



Deicorp Pty Ltd

## Traffic and Parking Impact Assessment Report

Colonel James Student Accommodation:  
Precinct 3, Pemulwuy Project  
83-123 Eveleigh Street, Redfern

SY170002  
June 2017

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Project No.	SY170002
Author	EA
Checked	GB
Approved	GB

Rev No.	Status	Date	Comments
1	Draft	5/06/2017	
2	Draft	6/06/2017	
3	Submission	8/06/2017	

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# 1 Introduction

Barker Ryan Stewart have been engaged by Deicorp Pty Ltd to prepare a Traffic and Parking Impact Assessment in accordance with the requirements of the City of Sydney DCP and the Road and Maritime Service's (RMS's) '*Guide to Traffic Generating Developments*' (RMS Guide) to accompany a Development Application to the NSW Department of Planning and Environment for a student housing development at 83-123 Eveleigh Street, Redfern.

The purpose of this report is to assess and address traffic, access, car parking and pedestrian issues generated by the proposed development. This can be briefly outlined as follows:

- The expected traffic generation to/from the proposed development.
- The impact of the proposed development on the road network.
- Vehicle parking provisions.
- Access design requirements.
- Provision for pedestrians

This Traffic and Parking Impact Assessment Report concludes that the subject site is suitable for the proposed development in relation to traffic impact, access, parking and safety considerations

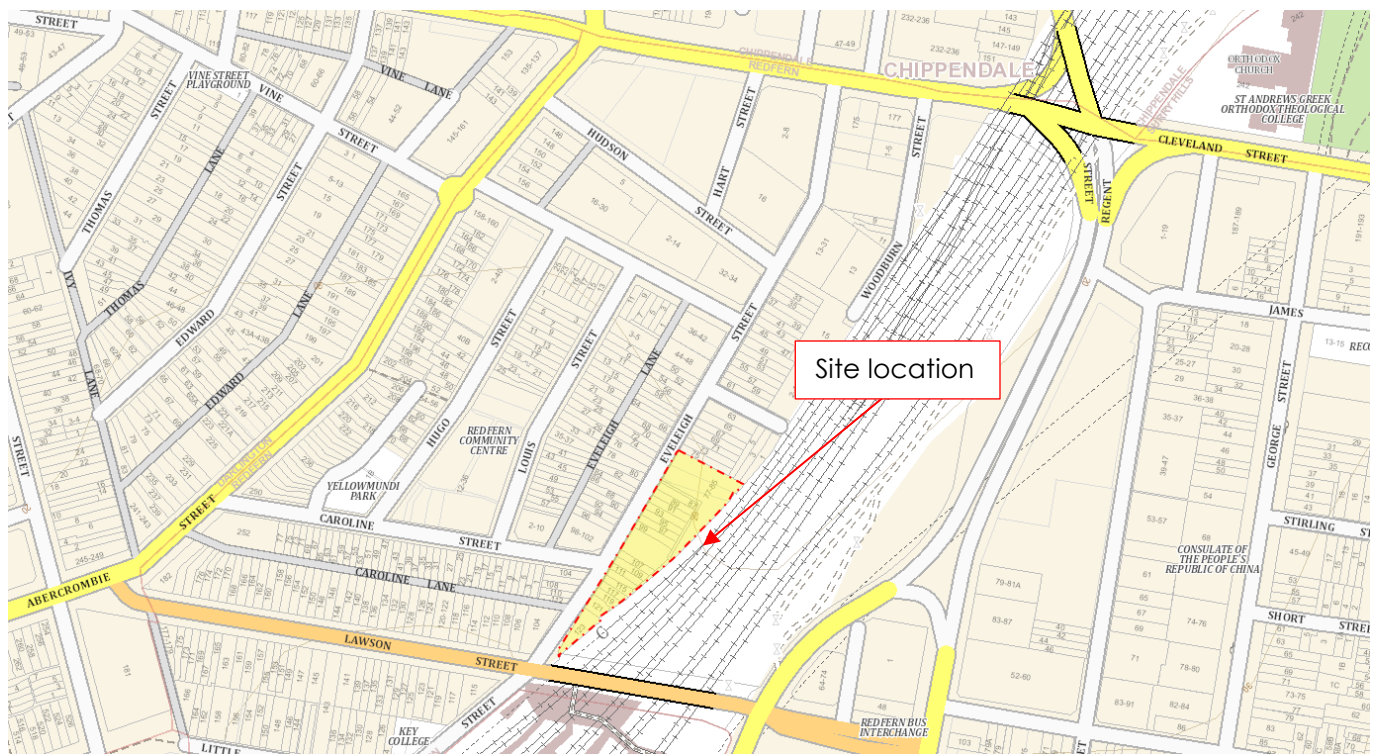
## 2 Existing Conditions

### 2.1 Site Location

The site address is 83-123 Eveleigh Street, Redfern, which is bound by Eveleigh Street to the west, and the T1 railway line to the east. The southern point of the property meets Lawson Street to the south. The overall site comprises the following lots:

- Lot 1 DP 996782
- Lot B DP 326761
- Lot B DP 81200
- Lot 11 DP 1183218
- Lot 1 DP 996783
- Lot 1 DP 741715
- Lot 1 DP 779120
- Lot A DP 439127
- Lot B DP 439127
- Lot 1 DP 797845
- Lot 1 DP 194785
- Lot 1 DP 88846
- Lot 12 DP 1183218
- Lot 1 DP 708931
- Lot 1 DP 996784
- Lots 1, 2, 3, 4 and 5 DP 230305
- Lot 1 DP 995857
- Lot 1 DP 803299

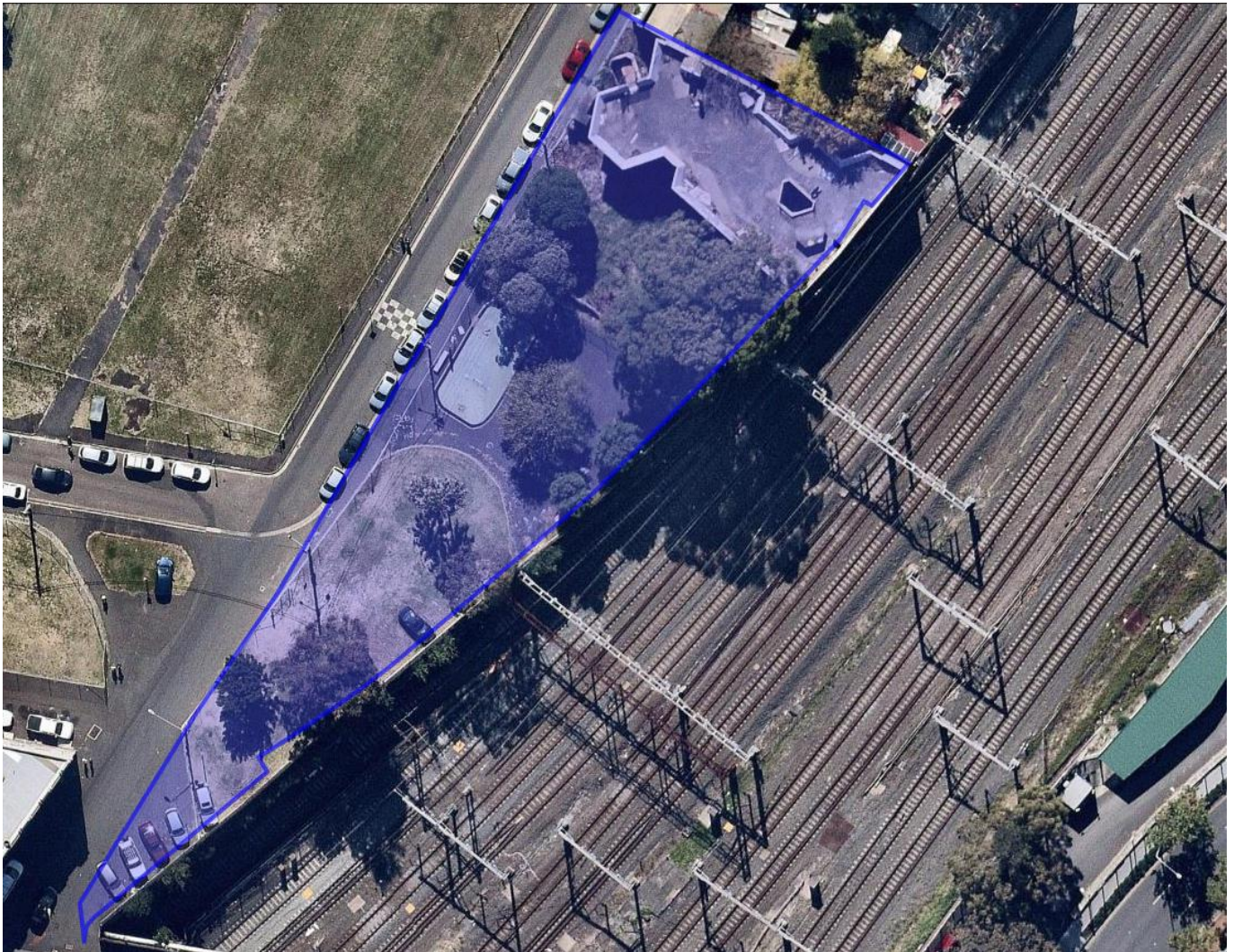
The Redfern railway station is immediately to the south of the site. The general area is bordered by the main roads: Cleveland Street to the north, Abercrombie Street to the west, Lawson Street and Regent Street to the east.



**Figure 1:** Site location (maps.six.nsw.gov.au)

## 2.2 Existing Development

The subject site is approximately 2,380m<sup>2</sup> with a vacant two-storey residential building to the north, and open space including a park.



**Figure 2:** Aerial photo of site (nearmap.com, May 2017 imagery)

## 2.3 Existing Road Conditions

Eveleigh Street is a local road under the management of the City of Sydney with a 6m-wide carriageway. There is kerb and gutter, and pedestrian footpath on both sides of the street. It is a two-way street with the 50km/h default speed limit.

The carriageway at the southern end of Eveleigh Street curves to the west and forms Caroline Street. The continuation of Eveleigh Street towards Lawson Street is a shared zone with a 10km/h speed limit and pedestrian priority.

## 2.4 Existing Traffic Flows and Volumes

### 2.4.1 Traffic Counts

Traffic counts were undertaken at a number of intersections near the site location. These counts were undertaken by ROAR Data Pty Ltd on Thursday 6 April 2017 between the hours of 7am-9am and 4pm-6pm to capture the morning and afternoon peak periods. The surveyed intersections are shown below.



**Figure 3:** Traffic count locations

The peak hours of each of the intersections are summarised below. The full survey of the below traffic summaries is attached in Appendix A.

