



## **PROPOSED MIXED USE DEVELOPMENT**

**1010-1014 PITTWATER ROAD, COLLAROY**

## **Traffic and Parking Assessment Report**

18<sup>th</sup> September 2023

Ref: 21038

Prepared by

**Terraflow Pty Ltd**  
Traffic and Parking Consultants



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## 1. INTRODUCTION

This report has been prepared to accompany a Development Application (DA) to Northern Beaches Council for a proposed mixed use development on a consolidated site at 1010-1014 Pittwater Road, Collaroy (Figures 1 and 2).

The proposed development site is located on the eastern side of Pittwater Road approximately 50m south of Ocean Grove. It has a total site area of 1858m<sup>2</sup> with a frontage of 45.72m to Pittwater Road. The development site is zoned E1 Local Centre under the controls of the Warringah LEP 2011.

### *Existing Site Development*

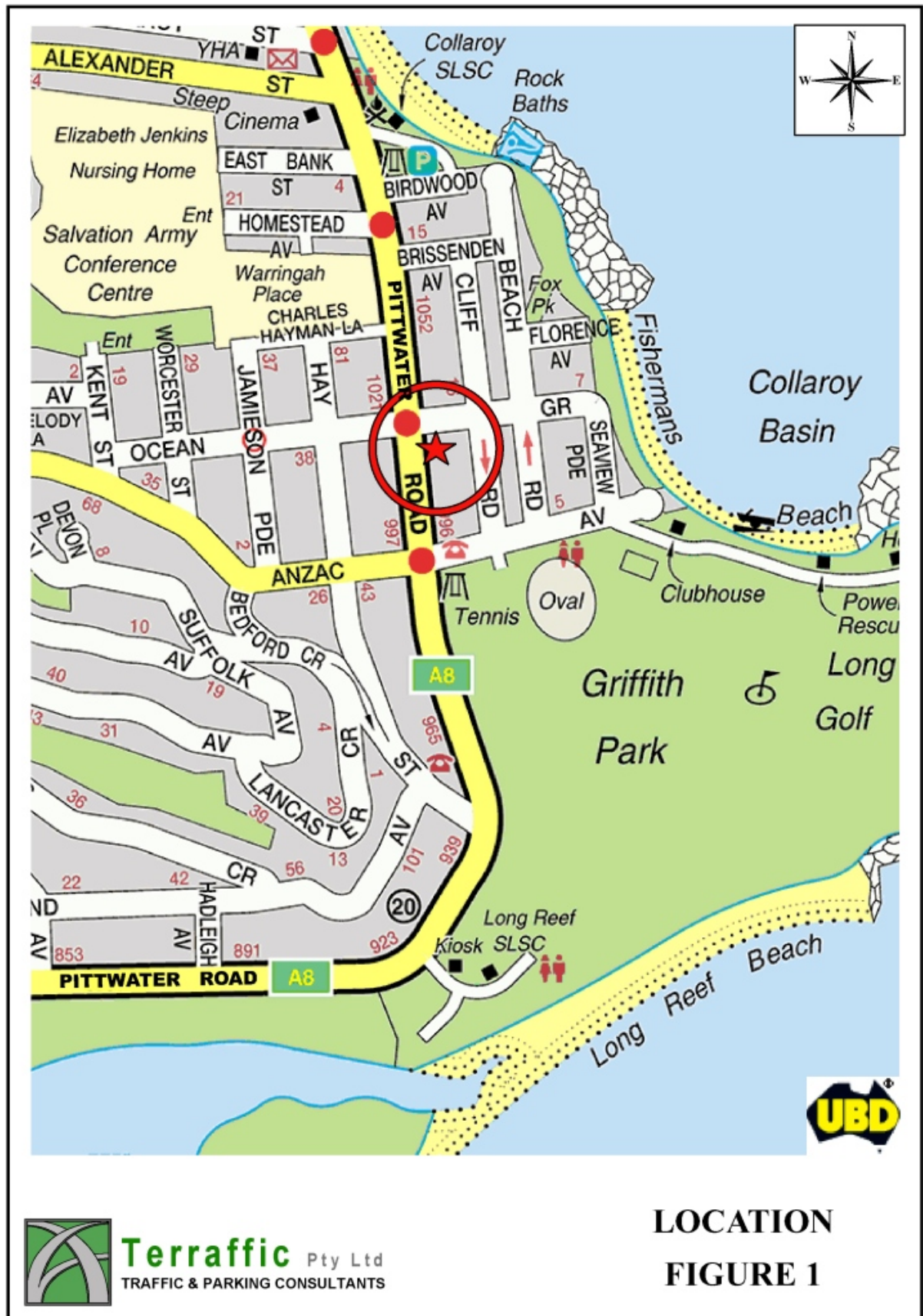
The existing site development comprises 3 mixed use buildings with a combined retail/commercial floor space of approximately 1,236m<sup>2</sup> and 2 residential dwellings. The existing site development has no off-street parking or loading facilities.

A copy of the site survey is reproduced in the following pages.



Aerial photograph of the site











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***Proposed Development***

The development proposal involves the demolition of the existing building and construction of a new mixed use building comprising 3 small retail shops with a combined floor area of 241.83m<sup>2</sup> and 22 residential apartments as follows:

**Retail**

Retail 1	68.65m <sup>2</sup>
Retail 2	91.45m <sup>2</sup>
Retail 3	81.73m <sup>2</sup>
<b>Total Retail</b>	<b>241.83m<sup>2</sup></b>

**Residential**

1 bedroom units	3
2 bedroom units	10
3 bedroom units	9
<b>Total Units</b>	<b>22</b>

The proposed development is served by a total of 51 off-street car parking spaces over 2 basement parking levels comprising 29 resident spaces, 5 visitor spaces and 17 retail spaces. An on-site loading space capable of accommodating a courier van is also proposed on the ground level. As per the current arrangement, larger delivery vehicles will temporarily park in the 1 HOUR PARKING zone along the Pittwater Road frontage.

In addition the car parking provision, the development is served by 27 bicycle spaces comprising 22 resident spaces, 2 visitor bike racks, 2 tenant bike racks and 1 shopper bike rack.

Vehicular access to the proposed development is off Pittwater Road via a 5.86m wide combined entry/exit driveway located 10m from the northern site boundary.

Plans of the proposed development prepared by Gartner Trovato Architects are reproduced in Appendix A.





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***Public Transport Accessibility***

The subject site has convenient access to the following bus service operated by Sydney Buses:

- |                   |   |
|-------------------|---|
| <b>Route 181X</b> | Narrabeen to City Wynyard (Express Service) via Collaroy, Dee Why, Brookvale, Manly Vale, Mosman and Neutral Bay. Service operates weekday peaks only |
| <b>Route 199</b>  | Palm Beach to Manly via Avalon, Newport, Mona Vale, Warriewood, Narrabeen, Collaroy, Dee why and Brookvale. Service operates daily                    |

Bus stops for these services are located at the Pittwater Road/Ocean Grove intersection.

The purpose of this report is to assess the traffic, servicing and parking implications of the proposed development.





