Traffic Solutions Pty Ltd

PROPOSED MASTERPLAN FOR RESIDENTIAL AND COMMERCIAL DEVELOPMENTS AT ANSON STREET, ST GEORGES BASIN

TRAFFIC AND PARKING ASSESSMENT

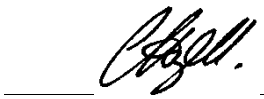
March 2017

Ref: 10.11.162

P.O Box 9161 Bathurst NSW 2795 Phone: (02) 6331 0467 Email: craig@trafficsolutions.com.au

PROPOSED MASTERPLAN FOR RESIDENTIAL AND COMMERCIAL DEVELOPMENTS AT ANSON STREET, ST GEORGES BASIN – TRAFFIC AND PARKING ASSESSMENT

Prepared By: Craig Hazell
Director Traffic Solutions P/L
P.O Box 9161
Bathurst NSW 2795
Ph. 02 6331 0467
M. 0417 262 057



For: Mr. Stephen Richardson
Cowman Stoddart Pty Ltd
Po Box 738
Nowra NSW 2541
T 02 4423 6198
T 02 4423 6199

On Behalf Of: Mr. David De Battista

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FIGURES

1. INTRODUCTION

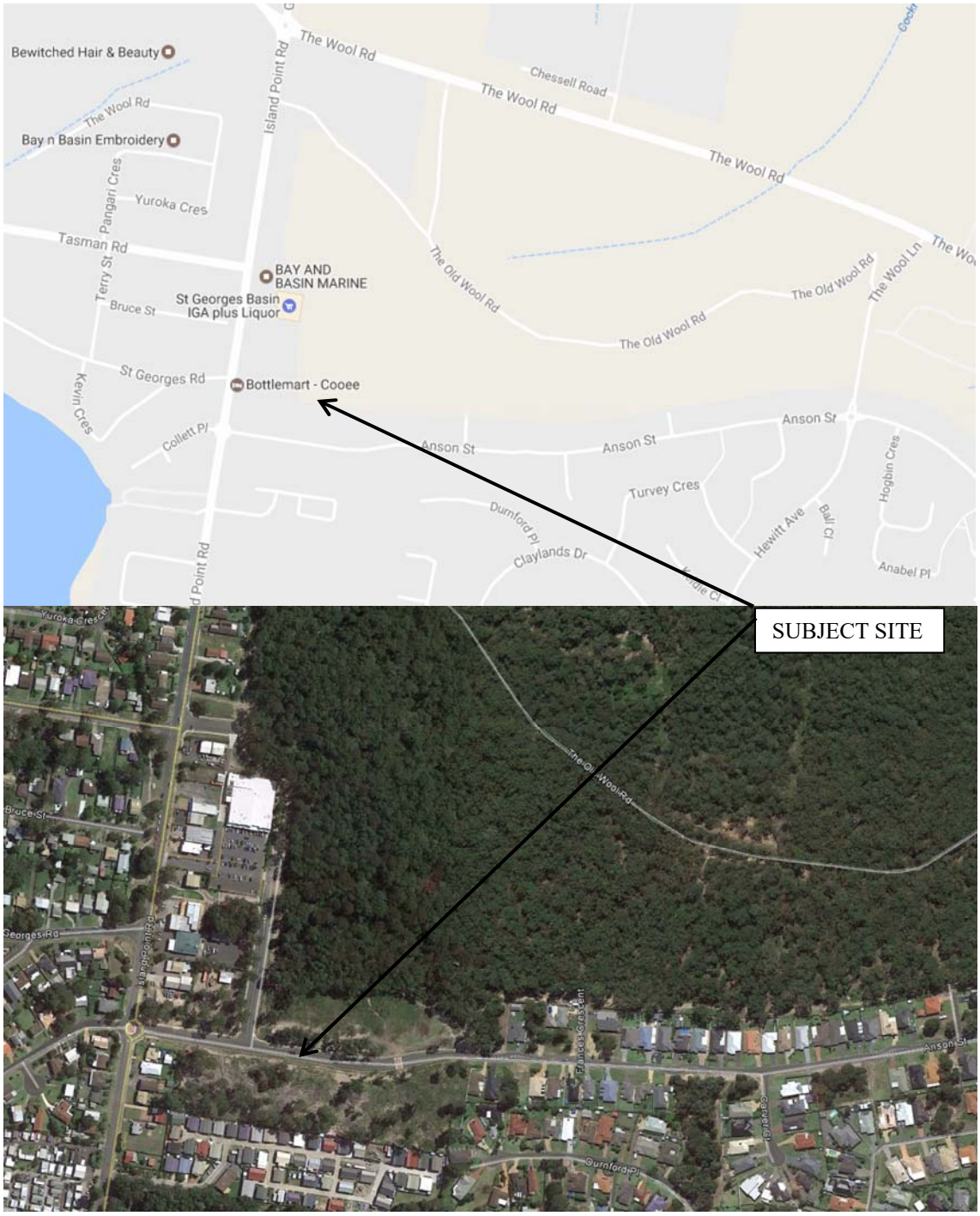
This report has been prepared to accompany an application to Shoalhaven City Council for a proposed Masterplan for residential and commercial developments located at Anson Street, St Georges Basin. (Figure 1)

The Masterplan proposes 15 separate buildings containing 380 residential units (comprising 88 two bedroom units, 292 three bedroom units) and 2233m^2 of commercial floor. The commercial floor space is proposed in buildings J and K only.

Parking for 783 cars is proposed in basement car parks below each of the buildings and the number of car spaces is assessed in section 4 of this report.

This report examines the traffic implications of the proposed development and will assess the:

- Proposed access arrangements.
- Adequacy and suitability of the off-street parking provision.
- Estimated traffic generation of the proposal.
- Impacts of the estimated traffic generation on the existing road network.



LOCATION

Fig 1

2. PROPOSED DEVELOPMENT

SITE

The proposed development is situated on both sides of Anson Street, St Georges Basin and is described as lots 1 and 6 in DP 1082382. The site is currently vacant land.

DEVELOPMENT PROPOSAL

The proposed development involves the construction of 15 multi-level buildings. The following table provides a breakdown of the proposal.

Table 2.1 – Master plan building breakdown

Building	No of 2 bedroom units	No of 3 bedroom units	Commercial GFA	No of car parking spaces
A	9	20		107
B	9	20		
C	5	18		44
D	5	9		26
E	4	24		54
F	4	24		54
G	5	12		32
H	9	24		62
I	4	16		38
J	5	17	1433m^2	82
K	8	27	800m^2	89
L	4	8		22
M	5	25		58
N	5	24		56
O	7	24		59
Total	88	292	2233m^2	783

Vehicle access to each building is proposed directly off Anson Street with the exception of Building K and L which obtain access off the Village Access Road.

This report has been prepared using plans prepared by Shobha Designs, Master Plan – Site analysis plan, drawing number M01, revision A and dated 14th February 2017. Also, the Masterplan – approximate yield table has been used in this assessment. A reduced copy of the plan and table is reproduced in Appendix A.

3. EXISTING CONDITIONS

The following routes are classified as regional roads which is under the care and control of Council:

- The Wool Road from Princes Hwy to Island Point Road;
- Island Point Road from The Wool Road to Loralyn Avenue;
- Loralyn Avenue, Walmer Avenue and Larmer Avenue between Island Point Road and The Wool Road;
- The Wool Road east of Lamer Avenue.

Island Point Road, south of The Wool Road roundabout serves a major collector road function whilst Anson Street serves a minor collector road function in this area.

The main features of the existing traffic controls in the vicinity of the site are:

- Slow points along Anson Street at the Eastern end of the site.
- A 50 Km/h speed limit exists along Island Point Road, Anson Street and The Wool Lane.
- Island Point Road east of The Wool Road is 60 km/h.
- The Wool Road west of Island Point Road is 80 km/h.

Island Point Road is approximately 12.8m wide and has been provided with barrier kerb and gutter on both sides and centre line marking. Anson Street is 12.8m wide along the frontage of the Masterplan buildings reducing to 6m wide to the east with roll top kerb widening at the slow points where barrier kerbing is provided to aid deflection.

There are no restrictions on parking in the immediate vicinity of the subject site.

Data on the traffic movements in the vicinity of the subject site have been collected by surveys undertaken as part of this assessment from 6.00am - 9.00am and 3.00pm - 6.00pm on Tuesday 10th May 2011 at the following intersections:

1. Island Point Road, Gumden Lane and The Wool Road
2. Anson Street, The Wool Lane and Hewitt Avenue
3. The Wool Road and The Wool Lane.
4. Island Point Road, Anson Street and Collett Place.

Conditions on this day were described by the traffic counting firm as fine with no unusual circumstance encountered.

The peak hour flows at each intersection were recorded as:

- Island Point Road, Gumden Lane and The Wool Road from 7.45am –

8.45am and 3.45pm – 4.45pm.
- Anson Street, The Wool Lane and Hewitt Avenue from 7.45am – 8.45am and 4.00pm – 5.00pm.
- The Wool Road and The Wool Lane were found to be from 8.00am – 9.00am and 3.30pm – 4.30pm.
- Island Point Road, Anson Street and Collett Lane 7.45am – 8.45am and 3.45pm – 4.45pm.

The recorded flows are depicted on Figure 2 and 3 on the following page. The detailed results of the surveys are attached as appendix A.

Due to the time between the counts that were originally undertaken for this Masterplan an indication of the traffic growth in the area can be gauged by referencing the nearest permanent counting station which is located on Jervis Bay Road. The RMS website provides the following Annual Average Daily Traffic (AADT) volumes for this station. The following table indicates the growth along Jervis Bay Road since 2011.

Table 3.1 – AADT at Permanent counting station 07355, Jervis Bay Road, Falls Creek (north of Gardner Road)

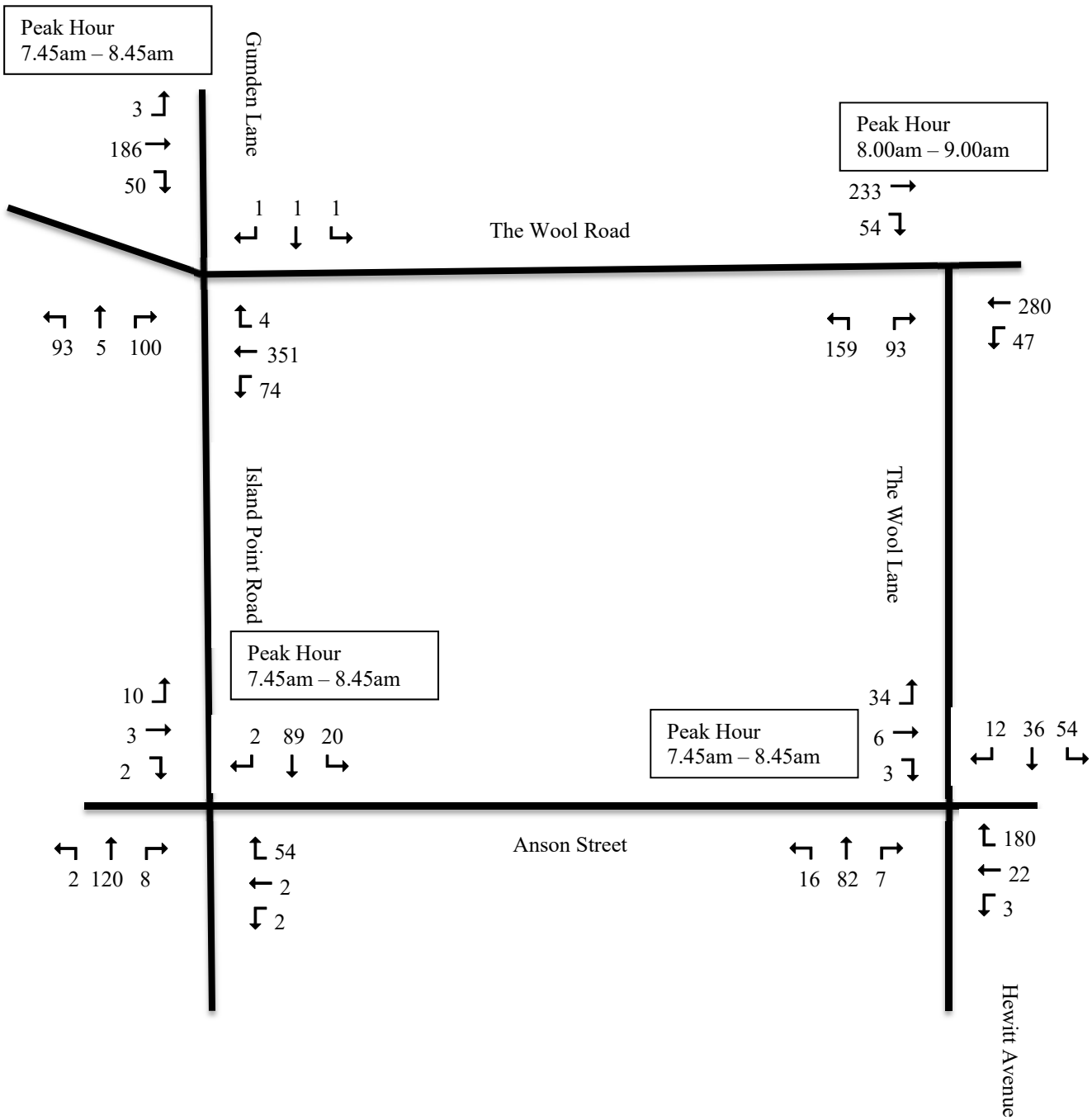
Year	AADT
2011	7171
2012	7169
2013	7439
2014	7465
2015	7806
2016	8526

Table 3.1 indicates an increase of 18.9 percent from 2011 to 2016. To assess the impact on the proposal due to seasonal factors the following table provides the percentage difference of the Average daily volumes over each month compared with the AADT for 2016 of 8526 vehicles per day from table 3.1

Table 3.2 – Average daily total vehicle volumes by month for 2016

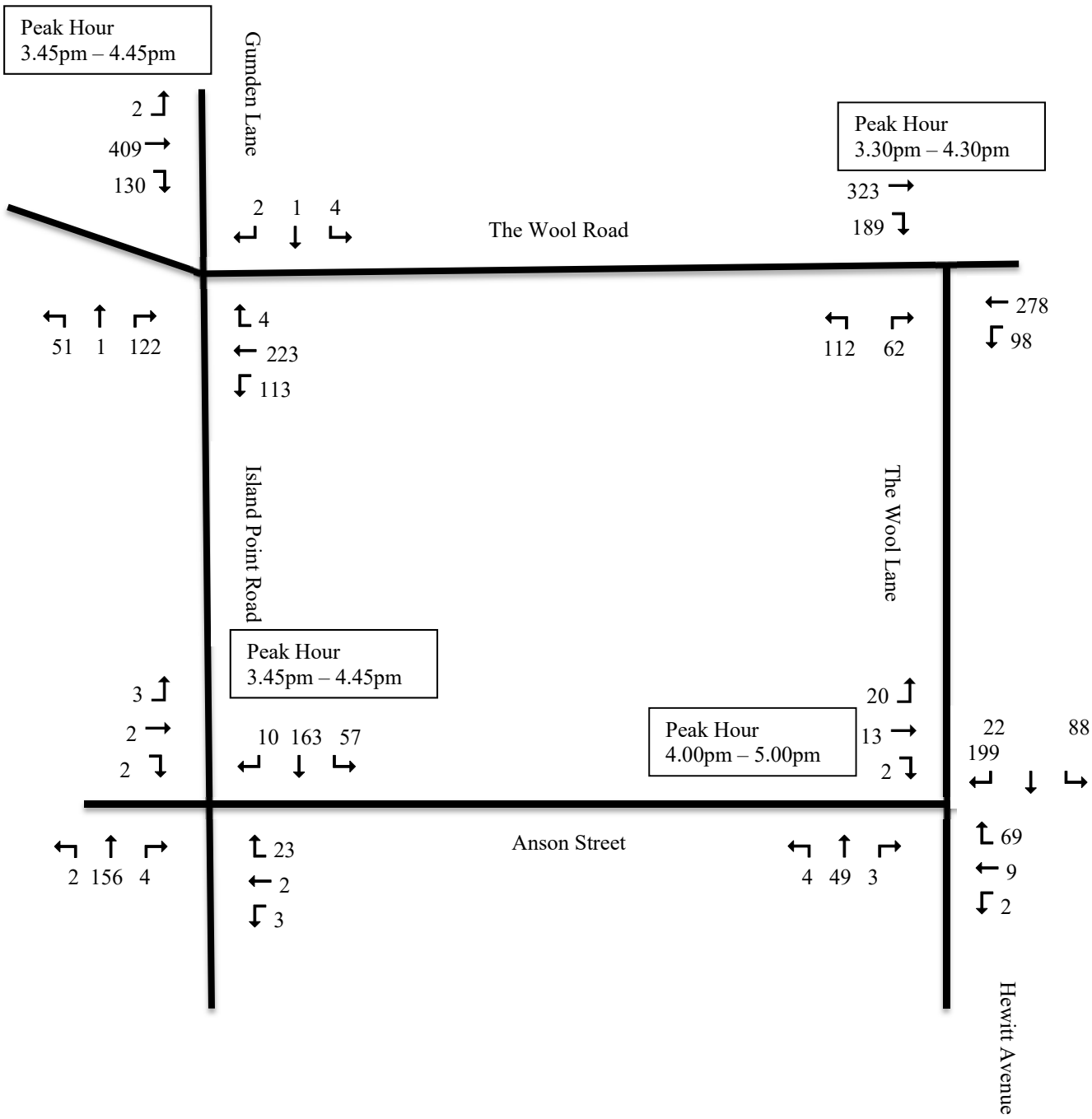
Year	Month	total	% difference to average
2016	January	9,726	+14.1%
2016	February	9,208	+8%
2016	March	9,092	6.6%
2016	April	8,569	0.01%
2016	May	7,890	-7.5%
2016	June	7,906	-7.3%
2016	July	7,551	-11.4%
2016	August	7,772	-8.8%
2016	September	8,244	-3.3%
2016	October	8,599	0.01%
2016	November	9,178	7.6%
2016	December	9,346	9.6%

To ensure a robust assessment the traffic volumes recorded in 2011 will be increased by 35% to represent the growth in the area (18.9%) and the highest season traffic volume factor for January (14%).



