

Proposed Mixed-Use Development

**56-60 Burns Bay Road,
Lane Cove**

TRAFFIC AND PARKING ASSESSMENT REPORT

14 May 2019

Ref 17314

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1. INTRODUCTION

This report has been prepared to accompany a development application to Lane Cove Council for a mixed-use development proposal to be located at 56-60 Burns Bay Road, Lane Cove (Figures 1 and 2).

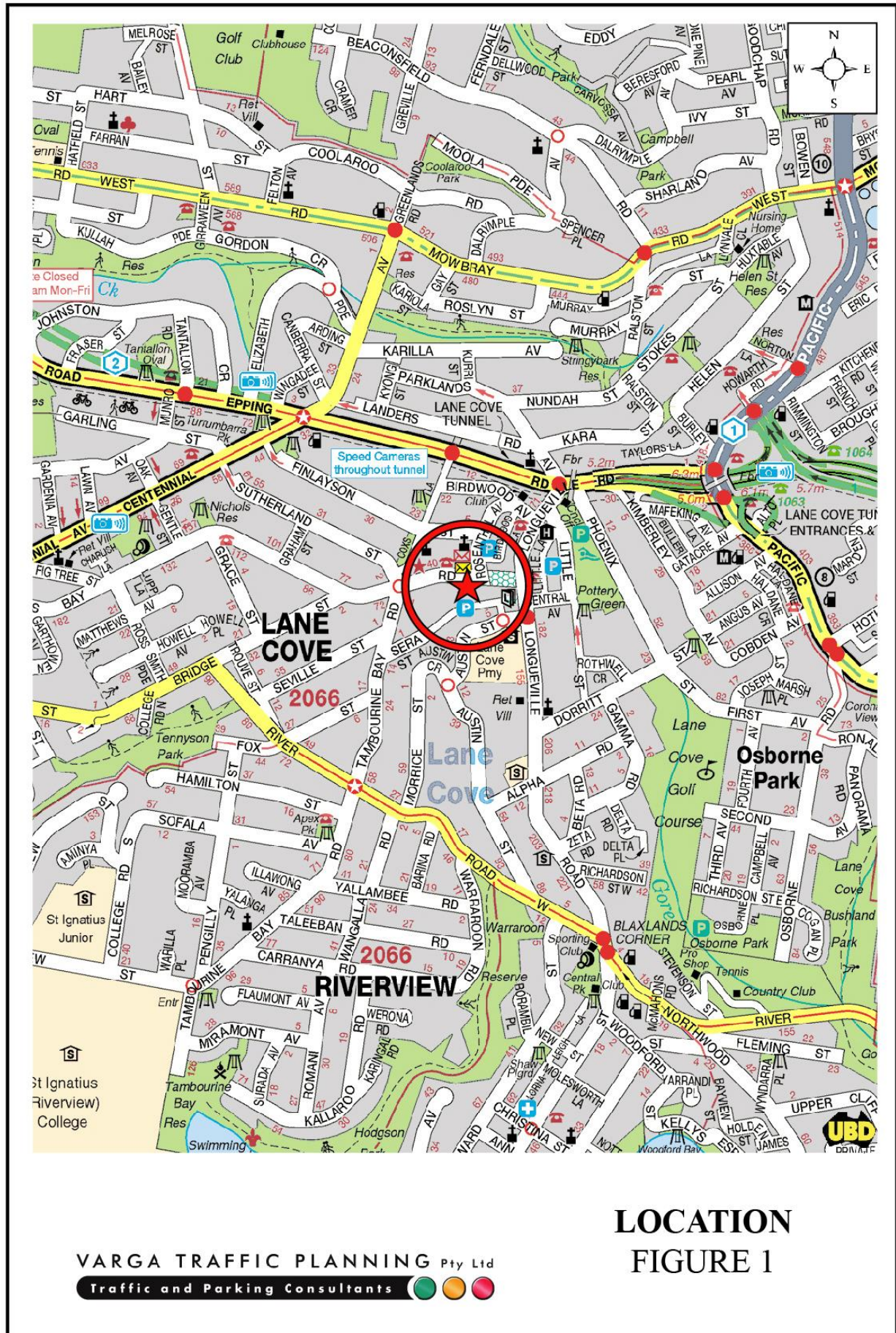
The proposed development will involve the demolition of the existing commercial building on the site comprising a Coles supermarket, specialty stores and a restaurant to facilitate the construction of a new mixed-use building comprising a supermarket, retail premises, a community space and residential apartments.

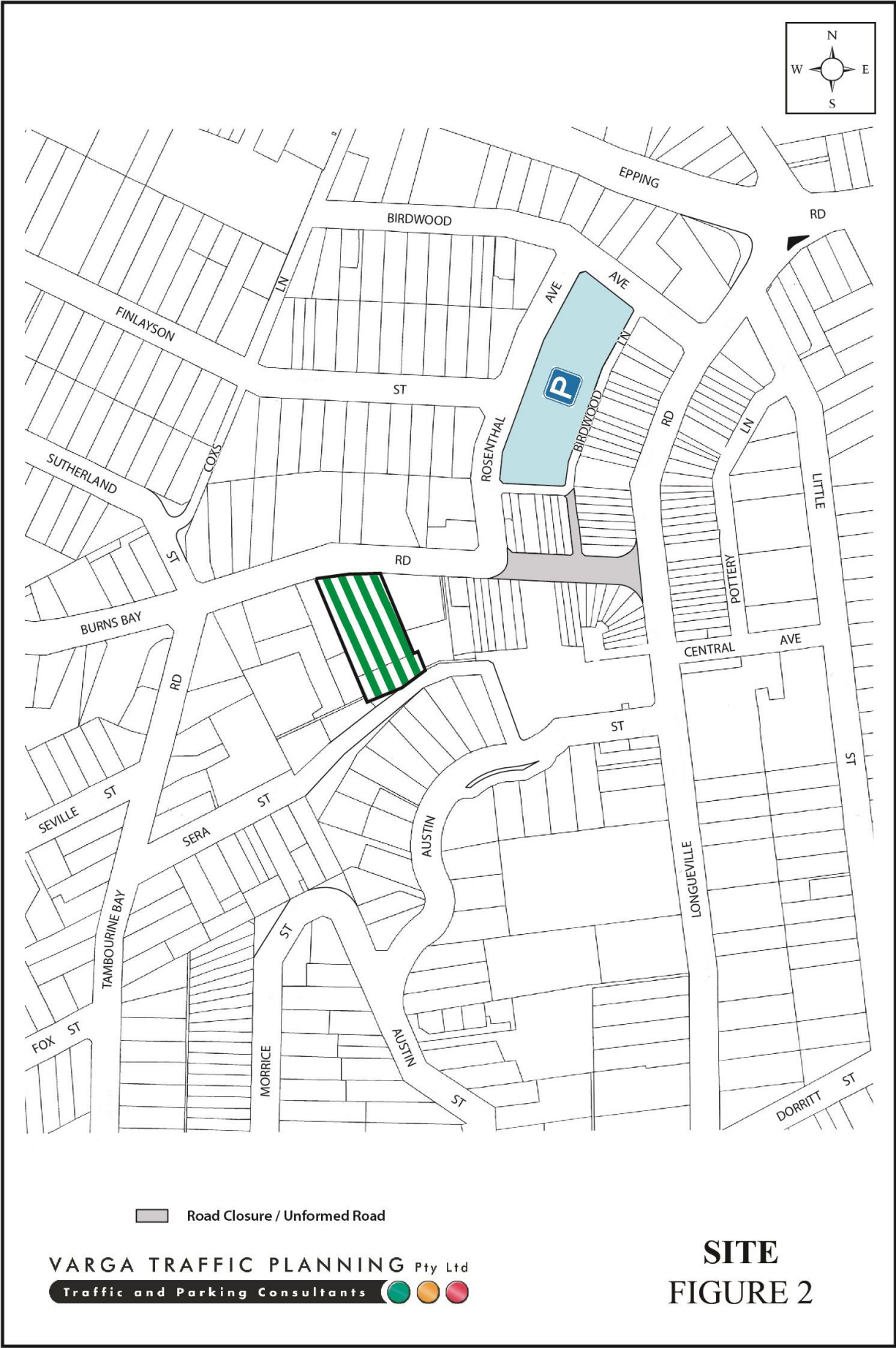
Off-street parking is to be provided in a multi-level basement car parking area with vehicular access to be provided at the rear of the site, off Sera Street, in accordance with Council requirements.

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

- describes the site and provides details of the development proposal
- reviews the road network in the vicinity of the site, and the traffic conditions on that road network
- reviews the public transport services in the vicinity of the site
- estimates the traffic generation potential of the development proposal, and assigns that traffic generation to the road network serving the site
- assesses the traffic implications of the development proposal in terms of road network capacity
- reviews the geometric design features of the proposed car parking facilities for compliance with the relevant codes and standards

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





2. PROPOSED DEVELOPMENT

Site

The subject site is located on the southern side of Burns Bay Road and extends through to Sera Street, situated in the Lane Cove Local Town Centre. The site has street frontages approximately 45 metres in length to Burns Bay Road, approximately 43 metres in length to Sera Street and occupies an area of approximately 3,765m².

The subject site is currently occupied by a commercial building comprising a Coles supermarket, a fruit and vegetable shop, a butcher shop, a pizza shop and a delicatessen with a cumulative retail floor area of approximately 2,700m².

Off-street parking is currently accommodated in an undercover car parking area at the rear of the site accessed off Sera Street.

A recent aerial image of the site and the surrounding area is reproduced below:



Courtesy of Nearmap Imagery 2018

Proposed Development

The proposed development will involve the demolition of the existing commercial building on the site comprising a Coles supermarket, specialty stores and a restaurant to facilitate the construction of a new mixed-use building.

A total of 21 residential apartments are proposed in the new building as follows:

1 bedroom apartments:	11
2 bedroom apartments:	8
3 bedroom apartments:	2
TOTAL APARTMENTS:	21

Other components of the proposed development comprise:

- a supermarket with a cumulative floor area of 1,710m² GFA
- retail premises at street level fronting Burns Bay Road with a cumulative floor area of 180m² GFA, and
- a community space on Level 1 with a floor area of 813m².

In essence, the proposed development will result in a *nett reduction* in the retail floor area on the site from 2,700m² to 1,890m², plus the addition of 21 residential apartments and a community space.

Off-street parking is proposed for a total of 131 cars plus a car wash bay, 7 motorcycles and 21 bicycle spaces in accordance with Council requirements.

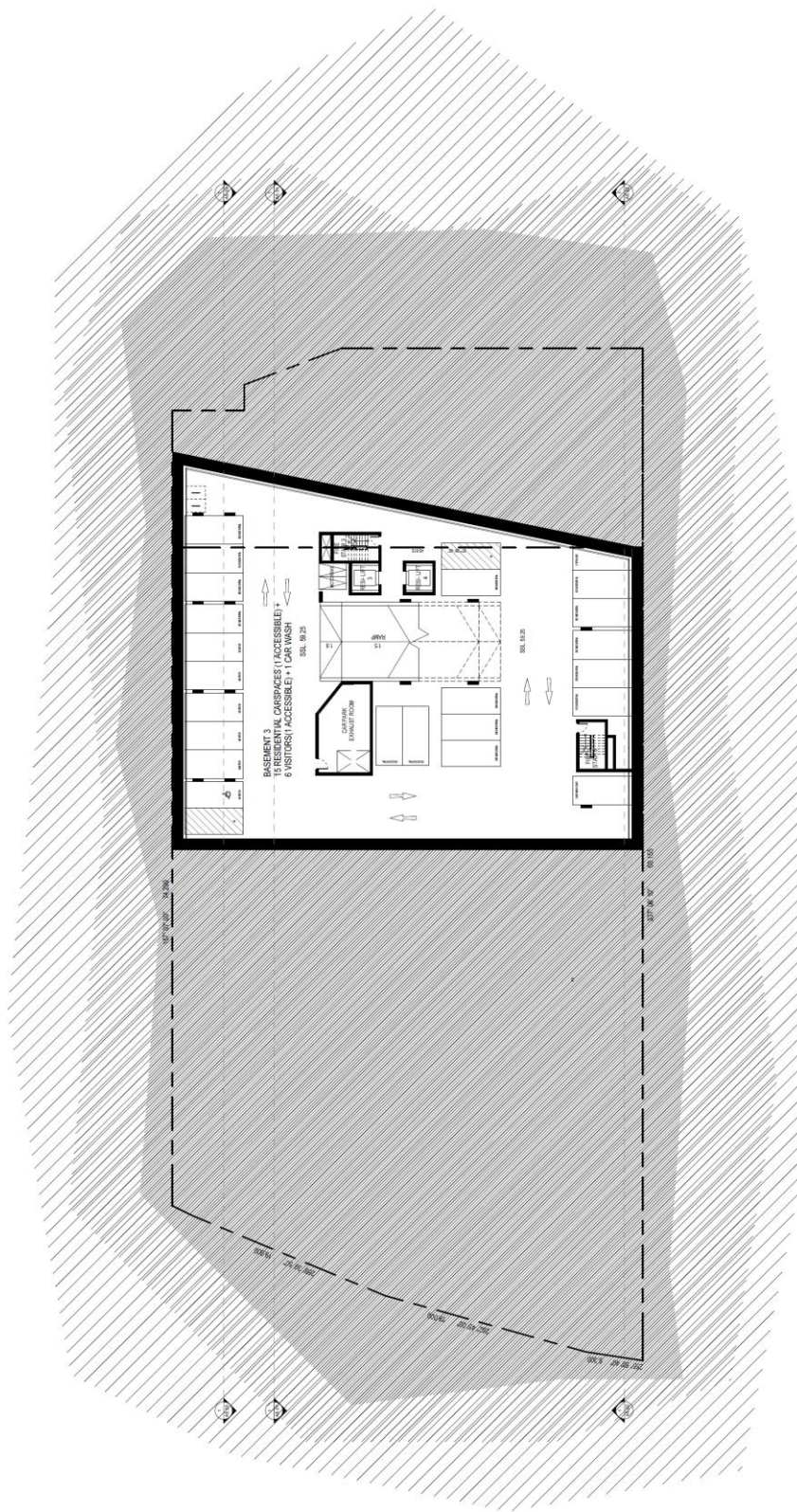
Vehicular access to the off-street parking facilities is to be provided via a new entry / exit driveway at the rear of the site, off Sera Street.

Loading / servicing for the proposed development is expected to be undertaken by a variety of commercial vehicles up to and including 12.5 metres long Heavy Rigid Vehicles (HRV trucks). A dedicated loading / servicing area is to be provided on ground level configured

with a HRV truck turntable to allow these trucks to enter and exit the site whilst travelling in forward gear at all times.

Vehicular access to the loading / servicing facilities is to be provided via a separate entry / exit driveway adjacent the basement entry / exit ramp. All truck movements will be restricted to arrive / depart the site via Tambourine Bay Road (i.e. trucks will travel to / from the site via the westerly direction only) in order to overcome the existing geometric constraints of Sera Street and its steep slope.

Plans for the purposes of this development proposal have been prepared by *A+ Design Group* and are reproduced in the following pages.



