEXT)
A-B-D	DS/PS A(L) A(E 2) A
cont.	DS B(D) B(NEXT) D(NEXT)
A-B-D	DS/PS A
cont.	FN A(NEXT) B(NEXT)
B-C-D	DS/PS B(C,D) C
cont.	DS C-C(PR) B-C-D(NG) 2+3+6+7+8 [2+3+6+7+8+9] [2+3+6+7+8+9] D(NEXT) C(NEXT)
B-C-D	FN C(E1) C
cont.	DS B(NEXT) D(NEXT) B(NEXT) C(NEXT) C(PR)
C	FN C(L) C(E2) C
cont.	DS A(PB) C(L)
P.B.	DS/PS A(WALK) A(A(WALK))
cont.	DS B(C,D)
C1	FN C(PR) A(L)
P.B.	DS/PS C(T(WALK) C(C1(WALK))
cont.	DS C(PR) A(L)
C2	FN C2(WALK) C(C2(WALK))
P.B.	DS/PS C2(WALK) A(B,D)

**NOTES:**

- This site is SCATS linked.
- Special STOP sign (R1-4) is placed on post 1.
- For details of the Automatic Network Travel Time System (ANTTS) installed at this site, refer to plan No.VES42-13. The ANTTS antenna is mounted on post No.4.
- Audio tactile push buttons provided on posts 1,2,3,4 & 6.



**SPECIAL SIGNAL GROUP DISPLAY SEQUENCE**

SIGNAL GROUP	TABLE TYPE	REMARKS
A	3	Timed R.A. protection for A. pedestrians. Z- Filter Option.
A/B/D	39	Red arrow protection for A. pedestrians. Z- Filter Option.
B/C/D	14	Automatic introduction subject to presence of XSF1
PED		

**DRAWN BY CADD**  
DO NOT AMEND MANUALLY

0173.499.VV.0619

**LAYOUT DESIGN**

<b>APPROVED</b>	A. Kennedy SUPERVISING ENGINEER DATE 10.6.87	<b>ACCEPTED</b>	A. Kennedy SUPERVISING ENGINEER DATE 10.6.87	<b>Roads and Traffic Authority, N.S.W</b> <b>WOOLLARA COUNCIL AREA</b> <b>TRAFFIC SIGNALS AT</b> <b>NEW SOUTH HEAD ROAD AND DOVER ROAD</b> <b>ROSE BAY</b>
<b>THIS DRAWING IS FOR ACCEPTANCE</b>	<b>SCALE</b> 1:250	<b>EXISTING</b> <input type="checkbox"/>	<b>PROPOSED</b> <input checked="" type="checkbox"/>	<b>ISSUE</b> 7
<b>U.B.D. Ref. Map 237 M10</b>	<b>S.5.5</b>	<b>FILE</b> 499 TS 144	<b>REG. NO.</b> 01730.499.VV.0619	<b>SHEET</b> 7
<b>SYMBOLS/ABRS.</b> 10000-6	<b>10000-5</b>	<b>FILE</b> 499 TS 144	<b>REG. NO.</b> 01730.499.VV.0619	<b>SHEET</b> 7
<b>STD. SCHED.</b> 10000-6	<b>10000-5</b>	<b>FILE</b> 499 TS 144	<b>REG. NO.</b> 01730.499.VV.0619	<b>SHEET</b> 7
<b>EXT. SCHED.</b> 10000-6	<b>10000-5</b>	<b>FILE</b> 499 TS 144	<b>REG. NO.</b> 01730.499.VV.0619	<b>SHEET</b> 7
<b>SEC. OBJECT.</b> 10000-6	<b>10000-5</b>	<b>FILE</b> 499 TS 144	<b>REG. NO.</b> 01730.499.VV.0619	<b>SHEET</b> 7
<b>SEC. OBJ. S&amp;L</b> 10000-6	<b>10000-5</b>	<b>FILE</b> 499 TS 144	<b>REG. NO.</b> 01730.499.VV.0619	<b>SHEET</b> 7
<b>POWER POLE</b> 0	<b>0</b>	<b>FILE</b> 499 TS 144	<b>REG. NO.</b> 01730.499.VV.0619	<b>SHEET</b> 7
<b>STAT. POLE</b> 0	<b>0</b>	<b>FILE</b> 499 TS 144	<b>REG. NO.</b> 01730.499.VV.0619	<b>SHEET</b> 7
<b>REF. POLE</b> 0	<b>0</b>	<b>FILE</b> 499 TS 144	<b>REG. NO.</b> 01730.499.VV.0619	<b>SHEET</b> 7

**APPENDIX C**

**TRAFFIC SURVEY RESULTS**

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Location - Duration 0700 - 0900  
NEW SOUTH HEAD ROAD 1600 -1800  
DOVER ROAD -  
NEW SOUTH HEAD ROAD Day/Date Tuesday, September 20, 2016  
Suburb ROSE BAY Weather FINE

All Vehicles Time Per 15 Mins	NORTH				EAST				SOUTH				WEST				TOTAL
	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	
7:00 - 7:15	0	0	0	0	14	177	0	191	77	0	12	89	0	176	25	201	481
7:15 - 7:30	0	0	0	0	11	171	0	182	84	0	7	91	0	147	38	185	458
7:30 - 7:45	0	0	0	0	7	223	0	230	84	0	14	98	0	159	45	204	532
7:45 - 8:00	0	0	0	0	9	209	0	218	64	0	23	87	0	198	35	233	538
8:00 - 8:15	0	0	0	0	6	203	0	209	87	0	28	115	0	178	50	228	552
8:15 - 8:30	0	0	0	0	13	251	0	264	61	0	29	90	0	205	44	249	603
8:30 - 8:45	0	0	0	0	18	206	0	224	61	0	19	80	0	128	42	170	474
8:45 - 9:00	0	0	0	0	15	209	0	224	78	0	23	101	0	130	37	167	492
Period End	0	0	0	0	93	1649	0	1742	596	0	155	751	0	1321	316	1637	4130
16:00 - 16:15	0	0	0	0	26	167	0	193	40	0	16	56	0	160	65	225	474
16:15 - 16:30	0	0	0	0	24	192	0	216	42	0	15	57	0	165	64	229	502
16:30 - 16:45	0	0	0	0	31	161	0	192	49	0	17	66	0	169	72	241	499
16:45 - 17:00	0	0	0	0	25	167	0	192	49	0	11	60	0	158	56	214	466
17:00 - 17:15	0	0	0	0	23	165	0	188	35	0	18	53	0	186	63	249	490
17:15 - 17:30	0	0	0	0	28	160	0	188	43	0	18	61	0	179	83	262	511
17:30 - 17:45	0	0	0	0	18	118	0	136	45	0	23	68	0	215	100	315	519
17:45 - 18:00	0	0	0	0	20	117	0	137	43	0	14	57	0	196	80	276	470
Period End	0	0	0	0	195	1247	0	1442	346	0	132	478	0	1428	583	2011	3931

All Vehicles Time Per 15 Mins	NORTH				EAST				SOUTH				WEST				TOTAL
	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	
7:00 - 8:00	0	0	0	0	41	780	0	821	309	0	56	365	0	680	143	823	2009
7:15 - 8:15	0	0	0	0	33	806	0	839	319	0	72	391	0	682	168	850	2080
7:30 - 8:30	0	0	0	0	35	886	0	921	296	0	94	390	0	740	174	914	2225
7:45 - 8:45	0	0	0	0	46	869	0	915	273	0	99	372	0	709	171	880	2167
8:00 - 9:00	0	0	0	0	52	869	0	921	287	0	99	386	0	641	173	814	2121
Period End	0	0	0	0	207	4210	0	4417	1484	0	420	1904	0	3452	829	4281	10602
16:00 - 17:00	0	0	0	0	106	687	0	793	180	0	59	239	0	652	257	909	1941
16:15 - 17:15	0	0	0	0	103	685	0	788	175	0	61	236	0	678	255	933	1957
16:30 - 17:30	0	0	0	0	107	653	0	760	176	0	64	240	0	692	274	966	1966
16:45 - 17:45	0	0	0	0	94	610	0	704	172	0	70	242	0	738	302	1040	1986
17:00 - 18:00	0	0	0	0	89	560	0	649	166	0	73	239	0	776	326	1102	1990
Period End	0	0	0	0	499	3195	0	3694	869	0	327	1196	0	3536	1414	4950	9840

Location \_\_\_\_\_  
 \_\_\_\_\_  
 NEW SOUTH HEAD ROAD  
 \_\_\_\_\_  
 DOVER ROAD  
 \_\_\_\_\_  
 NEW SOUTH HEAD ROAD  
 \_\_\_\_\_  
 Suburb \_\_\_\_\_  
 ROSE BAY

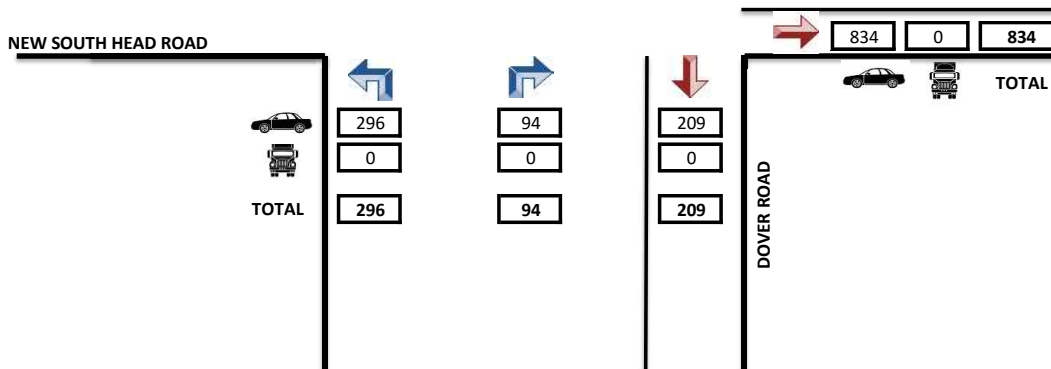
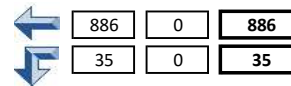
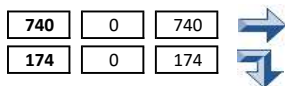
Duration \_\_\_\_\_  
 0700 - 0900  
 \_\_\_\_\_  
 1600 -1800  
 \_\_\_\_\_  
 0  
 Day/Date \_\_\_\_\_  
 Tuesday, September 20, 2016  
 \_\_\_\_\_  
 Weather \_\_\_\_\_  
 FINE



TOTAL  

AM PEAK  

7:30	-	8:30
------	---	------



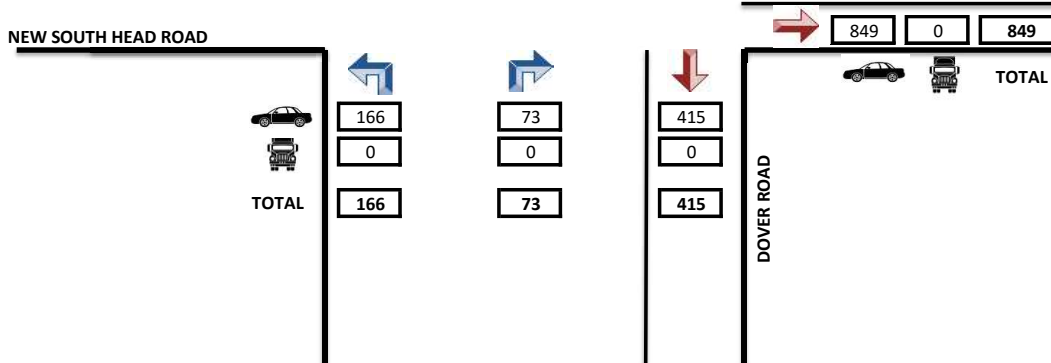
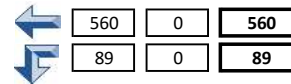
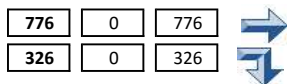
Location \_\_\_\_\_  
 \_\_\_\_\_  
 NEW SOUTH HEAD ROAD  
 \_\_\_\_\_  
 DOVER ROAD  
 \_\_\_\_\_  
 NEW SOUTH HEAD ROAD  
 \_\_\_\_\_  
 Suburb \_\_\_\_\_  
 ROSE BAY

Duration \_\_\_\_\_  
 0700 - 0900  
 \_\_\_\_\_  
 1600 -1800  
 \_\_\_\_\_  
 0  
 Day/Date \_\_\_\_\_  
 Tuesday, September 20, 2016  
 \_\_\_\_\_  
 Weather \_\_\_\_\_  
 FINE



TOTAL  

PM PEAK  
 17:00 - 18:00



Location	-	Duration	0700 - 0900
	NEW SOUTH HEAD ROAD		1600 -1800
	NEWCASTLE STREET		-
	NEW SOUTH HEAD ROAD	Day/Date	Tuesday, September 20, 2016
Suburb	ROSE BAY	Weather	FINE

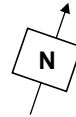
All Vehicles Time Per 15 Mins	NORTH				EAST				SOUTH				WEST				TOTAL
	-				NEW SOUTH HEAD ROAD				NEWCASTLE STREET				NEW SOUTH HEAD ROAD				
	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	
7:00 - 7:15	0	0	0	0	6	248	0	254	15	0	22	37	0	165	21	186	477
7:15 - 7:30	0	0	0	0	7	250	0	257	24	0	24	48	0	137	15	152	457
7:30 - 7:45	0	0	0	0	7	300	0	307	20	0	37	57	0	147	26	173	537
7:45 - 8:00	0	0	0	0	6	267	0	273	22	0	40	62	0	193	26	219	554
8:00 - 8:15	0	0	0	0	9	282	0	291	31	0	35	66	0	187	19	206	563
8:15 - 8:30	0	0	0	0	20	293	0	313	33	0	30	63	0	212	19	231	607
8:30 - 8:45	0	0	0	0	21	246	0	267	14	0	26	40	0	123	24	147	454
8:45 - 9:00	0	0	0	0	21	266	0	287	29	0	30	59	0	131	22	153	499
Period End	0	0	0	0	97	2152	0	2249	188	0	244	432	0	1295	172	1467	4148
16:00 - 16:15	0	0	0	0	13	194	0	207	18	0	18	36	0	138	38	176	419
16:15 - 16:30	0	0	0	0	9	225	0	234	23	0	22	45	0	146	32	178	457
16:30 - 16:45	0	0	0	0	12	198	0	210	25	0	21	46	0	154	32	186	442
16:45 - 17:00	0	0	0	0	25	192	0	217	23	0	26	49	0	121	49	170	436
17:00 - 17:15	0	0	0	0	13	187	0	200	28	0	31	59	0	158	46	204	463
17:15 - 17:30	0	0	0	0	18	185	0	203	12	0	31	43	0	156	41	197	443
17:30 - 17:45	0	0	0	0	19	144	0	163	29	0	30	59	0	198	40	238	460
17:45 - 18:00	0	0	0	0	17	143	0	160	19	0	23	42	0	166	43	209	411
Period End	0	0	0	0	126	1468	0	1594	177	0	202	379	0	1237	321	1558	3531

All Vehicles Time Per 15 Mins	NORTH				EAST				SOUTH				WEST				TOTAL
	-				NEW SOUTH HEAD ROAD				NEWCASTLE STREET				NEW SOUTH HEAD ROAD				
	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	
7:00 - 8:00	0	0	0	0	26	1065	0	1091	81	0	123	204	0	642	88	730	2025
7:15 - 8:15	0	0	0	0	29	1099	0	1128	97	0	136	233	0	664	86	750	2111
7:30 - 8:30	0	0	0	0	42	1142	0	1184	106	0	142	248	0	739	90	829	2261
7:45 - 8:45	0	0	0	0	56	1088	0	1144	100	0	131	231	0	715	88	803	2178
8:00 - 9:00	0	0	0	0	71	1087	0	1158	107	0	121	228	0	653	84	737	2123
Period End	0	0	0	0	224	5481	0	5705	491	0	653	1144	0	3413	436	3849	10698
16:00 - 17:00	0	0	0	0	59	809	0	868	89	0	87	176	0	559	151	710	1754
16:15 - 17:15	0	0	0	0	59	802	0	861	99	0	100	199	0	579	159	738	1798
16:30 - 17:30	0	0	0	0	68	762	0	830	88	0	109	197	0	589	168	757	1784
16:45 - 17:45	0	0	0	0	75	708	0	783	92	0	118	210	0	633	176	809	1802
17:00 - 18:00	0	0	0	0	67	659	0	726	88	0	115	203	0	678	170	848	1777
Period End	0	0	0	0	328	3740	0	4068	456	0	529	985	0	3038	824	3862	8915



Location \_\_\_\_\_  
 \_\_\_\_\_ NEW SOUTH HEAD ROAD  
 \_\_\_\_\_ NEWCASTLE STREET  
 \_\_\_\_\_ NEW SOUTH HEAD ROAD  
 Suburb \_\_\_\_\_ ROSE BAY

