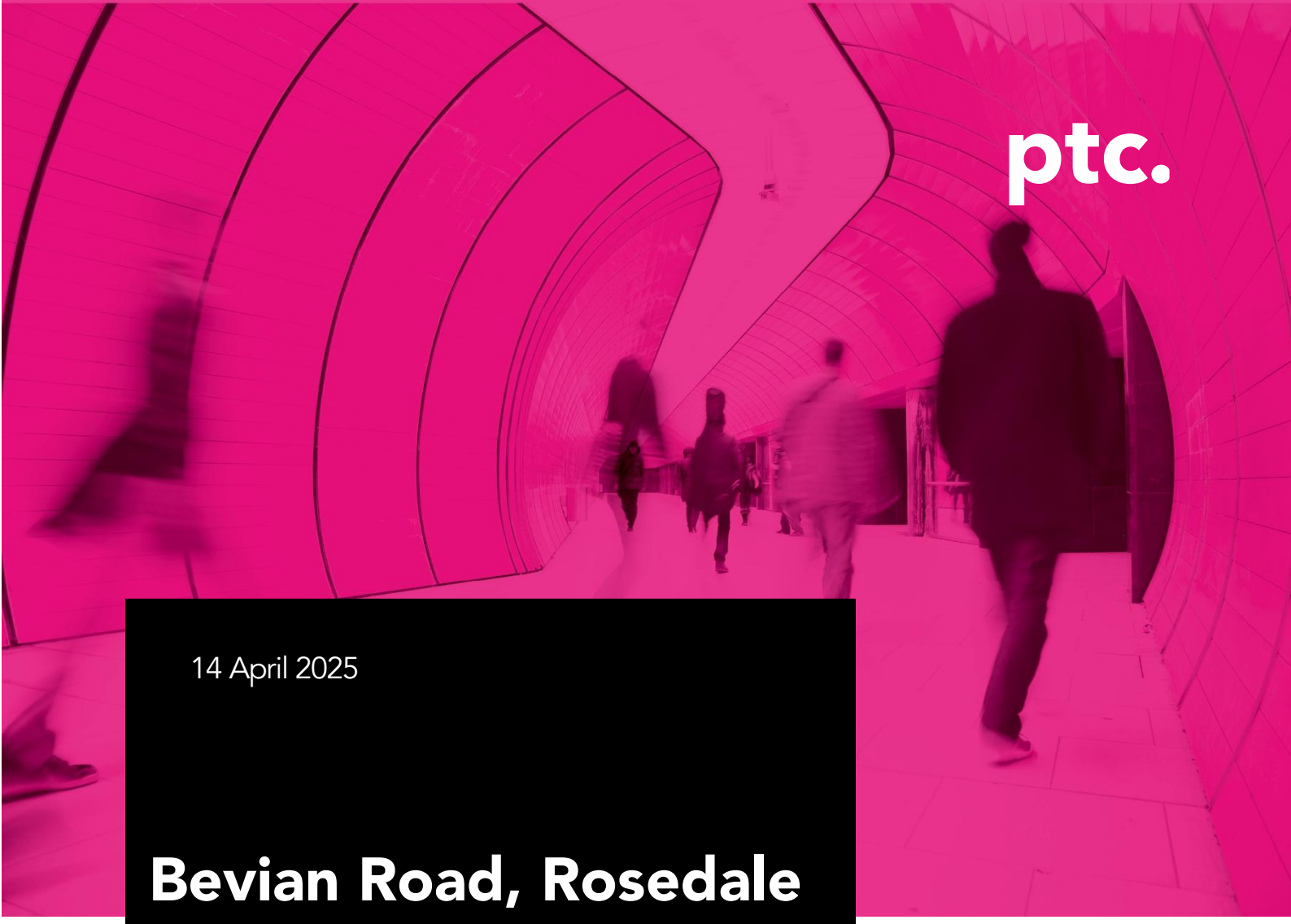

14 April 2025

Bevian Road, Rosedale Concept Plan Approval Modification

Walker Rosedale Transport Impact Assessment

For: **Walker Rosedale**

Site Address: **Bevian Road, Rosedale NSW**

document control;

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1. Introduction

1.1. Project Background and Summary

ptc. has been engaged by Walker Rosedale Pty Ltd (the Proponent) to prepare a Traffic Impact Assessment (TIA) report to support a modification of the 2008 Concept Plan Approval proposing a residential development at Bevian Road, Rosedale (the Proposal) on the south coast of New South Wales (NSW).

The modification sought is from the Part 3A Concept Approval for a Community Title Subdivision for residential development and ancillary commercial and community facilities, ecological stewardship, public roads and open space areas yielding a total of 792 residential lots (reference number 05_0199), to a Torrens title development that includes residential development and ancillary commercial facilities, public roads, public open areas and residual rural lot yielding a total of 792 residential lots inclusive of the 51 Torrens title residential lots recently constructed and registered as part of stage 1 (DA305/18).

Pursuant to the Planning Secretary's Environmental Assessment Requirements (SEARs) from the Department of Planning, Housing and Infrastructure (DPHI), Eurobodalla Shire Council (ESC) and Transport for NSW (TfNSW), a Traffic Impact Assessment report is required that has been prepared in consultation with Authorities. This report presents our assessment of the traffic implications associated with the proposed subdivision including documentation of all consultation and accompanies the application submission.

The location of the site that is the subject of the Proposal is outlined in Figure 1.

The 2008 Concept Plan Approval can be found at Figure 2.

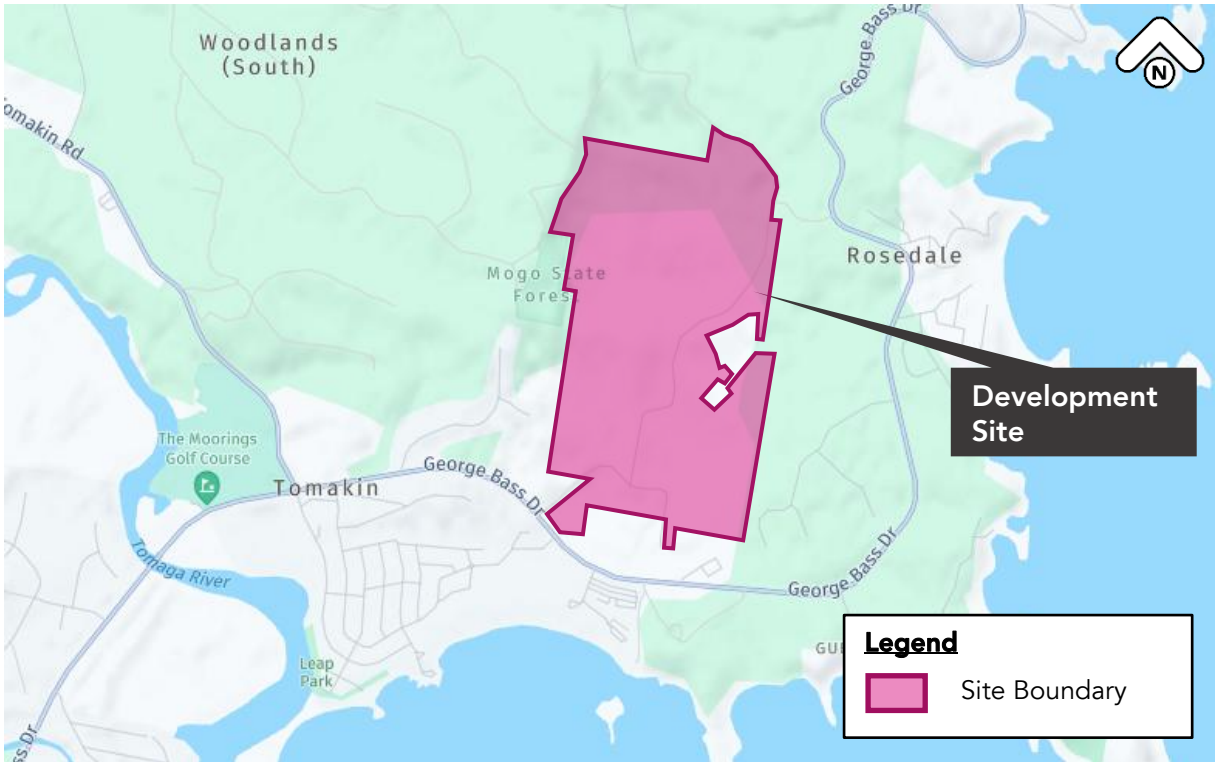


Figure 1 - Site Location (Source: Nearmap)

Figure 2 – 2008 Concept Plan Approval Layout

1.2. Development Proposal

The modification sought is from the Part 3A Concept Approval for a Community Title Subdivision for residential development and ancillary commercial and community facilities, ecological stewardship, public roads and open space areas yielding a total of 792 residential lots (reference number 05_0199), to a Torrens title development that includes residential development and ancillary commercial facilities, public roads, public open areas and residual rural lot yielding a total of 792 residential lots inclusive of the 51 Torrens title residential lots recently constructed and registered as part of stage 1 (DA305/18).