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## 2. PARKING AND SERVICING ASSESSMENT

### *Existing Parking Controls*

The existing parking controls in the vicinity of the site are illustrated on Figure 3 and include:

- The AM and PM PEAK BUS LANES on Pittwater Road
- The BUS ZONES on Pittwater Road either side of Ocean Grove and Anzac Avenue
- The 1 HOUR PARKING restrictions along the eastern side of Pittwater Road
- The UN-RESTRICTED PARKING restrictions along the western side of Pittwater Road, Ocean Grove and Anzac Avenue
- The 49 SPACE CARPARK on the southern side of Anzac Avenue

### *Council DCP Parking Requirement*

Appendix 1 in Part H of the Warringah Development Control Plan (amendment 21) nominates the following parking requirements that are applicable to the proposed development:

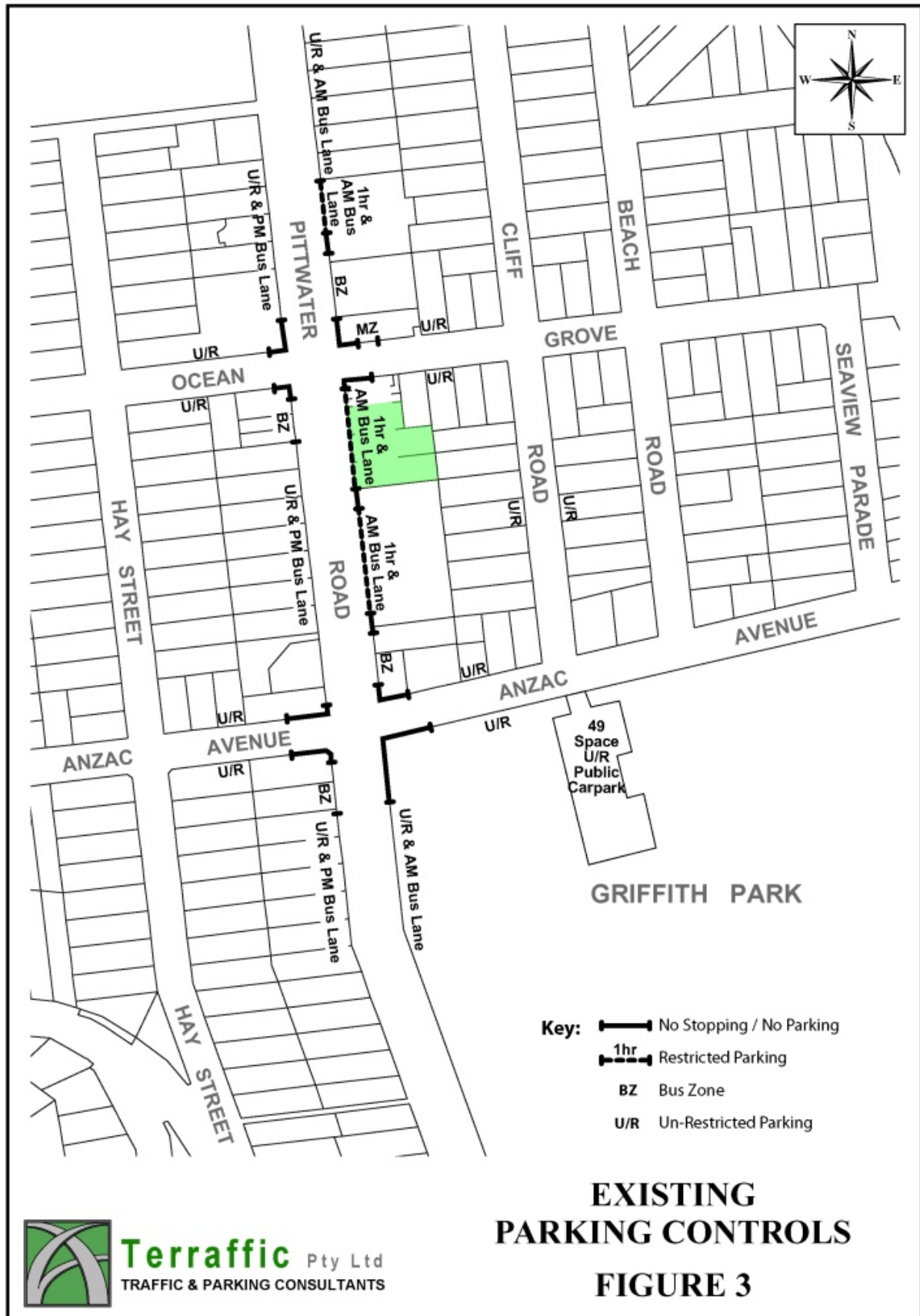
**Multi-dwelling housing, Residential flat buildings, Serviced apartments (including holiday flats),  
Shop-top housing (residential component)**

- 1 space per 1 bedroom dwelling
- 1.2 spaces per 2 bedroom dwelling
- 1.5 spaces per 3 bedroom dwelling
- 1 visitor space per 5 units or part of dwellings

**Shop (includes retail / business component of shop top housing, retail premises and  
neighbourhood shop)**

- 1 space per 16.4 m<sup>2</sup> GLFA (6.1 spaces per 100 m<sup>2</sup> GLFA)

Application of those parking rates to the proposed development yields a total requirement of 48 spaces calculated as follows:



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TRAFFIC & PARKING CONSULTANTS

***Residential***

3 x 1 bedroom units @ 1.0 space per dwelling	3.0 spaces
10 x 2 bedroom dwellings @ 1.2 spaces per dwelling	12.0 spaces
9 x 3 bedroom dwellings @ 1.5 spaces per dwelling	13.5 spaces
<i>Total resident parking</i>	<i>28.5 spaces (rounded to 29 spaces)</i>
22 dwellings @ 1 visitor space per 5 dwellings	4.4 spaces (rounded to 4 spaces)
<b>Total</b>	<b>32.9 spaces (rounded to 33 spaces)</b>

***Retail***

241.83m <sup>2</sup> @ 6.1 spaces per 100m <sup>2</sup>	14.8 spaces (rounded to 15 spaces)
<b>Total</b>	<b>47.7 spaces (rounded to 48 spaces)</b>

The proposed development satisfies the DCP requirement with the provision of 51 off-street car parking spaces comprising 29 resident spaces, 5 visitor spaces and 17 retail spaces. The retail parking provision comprises 7 staff spaces and 10 shopper spaces. All shopper spaces are located on the ground level for convenience.

As noted in the foregoing, the existing 1,236m<sup>2</sup> of commercial/retail floor space on the site is not served by any off-street car parking or loading facilities. Based on Council's DCP parking requirement, the existing site development would generate in the order of 75 cars that would currently park on-street in the vicinity of the site. As can be appreciated, the removal of these 75 cars that currently park on-street will have an enormous amenity effect for nearby commercial properties and local residents that do not have off-street parking.

***On-Site Loading Facilities***

Part C2 of the Warringah Development Control Plan notes the following with regard to on-site loading facilities:

**On-site loading and unloading**

6. Facilities for the loading and unloading of service, delivery and emergency vehicles are to be:
  - appropriate to the size and nature of the development;
  - screened from public view; and
  - designed so that vehicles may enter and leave in a forward direction.



Table 5.1 of the RMS's "*Guide to Traffic Generating Developments*" (October 2002) specifies the following requirement for delivery and service vehicles:

Restaurants/Shops <2,000m <sup>2</sup> GFA	1 space per 400m <sup>2</sup> GFA
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Based on the RMS Guidelines, the proposed development requires 1 loading space as follows:

241.83m <sup>2</sup> retail floorspace @ 1 loading bay per 400m <sup>2</sup> GFA	0.6 loading bay
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The proposed development is served by a 7.44m x 2.92m loading bay on the ground level capable of accommodating a typical courier van similar in size to the B99 vehicle specified in the Australian Standard AS/NZS2890.1:2004. The B99 vehicle is similar to the Ford Transit Medium Wheelbase Van and measures 5.2m x 1.94m. This vehicle will adequately serve the 3 small retail shops.

As per the current arrangement, larger delivery vehicles will temporarily park in the 1 HOUR PARKING zone along the Pittwater Road frontage.

### ***Carpark and Access Compliance***

The basement carpark and access ramps have been designed to generally satisfy the following requirements of the Australian Standard AS/NZS2890.1-2004 – "*Off-Street Car Parking*":

- Long-term resident and tenant (Class 1) parking spaces are a minimum 5.4m long and 2.4m wide
- Short term shopper (Class 3) parking spaces are a minimum 5.4m long and 2.6m wide
- Parallel spaces are 6.1m long and 2.1m wide
- An additional 0.3m has been provided for spaces adjacent to a wall or obstruction
- Blind aisle extensions 1.0m wide have been provided as per Figure 2.3 of the Standard
- The access/manoeuvring aisle ranges in width from 5.8m to 6.95m
- Pavement cross-falls at parking spaces do not exceed 5% (1 in 20)
- The maximum gradient of the accessway for the first 6.0m into the site does not exceed 5% (1 in 20)
- Maximum ramp grades do not exceed 25% (1 in 4)
- Ramp transitions do not exceed 12.5% (1 in 8) over a distance of 2.0m
- The two-way accessway and basement ramp are a minimum 6.1m wide wall to wall comprising a 5.5m roadway and 2 x 300mm wide kerbs
- A minimum headroom clearance of 2.2m has been provided throughout the basement carpark





A 2.5m x 2.0m pedestrian sight line triangle has been provided on the exit side of the main access onto Pittwater Road as per Figure 3.3 of the Standard.