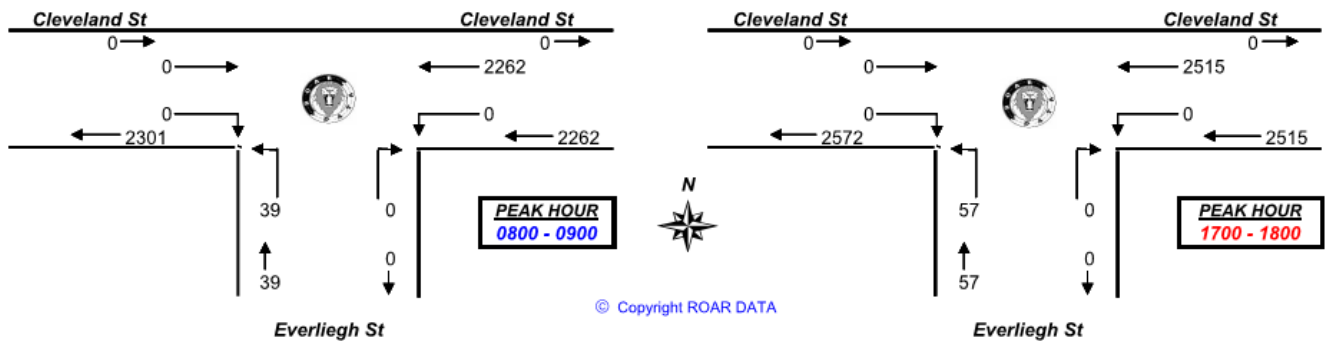


Figure 4: Traffic counts – Cleveland Street / Eveleigh Street

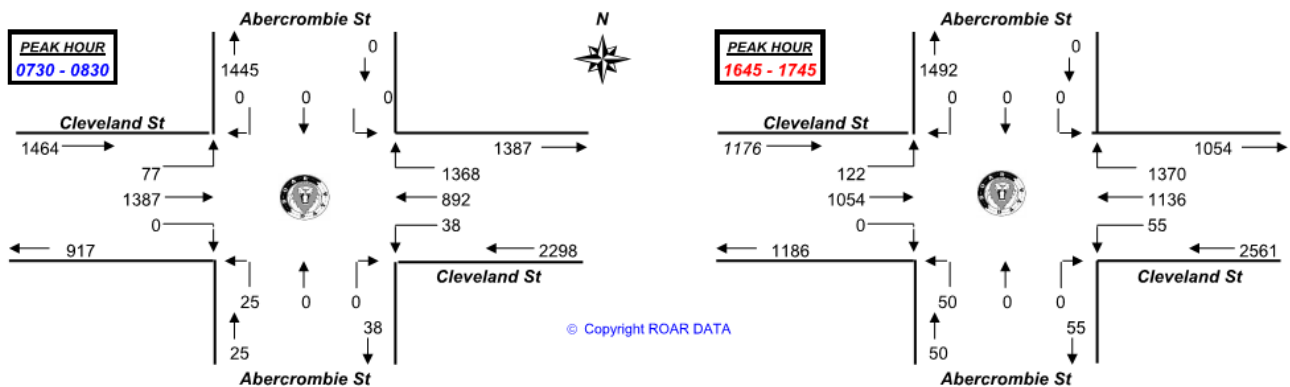


Figure 5: Traffic counts – Cleveland Street / Abercrombie Street

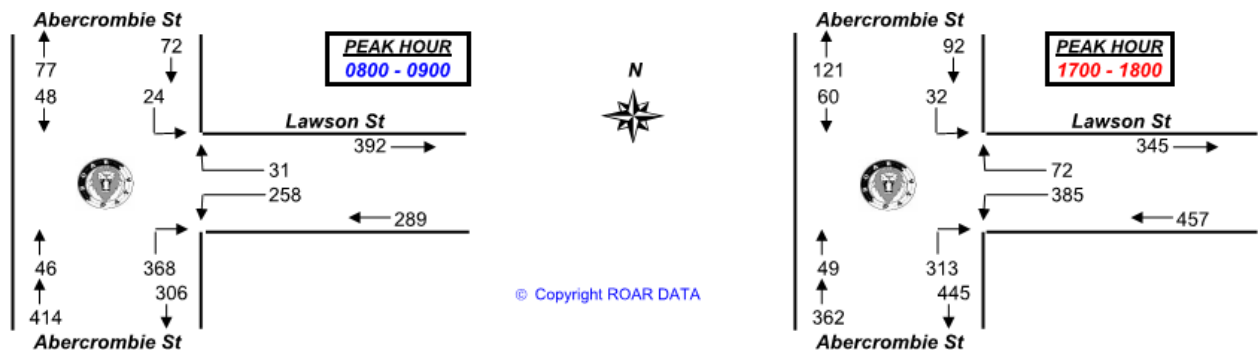


Figure 6: Traffic counts – Abercrombie Street / Lawson Street

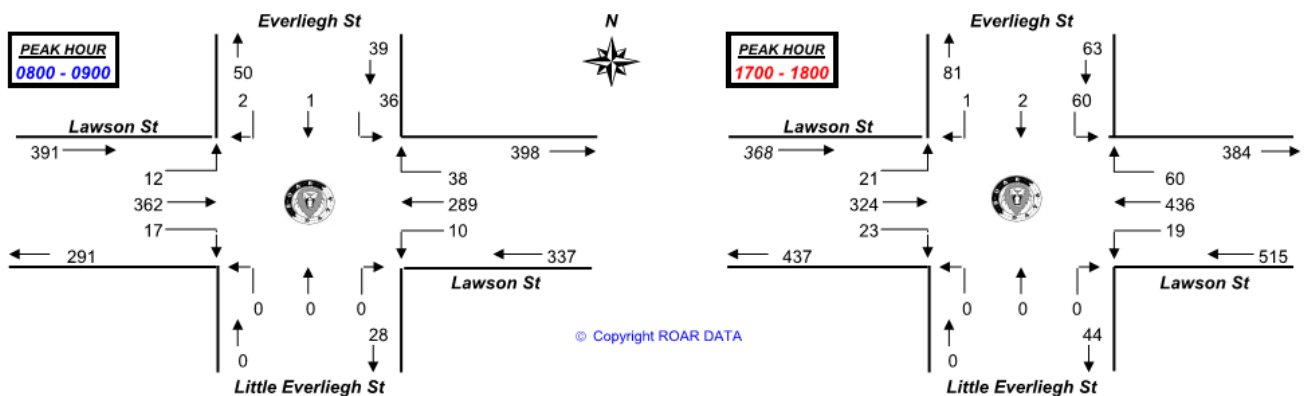


Figure 7: Traffic counts – Eveleigh Street / Lawson Street

## 2.5 Pedestrians, Cyclists and Public Transport

The site is well located to services, with most situated within a reasonable walking distance. The pedestrian facilities are adequate for any walkable trip from the site.

The Redfern railway station is immediately to the south of the site. There are several lines that service Redfern station:

- T1 North Shore, Northern & Western Line
- T2 Airport, Inner West & South Line
- T3 Bankstown Line
- T4 Eastern Suburbs & Illawarra Line

The Sydney Trains Network Map is attached in Appendix B.

There are also several bus services that connect to the railway station. Due to the nature of the road network, these services stop on Gibbons Street, which is one-way northbound, and Regent Street, which south of Lawson Street is one-way southbound. These bus stops are on the other side of the rail line from the site. The bus routes that service these stops are: 305, 308, 309, 310, L09 and N11. The bus route maps are attached in Appendix C.

The Sydney Cycleways Map indicates that the site is well connected with on-road bicycle routes as shown in the excerpt below. The main cycle route to USYD would be Shepherd Street and Butlin Avenue, with the crossing point of Cleveland Street via Shepherd Street to cycle to UTS.

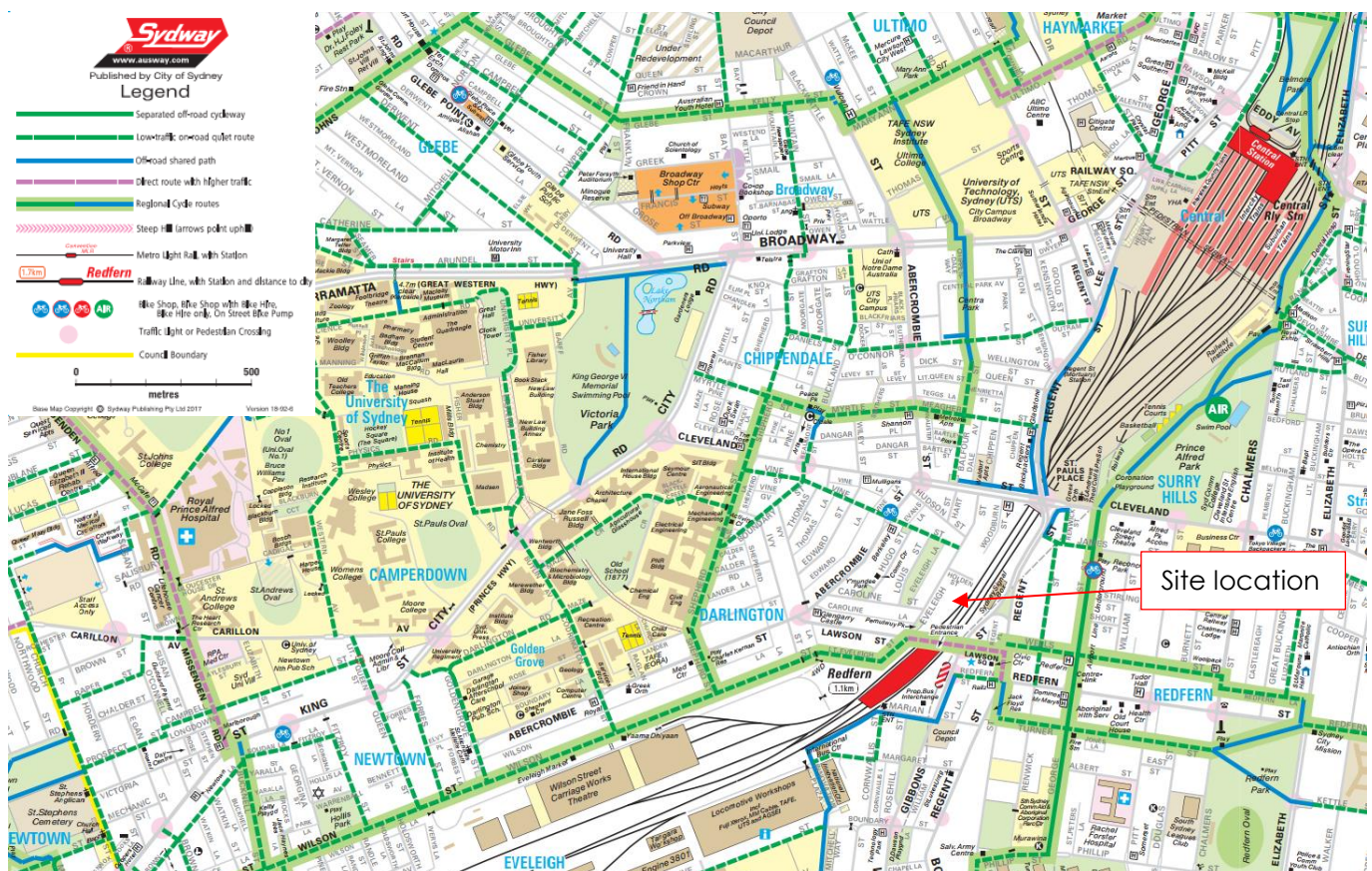


Figure 8: Cycleways map

### 3 Proposed Development

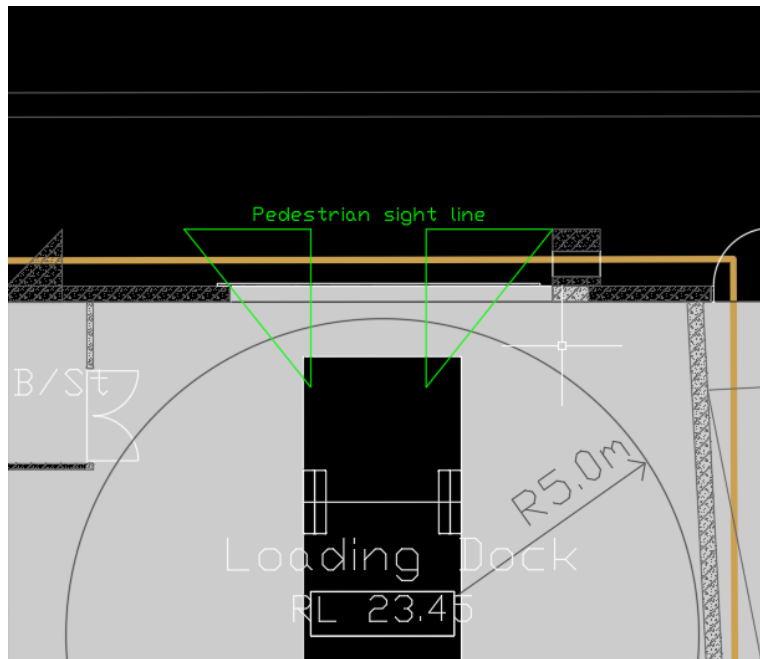
The proposed student boarding house will comprise 522 rooms, and associated facilities, across 23 levels plus plant. The rooms will include single occupancy units and multi-bedroom units to accommodate 596 students. There will be 172 bicycle spaces proposed on the lower ground floor, including 20 bike-share spaces, and 8 visitor spaces proposed in the forecourt adjacent to Lawson Street.

#### 3.1 Access

The only vehicle access proposed to the site is for the loading bay on Eveleigh Street towards the northern property boundary.

The entry/exit access ways are designed to comply with AS/NZS 2890.1:2004 Parking facilities - Off-street car parking (AS/NZS 2890.1).

The roller door access is set back, and is wide enough to satisfy the 'entering sight distance' and 'sight distance to pedestrians' in accordance with AS/NZS 2890.1 Section 3 '3.2.4 Sight distance at access driveway exits'.



**Figure 9:** Site triangle from loading bay

#### 3.2 Service Vehicles

The longest vehicle that will access the loading bay is a 9.5m-long rigid waste vehicle, which would be able to enter and leave the site in a forward direction with the assistance from a 10m-diameter turntable in the loading bay. A conservative swept path analysis is attached in Appendix D of a 10m-long equivalent waste vehicle.

The loading bay will facilitate deliveries and waste collection.

The access and waste collection area is designed to meet AS/NZS 2890.2:2002 Parking facilities – Off – street commercial vehicle facilities (AS/NZS 2890.2).

### 3.3 Pedestrians and cyclists

Most movements from the site are expected to be foot traffic. As the site is student housing, the main destinations are likely to be the universities nearby. The estimated walking distance from the corner of Eveleigh Street and Caroline Street to main destinations are outlined below:

- Less than 100m to Redfern Railway Station.
- 540m to the University of Sydney engineering faculties on Shepherd Street.
- 900m to UTS, corner of Abercrombie Street and Broadway.
- 1km to the main gates of University of Sydney at the corner of City Road and Butlin Avenue.

The walking routes to the above destinations would be similar to the pedestrians alighting from a train service from the Redfern railway station. These walking routes are expected to be well trafficked by pedestrians that will maintain a level of passive security for students from the site.

Bicycle parking for 172 bicycles is provided on the lower ground level, which is accessed from the second lobby on Eveleigh Street, with an additional 8 visitor spaces to be provided in the forecourt adjacent to Lawson Street. The site's closest connections to the cycleways network is via Vine Street and Lawson Street as shown in Figure 8. These streets are adjacent to the site, so student cyclists do not have to travel far to enter the Cycleways network.

### 3.4 State Environmental Planning Policy (Infrastructure)

From 'State Environmental Planning Policy (Infrastructure) 2007, Schedule 3 – Traffic Generating Development', referral of the proposed development is not required. As it is proposed to not provide any on-site parking, the traffic generation will be all but non-existent.