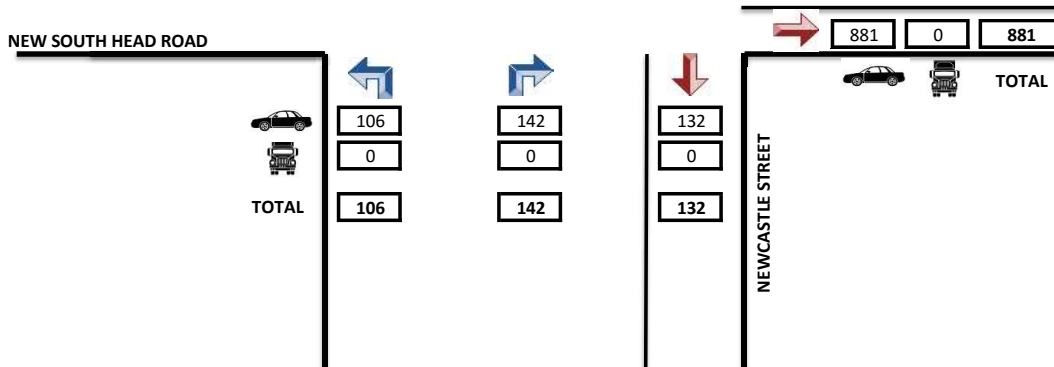
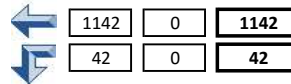
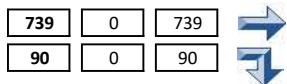
Duration \_\_\_\_\_ 0700 - 0900  
 \_\_\_\_\_ 1600 -1800  
 \_\_\_\_\_ 0  
 Day/Date \_\_\_\_\_ Tuesday, September 20, 2016  
 Weather \_\_\_\_\_ FINE



TOTAL  

AM PEAK  

7:30	-	8:30
------	---	------



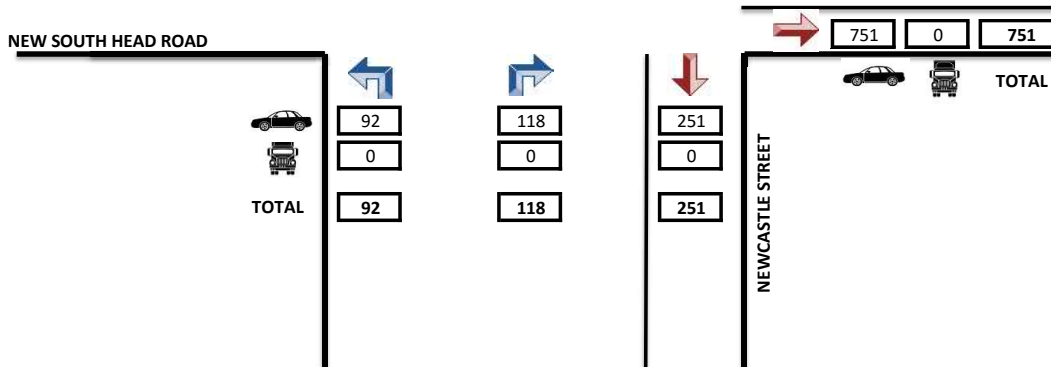
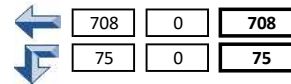
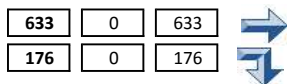
Location \_\_\_\_\_  
 \_\_\_\_\_  
 NEW SOUTH HEAD ROAD  
 \_\_\_\_\_  
 NEWCASTLE STREET  
 \_\_\_\_\_  
 NEW SOUTH HEAD ROAD  
 \_\_\_\_\_  
 Suburb \_\_\_\_\_  
 ROSE BAY

Duration \_\_\_\_\_  
 0700 - 0900  
 \_\_\_\_\_  
 1600 -1800  
 \_\_\_\_\_  
 0  
 Day/Date \_\_\_\_\_  
 Tuesday, September 20, 2016  
 \_\_\_\_\_  
 Weather \_\_\_\_\_  
 FINE



TOTAL  

PM PEAK  
 16:45 - 17:45



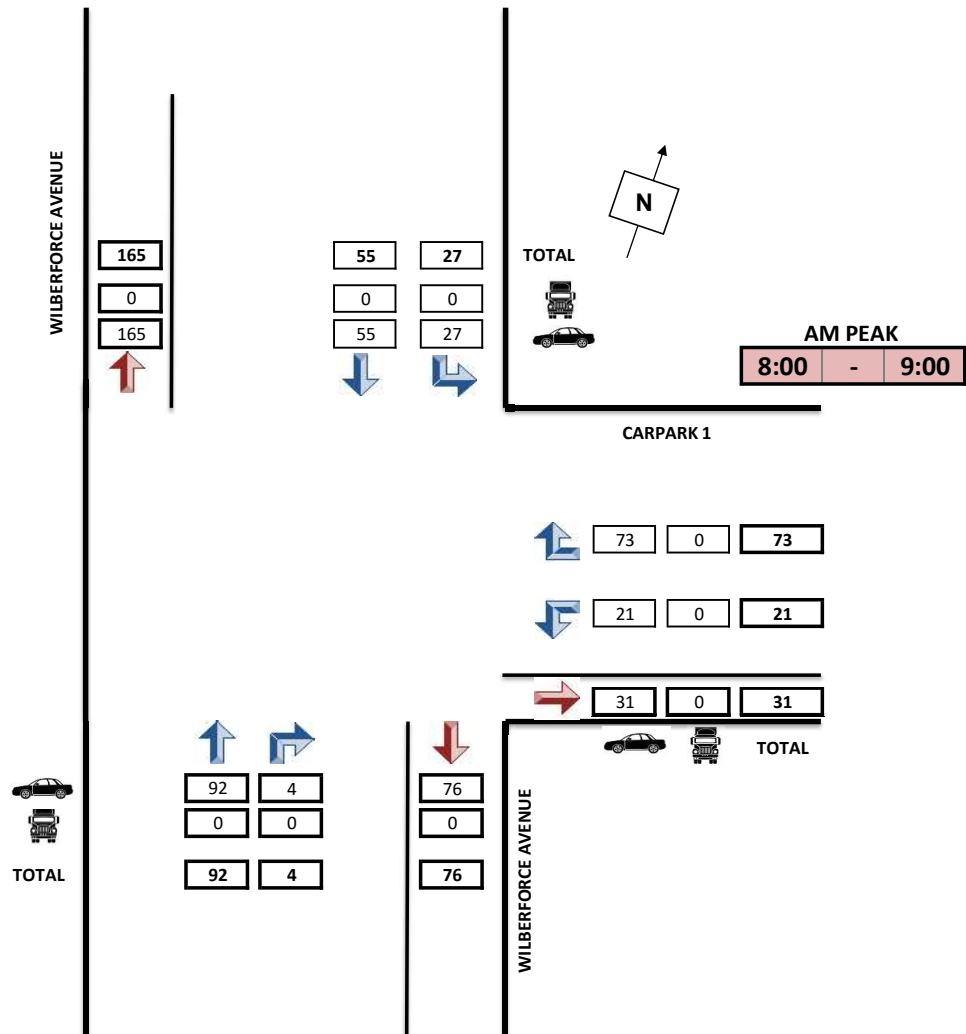
Location	WILBERFORCE AVENUE	Duration	0700 - 0900
	CARPARK 1		1600 - 1800
	WILBERFORCE AVENUE		-
	-	Day/Date	Monday, August 22, 2016
Suburb	ROSE BAY	Weather	FINE

All Vehicles Time Per 15 Mins	NORTH WILBERFORCE AVENUE				EAST CARPARK 1				SOUTH WILBERFORCE AVENUE				WEST -				TOTAL
	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	
7:00 - 7:15	2	11	0	2	2	0	8	10	0	8	1	9	0	0	0	0	21
7:15 - 7:30	8	11	0	8	2	0	12	14	0	21	0	21	0	0	0	0	43
7:30 - 7:45	6	4	0	6	2	0	8	10	0	24	0	24	0	0	0	0	40
7:45 - 8:00	3	11	0	3	1	0	7	8	0	34	0	34	0	0	0	0	45
8:00 - 8:15	4	14	0	4	1	0	23	24	0	23	2	25	0	0	0	0	53
8:15 - 8:30	4	15	0	4	5	0	14	19	0	26	0	26	0	0	0	0	49
8:30 - 8:45	9	12	0	9	3	0	19	22	0	18	1	19	0	0	0	0	50
8:45 - 9:00	10	14	0	10	12	0	17	29	0	25	1	26	0	0	0	0	65
Period End	46	92	0	46	28	0	108	136	0	179	5	184	0	0	0	0	366
16:00 - 16:15	13	25	0	13	19	0	13	32	0	16	2	18	0	0	0	0	63
16:15 - 16:30	14	22	0	14	10	0	18	28	0	15	2	17	0	0	0	0	59
16:30 - 16:45	14	32	0	14	14	0	19	33	0	18	2	20	0	0	0	0	67
16:45 - 17:00	14	31	0	14	14	0	16	30	0	13	1	14	0	0	0	0	58
17:00 - 17:15	14	30	0	14	10	0	12	22	0	10	1	11	0	0	0	0	47
17:15 - 17:30	6	38	0	6	15	0	19	34	0	14	1	15	0	0	0	0	55
17:30 - 17:45	16	40	0	16	13	0	14	27	0	13	3	16	0	0	0	0	59
17:45 - 18:00	7	31	0	7	12	0	17	29	0	13	2	15	0	0	0	0	51
Period End	98	249	0	98	107	0	128	235	0	112	14	126	0	0	0	0	459

All Vehicles Time Per 15 Mins	NORTH WILBERFORCE AVENUE				EAST CARPARK 1				SOUTH WILBERFORCE AVENUE				WEST -				TOTAL
	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	
7:00 - 8:00	19	37	0	19	7	0	35	42	0	87	1	88	0	0	0	0	149
7:15 - 8:15	21	40	0	21	6	0	50	56	0	102	2	104	0	0	0	0	181
7:30 - 8:30	17	44	0	17	9	0	52	61	0	107	2	109	0	0	0	0	187
7:45 - 8:45	20	52	0	20	10	0	63	73	0	101	3	104	0	0	0	0	197
8:00 - 9:00	27	55	0	27	21	0	73	94	0	92	4	96	0	0	0	0	217
Period End	104	228	0	104	53	0	273	326	0	489	12	501	0	0	0	0	931
16:00 - 17:00	55	110	0	55	57	0	66	123	0	62	7	69	0	0	0	0	247
16:15 - 17:15	56	115	0	56	48	0	65	113	0	56	6	62	0	0	0	0	231
16:30 - 17:30	48	131	0	48	53	0	66	119	0	55	5	60	0	0	0	0	227
16:45 - 17:45	50	139	0	50	52	0	61	113	0	50	6	56	0	0	0	0	219
17:00 - 18:00	43	139	0	43	50	0	62	112	0	50	7	57	0	0	0	0	212
Period End	252	634	0	252	260	0	320	580	0	273	31	304	0	0	0	0	1136

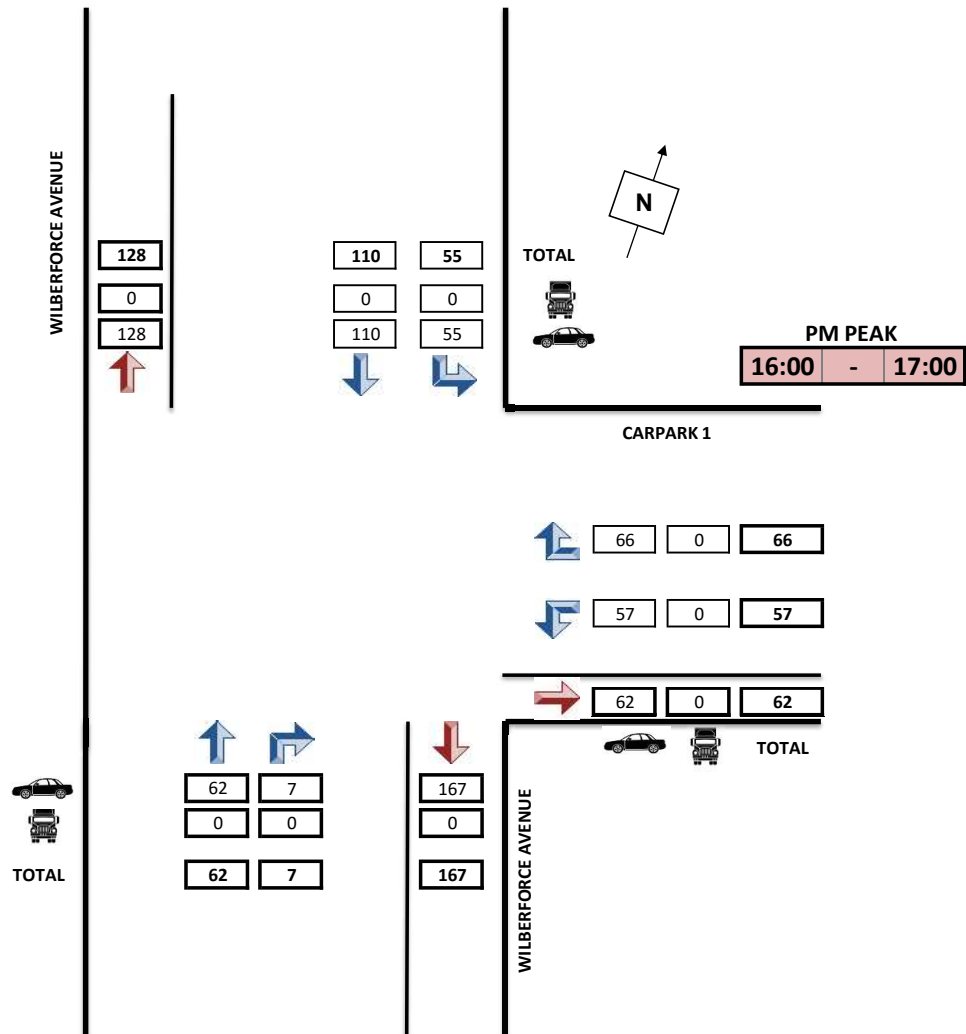
Location WILBERFORCE AVENUE  
CARPARK 1  
WILBERFORCE AVENUE  
 -  
 Suburb ROSE BAY

Duration 0700 - 0900  
1600 -1800  
0  
 Day/Date Monday, August 22, 2016  
 Weather FINE



Location WILBERFORCE AVENUE  
CARPARK 1  
WILBERFORCE AVENUE  
 -  
 Suburb ROSE BAY

Duration 0700 - 0900  
1600 -1800  
0  
 Day/Date Monday, August 22, 2016  
 Weather FINE