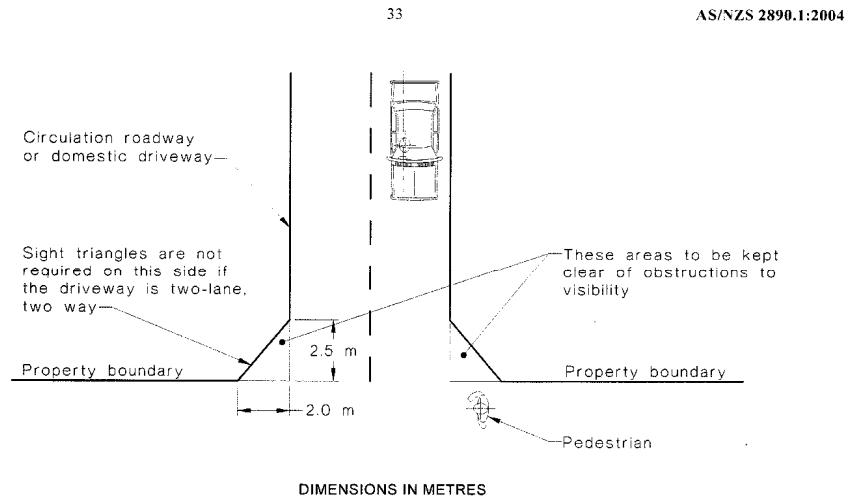


FIGURE 3.3 MINIMUM SIGHT LINES FOR PEDESTRIAN SAFETY

The disabled parking spaces have also been designed in accordance with the Australian Standard AS/NZS2890.6:2009 – “*Off-street parking for people with disabilities*” as follows:

- A 5.4m long x 2.4m wide dedicated (*non-shared*) parking space
- An adjacent *shared* area that is also 5.4m long x 2.4m wide
- A minimum headroom of 2.5m above the disabled spaces
- Pavement cross-falls in disabled spaces do not exceed 2.5% (1 in 40) in any direction

### ***Bicycle Parking Requirement***

Clause C3(A) of the Warringah DCP nominates the following bicycle parking requirements that are applicable to the proposed development:

#### **Residential Accommodation**

- 1 bicycle space per dwelling for residents
- 1 bicycle space per 12 dwellings for visitors

#### **Business and Retail Premises**

- 1 bicycle space per 200m<sup>2</sup> for staff
- 1 bicycle space per 600m<sup>2</sup> for staff



Application of those parking rates to the proposed development yields a total requirement of 27 bicycle spaces calculated as follows:

***Residential***

22 dwellings @ 1 space per dwelling for residents	22 resident bike spaces
22 dwellings @ 1 visitor space per 12 dwellings	2 visitor bike spaces

***Sub-Total***

***24 bicycle spaces***

***Retail***

241.83m <sup>2</sup> @ 1 space per 200m <sup>2</sup> for staff	2 staff bike spaces
241.83m <sup>2</sup> @ 1 space per 600m <sup>2</sup> for shoppers	1 shopper bike space

***Sub-Total***

***3 bicycle spaces***

***Total Development***

***27 bicycle spaces***

The 22 resident bicycle parking spaces are all located in the secure basement carpark. Of those spaces, 13 bicycle racks are located next to the passenger lifts while the remaining 9 spaces are positioned within the storage areas associated with the garages.

The 5 spaces required for resident visitors (2 spaces), retail staff (2 spaces) and retail shoppers (1 space) are located on the ground level for convenient access. The proposed bicycle racks have also been designed in accordance with Figure B5 of the Australian Standard AS2890.3:2015 – “*Bicycle Parking*”.

In the circumstances, it can be concluded that the proposed development has no unacceptable parking, loading or safety implications.



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### 3. TRAFFIC ASSESSMENT

#### *Existing Road Network*

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 4 and comprises the following:

State Roads	Regional Roads
Pittwater Road	nil

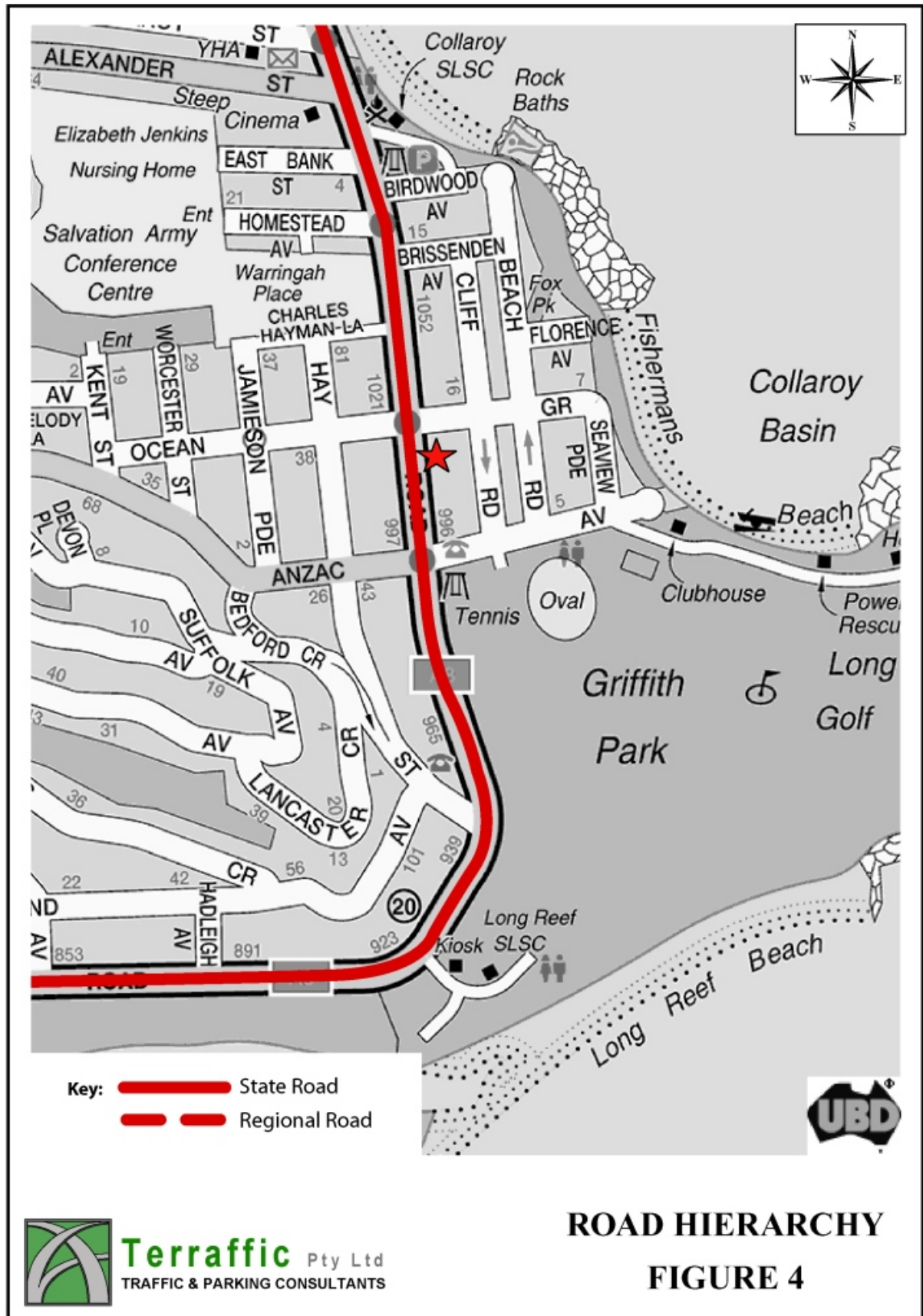
Pittwater Road is a classified *State Road* performing an arterial road function. It typically carries 6 lanes of traffic (3 lanes in each direction) separated by a central median island. Kerbside parking is generally permitted outside of the morning and afternoon Bus Lane restrictions.