## 4 Parking Assessment

It is proposed to provide 180 bicycle parking spaces including 172 spaces in the lower ground, and an additional 8 visitor spaces in the forecourt adjacent to Lawson Street. There are no proposed car parking spaces as the site is well-located for sustainable transport methods, and there is expected to be minimal vehicle ownership among the resident students.

### 4.1 Car Parking Assessment

As stated above, there are no car parks proposed on-site. As explained in further detail below, there are no clearly defined planning requirements for student housing land-use. Below are justifications not to provide any on-site car parking for the proposed development in relation to the practicalities of the land-use:

- The proposed development is student housing with occupants expected to have low private car ownership, if at all.
- As set out in section 3.3, the site is located within a reasonable walking distance of universities, public transport and shops.
- The Cycleways network is located immediately adjacent to the site for cyclists heading any direction.
- The rooms will be marketed to occupants with the expectation that there will be no parking provided. The resident permit parking restrictions surrounding the site will ensure there are no students with private vehicles on-street, as occupants of the student housing will not be issued with resident permits.
- Not providing on-site car parking is consistent with City of Sydney's aim to minimise parking numbers, encouraging sustainable transport methods and to address inner-city congestion by minimising the amount of vehicular traffic generated from developments.

It is considered that the provision of no on-site car parking is appropriate for the proposed development, and this will not likely effect on-street parking availability in the streets in the immediate vicinity, or the surrounding area.

### 4.2 Bicycle Parking Assessment

The bicycle parking rates for student housing is not clearly defined within the City of Sydney DCP, or within a State Environmental Planning Policy (SEPP). The practicalities of student accommodation are more akin to boarding housing than other accommodation land uses. The main differences being that student housing residents are more transient than in boarding housing, with occupancy linked directly with study periods, holidays or after the completion of courses. Also, a number of the students (particularly non-international students) wouldn't consider the proposed student accommodation to be their primary residence.

As such, the bicycle parking rates from the *City of Sydney Boarding Houses DCP 2004*, and *SEPP (Affordable Rental Housing) 2009* were referenced. The requirements for boarding housing and high-density residential buildings are calculated below:

Land use	Sydney DCP Boarding Houses	SEPP Affordable Housing
Student accommodation (522 rooms and 596 students)	2 bike racks per 6 bedrooms $= 522 \times \frac{2}{6} = 174$	1 bicycle space per 5 rooms $= 522 \div 5 = 105$
Proposed Provision	<b>172 secure bicycle spaces</b> <b>8 visitor spaces</b>	

**Figure 10:** Bicycle parking requirement calculation

Based on the requirements of the City of Sydney Boarding House DCP and SEPP Affordable Housing, 174 and 105 bicycle parking spaces are required respectively.

It is proposed to provide a total of 180 bicycle parking spaces, including 172 secure bicycle spaces for residents and staff, and 8 visitor spaces located conveniently adjacent to the main lobby. The proposed provision meets both rates. The bicycle parking is designed to meet the minimum requirements of AS 2890.3 Parking facilities – Bicycle parking (AS 2890.3).

Bicycle occupancy rates at current student accommodation facilities that are currently run by the proposed student housing manager indicate much lower bicycle parking rates as shown in the following data provided:

Facility	Occupancy	Bikes	Student/bike ratio
Woollahra	293	30	9.8
South Brisbane	83	7	11.9
Pemulwuy, Redfern	595	172	3.5

**Figure 11:** Current bicycle occupancy rates at previous student accommodation

The proposed provision of bicycle parking spaces is approximately 3 times more than the actual bicycle use at the existing student housing locations. It is noted that the other locations are not as well located to public transport, or universities as the subject site, despite their lower uptake in bicycle ownership. It is expected that the number of proposed secure bicycle spaces is sufficient to accommodate the likely number of students requiring a bicycle park.

As stated in the City of Sydney Section 3: General Provisions DCP 2012, 'bike parking spaces for new developments are to be provided in accordance with the rates set out in Table 3.5 On-site bike parking rates, except where: a proposed use is not included in Table 3.5 On-site bike parking rates, an applicant is to provide bike facilities to accommodate Council's mode share target for trips by bike as described in the Cycle Strategy and Action Plan 2007-2017 (Cycle Action Plan).' Student accommodation is not set out in the referenced table. The applied bicycle parking rates and available bicycle infrastructure proposed meet the aims and strategic directions of the Cycle Action Plan. The design of the bicycle parking facilities for ease of use, and the site's proximity to the Cycleways network make cycling an attractive transport option.

### 4.3 Bicycle-share Spaces

Included with the bicycle parking provision, it is proposed to implement a bicycle-share program incorporating 20 bicycles that is administered by the student housing management.

Popular car-share service provider GoGet recommend one car-share pod for every 20 units. The Green Building Council Australia recommend a rate of 1 car-share space for every 70 units, which is based off the three primary car-share providers in Australia: Flexicar, GoGet and Green Share Car.

Therefore, considering the conservative rate of 1:20, 20 bike-share spaces could supplement 400 bicycle parking spaces. This would equate to an equivalent bicycle provision of 560 (180 – 20 + 400), which is almost 1 per student.

## 5 Traffic Assessment

### 5.1 Existing development

Currently on the subject site, there is only the vacant two-storey unit block that would generate traffic. Based on RMS's 'Guide to Traffic Generating Developments' (RMS Guide), below is an estimation of the current site's traffic generation.

Land use	Daily trips	Morning peak trips	Evening peak trips
Dwellings (4)	$10.7 \times 4 = 42.8 \approx \mathbf{43}$	$0.95 \times 4 = 3.8 \approx \mathbf{4}$	$0.99 \times 4 = 3.96 \approx \mathbf{4}$

**Figure 12:** Traffic generation – existing development

### 5.2 Proposed development assessment

As the site proposes no car spaces, it is expected that the site would not generate a perceptible increase in traffic movements during the surrounding road network's peak periods, inclusive of any visitor movements. Any service vehicle movements would be expected to occur outside of these periods.

As the site is so well-located for pedestrian trips, the proposed traffic generation from the site is not expected to exceed the traffic generation that would otherwise be generated from the two-storey building if it were occupied. It is therefore considered that the proposed development will not have any adverse impacts to the operation or safety of the surrounding road network.

## 6 Conclusion

This Traffic and Parking Impact Assessment has been prepared in accordance with the requirements of the RMS's *'Guide to Traffic Generating Developments'* and City of Sydney DCP to accompany a DA to the City of Sydney for the development of a student accommodation building.

The proposed provision of bicycle parking is sufficient for the expected uptake in bicycle use in the development and addresses the aims and outcomes of the *Cycle Strategy and Action Plan 2007-2017*. The bicycle parking is designed to meet the minimum requirements of AS 2890.3 Parking facilities – Bicycle parking (AS 2890.3).

The provision of no on-site car parking is appropriate for the site's proposed land-use, and is consistent with City of Sydney's aim to minimise parking numbers, encouraging sustainable transport methods and to address inner-city congestion by minimising the amount of vehicular traffic generated from developments.

As the site is so well-located for pedestrian trips, the proposed traffic generation from the site is not expected to exceed the current traffic generation. It is therefore considered that the proposed development will not have any adverse impacts to the operation or safety of the surrounding road network, and will not likely generate any private vehicle traffic at all.

There would be no warrant or nexus to upgrade the road infrastructure in the vicinity of the site as a result of any post-developmental impacts of traffic generated from the site.

The Traffic and Parking Impact Assessment concludes that the subject site is suitable for the proposed student housing development in relation to the impact of traffic, vehicle access, parking and safety considerations. The development is considered to have negligible effect on the operating outcome and the level of service of the surrounding transport network.

## 7 References

Australian Standards, 'AS/NZS 2890.1:2004 Off-Street Car Parking'.

Australian Standards, 'AS/NZS 2890.2 Parking Facilities – Off Street Commercial Vehicle Facilities'.

Australian Standards, 'AS 2890.3 Parking facilities – Bicycle parking'.

Roads and Maritime Services, 'Guide to Traffic Generating Developments', Version 2.2 dated October 2002.

Roads and Maritime Services, 'Technical Direction – Guide to Traffic Generating Developments – Updated Traffic Surveys', Version TDT 2013/04a dated August 2013.

NSW Department of Planning, 'SEPP (Infrastructure) 2007'.

City of Sydney DCP.

NSW Department of Planning, 'SEPP (Affordable Rental Housing) 2009'.

## **Appendix A**

### **Traffic Counts**



Cleveland St & Abercrombie St

To

***Earl Aninipoc***

at ***BarkerRyanStewart***

your results for

***PEMULWUY Traffic Counts***

supplied by

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[www.roardata.com.au](http://www.roardata.com.au)



# R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : BarkerRyanStewart

Job No/Name : 6420 PEMULWUY Traffic Counts

Day/Date : Thursday 6th April 2017

All Vehicles	NORTH			WEST			SOUTH			EAST			
	Abercrombie St			Cleveland St			Abercrombie			Cleveland St			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715				32	355		1			10	172	289	859
0715 - 0730				18	306		6			5	230	336	901
0730 - 0745				23	393		6			10	225	310	967
0745 - 0800				22	333		6			6	252	339	958
0800 - 0815				13	358		6			11	224	331	943
0815 - 0830				19	303		7			11	191	388	919
0830 - 0845				20	345		6			16	215	302	904
0845 - 0900				23	292		12			14	254	365	960
Period End	0	0	0	170	2685	0	50	0	0	83	1763	2660	7411

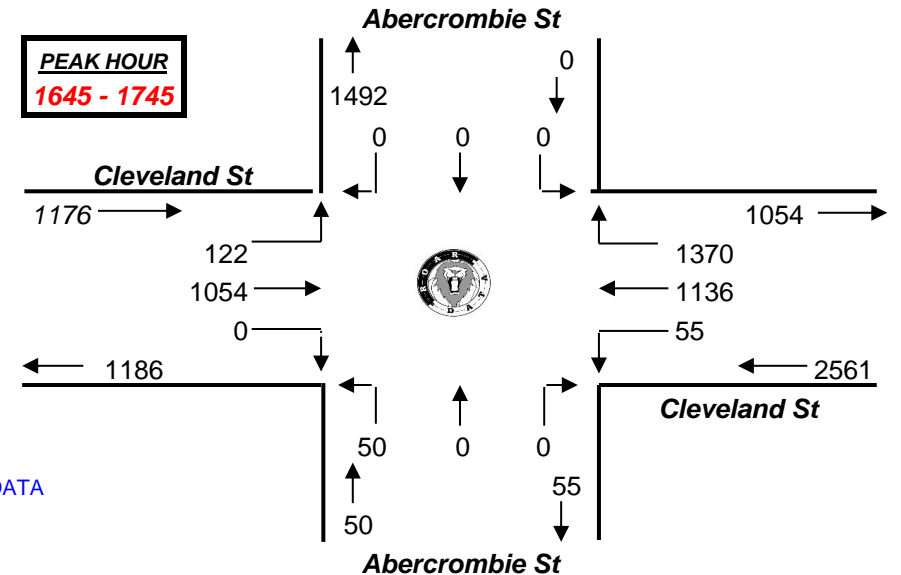
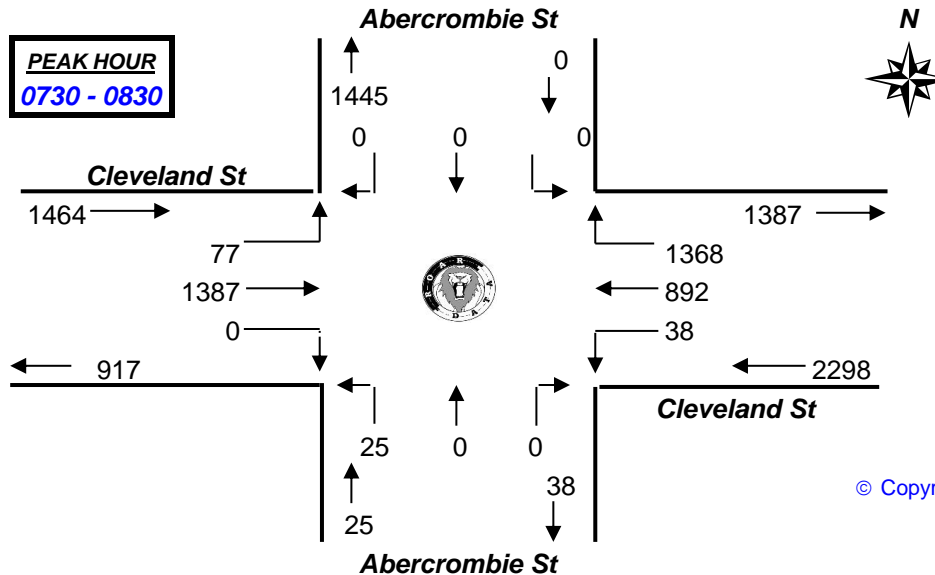
All Vehicles	NORTH			WEST			SOUTH			EAST			
	Abercrombie St			Cleveland St			Abercrombie			Cleveland St			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1600 - 1615				45	254		10			21	252	338	920
1615 - 1630				47	236		11			13	287	329	923
1630 - 1645				26	268		5			13	230	316	858
1645 - 1700				30	241		9			13	297	330	920
1700 - 1715				34	294		13			12	304	315	972
1715 - 1730				28	282		11			20	285	347	973
1730 - 1745				30	237		17			10	250	378	922
1745 - 1800				36	209		19			7	279	350	900
Period End	0	0	0	276	2021	0	95	0	0	109	2184	2703	7388