The layout of the proposed subdivision drawing is attached in Appendix 1 including road hierarchy and typical road cross sections.

Figure 3 - Proposed Modified Concept Plan

1.3. Road Hierarchy Plan of the Development Site

The internal road network within the proposed development incorporates a logical road hierarchy of road functions and appropriate design to prioritise and facilitate pedestrian and cycle activity which involves the Table 1 roads / streets in accordance with the principles set out in Eurobodalla Shire Council's Infrastructure Design Standards and Rural Fire Service's Planning For Bush Fire Protection 2019.

Table 1 – Internal Road Layout of the proposed development

Road / Street	Width of the carriageway	Capacity of the carriageway	Type of carriageway Parking	Pedestrian Footpath	Cycling activities
Access Street	8m	Two traffic lanes, one in each direction	Parking on carriageway	1.5m footpath on one side of the road	Provided on-street
Local Street	8m	Two traffic lanes, one in each direction	Parking on carriageway	2.5m shared path on one side of the road	2.5m shared path on one side of the road
Collector Street	13m	Two traffic lanes and two kerbside parking lanes.	Intended Parking - On-street parking provided within kerbside parking lane on both sides of the road.	1.5m footpath on one side of the road	2.5m cycle path on the other side of the road
Perimeter Street	10.5m	Two traffic lanes and one kerbside parking lane.	Intended Parking - On-street parking provided within kerbside parking lane on one side of the road.	2.5m shared path on one side of the road	2.5m shared path on one side of the road
Distributor Road	12m	Two traffic lanes, one in each direction	Parking on carriageway	2.5m shared path on one side of the road	Dedicated cycle paths on both sides of the road and 2.5m shared path on one side of the road
Evacuation Access Road	5.5m	Two traffic lanes, one in each direction	No parking on carriageway	NA	2.5m cycle path on one side of the road.

The full description of the roads, typical cross sections and the road hierarchy plan is attached in Appendix 1.

2. Site Context

2.1. Site Location

The site is located at Bevian Road, Rosedale, on the south coast of NSW. The site is situated between the townships of Rosedale and Tomakin, in the local government area of Eurobodalla Shire Council.

The site is bounded by George Bass Drive and the Bevian Wetland to the south, Mogo State Forest and rural residential lots along the west, rural residential lots, Bullock Road (labelled on Google maps as 'Bevian Road' but to be renamed 'Bullock Road', already renamed in six maps), and Burri Road to the north, and another residential development known as 'Saltwood' and rural residential lots to the east.

The site forms part of the Rosedale Urban Expansion Area, which has been identified for residential subdivision to enable a range of dwelling type within the estate. The subdivision will incorporate residential development ranging from standard residential lots to large rural lots and is considered suitable for urban development within the South Coast Sensitive Urban Lands Review report (dated October 2006).

The aerial view of the site location is shown in Figure 4.

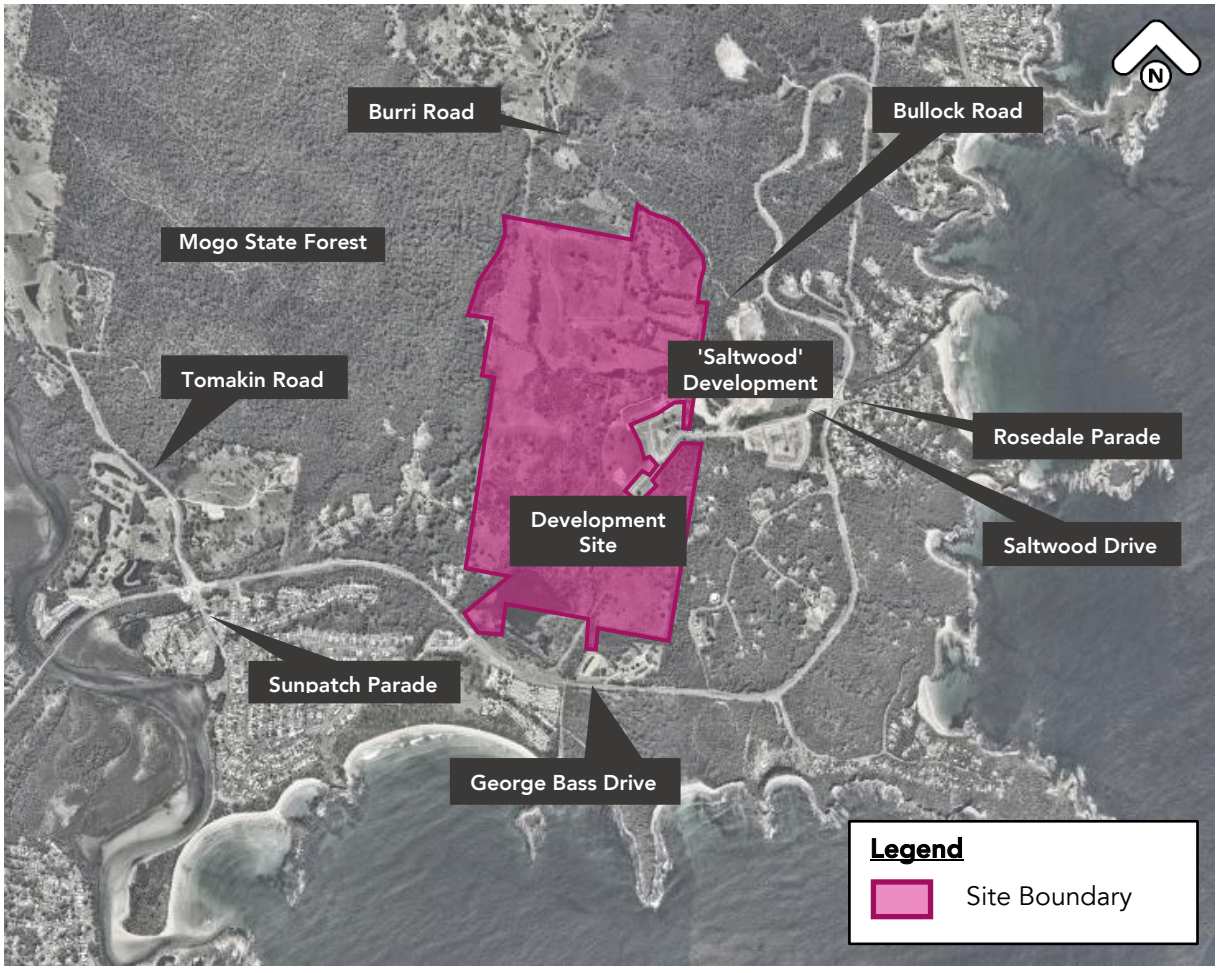


Figure 4 - Aerial view of the subject site (Source: Nearmap)

2.2. Surrounding Land Use

The development site at Bevian Road, Rosedale comprises several lots and occupies an area of approximately 180ha.

The majority of the site falls within the Residential R2 (Low Density Residential) zone, with Environmental Conservation (C2) situated to the south. In the north-western area, there is a section designated as Primary Production (RU1) and Environmental Living (C4) in the south-west. Additionally, to the east, along the coastal side, there are numerous C2 and C4 zones in the vicinity of the site.