The existing traffic controls on the road network serving the site are illustrated on Figure 5 and include:

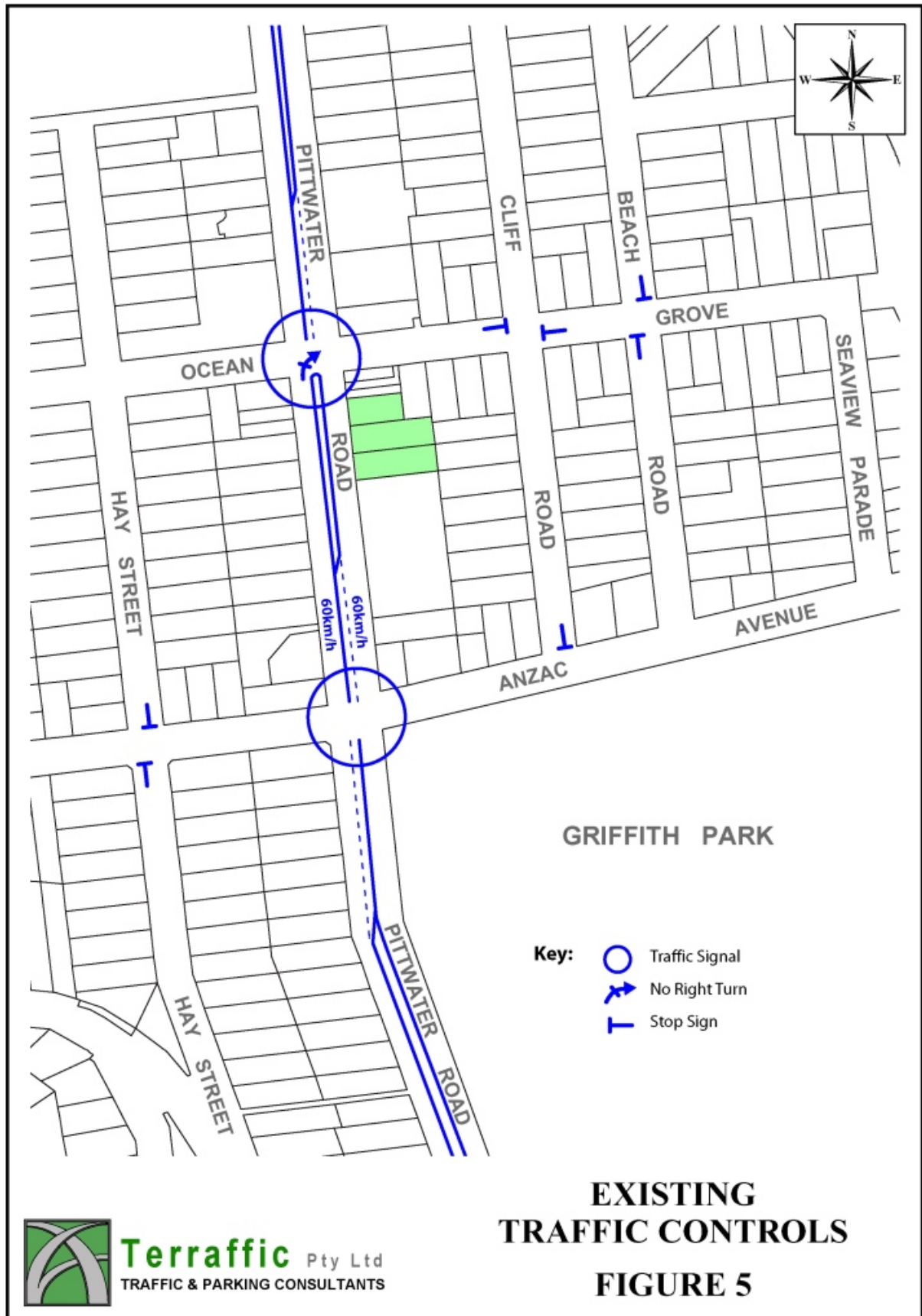
- The TRAFFIC SIGNALS at the intersection of Pittwater Road and Ocean Grove
- The NO RIGHT TURN restriction for northbound traffic on Pittwater Road into Ocean Grove
- The MEDIAN ISLAND on Pittwater Road that restricts all access to the site to left-in/left-out only

#### *Existing Traffic Conditions*

An indication of existing traffic conditions on the road network serving the site is provided from a count of traffic activity at the Pittwater Road/Ocean Grove intersection conducted between 7.00am - 9.00am and 4.00pm - 6.00pm on Tuesday 6<sup>th</sup> June 2023. The results of these counts of traffic activity are reproduced in Appendix A revealing that:









- the AM peak period occurred between 7.45-8.45am. At that time, 1,757 vehicles per hour (vph) travelled south on Pittwater Road past the development site.
- the PM peak period occurred between 4.15 – 5.15pm. At that time, At that time, 1,351vph travelled south on Pittwater Road past the development site.

### ***Projected Traffic Generation Potential***

An indication of the traffic generation potential of the existing and proposed development is provided by reference to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002)*. The RMS *Guidelines* are based on extensive surveys of a wide range of land uses and nominates the following traffic generation rates which are applicable to the existing and proposed development:

**Specialty Shops / Secondary Retail**                      5.6 peak hour trips per 100m<sup>2</sup> GLFA

**Residential Flat Buildings (Metropolitan Sub-Regional Centre)**  
0.29 vehicle trips per unit

### ***Traffic Generation of EXISTING SITE Development***

Application of the RMS's traffic generation rates to the existing retail floor space yields a traffic generation potential in the order of 75vtph during the weekday peak periods as follows:

1,326m<sup>2</sup> retail @ 5.6vtph per 100m<sup>2</sup>                      75vtph

### ***Traffic Generation of PROPOSED Development***

Application of the RMS's traffic generation rates to the proposed development yields a traffic generation potential in the order of 19vtph during the weekday peak periods calculated as follows:

**Morning Peak Period**

241.83m <sup>2</sup> retail @ 5.6vtph per 100m <sup>2</sup>	14vtph (10 in / 4 out)
22 units @ 0.29vtph per unit	5vtph (1 in / 4 out)
<b>Total</b>	<b>19vtph (11 in / 8 out)</b>

**Afternoon Peak Period**

241.83m <sup>2</sup> retail @ 5.6vtph per 100m <sup>2</sup>	14vtph (4 in / 10 out)
22 units @ 0.29vtph per unit	5vtph (4 in / 1 out)
<b>Total</b>	<b>19vtph (8 in / 11 out)</b>

Therefore based on the RMS Guidelines, the proposed development will generate 56 less vehicle movement during peak periods as follows:

Existing Development	75vtph
Proposed Development	19vtph
<b>Reduction in Traffic</b>	<b>56vph</b>

In circumstances where an existing development generates more traffic than a proposed development, it can be readily appreciated that the proposal will not have any noticeable or unacceptable effect on the road network serving the site in terms of road network capacity or traffic-related environmental effect.

Furthermore, the development site has direct vehicular access to the higher order road network which alleviates the need to travel on local residential streets.

In the circumstances, the proposed development will not have any unacceptable traffic implications.