2011 AM Peak volumes + 35%

Fig 2



2011 PM Peak volumes + 35%

Fig 3

4. KEY ISSUES

ACCESS AND PARKING

Vehicular access to each of the buildings is proposed directly to Anson Street, with the exception of buildings K and L which will have vehicle access off the Village Access Road. The proposed vehicle access locations will provide good sight distance in both directions along Anson Street and the Village Access Road.

It will be a recommendation of this report that the design of the off-street car parking areas and driveways comply with the minimum requirements of the '*Australian/New Zealand Standards, Parking Facilities Part 1; Off Street Car Parking (AS/NZS 2890.1)* of 2004

AS/NZS 2890.1:2004 classifies each of the buildings in the Masterplan as Class 1 off-street car parking facilities requiring a Category 1 or 2 driveway (due to the number of spaces provided). Category 1 and 2 driveways should be 3 – 5.5m and 6 – 9m wide respectively.

The following table 4.1 provides details of the driveway requirements for each building

Table 4.1 – Driveway requirements per building

Proposed Lot	Buildings	Parking facility	Category of Driveway	Driveway width required
22 (Lot 6)	G, H & I	one underground car parking facility with one driveway- combined car parks **132**	2	6 - 9 m
23 (Lot 6)	E & F	one underground car parking facility with one driveway- combined car parks **108**	2	6 - 9 m
24 (Lot 6)	C & D	one underground car parking facility with one driveway- combined car parks **70**	1	3 - 5.5m
25 (Lot 6)	A & B	one underground car parking facility with one driveway- combined car parks **107**	2	6 - 9 m
26 (Lot 1)	O	one underground car parking facility with one driveway- **59** car parks	1	3 - 5.5m
27 (Lot 1)	M & N	one underground car parking facility with one driveway- combined car parks **114**	2	6 - 9 m
28 (Lot 1)	K & L	- one underground car parking facility with one driveway- combined car parks **111**	2	6 - 9 m
29 (Lot 1)	J	one underground car parking facility with two driveways- **82** car parks	1	3 - 5.5m

Shoalhaven City Council has constructed a single lane roundabout at the intersection of Island Point Road, Collett Place and the Anson Street extension. The operation of this roundabout is assessed in the following section of this report.

The splitter islands of the roundabout have been constructed as pedestrian refuge islands to complement the existing and future planned pedestrian footways.

A shared pedestrian/cycleway has been provided along the northern side of Anson Street. These paths are not indicated on the Masterplan drawings, however will be a

recommendation of this report.

"Chapter G21 Car Parking and Traffic of the Shoalhaven Development Control plan 2014" specifies the following requirements applicable to the Masterplan proposal:

Commercial use	- 1 space per 40m^2 GFA
Retail use	- 1 space per 24m^2 GLFA- Shop
	- 1 space per 40m^2 – Designated Storage area
Residential Apartments	- 1 space per small dwelling (<55m^2)
	- 1.5 spaces per medium dwelling (56m^2 - 85m^2)
	- 2 spaces per large dwelling (>86m^2)

Although not indicated on the plans, the Architect has advised that the 2 bedroom units are of medium size whilst the 3 bedroom units are large dwellings and provided the following commercial/retail and storage areas:

Building J

Commercial	=	718m^2
Retail	=	358m^2
Retail storage	=	357m^2

Building k

Commercial	=	400m^2
Retail	=	200m^2
Retail storage	=	200m^2

The following table provides the off-street parking required for this development under Shoalhaven City Council's DCP:

Table 4.2 – Car parking calculation table per building

Building	No of 2 bedroom units @ 1.5 spaces/unit	No of 3 bedroom units @ 2 spaces/unit	Commercial @ 1/40m^2 Retail @ 1/24m^2 Retail Storage @ 1/50m^2	No. of car spaces required	No of car parking spaces proposed	Complies
A	9 x 1.5 = 13.5	20 x 2 = 40	n/a	53.5	107	✓
B	9 x 1.5 = 13.5	20 x 2 = 40	n/a	53.5		✓
C	5 x 1.5 = 7.5	18 x 2 = 36	n/a	43.5	44	✓
D	5 x 1.5 = 7.5	9 x 2 = 18	n/a	25.5	26	✓
E	4 x 1.5 = 6	24 x 2 = 48	n/a	54	54	✓
F	4 x 1.5 = 6	24 x 2 = 48	n/a	54	54	✓
G	5 x 1.5 = 7.5	12 x 2 = 24	n/a	31.5	32	✓
H	9 x 1.5 = 13.5	24 x 2 = 48	n/a	61.5	62	✓
I	4 x 1.5 = 6	16 x 2 = 32	n/a	38	38	✓
J	5 x 1.5 = 7.5	17 x 2 = 34	Commercial 718m^2 = 18 Retail 358m^2 = 14.9 Retail storage 357m^2 = 7.1	81.5	82	✓

Table 4.2 (continued) – Car parking calculation table per building						
K	8 x 1.5 = 12	27 x 2 = 54	Commercial 400m^2 = 10 Retail 200m^2 = 8.3 Retail storage 200m^2 = 4	88.3	89	✓
L	4 x 1.5 = 6	8 x 2 = 16	n/a	22	22	✓
M	5 x 1.5 = 7.5	25 x 2 = 50	n/a	57.5	58	✓
N	5 x 1.5 = 7.5	24 x 2 = 48	n/a	55.5	56	✓
O	7 x 1.5 = 10.5	24 x 2 = 48	n/a	58.5	59	✓
Total	88 x 1.5 = 132	292 x 2 = 584	Commercial 1118m^2 = 28 Retail 558m^2 = 23.3 Retail storage 557m^2=11.1	778.3	783	✓

Note: Parking on site exceeding the minimum requirements will be provided for visitors. Provision will also be made for disabled car parking spaces in the parking areas for all buildings.

Accordingly, the proposed masterplan developments exceed Council's parking requirements with the provision of **783** off-street parking spaces.

TRAFFIC

An estimation of the traffic generation of the proposed development can be calculated by reference to the Roads and Maritime Services Technical Direction (TDT 2013/04) *'Guide to Traffic Generating Developments – Updated traffic surveys'*. This technical direction provides the following average peak hour traffic generation rates for high density residential flat dwellings and commercial offices in regional areas:

High Density residential flat buildings in Regional Areas

Weekday AM peak hour vehicle trips = 0.53 per dwelling
Weekday PM peak hour vehicle trips = 0.32 per dwelling

Commercial

Weekday AM peak hour vehicle trips = 1.085/100m^2 GFA
Weekday PM peak hour vehicle trips = 0.86/100m^2 GFA

Accordingly, the estimated traffic generation of this development calculates as:

AM Peak

380 units @ 0.53 trips/unit	=	201.4 peak hour trips
2283m^2 GFA of commercial/retail @ 1.085 trips/100m^2	=	24.8 peak hour trips
POTENTIAL TOTAL TRIPS	=	226 peak hour trips

PM Peak

380 units @ 0.32 trips/unit	=	121.6 peak hour trips
2283m^2 GFA of commercial/retail @ 0.86 trips/100m^2	=	19.6 peak hour trips
POTENTIAL TOTAL TRIPS	=	141 peak hour trips

Accordingly, the potential combined traffic generation of the proposed developments is approximately **226 and 141** vehicle trips in the morning and evening peak hours respectively.

For the purposes of this assessment it has been assumed that the residential component of this development will depart the site in the morning peak hour and the commercial component will approach the site, and that this situation will reverse in the evening peak hour. The 35% increase in flows are depicted along with the additional traffic flows (approaching and departing the area) in figures 4 and 5.

The estimated morning and evening peak hour approach and departure vehicle trips have been assigned proportionally to the road system on the basis of existing flows approaching and departing the area that were recorded at the key intersections counted. Figure 4 and 5 depicts the modelled morning and afternoon peak hour traffic volumes

for the surrounding intersections.

Using SIDRA Intersection 6 Plus, a software programme developed for the purpose of analysing signalised, roundabout and sign controlled intersections, the effect of the estimated traffic generation of this development on the intersections of Island Point Road with The Wool Road and Anson Street plus the intersections of The Wool Lane with The Wool Road and Anson Street has been modelled to determine the impact of the proposal.

Tabled below are the results of the intersection modelling and attached as appendix B are the summary results of the SIDRA Files. A brief guide on evaluating the results of SIDRA analysis is reproduced in table 4.7 in the following pages:

Table 4.3 – SIDRA Analysis, Island Point Road, Gumden Lane and The Wool Road (roundabout)

Operation Indicator	2011 volumes + 35%		2011 volumes + 35% + Masterplan	
	AM	PM	AM	PM
Level of Service	A	A	A	A
Degree of Saturation	0.306	0.424	0.310	0.478
Total Average Delay (sec/veh)	6.6s	6.2s	6.7s	6.4s

Table 4.4 – SIDRA Analysis, The Wool Road and The Wool Lane (Give Way controlled 'T' intersection)

Operation Indicator	2011 volumes + 35%		2011 volumes + 35% + Masterplan	
	AM	PM	AM	PM
Level of Service	A	A	A	A
Degree of Saturation	0.151	0.174	0.208	0.174
Total Average Delay (sec/veh)	2.7s	3.3s	3.2s	3.5s
Total Average delay for right turn from The Wool Lane (sec/veh)	7.9s	10.0s	8.1s	10.2s

Table 4.5 – SIDRA Analysis, Anson Street, The Wool Lane and Hewitt Avenue (roundabout)

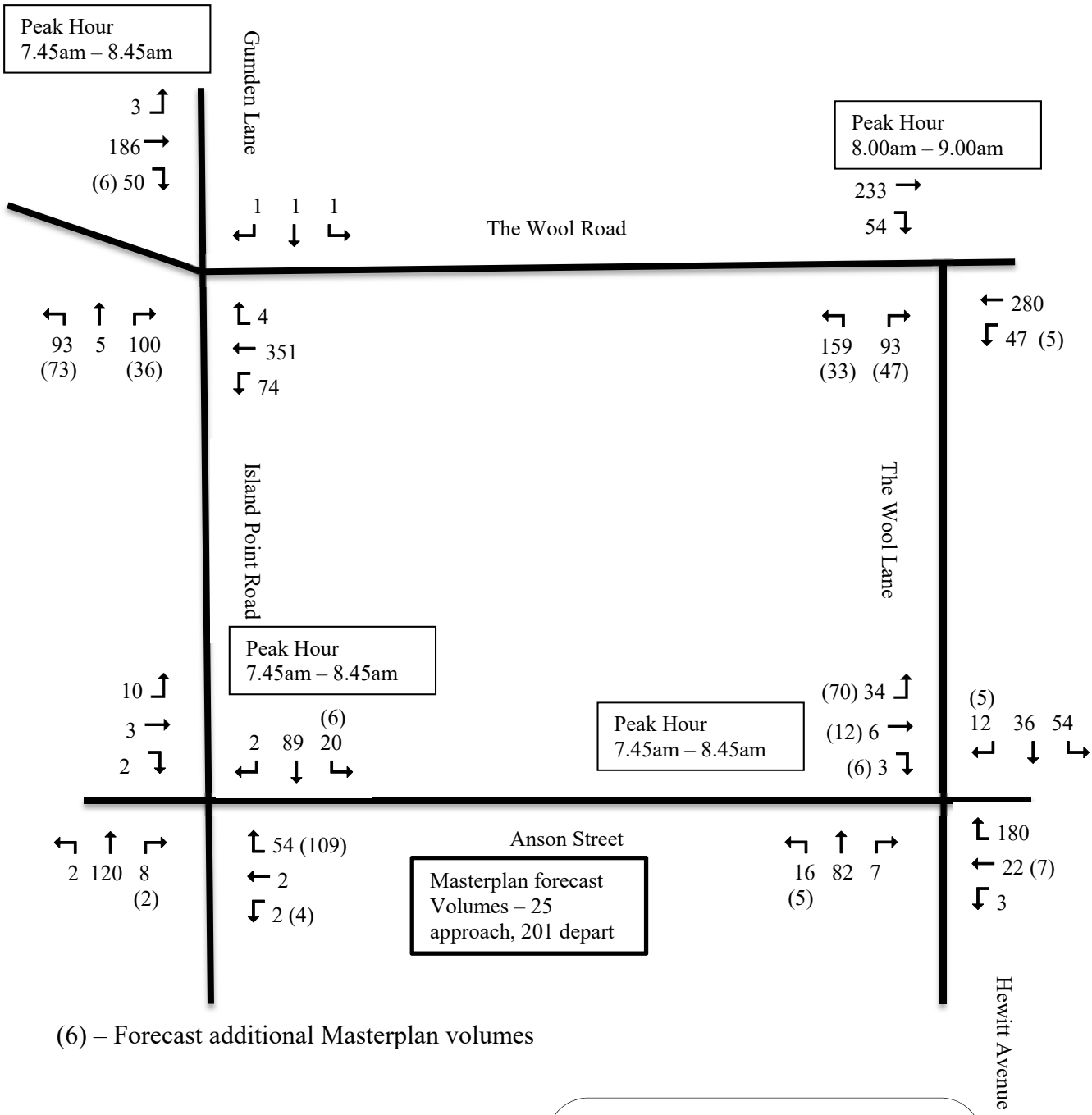
Operation indicator	2011 volumes + 35%		2011 volumes + 35% + Masterplan	
	AM	PM	AM	PM
Level of Service	A	A	A	A
Degree of Saturation	0.155	0.212	0.165	0.234
Total Average Delay (sec/veh)	5.3s	4.2s	5.2s	4.4s

Table 4.6 – SIDRA Analysis, Island Point Road, Collett Place and Anson Street extension (roundabout)				
Operation indicator	**2011 volumes + 35%**		**2011 volumes + 35% + Masterplan**	
	AM	**PM**	**AM**	**PM**
Level of Service	A	A	A	A
Degree of Saturation	0.107	0.154	0.147	0.205
Total Average Delay (sec/veh)	4.4s	3.9s	5.5s	4.0s

The results of the SIDRA analysis reveals:

- The very good Level of Service at each of the intersections modelled will not change with the estimated additional traffic generation of the proposed developments.

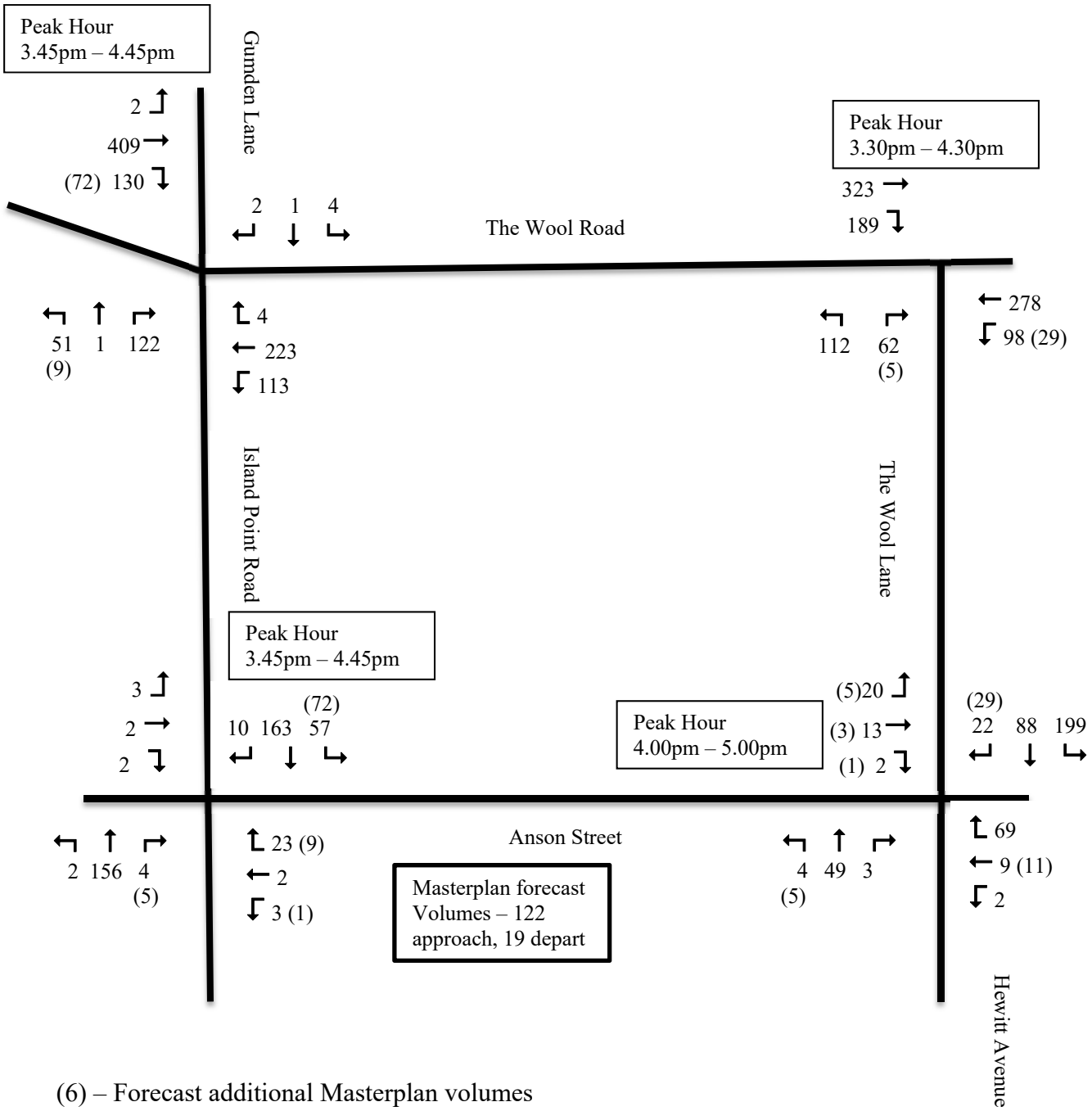
- The additional traffic demand on the intersections modelled, as a consequence of the proposed developments will only alter the Degree of Saturation and Total Average Delays minutely.