	NORTH			WEST			SOUTH			EAST			
	Abercrombie St			Cleveland St			Abercrombie			Cleveland St			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	0	0	0	95	1387	0	19	0	0	31	879	1274	3685
0715 - 0815	0	0	0	76	1390	0	24	0	0	32	931	1316	3769
0730 - 0830	0	0	0	77	1387	0	25	0	0	38	892	1368	3787
0745 - 0845	0	0	0	74	1339	0	25	0	0	44	882	1360	3724
0800 - 0900	0	0	0	75	1298	0	31	0	0	52	884	1386	3726

	NORTH			WEST			SOUTH			EAST			
	Abercrombie St			Cleveland St			Abercrombie			Cleveland St			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1600 - 1700	0	0	0	148	999	0	35	0	0	60	1066	1313	3621
1615 - 1715	0	0	0	137	1039	0	38	0	0	51	1118	1290	3673
1630 - 1730	0	0	0	118	1085	0	38	0	0	58	1116	1308	3723
1645 - 1745	0	0	0	122	1054	0	50	0	0	55	1136	1370	3787
1700 - 1800	0	0	0	128	1022	0	60	0	0	49	1118	1390	3767

PEAK HOUR	0	0	0	77	1387	0	25	0	0	38	892	1368	3787
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PEAK HOUR	0	0	0	122	1054	0	50	0	0	55	1136	1370	3787
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## R.O.A.R DATA

*Reliable, Original & Authentic Results*

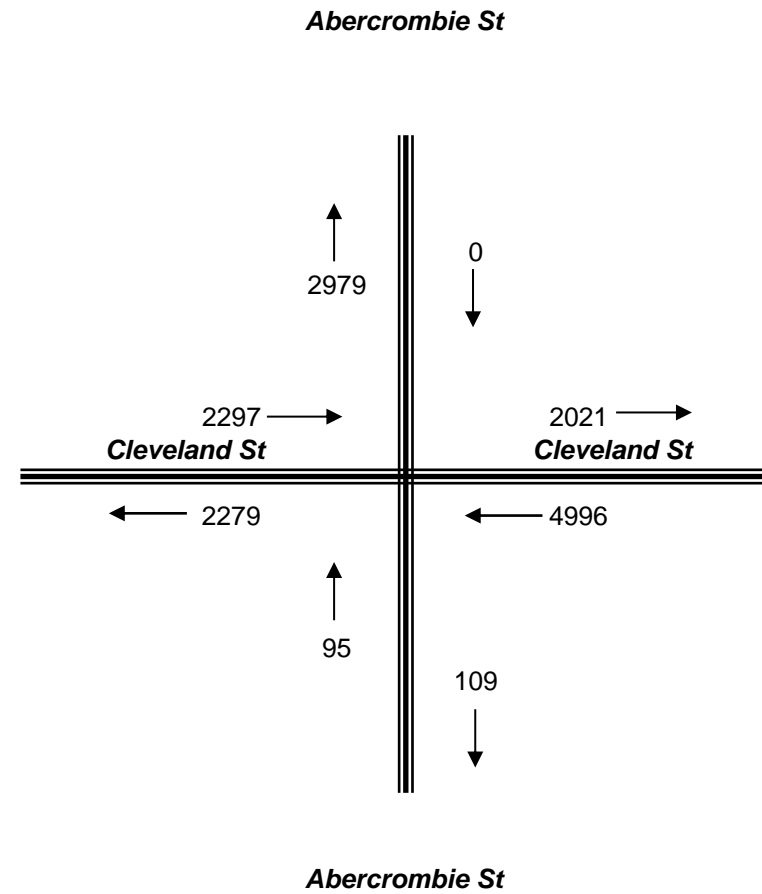
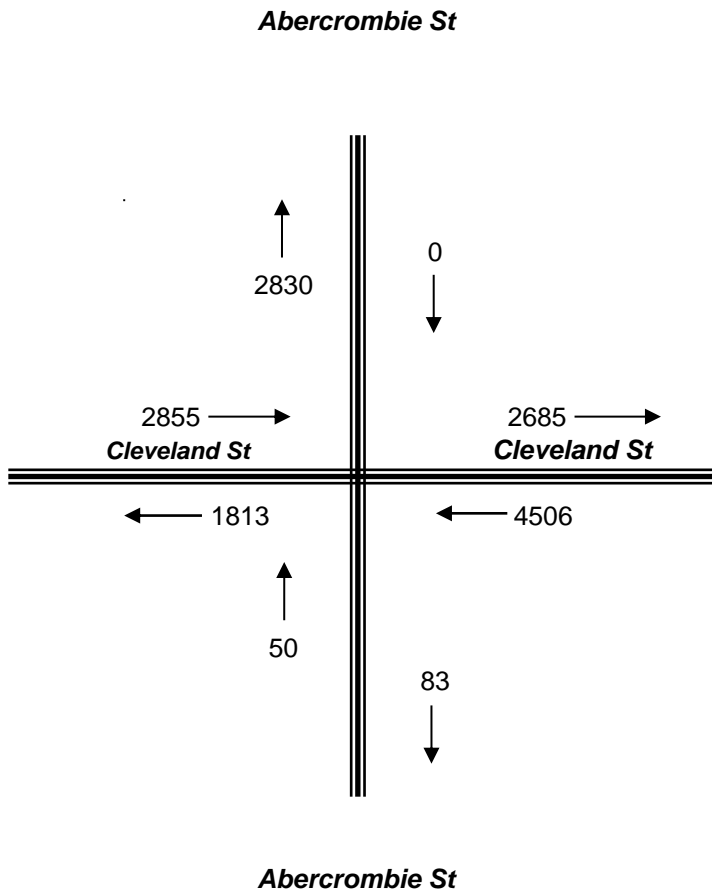
Ph.88196847, Mob.0418-239019

Client : BarkerRyanStewart  
Job No/Name : 6420 PEMULWUY Traffic Counts  
Day/Date : Thursday 6th April 2017

AM

TOTAL VOLUMES  
FOR COUNT  
PERIODS

PM





# R.O.A.R DATA

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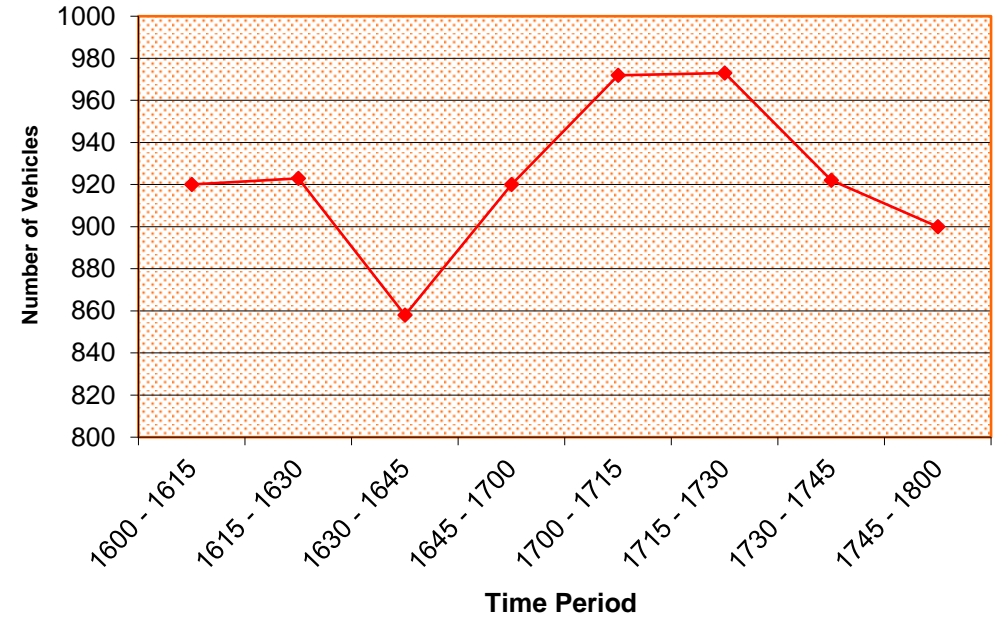
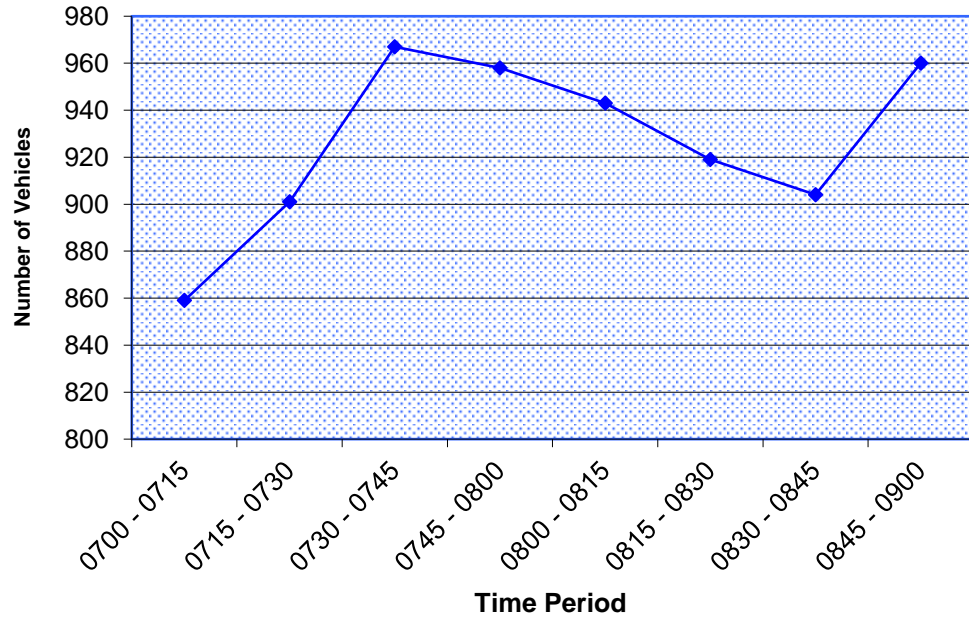
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AM

Cleveland St & Abercrombie St

PM





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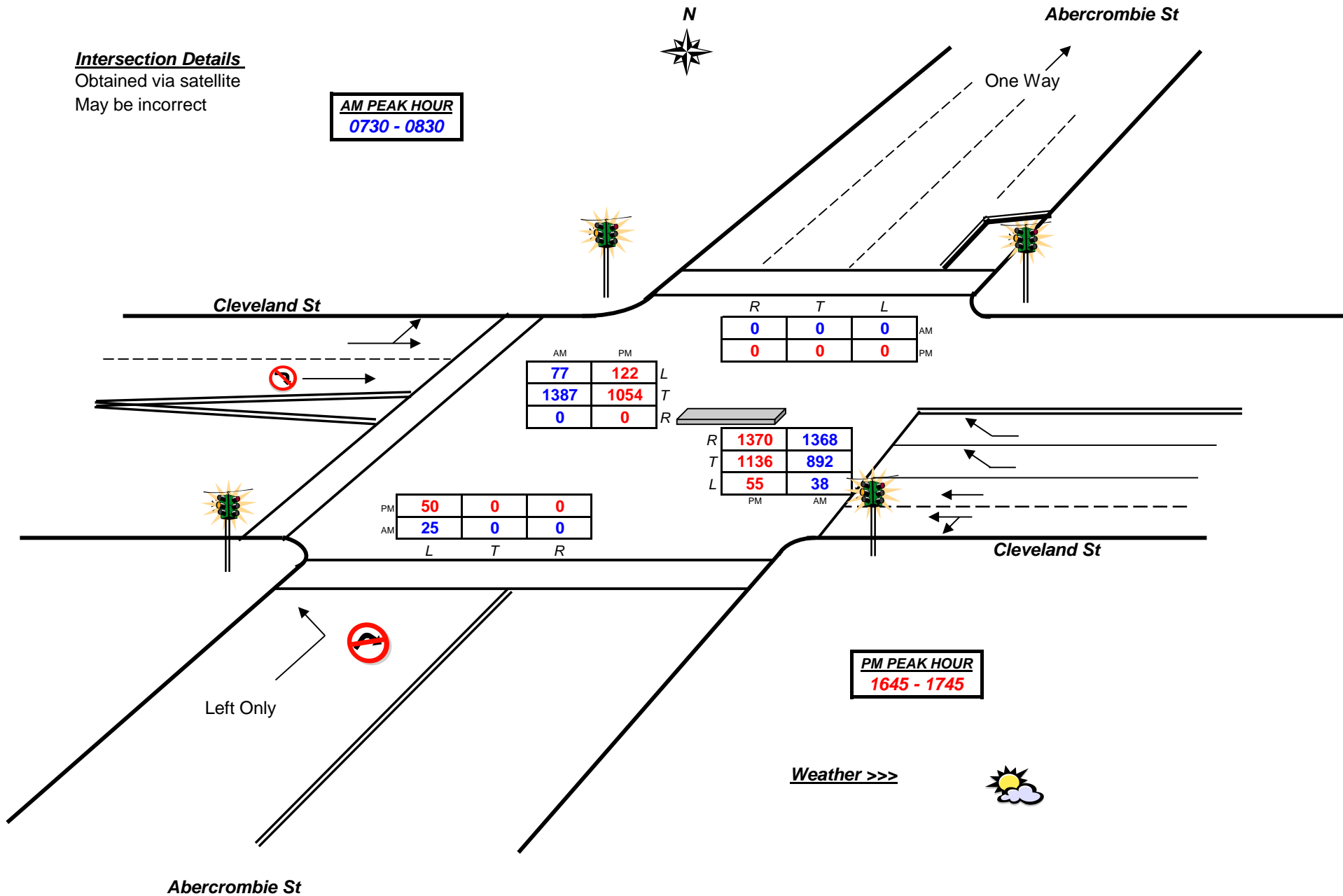
Client : BarkerRyanStewart  
Job No/Name : 6420 PEMULWUY Traffic Counts  
Day/Date : Thursday 6th April 2017