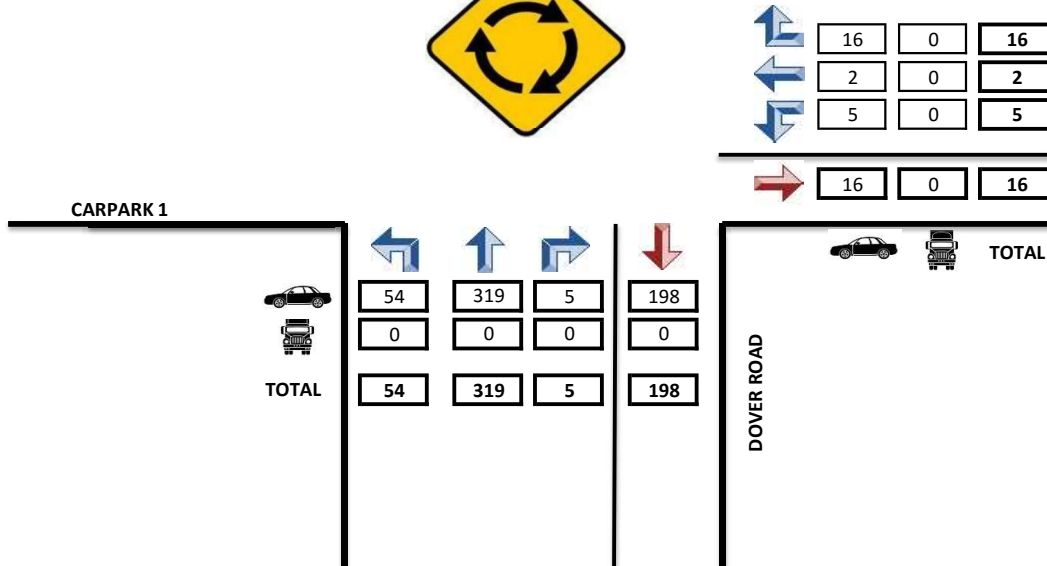
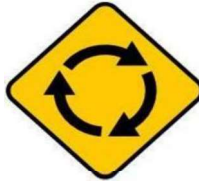
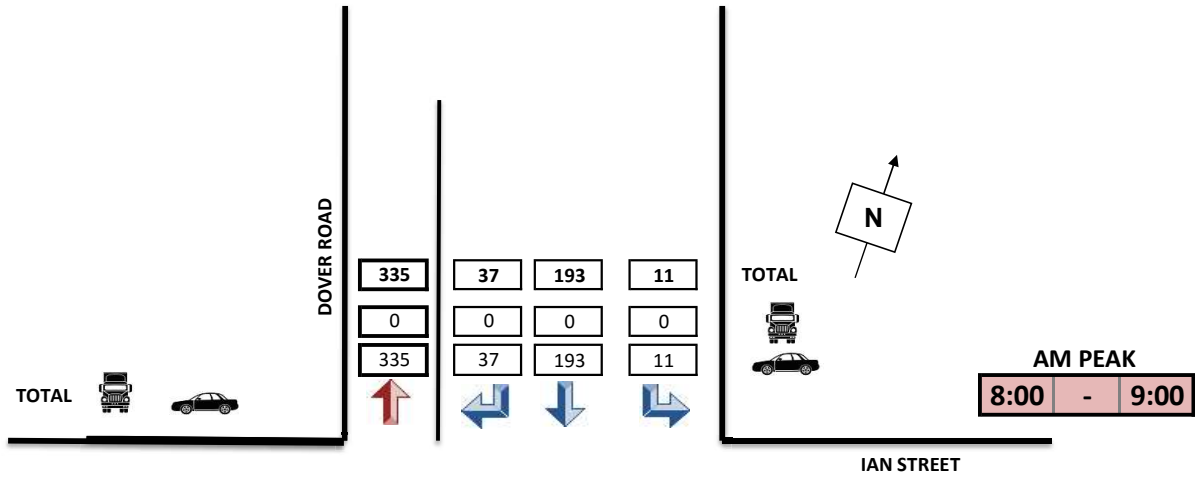
Location DOVER ROAD Duration 0700 - 0900  
IAN STREET 1600 -1800  
DOVER ROAD -  
CARPARK 1 Day/Date Tuesday, September 20, 2016  
Suburb ROSE BAY Weather FINE

All Vehicles Time Per 15 Mins	NORTH DOVER ROAD				EAST IAN STREET				SOUTH DOVER ROAD				WEST CARPARK 1				TOTAL
	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	
	7:00 - 7:15	1	36	1	38	0	0	0	0	5	75	0	80	0	0	0	
7:15 - 7:30	1	40	2	43	0	0	0	0	8	89	1	98	0	0	0	0	141
7:30 - 7:45	5	53	4	62	0	1	0	1	6	88	1	95	0	0	0	0	158
7:45 - 8:00	1	42	5	48	1	1	5	7	6	83	3	92	0	0	0	0	147
8:00 - 8:15	1	38	14	53	2	2	4	8	16	98	2	116	0	0	0	0	177
8:15 - 8:30	5	55	7	67	1	0	5	6	12	69	2	83	0	0	0	0	156
8:30 - 8:45	2	55	10	67	0	0	1	1	13	70	0	83	0	0	0	0	151
8:45 - 9:00	3	45	6	54	2	0	6	8	13	82	1	96	0	0	0	0	158
Period End	19	364	49	432	6	4	21	31	79	654	10	743	0	0	0	0	1206
16:00 - 16:15	2	74	2	78	1	0	1	2	14	47	1	62	0	0	0	0	142
16:15 - 16:30	1	85	5	91	2	0	2	4	10	51	0	61	0	0	0	0	156
16:30 - 16:45	0	82	13	95	1	1	1	3	7	53	2	62	0	0	0	0	160
16:45 - 17:00	3	70	6	79	2	0	1	3	5	42	0	47	0	0	0	0	129
17:00 - 17:15	4	68	9	81	2	0	2	4	8	46	2	56	0	0	0	0	141
17:15 - 17:30	1	89	11	101	2	0	2	4	7	51	2	60	0	0	0	0	165
17:30 - 17:45	3	102	4	109	1	0	3	4	12	56	2	70	0	0	0	0	183
17:45 - 18:00	2	90	9	101	1	0	0	1	5	51	0	56	0	0	0	0	158
Period End	16	660	59	735	12	1	12	25	68	397	9	474	0	0	0	0	1234

All Vehicles Time Per 15 Mins	NORTH DOVER ROAD				EAST IAN STREET				SOUTH DOVER ROAD				WEST CARPARK 1				TOTAL
	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	L	I	R	TOTAL	
	7:00 - 8:00	8	171	12	191	1	2	5	8	25	335	5	365	0	0	0	
7:15 - 8:15	8	173	25	206	3	4	9	16	36	358	7	401	0	0	0	0	623
7:30 - 8:30	12	188	30	230	4	4	14	22	40	338	8	386	0	0	0	0	638
7:45 - 8:45	9	190	36	235	4	3	15	22	47	320	7	374	0	0	0	0	631
8:00 - 9:00	11	193	37	241	5	2	16	23	54	319	5	378	0	0	0	0	642
Period End	48	915	140	1103	17	15	59	91	202	1670	32	1904	0	0	0	0	3098
16:00 - 17:00	6	311	26	343	6	1	5	12	36	193	3	232	0	0	0	0	587
16:15 - 17:15	8	305	33	346	7	1	6	14	30	192	4	226	0	0	0	0	586
16:30 - 17:30	8	309	39	356	7	1	6	14	27	192	6	225	0	0	0	0	595
16:45 - 17:45	13	419	39	471	8	0	8	16	37	246	6	289	0	0	0	0	776
17:00 - 18:00	10	349	33	392	6	0	7	13	32	204	6	242	0	0	0	0	647
Period End	45	1693	170	1908	34	3	32	69	162	1027	25	1214	0	0	0	0	3191

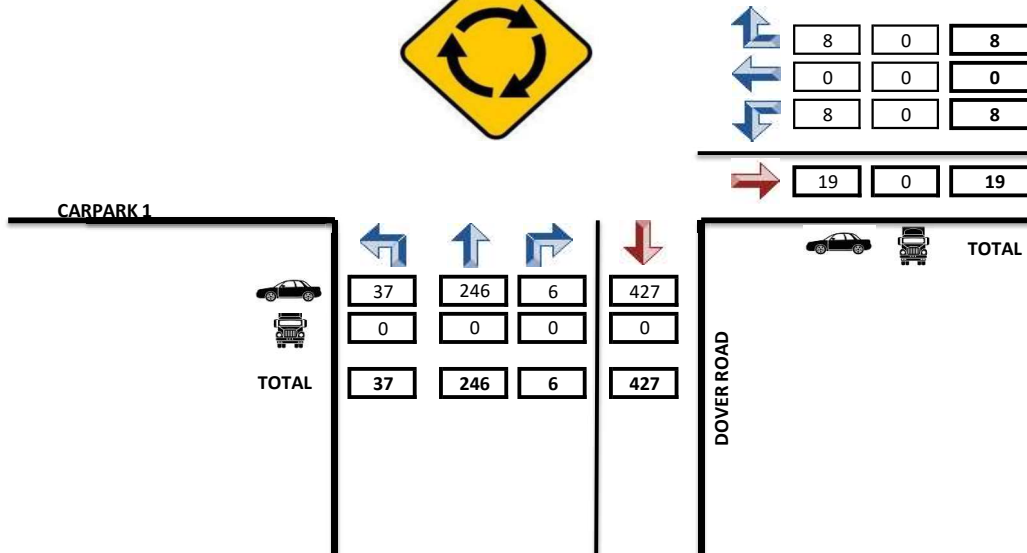
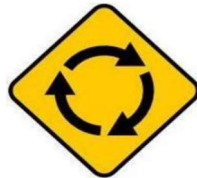
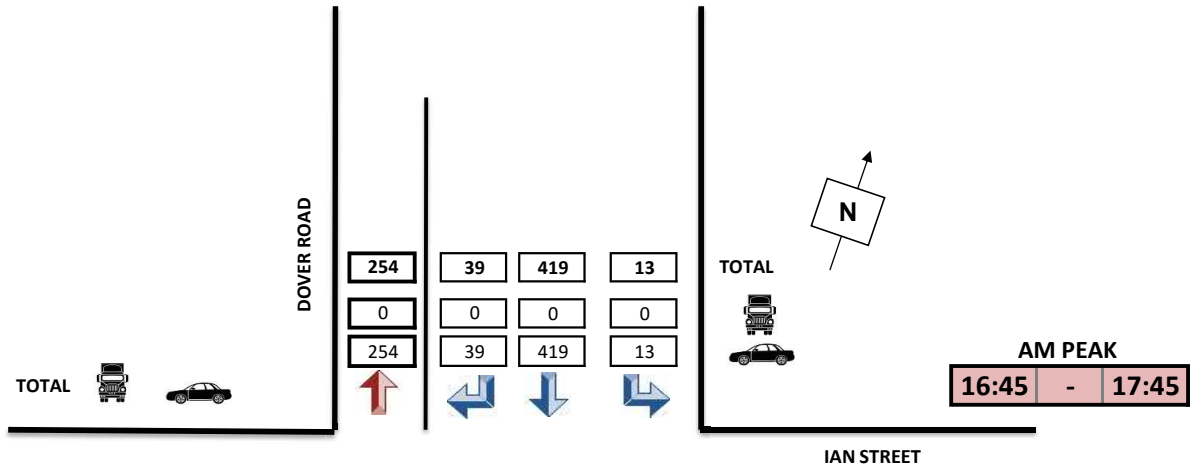
Location DOVER ROAD  
IAN STREET  
DOVER ROAD  
CARPARK 1  
Suburb ROSE BAY

Duration 0700 - 0900  
1600 -1800  
-  
Day/Date Tuesday, September 20, 2016  
Weather FINE



Location DOVER ROAD  
IAN STREET  
DOVER ROAD  
CARPARK 1  
Suburb ROSE BAY

Duration 0700 - 0900  
1600 - 1800  
-  
Day/Date Tuesday, September 20, 2016  
Weather FINE





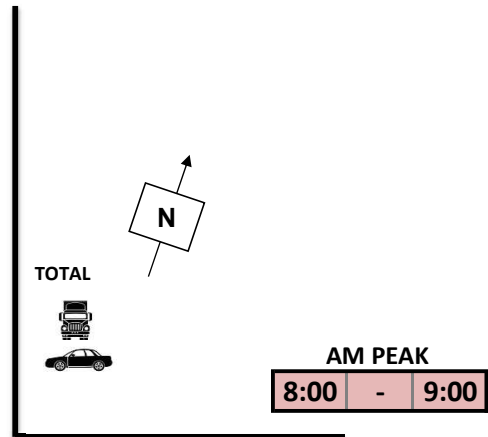
Location DOVER ROAD Duration 0700 - 0900  
CARPARK 2 1600 -1800  
DOVER ROAD -  
CARPARK 2  
Day/Date Tuesday, September 20, 2016  
Suburb ROSE BAY Weather FINE

All Vehicles Time Per 15 Mins	CARPARK 2		TOTAL
	IN	OUT	
7:00 - 7:15	11	6	17
7:15 - 7:30	1	8	9
7:30 - 7:45	5	9	14
7:45 - 8:00	10	16	26
8:00 - 8:15	12	16	28
8:15 - 8:30	3	18	21
8:30 - 8:45	14	16	30
8:45 - 9:00	11	24	35
Period End	67	113	180
16:00 - 16:15	20	14	34
16:15 - 16:30	15	16	31
16:30 - 16:45	20	19	39
16:45 - 17:00	18	20	38
17:00 - 17:15	19	17	36
17:15 - 17:30	16	11	27
17:30 - 17:45	10	11	21
17:45 - 18:00	13	8	21
Period End	131	116	247

All Vehicles Time Per 15 Mins	CARPARK 2		TOTAL
	IN	OUT	
7:00 - 8:00	27	39	66
7:15 - 8:15	28	49	77
7:30 - 8:30	30	59	89
7:45 - 8:45	39	66	105
8:00 - 9:00	40	74	114
Period End	164	287	451
16:00 - 17:00	73	69	142
16:15 - 17:15	72	72	144
16:30 - 17:30	73	67	140
16:45 - 17:45	76	67	143
17:00 - 18:00	58	47	105
Period End	352	322	674

Location DOVER ROAD  
CARPARK 2  
DOVER ROAD  
-  
Suburb ROSE BAY

Duration 0700 - 0900  
1600 -1800  
-  
Day/Date Tuesday, September 20, 2016  
Weather FINE

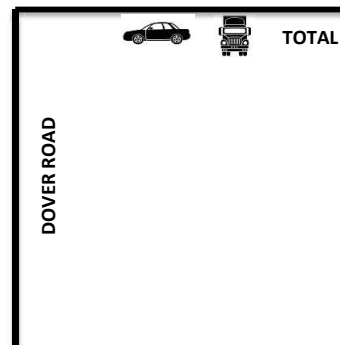


CARPARK 2

CAR PARK ENTRY

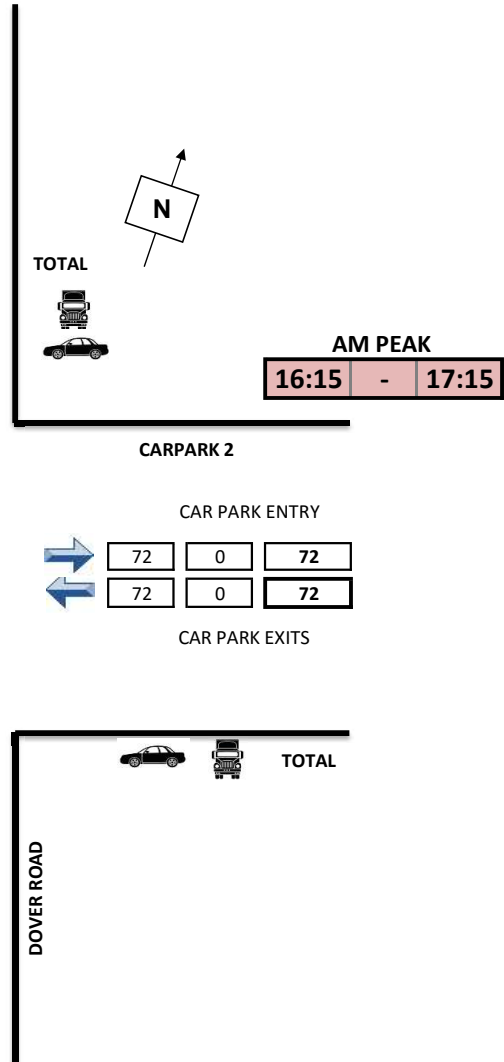
→	74	0	74
←	40	0	40

CAR PARK EXITS



Location DOVER ROAD  
CARPARK 2  
DOVER ROAD  
-  
 Suburb ROSE BAY

Duration 0700 - 0900  
1600 - 1800  
-  
 Day/Date Tuesday, September 20, 2016  
 Weather FINE

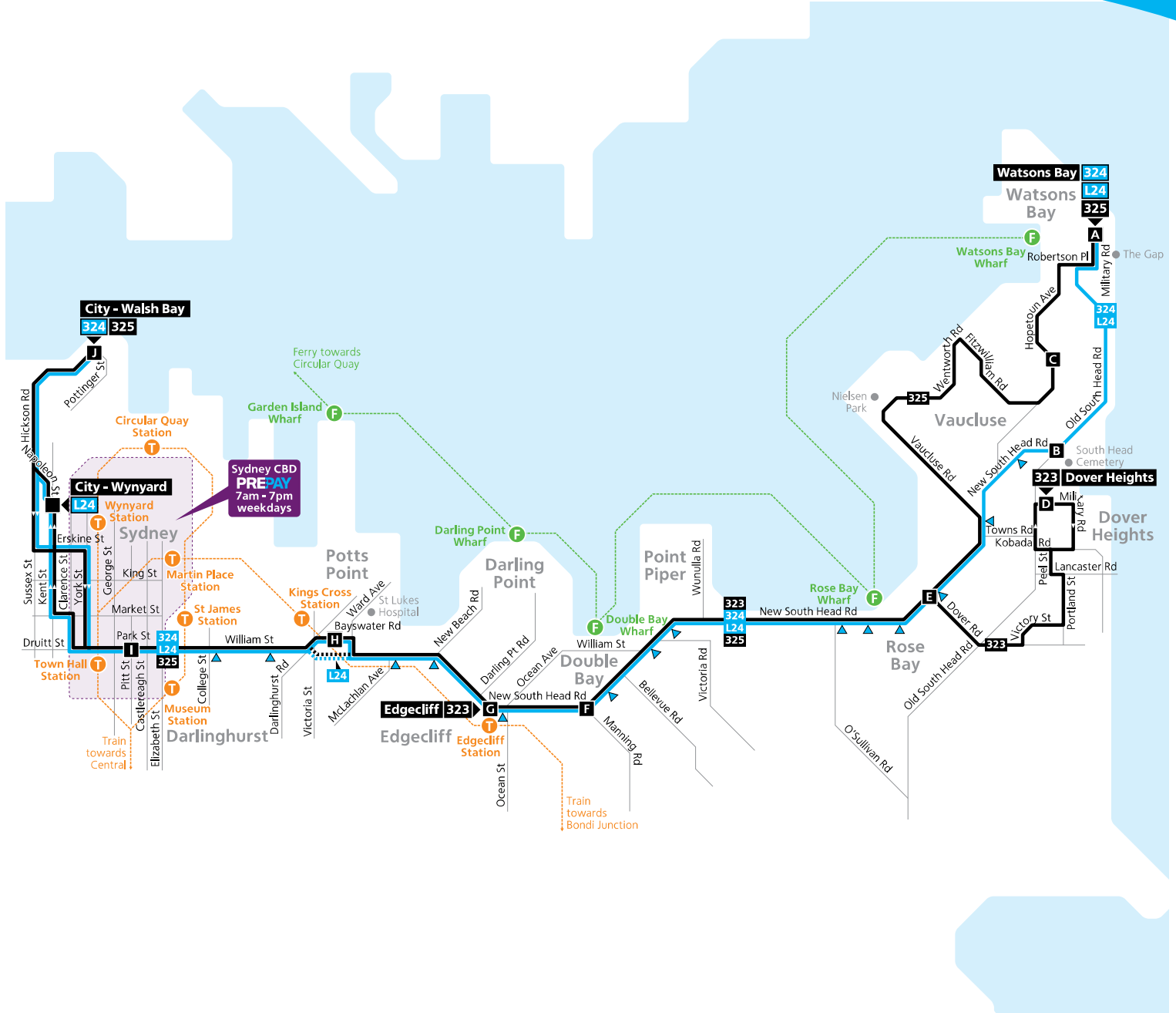


**APPENDIX D**

**TRANSPORT SERVICES**

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Legend

- Bus route
- - - Diversion/extended route
- 324 Bus route number
- A** Timing point
- ▶** Stops for limited stops services
- T - Train line/station
- F - Ferry route/wharf

⬆ North  
Diagrammatic Map  
Not to Scale



For route information in this area, refer to Northern Region Guide.