(6) – Forecast additional Masterplan volumes

2011 AM Peak volumes + 35% + Masterplan

Fig 4



(6) – Forecast additional Masterplan volumes

2011 PM Peak volumes + 35% + Masterplan

Fig 5

Table 4.7 – Evaluation of the results of SIDRA analysis

LEVEL OF SERVICE

THE LEVEL OF SERVICE FOR TRAFFIC SIGNALS, ROUNDABOUTS AND SIGN CONTROL INTERSECTIONS IS SHOWN BELOW, THIS IS BASED ON THE AVERAGE DELAY IN SECONDS PER VEHICLE:

AVERAGE DELAY PER VEHICLE	LEVEL OF SERVICE	TRAFFIC SIGNALS & ROUNDABOUTS	SIGN CONTROL
< 14	A	GOOD	GOOD
15 - 28	B	GOOD WITH MINIMAL DELAYS AND SPARE CAPACITY	ACCEPTABLE DELAYS AND SPARE CAPACITY
29 - 42	C	SATISFACTORY WITH SPARE CAPACITY	SATISFACTORY BUT ACCIDENT STUDY REQUIRED
43 - 56	D	SATISFACTORY BUT OPERATING NEAR CAPACITY	NEAR CAPACITY AND ACCIDENT STUDY REQUIRED
57 - 70	E	**AT CAPACITY**: AT SIGNALS INCIDENTS WILL CAUSE EXCESSIVE DELAYS, ROUNDABOUTS REQUIRE ANOTHER CONTROL MODE	AT CAPACITY AND REQUIRES ANOTHER CONTROL MODE
> 70	F	UNSATISFACTORY	UNSATISFACTORY

DEGREE OF SATURATION

THE DEGREE OF SATURATION IS ANOTHER MEASURE OF THE OPERATIONAL PERFORMANCE OF INDIVIDUAL INTERSECTIONS.

FOR TRAFFIC SIGNAL CONTROLLED INTERSECTIONS BOTH QUEUE LENGTH AND DELAY INCREASE RAPIDLY AS THE DEGREE OF SATURATION APPROACHES 1.0, AND IT IS USUALLY ATTEMPTED TO KEEP IT BELOW 0.9.

FOR ROUNDABOUTS OR SIGN CONTROLLED INTERSECTIONS, OVERSATURATION IS INDICATED BY A VALUE IN EXCESS OF 0.8.

AVERAGE VEHICLE DELAY

THE AVERAGE VEHICLE DELAY PROVIDES A MEASURE OF THE OPERATIONAL PERFORMANCE OF AN INTERSECTION AS INDICATED IN THE ABOVE TABLE. THE AVERAGE VEHICLE DELAYS IN THE TABLE SHOULD BE USED AS A GUIDE ONLY AS LONGER DELAYS COULD BE TOLERATED IN SOME LOCATIONS.

BUILDING SERVICING

The servicing of each individual building will need to be assessed with each individual development application.

Councils DCP does not require any loading facilities for medium or high density residential unit developments. However, the DCP does require access for a Small Rigid Vehicle (SRV) if the Commercial floor space is less 500m^2 GFA and HRV if over 500m^2. The Masterplan proposes Buildings J and K with commercial/retail floor spaces which exceed 500m^2.

A SRV is not as big as a garbage truck, but does require a 3.5m head clearance. The Medium Rigid Vehicle (MRV) is equivalent to a garbage truck whilst the Heavy Rigid Vehicle (HRV) is larger than a garbage truck. Both the MRV and HRV require a 4.5m head clearance in accordance with AS 2890.2:2002. Generally, the provision of any truck on any site will not be practical in the basement due to head clearances. Therefore, all servicing is likely to be at ground level.

Whilst it is preferred to have service areas separate from car parking areas and to have every individual lot able to be serviced by a garbage truck that can enter and leave each site in a forward direction, this is not always possible or practical.

It is suggested that each development application for each lot should be assessed on its merits unless Council provides an appropriate direction or guideline.

5. CONCLUSIONS AND RECOMMENDATIONS

The preceding analysis has demonstrated that:

- The vehicle access points proposed to serve the individual development buildings are suitably located and will provide very good sight distance in each direction along Anson Street and the side Village Access Road.

- The off-street parking is proposed complies with the requirements specified by Shoalhaven City Council's Development Control Plan.

- It is **recommended** that the design of the off street car parking be to a minimum of the Australian Standards for off - street parking and vehicular access AS/NZS 2890.1:2004.

- It is **recommended** that shared pedestrian/cycleway proposed along (proposed in Chapter N23 St Georges Basin, Village Centre of the Shoalhaven DCP) the northern side of Anson Street and eastern side of the Village Access Road be provided on the Masterplan drawing.

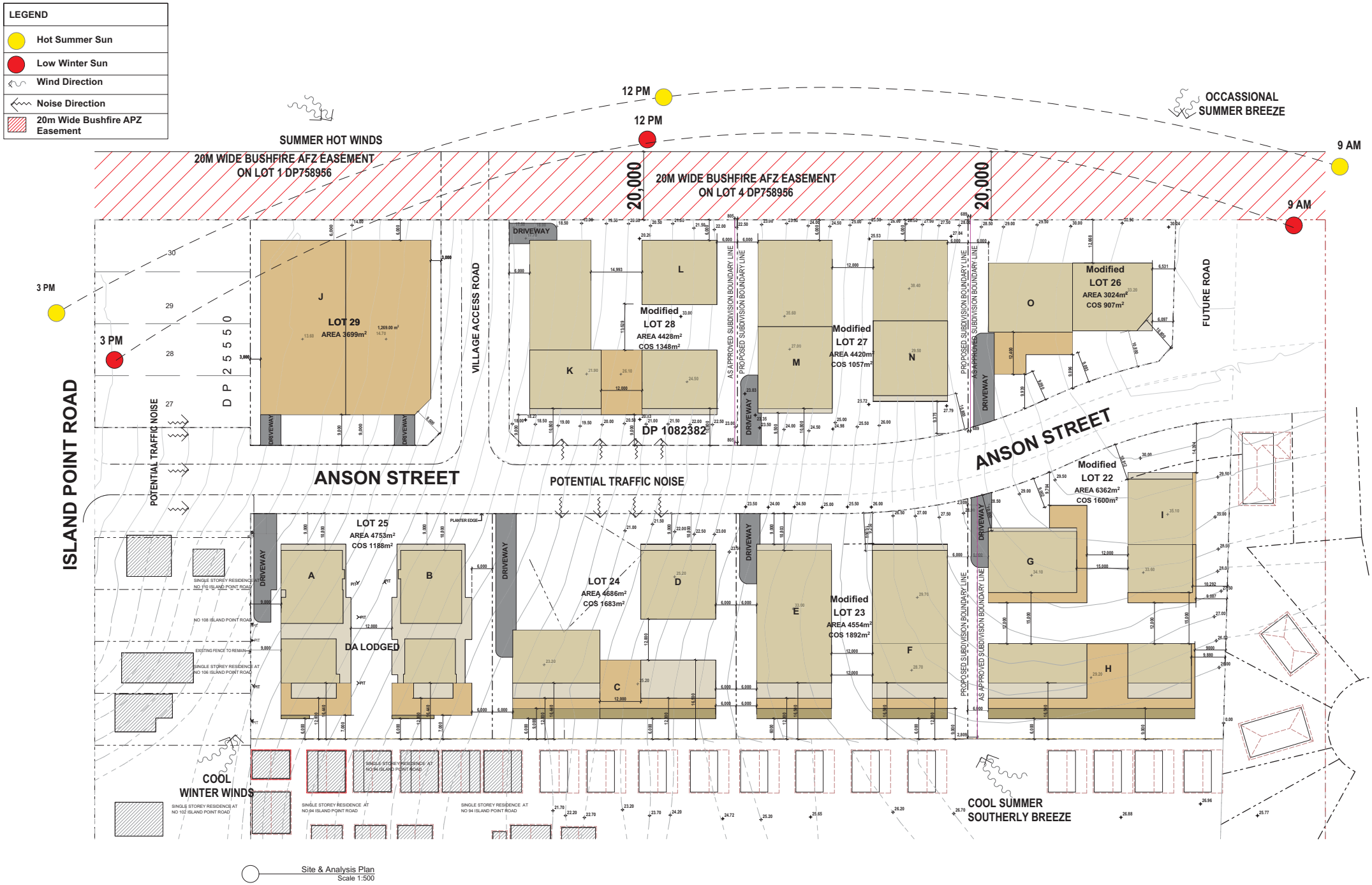
- The very good Level of Service at each of the intersections modelled will not change with the estimated additional traffic generation of the proposed development.

- The additional traffic demand on the intersections modelled, as a consequence of the proposed development will only alter the Degree of Saturation and Total Average Delays minutely.

- The potential combined traffic generation of the proposed developments of 226 and 141 vehicle trips in the morning and evening peak hours respectively will not have any unacceptable impacts upon the surrounding road network.

- It is **recommended** that servicing of each site for deliveries and garbage collection be assessed on the merits of each development application for each lot or Council develop an appropriate guideline.

APPENDIX A MASTERPLAN DRAWING



Site & Analysis Plan
Scale 1:500

SHOBHA DESIGNS
ARCHITECTS & URBAN DESIGNERS
Suite 21, 1 - 7 Jordan St, Gladesville NSW 2111
PHONE : 02 98790020
MOBILE : 0418112677
EMAIL : nilesh@shobhadesigns.com.au

PROJECT
MASTER PLAN - BUILDING ENVELOPE AND MASSING FOR LOTS 22 TO 28, DP 1082382, ANSON STREET, ST. GEORGES BASIN NSW

CLIENT
David De Battista

Drawing Name
MASTER PLAN - SITE & ANALYSIS PLAN

Drawn By : MUNIRA M
Checked By: NILESH MUNOT

Issue No.	Amendments	Drwn. By	Date	Comments
		MM & TT	14-Feb-17	

Date of Issue 14-Feb-17
Drawing Scale @ A1
1:500
Layout ID M01
Revision A

MASTERPLAN – Approximate yield

BUILDING	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**
ZONING	AS PER DA	AS PER DA	ZONE R1 GENERAL RESIDENTIAL	ZONE R1 GENERAL RESIDENTIAL	ZONE R1 GENERAL RESIDENTIAL	ZONE R1 GENERAL RESIDENTIAL	ZONE R1 GENERAL RESIDENTIAL	ZONE R1 GENERAL RESIDENTIAL
SITE AREA (M^2)			4686		4554		6362	
BUILDING ENVELOPE FOOTPRINT AREA (M^2)			1250	484	1126	1126	710	1335
HEIGHT			4 STOREYS	4 STOREYS	4 STOREYS	4 STOREYS	4 STOREYS	4 STOREYS
TOTAL ENVELOPE AREA			3235	1896	4037	4037	2379	4587
75% OF ENVELOPE AREA			2426	1422	3027	3027	1784	3440
DEVELOPMENT MIX			3 BED – 18 2 BED - 5	3 BED – 9 2 BED - 5	3 BED – 24 2 BED - 4	3 BED – 24 2 BED - 4	3 BED – 12 2 BED - 5	3 BED – 24 2 BED - 9
RESIDENTIAL PARKING SPACES			44	26	54	54	32	62
RETAIL/COMMERCIAL PARKING SPACES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

BUILDING	**I**	**J**	**K**	**L**	**M**	**N**	**O**
ZONING	ZONE R1 GENERAL RESIDENTIAL & B4 MIX USE	ZONE B4 MIX USE	ZONE B4 MIX USE	ZONE B4 MIX USE	ZONE B4 MIX USE	ZONE B4 MIX USE	ZONE B4 MIX USE
SITE AREA (m2)	6362	3699	4428		4420		3024
BUILDING ENVELOPE FOOTPRINT AREA (m2)	764	2549	1625	415	1108	1034	1173
HEIGHT	4 STOREYS	2 STOREYS	4 STOREYS	4 STOREYS	4 STOREYS	4 STOREYS	4 STOREYS
TOTAL ENVELOPE AREA (m2)	2829	5098	5966	1660	4320	4098	4341
75% OF ENVELOPE AREA (m2)	2121	3823	4474	1245	3240	3073	3255
DEVELOPMENT MIX	3 BED – 16 2 BED - 4	3 BED – 17 2 BED – 5 COMMERCIAL/RETAIL – 1433sqm	3 BED – 27 2 BED – 8 COMMERCIAL/RETAIL – 800sqm	3 BED – 8 2 BED - 4	3 BED – 25 2 BED – 5	3 BED – 24 2 BED - 5	3 BED – 24 2 BED - 7
RESIDENTIAL PARKING SPACES	38	42	66	22	58	56	59
RETAIL/COMMERCIAL PARKING SPACES	N/A	40	23	N/A	N/A	N/A	N/A

APPENDIX B TRAFFIC COUNTS

Joray Enterprises Pty Ltd

ABN 80 061 513 933
Telephone and Fax : (02) 9624 5472
1 Ajax Place Blacktown, NSW 2148

Count Number	J11-95	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / THE WOOL LANE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Vehicle Movements

Lights

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
7:00 - 7:15	3	48	37	11	25	9	133
7:15 - 7:30	5	31	42	13	20	11	122
7:30 - 7:45	6	50	46	16	27	7	152
7:45 - 8:00	6	36	40	17	29	9	137
8:00 - 8:15	9	59	29	28	42	7	174
8:15 - 8:30	11	42	29	13	37	6	138
8:30 - 8:45	7	39	36	11	36	11	140
8:45 - 9:00	7	54	22	16	46	13	158
Period Ending	**54**	**359**	**281**	**125**	**262**	**73**	**1154**

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
7:00 - 8:00	20	165	165	57	101	36	544
7:15 - 8:15	26	176	157	74	118	34	585
7:30 - 8:30	32	187	144	74	135	29	601
7:45 - 8:45	33	176	134	69	144	33	589
8:00 - 9:00	34	194	116	68	161	37	610

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Count Number	J11-95	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / THE WOOL LANE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Heavy

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
7:00 - 7:15	0	1	0	0	2	1	4
7:15 - 7:30	0	3	1	0	7	1	12
7:30 - 7:45	0	2	0	0	4	0	6
7:45 - 8:00	1	4	0	0	4	1	10
8:00 - 8:15	0	7	0	0	2	1	10
8:15 - 8:30	0	1	0	0	6	1	8
8:30 - 8:45	1	2	1	1	2	0	7
8:45 - 9:00	0	3	1	0	2	1	7
Period Ending	**2**	**23**	**3**	**1**	**29**	**6**	**64**

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
7:00 - 8:00	1	10	1	0	17	3	32
7:15 - 8:15	1	16	1	0	17	3	38
7:30 - 8:30	1	14	0	0	16	3	34
7:45 - 8:45	2	14	1	1	14	3	35
8:00 - 9:00	1	13	2	1	12	3	32

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Count Number	J11-95	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / THE WOOL LANE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Combined

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
7:00 - 7:15	3	49	37	11	27	10	137
7:15 - 7:30	5	34	43	13	27	12	134
7:30 - 7:45	6	52	46	16	31	7	158
7:45 - 8:00	7	40	40	17	33	10	147
8:00 - 8:15	9	66	29	28	44	8	184
8:15 - 8:30	11	43	29	13	43	7	146
8:30 - 8:45	8	41	37	12	38	11	147
8:45 - 9:00	7	57	23	16	48	14	165
Period Ending	**56**	**382**	**284**	**126**	**291**	**79**	**1218**

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
7:00 - 8:00	21	175	166	57	118	39	576
7:15 - 8:15	27	192	158	74	135	37	623
7:30 - 8:30	33	201	144	74	151	32	635
7:45 - 8:45	35	190	135	70	158	36	624
8:00 - 9:00	35	207	118	69	173	40	642

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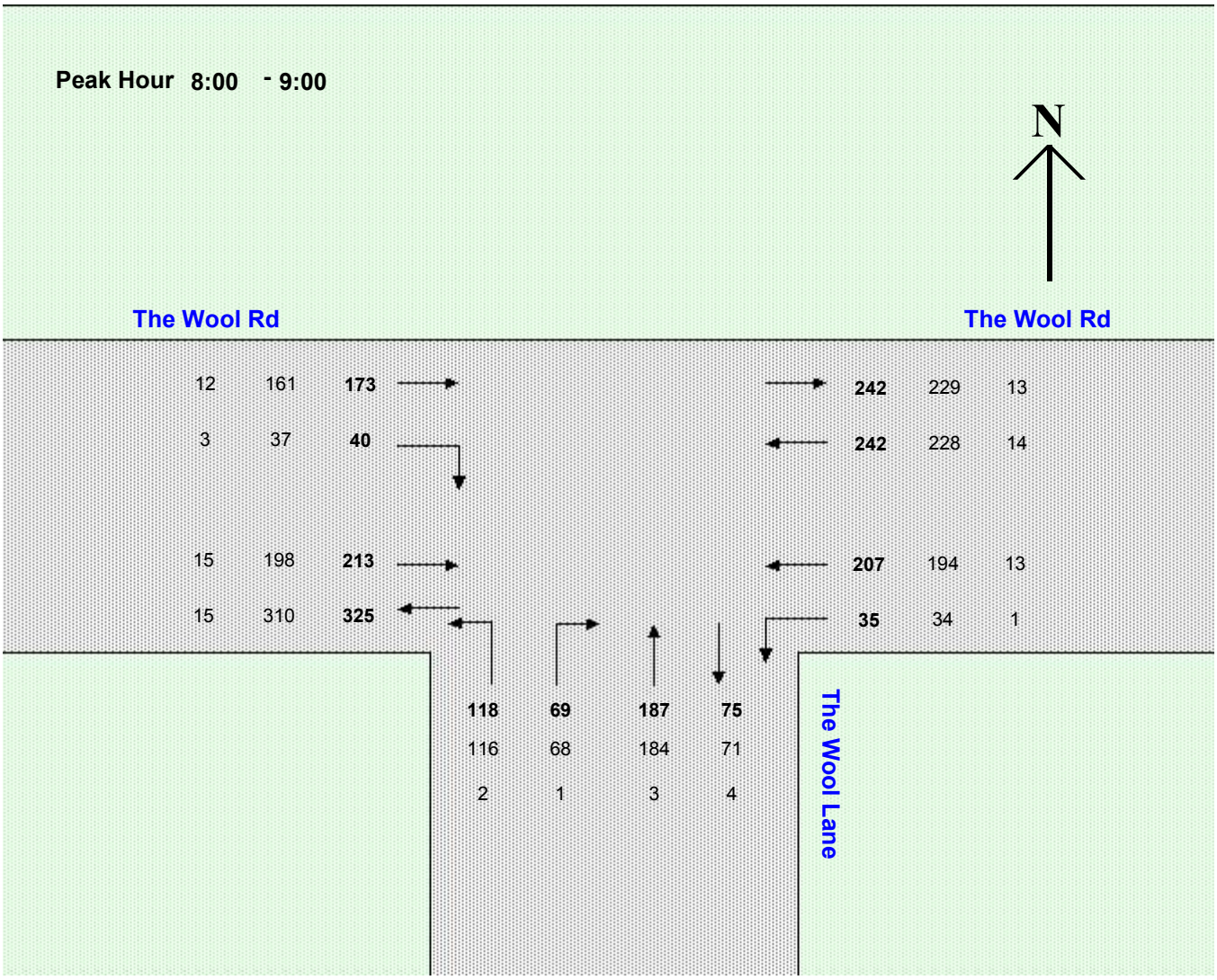
Count Number	J11-95	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / THE WOOL LANE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