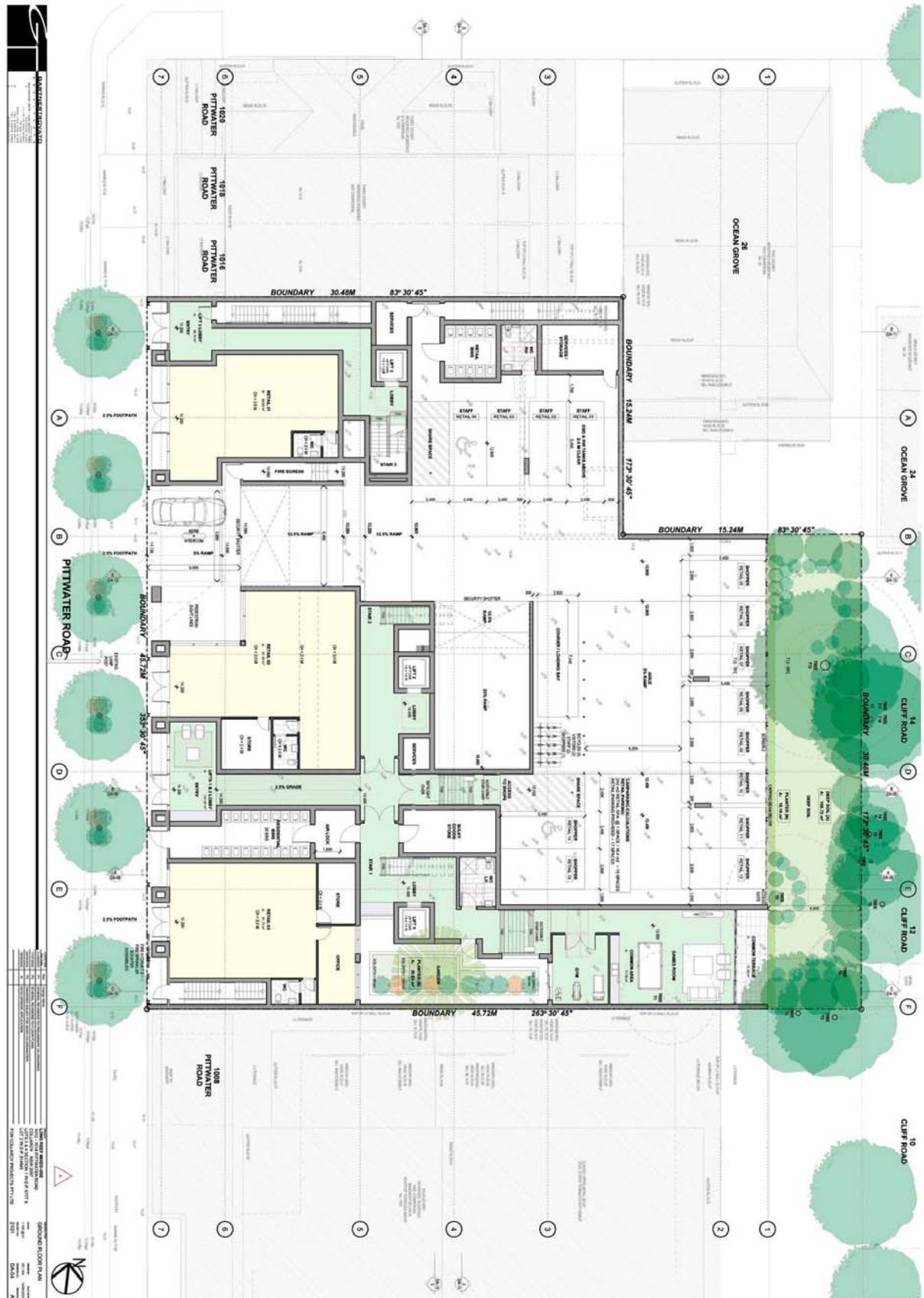


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## **APPENDIX A**

### **PLANS OF THE PROPOSED DEVELOPMENT**





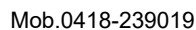




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## **APPENDIX B**

### **TRAFFIC COUNT DATA**



Day/Date : Tuesday / 6th June 2023

[illegible]





# R.O.A.R. DATA

Reliable, Original & Authentic Results

Mob.0418-239019

Client : Terraffic

Job No/Name : 7863 COLLAROY Ocean Grove

Day/Date : Tuesday / 6th June 2023

## BUSES

BUSES	NORTH				WEST			SOUTH				EAST			
	B-L	Pittwater Rd			Ocean Grove			B-L	Pittwater Rd			Ocean Grove			
Time Per	T	L	T	R	L	T	R	T	L	T	R	L	T	R	TOT
0700 - 0715	12	0	0	0	0	0	0	1	0	6	0	0	0	0	19
0715 - 0730	11	0	0	0	0	0	0	0	0	6	0	0	0	0	17
0730 - 0745	10	0	1	0	0	0	0	0	0	5	0	0	0	0	16
0745 - 0800	11	0	3	0	0	0	0	0	0	6	0	0	0	0	20
0800 - 0815	12	0	3	0	0	0	0	1	0	9	0	0	0	0	25
0815 - 0830	5	0	1	0	0	0	0	0	0	5	0	0	0	0	11
0830 - 0845	8	0	0	0	0	0	0	1	0	4	0	0	0	0	13
0845 - 0900	6	0	0	0	0	0	0	0	0	8	0	0	0	0	14
Period End	75	0	8	0	0	0	0	3	0	49	0	0	0	0	135

## BUSES

BUSES	NORTH				WEST			SOUTH				EAST			
	B-L	Pittwater Rd			Ocean Grove			B-L	Pittwater Rd			Ocean Grove			
Peak Per	T	L	T	R	L	T	R	T	L	T	R	L	T	R	TOT
0700 - 0800	44	0	4	0	0	0	0	1	0	23	0	0	0	0	72
0715 - 0815	44	0	7	0	0	0	0	1	0	26	0	0	0	0	78
0730 - 0830	38	0	8	0	0	0	0	1	0	25	0	0	0	0	72
0745 - 0845	36	0	7	0	0	0	0	2	0	24	0	0	0	0	69
0800 - 0900	31	0	4	0	0	0	0	2	0	26	0	0	0	0	63

PEAK HOUR	36	0	7	0	0	0	0	2	0	24	0	0	0	0	69
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## COMBINED

COMBINED	NORTH				WEST			SOUTH				EAST			
	B-L	Pittwater Rd			Ocean Grove			B-L	Pittwater Rd			Ocean Grove			
Time Per	T	L	T	R	L	T	R	T	L	T	R	L	T	R	TOT
0700 - 0715	14	0	250	9	9	0	2	1	6	193	0	1	1	5	491
0715 - 0730	13	3	354	12	4	2	5	0	3	212	0	2	3	4	617
0730 - 0745	14	7	349	8	22	0	6	0	3	249	0	1	3	7	669
0745 - 0800	20	3	389	15	16	2	6	0	1	303	0	1	6	16	778
0800 - 0815	19	7	400	23	14	1	9	1	0	310	0	3	2	11	800
0815 - 0830	9	6	430	18	16	8	17	0	2	239	0	3	5	7	760
0830 - 0845	15	7	421	20	15	4	12	1	6	312	0	3	1	12	829
0845 - 0900	13	10	318	18	23	5	5	0	1	255	0	1	5	5	659
Period End	117	43	2911	123	119	22	62	3	22	2073	0	15	26	67	5603

## COMBINED

COMBINED	NORTH				WEST			SOUTH				EAST			
	B-L	Pittwater Rd			Ocean Grove			B-L	Pittwater Rd			Ocean Grove			
Peak Per	T	L	T	R	L	T	R	T	L	T	R	L	T	R	TOT
0700 - 0800	61	13	1342	44	51	4	19	1	13	957	0	5	13	32	2555
0715 - 0815	66	20	1492	58	56	5	26	1	7	1074	0	7	14	38	2864
0730 - 0830	62	23	1568	64	68	11	38	1	6	1101	0	8	16	41	3007
0745 - 0845	63	23	1640	76	61	15	44	2	9	1164	0	10	14	46	3167
0800 - 0900	56	30	1569	79	68	18	43	2	9	1116	0	10	13	35	3048

PEAK HOUR	63	23	1640	76	61	15	44	2	9	1164	0	10	14	46	3167
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# R.O.A.R. DATA