For more details on City bus routes see Sydney CBD Inset (below)

For route information in this area, refer to Southern Region Guide.

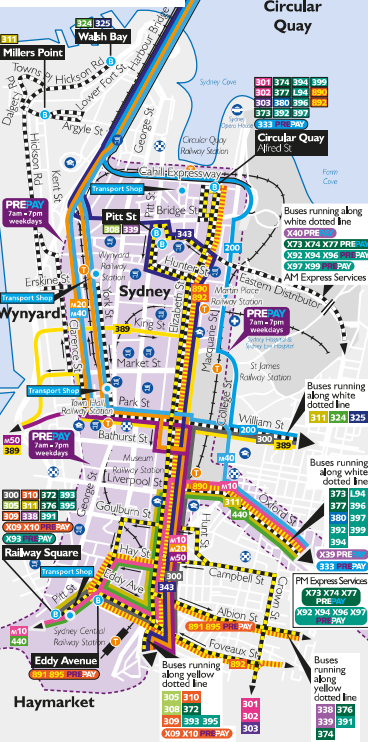
Continues on Southern Region Guide



As at 1 August 2016  
Cartography by TransGraphics

- Legend**
- Police Station
  - Hospital
  - Shopping Centres
  - Railway Station
  - Educational Institutions
  - Sporting Facility
  - Local Icons
  - Bus Route
  - Bus Route Terminus

### Sydney CBD Eastern Region Bus Service Inset



### Sydenham & Wolli Creek Eastern Region Bus Service Inset



Monday to Friday														
map_ref	Route Number	324	324	324	324	324	324	324	324	324	324	324	324	325
A	Watsons Bay Military Road	04:40	05:10	05:40	05:59	...	06:12	06:25	...	06:45	06:57	07:04	...	...
B	Vauluse Heights Old South Head Rd	04:45	05:15	05:45	06:04	...	06:16	06:31	...	06:50	07:03	...	...	...
C	Vauluse Hopetoun Avenue	...	...	...	...	06:10	06:25	06:37	06:49	06:55	07:09	07:18	...	...
D	Dover Heights Military Road	04:50	05:20	05:50	06:09	06:19	06:29	06:35	06:47	06:59	07:09	07:28	...	...
E	Rose Bay Dover Road	04:58	05:28	05:58	06:18	e06:32	06:38	06:50	07:02	e07:08	07:12	07:31	...	...
F	Double Bay Manning Road	05:00	05:30	06:00	06:21	...	06:43	06:55	07:07	...	07:17	07:38	...	...
G	Edgecliff New South Head Road	05:04	05:34	06:04	06:26	...	06:51	p07:03	p07:16	...	p07:26	p07:48	...	...
H	Kings Cross Bayswater Road	05:11	05:41	06:11	06:34	...	07:00	07:12	07:25	...	07:35	07:46	...	...
I	City - Town Hall Park Street	05:20	05:50	06:20	06:43	...	...	...	...	...	...	...	...	...
J	City - Walsh Bay Hickson Road	05:20	05:50	06:20	06:43	...	...	...	...	...	...	...	...	...

Monday to Friday (continued...)														
map_ref	Route Number	323	324	325	L24	323	324	325	L24	324	323	325	324	324
A	Watsons Bay Military Road	...	07:13	07:18	p07:24	...	07:26	07:30	p07:39	07:41	...	07:48	08:02	...
B	Vauluse Heights Old South Head Rd	...	07:19	...	p07:30	...	07:32	...	p07:45	07:47	...	...	08:08	...
C	Vauluse Hopetoun Avenue	...	...	07:23	...	...	...	07:35	...	...	...	07:53	...	...
D	Dover Heights Military Road	07:14	...	...	...	07:27	...	...	...	...	...	07:50	...	...
E	Rose Bay Dover Road	07:23	07:25	07:32	p07:36	07:37	07:39	07:46	p07:51	07:54	08:00	08:04	08:15	...
F	Double Bay Manning Road	07:35	07:38	07:47	p07:49	07:52	07:54	08:01	p08:04	08:09	08:15	08:19	08:30	...
G	Edgecliff New South Head Road	e07:39	07:42	07:51	p07:53	e07:56	07:58	08:05	p08:08	08:13	e08:19	08:23	08:33	...
H	Kings Cross Bayswater Road	...	07:49	07:58	...	...	08:05	08:12	...	08:20	...	08:30	08:39	...
I	City - Town Hall Park Street	...	p07:59	p08:08	q08:09	...	p08:15	p08:22	q08:24	p08:30	...	p08:40	p08:49	...
J	City - Walsh Bay Hickson Road	...	08:08	08:17	...	...	08:24	08:31	...	08:39	...	08:49	08:58	...

Monday to Friday (continued...)														
map_ref	Route Number	324	323	325	324	325	324	325	324	325	324	325	324	325
A	Watsons Bay Military Road	08:14	...	08:19	08:34	08:49	09:07	09:19	09:37	09:49	10:07	10:19	10:37	...
B	Vauluse Heights Old South Head Rd	08:20	...	...	08:40	...	09:13	...	09:43	...	10:13	...	10:43	...
C	Vauluse Hopetoun Avenue	...	...	08:24	...	08:54	...	09:24	...	09:54	...	10:24	...	...
D	Dover Heights Military Road	...	08:20	...	...	...	...	...	...	...	...	...	...	...
E	Rose Bay Dover Road	08:27	08:30	08:35	08:47	09:04	09:19	09:34	09:49	10:04	10:19	10:34	10:49	...
F	Double Bay Manning Road	08:40	08:43	08:48	09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45	11:00	...
G	Edgecliff New South Head Road	08:43	e08:46	08:51	09:03	09:18	09:33	09:48	10:03	10:18	10:33	10:48	11:03	...
H	Kings Cross Bayswater Road	08:49	...	08:57	09:08	09:23	09:38	09:53	10:08	10:23	10:38	10:53	11:08	...
I	City - Town Hall Park Street	p08:59	...	p09:07	p09:18	p09:33	p09:48	p10:03	p10:18	p10:33	p10:48	p11:03	p11:18	...
J	City - Walsh Bay Hickson Road	09:08	...	09:16	09:27	09:42	09:57	10:12	10:27	10:42	10:57	11:12	11:27	...

Monday to Friday (continued...)														
map ref	Route Number	325	324	325	324	325	324	325	324	325	324	325	324	325
<b>A</b>	Watsons Bay Military Road	10:49	11:07	11:19	11:37	11:49	12:07	12:19	12:37	12:49	13:07	13:19	13:37	13:43
<b>B</b>	Vauluse Heights Old South Head Rd	...	11:13	...	11:43	...	12:13	...	12:43	...	13:13	...	13:43	...
<b>C</b>	Vauluse Hopetoun Avenue	10:54	...	11:24	...	11:54	...	12:24	...	12:54	...	13:24	...	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>E</b>	Rose Bay Dover Road	11:04	11:19	11:34	11:49	12:04	12:19	12:34	12:49	13:04	13:19	13:34	13:49	...
<b>F</b>	Double Bay Manning Road	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	...
<b>G</b>	Edgecliff New South Head Road	11:18	11:33	11:48	12:03	12:18	12:33	12:48	13:03	13:18	13:33	13:48	14:03	...
<b>H</b>	Kings Cross Bayswater Road	11:23	11:38	11:53	12:08	12:23	12:38	12:53	13:08	13:23	13:38	13:53	14:08	...
<b>I</b>	City - Town Hall Park Street	<b>p</b> 11:33	<b>p</b> 11:48	<b>p</b> 12:03	<b>p</b> 12:18	<b>p</b> 12:33	<b>p</b> 12:48	<b>p</b> 13:03	<b>p</b> 13:18	<b>p</b> 13:33	<b>p</b> 13:48	<b>p</b> 14:03	<b>p</b> 14:18	...
<b>J</b>	City - Walsh Bay Hickson Road	11:42	11:57	12:12	12:27	12:42	12:57	13:12	13:27	13:42	13:57	14:12	14:27	...

Monday to Friday (continued...)														
map ref	Route Number	325	324	325	324	325	324	325	324	325	324	325	324	325
<b>A</b>	Watsons Bay Military Road	13:49	14:07	14:19	14:32	14:41	...	14:49	...	15:02	...	15:02	...	15:12
<b>B</b>	Vauluse Heights Old South Head Rd	...	14:13	...	14:38	14:47	14:52	...	15:02	15:05	15:08	15:13	15:18	...
<b>C</b>	Vauluse Hopetoun Avenue	13:54	...	14:24	...	...	...	14:54	...	...	...	...	...	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>E</b>	Rose Bay Dover Road	14:04	14:19	14:34	14:44	14:53	14:58	15:04	15:08	15:11	15:14	15:19	15:24	...
<b>F</b>	Double Bay Manning Road	14:15	14:30	14:45	14:55	15:04	15:08	15:14	15:18	15:21	15:24	15:29	15:34	...
<b>G</b>	Edgecliff New South Head Road	14:18	14:33	14:48	14:58	15:08	<b>e</b> 15:10	15:18	<b>e</b> 15:20	<b>e</b> 15:23	15:28	<b>e</b> 15:31	15:38	...
<b>H</b>	Kings Cross Bayswater Road	14:23	14:38	14:53	15:03	15:13	...	15:23	...	...	15:33	...	15:43	...
<b>I</b>	City - Town Hall Park Street	<b>p</b> 14:33	<b>p</b> 14:48	<b>p</b> 15:03	<b>p</b> 15:13	<b>p</b> 15:23	...	<b>p</b> 15:33	...	...	<b>p</b> 15:43	...	<b>p</b> 15:53	...
<b>J</b>	City - Walsh Bay Hickson Road	14:42	14:57	15:12	15:22	15:32	...	15:42	...	...	15:52	...	16:02	...

Monday to Friday (continued...)														
map ref	Route Number	325	324	325	324	325	324	325	324	325	324	325	324	325
<b>A</b>	Watsons Bay Military Road	15:19	...	15:32	15:39	15:52	...	16:19	16:32	...	16:49	17:07	...	...
<b>B</b>	Vauluse Heights Old South Head Rd	...	15:33	15:38	...	15:58	16:14	...	16:38	16:48	...	17:13	17:28	...
<b>C</b>	Vauluse Hopetoun Avenue	15:24	...	...	15:44	...	...	16:24	...	...	16:54	...	...	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>E</b>	Rose Bay Dover Road	15:34	15:39	15:44	15:54	16:04	16:20	16:34	16:44	16:54	17:04	17:19	17:34	...
<b>F</b>	Double Bay Manning Road	15:44	15:49	15:54	16:04	16:14	16:30	16:44	16:54	17:04	17:14	17:29	17:44	...
<b>G</b>	Edgecliff New South Head Road	15:48	<b>e</b> 15:51	15:58	16:08	16:18	16:34	16:48	16:58	17:08	17:18	17:33	17:48	...
<b>H</b>	Kings Cross Bayswater Road	15:53	...	16:03	16:13	16:23	16:39	16:53	17:03	17:13	17:23	17:38	17:53	...
<b>I</b>	City - Town Hall Park Street	<b>p</b> 16:03	...	<b>p</b> 16:13	<b>p</b> 16:22	<b>p</b> 16:33	<b>p</b> 16:48	<b>p</b> 17:02	<b>p</b> 17:12	<b>p</b> 17:22	<b>p</b> 17:32	<b>p</b> 17:47	<b>p</b> 18:02	...
<b>J</b>	City - Walsh Bay Hickson Road	16:12	...	16:22	16:31	16:43	16:58	17:12	17:22	17:32	17:42	17:57	18:11	...





<b>Saturday</b>		map ref	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324
Route Number			324	324	324	324	324	324	324	324	324	324	324	324	324	324	324
<b>A</b>	Watsons Bay Military Road		04:31	05:01	05:31	06:01	06:31	07:01	07:25	07:45	07:55	08:15	08:25	08:44			
<b>B</b>	Vauluse Heights Old South Head Rd		04:36	05:06	05:36	06:06	06:36	07:06	...	07:50	...	08:20	...	08:49			
<b>C</b>	Vauluse Hopetoun Avenue		...	...	...	...	...	...	07:29	...	08:00	...	08:30	...			
<b>D</b>	Dover Heights Military Road		...	...	...	...	...	...	...	...	...	...	...	...			
<b>E</b>	Rose Bay Dover Road		04:40	05:10	05:40	06:10	06:40	07:10	07:38	07:54	08:09	08:24	08:39	08:53			
<b>F</b>	Double Bay Manning Road		04:47	05:18	05:48	06:18	06:48	07:18	07:47	08:03	08:18	08:33	08:48	09:03			
<b>G</b>	Edgecliff New South Head Road		04:49	05:20	05:50	06:20	06:50	07:20	07:49	08:05	08:20	08:35	08:50	09:05			
<b>H</b>	Kings Cross Bayswater Road		04:53	05:24	05:54	06:24	06:54	07:24	07:53	08:09	08:24	08:39	08:54	09:10			
<b>I</b>	City - Town Hall Park Street		04:59	05:30	06:00	06:30	07:00	07:30	08:00	08:16	08:31	08:47	09:02	09:18			
<b>J</b>	City - Walsh Bay Hickson Road		05:08	05:39	06:09	06:39	07:09	07:39	08:09	08:25	08:41	08:57	09:12	09:28			

<b>Saturday (continued...)</b>		map ref	325	324	325	324	325	324	325	324	325	324	325	324	325	324	325
Route Number			325	324	325	324	325	324	325	324	325	324	325	324	325	324	325
<b>A</b>	Watsons Bay Military Road		08:51	09:13	09:20	09:43	09:50	10:13	10:20	10:43	10:50	11:13	11:20	11:43			
<b>B</b>	Vauluse Heights Old South Head Rd		...	09:18	...	09:48	...	10:18	...	10:48	...	11:18	...	11:48			
<b>C</b>	Vauluse Hopetoun Avenue		08:56	...	09:25	...	09:55	...	10:25	...	10:55	...	11:25	...			
<b>D</b>	Dover Heights Military Road		...	...	...	...	...	...	...	...	...	...	...	...			
<b>E</b>	Rose Bay Dover Road		09:07	09:22	09:37	09:52	10:07	10:22	10:37	10:52	11:07	11:22	11:37	11:52			
<b>F</b>	Double Bay Manning Road		09:18	09:33	09:48	10:03	10:18	10:33	10:48	11:03	11:18	11:33	11:48	12:03			
<b>G</b>	Edgecliff New South Head Road		09:20	09:35	09:50	10:05	10:20	10:35	10:50	11:05	11:20	11:35	11:50	12:05			
<b>H</b>	Kings Cross Bayswater Road		09:25	09:40	09:55	10:10	10:25	10:40	10:55	11:10	11:25	11:40	11:55	12:10			
<b>I</b>	City - Town Hall Park Street		09:33	09:48	10:03	10:18	10:33	10:48	11:03	11:18	11:33	11:48	12:03	12:18			
<b>J</b>	City - Walsh Bay Hickson Road		09:45	10:00	10:15	10:30	10:45	11:00	11:16	11:31	11:46	12:01	12:16	12:31			