The existing land zoning in the locality suggests that the existing traffic volumes are expected to be generally low. Traffic activities are largely associated with regional properties, primary industries, tourism activities and passing people and freight movements.

The zonings in the vicinity of the site are presented in Figure 5.

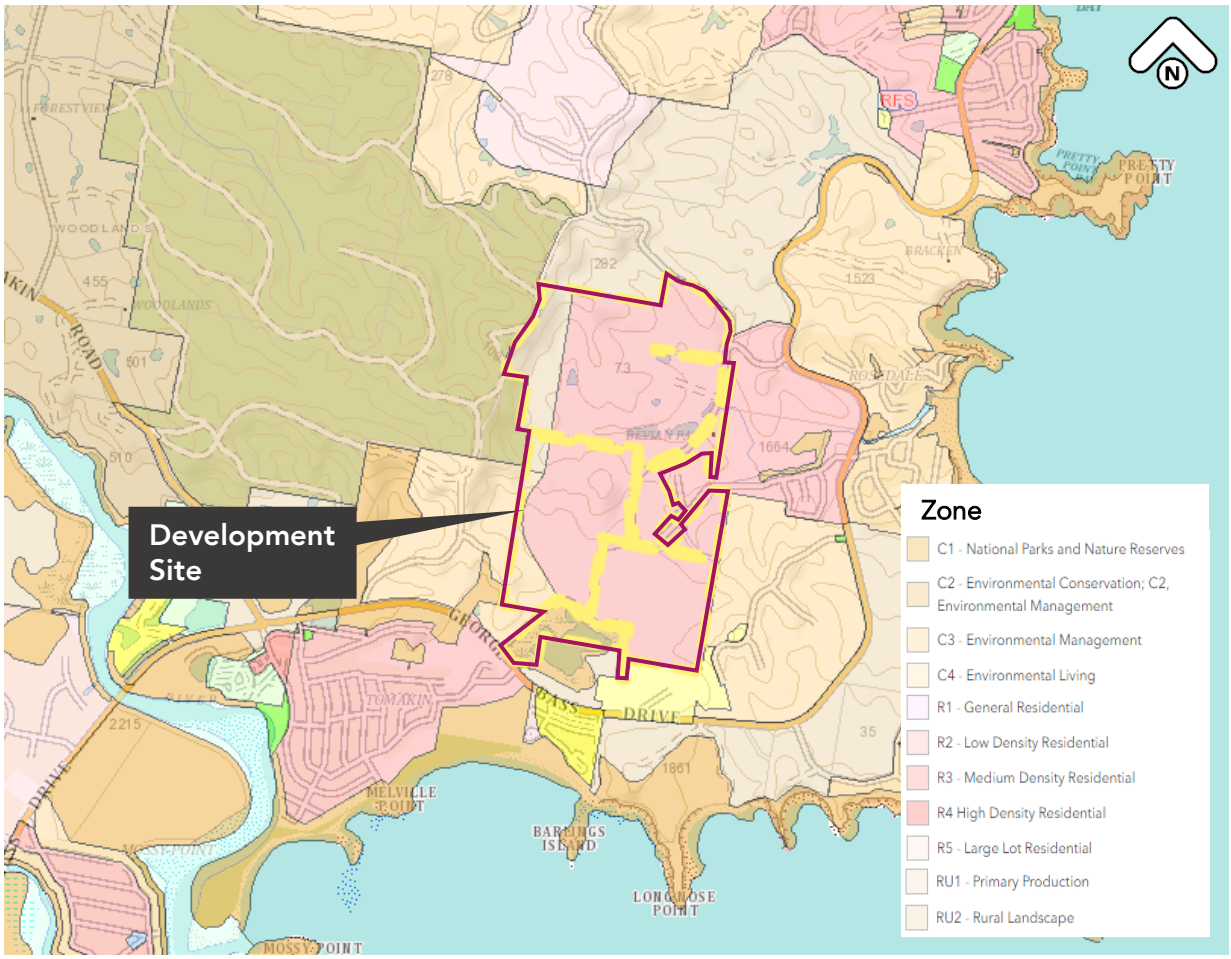


Figure 5 - Land Use Zoning for the proposed development (Source: NSW Planning Viewer)

3. Existing Transport Conditions

The proposal has been assessed for its adequacy on connectivity by various modes of transport by studying the existing transport conditions in the surroundings.

3.1. Road Hierarchy

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

- State Roads - Freeways and Primary Arterials (RMS managed)
- Regional Roads - Secondary or Sub Arterials (Council managed, partly funded by the State)
- Local Roads - Collector and Local Access Roads (Council managed)

The development site is located on the south coast of New South Wales and is serviced by a mix of regional and local roads as presented in Figure 6.

The site offers direct entry through three local access points: two located in the east and one in the south, linking the site to the regional road. The Bullock Road access point is already in place and Saltwood Drive connects the remaining two access points, extending from the established roundabout in the east to the proposed intersection in the south, linking George Bass Drive.

There is a functioning fire trail road (unsealed) constructed to RFS standards that connects existing stage one Council Road network (sealed) to the existing Council Roads Burri Road (unsealed) and Bullock Road (sealed). The fire trail is proposed to be replaced with sealed Council roads in stages during construction.

A summary of the current roads near the site is presented in Figure 6.

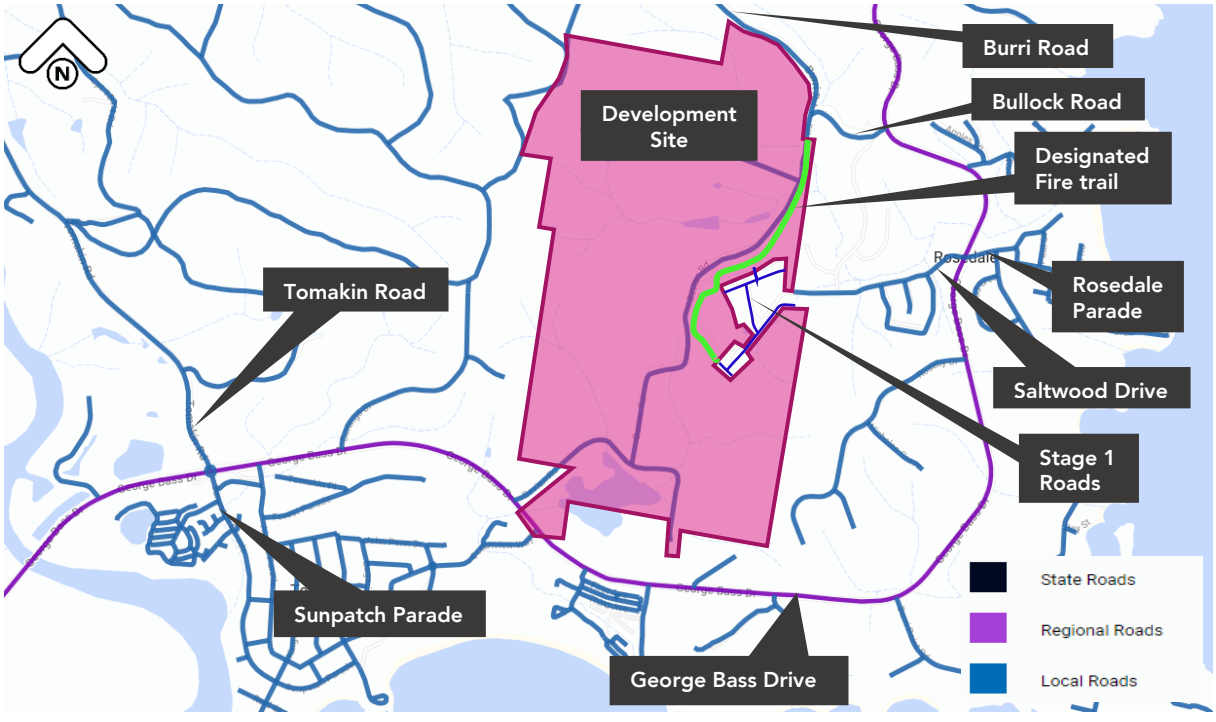


Figure 6 - Surrounding Road Network (Source: TfNSW)