Reliable, Original & Authentic Results

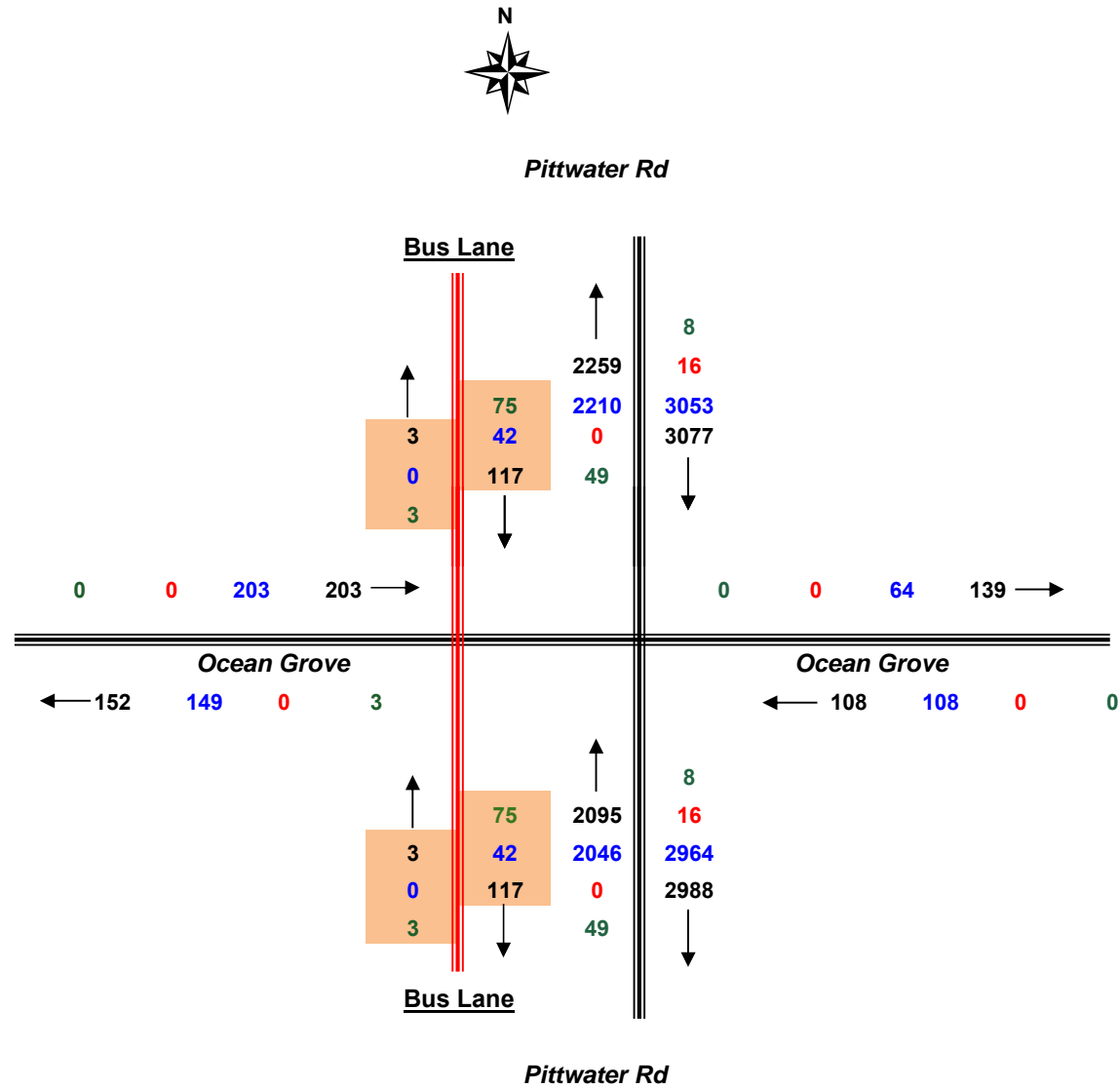
Mob.0418-239019

Client : Terraffic

Job No/Name : 7863 COLLAROY Ocean Grove

Day/Date : Tuesday / 6th June 2023

TOTAL  
VOLUMES  
FOR COUNT  
PERIOD





# R.O.A.R. DATA

Reliable, Original & Authentic Results

Mob.0418-239019

Client : Terraffic

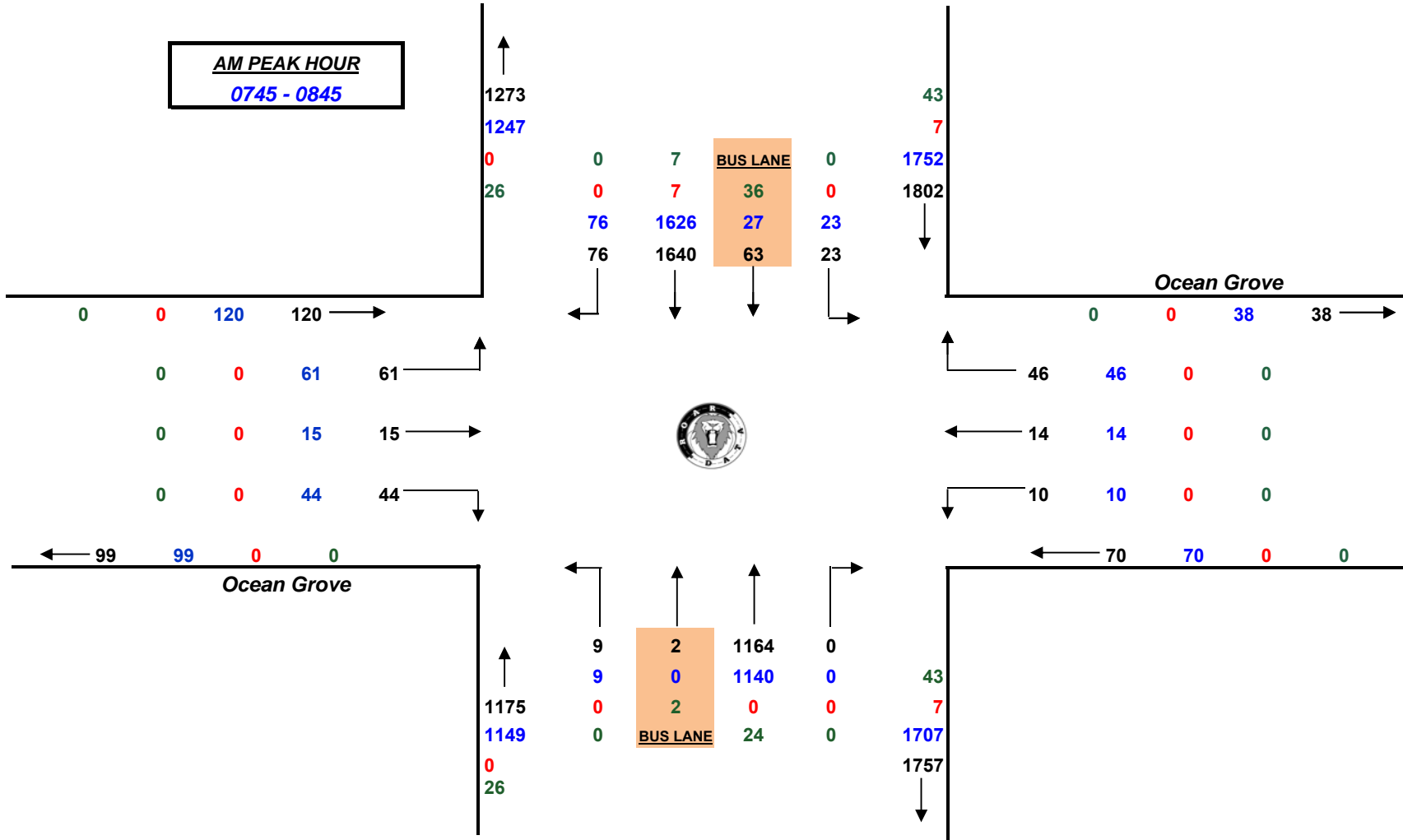
Job No/Name : 7863 COLLAROY Ocean Grove

Day/Date : Tuesday / 6th June 2023

*Pittwater Rd*

AM PEAK HOUR

0745 - 0845



*Pittwater Rd*

## LIGHTS

LIGHTS	NORTH				WEST			SOUTH				EAST			
	B-L	Pittwater Rd			Ocean Grove			B-L	Pittwater Rd			Ocean Grove			
Time Per	T	L	T	R	L	T	R	T	L	T	R	L	T	R	TOT
1600 - 1615	1	7	298	23	24	8	5	2	1	328	0	0	7	9	713
1615 - 1630	0	5	314	14	14	6	7	0	2	413	0	5	3	9	792
1630 - 1645	1	4	319	18	13	3	5	3	9	329	0	6	7	10	727
1645 - 1700	0	3	311	19	10	2	7	1	5	309	0	2	8	9	686
1700 - 1715	0	8	311	19	5	6	6	4	6	336	0	5	5	14	725
1715 - 1730	0	5	308	19	14	3	1	0	4	369	0	5	3	7	738
1730 - 1745	0	3	293	16	12	3	2	1	3	338	0	3	5	5	684
1745 - 1800	0	5	284	14	10	1	2	0	2	371	0	5	7	7	708
Period End	2	40	2438	142	102	32	35	11	32	2793	0	31	45	70	5773