## Intersection Details

Obtained via satellite

May be incorrect

**AM PEAK HOUR**  
**0730 - 0830**





Everliegh St & Cleveland St

To

***Earl Aninipoc***

at ***BarkerRyanStewart***

your results for

***PEMULWUY Traffic Counts***

supplied by

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# R.O.A.R. DATA

Reliable, Original & Authentic Results

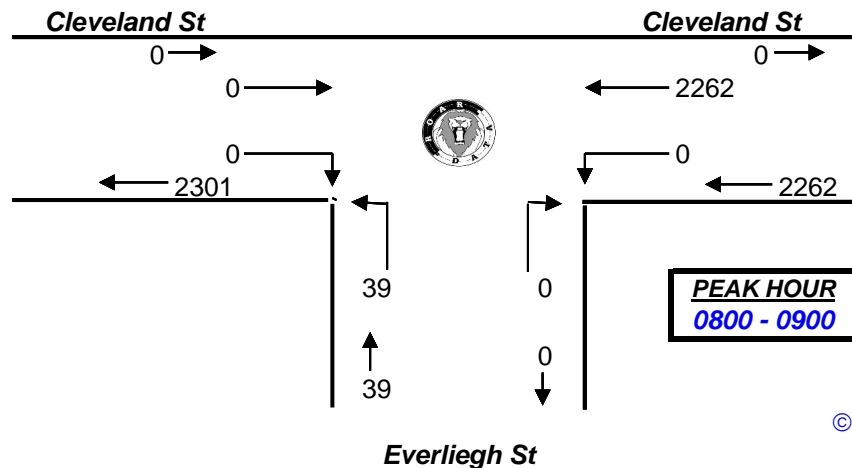
Ph.88196847, Mob.0418-239019

## All Vehicles

	WEST		SOUTH		EAST		
	Cleveland		Everliegh St		Cleveland		
Time Per	<u>T</u>	<u>R</u>	<u>L</u>	<u>R</u>	<u>L</u>	<u>T</u>	TOTAL
0700 - 0715			9			494	503
0715 - 0730			9			522	531
0730 - 0745			4			562	566
0745 - 0800			7			550	557
0800 - 0815			11			567	578
0815 - 0830			8			553	561
0830 - 0845			10			570	580
0845 - 0900			10			572	582
Period End	0	0	68	0	0	4390	4458

	WEST		SOUTH		EAST		
	Cleveland		Everliegh St		Cleveland		
Peak Per	T	R	L	R	L	T	TOTAL
0700 - 0800	0	0	29	0	0	2128	2157
0715 - 0815	0	0	31	0	0	2201	2232
0730 - 0830	0	0	30	0	0	2232	2262
0745 - 0845	0	0	36	0	0	2240	2276
0800 - 0900	0	0	39	0	0	2262	2301

PEAK HR	0	0	39	0	0	2262	2301
---------	---	---	----	---	---	------	------



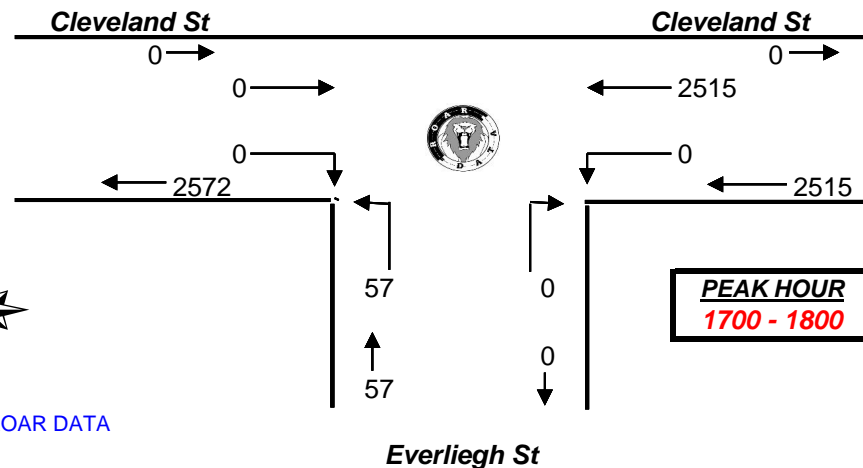
Client : BarkerRyanStewart  
 Job No/Name : 6420 PEMULWUY Traffic Counts  
 Day/Date : Thursday 6th April 2017

## All Vehicles

	WEST		SOUTH		EAST		
	Cleveland		Everliegh St		Cleveland		
Time Per	T	R	L	R	L	T	TOTAL
1600 - 1615			11			600	611
1615 - 1630			8			601	609
1630 - 1645			9			557	566
1645 - 1700			12			642	654
1700 - 1715			14			625	639
1715 - 1730			15			633	648
1730 - 1745			12			616	628
1745 - 1800			16			641	657
Period End	0	0	97	0	0	4915	5012

	WEST		SOUTH		EAST		
	Cleveland		Everliegh St		Cleveland		
Peak Per	<u>T</u>	<u>R</u>	<u>L</u>	<u>R</u>	<u>L</u>	<u>T</u>	TOTAL
1600 - 1700	0	0	40	0	0	2400	2440
1615 - 1715	0	0	43	0	0	2425	2468
1630 - 1730	0	0	50	0	0	2457	2507
1645 - 1745	0	0	53	0	0	2516	2569
1700 - 1800	0	0	57	0	0	2515	2572

PEAK HR	0	0	57	0	0	2515	2572
---------	---	---	----	---	---	------	------





# R.O.A.R DATA

*Reliable, Original & Authentic Results*

Ph.88196847, Mob.0418-239019

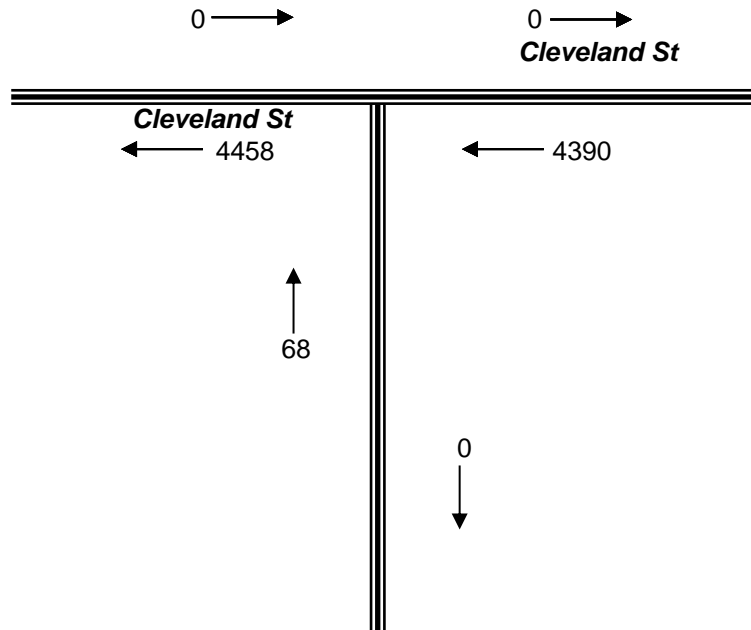
Client : BarkerRyanStewart

Job No/Name : 6420 PEMULWUY Traffic Counts

Day/Date : Thursday 6th April 2017

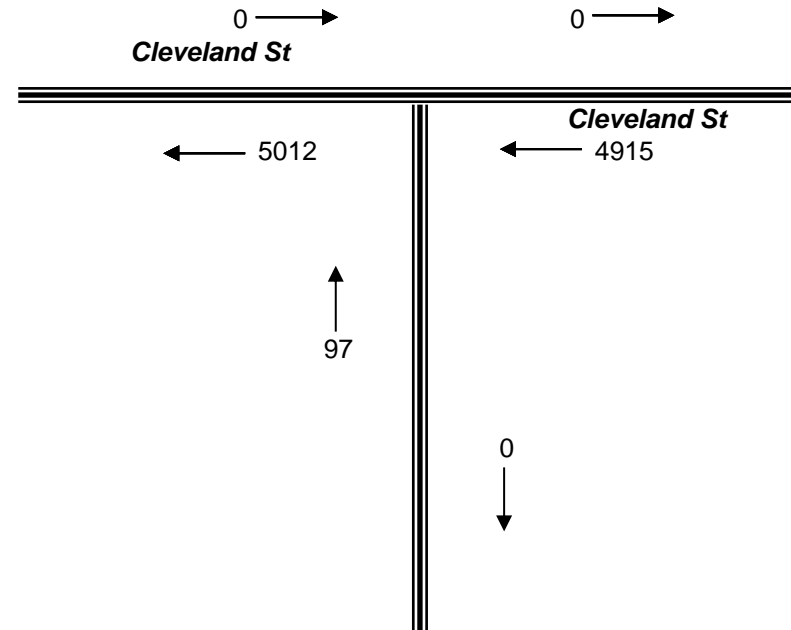
## TOTAL VOLUMES FOR COUNT PERIODS

AM



*Everliegh St*

PM



*Everliegh St*





## R.O.A.R DATA

*Reliable, Original & Authentic Results*

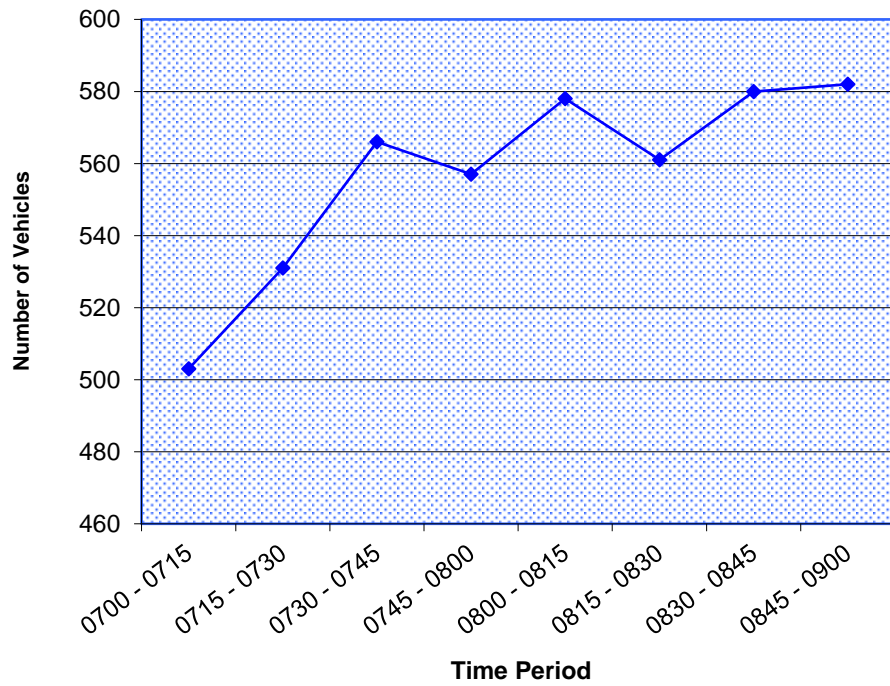
Ph.88196847, Mob.0418-239019

Client : BarkerRyanStewart

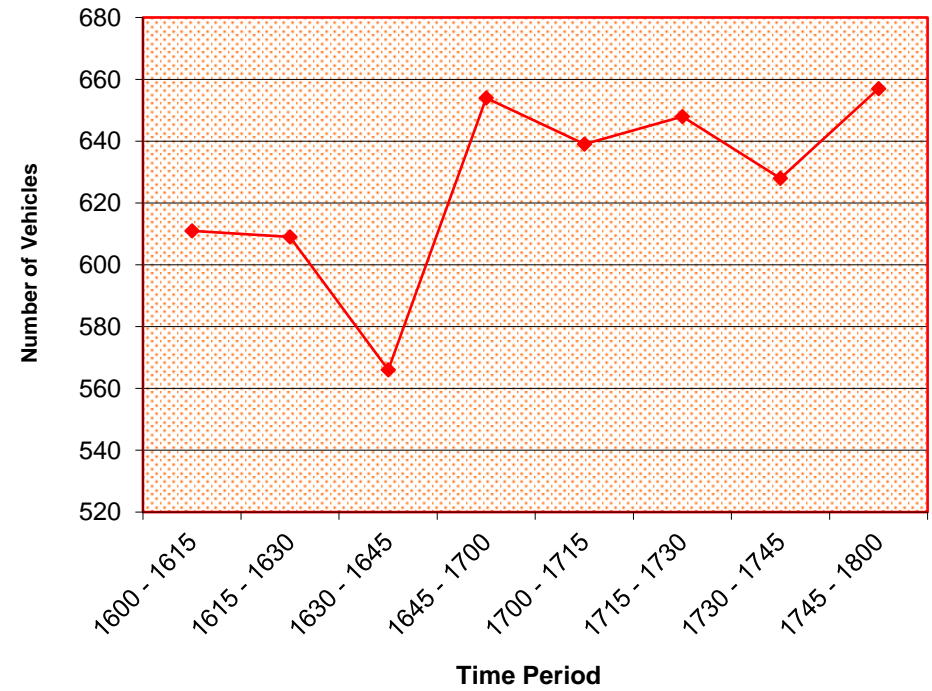
Job No/Name : 6420 PEMULWUY Traffic Counts