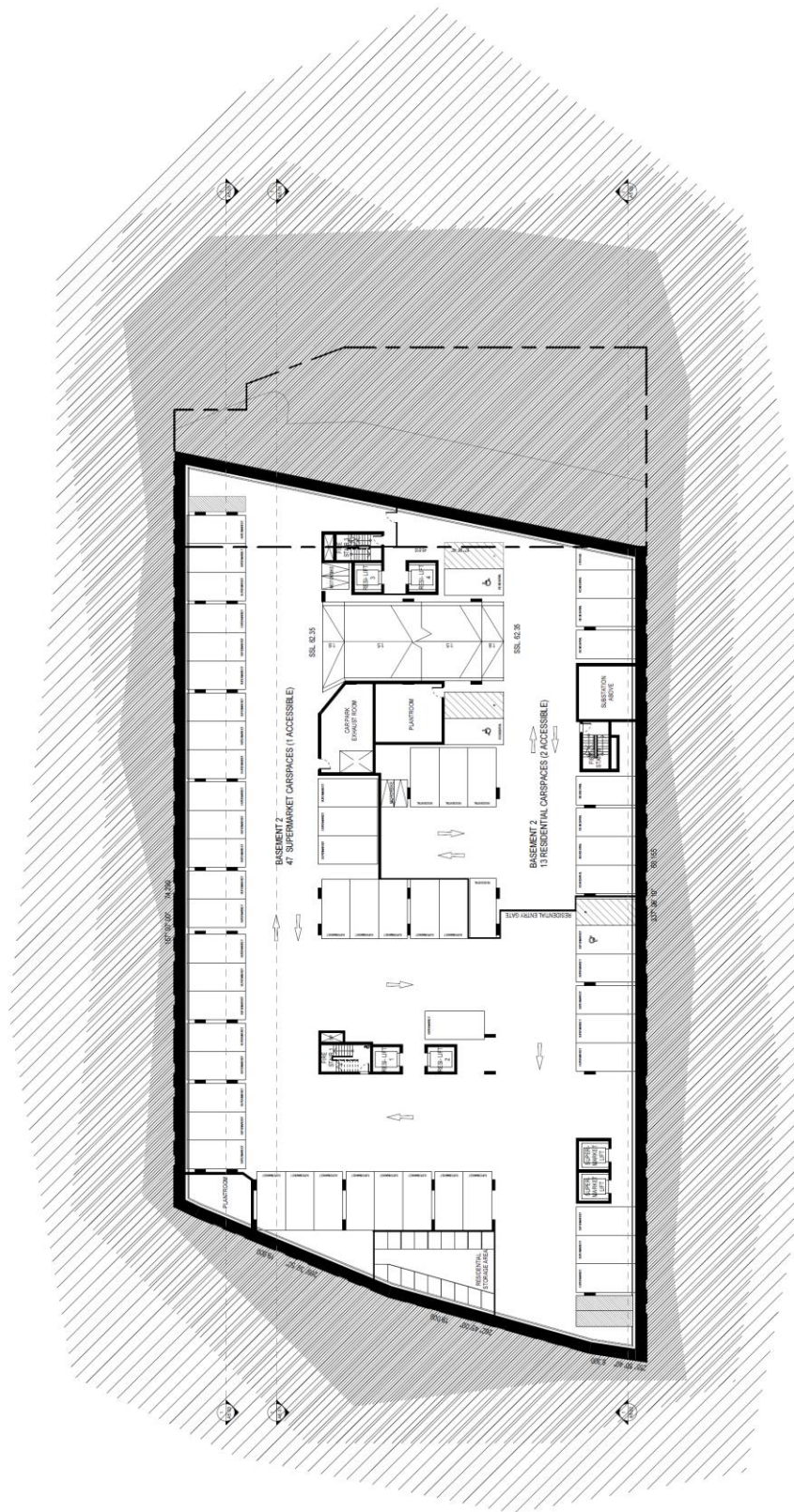
Drawing Title	
Basement 3	
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Project Name	
56-60 Burns Bay Road, Lane Cove	
Client Name	
Sun Property Lane Cove Pty Ltd	

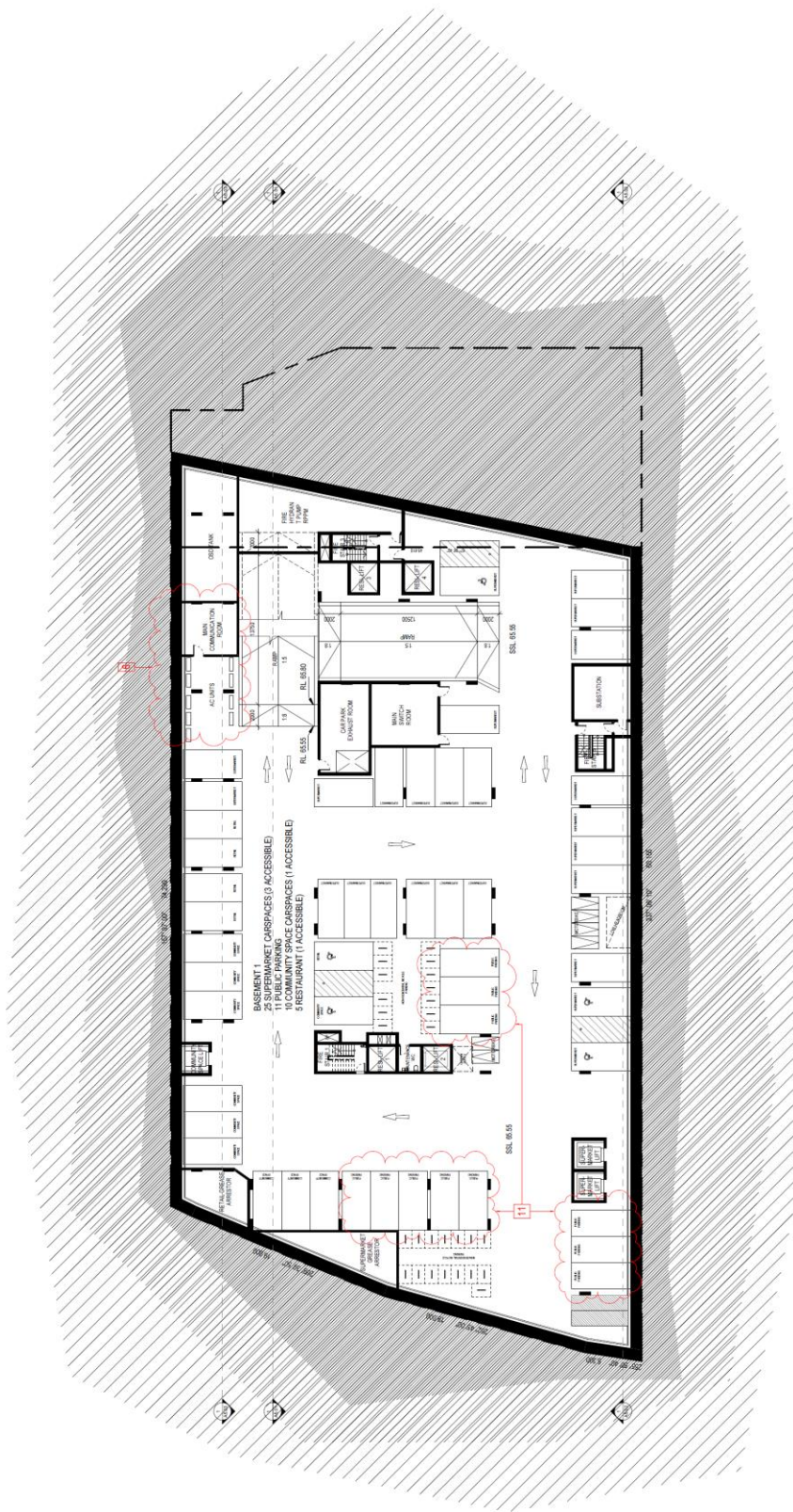
Rev	Description	Date
1	DA Submission	15.08.2018
2	Amended Plans	08.05.2019

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NOMINATED ARCHITECT: TONY LEUNG NSW 7133





<div></div> <div>www.apluscg.com.au</div> <div>PH: 1300 383 789 89 CHANDOS STREET, ST LEONARDS, NSW 2065 NOMINATED ARCHITECT/ION LEUNG NSW 1133</div>	<table><tr><th>Rev</th><th>Description</th><th>Date</th></tr><tr><td>1</td><td>DA Submission</td><td>15.08.2018</td></tr><tr><td>2</td><td>Amended Plans</td><td>08.05.2019</td></tr></table>	Rev	Description	Date	1	DA Submission	15.08.2018	2	Amended Plans	08.05.2019	<div>Project Name 56-60 Burns Bay Road, Lane Cove</div> <div>Client Name Sun Property Lane Cove Pty Ltd</div>	<div></div> <div>Drawing Title Basement 2</div> <div>SCALE 1:200 @ A1</div> <div>Drawing no. A3.02</div> <div>ISSUE 2</div>
	Rev	Description	Date									
	1	DA Submission	15.08.2018									
	2	Amended Plans	08.05.2019									



1. New pedestrian bridge, all its existing public access between Burns Bay Road and Lane Cove.
2. Provision for separate access to Building B (Sara Street) residential and non-residential areas.
3. Relocation of driveway and new separate access to the basement loading area.
4. New three storey building housing Sara Street.
5. Relocation of Building B originally proposed A/C plant to basement.
6. Relocation of Burns Bay Road facade into under units and integrate use behind.
7. Relocation of Burns Bay Road facade into under units and integrate use behind.
8. Relocation of Burns Bay Road facade into under units and integrate use behind.
9. Relocation of Burns Bay Road facade into under units and integrate use behind.
10. Relocation of Burns Bay Road facade into under units and integrate use behind.
11. Provision for any existing public parking lot as a result of the development within the basement.

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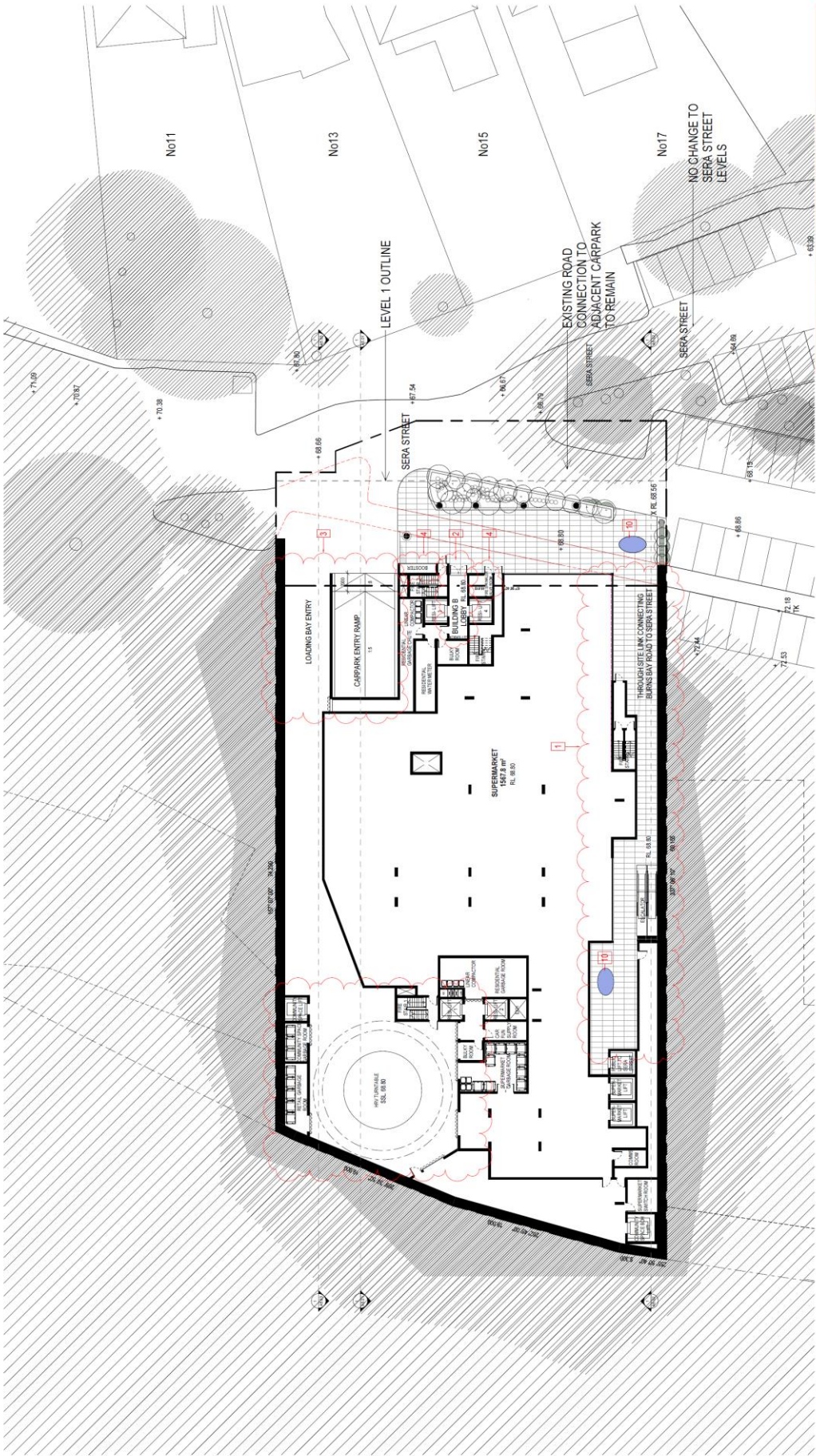
Rev	Description	Date	Project Name	Client Name
1	DA Submission	15.09.2018	56-60 Burns Bay Road, Lane Cove	Sun Property Lane Cove Pty Ltd
2	Amended Plans	06.05.2019		

Drawing Title: **Basement 1**

SCALE: 1:200 @ A1


Drawing no: A3.03

ISSUE: 2



1. New pedestrian through site link providing public access between Burns Bay Road and Sera Street.
2. New pedestrian through site link providing public access between Burns Bay Road and Sera Street.
3. New pedestrian through site link providing public access between Burns Bay Road and Sera Street.
4. New pedestrian through site link providing public access between Burns Bay Road and Sera Street.
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10. New pedestrian through site link providing public access between Burns Bay Road and Sera Street.
11. New pedestrian through site link providing public access between Burns Bay Road and Sera Street.

EXISTING ROAD
TO BE MODIFIED



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SYDNEY NSW 2008
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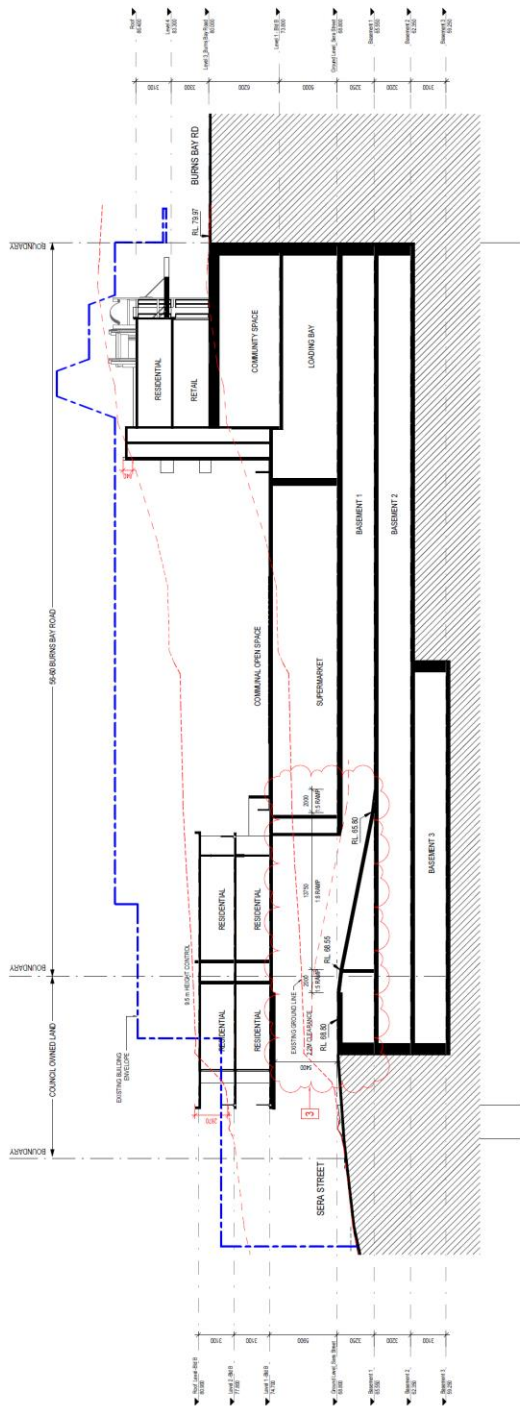
Rev	Description	Date	Project Name	Client Name
1	DA Submission	15.05.2018	56-60 Burns Bay Road, Lane Cove	Sun Property Lane Cove Pty Ltd
2	Amended Plans	08.05.2019		

Drawing Title: Ground Level, Sera Street

SCALE: As Indicated @ A1

Drawing no: A3/04

ISSUE: 2

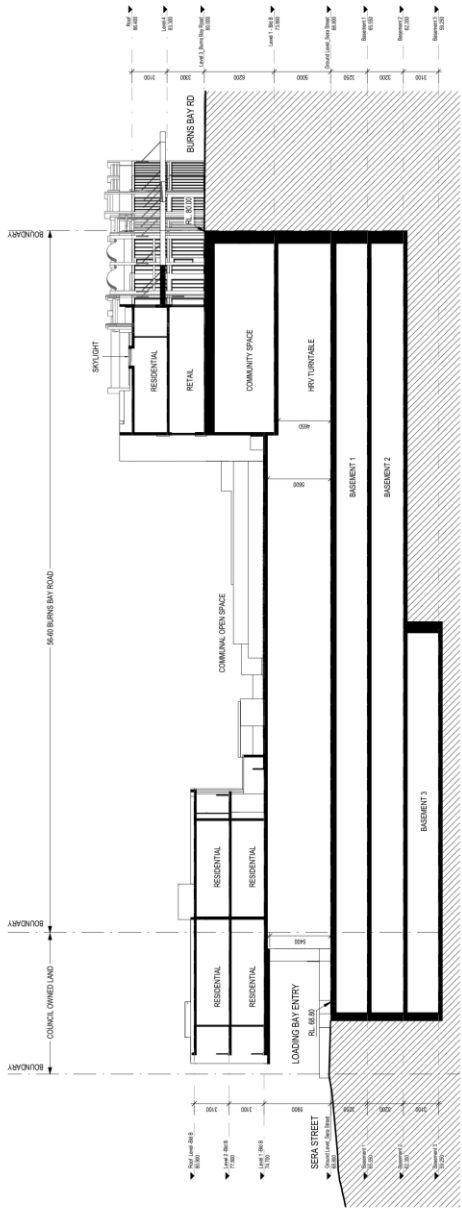


1. New pedestrian through-jobs will provide public access between Burns Bay Road and Sun Street.
2. Provision for separate access to Building E (Sun Street) residential and non-residential uses.
3. Relocation of driveway and new separate access to the basement loading area.
4. New three storey building facing Sun Street.
5. Relocation of Burns Bay Road frontage to the basement.
6. Provision of Burns Bay Road frontage with loading area, public art to Burns Bay Road frontage.
7. Relocation of Burns Bay Road frontage to the basement.
8. Allocation of Burns Bay Road space into smaller units and integrate use behind.
9. Relocation of Burns Bay Road frontage to the basement.
10. Proposed public art.
11. Provision any existing public parking lot as a result of the development when the basement.