Table 2 - Road network characteristics - George Bass Drive

George Bass Drive	
Road Classification	Regional Road
Alignment	Generally north - south through the region
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	8.5 metres
Speed Limit	100 km/h
School Zone	No
Parking Controls	Nil
Forms Site Frontage	Yes

Figure 7 - George Bass Drive near site frontage (Source: Google Map)

Table 3 - Road network characteristics - Bullock Road

Bullock Road (labelled on Google maps as 'Bevian Road' but to be renamed 'Bullock Road', already renamed in six maps)	
Road Classification	Local Road
Alignment	East - West
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	8 metres
Speed Limit	50 km/h (assuming the same as Saltwood Drive speed limit)
School Zone	No
Parking Controls	Nil
Forms Site Frontage	Yes

Figure 8 - Bullock Road near George Bass Drive (Source: Google Map)

Table 4 - Road network characteristics - Saltwood Drive

Saltwood Drive	
Road Classification	Local Road
Alignment	East - West
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	9.5 metres
Speed Limit	50 km/h
School Zone	No
Parking Controls	Nil
Forms Site Frontage	No

Figure 9 - Saltwood Drive near George Bass Drive (Source: Near Map)

Table 5- Road network characteristics – Road 01

Road 01	
Road Classification	Local Road
Alignment	Generally north - south through the site
Number of Lanes	Assuming 1 lane in each direction (Roads not yet constructed)
Carriageway Type	Undivided
Carriageway Width	6 metres
Speed Limit	50 km/h (assuming the same as Saltwood Drive speed limit)
School Zone	No
Parking Controls	Nil
Forms Site Frontage	Yes

Table 6 - Road network characteristics – Princes Highway

Princes Highway	
Road Classification	State Road
Alignment	North - South
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	7 metres
Speed Limit	100 km/h
School Zone	Yes
Parking Controls	Varies
Forms Site Frontage	No

Figure 10 – Princes Highway towards north (Source: Google Map)

Table 7 - Road network characteristics – Tomakin Road

Tomakin Road	
Road Classification	Local Road
Alignment	Generally, north - south
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	7 metres
Speed Limit	100 km/h
School Zone	No
Parking Controls	Nil
Forms Site Frontage	No

Figure 11 – Tomakin Road towards South (Source: Google Map)

3.2. Public Transport

A review of the public transport options has been undertaken within approximately 800m (a 10-minute walk) of the proposed development site boundary. When defining accessibility, the NSW Guidelines to Walking and Cycling (2004) suggests that 400m to 800m is a comfortable walking distance. As the proposed development site is located in a regional low-density area, existing public transport is limited to bus services only, which operate at low frequencies.

Local bus services are operated by the private bus services named Priors Bus Company. Two bus stops are located within 800m walk from the site boundary. Currently, these stops are served by routes 860 and MCS, as illustrated in Figure 12. Their operation frequency is summarised in Table 8.

Table 8 - Local bus operation summary

Bus Routes	Service Coverage	Operation Summary
860 (Private bus services)	Batemans Bay to Moruya via Surf Beach & Broulee	Weekdays: 8 services Saturdays and Public Holidays: 3 services Sundays: no service
MCS (Private coach services, booking required)	South Coast to Canberra	Mondays, Fridays, Saturdays, and Sundays only, 1 service per day.

The proposed residential subdivision is close to bus services, which link Rosedale with Batemans Bay in the north and Moruya in the south, as well as Canberra in the west. These services offer alternatives to travel by modes other than car. The proposed subdivision, with its increase in residential population, will strengthen demand for public transport services in the area.

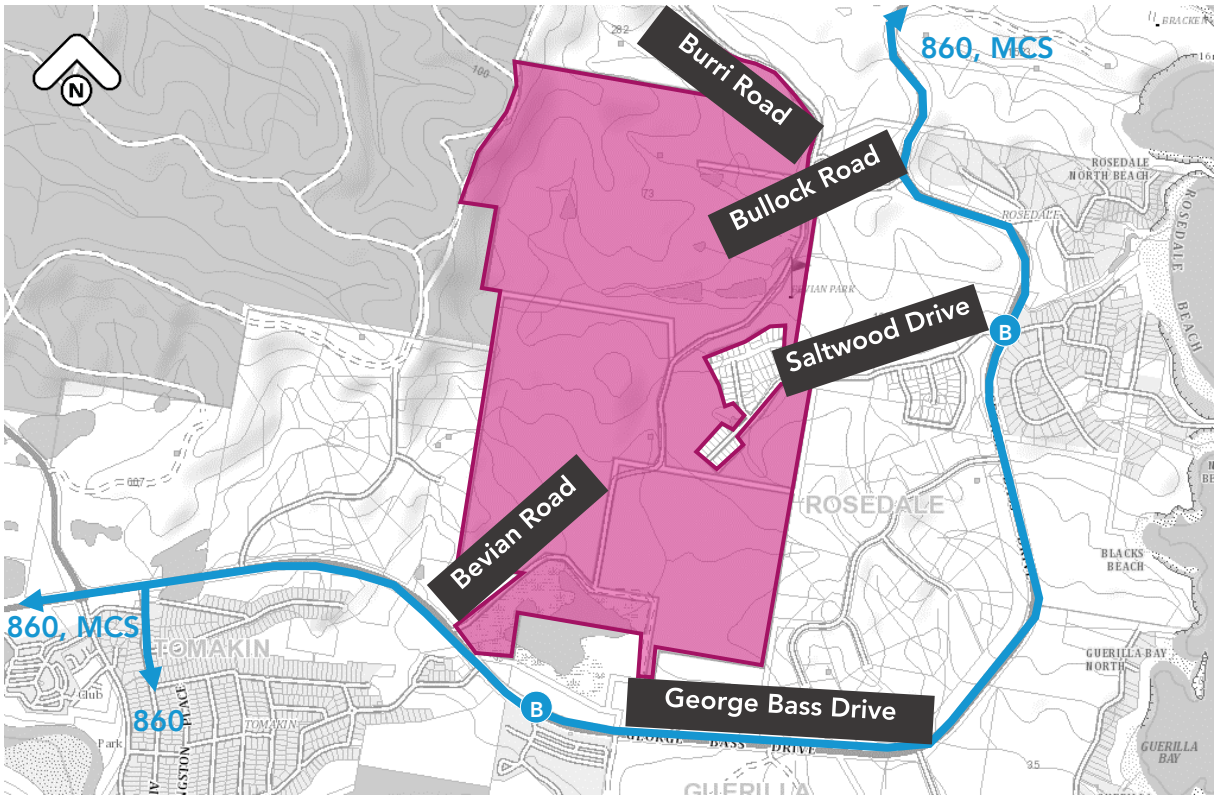


Figure 12 - Local public transport options

The public transport aspects of the proposed residential subdivision have been developed with consideration given to integrating bus services through the site with public transport in the surrounding area. The main internal collector road passing through the site has been designed to accommodate potential future bus services.

A public transport strategy for the residential development will be provided to establish an integrated bus route that ensures a high proportion of dwellings within 400 metres of a bus stop.

3.3. Active Transport

A review of the existing walking and cycling infrastructure has been undertaken in proximity of the proposed development site and can be referenced from Section 1.3.

With consideration to the nature of being a regional road and its 100km/h speed limit, George Bass Drive is considered not suitable for active transport.

3.3.1. Walking

Walking is a viable transport option for distances under one kilometre (approximately 15-20min) and is often quicker for short trips door to door. Walking is also the most space efficient mode of transport for short trips and presents the highest benefits. Co-benefits, where walking replaces a motorised trip include improved health for the individual, reduced congestion on the road network and reduced noise and emission pollution.

The residential development proposes a 1.5m paved footpath on one side of the carriageway throughout the secondary routes near access roads and open spaces. The paths will connect residential areas to key destinations and public transport corridors.