<b>Saturday (continued...)</b>		map ref	325	324	325	324	325	324	325	324	325	324	325	324	325	324	325
Route Number			325	324	325	324	325	324	325	324	325	324	325	324	325	324	325
<b>A</b>	Watsons Bay Military Road		11:50	12:13	12:20	12:43	12:50	13:13	13:20	13:43	13:50	14:13	14:20	14:43			
<b>B</b>	Vauluse Heights Old South Head Rd		...	12:18	...	12:48	...	13:18	...	13:48	...	14:18	...	14:48			
<b>C</b>	Vauluse Hopetoun Avenue		11:55	...	12:25	...	12:55	...	13:25	...	13:55	...	14:25	...			
<b>D</b>	Dover Heights Military Road		...	...	...	...	...	...	...	...	...	...	...	...			
<b>E</b>	Rose Bay Dover Road		12:07	12:22	12:37	12:52	13:07	13:22	13:37	13:52	14:07	14:22	14:37	14:52			
<b>F</b>	Double Bay Manning Road		12:18	12:33	12:48	13:03	13:18	13:33	13:48	14:03	14:18	14:33	14:48	15:03			
<b>G</b>	Edgecliff New South Head Road		12:20	12:35	12:50	13:05	13:20	13:35	13:50	14:05	14:20	14:35	14:50	15:05			
<b>H</b>	Kings Cross Bayswater Road		12:25	12:40	12:55	13:10	13:25	13:40	13:55	14:10	14:25	14:40	14:55	15:10			
<b>I</b>	City - Town Hall Park Street		12:33	12:48	13:03	13:18	13:33	13:48	14:03	14:18	14:33	14:48	15:03	15:18			
<b>J</b>	City - Walsh Bay Hickson Road		12:46	13:01	13:16	13:31	13:46	14:01	14:16	14:31	14:46	15:01	15:16	15:31			



Sunday & Public Holidays														
map ref	324	324	324	324	324	324	324	324	324	324	324	324	324	324
<b>A</b>	Watsons Bay Military Road	...	07:01	07:31	08:01	08:16	08:28	08:45	08:54	09:11	09:22	09:41	09:47	...
<b>B</b>	Vaulse Heights Old South Head Rd	...	07:06	07:36	08:06	08:21	...	08:50	...	09:17	...	09:28	...	...
<b>C</b>	Vaulse Hopetoun Avenue	...	...	...	...	...	08:32	...	08:58	...	09:28	...	...	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>E</b>	Rose Bay Dover Road	06:08	06:38	07:10	07:40	08:10	08:25	08:40	08:54	09:08	09:23	09:38	09:53	...
<b>F</b>	Double Bay Manning Road	06:16	06:46	07:18	07:48	08:18	08:33	08:48	09:03	09:18	09:33	09:48	10:03	...
<b>G</b>	Edgecliff New South Head Road	06:18	06:48	07:20	07:50	08:20	08:35	08:50	09:05	09:20	09:35	09:50	10:05	...
<b>H</b>	Kings Cross Bayswater Road	06:22	06:52	07:24	07:54	08:24	08:39	08:54	09:09	09:24	09:39	09:54	10:09	...
<b>I</b>	City - Town Hall Park Street	06:28	06:58	07:30	08:00	08:30	08:45	09:00	09:16	09:31	09:46	10:01	10:16	...
<b>J</b>	City - Walsh Bay Hickson Road	06:36	07:06	07:38	08:08	08:38	08:53	09:10	09:26	09:41	09:56	10:11	10:26	...

Sunday & Public Holidays (cont...)														
map ref	325	324	325	324	325	324	325	324	325	324	325	324	325	324
<b>A</b>	Watsons Bay Military Road	09:52	10:11	10:22	10:41	10:52	11:11	11:22	11:41	11:52	12:11	12:22	12:41	...
<b>B</b>	Vaulse Heights Old South Head Rd	...	10:17	...	10:47	...	11:17	...	11:47	...	12:17	...	12:47	...
<b>C</b>	Vaulse Hopetoun Avenue	09:58	...	10:28	...	10:58	...	11:28	...	11:58	...	12:28	...	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>E</b>	Rose Bay Dover Road	10:08	10:23	10:38	10:53	11:08	11:23	11:38	11:53	12:08	12:23	12:38	12:53	...
<b>F</b>	Double Bay Manning Road	10:18	10:33	10:48	11:03	11:18	11:33	11:48	12:03	12:18	12:33	12:48	13:03	...
<b>G</b>	Edgecliff New South Head Road	10:20	10:35	10:50	11:05	11:20	11:35	11:50	12:05	12:20	12:35	12:50	13:05	...
<b>H</b>	Kings Cross Bayswater Road	10:24	10:39	10:54	11:09	11:24	11:39	11:54	12:09	12:24	12:39	12:54	13:09	...
<b>I</b>	City - Town Hall Park Street	10:31	10:47	11:02	11:17	11:32	11:47	12:02	12:17	12:32	12:47	13:02	13:17	...
<b>J</b>	City - Walsh Bay Hickson Road	10:41	10:59	11:14	11:29	11:44	11:59	12:14	12:29	12:44	12:59	13:14	13:29	...

Sunday & Public Holidays (cont...)														
map ref	325	324	325	324	325	324	325	324	325	324	325	324	325	324
<b>A</b>	Watsons Bay Military Road	12:52	13:11	13:22	13:41	13:52	14:11	14:22	14:41	14:52	15:11	15:22	15:41	...
<b>B</b>	Vaulse Heights Old South Head Rd	...	13:17	...	13:47	...	14:17	...	14:47	...	15:17	...	15:47	...
<b>C</b>	Vaulse Hopetoun Avenue	12:58	...	13:28	...	13:58	...	14:28	...	14:58	...	15:28	...	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>E</b>	Rose Bay Dover Road	13:08	13:23	13:38	13:53	14:08	14:23	14:38	14:53	15:08	15:23	15:38	15:53	...
<b>F</b>	Double Bay Manning Road	13:18	13:33	13:48	14:03	14:18	14:33	14:48	15:03	15:18	15:33	15:48	16:03	...
<b>G</b>	Edgecliff New South Head Road	13:20	13:35	13:50	14:05	14:20	14:35	14:50	15:05	15:20	15:35	15:50	16:05	...
<b>H</b>	Kings Cross Bayswater Road	13:24	13:39	13:54	14:09	14:24	14:39	14:54	15:09	15:24	15:39	15:54	16:09	...
<b>I</b>	City - Town Hall Park Street	13:32	13:47	14:02	14:17	14:32	14:47	15:02	15:17	15:32	15:47	16:02	16:17	...
<b>J</b>	City - Walsh Bay Hickson Road	13:44	13:59	14:14	14:29	14:44	14:59	15:14	15:29	15:44	15:59	16:14	16:29	...

Sunday & Public Holidays (cont...)														
map ref	Route Number	325	324	325	324	325	324	325	324	325	324	325	324	325
<b>A</b>	Watsons Bay Military Road	15:52	16:11	16:22	16:42	16:53	17:12	17:23	17:43	17:58	18:13	18:28	18:43	...
<b>B</b>	Vauluse Heights Old South Head Rd	...	16:17	...	16:48	...	17:18	...	17:49	...	18:19	18:34	...	...
<b>C</b>	Vauluse Hopetoun Avenue	15:58	...	16:28	...	16:59	...	17:29	...	18:03	...	...	18:47	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>E</b>	Rose Bay Dover Road	16:08	16:23	16:38	16:54	17:09	17:24	17:39	17:55	18:11	18:24	18:39	18:55	...
<b>F</b>	Double Bay Manning Road	16:18	16:33	16:48	17:04	17:19	17:34	17:49	18:04	18:19	18:32	18:47	19:03	...
<b>G</b>	Edgecliff New South Head Road	16:20	16:35	16:50	17:06	17:21	17:36	17:51	18:06	18:21	18:34	18:49	19:05	...
<b>H</b>	Kings Cross Bayswater Road	16:24	16:39	16:54	17:10	17:25	17:40	17:55	18:10	18:25	18:38	18:53	19:09	...
<b>I</b>	City - Town Hall Park Street	16:32	16:47	17:02	17:18	17:33	17:48	18:02	18:16	18:31	18:44	18:59	19:15	...
<b>J</b>	City - Walsh Bay Hickson Road	16:44	16:59	17:14	17:30	17:45	18:00	18:12	18:26	18:41	18:54	19:09	19:25	...

Sunday & Public Holidays (cont...)														
map ref	Route Number	324	325	324	325	324	325	324	325	324	325	324	325	324
<b>A</b>	Watsons Bay Military Road	19:14	19:43	20:14	20:43	21:11	21:39	22:11	22:39	23:11	...	...	...	...
<b>B</b>	Vauluse Heights Old South Head Rd	19:20	...	20:20	...	21:16	...	22:16	...	23:16	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	...	19:47	...	20:47	...	21:43	...	22:43	...	...	...	...	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>E</b>	Rose Bay Dover Road	19:25	19:55	20:25	20:55	21:20	21:50	22:20	22:50	23:20	...	...	...	...
<b>F</b>	Double Bay Manning Road	19:33	20:03	20:33	21:03	21:28	21:58	22:28	22:58	23:28	...	...	...	...
<b>G</b>	Edgecliff New South Head Road	19:35	20:05	20:35	21:05	21:30	22:00	22:30	23:00	23:30	...	...	...	...
<b>H</b>	Kings Cross Bayswater Road	19:39	20:09	20:39	21:08	21:33	22:03	22:33	23:03	23:33	...	...	...	...
<b>I</b>	City - Town Hall Park Street	19:45	20:15	20:45	21:14	21:39	22:09	22:39	23:09	23:39	...	...	...	...
<b>J</b>	City - Walsh Bay Hickson Road	19:54	20:24	20:54	21:22	21:47	22:17	22:47	23:17	23:47	...	...	...	...

Monday to Friday															
map ref	Route Number	324	324	324	324	324	324	324	324	324	324	324	324	324	324
<b>J</b>	City - Walsh Bay Hickson Road	05:35	06:05	...	06:30	...	06:54	...	07:14	...	07:29	07:36	...	07:48	07:55
<b>I</b>	City - Town Hall Park Street	05:44	06:14	...	06:39	...	07:03	...	07:23	...	07:38	07:45	...	07:48	07:55
<b>H</b>	Kings Cross Bayswater Road	05:51	06:21	...	06:48	...	07:13	...	07:33	...	07:48	07:55	...	07:48	07:55
<b>G</b>	Edgecliff Interchange	05:56	06:26	06:43	06:56	07:00	07:06	07:21	07:31	07:41	07:49	08:03	...	07:56	08:03
<b>F</b>	Double Bay Manning Road	05:58	06:28	06:46	06:59	07:03	07:09	07:24	07:34	07:44	07:52	08:06	...	07:59	08:06
<b>E</b>	Rose Bay Dover Road	06:05	06:36	06:54	07:07	07:11	07:17	07:32	07:42	07:52	08:00	08:14	...	08:07	08:14
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	...	...	...	...	...	07:25	...	...	...	...	...	...	...	...
<b>B</b>	Vauluse Heights Old South Head Rd	06:09	06:40	06:58	07:11	07:15	...	07:38	07:48	07:58	08:06	08:20	...	08:13	08:20
<b>A</b>	Watsons Bay Military Road	06:14	06:46	...	07:17	...	07:30	07:44	07:54	08:04	...	...	...	08:19	...

Monday to Friday (continued...)															
map ref	Route Number	324	325	324	324	324	325	324	325	324	325	324	325	324	325
<b>J</b>	City - Walsh Bay Hickson Road	...	07:48	07:58	...	08:18	08:28	08:42	08:57	09:12	09:27	09:42	09:57	...	...
<b>I</b>	City - Town Hall Park Street	...	07:57	08:07	...	08:27	08:37	08:51	09:06	09:21	09:36	09:51	10:06	...	...
<b>H</b>	Kings Cross Bayswater Road	...	08:08	08:18	...	08:38	08:48	09:02	09:17	09:32	09:47	10:02	10:17	...	...
<b>G</b>	Edgecliff Interchange	08:11	08:16	08:26	08:36	08:46	08:56	09:11	09:26	09:41	09:56	10:11	10:26	...	...
<b>F</b>	Double Bay Manning Road	08:14	08:19	08:29	08:39	08:49	08:59	09:14	09:29	09:44	09:59	10:14	10:29	...	...
<b>E</b>	Rose Bay Dover Road	08:22	08:27	08:37	08:47	08:57	09:08	09:23	09:38	09:53	10:08	10:23	10:38	...	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	...	08:35	...	...	09:06	...	09:32	...	10:02	...	10:32	...	...	...
<b>B</b>	Vauluse Heights Old South Head Rd	08:28	...	08:43	08:53	...	09:14	...	09:44	...	10:14	...	10:44	...	...
<b>A</b>	Watsons Bay Military Road	...	08:41	08:49	...	09:11	09:20	09:37	09:50	10:07	10:20	10:37	10:50	...	...

Monday to Friday (continued...)															
map ref	Route Number	325	324	325	324	325	324	325	324	325	324	325	324	325	324
<b>J</b>	City - Walsh Bay Hickson Road	10:12	10:27	10:42	10:57	11:12	11:27	11:42	11:57	12:12	12:27	12:42	12:57	...	...
<b>I</b>	City - Town Hall Park Street	10:21	10:36	10:51	11:06	11:21	11:36	11:51	12:06	12:21	12:36	12:51	13:06	...	...
<b>H</b>	Kings Cross Bayswater Road	10:32	10:47	11:02	11:17	11:32	11:47	12:02	12:17	12:32	12:47	13:02	13:17	...	...
<b>G</b>	Edgecliff Interchange	10:41	10:56	11:11	11:26	11:41	11:56	12:11	12:26	12:41	12:56	13:11	13:26	...	...
<b>F</b>	Double Bay Manning Road	10:44	10:59	11:14	11:29	11:44	11:59	12:14	12:29	12:44	12:59	13:14	13:29	...	...
<b>E</b>	Rose Bay Dover Road	10:53	11:08	11:23	11:38	11:53	12:08	12:23	12:38	12:53	13:08	13:23	13:38	...	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	11:02	...	11:32	...	12:02	...	12:32	...	13:02	...	13:32	...	...	...
<b>B</b>	Vauluse Heights Old South Head Rd	...	11:14	...	11:44	...	12:14	...	12:44	...	13:14	...	13:44	...	...
<b>A</b>	Watsons Bay Military Road	11:07	11:20	11:37	11:50	12:07	12:20	12:37	12:50	13:07	13:20	13:37	13:50	...	...