## LIGHTS

LIGHTS	NORTH				WEST			SOUTH				EAST			TOT
	B-L	Pittwater Rd			Ocean Grove			B-L	Pittwater Rd			Ocean Grove			
Peak Per	T	L	T	R	L	T	R	T	L	T	R	L	T	R	TOT
1600 - 1700	2	19	1242	74	61	19	24	6	17	1379	0	13	25	37	2918
1615 - 1715	1	20	1255	70	42	17	25	8	22	1387	0	18	23	42	2930
1630 - 1730	1	20	1249	75	42	14	19	8	24	1343	0	18	23	40	2876
1645 - 1745	0	19	1223	73	41	14	16	6	18	1352	0	15	21	35	2833
1700 - 1800	0	21	1196	68	41	13	11	5	15	1414	0	18	20	33	2855

PEAK HOUR	1	20	1255	70	42	17	25	8	22	1387	0	18	23	42	2930
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## HEAVIES

HEAVIES	NORTH			WEST			SOUTH			EAST			
	Pittwater Rd			Ocean Grove			Pittwater Rd			Ocean Grove			
	L	T	R	L	T	R	L	T	R	L	T	R	
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
1600 - 1615	0	3	0	0	0	0	0	1	0	0	0	0	4
1615 - 1630	0	2	0	0	0	0	0	1	0	0	0	0	3
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	1	0	0	0	0	0	0	0	0	0	0	1
1715 - 1730	0	0	0	0	0	0	0	1	0	0	0	0	1
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Period End	0	6	0	0	0	0	0	0	0	0	0	0	9

## HEAVIES

[illegible][illegible]



# R.O.A.R. DATA

Reliable, Original & Authentic Results

Mob.0418-239019

Client : Terraffic

Job No/Name : 7863 COLLAROY Ocean Grove

Day/Date : Tuesday / 6th June 2023

## BUSES

BUSES	NORTH				WEST			SOUTH				EAST			
	B-L	Pittwater Rd			Ocean Grove			B-L	Pittwater Rd			Ocean Grove			
Time Per	T	L	T	R	L	T	R	T	L	T	R	L	T	R	TOT
1600 - 1615	0	0	11	0	0	0	0	8	0	2	0	0	0	0	21
1615 - 1630	0	0	9	0	0	0	0	6	0	2	0	0	0	0	17
1630 - 1645	0	0	15	0	0	0	0	5	0	0	0	0	0	0	20
1645 - 1700	0	0	14	0	0	0	0	7	0	0	0	0	0	0	21
1700 - 1715	0	0	11	0	0	0	0	3	0	1	0	0	0	0	15
1715 - 1730	0	0	7	0	0	0	0	8	0	2	0	0	0	0	17
1730 - 1745	0	0	5	0	0	0	0	5	0	1	0	0	0	0	11
1745 - 1800	0	0	5	0	0	0	0	4	0	0	0	0	0	0	9
Period End	0	0	77	0	0	0	0	46	0	8	0	0	0	0	131

## BUSES

BUSES	NORTH				WEST			SOUTH				EAST			
	B-L	Pittwater Rd			Ocean Grove			B-L	Pittwater Rd			Ocean Grove			
Peak Per	T	L	T	R	L	T	R	T	L	T	R	L	T	R	TOT
1600 - 1700	0	0	49	0	0	0	0	26	0	4	0	0	0	0	79
1615 - 1715	0	0	49	0	0	0	0	21	0	3	0	0	0	0	73
1630 - 1730	0	0	47	0	0	0	0	23	0	3	0	0	0	0	73
1645 - 1745	0	0	37	0	0	0	0	23	0	4	0	0	0	0	64
1700 - 1800	0	0	28	0	0	0	0	20	0	4	0	0	0	0	52

PEAK HOUR	0	0	49	0	0	0	0	21	0	3	0	0	0	0	73
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## COMBINED

COMBINED	NORTH				WEST			SOUTH				EAST			
	B-L	Pittwater Rd			Ocean Grove			B-L	Pittwater Rd			Ocean Grove			
Time Per	T	L	T	R	L	T	R	T	L	T	R	L	T	R	TOT
1600 - 1615	1	7	312	23	24	8	5	10	1	330	0	0	7	9	737
1615 - 1630	0	5	325	14	14	6	7	6	2	415	0	5	3	9	811
1630 - 1645	1	4	334	18	13	3	5	8	9	329	0	6	7	10	747
1645 - 1700	0	3	325	19	10	2	7	8	5	309	0	2	8	9	707
1700 - 1715	0	8	323	19	5	6	6	7	6	337	0	5	5	14	741
1715 - 1730	0	5	315	19	14	3	1	8	4	371	0	5	3	7	755
1730 - 1745	0	3	298	16	12	3	2	6	3	339	0	3	5	5	695
1745 - 1800	0	5	289	14	10	1	2	4	2	371	0	5	7	7	717
Period End	2	40	2521	142	102	32	35	57	32	2801	0	31	45	70	5910

## COMBINED

COMBINED	NORTH				WEST			SOUTH				EAST			
	B-L	Pittwater Rd			Ocean Grove			B-L	Pittwater Rd			Ocean Grove			
Peak Per	T	L	T	R	L	T	R	T	L	T	R	L	T	R	TOT
1600 - 1700	2	19	1296	74	61	19	24	32	17	1383	0	13	25	37	3002
1615 - 1715	1	20	1307	70	42	17	25	29	22	1390	0	18	23	42	3006
1630 - 1730	1	20	1297	75	42	14	19	31	24	1346	0	18	23	40	2950
1645 - 1745	0	19	1261	73	41	14	16	29	18	1356	0	15	21	35	2898
1700 - 1800	0	21	1225	68	41	13	11	25	15	1418	0	18	20	33	2908

PEAK HOUR	1	20	1307	70	42	17	25	29	22	1390	0	18	23	42	3006
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# R.O.A.R. DATA