Pedestrian infrastructure has been well developed in the vicinity of the subject site. Given the low-density residential character of the area, the pedestrian infrastructure is considered appropriate.

3.3.2. Cycling

Cycle facilities have been developed to encourage cycling for recreational movements. These facilities will be integrated with the existing landscape to promote their use when accessing open spaces and public transport.

A cycle network has been developed within the site, linking to George Bass Drive, and featuring commuter, local, and recreational routes to incorporate cycling within larger road widths or contemplate shared use of carriageway on the minor roads.

The cycle network has been developed with 2.5m shared cycle paths provided along most of the developed road network, including the main internal road, perimeter roads, distributor road and local roads, which is reasonably well connected with the surrounding access streets. Other than this, cyclists may need to share the road with motorists. Shared paths have also been developed to provide through the riparian zones. A map of the developed cycling infrastructure in the area is provided in Figure 13. The locality is currently defined as a high pedestrian activity area, and the speed limit has been implemented to provide a generally friendly environment for cycling.

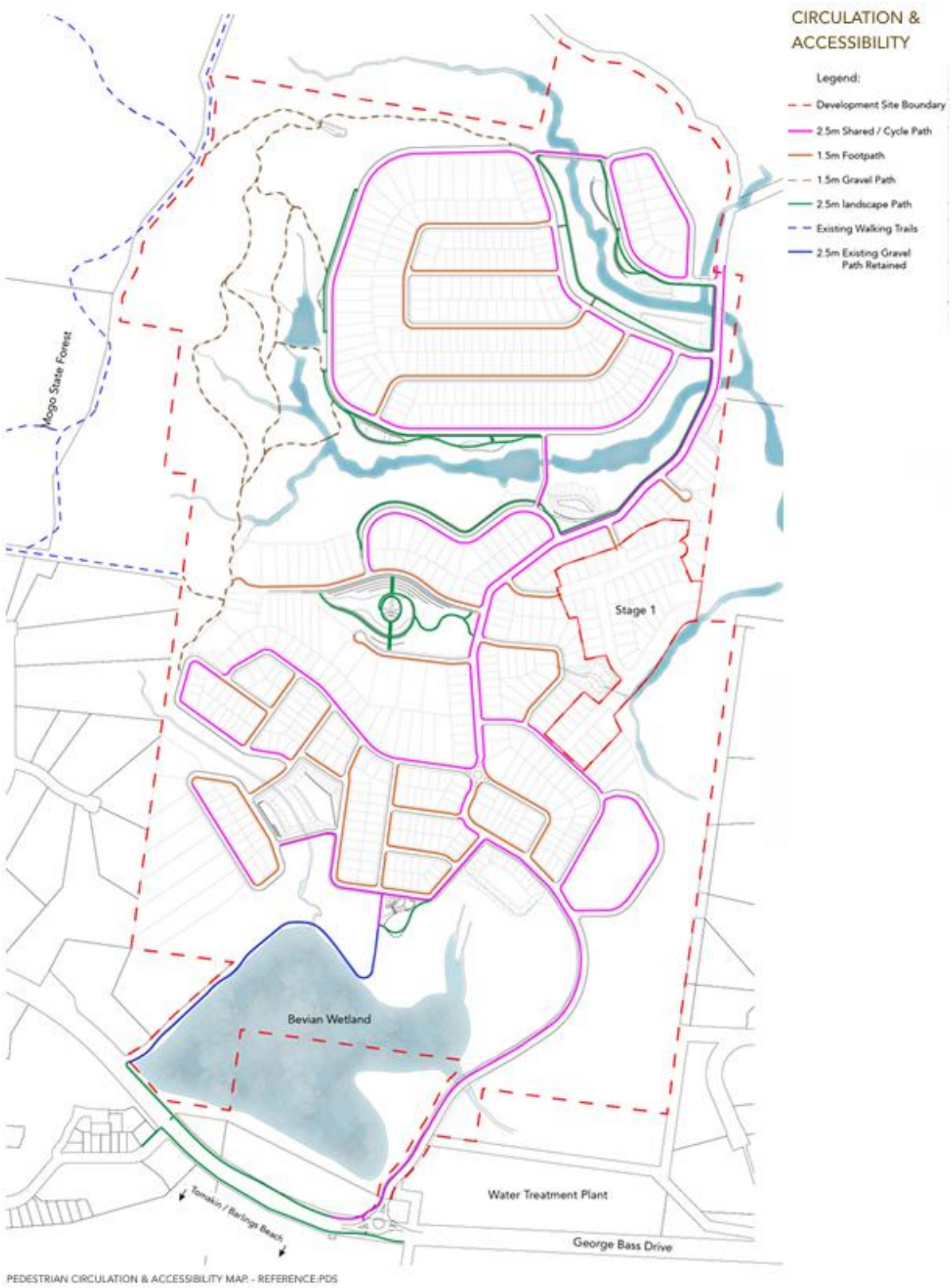


Figure 13 – Pedestrian Circulation and Accessibility Map (Source : PDS)

4. Consultation Process

During the preparation of this report, meetings were held online / phone call with Transport for New South Wales (TfNSW), Eurobodalla Shire Council and Priors Bus Service (private bus company in Rosedale).

The detailed consultation with the relevant authorities is elaborated in Table 9. The email conversations with the relevant authorities regarding the subject matters are attached in **Appendix 2.**

Table 9 – Record of Consultation

Authority	Contact	Date / Time	Matters raised	Responses received
Development services, south TfNSW	• Nathan Boscaro (Team Leader) • Josiah Poulter (Business Trainee)	20 February 2024 / 10:00am – 11:00am (online)	• Growth rates on George Bass Drive • ptc.'s tube count trip rates of the selected comparable Forest Parade population • Proposed roundabout on George Bass Drive at Road 01	• Traffic volumes data for George Bass Drive to the north of Bevian Road, south of Illabunda Drive and south of Bevian Road, north of Rosedale Parade. This led to assume an annual growth rates between 5-9%. • Suggestion to use standard low density residential trip generation rates from the TfNSW guide.
Eurobodalla Shire council	Alister Robertson (Coordinator Development Engineering)	27 February 2024 / 2:00pm – 2:30pm (online)		Potential for the Bullock Road to be left-in, left-out featuring a physical median as a requirement of the Saltwood developer's DA.
Priors Bus service	Kath (Operations Manager)	8 April 2024 / 3:30pm (5minutes phone call)	Identifying the interest in developing the public transport strategy for the proposed Rosedale subdivision.	• Expressed interest in providing bus services through the site due to existing services in surrounding four regions. • Request for a master plan indicating possible bus stop locations to assess feasibility, consider road widths, parking arrangements and facilitate their bus services.
		9 April 2024 / Email	A Road Hierarchy plan with indicative bus stop locations along the main internal	• Confirmation that the provided master plan meets specifications. • Acknowledgement of new estates, including Rosedale, for incorporation into timetables.

			collector road through the site is mailed as requested.	• Mention of necessity to wait until Rosedale estate completion before inclusion. • Note on complexity of timetable adjustments to accommodate entire areas.
TfNSW Request for Information (RFI) Revision A		6 November 2024	<u>Tomakin & Princes Highway Intersection:</u> TfNSW has reviewed the information and is unable to properly assess possible impacts of the proposed development on the state road network. TfNSW requires the Traffic Impact Assessment (TIA)to be updated to included analysis of the intersection of the Princes Highway and Tomakin Road, at Mogo. The analysis must assess the suitability of this intersection for the traffic generated by this proposal and where required, identify appropriate upgrades.	• Additional modelling for the Tomakin Road/Princes Highway intersection has been included, and the suitability of the intersection for the traffic generated by the proposed development has been assessed.

5. Traffic Impact Assessment

The following sections present an assessment of the existing traffic activity and future traffic conditions for the proposed development.