	The Wool Rd		The Wool Lane		The Wool Rd		
VEHICLES	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
Lights	34	194	116	68	161	37	610
Heavy	1	13	2	1	12	3	32
Total	**35**	**207**	**118**	**69**	**173**	**40**	**642**

Peak Hour 8:00 - 9:00



Joray Enterprises Pty Ltd

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Count Number	J11-96	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL LANE / ANSON ST / HEWITT AVE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Vehicle Movements

Lights

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 7:15	2	3	2	0	2	18	0	9	0	3	1	0	40
7:15 - 7:30	8	4	2	1	1	34	0	12	0	9	0	0	71
7:30 - 7:45	4	2	1	0	2	29	0	21	0	3	2	1	65
7:45 - 8:00	9	6	6	0	0	39	1	21	1	9	0	1	93
8:00 - 8:15	5	7	2	1	0	28	0	16	2	3	1	1	66
8:15 - 8:30	7	8	1	0	0	36	0	11	0	5	1	0	69
8:30 - 8:45	15	4	0	0	2	29	0	12	1	8	2	0	73
8:45 - 9:00	8	8	4	0	0	19	0	9	2	9	3	0	62
Period Ending	**58**	**42**	**18**	**2**	**7**	**232**	**1**	**111**	**6**	**49**	**10**	**3**	**539**

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 8:00	23	15	11	1	5	120	1	63	1	24	3	2	269
7:15 - 8:15	26	19	11	2	3	130	1	70	3	24	3	3	295
7:30 - 8:30	25	23	10	1	2	132	1	69	3	20	4	3	293
7:45 - 8:45	36	25	9	1	2	132	1	60	4	25	4	2	301
8:00 - 9:00	35	27	7	1	2	112	0	48	5	25	7	1	270

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Count Number	J11-96	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL LANE / ANSON ST / HEWITT AVE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Heavy

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 7:15	1	0	0	0	0	0	0	0	0	0	0	0	1
7:15 - 7:30	1	0	0	0	0	1	0	0	0	0	0	0	2
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	1	1	0	0	0	0	0	0	0	0	0	0	2
8:00 - 8:15	1	0	0	0	0	0	0	0	0	0	0	0	1
8:15 - 8:30	0	0	0	0	0	0	0	0	1	0	0	0	1
8:30 - 8:45	2	1	0	1	0	1	0	1	0	0	0	0	6
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0
Period Ending	**6**	**2**	**0**	**1**	**0**	**2**	**0**	**1**	**1**	**0**	**0**	**0**	**13**

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 8:00	3	1	0	0	0	1	0	0	0	0	0	0	5
7:15 - 8:15	3	1	0	0	0	1	0	0	0	0	0	0	5
7:30 - 8:30	2	1	0	0	0	0	0	0	1	0	0	0	4
7:45 - 8:45	4	2	0	1	0	1	0	1	1	0	0	0	10
8:00 - 9:00	3	1	0	1	0	1	0	1	1	0	0	0	8

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Count Number	J11-96	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL LANE / ANSON ST / HEWITT AVE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Combined

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 7:15	3	3	2	0	2	18	0	9	0	3	1	0	41
7:15 - 7:30	9	4	2	1	1	35	0	12	0	9	0	0	73
7:30 - 7:45	4	2	1	0	2	29	0	21	0	3	2	1	65
7:45 - 8:00	10	7	6	0	0	39	1	21	1	9	0	1	95
8:00 - 8:15	6	7	2	1	0	28	0	16	2	3	1	1	67
8:15 - 8:30	7	8	1	0	0	36	0	11	1	5	1	0	70
8:30 - 8:45	17	5	0	1	2	30	0	13	1	8	2	0	79
8:45 - 9:00	8	8	4	0	0	19	0	9	2	9	3	0	62
Period Ending	**64**	**44**	**18**	**3**	**7**	**234**	**1**	**112**	**7**	**49**	**10**	**3**	**552**

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 8:00	26	16	11	1	5	121	1	63	1	24	3	2	274
7:15 - 8:15	29	20	11	2	3	131	1	70	3	24	3	3	300
7:30 - 8:30	27	24	10	1	2	132	1	69	4	20	4	3	297
7:45 - 8:45	40	27	9	2	2	133	1	61	5	25	4	2	311
8:00 - 9:00	38	28	7	2	2	113	0	49	6	25	7	1	278

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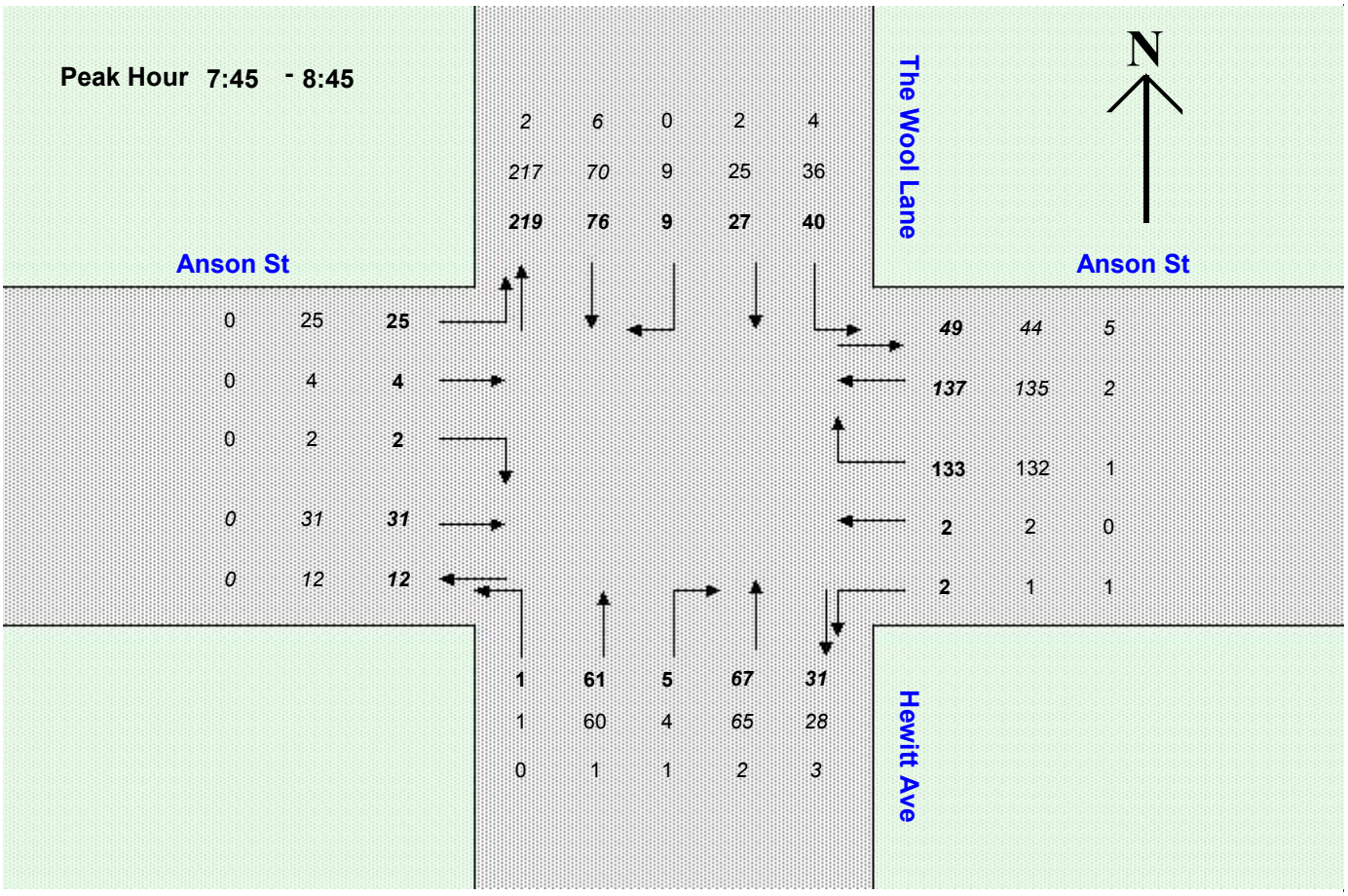
Count Number	J11-96	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL LANE / ANSON ST / HEWITT AVE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Vehicle Class	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
Lights	36	25	9	1	2	132	1	60	4	25	4	2	301
Heavy	4	2	0	1	0	1	0	1	1	0	0	0	10
Total	**40**	**27**	**9**	**2**	**2**	**133**	**1**	**61**	**5**	**25**	**4**	**2**	**311**



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Location	THE WOOL LANE / ANSON ST / HEWITT AVE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Vehicle Movements

Lights

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 15:15	29	5	4	0	3	15	2	4	0	1	2	1	66
15:15 - 15:30	37	14	8	4	2	8	9	0	2	4	4	0	92
15:30 - 15:45	18	16	3	3	2	15	0	3	1	3	2	0	66
15:45 - 16:00	31	11	8	3	2	16	2	4	0	4	2	0	83
16:00 - 16:15	36	13	5	0	6	10	1	5	1	5	1	1	84
16:15 - 16:30	32	19	2	0	0	11	2	14	0	5	3	0	88
16:30 - 16:45	35	13	2	0	1	14	0	8	1	3	3	0	80
16:45 - 17:00	42	18	4	1	0	12	0	9	0	2	2	0	90
17:00 - 17:15	31	13	12	0	1	16	1	6	0	2	3	1	86
17:15 - 17:30	35	13	6	0	0	16	1	10	1	3	3	0	88
17:30 - 17:45	22	12	2	1	1	11	1	16	1	2	1	1	71
17:45 - 18:00	24	20	7	1	7	11	1	12	0	4	4	0	91
Period Ending	**372**	**167**	**63**	**13**	**25**	**155**	**20**	**91**	**7**	**38**	**30**	**4**	**985**

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 16:00	115	46	23	10	9	54	13	11	3	12	10	1	307
15:15 - 16:15	122	54	24	10	12	49	12	12	4	16	9	1	325
15:30 - 16:30	117	59	18	6	10	52	5	26	2	17	8	1	321
15:45 - 16:45	134	56	17	3	9	51	5	31	2	17	9	1	335
16:00 - 17:00	145	63	13	1	7	47	3	36	2	15	9	1	342
16:15 - 17:15	140	63	20	1	2	53	3	37	1	12	11	1	344
16:30 - 17:30	143	57	24	1	2	58	2	33	2	10	11	1	344
16:45 - 17:45	130	56	24	2	2	55	3	41	2	9	9	2	335
17:00 - 18:00	112	58	27	2	9	54	4	44	2	11	11	2	336

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Location	THE WOOL LANE / ANSON ST / HEWITT AVE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Heavy

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 15:15	0	0	0	1	0	0	0	0	0	0	0	0	1
15:15 - 15:30	0	1	0	0	0	0	0	0	0	0	0	0	1
15:30 - 15:45	1	0	1	0	0	1	0	0	0	0	0	0	3
15:45 - 16:00	1	1	0	0	0	1	0	2	1	0	0	0	6
16:00 - 16:15	1	2	1	0	0	1	0	0	0	0	0	0	5
16:15 - 16:30	1	0	1	0	0	0	0	0	0	0	0	0	2
16:30 - 16:45	0	0	1	0	0	1	0	0	0	0	1	0	3
16:45 - 17:00	1	0	0	0	0	2	0	0	0	0	0	0	3
17:00 - 17:15	2	0	0	0	0	0	0	0	0	0	0	0	2
17:15 - 17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	1	0	0	0	0	0	0	1
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0
Period Ending	**7**	**4**	**4**	**1**	**0**	**7**	**0**	**2**	**1**	**0**	**1**	**0**	**27**

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 16:00	2	2	1	1	0	2	0	2	1	0	0	0	11
15:15 - 16:15	3	4	2	0	0	3	0	2	1	0	0	0	15
15:30 - 16:30	4	3	3	0	0	3	0	2	1	0	0	0	16
15:45 - 16:45	3	3	3	0	0	3	0	2	1	0	1	0	16
16:00 - 17:00	3	2	3	0	0	4	0	0	0	0	1	0	13
16:15 - 17:15	4	0	2	0	0	3	0	0	0	0	1	0	10
16:30 - 17:30	3	0	1	0	0	3	0	0	0	0	1	0	8
16:45 - 17:45	3	0	0	0	0	3	0	0	0	0	0	0	6
17:00 - 18:00	2	0	0	0	0	1	0	0	0	0	0	0	3

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Location	THE WOOL LANE / ANSON ST / HEWITT AVE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Combined

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 15:15	29	5	4	1	3	15	2	4	0	1	2	1	67
15:15 - 15:30	37	15	8	4	2	8	9	0	2	4	4	0	93
15:30 - 15:45	19	16	4	3	2	16	0	3	1	3	2	0	69
15:45 - 16:00	32	12	8	3	2	17	2	6	1	4	2	0	89
16:00 - 16:15	37	15	6	0	6	11	1	5	1	5	1	1	89
16:15 - 16:30	33	19	3	0	0	11	2	14	0	5	3	0	90
16:30 - 16:45	35	13	3	0	1	15	0	8	1	3	4	0	83
16:45 - 17:00	43	18	4	1	0	14	0	9	0	2	2	0	93
17:00 - 17:15	33	13	12	0	1	16	1	6	0	2	3	1	88
17:15 - 17:30	35	13	6	0	0	16	1	10	1	3	3	0	88
17:30 - 17:45	22	12	2	1	1	12	1	16	1	2	1	1	72
17:45 - 18:00	24	20	7	1	7	11	1	12	0	4	4	0	91
Period Ending	**379**	**171**	**67**	**14**	**25**	**162**	**20**	**93**	**8**	**38**	**31**	**4**	**1012**

	NORTH			EAST			SOUTH			WEST			
	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 16:00	117	48	24	11	9	56	13	13	4	12	10	1	318
15:15 - 16:15	125	58	26	10	12	52	12	14	5	16	9	1	340
15:30 - 16:30	121	62	21	6	10	55	5	28	3	17	8	1	337
15:45 - 16:45	137	59	20	3	9	54	5	33	3	17	10	1	351
16:00 - 17:00	148	65	16	1	7	51	3	36	2	15	10	1	355
16:15 - 17:15	144	63	22	1	2	56	3	37	1	12	12	1	354
16:30 - 17:30	146	57	25	1	2	61	2	33	2	10	12	1	352
16:45 - 17:45	133	56	24	2	2	58	3	41	2	9	9	2	341
17:00 - 18:00	114	58	27	2	9	55	4	44	2	11	11	2	339

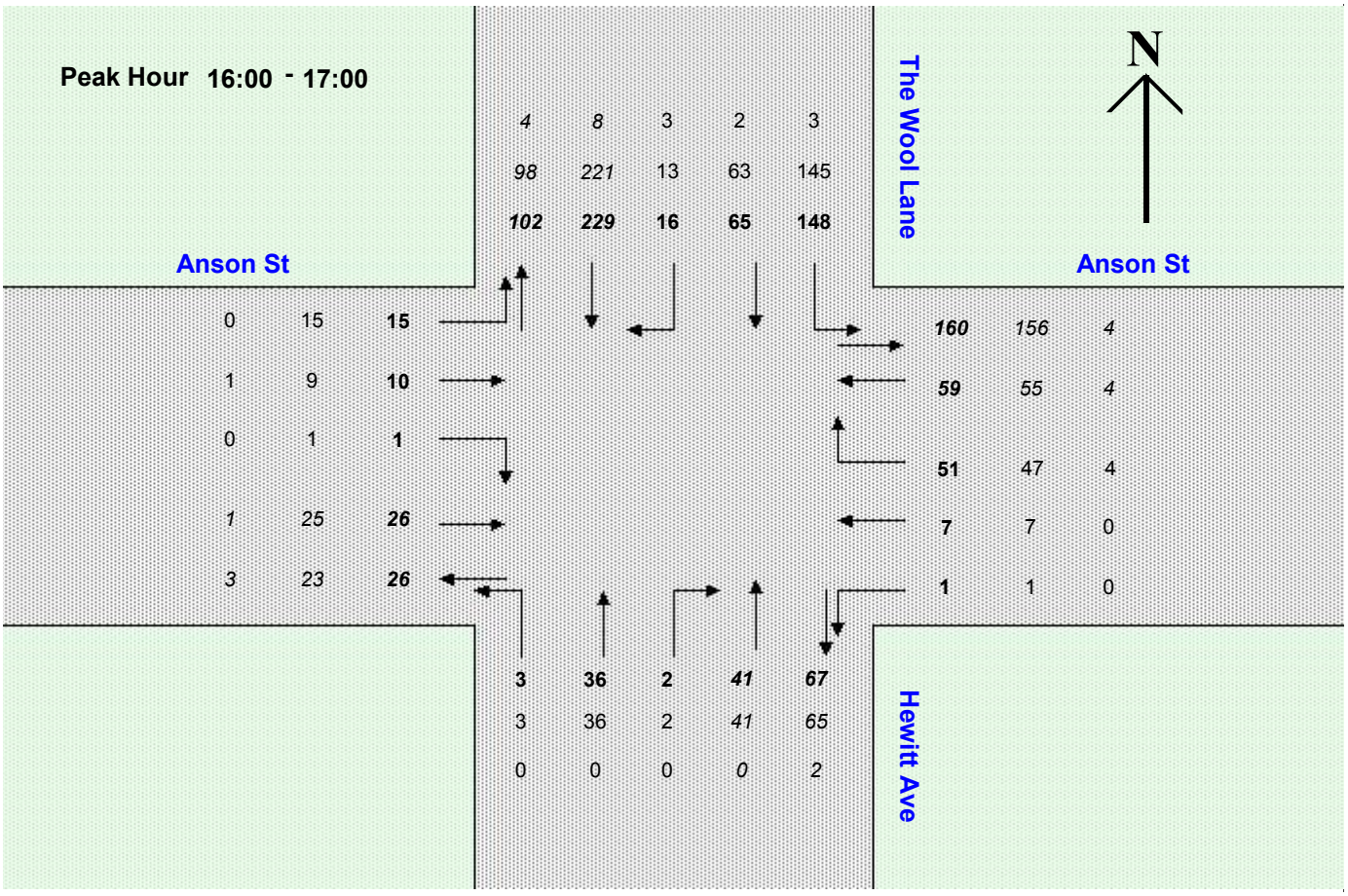
Joray Enterprises Pty Ltd

ABN 80 061 513 933
Telephone and Fax : (02) 9624 5472
1 Ajax Place Blacktown, NSW 2148