Reliable, Original & Authentic Results

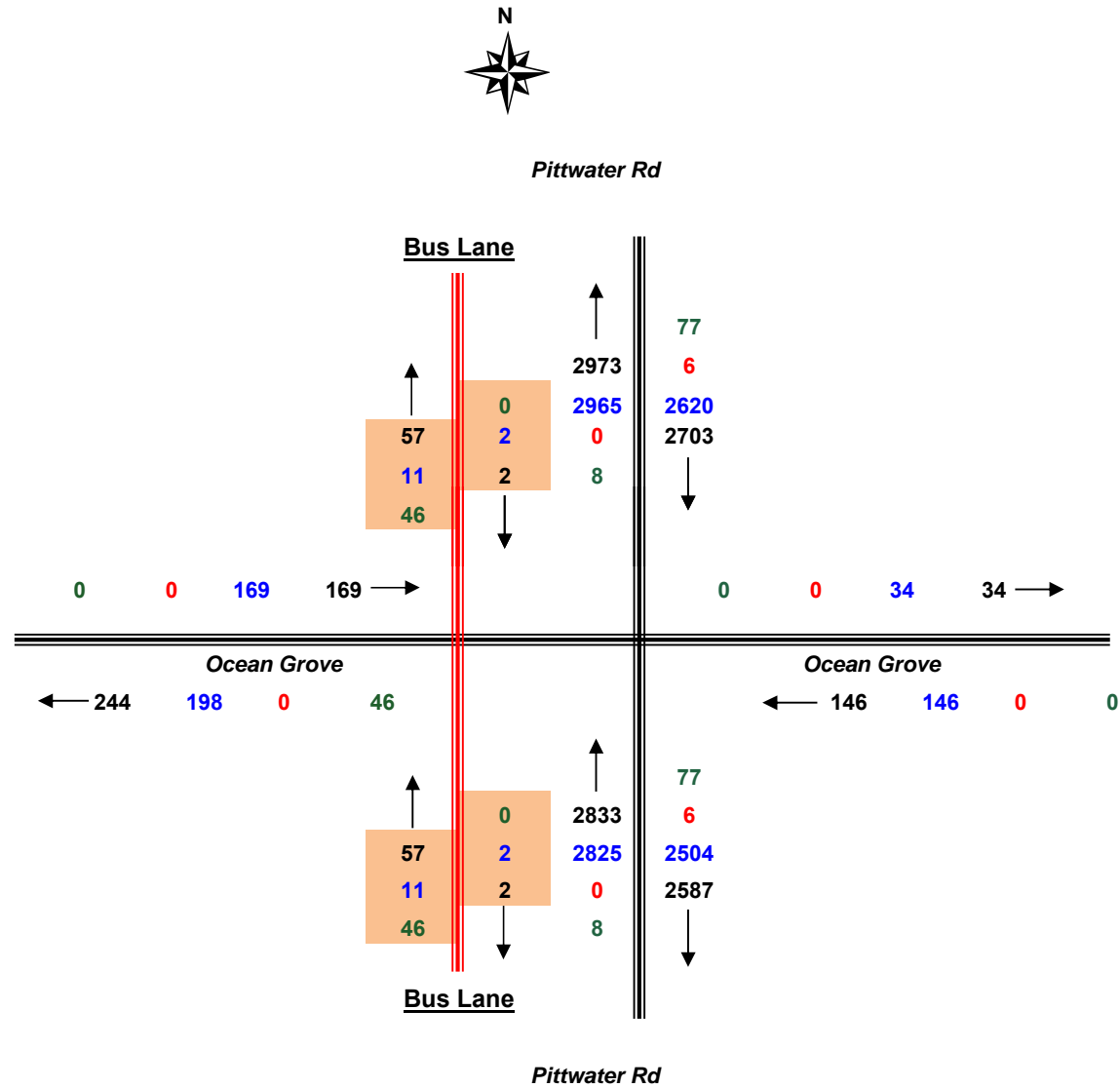
Mob.0418-239019

Client : Terraffic

Job No/Name : 7863 COLLAROY Ocean Grove

Day/Date : Tuesday / 6th June 2023

TOTAL  
VOLUMES  
FOR COUNT  
PERIOD







# R.O.A.R. DATA

Reliable, Original & Authentic Results

Mob.0418-239019

Client : Terraffic

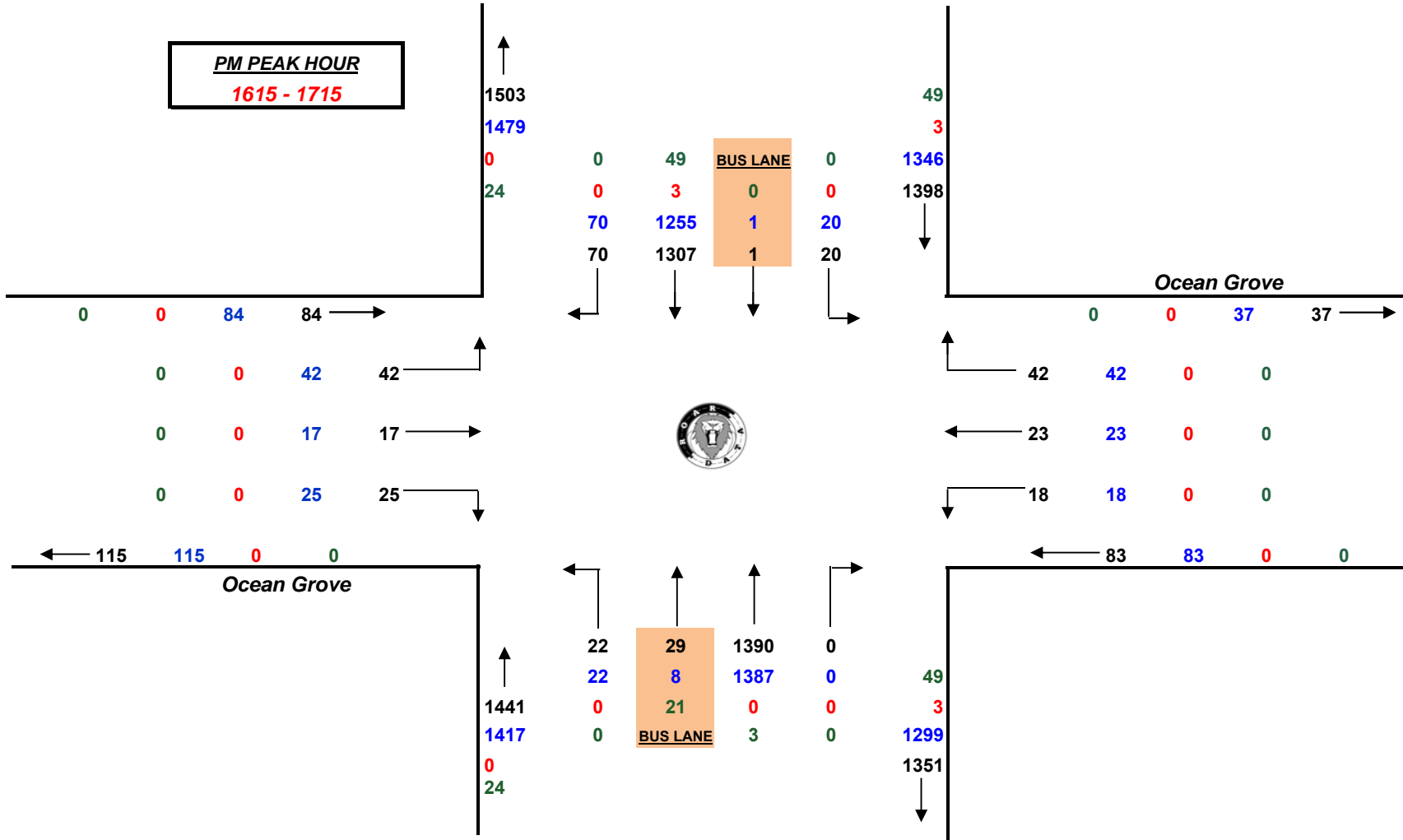
Job No/Name : 7863 COLLAROY Ocean Grove

Day/Date : Tuesday / 6th June 2023

## Pittwater Rd

### PM PEAK HOUR

1615 - 1715



## Pittwater Rd



# R.O.A.R. DATA

Reliable, Original & Authentic Results

Mob.0418-239019

Client : Terraffic

Job No/Name : 7863 COLLAROY Ocean Grove

Day/Date : Tuesday / 6th June 2023

Peds	NORTH	WEST	SOUTH	EAST	TOTAL
	Pittwater Rd	Ocean Grove	Pittwater Rd	Ocean Grove	
	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	
Time Period	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOTAL
0700 - 0715	0	0	2	3	5
0715 - 0730	2	0	0	2	4
0730 - 0745	5	0	0	4	9
0745 - 0800	9	4	1	0	14
0800 - 0815	4	0	0	1	5
0815 - 0830	1	1	2	0	4
0830 - 0845	4	2	3	2	11
0845 - 0900	3	2	1	2	8
Period End	28	9	9	14	60

## AM PEAK HOUR

0745 - 0845

Peds	NORTH	WEST	SOUTH	EAST	TOT
	Pittwater Rd	Ocean Grove	Pittwater Rd	Ocean Grove	
	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	
Peak Period	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
0700 - 0800	16	4	3	9	32
0715 - 0815	20	4	1	7	32
0730 - 0830	19	5	3	5	32
0745 - 0845	18	7	6	3	34
0800 - 0900	12	5	6	5	28

PEAK HR	18	7	6	3	34
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Peds	NORTH	WEST	SOUTH	EAST	TOTAL
	Pittwater Rd	Ocean Grove	Pittwater Rd	Ocean Grove	
	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	
Time Period	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOTAL
1600 - 1615	5	4	8	4	21
1615 - 1630	1	4	4	0	9
1630 - 1645	4	5	4	4	17
1645 - 1700	1	3	3	3	10
1700 - 1715	4	4	4	4	16
1715 - 1730	7	2	1	5	15
1730 - 1745	2	2	2	3	9
1745 - 1800	3	2	1	3	9
Period End	27	26	27	26	106

## PM PEAK HOUR

1630 - 1730

Peds	NORTH	WEST	SOUTH	EAST	
	Pittwater Rd	Ocean Grove	Pittwater Rd	Ocean Grove	
Peak Period	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1600 - 1700	11	16	19	11	57
1615 - 1715	10	16	15	11	52
1630 - 1730	16	14	12	16	58
1645 - 1745	14	11	10	15	50
1700 - 1800	16	10	8	15	49

PEAK HR	16	14	12	16	58
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