5.1. Key Intersections

In the vicinity of the site, the following intersections are either existing and close to the site or proposed to be constructed as part of the development, and have high importance to the development proposal:

Table 10 – Key Intersections

Number	Intersection	Description	Existing / Proposed
I-1	George Bass Drive / Tomakin Road / Sunpatch Parade	4-arm roundabout	Existing
I-2	George Bass Drive / Road 01	New Southern access 3-arm roundabout	Proposed
I-3	George Bass Drive / Rosedale Parade / Saltwood Drive	4-arm roundabout	Existing
I-4	George Bass Drive / Bullock Road	3-arm priority controlled	Existing
I-5	Bullock Road / Purdie Parade	4-arm roundabout	Existing
I-6	Princes Highway / Tomakin Road	3-arm priority controlled	Existing

The section of George Bass Drive in the vicinity of the George Bass Drive / Bullock Road intersection (I-4) has been the subject of construction for a T future intersection, restricted to Left-in Left-out movements, featuring a physical median.

The key intersections provide readily access to the site and are expected to be used by the prospective users of the development proposal.

Details and layouts of the key intersections are shown in Figure 14.

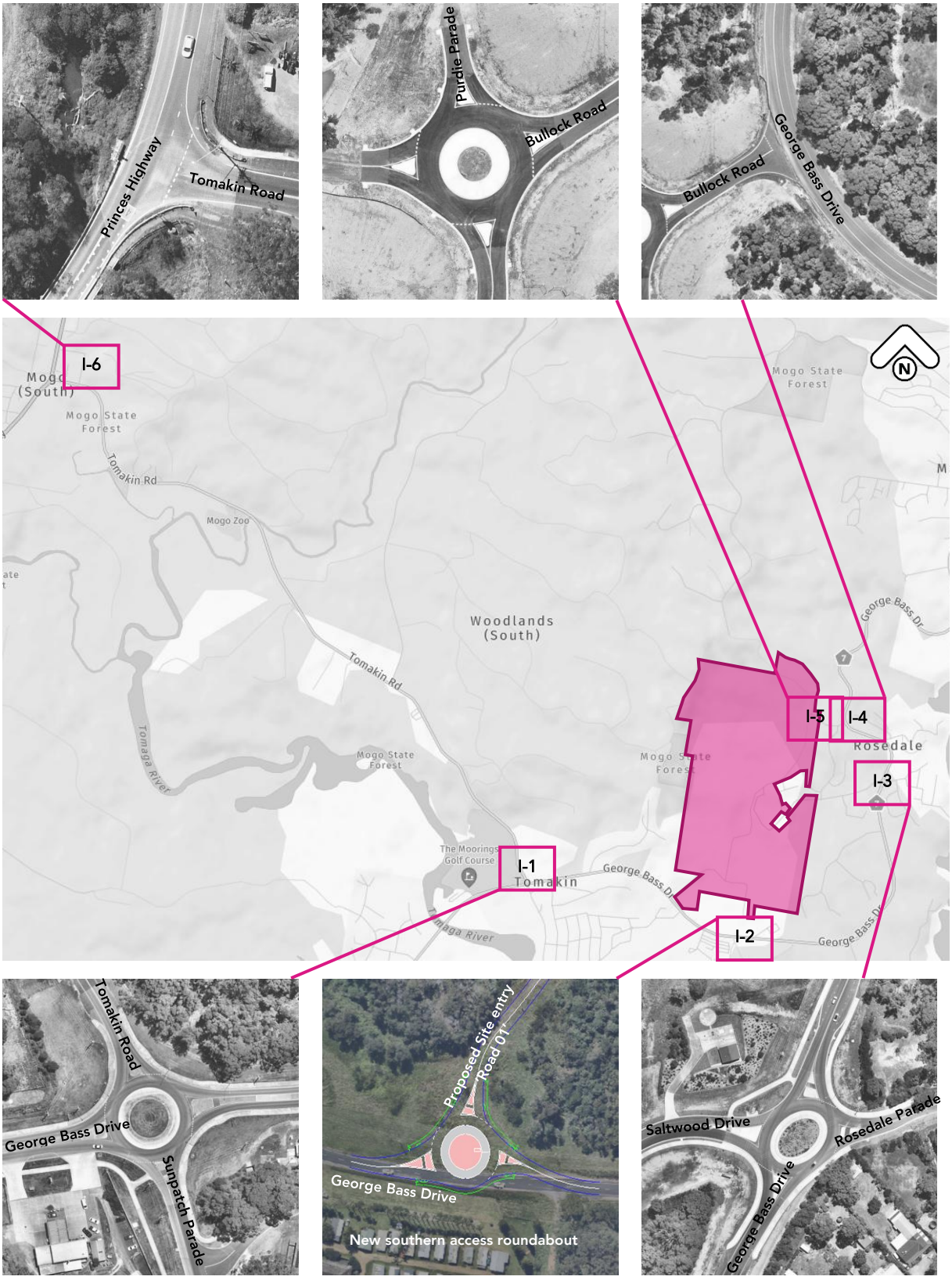


Figure 14 - Key Intersections (Map source: Near map)

5.2. Traffic Surveys

Typically, in determining the development inbound / outbound trip distribution, a generalised trip distribution of 20% inbound and 80% outbound during the AM peak period and vice versa during the PM peak is assumed. However, the best practice is to determine local traffic conditions to ensure that development design solutions satisfy local traffic habits. With this in mind, to understand the current traffic conditions and trip distributions near the site, the following traffic surveys were undertaken over a week in November 2023:

- Tube counts on George Bass Drive near Barlings Beach Holiday Park and Rosedale Parade to capture typical background traffic over a 1-week period;
- Tube counts on Forest Parade near Ainslie Parade to capture typical local residential traffic generation volumes off 100 dwellings over a 1-week period;
- Turning movement counts at the George Bass Drive / Tomakin Road (I-1) and George Bass Drive / Rosedale Parade intersections (I-3) during weekday and weekend peak periods. As the George Bass Drive / Bullock intersection (I-4) is temporarily closed, it is expected to carry a significant amount of traffic associated with the development subdivision, therefore no survey was carried out for this intersection and subsequently for the Bullock Road / Purdie Parade (I-5).

A new traffic survey for the Princes Highway/Tomakin Road (I-6) intersection was conducted in December 2024 during weekday and weekend peak periods, as requested by TfNSW.

The locations of the traffic surveys undertaken are illustrated in Figure 15.

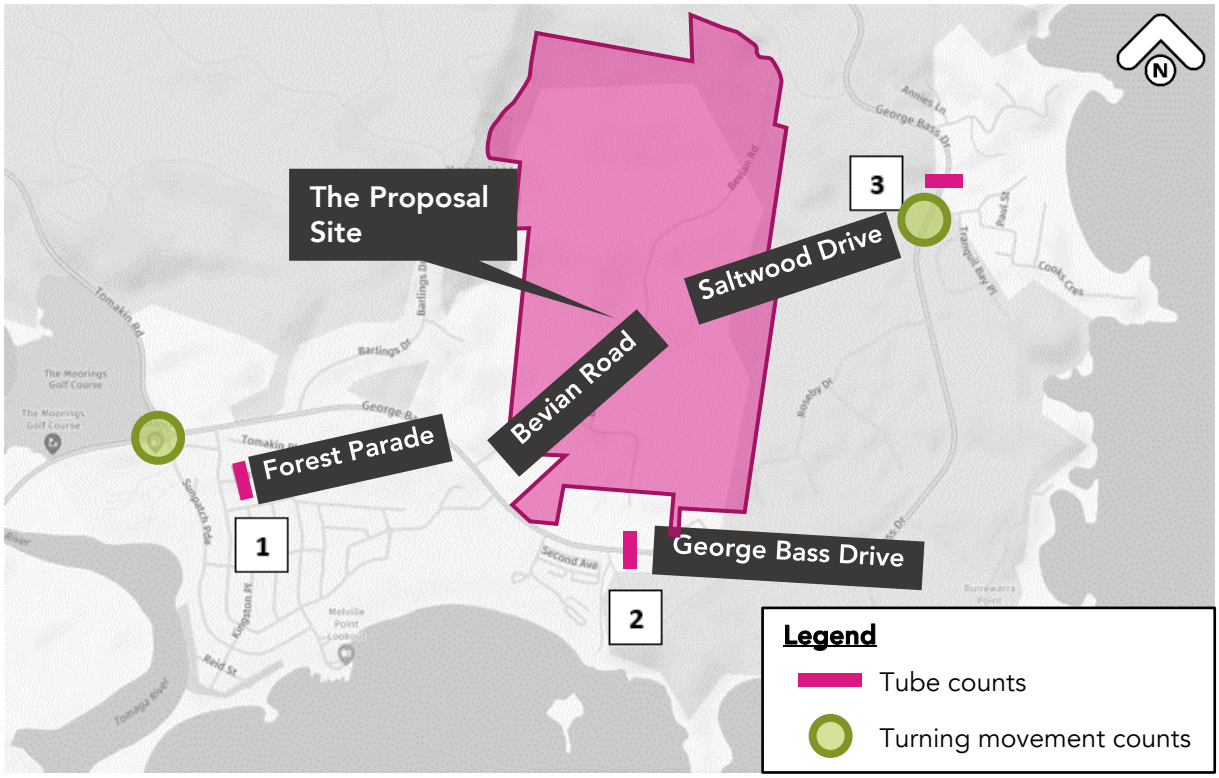


Figure 15 - Tube Count Survey Locations (Source: Nearmap)