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PH: 1300 388 789		56-60 Burns Bay Road, Lane Cove		Section A-A'	
ST LEONARDS, NSW 2065		Date		SCALE	
NOMINATED ARCHITECT: TONY LEUNG NSW 7133		15.02.2018		1:200 @ A1	
		08.02.2019		Drawing no.	
				AS 01	
				ISSUE	
				2	



Rev	Description	Date	Project Name	Drawing Title	Drawing no.	ISSUE
1	DA Submission	15.03.2018	56-60 Burns Bay Road, Lane Cove	Section B-B'	SCALE 1:200 @ A1	AS.02
2	Amended Plans	08.05.2019				
			Sun Property Lane Cove Pty Ltd			



3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

Epping Road is classified by the RMS as a *State Road* and provides the key east-west road link in the area, linking Epping to Lane Cove. It typically carries two to three traffic lanes in each direction in the vicinity of the site, including a dedicated bus lane in both directions with opposing traffic flows separated by a central median island.

Burns Bay Road (south of Centennial Avenue) and Centennial Avenue are also classified by the RMS as a *State Road* and provide the key north-south road link in the area, linking Victoria Road to Epping Road. It typically carries two traffic lanes in each direction in the vicinity of the site, with kerbside parking generally prohibited.

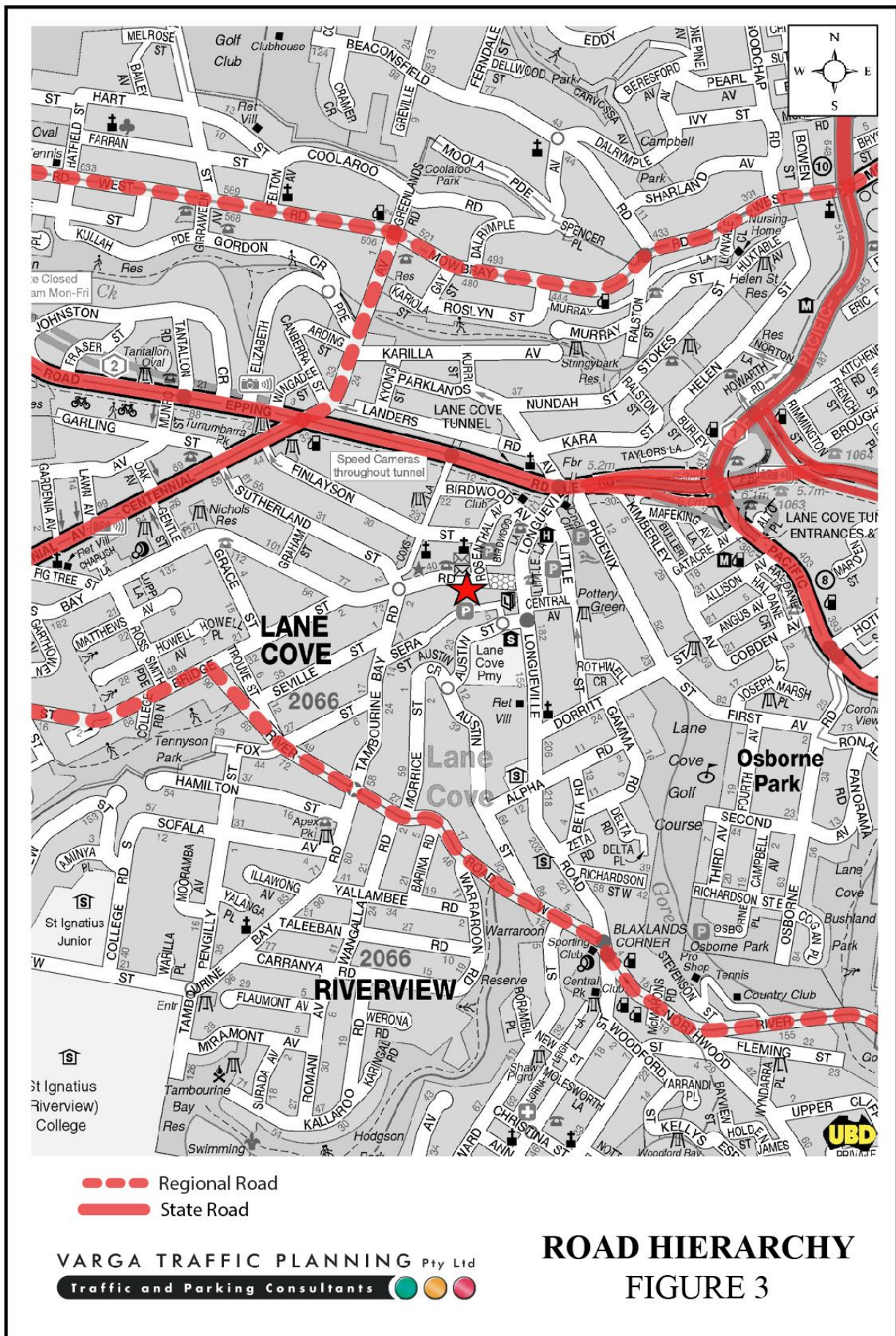
Burns Bay Road (east of Centennial Avenue) is a local, unclassified road which performs the function of a *collector route* through the area. Kerbside parking is generally permitted on both sides of the road.

Sera Street is a local, unclassified road which is primarily used to provide rear vehicular and pedestrian access to properties fronting Burns Bay Road. Kerbside and 90° indented angled parking are permitted at selected locations along the road, subject to sign-posted restrictions.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- a 60 km/h SPEED LIMIT which applies to Epping Road
- a 40 km/h SPEED LIMIT which applies Burns Bay Road, Sera Street and Austin Street in the Lane Cove Local Town Centre





- a 40km/h SCHOOL ZONE restriction in local roads in the immediate vicinity of the Lane Cove Public School
- ROUNDABOUTS in Sera Street at its bend and also where it intersects with Austin Street
- TRAFFIC SIGNALS in Longueville Road where it intersects with Epping Road, Birdwood Avenue and also Austin Street
- PEDESTRIAN ZEBRA CROSSINGS at key locations in Burns Bay Road, Austin Street, Longueville Road and Rosenthal Avenue throughout the Lane Cove Local Town Centre.

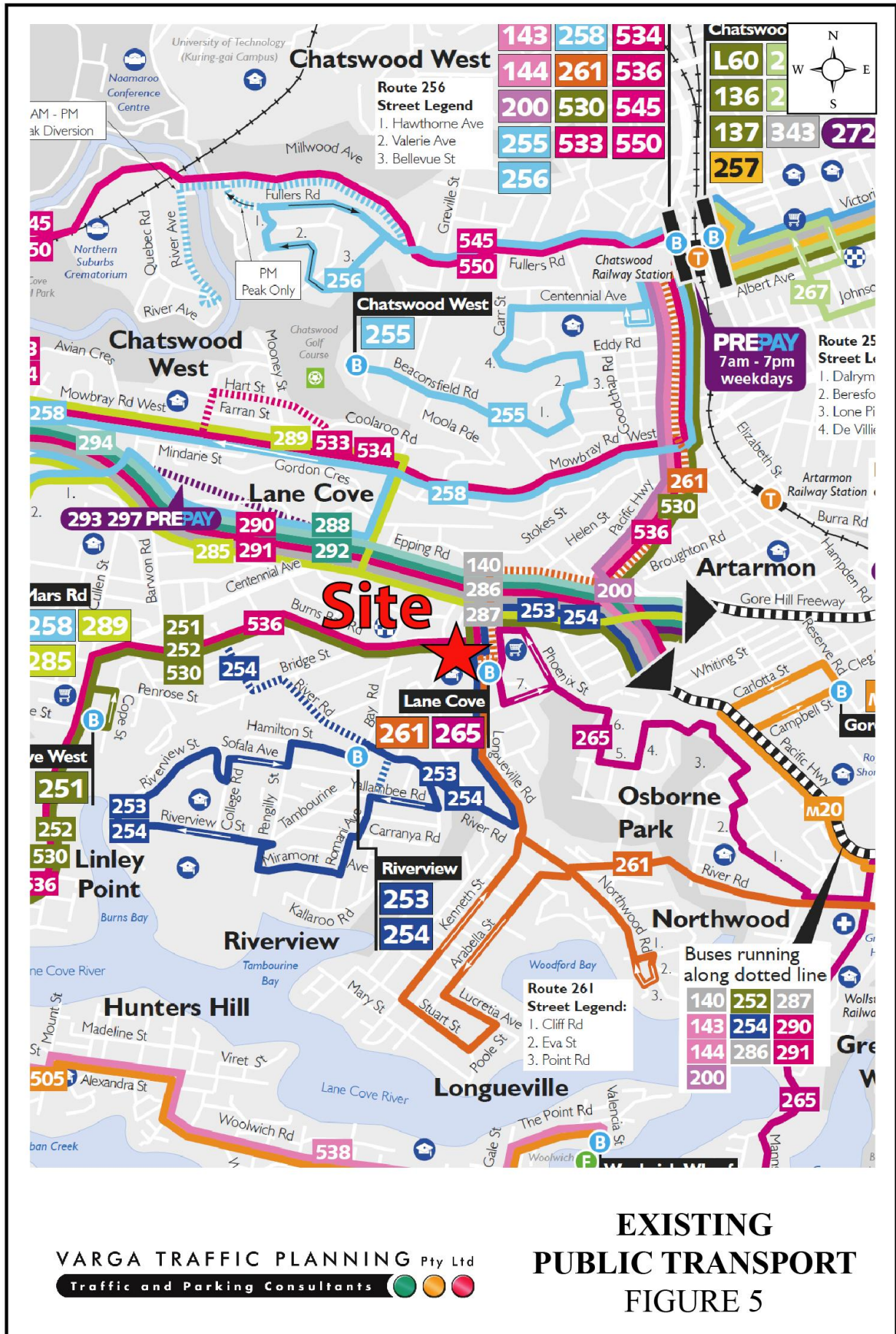
Existing Public Transport Services

The subject site is conveniently located to existing public transport services as illustrated on Figure 5.

The nearest bus stops on Burns Bay Road are located right in front of the site, servicing bus route 251 (Lane Cove West to City Wynyard via Freeway), route 252 (Gladesville to City King Street Wharf via North Sydney), route 530 (Burwood to Chatswood) and route 536 (Gladesville to Chatswood via Hunters Hill).

Furthermore, bus stops on Longueville Road are located within a short walking distance to/from the site (approx. 220 metres or 3 minutes) servicing bus route 261 (Lane Cove to City King Street Wharf via Longueville) and route 265 (Lane Cove to North Sydney via Greenwich).

On the above basis, it is clear that the site has excellent connectivity to existing public transport services, and is therefore an ideal location to encourage increased use of public transport facilities and active forms of transport such as walking and cycling.



Existing Traffic Conditions

An indication of the existing traffic conditions on the road network in the vicinity of the site is provided by peak period traffic surveys undertaken at nine (9) intersections in the immediate vicinity of the site between 6:30am-9:30am and 3:30pm-6:30pm on Thursday, 17th August 2017.

The results of the traffic surveys reveal that:

- two-way traffic flows in Burns Bay Road are typically in the order of 800 to 1,00 vehicles per hour (vph) during the weekday AM and PM peak hour
- two-way traffic flows in Sutherland Street are typically in the order of 800 vph during the weekday AM and PM peak hour
- two-way traffic flows in Sera Street are typically in the order of 700 vph during the weekday AM and PM peak hour
- two-way traffic flows in Austin Street are typically in the order of 800 vph during the weekday AM and PM peak hour
- two-way traffic flows in Longueville Road are typically in the order of 900 vph during the weekday AM and PM peak hour.

Projected Traffic Generation

The traffic implications of development proposals primarily concern the effects of the *additional* traffic flows generated as a result of a development and its impact on the operational performance of the adjacent road network.

An indication of the traffic generation potential of the development proposal is provided by reference to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002)* and the updated traffic

generation rates in the recently published RMS *Technical Direction* (TDT 2013/04a) document.

The TDT 2013/04a document specifies that it replaces those sections of the RMS *Guidelines* indicated, and must be followed when RMS is undertaken trip generation and/or parking demand assessments.

The RMS *Guidelines* and the updated TDT 2013/04a are based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates which are applicable to the residential component of the development proposal:

High Density Residential Flat Dwellings

AM: 0.19 peak hour vehicle trips per unit

PM: 0.15 peak hour vehicle trips per unit

Commercial

AM Peak: 1.6 peak hour vehicle trips per 100m² GFA

PM Peak: 1.2 peak hour vehicle trips per 100m² GFA

Supermarket

AM: N/A*

PM: 15.5 peak hour vehicle trips per 100m² GFA

*Assume equivalent to 10% of PM peak hour traffic generation primarily comprising staff arrivals.

Neither the RMS *Guidelines* nor *Technical Direction* nominate a traffic generation rate for community space. As noted in Chapter 4, 10 parking spaces are to be allocated to the community space. Based on a duration of stay, say, 2 hours, those 10 spaces could be expected to generate approximately 5 vph during commuter peak periods.

It is also pertinent to note that the proposed development will result in a *nett reduction* in retail floor area on the site from 2,700m² to 1,890m², with the larger Coles plus ancillary retail facilities to be replaced by a smaller supermarket and ancillary retail premises.

The reduction in the retail floor area on the site will therefore result in a corresponding reduction in the traffic generation potential of the site. That reduction will more than offset the traffic generation potential of the proposed residential apartments.

For the purposes of a robust traffic assessment however, all of the potential traffic generation of 12 vph in the AM peak hour and 10 vph in the PM peak hour associated with the proposed residential, community and retail component of the development proposal outlined below are assumed to be new, or additional to the road network, and no further traffic generation discount are applied for the existing supermarket, specialty stores and restaurant that currently operate on the site.

Projected Additional Future Traffic Generation Potential		
	AM	PM
Residential (21 apartments):	4.0 vph	3.2 vph
Community Space:	5.0 vph	5.0 vph
Retail (180m ²):	2.9 vph	2.2 vph
TOTAL ADDITIONAL TRAFFIC GENERATION:	11.9 vph	10.4 vph

That projected “increase” in the traffic generation potential of the site as a consequence of the development proposal will clearly not have any unacceptable traffic implications in terms of road network capacity, as is demonstrated by the following section of this report.

Traffic Implications - Road Network Capacity

The traffic implications of those *additional* traffic flows on the operational performance of the nearby road network has been assessed using the SIDRA program which is widely used by the RMS and many LGA's. Criteria for evaluating the results of SIDRA analysis are reproduced in the following pages.

1. Burns Bay Road, Sutherland Street and Tambourine Bay Road Intersection

The results of the SIDRA analysis of the subject intersections are summarised in Table 3.1, revealing that:

- the intersection currently operates at *Level of Service “A”* under the existing traffic demands during the commuter peak periods with total average vehicle delays in the order of 6.8 to 6.9 seconds/vehicle

- under the projected future traffic demands expected to be generated by the proposed development, the intersection is expected to continue to operate at *Level of Service “A”* during the commuter peak periods, with increases in total average vehicle delays less than 0.3 seconds/vehicle.

Table 3.1: Burns Bay Rd / Sutherland St / Tambourine Bay Rd SIDRA Results

Key Indicators	Existing		Projected Development	
	AM Peak	PM Peak	AM Peak	PM Peak
Levels of Service	A	A	A	A
Degree of Saturation	0.613	0.454	0.592	0.486
Total Average Vehicle Delay	6.9	6.8	7.0	7.1

2. Tambourine Bay Road and Sera Street Intersection

The results of the SIDRA analysis of the subject intersections are summarised in Table 3.2, revealing that:

- the intersection currently operates at *Level of Service “A”* under the existing traffic demands during the commuter peak periods with total average vehicle delays in the order of 3.3 to 3.5 seconds/vehicle
- under the projected future traffic demands expected to be generated by the proposed development, the intersection is expected to continue to operate at *Level of Service “A”* during the commuter peak periods, with increases in total average vehicle delays less than 0.6 seconds/vehicle.

Table 3.2: Tambourine Bay Rd / Sera St SIDRA Results

Key Indicators	Existing		Projected Development	
	AM Peak	PM Peak	AM Peak	PM Peak
Levels of Service	A	A	A	A
Degree of Saturation	0.217	0.154	0.263	0.171
Total Average Vehicle Delay	3.5	3.3	4.1	3.8

3. Sera Street and West Access Intersection

The results of the SIDRA analysis of the subject intersections are summarised in Tables 3.3, revealing that:

- the intersection currently operates at *Level of Service “A”* under the existing traffic demands during the commuter peak periods with total average vehicle delays in the order of 0.2-0.3 seconds/vehicle
- under the projected future traffic demands expected to be generated by the proposed development, the intersection is expected to continue to operate at *Level of Service “A”* during the commuter peak periods, with *no* increase in total average vehicle delays.