Count Number	J11-96	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL LANE / ANSON ST / HEWITT AVE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

	The Wool Lane			Anson St			Hewitt Ave			Anson St			
Vehicle Class	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
Lights	145	63	13	1	7	47	3	36	2	15	9	1	342
Heavy	3	2	3	0	0	4	0	0	0	0	1	0	13
Total	**148**	**65**	**16**	**1**	**7**	**51**	**3**	**36**	**2**	**15**	**10**	**1**	**355**



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1 Ajax Place Blacktown, NSW 2148

Count Number	J11-97	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / ISLAND POINT RD			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Vehicle Movements

Lights

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 7:15	0	0	0	8	63	1	13	4	19	0	8	7	123
7:15 - 7:30	0	0	0	5	68	0	11	0	24	0	15	6	129
7:30 - 7:45	0	0	0	9	68	0	14	0	17	1	19	4	132
7:45 - 8:00	0	0	0	8	84	0	14	0	27	1	31	6	171
8:00 - 8:15	0	0	0	14	70	0	20	0	18	1	30	4	157
8:15 - 8:30	0	0	0	15	43	0	11	0	10	0	33	7	119
8:30 - 8:45	0	0	0	12	59	0	20	0	11	0	30	13	145
8:45 - 9:00	0	0	0	28	46	0	28	0	19	0	28	16	165
Period Ending	**0**	**0**	**0**	**99**	**501**	**1**	**131**	**4**	**145**	**3**	**194**	**63**	**1141**

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 8:00	0	0	0	30	283	1	52	4	87	2	73	23	555
7:15 - 8:15	0	0	0	36	290	0	59	0	86	3	95	20	589
7:30 - 8:30	0	0	0	46	265	0	59	0	72	3	113	21	579
7:45 - 8:45	0	0	0	49	256	0	65	0	66	2	124	30	592
8:00 - 9:00	0	0	0	69	218	0	79	0	58	1	121	40	586

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Count Number	J11-97	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / ISLAND POINT RD			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Heavy

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 7:15	0	0	0	0	0	0	0	1	0	0	2	3	6
7:15 - 7:30	0	1	0	0	0	2	1	1	1	1	6	4	17
7:30 - 7:45	0	0	0	1	2	0	2	0	3	0	0	3	11
7:45 - 8:00	0	0	0	0	3	2	1	1	2	0	4	2	15
8:00 - 8:15	0	0	0	2	0	0	1	0	3	0	1	2	9
8:15 - 8:30	0	0	0	1	0	1	0	1	3	0	7	2	15
8:30 - 8:45	0	0	0	3	1	0	2	2	0	0	2	1	11
8:45 - 9:00	0	1	0	1	3	0	4	0	2	0	3	0	14
Period Ending	**0**	**2**	**0**	**8**	**9**	**5**	**11**	**6**	**14**	**1**	**25**	**17**	**98**

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 8:00	0	1	0	1	5	4	4	3	6	1	12	12	49
7:15 - 8:15	0	1	0	3	5	4	5	2	9	1	11	11	52
7:30 - 8:30	0	0	0	4	5	3	4	2	11	0	12	9	50
7:45 - 8:45	0	0	0	6	4	3	4	4	8	0	14	7	50
8:00 - 9:00	0	1	0	7	4	1	7	3	8	0	13	5	49

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Count Number	J11-97	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / ISLAND POINT RD			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Combined

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 7:15	0	0	0	8	63	1	13	5	19	0	10	10	129
7:15 - 7:30	0	1	0	5	68	2	12	1	25	1	21	10	146
7:30 - 7:45	0	0	0	10	70	0	16	0	20	1	19	7	143
7:45 - 8:00	0	0	0	8	87	2	15	1	29	1	35	8	186
8:00 - 8:15	0	0	0	16	70	0	21	0	21	1	31	6	166
8:15 - 8:30	0	0	0	16	43	1	11	1	13	0	40	9	134
8:30 - 8:45	0	0	0	15	60	0	22	2	11	0	32	14	156
8:45 - 9:00	0	1	0	29	49	0	32	0	21	0	31	16	179
Period Ending	**0**	**2**	**0**	**107**	**510**	**6**	**142**	**10**	**159**	**4**	**219**	**80**	**1239**

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
7:00 - 8:00	0	1	0	31	288	5	56	7	93	3	85	35	604
7:15 - 8:15	0	1	0	39	295	4	64	2	95	4	106	31	641
7:30 - 8:30	0	0	0	50	270	3	63	2	83	3	125	30	629
7:45 - 8:45	0	0	0	55	260	3	69	4	74	2	138	37	642
8:00 - 9:00	0	1	0	76	222	1	86	3	66	1	134	45	635

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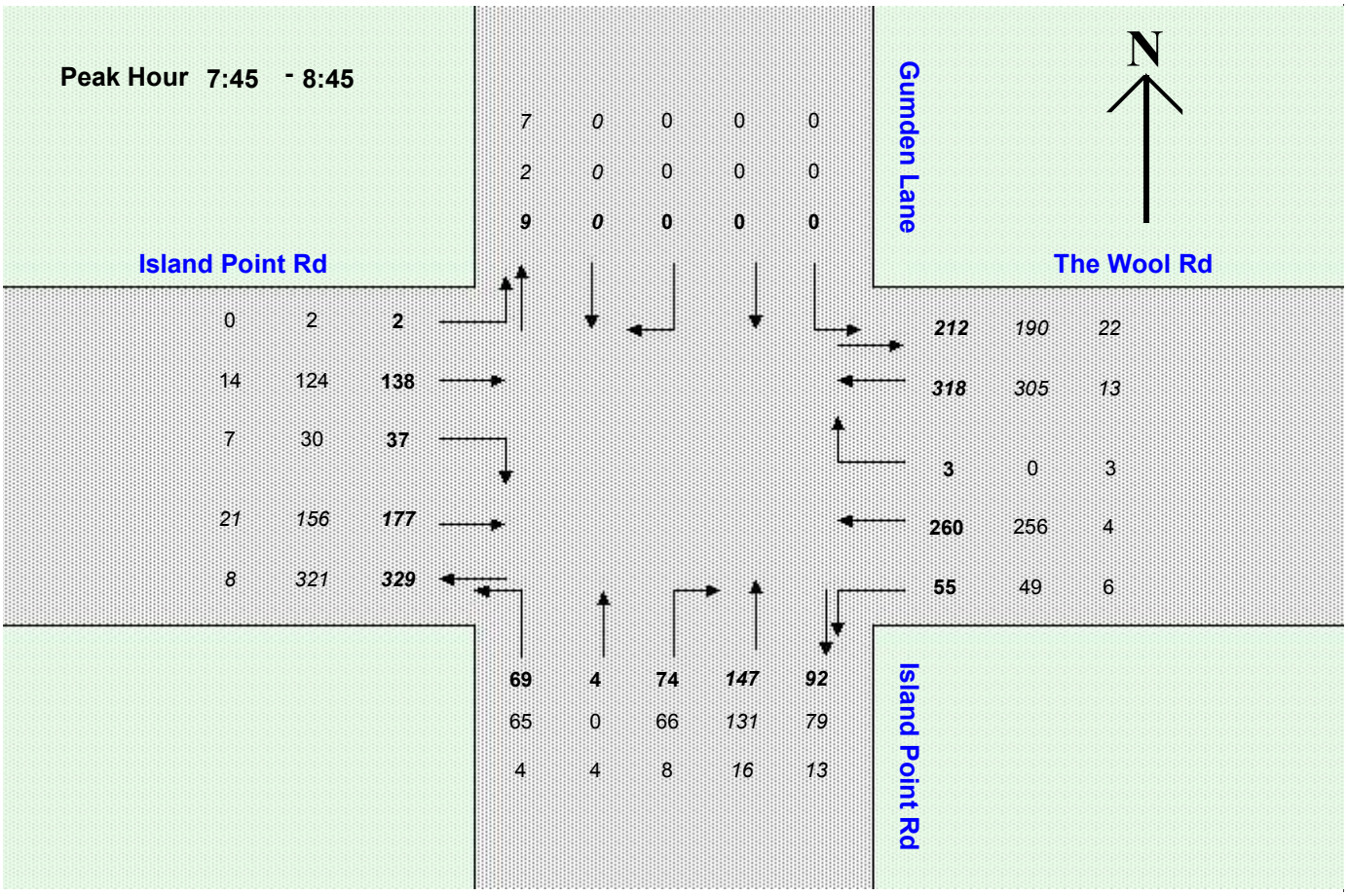
Count Number	J11-97	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / ISLAND POINT RD			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Vehicle Class	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
Lights	0	0	0	49	256	0	65	0	66	2	124	30	592
Heavy	0	0	0	6	4	3	4	4	8	0	14	7	50
Total	**0**	**0**	**0**	**55**	**260**	**3**	**69**	**4**	**74**	**2**	**138**	**37**	**642**



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Count Number	J11-97	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / ISLAND POINT RD			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Vehicle Movements

Lights

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 15:15	0	1	0	15	35	0	8	1	16	0	52	10	138
15:15 - 15:30	1	1	1	13	39	1	14	2	27	0	46	18	163
15:30 - 15:45	2	1	1	19	42	1	22	0	14	0	58	14	174
15:45 - 16:00	0	0	1	29	60	1	12	0	22	0	92	26	243
16:00 - 16:15	1	0	0	11	31	1	7	0	33	0	57	20	161
16:15 - 16:30	2	0	0	17	27	0	6	0	12	1	60	22	147
16:30 - 16:45	0	0	0	24	39	1	7	0	20	0	85	25	201
16:45 - 17:00	3	0	0	15	20	1	15	0	24	0	97	27	202
17:00 - 17:15	0	1	0	13	34	0	8	1	22	0	66	17	162
17:15 - 17:30	1	0	0	17	34	2	9	0	20	0	65	16	164
17:30 - 17:45	0	0	0	19	23	1	7	0	7	0	56	8	121
17:45 - 18:00	2	0	0	14	28	0	6	0	16	0	54	8	128
Period Ending	**12**	**4**	**3**	**206**	**412**	**9**	**121**	**4**	**233**	**1**	**788**	**211**	**2004**

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 16:00	3	3	3	76	176	3	56	3	79	0	248	68	718
15:15 - 16:15	4	2	3	72	172	4	55	2	96	0	253	78	741
15:30 - 16:30	5	1	2	76	160	3	47	0	81	1	267	82	725
15:45 - 16:45	3	0	1	81	157	3	32	0	87	1	294	93	752
16:00 - 17:00	6	0	0	67	117	3	35	0	89	1	299	94	711
16:15 - 17:15	5	1	0	69	120	2	36	1	78	1	308	91	712
16:30 - 17:30	4	1	0	69	127	4	39	1	86	0	313	85	729
16:45 - 17:45	4	1	0	64	111	4	39	1	73	0	284	68	649
17:00 - 18:00	3	1	0	63	119	3	30	1	65	0	241	49	575

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Count Number	J11-97	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / ISLAND POINT RD			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Heavy

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 15:15	0	0	0	5	4	0	1	0	0	0	2	0	12
15:15 - 15:30	0	0	0	3	3	0	1	0	1	0	4	1	13
15:30 - 15:45	0	0	0	1	4	0	3	0	0	0	2	0	10
15:45 - 16:00	0	0	0	3	3	0	0	0	2	0	2	2	12
16:00 - 16:15	0	0	0	0	1	0	2	0	1	0	1	1	6
16:15 - 16:30	0	0	0	0	2	0	4	0	0	0	3	0	9
16:30 - 16:45	0	0	0	0	2	0	0	0	0	0	3	0	5
16:45 - 17:00	0	0	0	0	3	0	0	0	0	0	4	1	8
17:00 - 17:15	0	0	0	0	0	0	0	0	0	0	2	0	2
17:15 - 17:30	0	0	0	1	1	0	0	0	0	0	1	0	3
17:30 - 17:45	0	1	0	2	0	1	0	0	0	0	1	0	5
17:45 - 18:00	0	0	0	0	0	0	1	0	1	0	0	0	2
Period Ending	**0**	**1**	**0**	**15**	**23**	**1**	**12**	**0**	**5**	**0**	**25**	**5**	**87**

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 16:00	0	0	0	12	14	0	5	0	3	0	10	3	47
15:15 - 16:15	0	0	0	7	11	0	6	0	4	0	9	4	41
15:30 - 16:30	0	0	0	4	10	0	9	0	3	0	8	3	37
15:45 - 16:45	0	0	0	3	8	0	6	0	3	0	9	3	32
16:00 - 17:00	0	0	0	0	8	0	6	0	1	0	11	2	28
16:15 - 17:15	0	0	0	0	7	0	4	0	0	0	12	1	24
16:30 - 17:30	0	0	0	1	6	0	0	0	0	0	10	1	18
16:45 - 17:45	0	1	0	3	4	1	0	0	0	0	8	1	18
17:00 - 18:00	0	1	0	3	1	1	1	0	1	0	4	0	12

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Count Number	J11-97	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / ISLAND POINT RD			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Combined

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 15:15	0	1	0	20	39	0	9	1	16	0	54	10	150
15:15 - 15:30	1	1	1	16	42	1	15	2	28	0	50	19	176
15:30 - 15:45	2	1	1	20	46	1	25	0	14	0	60	14	184
15:45 - 16:00	0	0	1	32	63	1	12	0	24	0	94	28	255
16:00 - 16:15	1	0	0	11	32	1	9	0	34	0	58	21	167
16:15 - 16:30	2	0	0	17	29	0	10	0	12	1	63	22	156
16:30 - 16:45	0	0	0	24	41	1	7	0	20	0	88	25	206
16:45 - 17:00	3	0	0	15	23	1	15	0	24	0	101	28	210
17:00 - 17:15	0	1	0	13	34	0	8	1	22	0	68	17	164
17:15 - 17:30	1	0	0	18	35	2	9	0	20	0	66	16	167
17:30 - 17:45	0	1	0	21	23	2	7	0	7	0	57	8	126
17:45 - 18:00	2	0	0	14	28	0	7	0	17	0	54	8	130
Period Ending	**12**	**5**	**3**	**221**	**435**	**10**	**133**	**4**	**238**	**1**	**813**	**216**	**2091**

	NORTH			EAST			SOUTH			WEST			
	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Time Period	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
15:00 - 16:00	3	3	3	88	190	3	61	3	82	0	258	71	765
15:15 - 16:15	4	2	3	79	183	4	61	2	100	0	262	82	782
15:30 - 16:30	5	1	2	80	170	3	56	0	84	1	275	85	762
15:45 - 16:45	3	0	1	84	165	3	38	0	90	1	303	96	784
16:00 - 17:00	6	0	0	67	125	3	41	0	90	1	310	96	739
16:15 - 17:15	5	1	0	69	127	2	40	1	78	1	320	92	736
16:30 - 17:30	4	1	0	70	133	4	39	1	86	0	323	86	747
16:45 - 17:45	4	2	0	67	115	5	39	1	73	0	292	69	667
17:00 - 18:00	3	2	0	66	120	4	31	1	66	0	245	49	587

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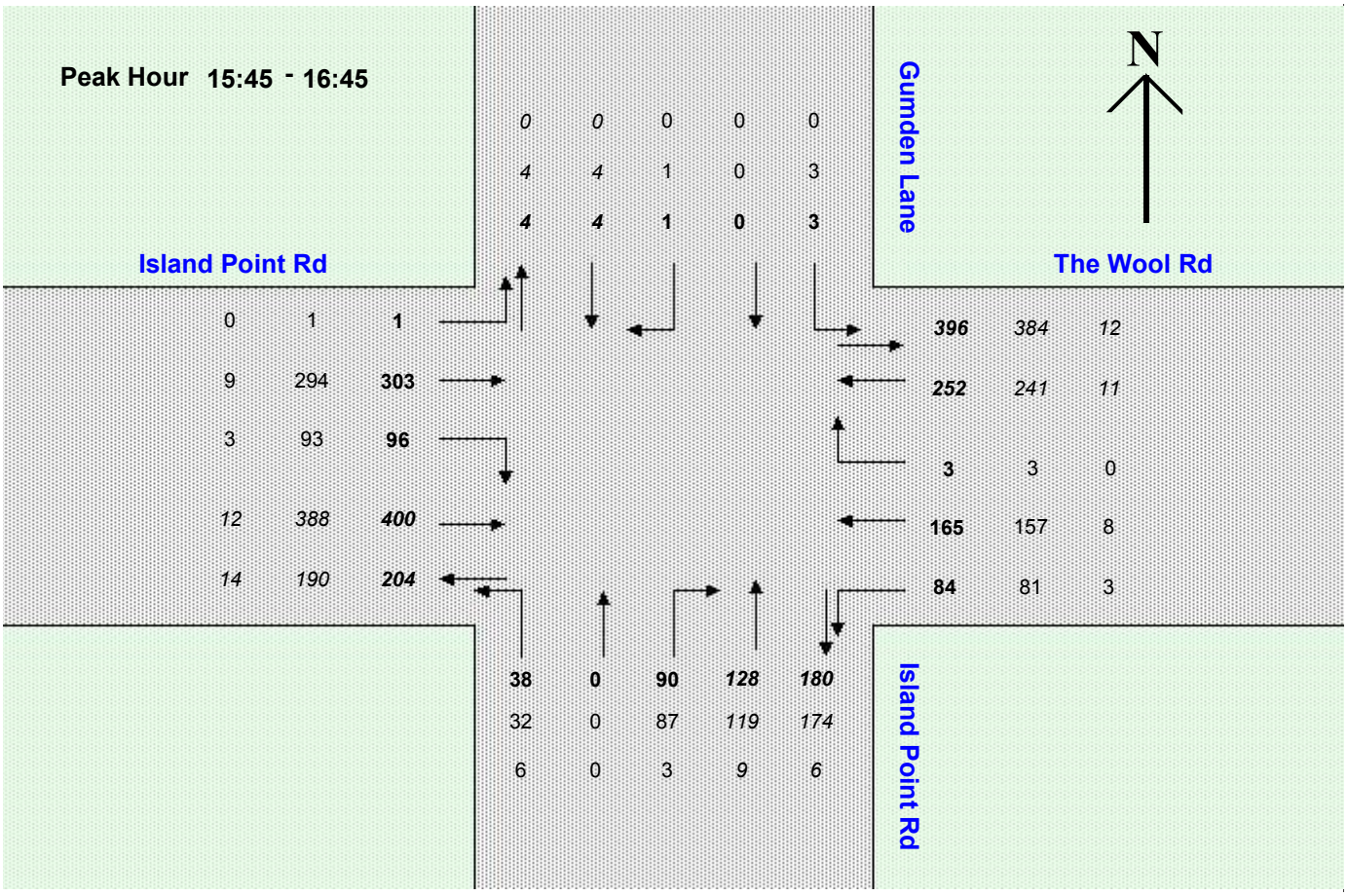
Count Number	J11-97	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / ISLAND POINT RD			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