Monday to Friday (continued...)															
map ref	Route Number	325	324	325	324	325	324	325	324	325	324	325	324	325	324
<b>J</b>	City - Walsh Bay Hickson Road	13:12	13:27	13:42	13:57	14:12	14:27	14:42	14:57	15:07	15:17	15:27	15:37	15:47	15:57
<b>I</b>	City - Town Hall Park Street	p13:21	p13:36	p13:51	p14:06	p14:21	p14:36	p14:51	p15:06	p15:16	p15:26	p15:36	p15:46	p15:56	p16:06
<b>H</b>	Kings Cross Bayswater Road	13:32	13:47	14:02	14:17	14:32	14:47	15:02	15:17	15:27	15:37	15:47	15:57	16:05	16:15
<b>G</b>	Edgcliff Interchange	13:41	13:56	14:11	14:26	14:41	14:56	15:10	15:25	15:35	15:45	15:55	16:05	16:15	16:25
<b>F</b>	Double Bay Manning Road	13:44	13:59	14:14	14:29	14:44	14:59	15:13	15:28	15:38	15:48	15:58	16:08	16:18	16:28
<b>E</b>	Rose Bay Dover Road	13:53	14:08	14:23	14:38	14:53	15:09	15:23	15:38	15:48	15:58	16:08	16:18	16:28	16:38
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	14:02	...	14:32	...	15:02	...	15:32	...	16:06	...	...	...	...	...
<b>B</b>	Vauluse Heights Old South Head Rd	...	14:14	...	14:44	...	15:15	...	15:44	15:54	...	16:13	16:23	16:33	16:43
<b>A</b>	Watsons Bay Military Road	14:07	14:20	14:37	14:50	15:08	15:21	15:38	15:50	...	16:11	16:19	16:29	16:39	16:49

Monday to Friday (continued...)															
map ref	Route Number	323	325	324	325	324	325	324	325	324	325	324	325	324	325
<b>J</b>	City - Walsh Bay Hickson Road	...	15:47	15:57	16:07	...	16:17	16:27	16:36	...	16:43	16:53	17:03	17:13	17:23
<b>I</b>	City - Town Hall Park Street	...	p15:56	p16:06	p16:16	...	p16:26	p16:36	p16:45	...	p16:55	p17:05	p17:15	p17:25	p17:35
<b>H</b>	Kings Cross Bayswater Road	...	16:08	16:18	16:28	...	16:38	16:48	16:58	...	17:08	17:18	17:28	17:38	17:48
<b>G</b>	Edgcliff Interchange	16:10	16:16	16:26	16:36	16:40	16:46	16:56	17:06	17:10	17:16	17:26	17:36	17:46	17:56
<b>F</b>	Double Bay Manning Road	16:13	16:19	16:29	16:39	16:43	16:49	16:59	17:09	17:13	17:19	17:29	17:39	17:49	17:59
<b>E</b>	Rose Bay Dover Road	...	16:29	16:39	16:49	...	16:59	17:09	17:19	...	17:29	17:39	17:49	17:59	18:09
<b>D</b>	Dover Heights Military Road	16:34	...	...	...	17:04	...	...	...	17:34	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	...	16:37	...	16:57	...	...	...	17:27	...	...	...	...	...	...
<b>B</b>	Vauluse Heights Old South Head Rd	...	...	16:44	...	...	17:04	17:14	...	...	17:34	17:44	...	...	...
<b>A</b>	Watsons Bay Military Road	...	16:42	16:50	17:02	...	17:10	17:20	17:32	...	17:40	17:50	18:02	18:12	18:22

Monday to Friday (continued...)															
map ref	Route Number	323	324	325	324	325	324	325	324	325	324	325	324	325	324
<b>J</b>	City - Walsh Bay Hickson Road	...	17:13	17:23	17:33	...	17:39	17:45	17:55	...	18:07	...	18:15	18:25	18:35
<b>I</b>	City - Town Hall Park Street	...	p17:25	p17:35	p17:45	...	p17:51	p17:57	p18:07	...	p18:19	...	p18:27	p18:37	p18:47
<b>H</b>	Kings Cross Bayswater Road	...	17:38	17:48	17:58	...	18:03	18:08	18:18	...	18:30	...	18:38	18:48	18:58
<b>G</b>	Edgcliff Interchange	17:40	17:46	17:56	18:06	18:08	18:11	18:16	18:26	18:31	18:38	18:41	18:46	18:56	19:06
<b>F</b>	Double Bay Manning Road	17:43	17:49	17:59	18:09	18:11	18:14	18:19	18:29	18:34	18:41	18:44	18:49	18:59	19:09
<b>E</b>	Rose Bay Dover Road	...	17:59	18:09	18:19	...	18:24	18:29	18:39	18:44	18:51	...	18:59	19:09	19:19
<b>D</b>	Dover Heights Military Road	18:04	...	...	...	18:32	...	...	...	...	19:05	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	...	...	18:17	...	...	...	18:37	...	...	...	...	...	...	...
<b>B</b>	Vauluse Heights Old South Head Rd	...	18:04	...	18:24	...	18:29	...	18:44	18:49	18:56	...	...	...	...
<b>A</b>	Watsons Bay Military Road	...	18:10	18:22	18:30	...	18:35	18:42	18:50	...	19:02	...	...	...	...

Monday to Friday (continued...)														
map_ref	Route Number	324	324	325	324	325	324	325	324	325	324	325	324	325
<b>J</b>	City - Walsh Bay Hickson Road	18:28	18:38	18:48	18:58	19:11	19:28	19:43	19:58	20:13	20:28	20:43	21:13	21:43
<b>I</b>	City - Town Hall Park Street	<b>p</b> 18:37	<b>p</b> 18:47	<b>p</b> 18:57	19:07	19:20	19:37	19:52	20:07	20:22	20:37	20:52	21:22	21:52
<b>H</b>	Kings Cross Bayswater Road	18:48	18:58	19:08	19:18	19:31	19:46	20:01	20:16	20:31	<b>b</b> 21:01	<b>b</b> 21:31	<b>b</b> 22:01	
<b>G</b>	Edgecliff Interchange	18:56	19:06	19:16	19:26	19:36	19:51	20:06	20:21	20:36	21:06	21:36	22:06	
<b>F</b>	Double Bay Manning Road	18:59	19:09	19:19	19:29	19:39	19:54	20:09	20:24	20:39	21:08	21:38	22:08	
<b>E</b>	Rose Bay Dover Road	19:09	19:19	19:29	19:39	19:49	20:04	20:19	20:34	20:49	21:16	21:46	22:16	
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	...	...	19:36	...	19:56	...	20:26	...	...	21:23	...	22:23	...
<b>B</b>	Vauluse Heights Old South Head Rd	19:14	19:24	...	19:43	...	20:08	...	20:38	20:53	...	21:50	...	...
<b>A</b>	Watsons Bay Military Road	19:20	19:30	19:40	19:48	20:00	20:13	20:30	...	20:58	21:27	21:54	22:27	...

Monday to Friday (continued...)														
map_ref	Route Number	324	325	324	325	324	325	324	325	324	325	324	325	324
<b>J</b>	City - Walsh Bay Hickson Road	22:13	22:43	23:13	23:43	00:13	00:45	01:15	<b>f</b> 02:15					
<b>I</b>	City - Town Hall Park Street	22:22	22:52	23:22	23:52	00:22	00:54	01:24	<b>f</b> 02:24					
<b>H</b>	Kings Cross Bayswater Road	<b>b</b> 22:31	<b>b</b> 23:01	<b>b</b> 23:31	<b>b</b> 00:01	<b>b</b> 00:31	<b>b</b> 01:01	<b>b</b> 01:31	...					
<b>G</b>	Edgecliff Interchange	22:36	23:06	23:36	00:06	00:36	01:06	01:36	<b>f</b> 02:36					
<b>F</b>	Double Bay Manning Road	22:38	23:08	23:38	00:08	00:38	01:08	01:38	<b>f</b> 02:38					
<b>E</b>	Rose Bay Dover Road	22:46	23:16	23:46	00:16	00:44	01:14	01:44	<b>f</b> 02:44					
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...					
<b>C</b>	Vauluse Hopetoun Avenue	...	23:23	...	00:23	...	...	...	...					
<b>B</b>	Vauluse Heights Old South Head Rd	22:50	...	23:50	...	00:48	01:18	01:48	<b>f</b> 02:48					
<b>A</b>	Watsons Bay Military Road	22:54	23:27	23:54	00:27	00:52	01:22	01:52	<b>f</b> 02:52					



Saturday																
map ref	Route Number	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324
<b>J</b>	City - Walsh Bay Hickson Road	05:28	05:58	06:28	06:58	...	07:19	07:46	08:08	08:23	08:40	08:55	09:11			
<b>I</b>	City - Town Hall Park Street	05:37	06:07	06:37	07:07	...	07:28	07:56	08:18	08:33	08:50	09:05	09:22			
<b>H</b>	Kings Cross Bayswater Road	05:43	06:13	06:43	07:13	...	07:35	08:03	08:25	08:40	08:57	09:15	09:32			
<b>G</b>	Edgely Interchange	05:48	06:18	06:48	07:18	07:25	07:40	08:08	08:30	08:45	09:04	09:24	09:41			
<b>F</b>	Double Bay Manning Road	05:50	06:20	06:50	07:20	07:27	07:42	08:10	08:32	08:47	09:07	09:27	09:44			
<b>E</b>	Rose Bay Dover Road	05:56	06:26	06:56	07:26	07:33	07:49	08:17	08:39	08:54	09:16	09:36	09:53			
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...			
<b>C</b>	Vauluse Hopetoun Avenue	...	...	...	...	07:42	...	...	08:48	...	09:24	...	10:01			
<b>B</b>	Vauluse Heights Old South Head Rd	06:00	06:30	07:00	07:30	...	07:53	08:21	...	08:58	...	09:40	...			
<b>A</b>	Watsons Bay Military Road	06:05	06:35	07:05	07:35	07:47	07:58	08:26	08:53	09:03	09:29	09:45	10:06			

Saturday (continued...)																
map ref	Route Number	324	325	324	325	324	325	324	325	324	325	324	325	324	325	324
<b>J</b>	City - Walsh Bay Hickson Road	09:25	09:41	09:55	10:11	10:25	10:41	10:56	11:11	11:26	11:41	11:56	12:11			
<b>I</b>	City - Town Hall Park Street	09:36	09:52	10:06	10:22	10:36	10:52	11:08	11:24	11:39	11:54	12:09	12:24			
<b>H</b>	Kings Cross Bayswater Road	09:46	10:02	10:16	10:32	10:46	11:02	11:18	11:34	11:49	12:04	12:19	12:34			
<b>G</b>	Edgely Interchange	09:55	10:11	10:25	10:41	10:55	11:11	11:27	11:43	11:58	12:13	12:28	12:43			
<b>F</b>	Double Bay Manning Road	09:58	10:14	10:28	10:44	10:58	11:14	11:30	11:46	12:01	12:16	12:31	12:46			
<b>E</b>	Rose Bay Dover Road	10:07	10:23	10:37	10:53	11:07	11:23	11:39	11:55	12:10	12:25	12:40	12:55			
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...			
<b>C</b>	Vauluse Hopetoun Avenue	...	10:31	...	11:01	...	11:31	...	12:03	...	12:33	...	13:03			
<b>B</b>	Vauluse Heights Old South Head Rd	10:11	...	10:41	...	11:11	...	11:43	...	12:14	...	12:44	...			
<b>A</b>	Watsons Bay Military Road	10:16	10:36	10:46	11:06	11:16	11:36	11:48	12:08	12:19	12:38	12:49	13:08			

Saturday (continued...)																
map ref	Route Number	324	325	324	325	324	325	324	325	324	325	324	325	324	325	324
<b>J</b>	City - Walsh Bay Hickson Road	12:27	12:42	12:57	13:12	13:27	13:42	13:57	14:12	14:27	14:42	14:57	15:12			
<b>I</b>	City - Town Hall Park Street	12:40	12:55	13:10	13:25	13:40	13:55	14:10	14:25	14:40	14:55	15:10	15:25			
<b>H</b>	Kings Cross Bayswater Road	12:50	13:05	13:20	13:35	13:50	14:05	14:20	14:35	14:50	15:05	15:20	15:35			
<b>G</b>	Edgely Interchange	12:59	13:14	13:29	13:44	13:59	14:14	14:29	14:44	14:59	15:14	15:29	15:44			
<b>F</b>	Double Bay Manning Road	13:02	13:17	13:32	13:47	14:02	14:17	14:32	14:47	15:02	15:17	15:32	15:47			
<b>E</b>	Rose Bay Dover Road	13:11	13:26	13:41	13:56	14:11	14:26	14:41	14:56	15:11	15:26	15:41	15:56			
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...			
<b>C</b>	Vauluse Hopetoun Avenue	...	13:34	...	14:04	...	14:34	...	15:04	...	15:34	...	16:04			
<b>B</b>	Vauluse Heights Old South Head Rd	13:15	...	13:45	...	14:15	...	14:45	...	15:15	...	15:45	...			
<b>A</b>	Watsons Bay Military Road	13:20	13:39	13:50	14:09	14:20	14:39	14:50	15:09	15:20	15:39	15:50	16:09			

Saturday (continued...)														
map_ref	324	325	324	325	324	325	324	325	324	325	324	325	324	325
<b>J</b>	City - Walsh Bay Hickson Road	15:27	15:42	15:57	16:12	16:27	16:42	16:57	17:12	17:27	17:42	17:58	18:13	18:25
<b>I</b>	City - Town Hall Park Street	15:40	15:55	16:10	16:25	16:40	16:55	17:10	17:25	17:40	17:55	18:10	18:25	18:35
<b>H</b>	Kings Cross Bayswater Road	15:50	16:05	16:20	16:35	16:50	17:05	17:20	17:35	17:50	18:05	18:20	18:35	18:44
<b>G</b>	Edgecliff Interchange	15:59	16:14	16:29	16:44	16:59	17:14	17:29	17:44	17:59	18:14	18:29	18:44	18:47
<b>F</b>	Double Bay Manning Road	16:02	16:17	16:32	16:47	17:02	17:17	17:32	17:47	18:02	18:17	18:32	18:47	18:56
<b>E</b>	Rose Bay Dover Road	16:11	16:26	16:41	16:56	17:11	17:26	17:41	17:56	18:11	18:26	18:41	18:56	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	...	16:34	...	17:04	...	17:34	...	18:04	...	18:34	...	19:04	...
<b>B</b>	Vauluse Heights Old South Head Rd	16:15	...	16:45	...	17:15	...	17:45	...	18:15	...	18:45	...	...
<b>A</b>	Watsons Bay Military Road	16:20	16:39	16:50	17:09	17:20	17:39	17:50	18:09	18:20	18:39	18:50	19:09	...

Saturday (continued...)														
map_ref	324	325	324	325	324	325	324	325	324	325	324	325	324	325
<b>J</b>	City - Walsh Bay Hickson Road	18:28	18:43	18:58	19:13	19:28	19:43	20:10	20:37	21:07	21:37	22:07	22:37	22:47
<b>I</b>	City - Town Hall Park Street	18:40	18:55	19:10	19:25	19:40	19:55	20:21	20:48	b21:17	b21:47	b22:17	b22:47	...
<b>H</b>	Kings Cross Bayswater Road	18:50	19:05	19:20	19:35	19:50	20:05	20:30	20:57	...	...	...	...	...
<b>G</b>	Edgecliff Interchange	18:59	19:14	19:29	19:44	19:59	20:10	20:35	21:02	21:31	22:01	22:31	23:01	...
<b>F</b>	Double Bay Manning Road	19:02	19:17	19:32	19:47	20:01	20:12	20:37	21:04	21:33	22:03	22:33	23:03	...
<b>E</b>	Rose Bay Dover Road	19:11	19:26	19:41	19:56	20:09	20:20	20:45	21:12	21:41	22:11	22:41	23:11	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	...	19:34	...	20:04	...	20:28	...	21:19	...	22:18	...	23:18	...
<b>B</b>	Vauluse Heights Old South Head Rd	19:15	...	19:45	...	20:13	...	20:49	...	21:45	...	22:45	...	...
<b>A</b>	Watsons Bay Military Road	19:20	19:39	19:50	20:09	20:18	20:33	20:54	21:23	21:49	22:22	22:49	23:22	...

Saturday (continued...)														
map_ref	324	325	324	324	324	324	324	324	324	324	324	324	324	324
<b>J</b>	City - Walsh Bay Hickson Road	23:07	23:37	00:07	00:45	01:11	01:31	02:01	03:01	...	...	...	...	...
<b>I</b>	City - Town Hall Park Street	b23:17	b23:47	b00:17	b00:54	b01:20	b01:40	b02:10	b03:10	...	...	...	...	...
<b>H</b>	Kings Cross Bayswater Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>G</b>	Edgecliff Interchange	23:31	00:01	00:31	01:05	01:31	01:51	02:21	03:21	...	...	...	...	...
<b>F</b>	Double Bay Manning Road	23:33	00:03	00:33	01:07	01:33	01:53	02:23	03:23	...	...	...	...	...
<b>E</b>	Rose Bay Dover Road	23:41	00:11	00:39	01:13	01:39	01:59	02:29	03:29	...	...	...	...	...
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	...	00:18	...	...	...	...	...	...	...	...	...	...	...
<b>B</b>	Vauluse Heights Old South Head Rd	23:45	...	00:43	01:17	01:43	02:03	02:33	...	...	...	...	...	...
<b>A</b>	Watsons Bay Military Road	23:49	00:22	00:47	01:21	01:47	02:07	02:37	...	...	...	...	...	...