Table 3.3: Sera St / West Access SIDRA Results

Key Indicators	Existing		Projected Development	
	AM Peak	PM Peak	AM Peak	PM Peak
Levels of Service	A	A	A	A
Degree of Saturation	0.145	0.123	0.204	0.155
Total Average Vehicle Delay	0.2	0.3	0.2	0.2

4. Sera Street and East Access Intersection

The results of the SIDRA analysis of the subject intersections are summarised in Table 3.4, revealing that:

- the intersection currently operates at *Level of Service “A”* under the existing traffic demands during the commuter peak periods with total average vehicle delays in the order of 0.8-1.0 seconds/vehicle
- under the projected future traffic demands expected to be generated by the proposed development, the intersection is expected to continue to operate at *Level of Service*

“A” during the commuter peak periods, with increases in total average vehicle delays *less* than 1.0 seconds/vehicle.

Table 3.4: Sera St / East Access SIDRA Results

Key Indicators	Existing		Projected Development	
	AM Peak	PM Peak	AM Peak	PM Peak
Levels of Service	A	A	A	A
Degree of Saturation	0.171	0.146	0.232	0.175
Total Average Vehicle Delay	0.8	1.0	1.8	1.6

5. Sera Street and Woolworths Access Intersection

The results of the SIDRA analysis of the subject intersections are summarised in Table 3.5, revealing that:

- the intersection currently operates at *Level of Service “A”* under the existing traffic demands during the commuter peak periods with total average vehicle delays in the order of 4.8-5.6 seconds/vehicle
- under the projected future traffic demands expected to be generated by the proposed development, the intersection is expected to continue to operate at *Level of Service “A”* during the commuter peak periods, with increases in total average vehicle delays *less* than 0.1 seconds/vehicle.

Table 3.5: Sera St / Woolworths Access SIDRA Results

Key Indicators	Existing		Projected Development	
	AM Peak	PM Peak	AM Peak	PM Peak
Levels of Service	A	A	A	A
Degree of Saturation	0.325	0.301	0.330	0.345
Total Average Vehicle Delay	5.6	4.8	5.5	4.9

6. Austin Street and Sera Street Intersection

The results of the SIDRA analysis of the subject intersections are summarised in Table 3.6 revealing that:

- the intersection currently operates at *Level of Service “A”* under the existing traffic demands during the commuter peak periods with total average vehicle delays in the order of 5.5-5.6 seconds/vehicle
- under the projected future traffic demands expected to be generated by the proposed development, the intersection is expected to continue to operate at *Level of Service “A”* during the commuter peak periods, with increases in total average vehicle delays *less* than 0.2 seconds/vehicle.

Table 3.6: Austin St / Sera St SIDRA Results

Key Indicators	Existing		Projected Development	
	AM Peak	PM Peak	AM Peak	PM Peak
Levels of Service	A	A	A	A
Degree of Saturation	0.295	0.235	0.306	0.266
Total Average Vehicle Delay	5.5	5.6	5.7	5.8

7. Longueville Road and Austin Street Intersection

The results of the SIDRA analysis of the subject intersections are summarised in Table 3.7 revealing that:

- the intersection currently operates at *Level of Service “B”* under the existing traffic demands during the commuter peak periods with total average vehicle delays in the order of 15.2-15.4 seconds/vehicle
- under the projected future traffic demands expected to be generated by the proposed development, the intersection is expected to continue to operate at *Level of Service*

“B” during the commuter peak periods, with increases in total average vehicle delays *less* than 1.5 seconds/vehicle.

Table 3.7: Longueville Road / Austin St SIDRA Results

Key Indicators	Existing		Projected Development	
	AM Peak	PM Peak	AM Peak	PM Peak
Levels of Service	B	B	B	B
Degree of Saturation	0.543	0.609	0.593	0.707
Total Average Vehicle Delay	15.4	15.2	16.1	16.7

The detailed SIDRA *movements summaries* are reproduced in full in Appendix A.

In summary, the SIDRA capacity analysis demonstrates that the proposed redevelopment of the site will not have any unacceptable traffic implications, and that no road improvements or intersection upgrades are required as a consequence of the development proposal.

Criteria for Interpreting Results of Sidra Analysis

1. Level of Service (LOS)

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

2. Average Vehicle Delay (AVD)

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

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

3. Degree of Saturation (DS)

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

For intersections controlled by traffic signals¹ both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

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

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

4. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 6 and comprise:

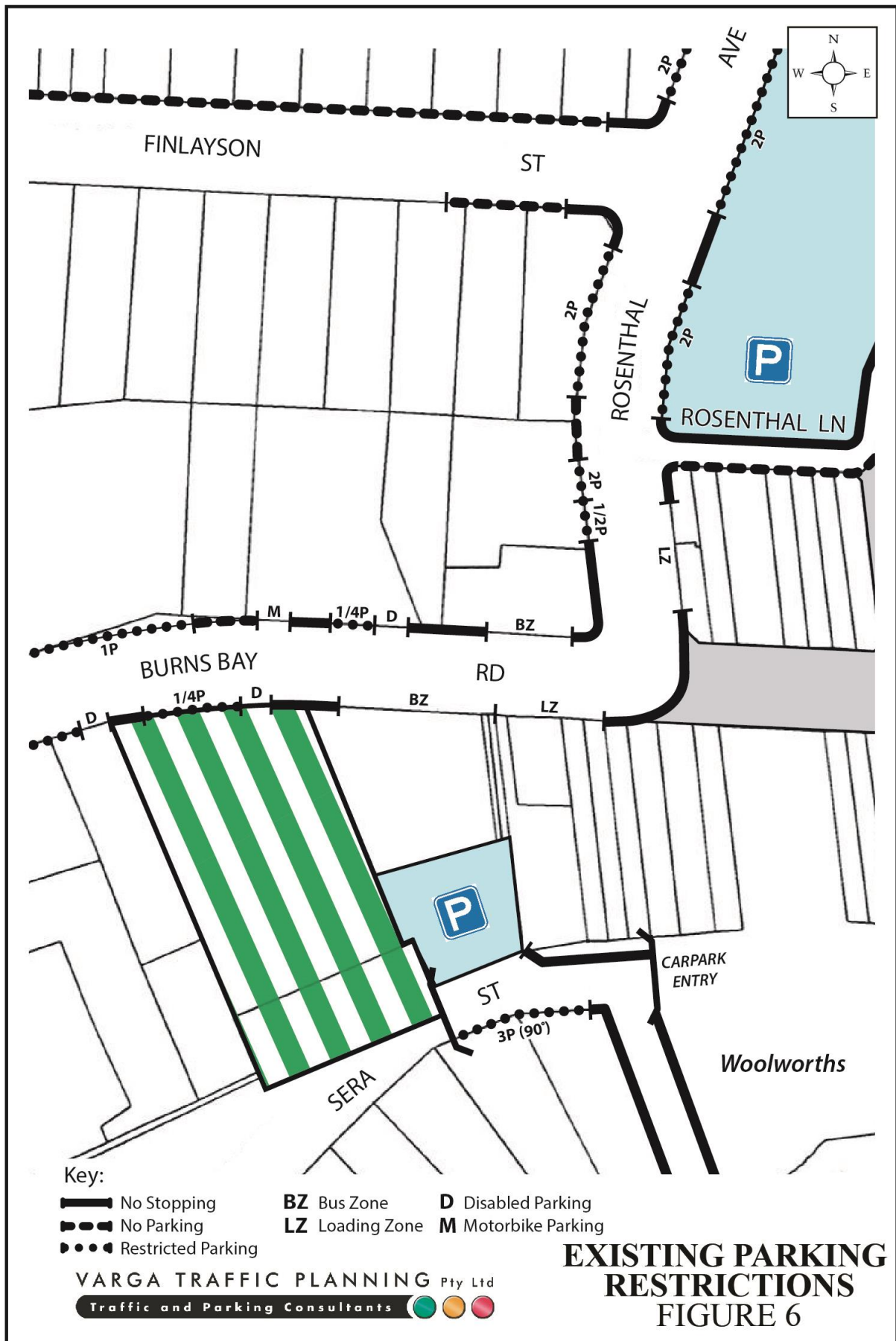
- NO STOPPING restrictions in Sera Street
- 3 HOUR PARKING on the southern side of Sera Street opposite the site
- ¼ HOUR PARKING/1 HOUR/DISABLED PARKING restrictions in Burns Bay Road
- ½ HOUR/2 HOUR PARKING in Rosenthal Avenue
- a LOADING ZONE on the southern side of Burns Bay Road
- BUS ZONES at regular intervals along Burns Bay Road.

Off-Street Car Parking Provisions

The off-street car parking requirements applicable to the development proposal are specified in *Lane Cove Development Control Plan 2016, Part R - Traffic, Transport and Parking, Table 1* in the following terms:

Residential Flat Buildings

- 0.5 spaces per studio
- 1 space per 1 bedroom unit
- 1.5 spaces per 2 bedroom unit
- 2 spaces per 3+ bedroom unit
- 1 disabled space for each adaptable housing unit
- 1 onsite removalist truck space per 100 residential units (as per relevant Australian Standards)
- 1 car wash bay per 50 units for developments over 20 units
- 1 visitor space per 4 units
- 1 disabled space per 50 visitor spaces (minimum 1 disabled space)



Shop1 spaces per 40m²

1 disabled space per 20 car spaces (minimum 1 disabled space)

Supermarkets4.2 spaces per 100m² (provided by reference to the RMS *Guidelines*)

1 disabled space per 20 car spaces (minimum 1 disabled space)

The *Lane Cove DCP 2016* does not nominate a car parking rate for community spaces and a provision of 10 car spaces for this use is offered as part of a Voluntary Planning Agreement for the acquisition of the Council land.

Accordingly, application of the above car parking requirements to the various components of the development proposal yields an off-street car parking requirement of 119 spaces plus 1 car wash bay as set out below:

Residential (21 apartments):	27.0 spaces + 1 car wash bay
Visitor:	5.3 spaces
Retail (180m ²):	4.5 spaces
Supermarket (1,710m ²):	71.8 spaces
Community Space:	10.0 spaces (under VPA)
TOTAL:	118.6 spaces + 1 car wash bay

The proposed development makes provision for 121 car parking spaces comprising 27 resident spaces, 6 visitor spaces, 1 car wash bay, 5 retail spaces, 72 supermarket spaces and 10 community spaces thereby satisfying Council's car parking code requirements.

Furthermore, a total of 11 public car spaces will be removed from Sera Street to facilitate the construction of the development and will be reinstated in the new basement car parking areas accessible to public.

The geometric design layout of the proposed car parking facilities has been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1* and *Parking Facilities Part 6 - Off-Street Parking for People with Disabilities AS2890.6* in respect of parking bay dimensions and aisle widths.

Off-Street Bicycle Parking Provisions

The off-street bicycle parking requirements applicable to the development proposal are specified in the *Lane Cove DCP 2016, Part R - Traffic, Transport and Parking, Table 3* in the following terms:

Residential Flat Buildings

Residents:	1 per 4 dwellings
Visitors:	1 rack + 1 rack per 10 dwellings

Shop

Employees:	1 per 50m ² GFA
Customers:	2 racks + 1 rack per 200m ² over 200m ² GFA

Supermarkets

Employees:	1 per 50m ² GFA
Customers:	2 racks + 1 rack per 200m ² over 200m ² GFA

Application of the above bicycle parking requirements to the various components of the development proposal yields a minimum off-street bicycle parking requirement of 58 bicycle spaces as set out below:

Residents:	5.3 spaces
Visitors:	3.1 spaces
Retail - Staff:	3.6 spaces
Retail - Customers:	2.0 spaces
Supermarket - Staff:	34.2 spaces
Supermarket - Customers:	9.6 spaces
TOTAL:	57.8 spaces

The proposed development makes provision for a total of 60 bicycle spaces throughout the site, thereby satisfying Council's bicycle parking requirements.

Off-Street Motorcycle Provisions

The off-street motorcycle parking requirements applicable to the development proposal are specified in *Lane Cove DCP 2016, Part R - Traffic, Transport and Parking, Clause 2.7* in the following terms:

- a) Developers shall provide 1 motorcycle parking space per 15 car spaces for all types of development.
- b) Motorcycle parking spaces are to have an area of $1.2\text{m} \times 3\text{m}$.

Application of the above motorcycle parking requirements to the provision of 121 car spaces yields a minimum off-street motorcycle parking requirement of 8 spaces.

The proposed development makes provision for a total of 9 motorcycle spaces located in the basement car parking area, thereby satisfying Council's motorcycle parking requirements.

Loading/Service Provisions

The proposed new mixed-use building is expected to be serviced by a variety of commercial vehicles up to and including 12.5 metres long Heavy Rigid Vehicles (HRV trucks).

A dedicated loading / servicing area is to be provided on ground level configured with a HRV truck turntable.

All truck movements will be restricted to arrive / depart the site via Tambourine Bay Road (i.e. trucks will travel to / from the site via the westerly direction only) in order to overcome the existing geometric constraints of Sera Street and its steep slope.

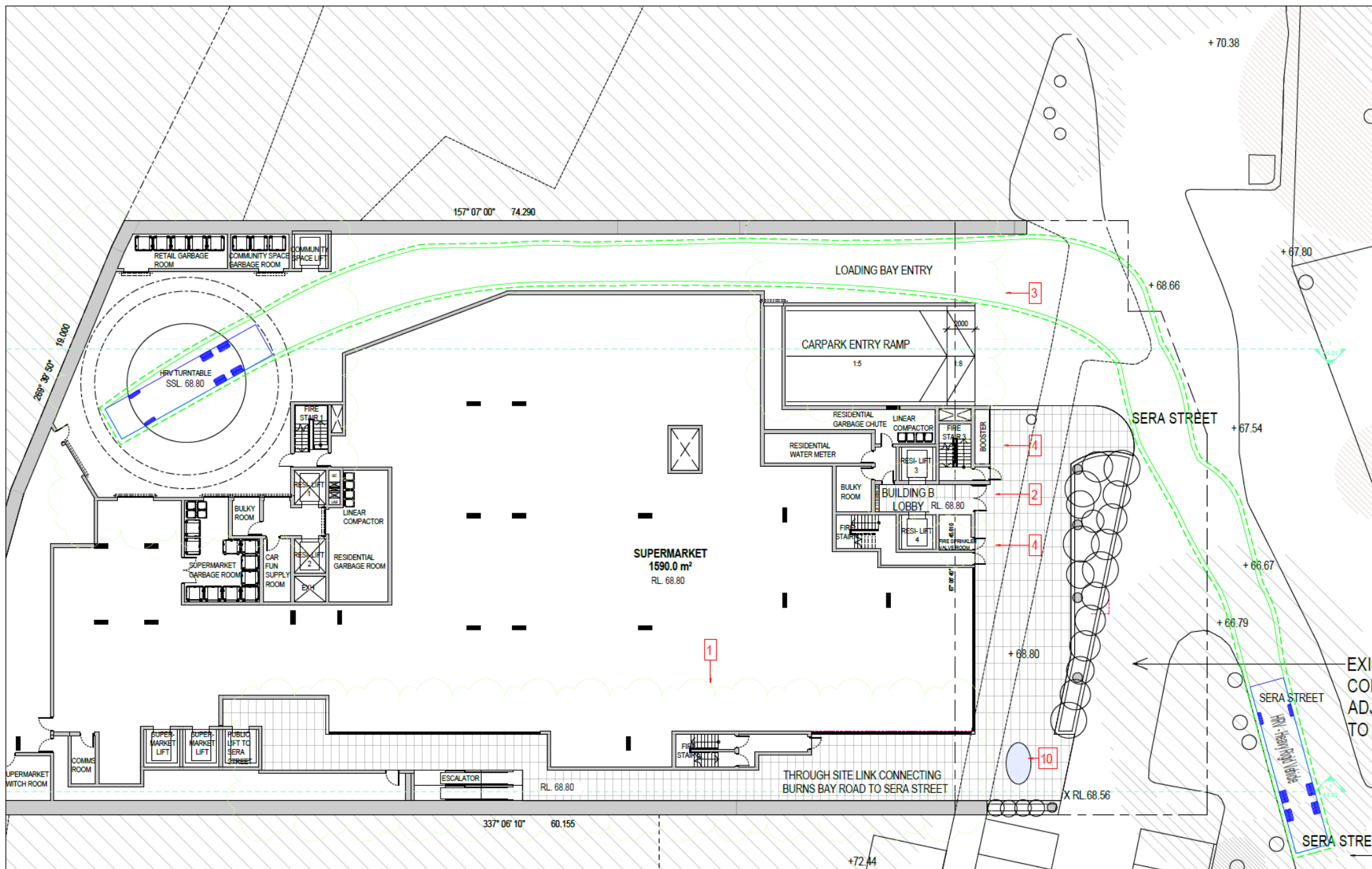
Accordingly, the manoeuvring areas and driveway has been designed to accommodate the swept turning path requirements of these 12.5m HRV trucks, allowing them to enter and exit the site whilst travelling in forward gear at all times, as demonstrated by the *swept turning path* diagrams appended to this report.

The geometric design layout of the proposed loading/service area has been designed to comply with the relevant requirements specified in the Standards Australia publication

Parking Facilities Part 2 - Off-Street Commercial Vehicle Facilities AS2890.2 in respect of service bay dimensions and height clearance requirements for HRV trucks.