Day/Date : Thursday 6th April 2017

AM



PM





# R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : BarkerRyanStewart  
Job No/Name : 6420 PEMULWUY Traffic Counts  
Day/Date : Thursday 6th April 2017

## Intersection Details

Obtained via satellite

May be incorrect

**AM PEAK HOUR**  
**0800 - 0900**



Cleveland St



PM **57**  
AM **39**  
L

T **2515** **2262**  
PM AM  
L **0** **0**

Cleveland St

**PM PEAK HOUR**  
**1700 - 1800**

Weather >>>



Everliegh St



Lawson St & Abercrombie St

To

*Earl Aninipoc*

at *BarkerRyanStewart*

your results for

*PEMULWUY Traffic Counts*

supplied by

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# R.O.A.R. DATA

Reliable, Original & Authentic Results

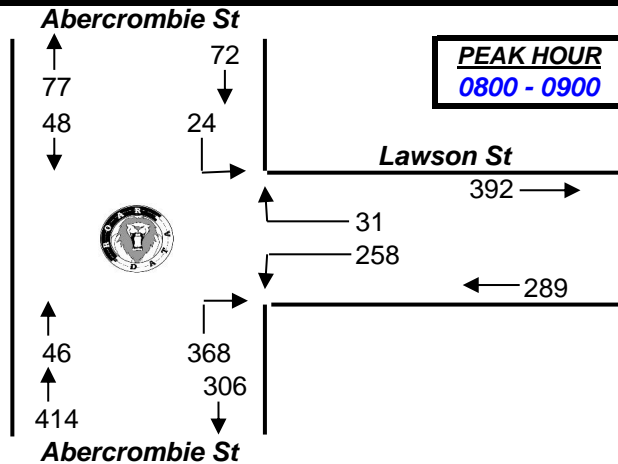
Ph.88196847, Mob.0418-239019

## All Vehicles

	NORTH		EAST		SOUTH		
	Abercrombi		Lawson St		Abercrombi		
Time Per	<u>T</u>	<u>L</u>	<u>R</u>	<u>L</u>	<u>R</u>	<u>T</u>	TOTAL
0700 - 0715	12	5	7	24	48	5	101
0715 - 0730	3	7	8	37	59	9	123
0730 - 0745	9	6	6	30	58	8	117
0745 - 0800	11	6	12	69	74	7	179
0800 - 0815	9	4	6	63	84	10	176
0815 - 0830	10	7	5	59	93	13	187
0830 - 0845	16	8	11	63	96	13	207
0845 - 0900	13	5	9	73	95	10	205
Period End	83	48	64	418	607	75	1295

	NORTH		EAST		SOUTH		
	Abercrombi		Lawson St		Abercrombi		
Peak Per	<u>T</u>	<u>L</u>	<u>R</u>	<u>L</u>	<u>R</u>	<u>T</u>	TOTAL
0700 - 0800	35	24	33	160	239	29	520
0715 - 0815	32	23	32	199	275	34	595
0730 - 0830	39	23	29	221	309	38	659
0745 - 0845	46	25	34	254	347	43	749
0800 - 0900	48	24	31	258	368	46	775

PEAK HR	48	24	31	258	368	46	775
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Client : BarkerRyanStewart

Job No/Name : 6420 PEMULWUY Traffic Counts

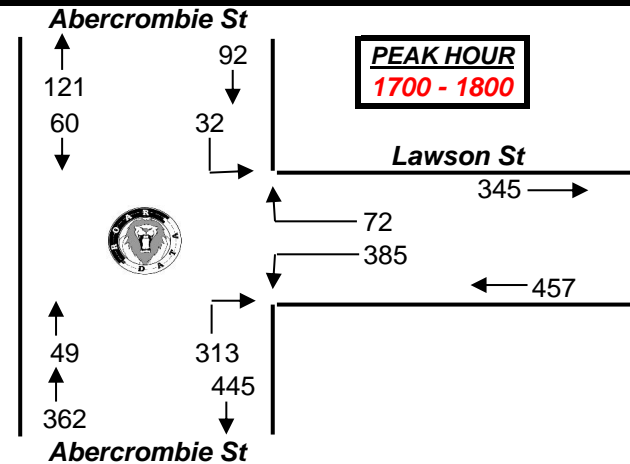
Day/Date : Thursday 6th April 2017

## All Vehicles

	NORTH		EAST		SOUTH		
	Abercrombi		Lawson St		Abercrombi		
Time Per	<u>T</u>	<u>L</u>	<u>R</u>	<u>L</u>	<u>R</u>	<u>T</u>	TOTAL
1600 - 1615	25	12	13	65	62	13	190
1615 - 1630	14	7	8	65	57	9	160
1630 - 1645	11	8	7	77	67	7	177
1645 - 1700	15	4	16	86	62	15	198
1700 - 1715	14	7	13	93	78	11	216
1715 - 1730	24	4	16	100	84	14	242
1730 - 1745	12	7	18	93	75	13	218
1745 - 1800	10	14	25	99	76	11	235
Period End	125	63	116	678	561	93	1636

	NORTH		EAST		SOUTH		
	Abercrombi		Lawson St		Abercrombi		
Peak Per	<u>T</u>	<u>L</u>	<u>R</u>	<u>L</u>	<u>R</u>	<u>T</u>	TOTAL
1600 - 1700	65	31	44	293	248	44	725
1615 - 1715	54	26	44	321	264	42	751
1630 - 1730	64	23	52	356	291	47	833
1645 - 1745	65	22	63	372	299	53	874
1700 - 1800	60	32	72	385	313	49	911

PEAK HR	60	32	72	385	313	49	911
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# R.O.A.R DATA

Reliable, Original & Authentic Results

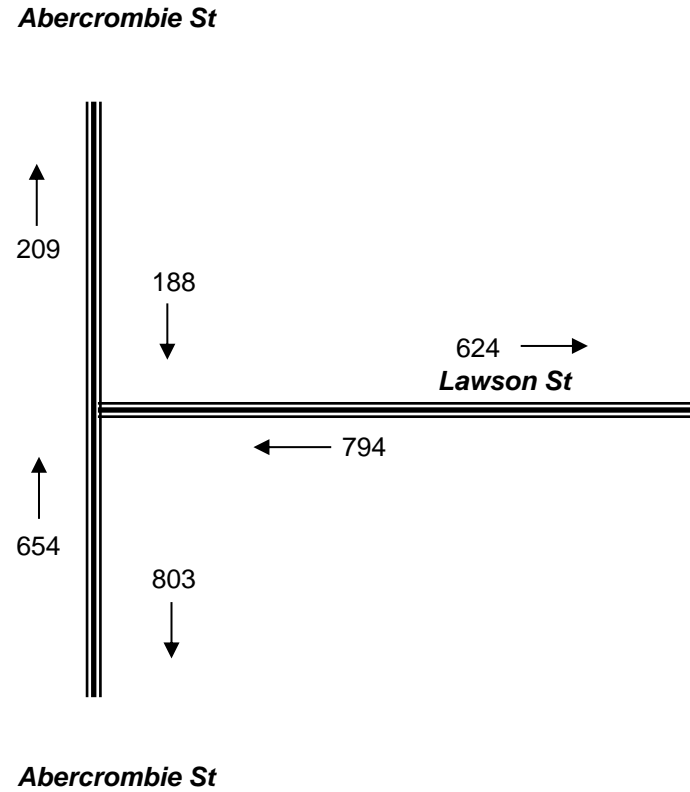
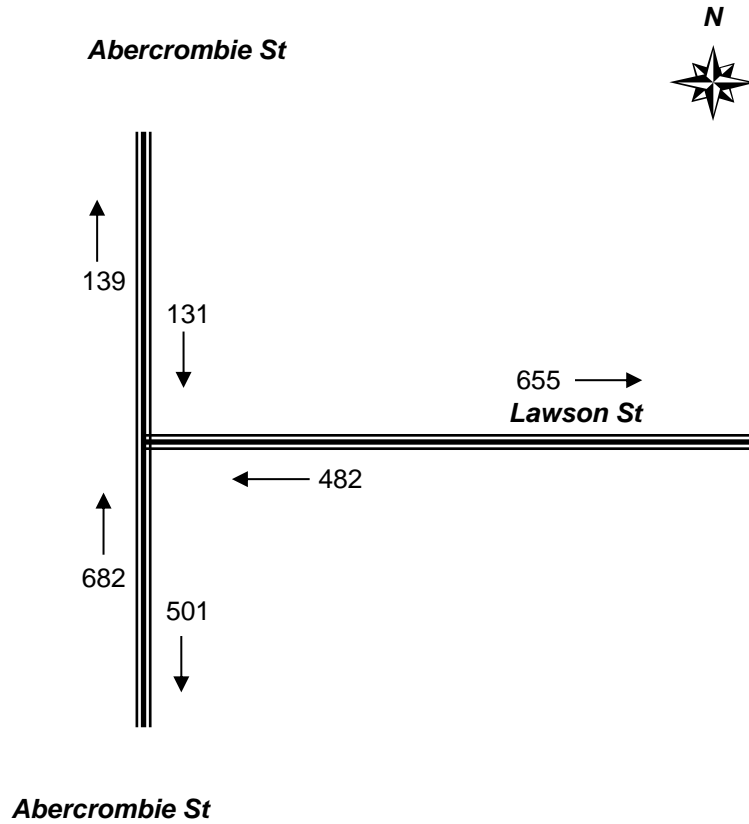
Ph.88196847, Mob.0418-239019

Client : BarkerRyanStewart  
Job No/Name : 6420 PEMULWUY Traffic Counts  
Day/Date : Thursday 6th April 2017

AM

PM

## TOTAL VOLUMES FOR COUNT PERIODS





# R.O.A.R DATA

Reliable, Original & Authentic Results

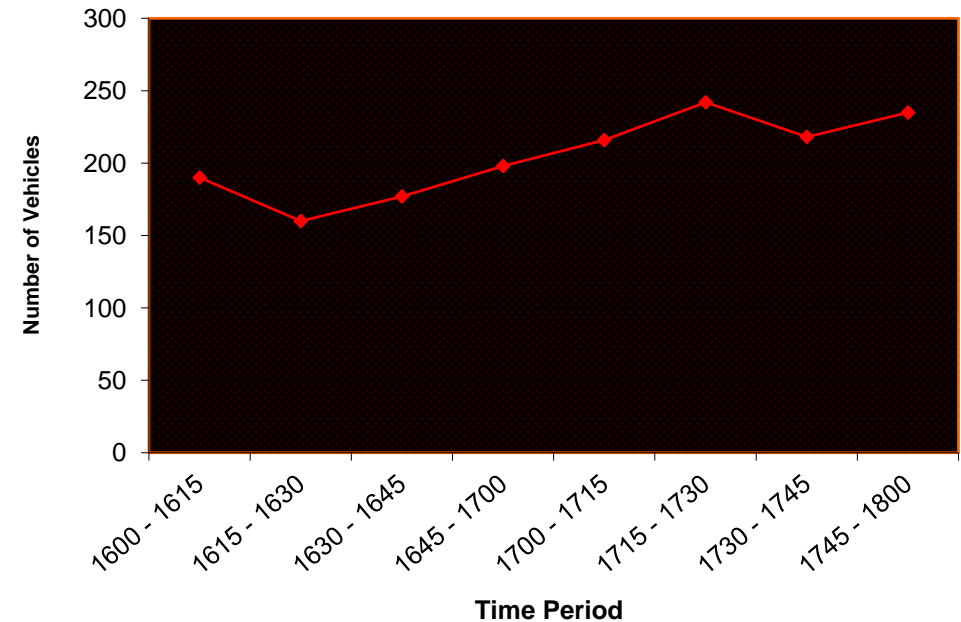
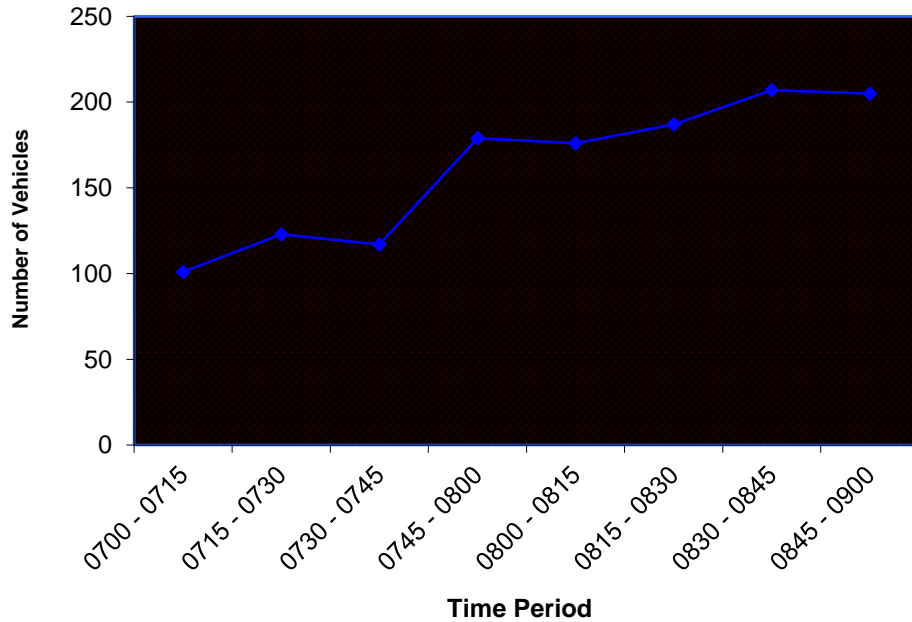
Ph.88196847, Mob.0418-239019