Sunday & Public Holidays																	
map ref	Route Number	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324
<b>J</b>	City - Walsh Bay Hickson Road	06:58	07:18	07:48	08:18	08:48	09:15	09:30	09:43	09:58	10:13	10:28	10:43				
<b>I</b>	City - Town Hall Park Street	07:06	07:26	07:56	08:26	08:56	09:24	09:39	09:54	10:09	10:24	10:39	10:54				
<b>H</b>	Kings Cross Bayswater Road	07:13	07:33	08:03	08:33	09:04	09:33	09:48	10:03	10:18	10:33	10:48	11:03				
<b>G</b>	Edgely Interchange	07:18	07:38	08:08	08:38	09:09	09:38	09:53	10:08	10:23	10:38	10:53	11:08				
<b>F</b>	Double Bay Manning Road	07:20	07:40	08:10	08:40	09:12	09:41	09:56	10:11	10:26	10:41	10:56	11:11				
<b>E</b>	Rose Bay Dover Road	07:27	07:47	08:17	08:47	09:22	09:51	10:07	10:21	10:37	10:51	11:07	11:21				
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...				
<b>C</b>	Vauluse Hopetoun Avenue	...	...	...	...	...	...	10:16	...	10:46	...	...	...				
<b>B</b>	Vauluse Heights Old South Head Rd	07:31	07:51	08:21	08:51	09:26	09:55	...	10:25	...	10:55	...	11:25				
<b>A</b>	Watsons Bay Military Road	07:36	07:56	08:26	08:56	09:32	10:01	10:20	10:31	10:50	11:01	11:20	11:31				

Sunday & Public Holidays (cont...)																	
map ref	Route Number	325	324	325	324	325	324	325	324	325	324	325	324	325	324	325	
<b>J</b>	City - Walsh Bay Hickson Road	10:58	11:13	11:28	11:43	11:57	12:12	12:27	12:42	12:57	13:12	13:27	13:42				
<b>I</b>	City - Town Hall Park Street	11:09	11:24	11:39	11:54	12:09	12:24	12:39	12:54	13:09	13:24	13:39	13:54				
<b>H</b>	Kings Cross Bayswater Road	11:18	11:33	11:48	12:03	12:18	12:33	12:48	13:03	13:18	13:33	13:48	14:03				
<b>G</b>	Edgely Interchange	11:23	11:38	11:53	12:08	12:23	12:38	12:53	13:08	13:23	13:38	13:53	14:08				
<b>F</b>	Double Bay Manning Road	11:26	11:41	11:56	12:11	12:26	12:41	12:56	13:11	13:26	13:41	13:56	14:11				
<b>E</b>	Rose Bay Dover Road	11:37	11:51	12:08	12:23	12:38	12:53	13:08	13:23	13:38	13:53	14:08	14:23				
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...				
<b>C</b>	Vauluse Hopetoun Avenue	11:46	...	12:17	...	12:47	...	13:17	...	13:47	...	14:17	...				
<b>B</b>	Vauluse Heights Old South Head Rd	...	11:55	...	12:27	...	12:57	...	13:27	...	13:57	...	14:27				
<b>A</b>	Watsons Bay Military Road	11:50	12:01	12:21	12:33	12:51	13:03	13:21	13:33	13:51	14:03	14:21	14:33				

Sunday & Public Holidays (cont...)																	
map ref	Route Number	325	324	325	324	325	324	325	324	325	324	325	324	325	324	325	
<b>J</b>	City - Walsh Bay Hickson Road	13:57	14:12	14:27	14:42	14:57	15:12	15:27	15:42	15:57	16:12	16:27	16:42				
<b>I</b>	City - Town Hall Park Street	14:09	14:24	14:39	14:54	15:09	15:24	15:39	15:54	16:09	16:24	16:39	16:54				
<b>H</b>	Kings Cross Bayswater Road	14:18	14:33	14:48	15:03	15:18	15:33	15:48	16:03	16:18	16:33	16:48	17:03				
<b>G</b>	Edgely Interchange	14:23	14:38	14:53	15:08	15:23	15:38	15:53	16:08	16:23	16:38	16:53	17:08				
<b>F</b>	Double Bay Manning Road	14:26	14:41	14:56	15:11	15:26	15:41	15:56	16:11	16:26	16:41	16:56	17:11				
<b>E</b>	Rose Bay Dover Road	14:38	14:53	15:08	15:23	15:38	15:53	16:08	16:23	16:38	16:53	17:08	17:23				
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...				
<b>C</b>	Vauluse Hopetoun Avenue	14:47	...	15:17	...	15:47	...	16:17	...	16:47	...	17:17	...				
<b>B</b>	Vauluse Heights Old South Head Rd	...	14:57	...	15:27	...	15:57	...	16:27	...	16:57	...	17:27				
<b>A</b>	Watsons Bay Military Road	14:51	15:03	15:21	15:33	15:51	16:03	16:21	16:33	16:51	17:03	17:21	17:33				

Sunday & Public Holidays (cont...)														
map_ref	Route Number	325	324	325	324	325	324	325	324	325	324	325	324	325
<b>J</b>	City - Walsh Bay Hickson Road	16:57	17:12	17:27	17:42	17:57	18:12	18:27	18:42	18:57	19:12	19:27	19:42	19:57
<b>I</b>	City - Town Hall Park Street	17:09	17:24	17:39	17:54	18:09	18:24	18:39	18:54	19:08	19:22	19:37	19:52	20:06
<b>H</b>	Kings Cross Bayswater Road	17:18	17:33	17:48	18:03	18:18	18:33	18:48	19:03	19:17	19:31	19:46	20:01	20:16
<b>G</b>	Edgecliff Interchange	17:23	17:38	17:53	18:08	18:23	18:38	18:53	19:08	19:22	19:36	19:51	20:06	20:21
<b>F</b>	Double Bay Manning Road	17:26	17:41	17:56	18:11	18:26	18:41	18:56	19:11	19:25	19:39	19:54	20:08	20:23
<b>E</b>	Rose Bay Dover Road	17:38	17:53	18:07	18:21	18:36	18:51	19:06	19:21	19:35	19:49	20:03	20:16	20:31
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	17:47	...	18:14	...	18:43	...	19:13	...	19:42	...	20:10	...	20:39
<b>B</b>	Vauluse Heights Old South Head Rd	...	17:57	...	18:25	...	18:55	...	19:25	...	19:53	...	20:20	20:48
<b>A</b>	Watsons Bay Military Road	17:51	18:03	18:18	18:30	18:47	19:00	19:17	19:30	19:46	19:58	20:14	20:24	20:34

Sunday & Public Holidays (cont...)														
map_ref	Route Number	324	325	324	325	324	325	324	325	324	325	324	325	324
<b>J</b>	City - Walsh Bay Hickson Road	20:12	20:38	21:08	21:38	22:08	22:38	23:08	23:38	00:08	00:38	01:08	01:38	02:08
<b>I</b>	City - Town Hall Park Street	20:21	20:47	21:17	21:47	22:17	22:47	23:17	23:47	00:17	00:47	01:17	01:47	02:17
<b>H</b>	Kings Cross Bayswater Road	20:30	20:56	21:26	21:56	22:26	22:56	23:26	23:56	00:26	00:56	01:26	01:56	02:26
<b>G</b>	Edgecliff Interchange	20:35	21:01	21:31	22:01	22:31	23:01	23:31	00:01	00:31	01:01	01:31	02:01	02:31
<b>F</b>	Double Bay Manning Road	20:37	21:03	21:33	22:03	22:33	23:03	23:33	00:03	00:33	01:03	01:33	02:03	02:33
<b>E</b>	Rose Bay Dover Road	20:45	21:11	21:41	22:11	22:41	23:11	23:41	00:11	00:39	01:09	01:39	02:09	02:39
<b>D</b>	Dover Heights Military Road	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>C</b>	Vauluse Hopetoun Avenue	...	21:18	...	22:18	...	23:18	...	00:18	...	01:18	...	02:18	...
<b>B</b>	Vauluse Heights Old South Head Rd	20:49	...	21:45	...	22:45	...	23:45	...	...	...	...	...	...
<b>A</b>	Watsons Bay Military Road	20:53	21:22	21:49	22:22	22:49	23:22	23:49	00:22	...	...	...	...	...





**APPENDIX E**

**SHARED ZONE GUIDELINES**

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# Technical Direction

Traffic management and road safety practice



Transport  
Roads & Maritime  
Services

TTD 2016/001 February 2016

Supersedes TTD 2014/003

## Design and implementation of shared zones including provision for parking

Summary:	Audience:
This Technical Direction provides guidelines for the design and implementation of shared zones in a road or road related area (Category 1) and for shared zones in a road with footpath parking (Category 2).	<ul style="list-style-type: none"><li>• Traffic management staff</li><li>• Road safety staff</li><li>• Councils</li></ul>

### Definitions

**Shared zones** are defined under Rule 24 in the NSW Road Rules (2008). A shared zone is a road or network of roads or a road related area where space is shared safely by vehicles and pedestrians and where pedestrian priority and quality of life take precedence over ease of vehicle movement.

Shared zones employ a range of regulatory and non-regulatory treatments to indicate a change in environment and priority. Where parking is provided in a shared zone, it is only allowed in marked bays and must have the relevant signage provided.

Using this Technical Direction:

- A **Category 1** (Cat 1) shared zone is provided on a road related area, has clearly different coloured and textured surface treatments from the surrounding roads, and typically does not have kerbs.
- A **Category 2** (Cat 2) shared zone is provided on a road which includes footpath parking and has substandard footpath widths, retains kerbs and has traffic calming devices and treatments to regulate traffic speeds to 10km/h.

### Practice/General

The NSW Government is committed to improving pedestrian safety and amenity. The implementation of applicable shared zones will assist in reducing the incidence of pedestrian death and serious injury. One of the key requirements of shared zones is that they are attractive and interesting public places that reflect local needs and activities.

Shared zones are specifically designed for pedestrian priority and may be appropriate for a road, a network of roads or road related areas where there are comparatively high pedestrian volumes, where the road is narrow and pedestrian access along existing substandard (less than 1.2 metres) footpaths is limited, and/or where on-road parking on one or both sides of the road restricts the free movement of vehicles along the road (especially emergency and service vehicles).

Owner:	General Manager Network NSW	Review date:	July 2018
Authorised by:	Ken Kanofski COO Journey Management	Date:	Page 1   12
RMS 16.045	Printed copies of this document are uncontrolled		



## Approvals:

The safest place for pedestrians is on a specific pedestrian facility. A shared zone will only be considered where adequate footpaths cannot be retained within the road reserve and where there are very low numbers of slow moving vehicles. Footpaths can be retained in a shared zone where footway parking is in place.

A shared zone should not look like a normal road environment and requires a self enforcing road environment. Kerbs should generally not be provided in a shared zone to ensure a discernible change in the environment from the surrounding roads, and to facilitate the ease of movement and indicate the priority for pedestrians, especially disabled pedestrians. Existing 'brownfield' roads may be suitable for conversion to Category 1 or 2 shared zones without the removal of existing kerbs if approved by Roads and Maritime Services.

Traffic control devices (ie signs and markings) referred to in this Technical Direction shall meet RMS specifications. Traffic control devices, other than the *Shared zone* (R4-4), *End shared zone* (R4-5), and *Give Way to Pedestrians* (R2-10) signs, will still require council approval through the usual Local Traffic Committee process.

The NSW road rules (Rule 188) permit parking in designated shared zones. A driver can stop in a marked parking bay or designated parking area if the driver is permitted to do so by the road rules and where indicated by a parking bay or sign.

The maximum speed limit in shared zones is always 10 km/h. All speed zones and shared zone schemes must be authorised by RMS as per the delegations under the Roads Act.

Implementation of these guidelines must include community involvement and participation. Shared zones are designed and constructed by local councils in consultation with the local community.

This Technical Direction provides guidelines for all aspects of shared zones, including design and implementation, and for the provision of parking within designated shared zones, and supports the Transport for NSW SS/12/01 shared zone policy.

# Guidelines

## General

- All new shared zones (Cat 1) must be constructed without kerbs.
- In special circumstances existing roads can be converted to shared zones, without the removal of the existing kerbs. Potential reasons for not removing kerbs may include heritage or cost-prohibitive constraints. However where existing kerbs are being retained traffic calming devices and a visibly changed road environment may need to be used to address vehicle speed. The retention of kerbs requires RMS approval.
- All shared zones must display the required regulatory signage and should include pavement markers at each entry point to the area and at each exit point from the area. The entry signage is to be duplicated on both sides of the road, where possible.
- Drivers must give way to pedestrians at all times in shared zones (NSW Road Rule 83). A *Give Way to Pedestrians* (R2-10) sign must be installed below each *Shared zone* (R4-4) sign. A *Give Way to Pedestrians* pavement marking must be installed at each entry to a Category 2 shared zone.
- All shared zones in NSW must display a speed limit of 10 km/h. No other speed limit is allowed. All shared zones in NSW must be authorised by RMS as they are a speed zone.
- Where parking is to be provided in shared zones, *Park In Bays Only* (R5-65) signs must be provided under the shared zone (R4-4) signs at each entry into the shared zone.

- The parking bays must be marked within the shared zone. The length and width of any parking space must comply with AS2890.5 *Parking Facilities*.
- To ensure compliance with on-street parking for people with disabilities please refer to AS 2890.6-2009 *Parking Facilities*.
- As shared zones are a pedestrian priority environment there should not be any requirement for pedestrian crossings and pedestrian fencing.
- Continuous footpath treatments should be considered. Refer to TD 2013/05.
- All shared zone proposals on existing roads must have consultation with the local community by Council to provide an opportunity for feedback prior to implementation.

## Design Principles

The design principles for shared zones need to be defined to ensure the proposed scheme incorporates the necessary features to provide an appropriately safe environment. In particular, the design needs to have an impact which clearly highlights to drivers that there is a change in the road environment and traffic conditions and that the priority is for pedestrians. The design features are required to be implemented in accordance with the Austroads Guide to Traffic Management Part 8: Local Area Traffic Management and the relevant RMS Austroads Guide Supplement. The following table presents the design principles for shared zones.

Features	Information
Street space/ kerb & gutter/ delineation	<p>The road environment in a shared zone must be changed to ensure that it does not look like a normal road</p> <ul style="list-style-type: none"> <li>• Any delineation and kerbs shall be removed to enhance the sense of pedestrian priority (Cat 1).</li> <li>• Where it is not possible to remove the kerbs then the shared zone must be treated to a level where drivers can clearly identify that they are in a different driving environment.</li> <li>• Traffic calming or suitable pedestrian friendly treatments must be provided to reduce speeds within the zone where kerbs have been retained.</li> </ul>
Entrance/exit points	<ul style="list-style-type: none"> <li>• Prominent features such as signs, architectural or landscape features must be provided to indicate a change in the street environment and highlight the start/end of the shared zone (Cat 2).</li> <li>• A <i>Give Way to Pedestrians</i> pavement marking must be installed (Cat 2 only).</li> <li>• Continuous footpath treatments should be considered as entry/exit treatments to assist traffic calming. Refer to TD 2013/05.</li> </ul>
Traffic signs	<ul style="list-style-type: none"> <li>• Regulatory traffic signs as per the requirements of the NSW Road Rules 2008 are required.</li> <li>• All entry signs must be provided on both sides of the road, for one or two-way shared zones, to further enhance the changes in environment and priority.</li> </ul>
Pavement surface	<ul style="list-style-type: none"> <li>• The pavement surface shall be changed to highlight the difference in the street environment from the surrounding road network. It must be clearly distinguishable by colour, texture and/or materials. Any exceptions require RMS approval.</li> </ul>
Traffic calming features/ treatments	<ul style="list-style-type: none"> <li>• Traffic calming or suitable treatments must be provided to reduce speeds within the zone where kerbs have been retained to encourage consistently slow driving and ensure compliance with the 10 km/h speed limit.</li> <li>• Advisory speed plates are not required to supplement speed hump advisory signs.</li> </ul>
Forward visibility	<ul style="list-style-type: none"> <li>• To encourage drivers to drive with care and comply with the 10km/h speed limit, it is not desirable to have unlimited forward visibility in a shared zone.</li> <li>• In locations where it is considered necessary to maintain visibility, a minimum stopping sight distance of 12 metres shall be applied.</li> </ul>

Features	Information
Vehicle mix and accessibility requirements	<ul style="list-style-type: none"> <li>Alternative access for large vehicles such as buses needs to be planned.</li> <li>Access must be designed to safely accommodate emergency vehicles, delivery and garbage trucks.</li> <li>Emergency services and Police are to be consulted during the design process.</li> </ul>
Car parking	<ul style="list-style-type: none"> <li>Car parking provisions may need to be altered to suit the scheme.</li> <li>Car parking bays must be marked along the scheme and in accordance with the prescribed lengths and widths in AS 2890.5 and AS 2890.6-2009 <i>Parking Facilities</i>.</li> <li>Car parking spaces that straddle existing kerb and gutter are to be provided in Cat 2 shared zones.</li> </ul>
Bicycles	<ul style="list-style-type: none"> <li>Cyclists must be able to safely traverse the features provided in the scheme to encourage lower vehicle speeds.</li> <li>Traffic calming measures must incorporate features to make them cycle friendly.</li> <li>In one way shared zones, consideration should be given to contra-flow bicycle movements. This provision will increase access for non-motorised transport and must include <i>Bicycles Excepted</i> (R9-3) signs.</li> <li>Cyclists need to be aware that they must give way to pedestrians.</li> </ul>
Mobility and vision impaired requirements	<ul style="list-style-type: none"> <li>Designs must include provision to safely accommodate the needs of the mobility and vision impaired.</li> <li>Refer to AS 1428.4.1 <i>Design for Access and Mobility</i> for detailed design requirements.</li> </ul>
Lighting and drainage grates	<ul style="list-style-type: none"> <li>Appropriate lighting should be installed for safety and security purposes.</li> <li>Appropriate drainage grates should be installed to cater for pedestrian and cyclist use.</li> </ul>

## Traffic signs

Traffic signs to be used in a shared zone are described in the NSW Road Rules and are illustrated below.

Any traffic calming must display the appropriate warning signage (eg W5-10 *Speed hump*). However the supplementary advisory speed plate is not required on speed hump signage.