Conclusion

In summary, the proposed parking and loading facilities satisfy the relevant requirements specified in Council's *DCP* as well as the Australian Standards and it is therefore concluded that the proposed development will not have any unacceptable parking or loading implications.



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 www.vargatraffic.com.au
 Sydney, Australia

PROJECT
 MIXED-USE DEVELOPMENT

DRAWING TITLE
 TURNING PATHS 190509

ADDRESS
 56-60 Burns Bay Road
 Lane Cove

PROJECT NO.
 17314
 REVIEWED
 RV

1:250 @ A3
 DATE DRAWN
 2019-5-13
 PREPARED
 TV

VARGA TRAFFIC PLANNING Pty Ltd
 Transport, Traffic and Parking Consultants



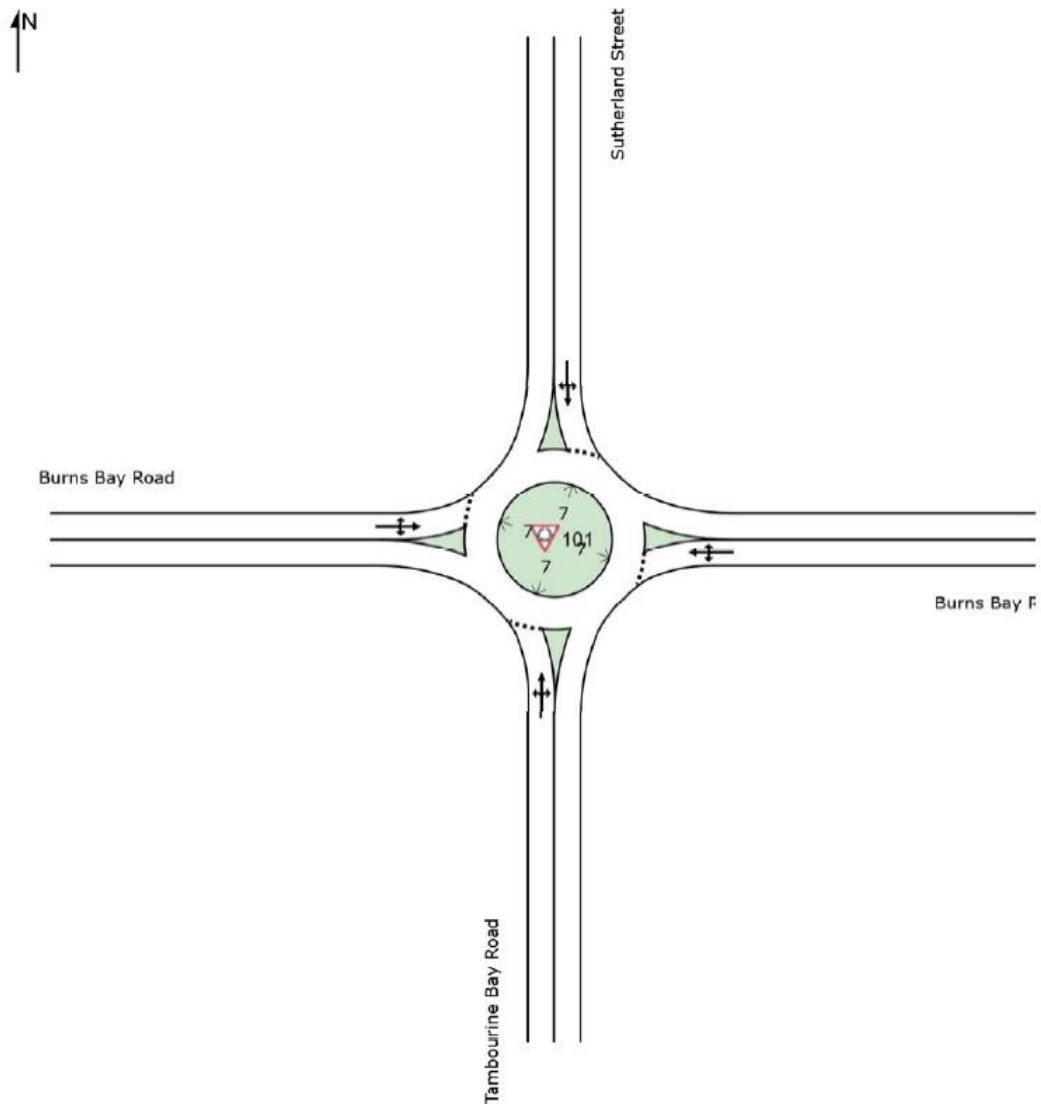
APPENDIX A

SIDRA MOVEMENT SUMMARIES


SITE LAYOUT

 **Site: 101 [Existing AM]**

Burns Bay Road, Sutherland Street and Tambourine Bay Road Intersection
Site Category: (None)
Roundabout



MOVEMENT SUMMARY

 Site: 101 [Existing AM]

Burns Bay Road, Sutherland Street and Tambourine Bay Road Intersection
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tambourine Bay Road												
1	L2	46	2.2	0.253	5.8	LOS A	1.5	10.8	0.48	0.63	0.48	44.8
2	T1	76	0.0	0.253	5.3	LOS A	1.5	10.8	0.48	0.63	0.48	45.4
3	R2	127	3.1	0.253	8.1	LOS A	1.5	10.8	0.48	0.63	0.48	41.2
Approach		249	2.0	0.253	6.8	LOS A	1.5	10.8	0.48	0.63	0.48	43.1
East: Burns Bay Road												
4	L2	145	3.4	0.371	5.8	LOS A	2.4	17.1	0.61	0.65	0.61	40.9
5	T1	175	0.0	0.371	5.1	LOS A	2.4	17.1	0.61	0.65	0.61	41.4
6	R2	14	0.0	0.371	7.8	LOS A	2.4	17.1	0.61	0.65	0.61	41.2
Approach		334	1.5	0.371	5.5	LOS A	2.4	17.1	0.61	0.65	0.61	41.1
North: Sutherland Street												
7	L2	16	0.0	0.177	9.4	LOS A	1.1	7.5	0.76	0.81	0.76	39.6
8	T1	58	0.0	0.177	9.0	LOS A	1.1	7.5	0.76	0.81	0.76	43.9
9	R2	34	0.0	0.177	11.7	LOS A	1.1	7.5	0.76	0.81	0.76	43.6
Approach		108	0.0	0.177	9.9	LOS A	1.1	7.5	0.76	0.81	0.76	43.1
West: Burns Bay Road												
10	L2	65	1.5	0.613	6.5	LOS A	5.5	39.0	0.67	0.67	0.68	44.6
11	T1	352	3.7	0.613	6.1	LOS A	5.5	39.0	0.67	0.67	0.68	41.1
12	R2	232	0.0	0.613	8.7	LOS A	5.5	39.0	0.67	0.67	0.68	44.9
Approach		649	2.2	0.613	7.1	LOS A	5.5	39.0	0.67	0.67	0.68	42.7
All Vehicles		1340	1.8	0.613	6.9	LOS A	5.5	39.0	0.63	0.67	0.63	42.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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: 101 [Existing PM]

Burns Bay Road, Sutherland Street and Tambourine Bay Road Intersection

Site Category: (None)

Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tambourine Bay Road												
1	L2	153	0.0	0.443	7.6	LOSA	3.0	21.3	0.70	0.78	0.70	44.1
2	T1	61	0.0	0.443	7.1	LOSA	3.0	21.3	0.70	0.78	0.70	44.6
3	R2	159	3.1	0.443	10.0	LOSA	3.0	21.3	0.70	0.78	0.70	40.5
Approach		373	1.3	0.443	8.5	LOSA	3.0	21.3	0.70	0.78	0.70	42.6
East: Burns Bay Road												
4	L2	150	0.0	0.454	5.3	LOSA	3.2	23.0	0.59	0.61	0.59	41.0
5	T1	297	2.4	0.454	4.7	LOSA	3.2	23.0	0.59	0.61	0.59	41.5
6	R2	5	0.0	0.454	7.4	LOSA	3.2	23.0	0.59	0.61	0.59	41.3
Approach		452	1.5	0.454	5.0	LOSA	3.2	23.0	0.59	0.61	0.59	41.3
North: Sutherland Street												
7	L2	13	0.0	0.230	7.8	LOSA	1.3	9.4	0.66	0.77	0.66	40.0
8	T1	63	0.0	0.230	7.3	LOSA	1.3	9.4	0.66	0.77	0.66	44.4
9	R2	102	1.0	0.230	10.1	LOSA	1.3	9.4	0.66	0.77	0.66	44.1
Approach		178	0.6	0.230	8.9	LOSA	1.3	9.4	0.66	0.77	0.66	43.9
West: Burns Bay Road												
10	L2	30	0.0	0.381	6.0	LOSA	2.7	19.1	0.56	0.63	0.56	45.0
11	T1	261	3.4	0.381	5.6	LOSA	2.7	19.1	0.56	0.63	0.56	41.4
12	R2	88	1.1	0.381	8.3	LOSA	2.7	19.1	0.56	0.63	0.56	45.3
Approach		379	2.6	0.381	6.2	LOSA	2.7	19.1	0.56	0.63	0.56	42.5
All Vehicles		1382	1.7	0.454	6.8	LOSA	3.2	23.0	0.62	0.68	0.62	42.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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: 101 [Proposed AM]**

Burns Bay Road, Sutherland Street and Tambourine Bay Road Intersection
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tambourine Bay Road												
1	L2	74	1.4	0.254	5.8	LOS A	1.5	11.0	0.49	0.64	0.49	44.8
2	T1	48	0.0	0.254	5.3	LOS A	1.5	11.0	0.49	0.64	0.49	45.4
3	R2	127	3.1	0.254	8.1	LOS A	1.5	11.0	0.49	0.64	0.49	41.2
Approach		249	2.0	0.254	6.9	LOS A	1.5	11.0	0.49	0.64	0.49	43.0
East: Burns Bay Road												
4	L2	145	3.4	0.400	6.5	LOS A	2.6	18.7	0.68	0.72	0.68	40.6
5	T1	175	0.0	0.400	5.8	LOS A	2.6	18.7	0.68	0.72	0.68	41.1
6	R2	14	0.0	0.400	8.5	LOS A	2.6	18.7	0.68	0.72	0.68	40.9
Approach		334	1.5	0.400	6.2	LOS A	2.6	18.7	0.68	0.72	0.68	40.9
North: Sutherland Street												
7	L2	12	0.0	0.175	9.5	LOS A	1.1	7.4	0.76	0.81	0.76	39.6
8	T1	62	0.0	0.175	9.0	LOS A	1.1	7.4	0.76	0.81	0.76	43.9
9	R2	34	0.0	0.175	11.7	LOS A	1.1	7.4	0.76	0.81	0.76	43.6
Approach		108	0.0	0.175	9.9	LOS A	1.1	7.4	0.76	0.81	0.76	43.3
West: Burns Bay Road												
10	L2	65	1.5	0.592	6.1	LOS A	5.2	37.2	0.62	0.65	0.62	44.6
11	T1	271	4.8	0.592	5.7	LOS A	5.2	37.2	0.62	0.65	0.62	41.1
12	R2	314	0.0	0.592	8.3	LOS A	5.2	37.2	0.62	0.65	0.62	44.9
Approach		650	2.2	0.592	7.0	LOS A	5.2	37.2	0.62	0.65	0.62	43.2
All Vehicles		1341	1.8	0.592	7.0	LOS A	5.2	37.2	0.62	0.68	0.62	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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: 101 [Proposed PM]**

Burns Bay Road, Sutherland Street and Tambourine Bay Road Intersection
Site Category: (None)
Roundabout

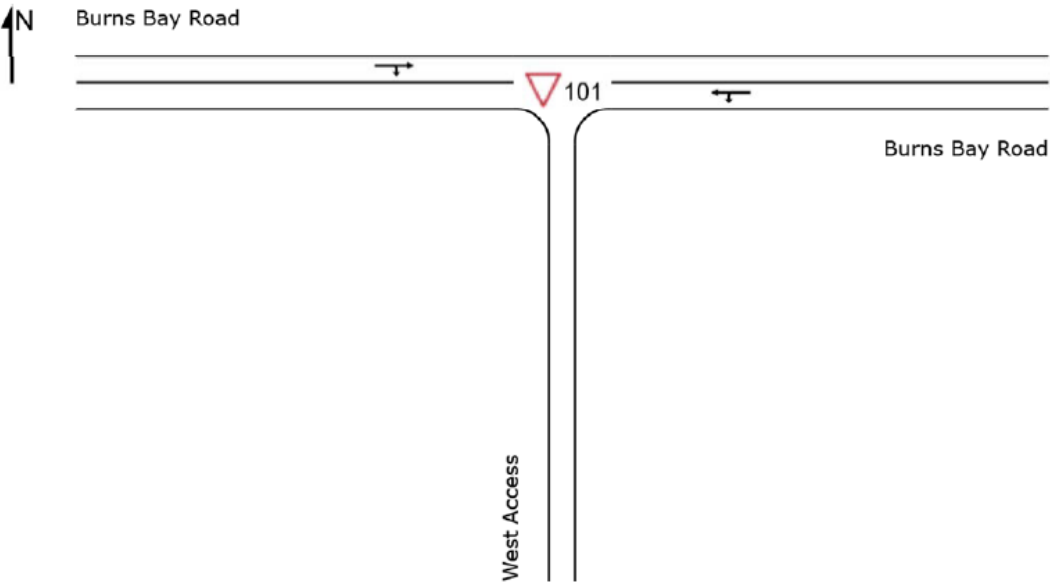
Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tambourine Bay Road												
1	L2	197	0.0	0.486	8.0	LOS A	3.6	25.5	0.73	0.80	0.76	43.9
2	T1	64	0.0	0.486	7.6	LOS A	3.6	25.5	0.73	0.80	0.76	44.4
3	R2	148	3.4	0.486	10.4	LOS A	3.6	25.5	0.73	0.80	0.76	40.4
Approach		409	1.2	0.486	8.8	LOS A	3.6	25.5	0.73	0.80	0.76	42.6
East: Burns Bay Road												
4	L2	150	0.0	0.472	5.7	LOS A	3.4	23.8	0.63	0.64	0.63	41.0
5	T1	297	2.4	0.472	5.1	LOS A	3.4	23.8	0.63	0.64	0.63	41.4
6	R2	5	0.0	0.472	7.7	LOS A	3.4	23.8	0.63	0.64	0.63	41.2
Approach		452	1.5	0.472	5.3	LOS A	3.4	23.8	0.63	0.64	0.63	41.2
North: Sutherland Street												
7	L2	11	0.0	0.228	7.7	LOS A	1.3	9.4	0.65	0.76	0.65	40.1
8	T1	65	0.0	0.228	7.3	LOS A	1.3	9.4	0.65	0.76	0.65	44.4
9	R2	102	1.0	0.228	10.0	LOS A	1.3	9.4	0.65	0.76	0.65	44.2
Approach		178	0.6	0.228	8.9	LOS A	1.3	9.4	0.65	0.76	0.65	44.0
West: Burns Bay Road												
10	L2	30	0.0	0.380	5.9	LOS A	2.7	19.2	0.55	0.63	0.55	44.9
11	T1	231	3.9	0.380	5.5	LOS A	2.7	19.2	0.55	0.63	0.55	41.4
12	R2	121	0.8	0.380	8.2	LOS A	2.7	19.2	0.55	0.63	0.55	45.2
Approach		382	2.6	0.380	6.4	LOS A	2.7	19.2	0.55	0.63	0.55	42.8
All Vehicles		1421	1.6	0.486	7.1	LOS A	3.6	25.5	0.64	0.70	0.65	42.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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: 101 [Existing AM]

Burns Bay Road and West Access Intersection
Site Category: (None)
Giveaway / Yield (Two-Way)



MOVEMENT SUMMARY

▽ Site: 101 [Existing AM]

Burns Bay Road and West Access Intersection

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Burns Bay Road												
4	L2	45	0.0	0.192	3.5	LOS A	0.0	0.0	0.00	0.06	0.00	39.9
5	T1	318	4.1	0.192	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	39.8
Approach		363	3.6	0.192	0.4	NA	0.0	0.0	0.00	0.06	0.00	39.8
West: Burns Bay Road												
11	T1	410	3.9	0.282	0.4	LOS A	0.9	6.6	0.26	0.13	0.26	39.2
12	R2	114	0.0	0.282	5.2	LOS A	0.9	6.6	0.26	0.13	0.26	26.7
Approach		524	3.1	0.282	1.5	NA	0.9	6.6	0.26	0.13	0.26	35.6
All Vehicles		887	3.3	0.282	1.0	NA	0.9	6.6	0.15	0.10	0.15	37.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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: 101 [Existing PM]

Burns Bay Road and West Access Intersection

Site Category: (None)

Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Burns Bay Road												
4	L2	51	0.0	0.256	3.5	LOS A	0.0	0.0	0.00	0.05	0.00	40.0
5	T1	441	1.8	0.256	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	39.8
Approach		492	1.6	0.256	0.4	NA	0.0	0.0	0.00	0.05	0.00	39.8
West: Burns Bay Road												
11	T1	347	3.7	0.211	0.3	LOS A	0.4	2.8	0.16	0.07	0.16	39.5
12	R2	43	0.0	0.211	5.6	LOS A	0.4	2.8	0.16	0.07	0.16	26.9
Approach		390	3.3	0.211	0.9	NA	0.4	2.8	0.16	0.07	0.16	37.6
All Vehicles		882	2.4	0.256	0.6	NA	0.4	2.8	0.07	0.06	0.07	38.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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.