	Gumden Lane			The Wool Rd			Island Point Rd			Island Point Rd			
Vehicle Class	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**Total**
Lights	3	0	1	81	157	3	32	0	87	1	294	93	752
Heavy	0	0	0	3	8	0	6	0	3	0	9	3	32
Total	**3**	**0**	**1**	**84**	**165**	**3**	**38**	**0**	**90**	**1**	**303**	**96**	**784**



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Count Number	J11-95	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / THE WOOL LANE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Vehicle Movements

Lights

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
15:00 - 15:15	15	31	12	5	29	23	115
15:15 - 15:30	9	40	11	7	40	35	142
15:30 - 15:45	17	57	18	6	53	28	179
15:45 - 16:00	11	57	37	13	58	40	216
16:00 - 16:15	22	45	16	9	58	39	189
16:15 - 16:30	19	37	8	17	66	28	175
16:30 - 16:45	15	48	13	10	52	34	172
16:45 - 17:00	16	25	10	14	61	51	177
17:00 - 17:15	22	37	21	4	65	41	190
17:15 - 17:30	9	27	16	9	40	38	139
17:30 - 17:45	9	27	19	13	32	32	132
17:45 - 18:00	15	37	15	25	40	30	162
Period Ending	**179**	**468**	**196**	**132**	**594**	**419**	**1988**

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
15:00 - 16:00	52	185	78	31	180	126	652
15:15 - 16:15	59	199	82	35	209	142	726
15:30 - 16:30	69	196	79	45	235	135	759
15:45 - 16:45	67	187	74	49	234	141	752
16:00 - 17:00	72	155	47	50	237	152	713
16:15 - 17:15	72	147	52	45	244	154	714
16:30 - 17:30	62	137	60	37	218	164	678
16:45 - 17:45	56	116	66	40	198	162	638
17:00 - 18:00	55	128	71	51	177	141	623

Joray Enterprises Pty Ltd

ABN 80 061 513 933
Telephone and Fax : (02) 9624 5472
1 Ajax Place Blacktown, NSW 2148

Count Number	J11-95	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / THE WOOL LANE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Heavy

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
15:00 - 15:15	0	1	0	0	2	0	3
15:15 - 15:30	0	7	0	0	5	0	12
15:30 - 15:45	0	4	2	0	1	0	7
15:45 - 16:00	2	3	1	1	1	0	8
16:00 - 16:15	2	2	1	0	1	3	9
16:15 - 16:30	0	1	0	0	1	2	4
16:30 - 16:45	0	0	1	0	1	0	2
16:45 - 17:00	0	1	2	0	2	1	6
17:00 - 17:15	0	0	0	0	1	2	3
17:15 - 17:30	0	2	0	0	2	0	4
17:30 - 17:45	0	2	1	0	1	0	4
17:45 - 18:00	0	0	0	0	1	0	1
Period Ending	**4**	**23**	**8**	**1**	**19**	**8**	**63**

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
15:00 - 16:00	2	15	3	1	9	0	30
15:15 - 16:15	4	16	4	1	8	3	36
15:30 - 16:30	4	10	4	1	4	5	28
15:45 - 16:45	4	6	3	1	4	5	23
16:00 - 17:00	2	4	4	0	5	6	21
16:15 - 17:15	0	2	3	0	5	5	15
16:30 - 17:30	0	3	3	0	6	3	15
16:45 - 17:45	0	5	3	0	6	3	17
17:00 - 18:00	0	4	1	0	5	2	12

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Count Number	J11-95	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / THE WOOL LANE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

Combined

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
15:00 - 15:15	15	32	12	5	31	23	118
15:15 - 15:30	9	47	11	7	45	35	154
15:30 - 15:45	17	61	20	6	54	28	186
15:45 - 16:00	13	60	38	14	59	40	224
16:00 - 16:15	24	47	17	9	59	42	198
16:15 - 16:30	19	38	8	17	67	30	179
16:30 - 16:45	15	48	14	10	53	34	174
16:45 - 17:00	16	26	12	14	63	52	183
17:00 - 17:15	22	37	21	4	66	43	193
17:15 - 17:30	9	29	16	9	42	38	143
17:30 - 17:45	9	29	20	13	33	32	136
17:45 - 18:00	15	37	15	25	41	30	163
Period Ending	**183**	**491**	**204**	**133**	**613**	**427**	**2051**

	EAST		SOUTH		WEST		
	The Wool Rd		The Wool Lane		The Wool Rd		
Time Period	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
15:00 - 16:00	54	200	81	32	189	126	682
15:15 - 16:15	63	215	86	36	217	145	762
15:30 - 16:30	73	206	83	46	239	140	787
15:45 - 16:45	71	193	77	50	238	146	775
16:00 - 17:00	74	159	51	50	242	158	734
16:15 - 17:15	72	149	55	45	249	159	729
16:30 - 17:30	62	140	63	37	224	167	693
16:45 - 17:45	56	121	69	40	204	165	655
17:00 - 18:00	55	132	72	51	182	143	635

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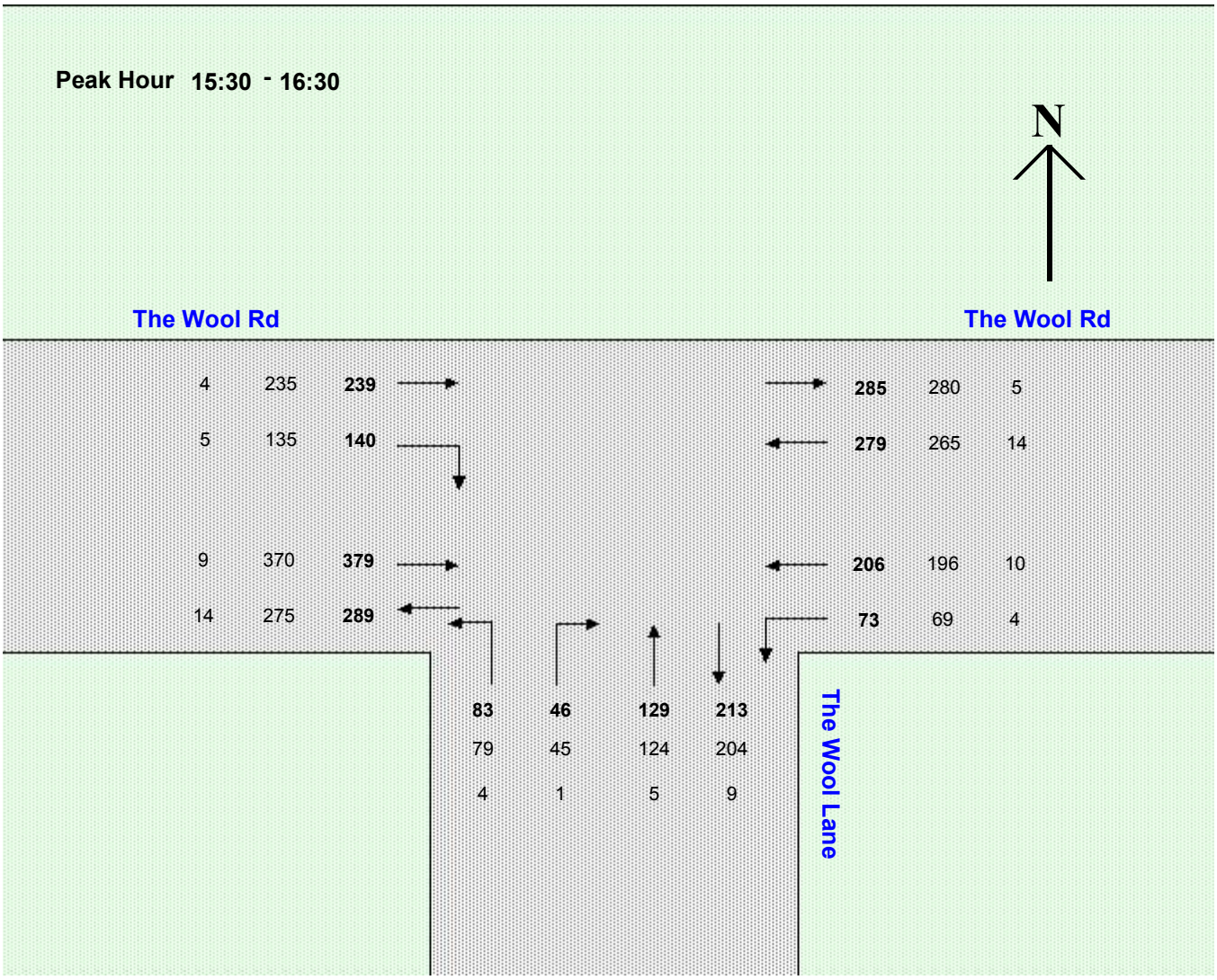
Count Number	J11-95	**Client**	TRAFFIC SOLUTIONS	**Count Date**	Tuesday 10 May 2011
Location	THE WOOL RD / THE WOOL LANE			**Suburb**	ST GEORGES BASIN
Weather	Fine			**Job Number**	

Comments

	The Wool Rd		The Wool Lane		The Wool Rd		
VEHICLES	**L**	**T**	**L**	**R**	**T**	**R**	**Total**
Lights	69	196	79	45	235	135	759
Heavy	4	10	4	1	4	5	28
Total	**73**	**206**	**83**	**46**	**239**	**140**	**787**

Peak Hour 15:30 - 16:30

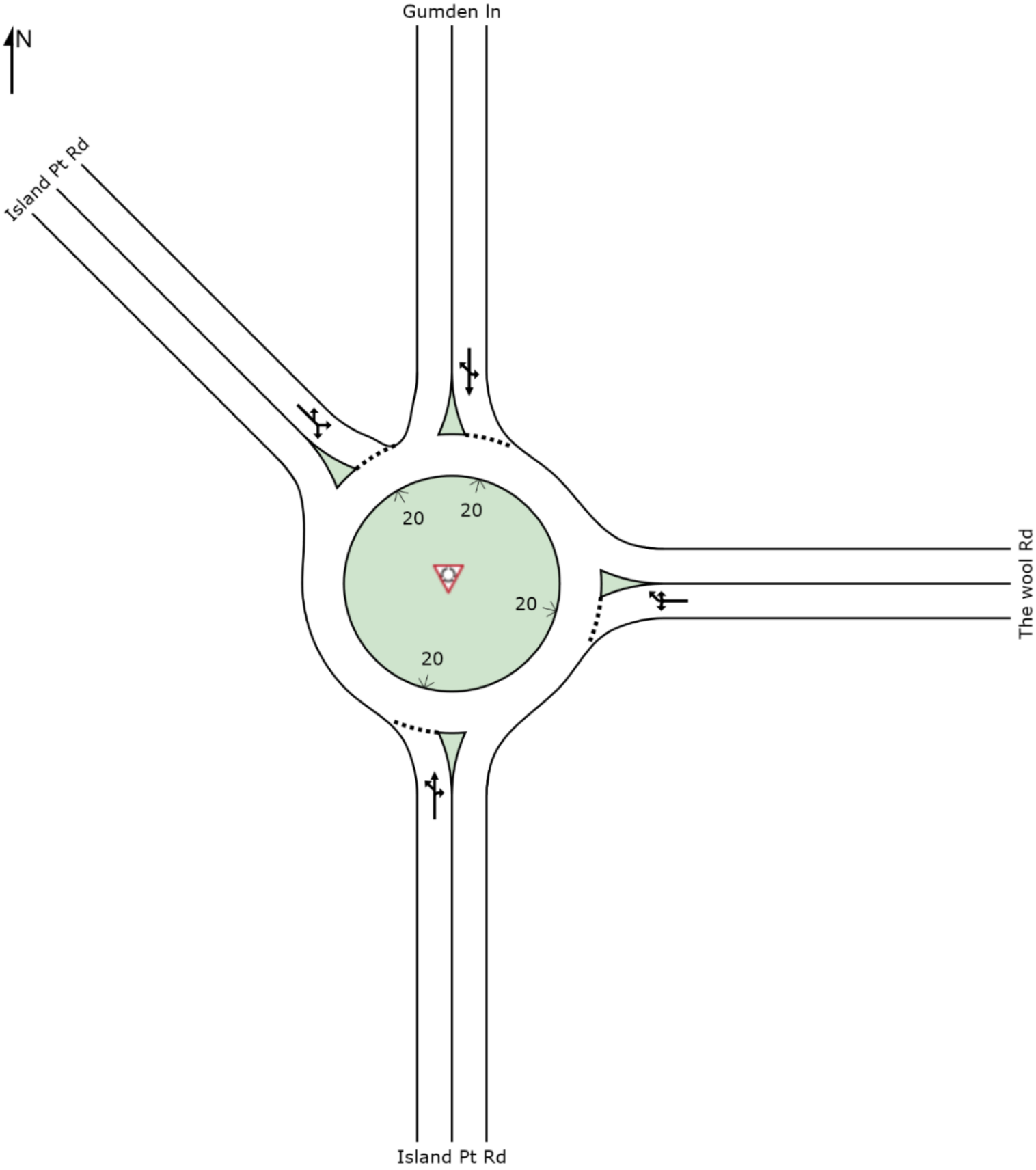


APPENDIX C SIDRA RESULTS

SITE LAYOUT

Site: Island and Wool AM 2011 + 35%

Island Pt Rd and The Wool Road Roundabout
Roundabout



MOVEMENT SUMMARY

Site: Island and Wool AM 2011 + 35%

Island Pt Rd and The Wool Road Roundabout
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Island Pt Rd											
1a	L1	98	0.0	0.192	5.0	LOS A	0.9	6.2	0.44	0.65	53.2
2	T1	5	0.0	0.192	5.4	LOS A	0.9	6.2	0.44	0.65	53.6
3	R2	105	0.0	0.192	10.1	LOS A	0.9	6.2	0.44	0.65	53.5
Approach		208	0.0	0.192	7.6	LOS A	0.9	6.2	0.44	0.65	53.4
East: The wool Rd											
4	L2	78	0.0	0.306	4.1	LOS A	1.6	11.0	0.17	0.58	52.5
6a	R1	369	0.0	0.306	7.8	LOS A	1.6	11.0	0.17	0.58	53.2
6	R2	4	0.0	0.306	8.8	LOS A	1.6	11.0	0.17	0.58	53.7
Approach		452	0.0	0.306	7.2	LOS A	1.6	11.0	0.17	0.58	53.1
North: Gumden ln											
7	L2	1	0.0	0.003	5.0	LOS A	0.0	0.1	0.38	0.53	52.8
8	T1	1	0.0	0.003	5.0	LOS A	0.0	0.1	0.38	0.53	54.0
9b	R3	1	0.0	0.003	10.7	LOS A	0.0	0.1	0.38	0.53	54.4
Approach		3	0.0	0.003	6.9	LOS A	0.0	0.1	0.38	0.53	53.7
NorthWest: Island Pt Rd											
27b	L3	3	0.0	0.192	4.7	LOS A	0.9	6.4	0.25	0.49	53.8
27a	L1	196	0.0	0.192	4.0	LOS A	0.9	6.4	0.25	0.49	55.1
29a	R1	53	0.0	0.192	8.0	LOS A	0.9	6.4	0.25	0.49	54.9
Approach		252	0.0	0.192	4.8	LOS A	0.9	6.4	0.25	0.49	55.0
All Vehicles		915	0.0	0.306	6.6	LOS A	1.6	11.0	0.26	0.57	53.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: Island and Wool PM 2011 + 35%

Island Pt Rd and The Wool Road Roundabout
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Island Pt Rd											
1a	L1	54	0.0	0.157	4.4	LOS A	0.7	4.9	0.35	0.63	52.8
2	T1	1	0.0	0.157	4.8	LOS A	0.7	4.9	0.35	0.63	53.2
3	R2	128	0.0	0.157	9.5	LOS A	0.7	4.9	0.35	0.63	53.1
Approach		183	0.0	0.157	8.0	LOS A	0.7	4.9	0.35	0.63	53.0
East: The wool Rd											
4	L2	119	0.0	0.276	4.5	LOS A	1.4	9.7	0.30	0.59	52.6
6a	R1	235	0.0	0.276	8.1	LOS A	1.4	9.7	0.30	0.59	53.3
6	R2	4	0.0	0.276	9.1	LOS A	1.4	9.7	0.30	0.59	53.7
Approach		358	0.0	0.276	6.9	LOS A	1.4	9.7	0.30	0.59	53.1
North: Gumden ln											
7	L2	2	0.0	0.009	6.6	LOS A	0.0	0.3	0.58	0.63	50.9
8	T1	1	0.0	0.009	6.6	LOS A	0.0	0.3	0.58	0.63	52.1
9b	R3	4	0.0	0.009	12.3	LOS A	0.0	0.3	0.58	0.63	52.4
Approach		7	0.0	0.009	9.9	LOS A	0.0	0.3	0.58	0.63	51.9
NorthWest: Island Pt Rd											
27b	L3	2	0.0	0.424	4.9	LOS A	2.6	17.9	0.34	0.52	53.4
27a	L1	431	0.0	0.424	4.2	LOS A	2.6	17.9	0.34	0.52	54.7
29a	R1	137	0.0	0.424	8.2	LOS A	2.6	17.9	0.34	0.52	54.5
Approach		569	0.0	0.424	5.1	LOS A	2.6	17.9	0.34	0.52	54.6
All Vehicles		1118	0.0	0.424	6.2	LOS A	2.6	17.9	0.33	0.56	53.8

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: Island and Wool AM 2011 + 35% + Masterplan