Figure 16 illustrates the 7-day traffic volume profile recorded on George Bass Drive. The survey data shows that the peak hour volumes vary from 300 to 350 vehicles per hour. The traffic volumes are currently low and consistent with the regional context of the area.

The analysis of traffic survey data has found that the area has the following network peak hours:

- Weekday AM Peak: 8am - 9am
- Weekday PM Peak: 3:30pm - 4:30pm
- Weekend Midday Peak: 12:00pm - 1:00pm

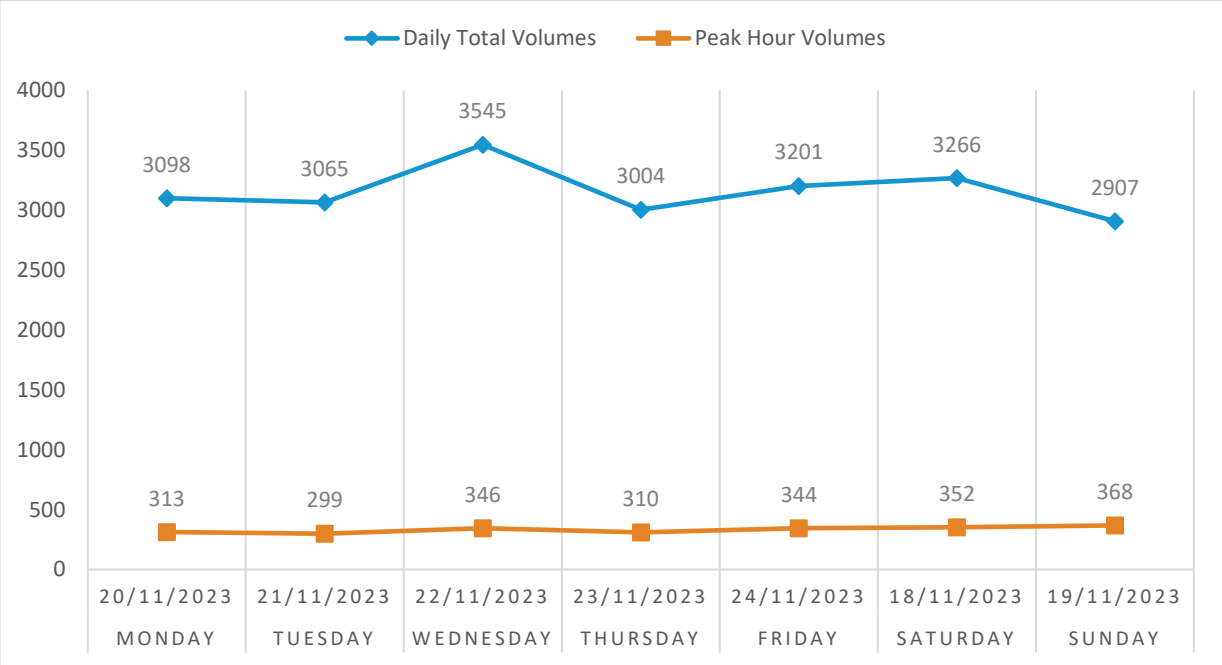


Figure 16 - 7-day total traffic volume profile of George Bass Drive

Based on the analysis of number of dwellings and network peak hour traffic volumes captured on Forest Parade, the following residential trip generation rates are established for the region:

- Weekday AM Peak: 0.71 trips per dwelling
- Weekday PM Peak: 0.53 trips per dwelling
- Weekend Midday Peak: 0.42 trips per dwelling

Figure 17 - Aerial view of the local residential trip generation tube count location at Forest Parade

5.3. Traffic Generation

5.3.1. Existing Traffic Generation

Existing traffic volumes collected through the intersection traffic surveys during the weekday morning, afternoon and weekend mid-day peak hours are provided in Appendix 3.

5.3.2. Development Traffic Generation

Generally, the traffic activity with a particular type of land can be determined through a number of approaches. For the purposes of this assessment, the traffic activity related to the existing land use for the existing and post-development traffic generation is determined with reference to the following documents:

- TfNSW Guide to Traffic Generating Developments 2002 (TTR-002) (formerly known as RTA Guide)
- TfNSW Guide to Traffic Generating Developments Updated Traffic Surveys (TDT 2013/04a)

The guide provides AM and PM peak hour trip generation rates of 0.85 in the morning and 0.9 in the evening for low-density residential dwellings during the weekdays, consistent with the 2008 Concept approval TIA, which adopted a rate of 0.85 vehicles per hour two-way during peak periods based on the RTA guide. For weekends, the guide does not provide any rates. However, we have assumed the maximum weekday trip generation rate of 0.9. Based on the above, the traffic generation rates adopted for residential land uses in the development proposal are presented in Table 11.

Table 11 – Development Trip Generation

Land use	Units	Source	Trip Generation Rates			Trip Generation		
			Weekday		Weekend	Weekday		Weekend
			AM	PM	Mid-day	AM	PM	Mid-day
Low density Residential dwellings	792	TDT 2013.04a	0.85	0.9	0.9	673	713	713

5.4. Development Traffic Distribution

Based on the surveyed existing traffic volumes, the following trip distribution was derived / assumed for the study area via three access points I-2, I-3 and I-4 for both the AM and PM peak periods.

- About 50% travel from north of the George Bass Drive to reach the site
- About 50% travel from west of the George Bass Drive to reach the site

Figure 18 and Figure 19 shows inbound and outbound trip distribution assumptions.

5.4.1. Proposed inbound trip distribution

Of the total 50% inbound development trip to the Site from north of the George Bass Drive (Figure 18),

- No trips would travel via Bullock Road (I-4) as it features a left-in left-out with a physical central median,
- About 45% would travel via Saltwood Drive (I-3), and

- About 5% would travel via Road 01 (I-2).

Of the total 50% inbound development trip to the Site from west of the George Bass Drive (Figure 18),

- About 30% would travel via Road 01 (I-2),
- About 15% would travel via Saltwood Drive (I-3), and
- About 5% would travel via Bullock Road (I-4).