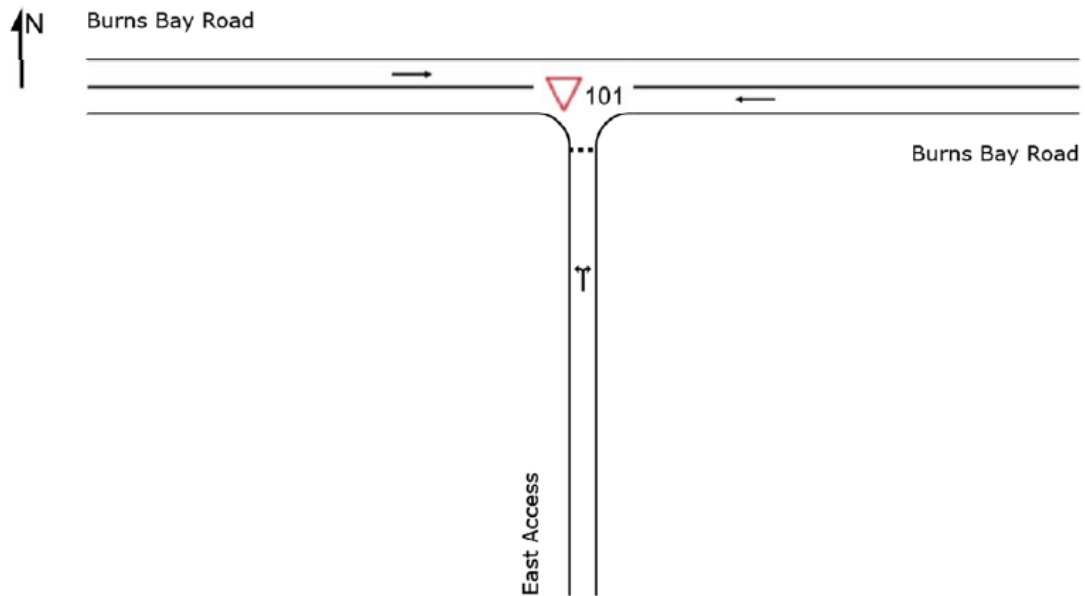
SITE LAYOUT

▽ Site: 101 [Existing AM]

Burns Bay Road and East Access Intersection

Site Category: (None)

Giveaway / Yield (Two-Way)



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Organisation: VARGA TRAFFIC PLANNING | Created: Wednesday, 11 July, 2018 9:41:42 AM

Project: Z:\DATA\Jobs\01\Jobs\17\work\17314Y_54-60BurnsBayRdLaneCove\SIDRA\180709\3.BurnsBayRd_EastAccess_Existing.sip8

MOVEMENT SUMMARY

Site: 101 [Existing AM]

Burns Bay Road and East Access Intersection
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: East Access												
1	L2	37	0.0	0.033	6.6	LOS A	0.1	0.9	0.37	0.60	0.37	52.5
3	R2	3	0.0	0.033	6.6	LOS A	0.1	0.9	0.37	0.60	0.37	51.8
Approach		40	0.0	0.033	6.6	LOS A	0.1	0.9	0.37	0.60	0.37	52.4
East: Burns Bay Road												
5	T1	326	4.0	0.172	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		326	4.0	0.172	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Burns Bay Road												
11	T1	408	3.9	0.215	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		408	3.9	0.215	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		774	3.7	0.215	0.4	NA	0.1	0.9	0.02	0.03	0.02	59.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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: 101 [Existing PM]

Burns Bay Road and East Access Intersection
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: East Access												
1	L2	60	0.0	0.063	7.2	LOS A	0.2	1.6	0.43	0.66	0.43	52.3
3	R2	10	0.0	0.063	6.7	LOS A	0.2	1.6	0.43	0.66	0.43	51.6
Approach		70	0.0	0.063	7.1	LOS A	0.2	1.6	0.43	0.66	0.43	52.2
East: Burns Bay Road												
5	T1	432	1.9	0.224	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		432	1.9	0.224	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Burns Bay Road												
11	T1	347	3.7	0.182	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		347	3.7	0.182	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		849	2.5	0.224	0.6	NA	0.2	1.6	0.04	0.05	0.04	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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.

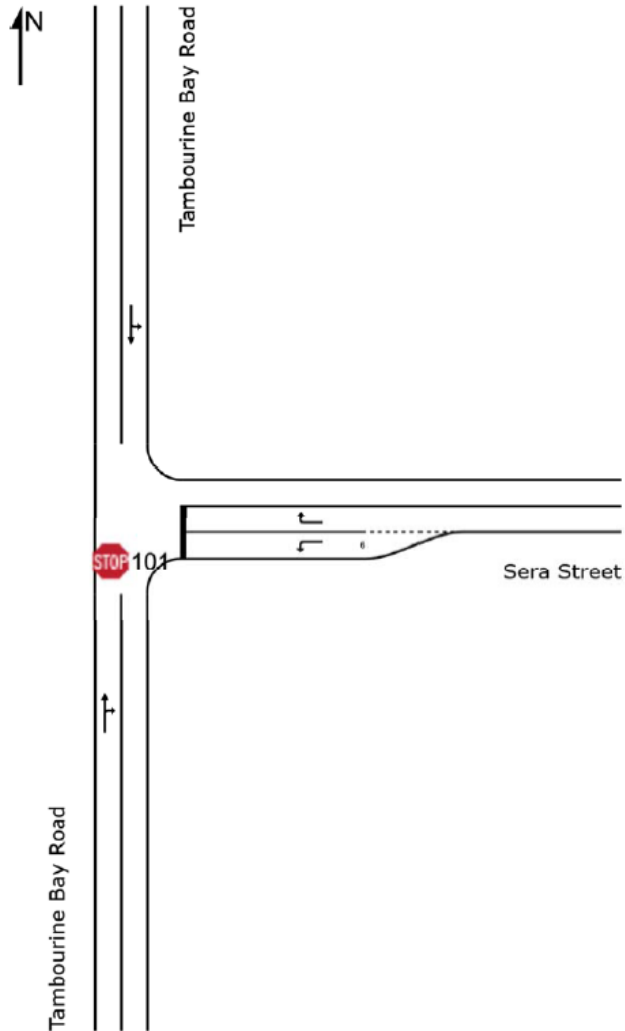
SITE LAYOUT

 **Site: 101 [Existing AM]**

Tambourine Bay Road and Sera Street

Site Category: (None)

Stop (Two-Way)



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Organisation: VARGA TRAFFIC PLANNING | Created: Wednesday, 11 July, 2018 9:45:28 AM

Project: Z:\DATA\Data\Jobs\01\Jobs\17\work\17314Y_54-60BurnsBayRdLaneCove\SIDRA\18070914.TambourineBayRd_SeraSt_Existing.sip8

MOVEMENT SUMMARY

 Site: 101 [Existing AM]

Tambourine Bay Road and Sera Street
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tambourine Bay Road												
2	T1	211	0.9	0.203	0.9	LOS A	1.0	7.0	0.42	0.26	0.42	47.6
3	R2	153	0.0	0.203	5.9	LOS A	1.0	7.0	0.42	0.26	0.42	47.0
Approach		364	0.5	0.203	3.0	NA	1.0	7.0	0.42	0.26	0.42	47.4
East: Sera Street												
4	L2	105	0.0	0.090	8.3	LOS A	0.4	2.5	0.32	0.87	0.32	44.9
6	R2	43	2.3	0.038	8.2	LOS A	0.1	0.7	0.37	0.93	0.37	44.5
Approach		148	0.7	0.090	8.3	LOS A	0.4	2.5	0.34	0.89	0.34	44.8
North: Tambourine Bay Road												
7	L2	199	0.5	0.217	4.6	LOS A	0.0	0.0	0.00	0.26	0.00	48.0
8	T1	212	0.9	0.217	0.0	LOS A	0.0	0.0	0.00	0.26	0.00	48.5
Approach		411	0.7	0.217	2.2	NA	0.0	0.0	0.00	0.26	0.00	48.3
All Vehicles		923	0.7	0.217	3.5	NA	1.0	7.0	0.22	0.36	0.22	47.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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: 101 [Existing PM]

Tambourine Bay Road and Sera Street

Site Category: (None)

Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tambourine Bay Road												
2	T1	252	2.0	0.154	0.2	LOS A	0.3	2.1	0.14	0.08	0.14	49.2
3	R2	42	0.0	0.154	5.4	LOS A	0.3	2.1	0.14	0.08	0.14	48.5
Approach		294	1.7	0.154	0.9	NA	0.3	2.1	0.14	0.08	0.14	49.1
East: Sera Street												
4	L2	134	0.0	0.114	8.3	LOS A	0.5	3.3	0.32	0.87	0.32	44.9
6	R2	133	0.0	0.105	7.9	LOS A	0.3	2.0	0.34	0.94	0.34	44.6
Approach		267	0.0	0.114	8.1	LOS A	0.5	3.3	0.33	0.91	0.33	44.8
North: Tambourine Bay Road												
7	L2	87	0.0	0.152	4.6	LOS A	0.0	0.0	0.00	0.16	0.00	48.6
8	T1	205	0.5	0.152	0.0	LOS A	0.0	0.0	0.00	0.16	0.00	49.1
Approach		292	0.3	0.152	1.4	NA	0.0	0.0	0.00	0.16	0.00	48.9
All Vehicles		853	0.7	0.154	3.3	NA	0.5	3.3	0.15	0.37	0.15	47.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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: 101 [Proposed AM]

Tambourine Bay Road and Sera Street
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tambourine Bay Road												
2	T1	182	1.1	0.216	1.3	LOS A	1.2	8.3	0.51	0.34	0.51	47.2
3	R2	182	0.0	0.216	6.3	LOS A	1.2	8.3	0.51	0.34	0.51	46.6
Approach		364	0.5	0.216	3.8	NA	1.2	8.3	0.51	0.34	0.51	46.9
East: Sera Street												
4	L2	115	0.0	0.098	8.3	LOS A	0.4	2.8	0.33	0.87	0.33	44.9
6	R2	72	1.4	0.065	8.3	LOS A	0.2	1.2	0.39	0.95	0.39	44.5
Approach		187	0.5	0.098	8.3	LOS A	0.4	2.8	0.35	0.90	0.35	44.7
North: Tambourine Bay Road												
7	L2	285	0.4	0.263	4.6	LOS A	0.0	0.0	0.00	0.31	0.00	47.8
8	T1	212	0.9	0.263	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	48.2
Approach		497	0.6	0.263	2.6	NA	0.0	0.0	0.00	0.31	0.00	48.0
All Vehicles		1048	0.6	0.263	4.1	NA	1.2	8.3	0.24	0.42	0.24	47.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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: 101 [Proposed PM]**

Tambourine Bay Road and Sera Street

Site Category: (None)

Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Tambourine Bay Road												
2	T1	241	2.1	0.156	0.3	LOS A	0.4	2.7	0.18	0.10	0.18	48.9
3	R2	54	0.0	0.156	5.5	LOS A	0.4	2.7	0.18	0.10	0.18	48.2
Approach		295	1.7	0.156	1.2	NA	0.4	2.7	0.18	0.10	0.18	48.8
East: Sera Street												
4	L2	149	0.0	0.127	8.3	LOS A	0.5	3.7	0.33	0.88	0.33	44.9
6	R2	180	0.0	0.144	8.0	LOS A	0.4	2.9	0.36	0.95	0.36	44.6
Approach		329	0.0	0.144	8.1	LOS A	0.5	3.7	0.34	0.92	0.34	44.7
North: Tambourine Bay Road												
7	L2	122	0.0	0.171	4.6	LOS A	0.0	0.0	0.00	0.20	0.00	48.4
8	T1	205	0.5	0.171	0.0	LOS A	0.0	0.0	0.00	0.20	0.00	48.8
Approach		327	0.3	0.171	1.7	NA	0.0	0.0	0.00	0.20	0.00	48.7
All Vehicles		951	0.6	0.171	3.8	NA	0.5	3.7	0.18	0.42	0.18	47.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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.

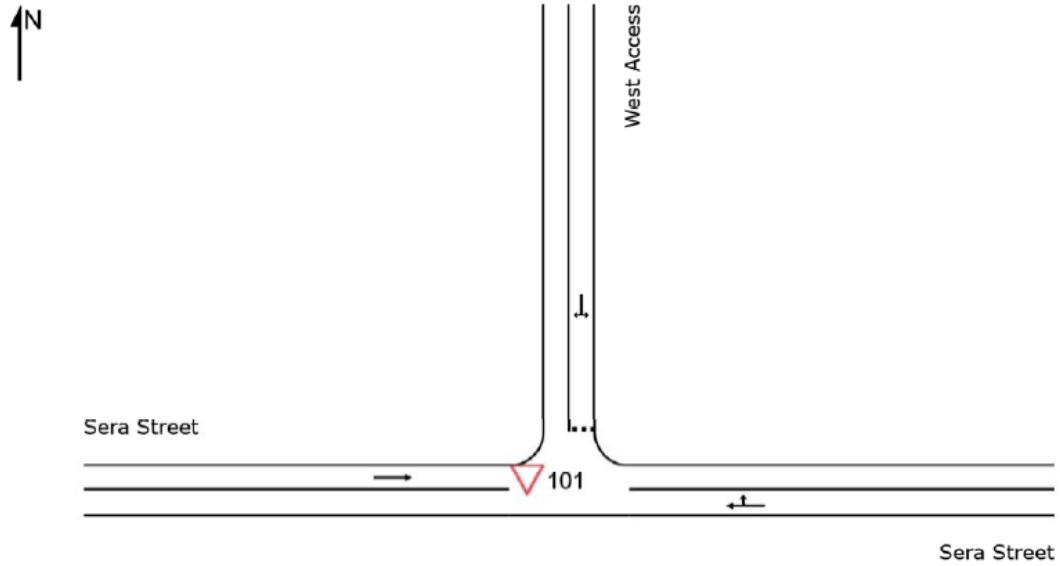
SITE LAYOUT

Site: 101 [Existing AM]

Sera Street and West Access Intersection

Site Category: (None)

Giveway / Yield (Two-Way)



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Organisation: VARGA TRAFFIC PLANNING | Created: Wednesday, 11 July, 2018 9:48:34 AM

Project: Z:\DATA\Jobs\01\Jobs\17\work\17314Y_54-60 Burns Bay Rd Lane Cove\SIDRA\180709\5.SeraStreet_WestAccess_Existing.sip8

MOVEMENT SUMMARY

▽ Site: 101 [Existing AM]

Sera Street and West Access Intersection

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed	
		Total veh/h	HV %	v/c	sec		veh	Distance m				km/h
East: Sera Street												
5	T1	125	0.0	0.070	0.1	LOS A	0.1	0.5	0.07	0.04	0.07	49.6
6	R2	10	10.0	0.070	5.5	LOS A	0.1	0.5	0.07	0.04	0.07	29.0
Approach		135	0.7	0.070	0.5	NA	0.1	0.5	0.07	0.04	0.07	47.1
North: West Access												
7	L2	7	0.0	0.010	0.9	LOS A	0.0	0.2	0.29	0.21	0.29	27.9
9	R2	7	0.0	0.010	1.0	LOS A	0.0	0.2	0.29	0.21	0.29	27.8
Approach		14	0.0	0.010	0.9	LOS A	0.0	0.2	0.29	0.21	0.29	27.9
West: Sera Street												
11	T1	282	0.0	0.145	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach		282	0.0	0.145	0.0	NA	0.0	0.0	0.00	0.00	0.00	50.0
All Vehicles		431	0.2	0.145	0.2	NA	0.1	0.5	0.03	0.02	0.03	47.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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: 101 [Existing PM]

Sera Street and West Access Intersection
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sera Street												
5	T1	226	0.0	0.123	0.0	LOS A	0.1	0.6	0.03	0.03	0.03	49.7
6	R2	14	7.1	0.123	4.9	LOS A	0.1	0.6	0.03	0.03	0.03	29.0
Approach		240	0.4	0.123	0.3	NA	0.1	0.6	0.03	0.03	0.03	47.8
North: West Access												
7	L2	29	0.0	0.038	0.3	LOS A	0.1	0.9	0.17	0.15	0.17	28.0
9	R2	33	0.0	0.038	0.9	LOS A	0.1	0.9	0.17	0.15	0.17	27.9
Approach		62	0.0	0.038	0.6	LOS A	0.1	0.9	0.17	0.15	0.17	28.0
West: Sera Street												
11	T1	98	0.0	0.050	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach		98	0.0	0.050	0.0	NA	0.0	0.0	0.00	0.00	0.00	50.0
All Vehicles		400	0.3	0.123	0.3	NA	0.1	0.9	0.04	0.04	0.04	43.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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: 101 [Proposed AM]

Sera Street and West Access Intersection
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m				km/h
East: Sera Street												
5	T1	164	0.0	0.091	0.1	LOS A	0.1	0.6	0.07	0.03	0.07	49.6
6	R2	10	10.0	0.091	5.9	LOS A	0.1	0.6	0.07	0.03	0.07	29.0
Approach		174	0.6	0.091	0.4	NA	0.1	0.6	0.07	0.03	0.07	47.7
North: West Access												
7	L2	7	0.0	0.011	1.3	LOS A	0.0	0.2	0.36	0.27	0.36	27.9
9	R2	7	0.0	0.011	1.2	LOS A	0.0	0.2	0.36	0.27	0.36	27.7
Approach		14	0.0	0.011	1.3	LOS A	0.0	0.2	0.36	0.27	0.36	27.8
West: Sera Street												
11	T1	397	0.0	0.204	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach		397	0.0	0.204	0.0	NA	0.0	0.0	0.00	0.00	0.00	50.0
All Vehicles		585	0.2	0.204	0.2	NA	0.1	0.6	0.03	0.02	0.03	48.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Proposed PM]

Sera Street and West Access Intersection
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sera Street												
5	T1	288	0.0	0.155	0.0	LOS A	0.1	0.7	0.03	0.03	0.03	49.8
6	R2	14	7.1	0.155	5.0	LOS A	0.1	0.7	0.03	0.03	0.03	29.0
Approach		302	0.3	0.155	0.3	NA	0.1	0.7	0.03	0.03	0.03	48.2
North: West Access												
7	L2	29	0.0	0.040	0.4	LOS A	0.1	0.9	0.21	0.18	0.21	28.0
9	R2	33	0.0	0.040	1.1	LOS A	0.1	0.9	0.21	0.18	0.21	27.9
Approach		62	0.0	0.040	0.8	LOS A	0.1	0.9	0.21	0.18	0.21	27.9
West: Sera Street												
11	T1	145	0.0	0.074	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach		145	0.0	0.074	0.0	NA	0.0	0.0	0.00	0.00	0.00	50.0
All Vehicles		509	0.2	0.155	0.2	NA	0.1	0.9	0.04	0.04	0.04	44.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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.