Client : BarkerRyanStewart  
Job No/Name : 6420 PEMULWUY Traffic Counts  
Day/Date : Thursday 6th April 2017

AM

## Lawson St & Abercrombie St

PM





# R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : BarkerRyanStewart  
Job No/Name : 6420 PEMULWUY Traffic Counts  
Day/Date : Thursday 6th April 2017

## Intersection Details

Obtained via satellite

May be incorrect

**AM PEAK HOUR**  
**0800 - 0900**



Abercrombie St

T		L		
48	24	60	32	AM
				PM

R		L		
72	31	385	258	AM
				PM

L		R		
49	313	46	368	PM
				AM

Lawson St

**PM PEAK HOUR**  
**1700 - 1800**

Weather >>>



Abercrombie St



Little Everliegh St & Lawson St

To

***Earl Aninipoc***

at ***BarkerRyanStewart***

your results for

***PEMULWUY Traffic Counts***

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# R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

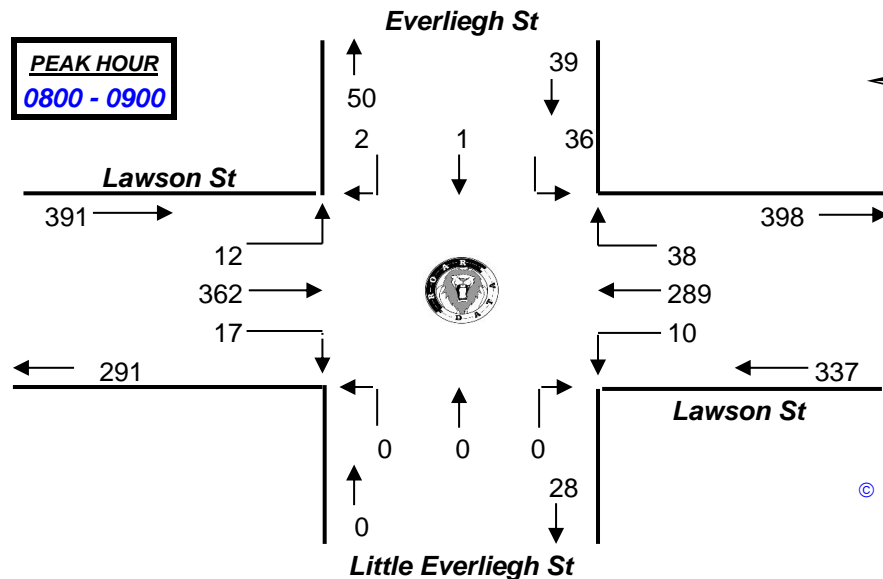
Client : BarkerRyanStewart

Job No/Name : 6420 PEMULWUY Traffic Counts

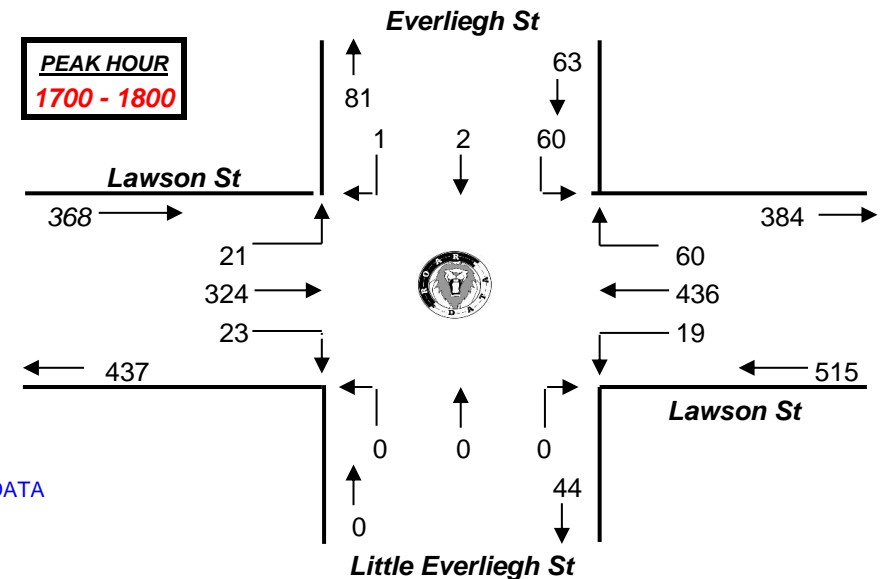
Day/Date : Thursday 6th April 2017

All Vehicles	NORTH			WEST			SOUTH			EAST			TOT	All Vehicles	NORTH			WEST			SOUTH			EAST			TOT
	Everliegh St			Lawson St			Little			Lawson St					Everliegh St			Lawson St			Little Everliegh			Lawson St			
Time Per	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	
0700 - 0715	9	0	1	1	46	4				0	24	12	97	1600 - 1615	9	0	2	3	69	4				4	73	13	177
0715 - 0730	12	0	0	3	65	4				2	42	3	131	1615 - 1630	9	0	0	4	73	1				3	71	12	173
0730 - 0745	10	0	0	3	68	3				5	35	8	132	1630 - 1645	8	0	2	6	59	4				6	80	10	175
0745 - 0800	13	0	1	1	75	8				4	71	6	179	1645 - 1700	10	0	0	3	58	6				5	101	12	195
0800 - 0815	11	0	0	7	84	5				3	68	11	189	1700 - 1715	16	0	1	7	83	7				3	100	11	228
0815 - 0830	6	0	2	2	90	4				2	59	9	174	1715 - 1730	17	2	0	7	79	3				7	107	19	241
0830 - 0845	7	0	0	2	98	4				3	77	11	202	1730 - 1745	14	0	0	2	75	6				4	100	12	213
0845 - 0900	12	1	0	1	90	4				2	85	7	202	1745 - 1800	13	0	0	5	87	7				5	129	18	264
Period End	80	1	4	20	616	36	0	0	0	21	461	67	1306	Period End	96	2	5	37	583	38	0	0	0	37	761	107	1666

	NORTH			WEST			SOUTH			EAST				NORTH			WEST			SOUTH			EAST				
	Everliegh St			Lawson St			Little			Lawson St				Everliegh St			Lawson St			Little Everliegh			Lawson St				
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT	Peak Time	L	T	R	L	T	R	L	T	R	TOT			
0700 - 0800	44	0	2	8	254	19	0	0	0	11	172	29	539	1600 - 1700	36	0	4	16	259	15	0	0	0	18	325	47	720
0715 - 0815	46	0	1	14	292	20	0	0	0	14	216	28	631	1615 - 1715	43	0	3	20	273	18	0	0	0	17	352	45	771
0730 - 0830	40	0	3	13	317	20	0	0	0	14	233	34	674	1630 - 1730	51	2	3	23	279	20	0	0	0	21	388	52	839
0745 - 0845	37	0	3	12	347	21	0	0	0	12	275	37	744	1645 - 1745	57	2	1	19	295	22	0	0	0	19	408	54	877
0800 - 0900	36	1	2	12	362	17	0	0	0	10	289	38	767	1700 - 1800	60	2	1	21	324	23	0	0	0	19	436	60	946
PEAK HOUR	36	1	2	12	362	17	0	0	0	10	289	38	767	PEAK HOUR	60	2	1	21	324	23	0	0	0	19	436	60	946



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## R.O.A.R DATA

*Reliable, Original & Authentic Results*

Ph.88196847, Mob.0418-239019

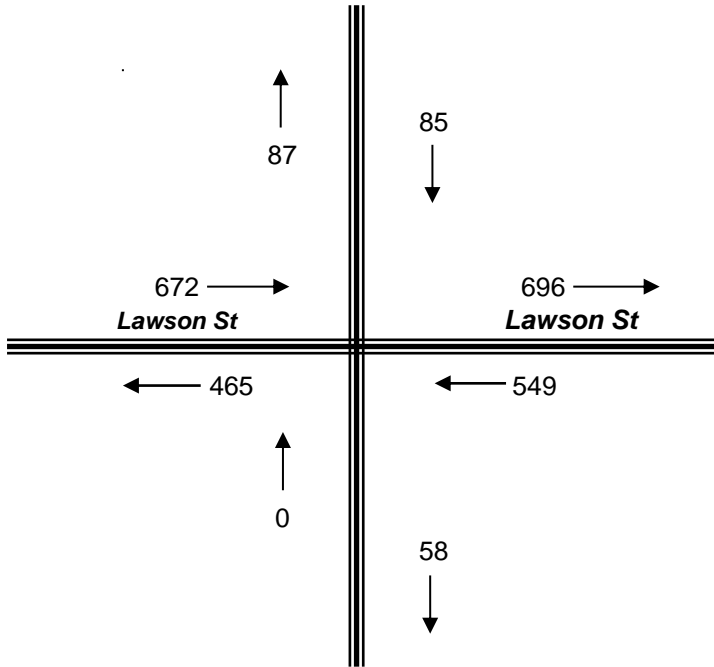
Client : BarkerRyanStewart  
Job No/Name : 6420 PEMULWUY Traffic Counts  
Day/Date : Thursday 6th April 2017