Island Pt Rd and The Wool Road Roundabout
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Island Pt Rd											
1a	L1	175	0.0	0.298	5.2	LOS A	1.5	10.6	0.48	0.67	53.3
2	T1	5	0.0	0.298	5.5	LOS A	1.5	10.6	0.48	0.67	53.6
3	R2	143	0.0	0.298	10.2	LOS A	1.5	10.6	0.48	0.67	53.5
Approach		323	0.0	0.298	7.4	LOS A	1.5	10.6	0.48	0.67	53.4
East: The wool Rd											
4	L2	78	0.0	0.310	4.1	LOS A	1.6	11.4	0.19	0.58	52.5
6a	R1	369	0.0	0.310	7.8	LOS A	1.6	11.4	0.19	0.58	53.2
6	R2	4	0.0	0.310	8.8	LOS A	1.6	11.4	0.19	0.58	53.6
Approach		452	0.0	0.310	7.2	LOS A	1.6	11.4	0.19	0.58	53.1
North: Gumden ln											
7	L2	1	0.0	0.003	5.1	LOS A	0.0	0.1	0.40	0.54	52.7
8	T1	1	0.0	0.003	5.1	LOS A	0.0	0.1	0.40	0.54	53.9
9b	R3	1	0.0	0.003	10.8	LOS A	0.0	0.1	0.40	0.54	54.3
Approach		3	0.0	0.003	7.0	LOS A	0.0	0.1	0.40	0.54	53.6
NorthWest: Island Pt Rd											
27b	L3	3	0.0	0.206	4.8	LOS A	1.0	7.0	0.30	0.51	53.5
27a	L1	196	0.0	0.206	4.1	LOS A	1.0	7.0	0.30	0.51	54.8
29a	R1	59	0.0	0.206	8.1	LOS A	1.0	7.0	0.30	0.51	54.6
Approach		258	0.0	0.206	5.0	LOS A	1.0	7.0	0.30	0.51	54.8
All Vehicles		1036	0.0	0.310	6.7	LOS A	1.6	11.4	0.31	0.59	53.6

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: Island and Wool PM 2011 + 35% + Masterplan

Island Pt Rd and The Wool Road Roundabout
Roundabout

Movement Performance - Vehicles

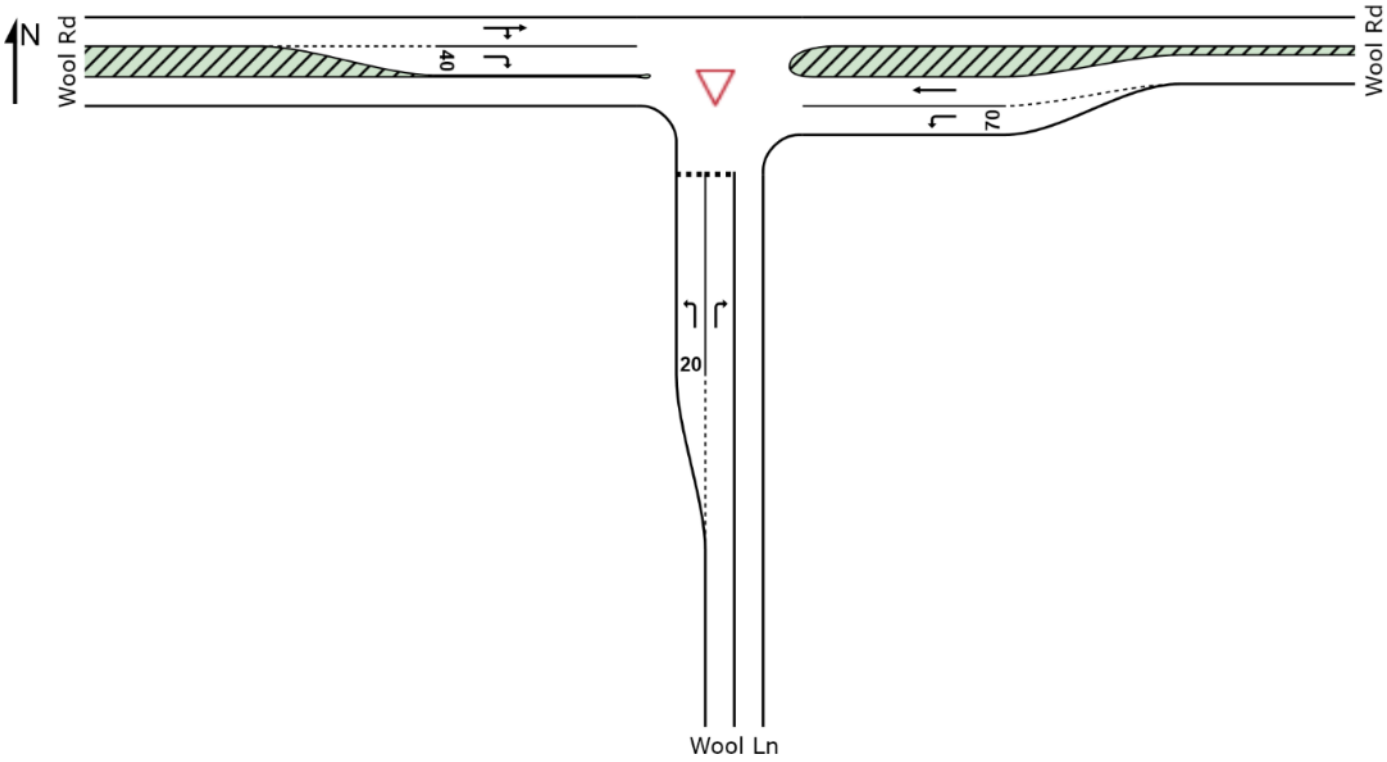
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Island Pt Rd											
1a	L1	63	0.0	0.166	4.4	LOS A	0.8	5.4	0.37	0.63	52.9
2	T1	1	0.0	0.166	4.8	LOS A	0.8	5.4	0.37	0.63	53.3
3	R2	128	0.0	0.166	9.5	LOS A	0.8	5.4	0.37	0.63	53.2
Approach		193	0.0	0.166	7.8	LOS A	0.8	5.4	0.37	0.63	53.1
East: The wool Rd											
4	L2	119	0.0	0.297	4.8	LOS A	1.5	10.8	0.38	0.63	52.3
6a	R1	235	0.0	0.297	8.5	LOS A	1.5	10.8	0.38	0.63	53.0
6	R2	4	0.0	0.297	9.5	LOS A	1.5	10.8	0.38	0.63	53.5
Approach		358	0.0	0.297	7.3	LOS A	1.5	10.8	0.38	0.63	52.8
North: Gumden ln											
7	L2	2	0.0	0.009	7.2	LOS A	0.0	0.3	0.63	0.64	50.6
8	T1	1	0.0	0.009	7.2	LOS A	0.0	0.3	0.63	0.64	51.7
9b	R3	4	0.0	0.009	12.9	LOS A	0.0	0.3	0.63	0.64	52.0
Approach		7	0.0	0.009	10.4	LOS A	0.0	0.3	0.63	0.64	51.6
NorthWest: Island Pt Rd											
27b	L3	2	0.0	0.478	4.9	LOS A	3.1	21.7	0.36	0.54	53.1
27a	L1	431	0.0	0.478	4.2	LOS A	3.1	21.7	0.36	0.54	54.3
29a	R1	213	0.0	0.478	8.2	LOS A	3.1	21.7	0.36	0.54	54.2
Approach		645	0.0	0.478	5.5	LOS A	3.1	21.7	0.36	0.54	54.3
All Vehicles		1203	0.0	0.478	6.4	LOS A	3.1	21.7	0.37	0.58	53.6

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: Wool and Wool AM 2011 + 35%

Wool road and Wool Lane
Three-way intersection with 2-lane major road (Give-Way control)
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: Wool and Wool AM 2011 + 35%

Wool road and Wool Lane
Three-way intersection with 2-lane major road (Give-Way control)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wool Ln											
1	L2	167	0.0	0.136	5.5	LOS A	0.6	4.0	0.39	0.56	53.7
3	R2	98	0.0	0.138	7.9	LOS A	0.5	3.5	0.53	0.76	51.5
Approach		265	0.0	0.138	6.4	LOS A	0.6	4.0	0.44	0.63	52.9
East: Wool Rd											
4	L2	49	0.0	0.027	6.9	LOS A	0.0	0.0	0.00	0.63	65.4
5	T1	295	0.0	0.151	0.0	LOS A	0.0	0.0	0.00	0.00	79.9
Approach		344	0.0	0.151	1.0	NA	0.0	0.0	0.00	0.09	77.5
West: Wool Rd											
11	T1	245	0.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.00	80.0
12	R2	57	0.0	0.043	7.9	LOS A	0.2	1.3	0.41	0.63	53.2
Approach		302	0.0	0.126	1.5	NA	0.2	1.3	0.08	0.12	73.1
All Vehicles		912	0.0	0.151	2.7	NA	0.6	4.0	0.15	0.26	67.0

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: Wool and Wool PM 2011 + 35%

Wool road and Wool Lane
Three-way intersection with 2-lane major road (Give-Way control)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wool Ln											
1	L2	118	0.0	0.098	5.6	LOS A	0.4	2.8	0.40	0.56	53.7
3	R2	65	0.0	0.124	10.0	LOS A	0.4	3.0	0.64	0.83	50.0
Approach		183	0.0	0.124	7.2	LOS A	0.4	3.0	0.48	0.66	52.3
East: Wool Rd											
4	L2	103	0.0	0.056	6.9	LOS A	0.0	0.0	0.00	0.63	65.4
5	T1	293	0.0	0.150	0.0	LOS A	0.0	0.0	0.00	0.00	79.9
Approach		396	0.0	0.150	1.8	NA	0.0	0.0	0.00	0.16	75.6
West: Wool Rd											
11	T1	340	0.0	0.174	0.0	LOS A	0.0	0.0	0.00	0.00	79.9
12	R2	199	0.0	0.160	8.3	LOS A	0.7	5.2	0.47	0.69	53.1
Approach		539	0.0	0.174	3.1	NA	0.7	5.2	0.17	0.25	67.3
All Vehicles		1118	0.0	0.174	3.3	NA	0.7	5.2	0.16	0.29	66.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: Wool and Wool AM 2011 + 35% + Masterplan

Wool road and Wool Lane
Three-way intersection with 2-lane major road (Give-Way control)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wool Ln											
1	L2	202	0.0	0.165	5.6	LOS A	0.7	4.9	0.40	0.57	53.6
3	R2	147	0.0	0.208	8.1	LOS A	0.8	5.5	0.55	0.79	51.4
Approach		349	0.0	0.208	6.7	LOS A	0.8	5.5	0.47	0.66	52.7
East: Wool Rd											
4	L2	55	0.0	0.029	6.9	LOS A	0.0	0.0	0.00	0.63	65.4
5	T1	295	0.0	0.151	0.0	LOS A	0.0	0.0	0.00	0.00	79.9
Approach		349	0.0	0.151	1.1	NA	0.0	0.0	0.00	0.10	77.3
West: Wool Rd											
11	T1	245	0.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.00	80.0
12	R2	57	0.0	0.044	8.0	LOS A	0.2	1.3	0.41	0.63	53.2
Approach		302	0.0	0.126	1.5	NA	0.2	1.3	0.08	0.12	73.1
All Vehicles		1001	0.0	0.208	3.2	NA	0.8	5.5	0.19	0.30	65.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: Wool and Wool PM 2011 + 35% + Masterplan

Wool road and Wool Lane
Three-way intersection with 2-lane major road (Give-Way control)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wool Ln											
1	L2	118	0.0	0.100	5.7	LOS A	0.4	2.8	0.41	0.57	53.6
3	R2	71	0.0	0.137	10.2	LOS A	0.5	3.3	0.65	0.84	49.9
Approach		188	0.0	0.137	7.4	LOS A	0.5	3.3	0.50	0.67	52.2
East: Wool Rd											
4	L2	134	0.0	0.072	7.0	LOS A	0.0	0.0	0.00	0.63	65.4
5	T1	293	0.0	0.150	0.0	LOS A	0.0	0.0	0.00	0.00	79.9
Approach		426	0.0	0.150	2.2	NA	0.0	0.0	0.00	0.20	74.7
West: Wool Rd											
11	T1	340	0.0	0.174	0.0	LOS A	0.0	0.0	0.00	0.00	79.9
12	R2	199	0.0	0.165	8.5	LOS A	0.8	5.3	0.49	0.70	53.0
Approach		539	0.0	0.174	3.1	NA	0.8	5.3	0.18	0.26	67.3
All Vehicles		1154	0.0	0.174	3.5	NA	0.8	5.3	0.16	0.30	66.6

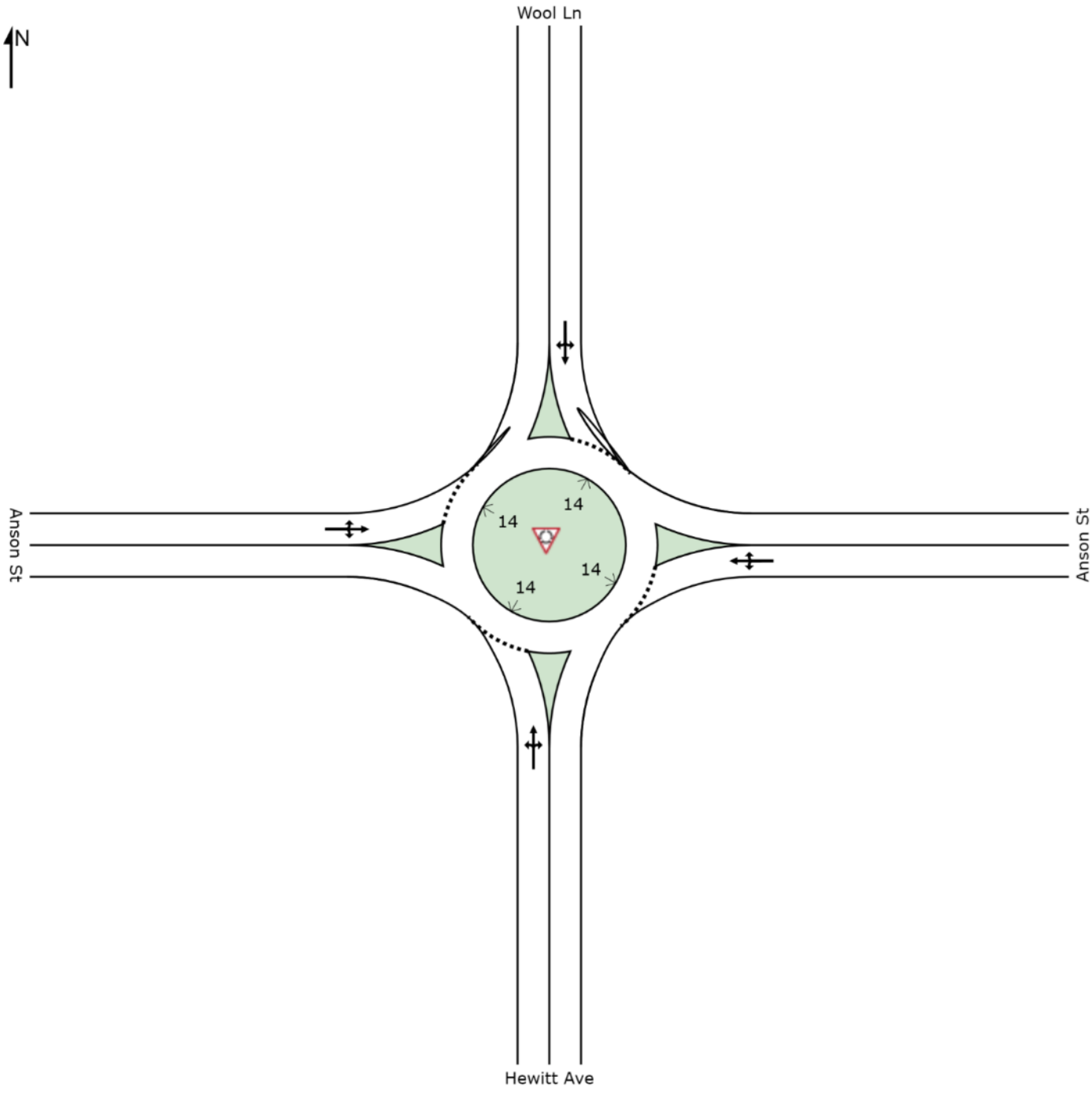
Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: AnsonWool AM 2011 + 35%

Wool Lane and Anson Street
Roundabout with 1 circulating road

Roundabout



MOVEMENT SUMMARY

Site: AnsonWool AM 2011 + 35%

Wool Lane and Anson Street
Roundabout with 1 circulating road

Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Hewitt Ave											
1	L2	17	0.0	0.095	4.1	LOS A	0.4	2.7	0.31	0.48	46.4
2	T1	86	0.0	0.095	4.0	LOS A	0.4	2.7	0.31	0.48	47.3
3	R2	7	0.0	0.095	7.8	LOS A	0.4	2.7	0.31	0.48	47.3
Approach		111	0.0	0.095	4.3	LOS A	0.4	2.7	0.31	0.48	47.2
East: Anson St											
4	L2	3	0.0	0.155	3.5	LOS A	0.6	4.4	0.14	0.58	45.3
5	T1	23	0.0	0.155	3.4	LOS A	0.6	4.4	0.14	0.58	46.1
6	R2	189	0.0	0.155	7.2	LOS A	0.6	4.4	0.14	0.58	46.1
Approach		216	0.0	0.155	6.7	LOS A	0.6	4.4	0.14	0.58	46.1
North: Wool Ln											
7	L2	57	0.0	0.073	3.4	LOS A	0.3	2.0	0.07	0.45	47.0
8	T1	38	0.0	0.073	3.3	LOS A	0.3	2.0	0.07	0.45	47.9
9	R2	13	0.0	0.073	7.1	LOS A	0.3	2.0	0.07	0.45	47.9
Approach		107	0.0	0.073	3.8	LOS A	0.3	2.0	0.07	0.45	47.4
West: Anson St											
10	L2	36	0.0	0.040	4.3	LOS A	0.2	1.1	0.34	0.52	46.5
11	T1	6	0.0	0.040	4.2	LOS A	0.2	1.1	0.34	0.52	47.4
12	R2	3	0.0	0.040	8.0	LOS A	0.2	1.1	0.34	0.52	47.3
Approach		45	0.0	0.040	4.5	LOS A	0.2	1.1	0.34	0.52	46.6
All Vehicles		479	0.0	0.155	5.3	LOS A	0.6	4.4	0.18	0.52	46.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: AnsonWool PM 2011 + 35%