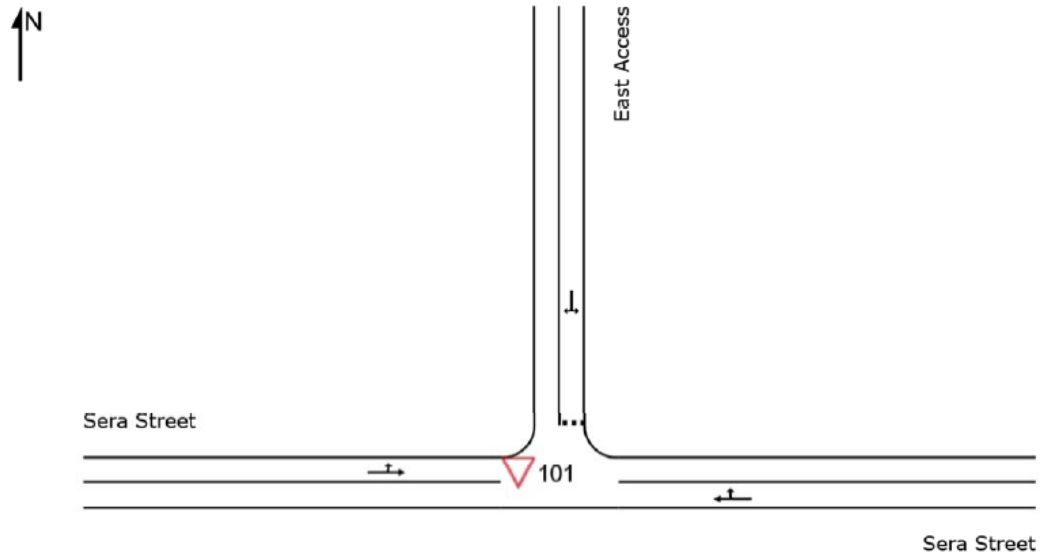
SITE LAYOUT

Site: 101 [Existing AM]

Sera Street and East Access Intersection

Site Category: (None)

Giveaway / Yield (Two-Way)



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Organisation: VARGA TRAFFIC PLANNING | Created: Wednesday, 11 July, 2018 9:53:20 AM

Project: Z:\DATA\Jobs\17\work\17314Y_54-60 Burns Bay Rd Lane Cove\SIDRA\180709\6.SeraStreet_EastAccess_Existing.sip8

MOVEMENT SUMMARY

▽ Site: 101 [Existing AM]

Sera Street and East Access Intersection
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sera Street												
5	T1	124	0.8	0.087	0.3	LOS A	0.3	1.8	0.22	0.14	0.22	48.7
6	R2	39	2.6	0.087	5.5	LOS A	0.3	1.8	0.22	0.14	0.22	28.7
Approach		163	1.2	0.087	1.6	NA	0.3	1.8	0.22	0.14	0.22	41.7
North: East Access												
7	L2	116	0.9	0.100	1.1	LOS A	0.4	2.8	0.37	0.26	0.37	27.9
9	R2	9	0.0	0.100	1.2	LOS A	0.4	2.8	0.37	0.26	0.37	27.7
Approach		125	0.8	0.100	1.1	LOS A	0.4	2.8	0.37	0.26	0.37	27.9
West: Sera Street												
10	L2	25	0.0	0.171	4.6	LOS A	0.0	0.0	0.00	0.04	0.00	49.2
11	T1	307	0.0	0.171	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		332	0.0	0.171	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
All Vehicles		620	0.5	0.171	0.8	NA	0.4	2.8	0.13	0.11	0.13	41.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▽ Site: 101 [Existing PM]

Sera Street and East Access Intersection

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sera Street												
5	T1	213	0.5	0.146	0.1	LOS A	0.4	3.0	0.15	0.14	0.15	48.8
6	R2	75	0.0	0.146	4.9	LOS A	0.4	3.0	0.15	0.14	0.15	28.7
Approach		288	0.3	0.146	1.4	NA	0.4	3.0	0.15	0.14	0.15	41.3
North: East Access												
7	L2	91	1.1	0.078	0.4	LOS A	0.3	2.1	0.20	0.13	0.20	28.0
9	R2	27	0.0	0.078	1.1	LOS A	0.3	2.1	0.20	0.13	0.20	27.9
Approach		118	0.8	0.078	0.5	LOS A	0.3	2.1	0.20	0.13	0.20	28.0
West: Sera Street												
10	L2	23	0.0	0.075	4.6	LOS A	0.0	0.0	0.00	0.09	0.00	49.0
11	T1	123	0.0	0.075	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	49.5
Approach		146	0.0	0.075	0.7	NA	0.0	0.0	0.00	0.09	0.00	49.4
All Vehicles		552	0.4	0.146	1.0	NA	0.4	3.0	0.12	0.12	0.12	39.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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: 101 [Proposed AM]

Sera Street and East Access Intersection

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sera Street												
5	T1	124	0.8	0.121	0.9	LOS A	0.6	4.0	0.41	0.26	0.41	47.7
6	R2	89	1.1	0.121	5.9	LOS A	0.6	4.0	0.41	0.26	0.41	28.3
Approach		213	0.9	0.121	3.0	NA	0.6	4.0	0.41	0.26	0.41	37.1
North: East Access												
7	L2	123	0.8	0.131	1.1	LOS A	0.5	3.5	0.36	0.29	0.36	27.9
9	R2	48	0.0	0.131	1.3	LOS A	0.5	3.5	0.36	0.29	0.36	27.7
Approach		171	0.6	0.131	1.2	LOS A	0.5	3.5	0.36	0.29	0.36	27.8
West: Sera Street												
10	L2	139	0.0	0.232	4.6	LOS A	0.0	0.0	0.00	0.17	0.00	48.5
11	T1	307	0.0	0.232	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	49.0
Approach		446	0.0	0.232	1.5	NA	0.0	0.0	0.00	0.17	0.00	48.9
All Vehicles		830	0.4	0.232	1.8	NA	0.6	4.0	0.18	0.22	0.18	39.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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

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Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sera Street												
5	T1	213	0.5	0.175	0.3	LOS A	0.7	5.2	0.25	0.21	0.25	48.2
6	R2	131	0.0	0.175	5.1	LOS A	0.7	5.2	0.25	0.21	0.25	28.5
Approach		344	0.3	0.175	2.1	NA	0.7	5.2	0.25	0.21	0.25	38.2
North: East Access												
7	L2	106	0.9	0.128	0.4	LOS A	0.5	3.2	0.20	0.17	0.20	28.0
9	R2	89	0.0	0.128	1.2	LOS A	0.5	3.2	0.20	0.17	0.20	27.9
Approach		195	0.5	0.128	0.8	LOS A	0.5	3.2	0.20	0.17	0.20	27.9
West: Sera Street												
10	L2	70	0.0	0.101	4.6	LOS A	0.0	0.0	0.00	0.20	0.00	48.4
11	T1	123	0.0	0.101	0.0	LOS A	0.0	0.0	0.00	0.20	0.00	48.9
Approach		193	0.0	0.101	1.7	NA	0.0	0.0	0.00	0.20	0.00	48.7
All Vehicles		732	0.3	0.175	1.6	NA	0.7	5.2	0.17	0.20	0.17	36.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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.

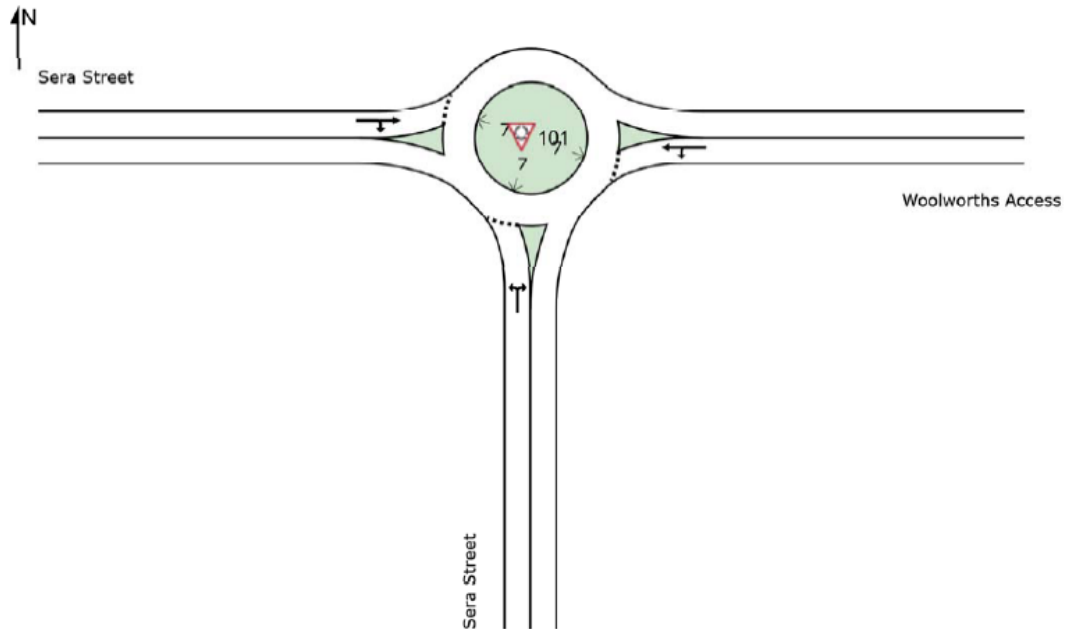
SITE LAYOUT

 **Site: 101 [Existing AM]**

Sera Street and Woolworths Access Intersection

Site Category: (None)

Roundabout



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Organisation: VARGA TRAFFIC PLANNING | Created: Wednesday, 11 July, 2018 10:00:59 AM

Project: Z:\DATA\Data\Jobs01\Jobs\17work\17314Y_54-60BurnsBayRdLaneCove\SIDRA\180709\7.SeraSt_WoolworthsAccess_Existing.sip8

MOVEMENT SUMMARY

Site: 101 [Existing AM]

Sera Street and Woolworths Access Intersection
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sera Street												
1	L2	149	1.3	0.168	4.5	LOS A	1.0	7.1	0.13	0.55	0.13	45.6
3	R2	85	0.0	0.168	6.6	LOS A	1.0	7.1	0.13	0.55	0.13	28.3
Approach		234	0.9	0.168	5.3	LOS A	1.0	7.1	0.13	0.55	0.13	37.3
East: Woolworths Access												
4	L2	54	0.0	0.084	2.2	LOS A	0.4	3.0	0.46	0.35	0.46	27.7
5	T1	24	0.0	0.084	1.7	LOS A	0.4	3.0	0.46	0.35	0.46	27.8
Approach		78	0.0	0.084	2.1	LOS A	0.4	3.0	0.46	0.35	0.46	27.7
West: Sera Street												
11	T1	110	0.0	0.325	5.0	LOS A	2.0	14.3	0.29	0.59	0.29	27.3
12	R2	298	0.3	0.325	7.0	LOS A	2.0	14.3	0.29	0.59	0.29	45.2
Approach		408	0.2	0.325	6.5	LOS A	2.0	14.3	0.29	0.59	0.29	38.4
All Vehicles		720	0.4	0.325	5.6	LOS A	2.0	14.3	0.26	0.55	0.26	36.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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: 101 [Existing PM]**

Sera Street and Woolworths Access Intersection
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sera Street												
1	L2	193	0.5	0.301	5.1	LOS A	1.9	13.6	0.33	0.58	0.33	45.1
3	R2	169	0.0	0.301	7.1	LOS A	1.9	13.6	0.33	0.58	0.33	28.1
Approach		362	0.3	0.301	6.1	LOS A	1.9	13.6	0.33	0.58	0.33	35.2
East: Woolworths Access												
4	L2	165	0.0	0.244	1.4	LOS A	1.5	10.2	0.39	0.27	0.39	27.7
5	T1	104	0.0	0.244	1.0	LOS A	1.5	10.2	0.39	0.27	0.39	27.9
Approach		269	0.0	0.244	1.3	LOS A	1.5	10.2	0.39	0.27	0.39	27.8
West: Sera Street												
11	T1	78	0.0	0.215	5.5	LOS A	1.2	8.6	0.40	0.62	0.40	27.3
12	R2	149	0.7	0.215	7.6	LOS A	1.2	8.6	0.40	0.62	0.40	45.0
Approach		227	0.4	0.215	6.9	LOS A	1.2	8.6	0.40	0.62	0.40	36.8
All Vehicles		858	0.2	0.301	4.8	LOS A	1.9	13.6	0.37	0.49	0.37	32.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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: 101 [Proposed AM]**

Sera Street and Woolworths Access Intersection
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sera Street												
1	L2	199	1.0	0.201	4.5	LOS A	1.2	8.8	0.13	0.54	0.13	45.7
3	R2	85	0.0	0.201	6.6	LOS A	1.2	8.8	0.13	0.54	0.13	28.3
Approach		284	0.7	0.201	5.1	LOS A	1.2	8.8	0.13	0.54	0.13	38.6
East: Woolworths Access												
4	L2	54	0.0	0.084	2.2	LOS A	0.4	3.0	0.47	0.36	0.47	27.7
5	T1	24	0.0	0.084	1.8	LOS A	0.4	3.0	0.47	0.36	0.47	27.8
Approach		78	0.0	0.084	2.1	LOS A	0.4	3.0	0.47	0.36	0.47	27.7
West: Sera Street												
11	T1	110	0.0	0.330	5.0	LOS A	2.1	14.5	0.29	0.59	0.29	27.3
12	R2	304	0.3	0.330	7.0	LOS A	2.1	14.5	0.29	0.59	0.29	45.2
Approach		414	0.2	0.330	6.5	LOS A	2.1	14.5	0.29	0.59	0.29	38.5
All Vehicles		776	0.4	0.330	5.5	LOS A	2.1	14.5	0.25	0.55	0.25	37.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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: 101 [Proposed PM]**

Sera Street and Woolworths Access Intersection
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sera Street												
1	L2	250	0.4	0.345	5.1	LOS A	2.3	16.4	0.35	0.57	0.35	45.1
3	R2	169	0.0	0.345	7.2	LOS A	2.3	16.4	0.35	0.57	0.35	28.1
Approach		419	0.2	0.345	5.9	LOS A	2.3	16.4	0.35	0.57	0.35	36.3
East: Woolworths Access												
4	L2	165	0.0	0.250	1.6	LOS A	1.5	10.4	0.41	0.29	0.41	27.7
5	T1	104	0.0	0.250	1.1	LOS A	1.5	10.4	0.41	0.29	0.41	27.8
Approach		269	0.0	0.250	1.4	LOS A	1.5	10.4	0.41	0.29	0.41	27.8
West: Sera Street												
11	T1	78	0.0	0.228	5.5	LOS A	1.3	9.2	0.40	0.62	0.40	27.3
12	R2	164	0.6	0.228	7.6	LOS A	1.3	9.2	0.40	0.62	0.40	45.0
Approach		242	0.4	0.228	6.9	LOS A	1.3	9.2	0.40	0.62	0.40	37.2
All Vehicles		930	0.2	0.345	4.9	LOS A	2.3	16.4	0.38	0.50	0.38	33.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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.