AM

TOTAL VOLUMES  
FOR COUNT  
PERIODS

PM

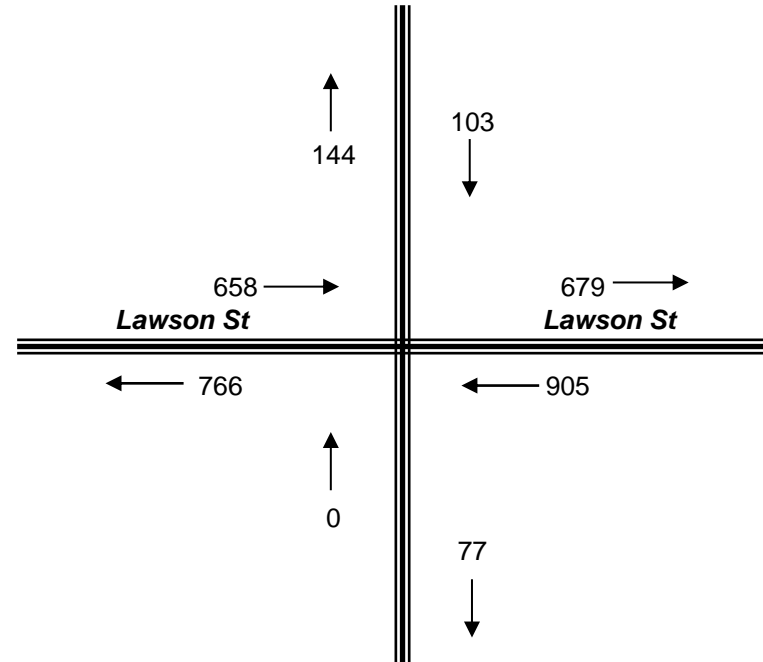
*Everliegh St*



*Little Everliegh St*



*Everliegh St*



*Little Everliegh St*



# R.O.A.R DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : BarkerRyanStewart

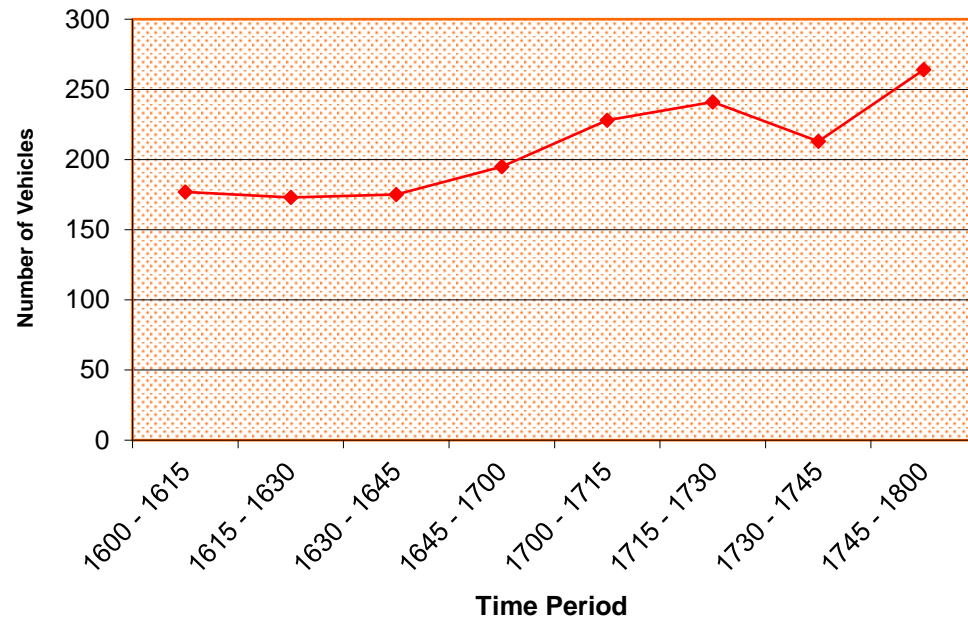
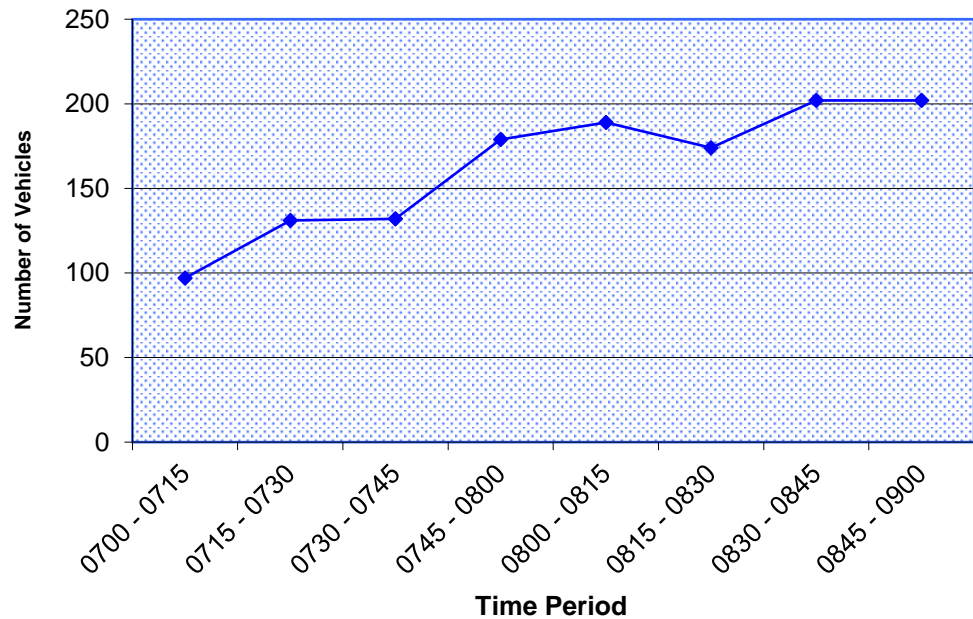
Job No/Name : 6420 PEMULWUY Traffic Counts

Day/Date : Thursday 6th April 2017

AM

Little Everliegh St & Lawson St

PM





# R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : BarkerRyanStewart  
Job No/Name : 6420 PEMULWUY Traffic Counts  
Day/Date : Thursday 6th April 2017

## Intersection Details

Obtained via satellite

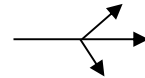
May be incorrect

**AM PEAK HOUR**  
**0800 - 0900**



Everliegh St

Lawson St

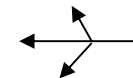


AM	PM	
12	21	L
362	324	T
17	23	R

R	T	L	
2	1	36	AM
1	2	60	PM

R	T	L	
60	38		AM
436	289		PM
19	10		PM

PM	L	T	R
0	0	0	0
AM	0	0	0



Lawson St

One Way

**PM PEAK HOUR**  
**1700 - 1800**

Weather >>>



Little Everliegh St

## **Appendix B**

### **Sydney Trains Network Map**

# Sydney Trains Network



It's easy to travel with us



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

## **Appendix C**

### **Bus Route Maps**



Railway Square to Stamford Plaza Hotel

Bus Timetable

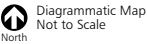
305

Includes accessible services  
Effective from 4 October 2015



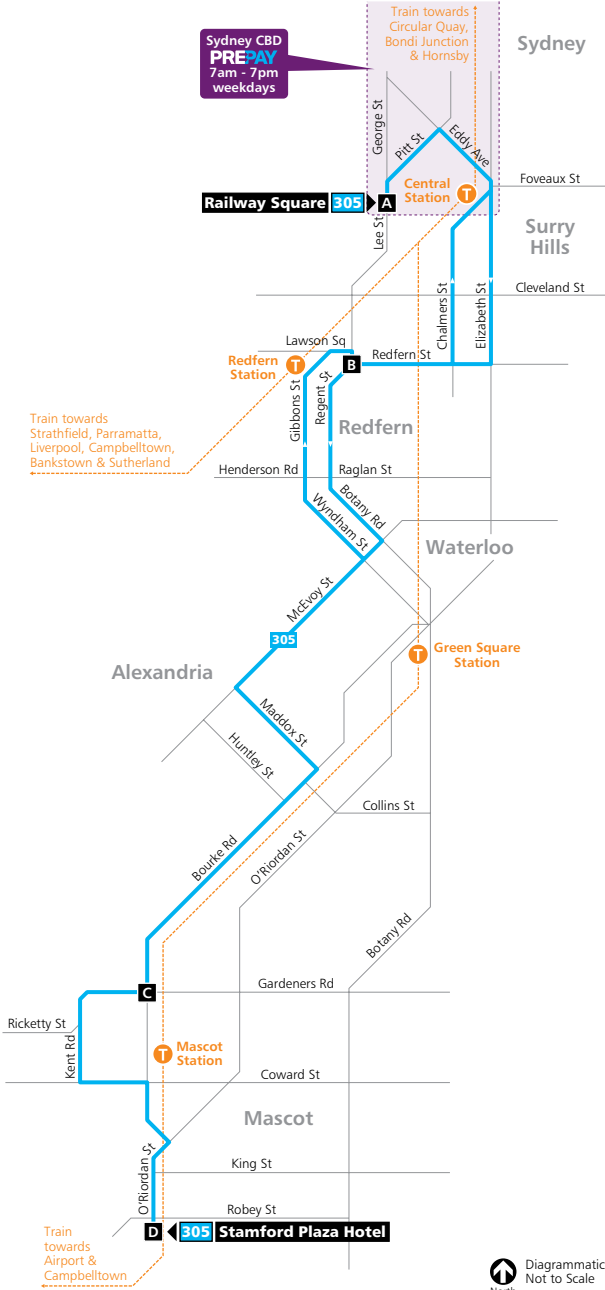
STA No: 174714 - v3.0

- Legend**
- Bus route
  - Bus route number
  - A Timing point
  - T Train line/station



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[opal.com.au](http://opal.com.au)

**Transport Buses**  
[transportnsw.info](http://transportnsw.info)  
Call 131 500 TTY 1800 637 500

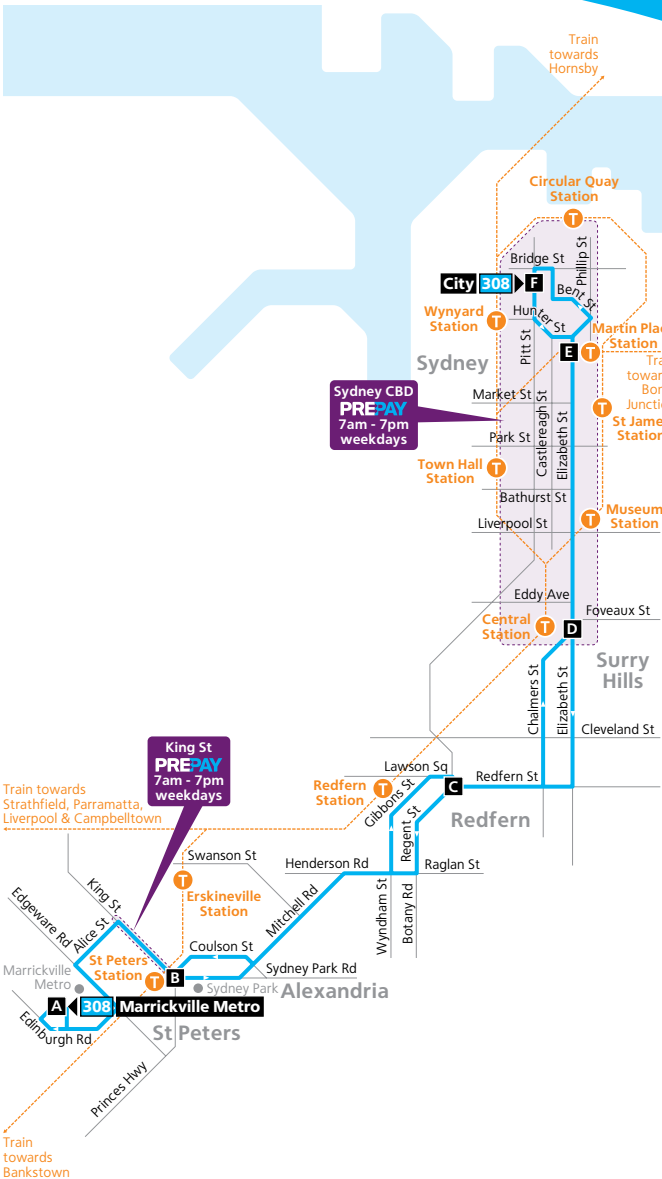


# Explanation of definitions and symbols

**p** PrePay-only. No tickets sold on board.

## Timing Points

- A** Marrickville Metro Smidmore Street
- B** St Peters Station
- C** Redfern Regent Street
- D** Central Station
- E** City - Martin Place Elizabeth Street
- F** City

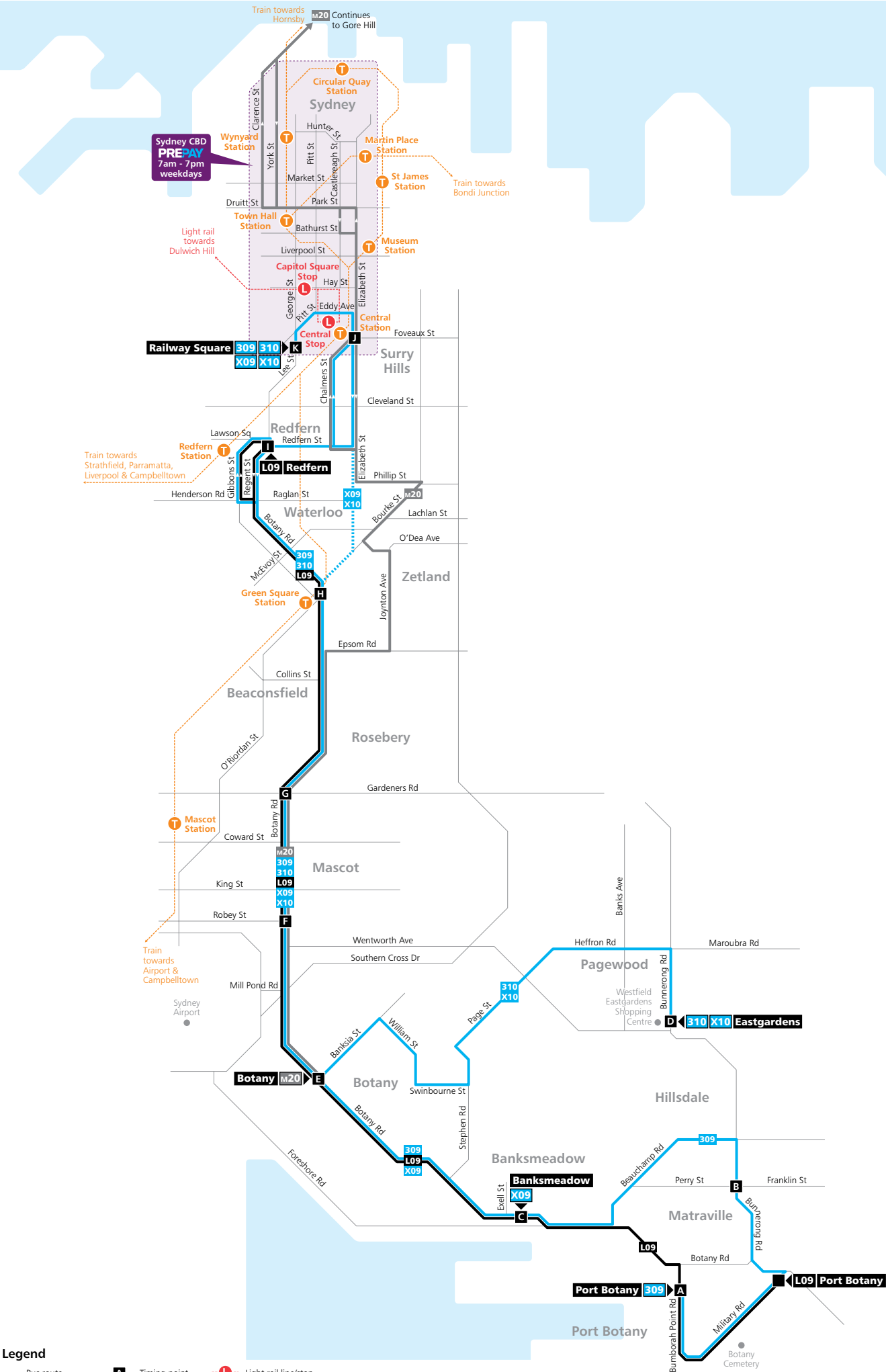


### Legend

- Bus route
- 308 Bus route number
- Timing point
- Train line/station

Diagrammatic Map  
Not to Scale





**Legend**

— Bus route

— Bus route number

A Timing point

T Train line/station

L Light rail line/stop

Diagrammatic Map  
Not to Scale



## **Appendix D**

### **Loading Bay Swept Paths**