Entry signposting is to be duplicated on each side of the road, where possible

In shared zones, signs may be provided on both sides of the road, for one or two-way shared zones, to further enhance the changes in environment and priority.



### R4-4 SHARED ZONE

- Must be displayed at the start of a shared zone.
- R4-4 may be repeated in combination with R2-10 at additional locations within a shared zone.



### R4-5 END SHARED ZONE

Must be displayed at the end of the shared zone.

### R2-10 GIVE WAY TO PEDESTRIANS

- Must be displayed at the start of a shared zone and below the R4-4 sign.
- R2-10 may be repeated in combination with R4-4



at additional locations within a shared zone.

*R5-65 PARK IN BAYS ONLY*

- Must be displayed at the start of a shared zone, below the R2-10 sign, when parking is provided.
- May be repeated in isolation at additional locations within a shared zone.

## Traffic calming

Traffic calming features or treatments are required within Category 1 and 2 shared zones to reduce vehicle speeds, where a change in the road environment will not work alone. Where kerb and gutter are retained, traffic calming should be used to reduce vehicle speeds and are described in detail in the Austroads Guide to Traffic Management Part 8: Local Area Traffic Management.

There is no requirement to provide pedestrian fencing in shared zones.

Continuous footpath treatments should be considered as entry/exit treatments to assist traffic calming. Refer to TD 2013/05.

## Landscaping and street furniture

Carefully located landscape features and street furniture can encourage lower speeds and enhance the experience for pedestrians. Examples of such features are bollards, architectural decorations, seating and lighting. These features can be repeated through the shared zone.

## Provision for mobility and vision impaired people

The design for shared zones must safely accommodate the needs of those who are mobility restricted and vision impaired. Features such as tactile paving, hand rails and the careful placement of landscaping and street furniture must be considered during the design process. In shared zones, mobility and vision impaired access to the existing road must be provided and the ability to negotiate traffic calming must also be accommodated. AS 1428.4.1 *Design for Access and Mobility* contains detailed design requirements and must be referred to during the design process.

## Shared Zones retaining kerb and gutter (Category 1 and 2)

The following table describes options for non-regulatory features used to help define shared zones to ensure pedestrian safety in shared zones that retain kerb and gutter.

Features	Description
Road narrowing/ kerb extension	<ul style="list-style-type: none"> <li>• Encourages drivers and cyclists to reduce their speeds</li> <li>• Highlights to motorists and cyclists that they are in an area with changed traffic conditions such as lower speeds.</li> </ul>

Features	Description
Raised threshold	<ul style="list-style-type: none"> <li>Encourages lower speeds.</li> <li>Can also be used to indicate the entry/exit to the zone.</li> <li>There is no requirement to provide pedestrian fencing in shared zones.</li> <li>Continuous footpath treatments should be considered to assist traffic calming. Refer to TD 2013/05.</li> </ul>
Change in carriageway surface and texture	<ul style="list-style-type: none"> <li>Provides characteristics that distinguish the scheme from other roads. Shared zones require a different road surface along the entire length of the road. Alternate treatments may be considered with Roads and Maritime approval. This must be provided where the existing kerb and gutter is to be retained.</li> </ul>
Architectural and landscaping	<ul style="list-style-type: none"> <li>Assists in creating a visible change in the street environment.</li> <li>Helps to enhance the quality of the scheme.</li> <li>Creates a prominent feature that clearly highlights the start / end of the scheme.</li> <li>Can be repeated through the shared zone.</li> </ul>
Pavement markings	<ul style="list-style-type: none"> <li>A <i>Give Way to Pedestrians</i> pavement marking must be provided at each entry.</li> </ul>

- Traffic calming features or suitable treatments must be provided to reduce speeds (in zones where kerbs have been retained). There is no requirement to provide pedestrian fencing in shared zones. Continuous footpath treatments should be considered to assist traffic calming. Refer to TD 2013/05.
- In a shared zone with two-way traffic movement where the available travel width is less than 6.0 metres, storage gaps should be provided to allow moving vehicles to pass each other. A convenient position for storage gaps is adjacent to driveways where the loss of parking spaces is minimised. Storage gaps may not be necessary where the street is short and a driver entering at one end of the street is able to see a vehicle entering at the opposite end of that street.
- Give Way to Pedestrians* pavement markings must be provided at entry points.
- Enhancements to shared zones may also be considered and include pavement markings such as the pedestrian symbol and the numerals 10 at regular intervals along the existing road length, with traffic calming devices or a changed road environment to maintain a self enforcing 10km/h speed limit.

## Parking

- Parking bays that straddle existing kerbs are to be provided only in Category 2 shared zones, subject to approval. Where this is the case:
  - Retaining barrier kerb (Type SA) is acceptable adjacent to parking spaces that have direct access via a driveway from one end. This would limit parking to a maximum of two parallel parking spaces in series between driveways. This will discourage people from driving illegally along the footway to access or leave parking spaces.
  - Providing roll-top kerb (Type RT) is the ideal treatment where parking spaces are not directly accessible from a driveway, or where there are long lengths between driveways. This treatment will facilitate the provision of three or more parallel parking spaces in series. Alternating short lengths of different kerb types along a kerb line should be avoided. This practice may be acceptable if the kerb types were separated by driveways.

- Provisions for pedestrian access must be provided for essential services, including property access and letterboxes.
- Utility poles could restrict positioning and access to and from parking bays. The location of parking bays in relation to utility poles needs to be defined to suit the relevant Authority.
- If parking bays are located on each side of the road the width between them must not be less than 3.0 metres to allow vehicles to travel safely along the road or road related area.
- The location of the parking spaces or areas must not compromise sight distances at a shared zone entry point. There are existing mandatory (statutory) restrictions at intersections, road crossings, and traffic signals contained in the NSW Road Rules 2008 and RMS Technical Directions (signposted restrictions). These are applied to ensure that minimum sight distances are provided for road safety purposes.
- The parking spaces, including vehicle access to and from the spaces, are not to affect access to utilities. Utility covers may not be trafficable, so it is important to ensure that car parking does not damage them. Parking spaces and areas should be carefully located so this problem is eliminated or the devices protected.
- It is illegal to drive on the footpath, therefore parking spaces are to be located so they can be accessed without driving on the footpath.
- Trees and shrubs planted in the shared zone could affect positioning and access to and from parking bays, depending on the location and size of the tree or shrub. For safety, it is important to consider whether driver sight distance may be obstructed.
- Parking bays should not restrict access to property entrances.
- Parking bays must be provided in accordance with AS2890.5 and AS 2890.6-2009 *Parking Facilities*. The minimum width must be 2.1 metres and the minimum length must be 6.0 metres for parallel parking spaces.

90 and 45 degrees parking are not considered appropriate in a shared zone. The minimum carriage way widths required for 90 and 45 degrees parking does not adhere to the requirements for a self-enforcing road environment. In addition it is undesirable to have vehicles reversing within a shared zone.

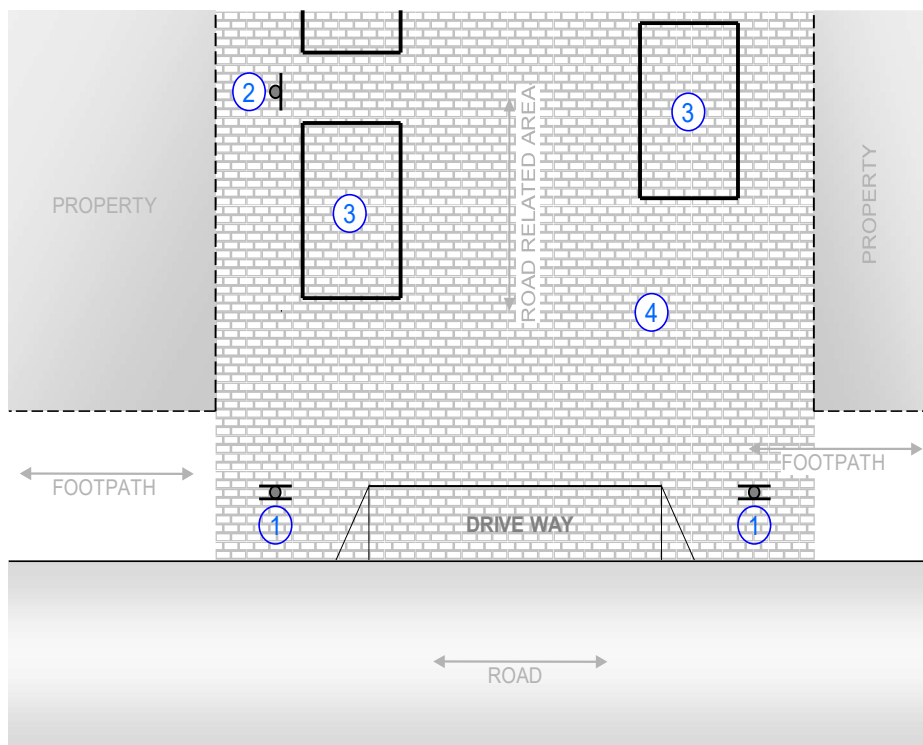
## Road safety audits

Road safety audits provide a means of identifying and managing road safety risks in a shared zone scheme.

The features provided in shared zones must be safe for all road users. In particular the road safety audit is required to identify issues pertaining to vehicle speeds, movements and pedestrian safety and disability use.

Road safety audits are to be conducted at a number of points during a project, including at the design stage. The project manager must address all the identified deficiencies, prior to construction. A road safety audit is also to be conducted after implementation.

Road safety audits must be completed in accordance with the Austroads Guide to Road Safety Part 6: Road Safety Audits and the relevant RMS Austroads Guide Supplements.



**NOTES:**

1. Regulatory traffic signage per the requirements of Road Rules 2008 must be provided at each entry and exit to the shared zone. Signs must be installed on both sides of the road at each entry. These include: R4-4, R2-10, R5-65 and R4-5.
2. Traffic signs may be repeated at additional locations in the Shared Zone (R4-4, R2-10 and R5-65).
3. Parking bays may be provided. Parking is only allowed in marked bays and should not restrict property / driveway access. All parking spaces must be provided in accordance with AS 2890.5.
4. Pavement surface (colour, texture and materials) are used to highlight the difference in the environment from the surrounding street network.
5. This diagram is not to scale.

Category 1 shared zone Indicative layout and treatments

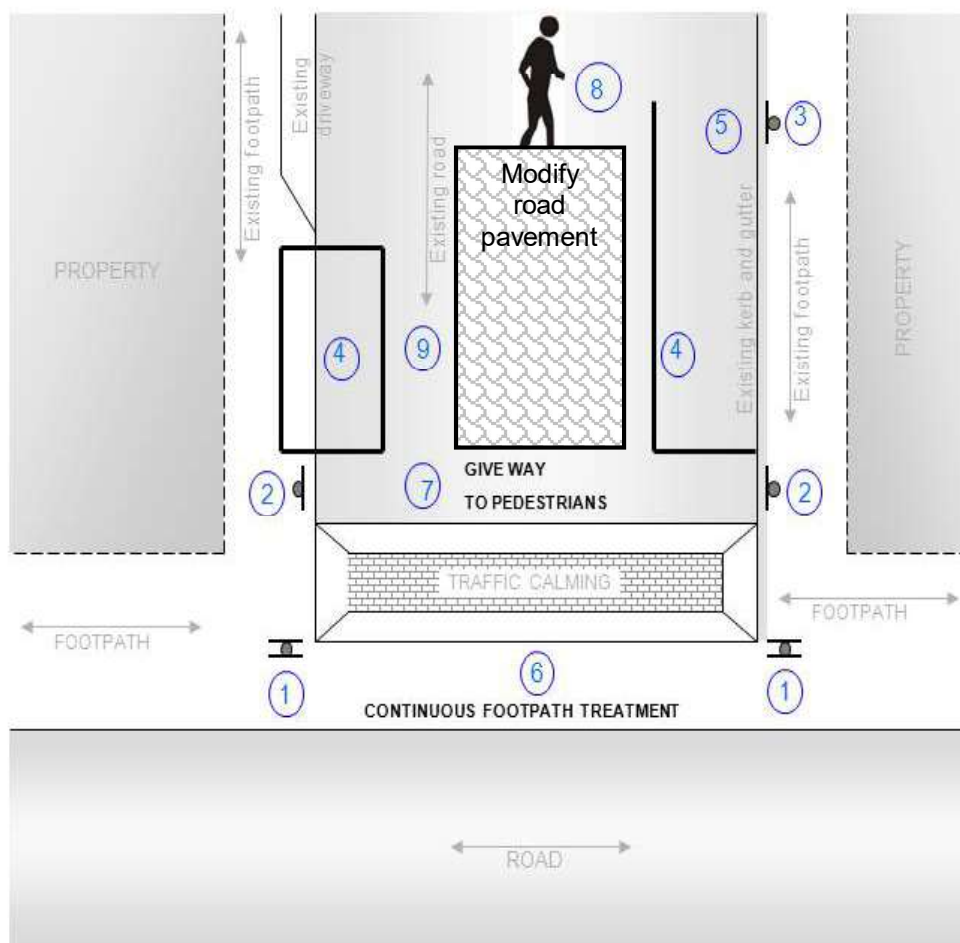


**Figure 1. Photo and diagram of a Category 1 shared zone showing regulatory signage, typical layout and treatments. [Note: The No Entry sign is site specific]  
The photo may have been modified to demonstrate essential elements.**



**Figure 2. Photo and diagram of a Category 1 shared zone retaining kerb and gutter showing treatments, parking provision, and typical layout.  
The photo may have been modified to demonstrate essential elements.**





**NOTES:**

1. Regulatory traffic signage per the requirements of Road Rules 2008 must be provided at each entry and exit to the shared zone. Signs must be installed on both sides of the road at each entry. These include: R4-4, R2-10, R5-65 and R4-5.
2. No Stopping sign. Must be placed in accordance with the regulations and to ensure parking does not compromise sight distance.
3. Traffic signs may be repeated at additional locations in the Shared Zone (R4-4, R2-10 and R5-65).
4. Parking bays may be provided over existing kerbs or on road. Parking is only allowed in marked bays and should not restrict property / driveway access. All parking spaces must be provided in accordance with AS 2890.5.
5. The retention of kerb and gutter requires RMS approval.
6. Traffic calming treatments must be provided at regular intervals to maintain vehicle travel speed at no more than 10 km/h. There should not be any general requirement to provide pedestrian fencing in shared zones. Continuous Footpath Treatments should be considered as entry treatments and traffic calming (TD 2013/05).
7. A Give Way to Pedestrians pavement marking is to be provided at the entry to the shared zone. (Refer to the Delineation Manual Section 9.)
8. Optional PS-4 pedestrian logos may be repeated at intervals.
9. Pavement surface (colour, texture and materials) are used along the vehicle path to highlight the difference in the environment from the surrounding street network.
10. This diagram is not to scale.

Category 2 shared zone typical layout and treatments



**Figure 2. Photo and diagram of a Category 2 shared zone showing treatments, traffic calming, parking provision, and typical layout. 'Give Way' to Pedestrian' pavement marking is optional.**

The photo may have been modified to demonstrate essential elements.

## Stakeholder consultation

To gain support for the implementation of a shared zone, to ensure compliance with the road rules, and to mitigate any potential conflicts and problems prior to the operation of the scheme, the concept and detailed design of a shared zone must be developed with the participation of the local community. Inclusive in this process is the need to liaise with disability groups.

Consultation with stakeholders such as the Police, emergency services, public transport companies, delivery/garbage truck operators and local businesses is needed prior to the implementation of the scheme.

It is the responsibility of the local council to deliver an appropriate public awareness campaign and should include a variety of communication channels (eg door knocking, media coverage, placement of posters and signs, distribution of brochures, and public exhibitions). This campaign should advise residents on issues such as where to place garbage bins, and the need to remove them from the shared zone promptly once emptied.

## Approval by RMS

The authorisation of a shared zone is not delegated to councils. Shared zones are speed zones and approval to install them must be obtained from RMS in accordance with this policy.

## Implementation

The final stage involves implementing the approved scheme on site. Monitoring the implementation by the design team is recommended to ensure consistency with the design objectives and principles.

## Post implementation monitoring

A road safety audit is to be conducted after implementation. Local council should also periodically monitor the scheme to assess the effectiveness of the operation of a shared zone.

## Action

This Technical Direction must be followed when councils are designing and implementing shared zones.

## Updates

To ensure that this Technical Direction and any related guidelines remain current and relevant, minor updates may be made from time to time. Any updates may be obtained from the RMS website using the Traffic & Transport Policies & Guidelines Register which can be found at:

[www.rms.nsw.gov.au/doingbusinesswithus/guidelines/documentregister/index.html](http://www.rms.nsw.gov.au/doingbusinesswithus/guidelines/documentregister/index.html)

Printed copies of this Technical Direction are uncontrolled; therefore the Register should always be checked prior to using this Technical Direction or any related guidelines.