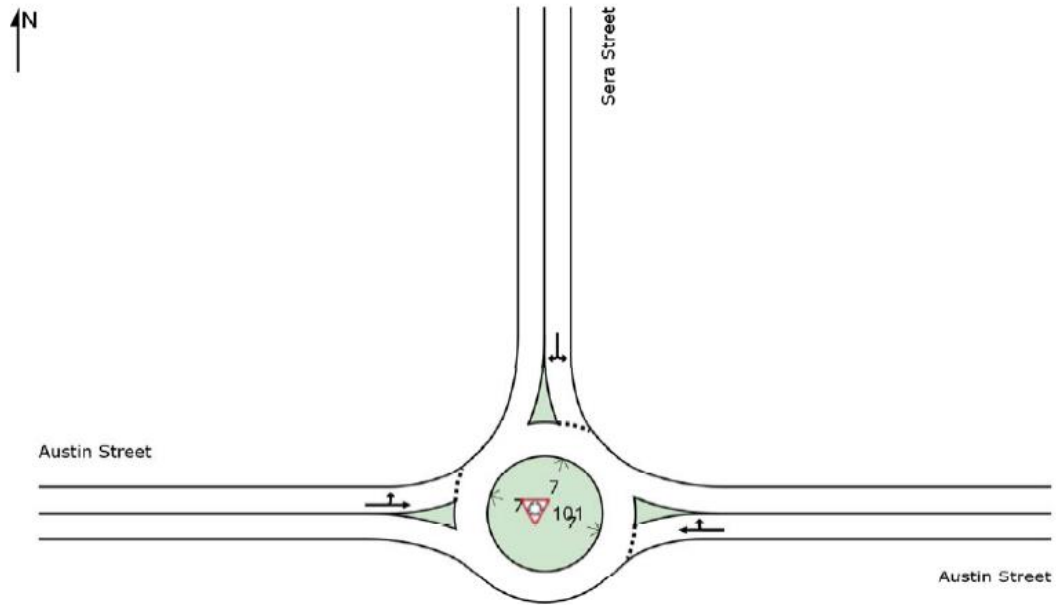
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

SITE LAYOUT

 **Site: 101 [Existing AM]**

Austin Street and Sera Street Intersection
Site Category: (None)
Roundabout



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Organisation: VARGA TRAFFIC PLANNING | Created: Wednesday, 11 July, 2018 10:02:39 AM

Project: Z:\DATA\Data\Jobs\01\Jobs\17\work\117314Y_54-60BurnsBayRdLaneCove\SIDRA\180709\8.AustinSt_SeraSt_Existing.sip8

MOVEMENT SUMMARY


 Site: 101 [Existing AM]

Austin Street and Sera Street Intersection
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Austin Street												
5	T1	35	0.0	0.179	3.9	LOS A	0.9	6.0	0.10	0.61	0.10	45.7
6	R2	212	0.9	0.179	6.6	LOS A	0.9	6.0	0.10	0.61	0.10	45.4
Approach		247	0.8	0.179	6.2	LOS A	0.9	6.0	0.10	0.61	0.10	45.5
North: Sera Street												
7	L2	346	0.3	0.295	4.9	LOS A	1.9	13.5	0.28	0.53	0.28	45.6
9	R2	27	0.0	0.295	6.9	LOS A	1.9	13.5	0.28	0.53	0.28	45.9
Approach		373	0.3	0.295	5.0	LOS A	1.9	13.5	0.28	0.53	0.28	45.6
West: Austin Street												
10	L2	39	0.0	0.110	5.7	LOS A	0.7	4.7	0.39	0.51	0.39	45.6
11	T1	76	0.0	0.110	5.1	LOS A	0.7	4.7	0.39	0.51	0.39	46.1
Approach		115	0.0	0.110	5.3	LOS A	0.7	4.7	0.39	0.51	0.39	46.0
All Vehicles		735	0.4	0.295	5.5	LOS A	1.9	13.5	0.24	0.55	0.24	45.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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.

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Austin Street and Sera Street Intersection
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Austin Street												
5	T1	26	3.8	0.234	3.9	LOS A	1.2	8.2	0.09	0.62	0.09	45.6
6	R2	313	0.3	0.234	6.6	LOS A	1.2	8.2	0.09	0.62	0.09	45.4
Approach		339	0.6	0.234	6.4	LOS A	1.2	8.2	0.09	0.62	0.09	45.4
North: Sera Street												
7	L2	303	0.3	0.235	4.6	LOS A	1.5	10.5	0.17	0.51	0.17	45.9
9	R2	21	0.0	0.235	6.6	LOS A	1.5	10.5	0.17	0.51	0.17	46.1
Approach		324	0.3	0.235	4.7	LOS A	1.5	10.5	0.17	0.51	0.17	45.9
West: Austin Street												
10	L2	33	0.0	0.069	6.3	LOS A	0.4	3.0	0.47	0.54	0.47	45.4
11	T1	34	2.9	0.069	5.8	LOS A	0.4	3.0	0.47	0.54	0.47	45.8
Approach		67	1.5	0.069	6.0	LOS A	0.4	3.0	0.47	0.54	0.47	45.6
All Vehicles		730	0.5	0.235	5.6	LOS A	1.5	10.5	0.16	0.57	0.16	45.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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: 101 [Proposed AM]

Austin Street and Sera Street Intersection
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Austin Street												
5	T1	35	0.0	0.217	4.1	LOS A	1.1	7.7	0.10	0.62	0.10	46.3
6	R2	269	0.7	0.217	6.8	LOS A	1.1	7.7	0.10	0.62	0.10	46.8
Approach		304	0.7	0.217	6.5	LOS A	1.1	7.7	0.10	0.62	0.10	46.7
North: Sera Street												
7	L2	361	0.3	0.306	4.9	LOS A	2.0	14.4	0.29	0.53	0.29	45.9
9	R2	27	0.0	0.306	7.0	LOS A	2.0	14.4	0.29	0.53	0.29	46.0
Approach		388	0.3	0.306	5.1	LOS A	2.0	14.4	0.29	0.53	0.29	45.9
West: Austin Street												
10	L2	39	0.0	0.114	6.1	LOS A	0.7	5.0	0.44	0.53	0.44	45.5
11	T1	76	0.0	0.114	5.5	LOS A	0.7	5.0	0.44	0.53	0.44	46.0
Approach		115	0.0	0.114	5.7	LOS A	0.7	5.0	0.44	0.53	0.44	45.8
All Vehicles		807	0.4	0.306	5.7	LOS A	2.0	14.4	0.24	0.56	0.24	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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: 101 [Proposed PM]**

Austin Street and Sera Street Intersection
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Austin Street												
5	T1	26	3.8	0.266	4.1	LOS A	1.4	9.7	0.09	0.62	0.09	46.0
6	R2	363	0.3	0.266	6.7	LOS A	1.4	9.7	0.09	0.62	0.09	46.3
Approach		389	0.5	0.266	6.5	LOS A	1.4	9.7	0.09	0.62	0.09	46.3
North: Sera Street												
7	L2	310	0.3	0.240	4.6	LOS A	1.6	10.9	0.18	0.51	0.18	46.0
9	R2	21	0.0	0.240	6.7	LOS A	1.6	10.9	0.18	0.51	0.18	46.2
Approach		331	0.3	0.240	4.7	LOS A	1.6	10.9	0.18	0.51	0.18	46.0
West: Austin Street												
10	L2	33	0.0	0.071	6.7	LOS A	0.5	3.3	0.50	0.55	0.50	45.2
11	T1	34	2.9	0.071	6.2	LOS A	0.5	3.3	0.50	0.55	0.50	45.6
Approach		67	1.5	0.071	6.4	LOS A	0.5	3.3	0.50	0.55	0.50	45.4
All Vehicles		787	0.5	0.266	5.8	LOS A	1.6	10.9	0.16	0.57	0.16	46.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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.

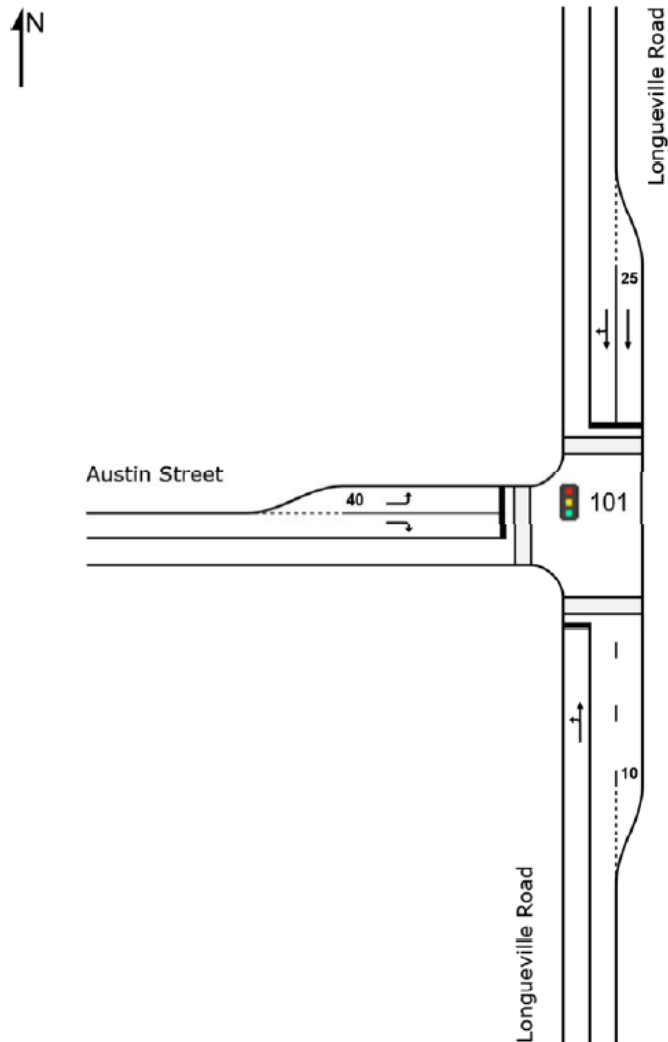
SITE LAYOUT

 Site: 101 [Existing AM]

Longueville Road and Austin Street Intersection

Site Category: (None)

Signals - Actuated Isolated



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Organisation: VARGA TRAFFIC PLANNING | Created: Wednesday, 11 July, 2018 10:08:09 AM

Project: Z:\DATA\Data\Jobs01\Jobs\17work\17314Y_54-60BurnsBayRdLaneCove\SIDRA\180709\9.LonguevilleRd_AustinSt_Existing.sip8

MOVEMENT SUMMARY

 **Site: 101 [Existing AM]**

Longueville Road and Austin Street Intersection

Site Category: (None)

Signals - Actuated Isolated Cycle Time = 46 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Longueville Road												
1	L2	209	0.0	0.543	13.1	LOS A	7.9	56.7	0.74	0.69	0.74	38.7
2	T1	276	6.2	0.543	9.7	LOS A	7.9	56.7	0.74	0.69	0.74	39.3
Approach		485	3.5	0.543	11.2	LOS A	7.9	56.7	0.74	0.69	0.74	39.1
North: Longueville Road												
8	T1	220	5.0	0.516	12.5	LOS A	4.7	33.5	0.71	0.67	0.71	38.2
9	R2	121	0.8	0.516	18.6	LOS B	4.7	33.5	0.82	0.76	0.82	40.1
Approach		341	3.5	0.516	14.7	LOS B	4.7	33.5	0.75	0.70	0.75	38.9
West: Austin Street												
10	L2	198	0.5	0.410	21.0	LOS B	3.9	27.1	0.85	0.77	0.85	35.6
12	R2	208	0.0	0.429	21.1	LOS B	4.1	28.5	0.86	0.78	0.86	38.2
Approach		406	0.2	0.429	21.1	LOS B	4.1	28.5	0.85	0.78	0.85	36.8
All Vehicles		1232	2.4	0.543	15.4	LOS B	7.9	56.7	0.78	0.72	0.78	38.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

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

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	50	17.4	LOS B	0.1	0.1	0.87	0.87	
P3	North Full Crossing	50	17.4	LOS B	0.1	0.1	0.87	0.87	
P4	West Full Crossing	50	17.4	LOS B	0.1	0.1	0.87	0.87	
All Pedestrians		150	17.4	LOS B			0.87	0.87	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 101 [Existing PM]

Longueville Road and Austin Street Intersection
Site Category: (None)
Signals - Actuated Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Longueville Road												
1	L2	212	0.0	0.481	12.2	LOS A	7.4	53.3	0.67	0.65	0.67	39.1
2	T1	257	4.7	0.481	8.8	LOS A	7.4	53.3	0.67	0.65	0.67	39.7
Approach		469	2.6	0.481	10.3	LOS A	7.4	53.3	0.67	0.65	0.67	39.4
North: Longueville Road												
8	T1	262	3.4	0.609	11.6	LOS A	6.3	45.3	0.68	0.66	0.68	38.6
9	R2	177	1.1	0.609	17.8	LOS B	6.3	45.3	0.81	0.78	0.81	40.4
Approach		439	2.5	0.609	14.1	LOS A	6.3	45.3	0.73	0.71	0.73	39.3
West: Austin Street												
10	L2	180	0.6	0.405	23.2	LOS B	3.9	27.2	0.86	0.77	0.86	34.8
12	R2	164	0.0	0.368	23.0	LOS B	3.5	24.4	0.85	0.77	0.85	37.4
Approach		344	0.3	0.405	23.1	LOS B	3.9	27.2	0.86	0.77	0.86	36.0
All Vehicles		1252	1.9	0.609	15.2	LOS B	7.4	53.3	0.74	0.71	0.74	38.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	50	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	50	19.4	LOS B	0.1	0.1	0.88	0.88	
P4	West Full Crossing	50	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		150	19.4	LOS B			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 101 [Proposed AM]

Longueville Road and Austin Street Intersection

Site Category: (None)

Signals - Actuated Isolated Cycle Time = 51 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Longueville Road												
1	L2	209	0.0	0.509	12.8	LOS A	8.1	58.6	0.69	0.67	0.69	38.9
2	T1	276	6.2	0.509	9.4	LOS A	8.1	58.6	0.69	0.67	0.69	39.4
Approach		485	3.5	0.509	10.9	LOS A	8.1	58.6	0.69	0.67	0.69	39.2
North: Longueville Road												
8	T1	220	5.0	0.593	12.1	LOS A	5.8	41.0	0.67	0.65	0.67	38.6
9	R2	171	0.6	0.593	19.2	LOS B	5.8	41.0	0.82	0.78	0.82	41.0
Approach		391	3.1	0.593	15.2	LOS B	5.8	41.0	0.74	0.71	0.74	39.6
West: Austin Street												
10	L2	205	0.5	0.435	23.1	LOS B	4.5	31.4	0.86	0.78	0.86	34.9
12	R2	208	0.0	0.439	23.1	LOS B	4.5	31.7	0.86	0.78	0.86	37.4
Approach		413	0.2	0.439	23.1	LOS B	4.5	31.7	0.86	0.78	0.86	36.1
All Vehicles		1289	2.3	0.593	16.1	LOS B	8.1	58.6	0.76	0.72	0.76	38.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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.

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 Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	50	19.9	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	50	19.9	LOS B	0.1	0.1	0.88	0.88	
P4	West Full Crossing	50	19.9	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		150	19.9	LOS B			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Organisation: VARGA TRAFFIC PLANNING | Processed: Monday, 23 July, 2018 12:16:58 PM

Project: Z:\DATA\DataJobs01\Jobs\17work\17314Y_54-60BurnsBayRdLaneCove\SIDRA\180723\9.LonguevilleRd_AustinSt_Proposed.sip8

MOVEMENT SUMMARY

 **Site: 101 [Proposed PM]**

Longueville Road and Austin Street Intersection

Site Category: (None)

Signals - Actuated Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Longueville Road												
1	L2	212	0.0	0.441	11.9	LOS A	8.0	57.1	0.60	0.61	0.60	39.2
2	T1	257	4.7	0.441	8.5	LOS A	8.0	57.1	0.60	0.61	0.60	39.8
Approach		469	2.6	0.441	10.0	LOS A	8.0	57.1	0.60	0.61	0.60	39.6
North: Longueville Road												
8	T1	262	3.4	0.707	11.6	LOS A	8.2	58.1	0.62	0.63	0.62	38.8
9	R2	234	0.9	0.707	19.8	LOS B	8.2	58.1	0.82	0.80	0.82	40.5
Approach		496	2.2	0.707	15.4	LOS B	8.2	58.1	0.72	0.71	0.72	39.6
West: Austin Street												
10	L2	195	0.5	0.452	27.4	LOS B	5.1	35.8	0.88	0.78	0.88	33.5
12	R2	164	0.0	0.378	26.9	LOS B	4.2	29.3	0.86	0.77	0.86	36.0
Approach		359	0.3	0.452	27.2	LOS B	5.1	35.8	0.87	0.78	0.87	34.6
All Vehicles		1324	1.8	0.707	16.7	LOS B	8.2	58.1	0.72	0.69	0.72	38.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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.

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 Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	50	24.4	LOS C	0.1	0.1	0.90	0.90	
P3	North Full Crossing	50	24.4	LOS C	0.1	0.1	0.90	0.90	
P4	West Full Crossing	50	24.4	LOS C	0.1	0.1	0.90	0.90	
All Pedestrians		150	24.4	LOS C			0.90	0.90	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