Wool Lane and Anson Street
Roundabout with 1 circulating road

Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Hewitt Ave											
1	L2	4	0.0	0.048	3.7	LOS A	0.2	1.3	0.20	0.42	46.7
2	T1	52	0.0	0.048	3.5	LOS A	0.2	1.3	0.20	0.42	47.6
3	R2	3	0.0	0.048	7.3	LOS A	0.2	1.3	0.20	0.42	47.6
Approach		59	0.0	0.048	3.7	LOS A	0.2	1.3	0.20	0.42	47.5
East: Anson St											
4	L2	2	0.0	0.069	3.8	LOS A	0.3	1.8	0.21	0.59	45.1
5	T1	9	0.0	0.069	3.6	LOS A	0.3	1.8	0.21	0.59	45.9
6	R2	73	0.0	0.069	7.4	LOS A	0.3	1.8	0.21	0.59	45.9
Approach		84	0.0	0.069	6.9	LOS A	0.3	1.8	0.21	0.59	45.9
North: Wool Ln											
7	L2	209	0.0	0.212	3.4	LOS A	1.0	6.7	0.08	0.45	47.0
8	T1	93	0.0	0.212	3.2	LOS A	1.0	6.7	0.08	0.45	47.9
9	R2	23	0.0	0.212	7.0	LOS A	1.0	6.7	0.08	0.45	47.8
Approach		325	0.0	0.212	3.6	LOS A	1.0	6.7	0.08	0.45	47.3
West: Anson St											
10	L2	21	0.0	0.030	3.8	LOS A	0.1	0.8	0.22	0.45	46.7
11	T1	14	0.0	0.030	3.6	LOS A	0.1	0.8	0.22	0.45	47.6
12	R2	2	0.0	0.030	7.4	LOS A	0.1	0.8	0.22	0.45	47.5
Approach		37	0.0	0.030	3.9	LOS A	0.1	0.8	0.22	0.45	47.1
All Vehicles		505	0.0	0.212	4.2	LOS A	1.0	6.7	0.13	0.47	47.1

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: AnsonWool AM 2011 + 35% + Masterplan

Wool Lane and Anson Street
Roundabout with 1 circulating road

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Hewitt Ave											
1	L2	22	0.0	0.102	4.2	LOS A	0.4	2.9	0.33	0.49	46.4
2	T1	86	0.0	0.102	4.0	LOS A	0.4	2.9	0.33	0.49	47.2
3	R2	7	0.0	0.102	7.8	LOS A	0.4	2.9	0.33	0.49	47.2
Approach		116	0.0	0.102	4.3	LOS A	0.4	2.9	0.33	0.49	47.1
East: Anson St											
4	L2	3	0.0	0.165	3.6	LOS A	0.7	4.8	0.16	0.58	45.3
5	T1	31	0.0	0.165	3.4	LOS A	0.7	4.8	0.16	0.58	46.1
6	R2	189	0.0	0.165	7.2	LOS A	0.7	4.8	0.16	0.58	46.0
Approach		223	0.0	0.165	6.6	LOS A	0.7	4.8	0.16	0.58	46.0
North: Wool Ln											
7	L2	57	0.0	0.082	3.5	LOS A	0.3	2.4	0.11	0.46	46.7
8	T1	38	0.0	0.082	3.3	LOS A	0.3	2.4	0.11	0.46	47.6
9	R2	18	0.0	0.082	7.1	LOS A	0.3	2.4	0.11	0.46	47.6
Approach		113	0.0	0.082	4.0	LOS A	0.3	2.4	0.11	0.46	47.2
West: Anson St											
10	L2	109	0.0	0.125	4.4	LOS A	0.5	3.6	0.36	0.55	46.4
11	T1	19	0.0	0.125	4.2	LOS A	0.5	3.6	0.36	0.55	47.2
12	R2	9	0.0	0.125	8.0	LOS A	0.5	3.6	0.36	0.55	47.2
Approach		138	0.0	0.125	4.7	LOS A	0.5	3.6	0.36	0.55	46.5
All Vehicles		589	0.0	0.165	5.2	LOS A	0.7	4.8	0.23	0.53	46.6

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: AnsonWool PM 2011 + 35% + Masterplan

Wool Lane and Anson Street
Roundabout with 1 circulating road

Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Hewitt Ave											
1	L2	9	0.0	0.053	3.9	LOS A	0.2	1.4	0.24	0.44	46.6
2	T1	52	0.0	0.053	3.7	LOS A	0.2	1.4	0.24	0.44	47.5
3	R2	3	0.0	0.053	7.5	LOS A	0.2	1.4	0.24	0.44	47.4
Approach		64	0.0	0.053	3.9	LOS A	0.2	1.4	0.24	0.44	47.4
East: Anson St											
4	L2	2	0.0	0.080	3.9	LOS A	0.3	2.2	0.25	0.58	45.3
5	T1	21	0.0	0.080	3.7	LOS A	0.3	2.2	0.25	0.58	46.1
6	R2	73	0.0	0.080	7.5	LOS A	0.3	2.2	0.25	0.58	46.0
Approach		96	0.0	0.080	6.6	LOS A	0.3	2.2	0.25	0.58	46.0
North: Wool Ln											
7	L2	209	0.0	0.234	3.4	LOS A	1.1	7.6	0.10	0.47	46.8
8	T1	93	0.0	0.234	3.3	LOS A	1.1	7.6	0.10	0.47	47.7
9	R2	54	0.0	0.234	7.1	LOS A	1.1	7.6	0.10	0.47	47.6
Approach		356	0.0	0.234	3.9	LOS A	1.1	7.6	0.10	0.47	47.2
West: Anson St											
10	L2	26	0.0	0.038	3.8	LOS A	0.1	1.0	0.22	0.46	46.7
11	T1	17	0.0	0.038	3.6	LOS A	0.1	1.0	0.22	0.46	47.5
12	R2	3	0.0	0.038	7.4	LOS A	0.1	1.0	0.22	0.46	47.5
Approach		46	0.0	0.038	4.0	LOS A	0.1	1.0	0.22	0.46	47.0
All Vehicles		562	0.0	0.234	4.4	LOS A	1.1	7.6	0.15	0.48	47.0

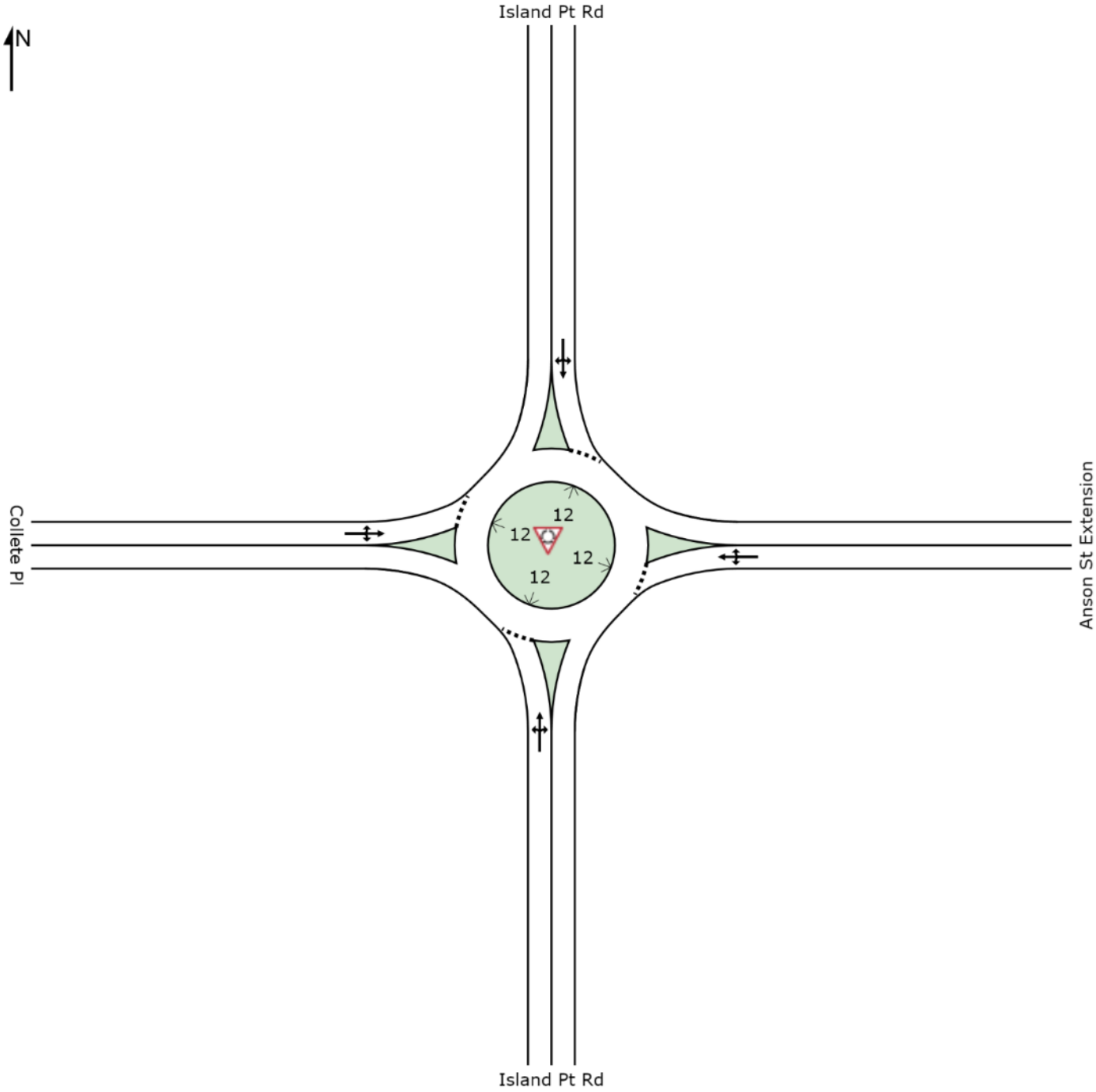
Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: AnsonIsland AM 2011 + 35%

Anson St and Island Pt Rd
Roundabout with 1-lane approaches and circulating road

Roundabout



MOVEMENT SUMMARY

Site: AnsonIsland PM 2011 + 35%

Anson St and Island Pt Rd
Roundabout with 1-lane approaches and circulating road

Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Island Pt Rd											
1	L2	2	0.0	0.110	3.7	LOS A	0.6	4.5	0.16	0.40	46.8
2	T1	143	0.0	0.110	3.6	LOS A	0.6	4.5	0.16	0.40	47.5
3	R2	4	0.0	0.110	7.1	LOS A	0.6	4.5	0.16	0.40	47.4
Approach		149	0.0	0.110	3.7	LOS A	0.6	4.5	0.16	0.40	47.5
East: Anson St Extension											
4	L2	3	0.0	0.027	4.5	LOS A	0.1	1.0	0.36	0.58	44.9
5	T1	2	0.0	0.027	4.4	LOS A	0.1	1.0	0.36	0.58	45.6
6	R2	24	0.0	0.027	7.9	LOS A	0.1	1.0	0.36	0.58	45.5
Approach		29	0.0	0.027	7.3	LOS A	0.1	1.0	0.36	0.58	45.4
North: Island Pt Rd											
7	L2	60	0.0	0.154	3.5	LOS A	0.9	6.4	0.07	0.42	47.0
8	T1	172	0.0	0.154	3.4	LOS A	0.9	6.4	0.07	0.42	47.8
9	R2	11	0.0	0.154	6.9	LOS A	0.9	6.4	0.07	0.42	47.6
Approach		242	0.0	0.154	3.6	LOS A	0.9	6.4	0.07	0.42	47.6
West: Collete Pl											
10	L2	3	0.0	0.007	4.4	LOS A	0.0	0.2	0.35	0.49	45.9
11	T1	2	0.0	0.007	4.3	LOS A	0.0	0.2	0.35	0.49	46.6
12	R2	2	0.0	0.007	7.8	LOS A	0.0	0.2	0.35	0.49	46.5
Approach		7	0.0	0.007	5.3	LOS A	0.0	0.2	0.35	0.49	46.3
All Vehicles		428	0.0	0.154	3.9	LOS A	0.9	6.4	0.13	0.43	47.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: AnsonIsland AM 2011 + 35%

Anson St and Island Pt Rd
Roundabout with 1-lane approaches and circulating road

Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Island Pt Rd											
1	L2	2	0.0	0.107	3.8	LOS A	0.6	4.3	0.22	0.42	46.5
2	T1	126	0.0	0.107	3.7	LOS A	0.6	4.3	0.22	0.42	47.3
3	R2	8	0.0	0.107	7.2	LOS A	0.6	4.3	0.22	0.42	47.2
Approach		137	0.0	0.107	3.9	LOS A	0.6	4.3	0.22	0.42	47.3
East: Anson St Extension											
4	L2	2	0.0	0.051	4.0	LOS A	0.3	1.9	0.27	0.58	44.9
5	T1	2	0.0	0.051	3.9	LOS A	0.3	1.9	0.27	0.58	45.6
6	R2	57	0.0	0.051	7.4	LOS A	0.3	1.9	0.27	0.58	45.5
Approach		61	0.0	0.051	7.2	LOS A	0.3	1.9	0.27	0.58	45.4
North: Island Pt Rd											
7	L2	21	0.0	0.080	3.5	LOS A	0.4	3.1	0.09	0.41	47.0
8	T1	94	0.0	0.080	3.4	LOS A	0.4	3.1	0.09	0.41	47.8
9	R2	2	0.0	0.080	6.9	LOS A	0.4	3.1	0.09	0.41	47.6
Approach		117	0.0	0.080	3.5	LOS A	0.4	3.1	0.09	0.41	47.6
West: Collete Pl											
10	L2	11	0.0	0.015	4.5	LOS A	0.1	0.5	0.37	0.49	46.1
11	T1	3	0.0	0.015	4.4	LOS A	0.1	0.5	0.37	0.49	46.8
12	R2	2	0.0	0.015	7.9	LOS A	0.1	0.5	0.37	0.49	46.7
Approach		16	0.0	0.015	4.9	LOS A	0.1	0.5	0.37	0.49	46.4
All Vehicles		331	0.0	0.107	4.4	LOS A	0.6	4.3	0.19	0.45	47.0

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: AnsonIsland PM 2011 + 35% + Masterplan

Anson St and Island Pt Rd
Roundabout with 1-lane approaches and circulating road

Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Island Pt Rd											
1	L2	2	0.0	0.116	3.7	LOS A	0.7	4.8	0.19	0.41	46.6
2	T1	143	0.0	0.116	3.6	LOS A	0.7	4.8	0.19	0.41	47.4
3	R2	9	0.0	0.116	7.1	LOS A	0.7	4.8	0.19	0.41	47.3
Approach		155	0.0	0.116	3.8	LOS A	0.7	4.8	0.19	0.41	47.3
East: Anson St Extension											
4	L2	4	0.0	0.037	4.5	LOS A	0.2	1.3	0.37	0.59	44.9
5	T1	2	0.0	0.037	4.4	LOS A	0.2	1.3	0.37	0.59	45.5
6	R2	34	0.0	0.037	7.9	LOS A	0.2	1.3	0.37	0.59	45.4
Approach		40	0.0	0.037	7.4	LOS A	0.2	1.3	0.37	0.59	45.4
North: Island Pt Rd											
7	L2	136	0.0	0.205	3.5	LOS A	1.3	8.9	0.09	0.43	47.0
8	T1	172	0.0	0.205	3.4	LOS A	1.3	8.9	0.09	0.43	47.7
9	R2	11	0.0	0.205	6.9	LOS A	1.3	8.9	0.09	0.43	47.6
Approach		318	0.0	0.205	3.6	LOS A	1.3	8.9	0.09	0.43	47.4
West: Collete Pl											
10	L2	3	0.0	0.007	4.4	LOS A	0.0	0.2	0.36	0.49	45.9
11	T1	2	0.0	0.007	4.4	LOS A	0.0	0.2	0.36	0.49	46.6
12	R2	2	0.0	0.007	7.9	LOS A	0.0	0.2	0.36	0.49	46.5
Approach		7	0.0	0.007	5.4	LOS A	0.0	0.2	0.36	0.49	46.2
All Vehicles		520	0.0	0.205	4.0	LOS A	1.3	8.9	0.15	0.44	47.2

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: AnsonIsland AM 2011 + 35% + Masterplan

Anson St and Island Pt Rd
Roundabout with 1-lane approaches and circulating road

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Island Pt Rd											
1	L2	2	0.0	0.127	4.6	LOS A	0.7	5.1	0.40	0.49	46.0
2	T1	126	0.0	0.127	4.5	LOS A	0.7	5.1	0.40	0.49	46.7
3	R2	11	0.0	0.127	8.0	LOS A	0.7	5.1	0.40	0.49	46.6
Approach		139	0.0	0.127	4.7	LOS A	0.7	5.1	0.40	0.49	46.7
East: Anson St Extension											
4	L2	6	0.0	0.147	4.1	LOS A	0.8	5.8	0.29	0.59	44.8
5	T1	2	0.0	0.147	4.0	LOS A	0.8	5.8	0.29	0.59	45.5
6	R2	172	0.0	0.147	7.5	LOS A	0.8	5.8	0.29	0.59	45.4
Approach		180	0.0	0.147	7.3	LOS A	0.8	5.8	0.29	0.59	45.4
North: Island Pt Rd											
7	L2	27	0.0	0.085	3.5	LOS A	0.5	3.4	0.10	0.41	47.0
8	T1	94	0.0	0.085	3.4	LOS A	0.5	3.4	0.10	0.41	47.7
9	R2	2	0.0	0.085	7.0	LOS A	0.5	3.4	0.10	0.41	47.6
Approach		123	0.0	0.085	3.5	LOS A	0.5	3.4	0.10	0.41	47.6
West: Collete Pl											
10	L2	11	0.0	0.016	5.2	LOS A	0.1	0.6	0.47	0.53	45.9
11	T1	3	0.0	0.016	5.1	LOS A	0.1	0.6	0.47	0.53	46.6
12	R2	2	0.0	0.016	8.6	LOS A	0.1	0.6	0.47	0.53	46.5
Approach		16	0.0	0.016	5.6	LOS A	0.1	0.6	0.47	0.53	46.1
All Vehicles		458	0.0	0.147	5.5	LOS A	0.8	5.8	0.28	0.51	46.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.