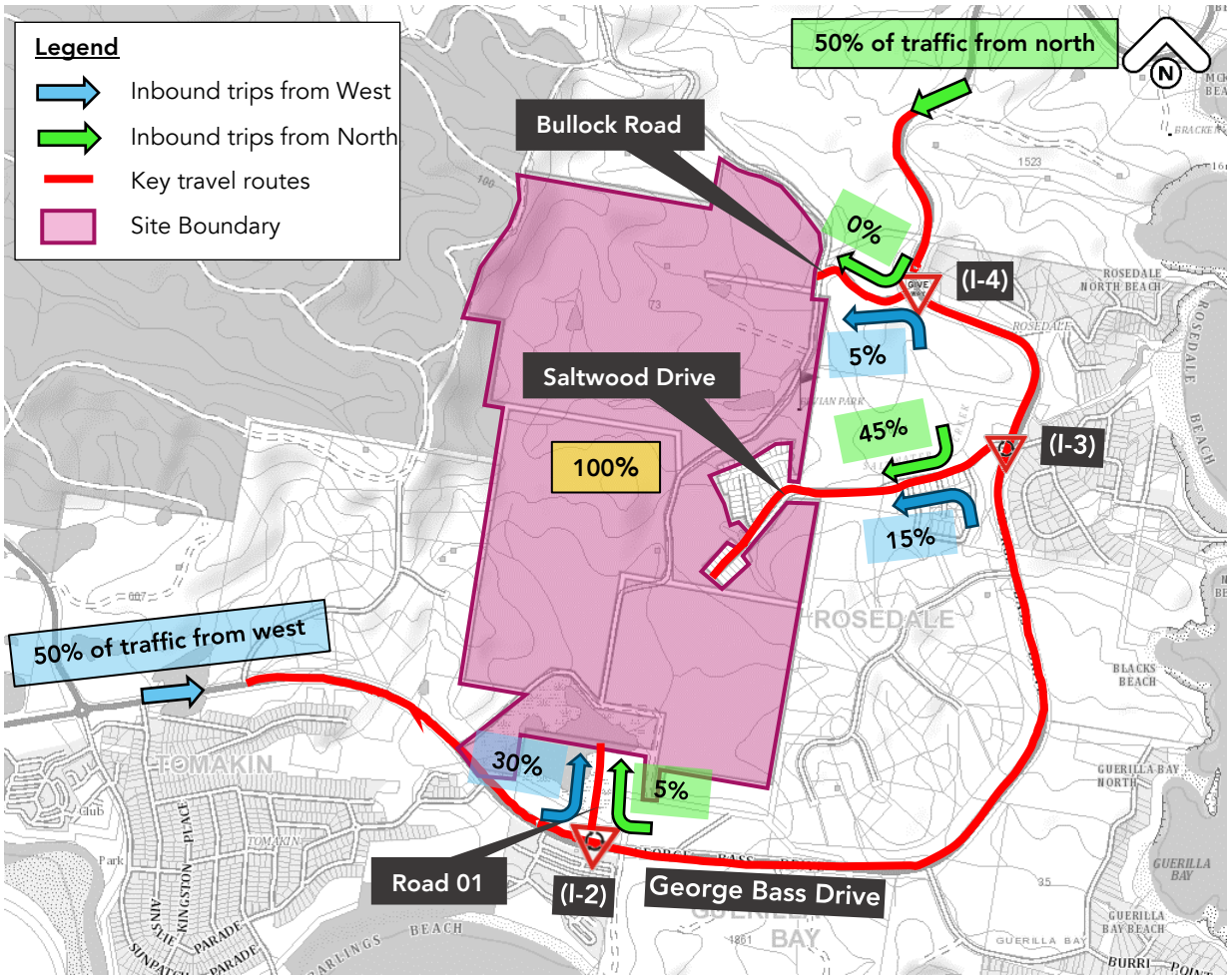


Figure 18 – Proposed inbound trip distribution

5.4.2. Proposed outbound trip distribution

Of the total 50% outbound development trip from the Site to north of the George Bass Drive (Figure 19),

- About 30% would travel via Bullock Road (I-4),
- About 15% would travel via Saltwood Drive (I-3), and
- About 5% would travel via Road 01 (I-2).

Of the total 50% outbound development trip from the Site to west of the George Bass Drive (Figure 19),

- About 35% would travel via Road 01 (I-2),
- About 15% would travel via Saltwood Drive (I-3), and
- No trips would travel via Bullock Road (I-4) as it features a left-in left-out with a physical central median.

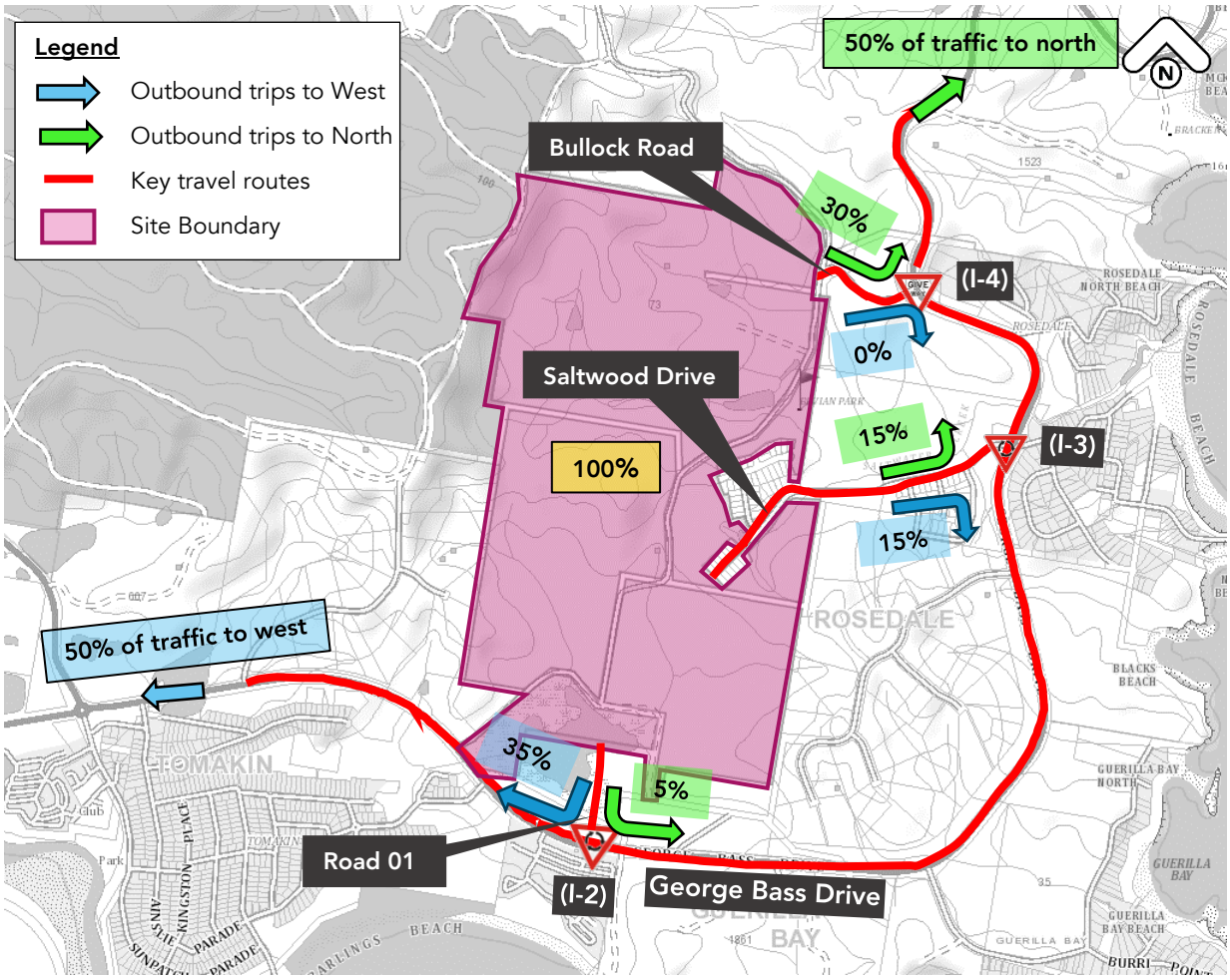


Figure 19 – Proposed outbound trip distribution

Based on the collected local residential trip generation data in Section 5.2 and the characteristics of the various land uses during different peak hours, the inbound / outbound traffic distribution has been derived for distributing the development traffic generation and is presented in Table 12, which supports the trip distribution adopted in the 2008 concept approval TIA (assumed 35% inbound / 65% outbound in the morning and vice-versa in the evening).

The full distributed development traffic volumes are provided in Appendix 3.

Table 12 - Development trip inbound / outbound distribution

Land use	AM peak	PM peak	Weekend midday peak
Residential	35% inbound 65% outbound	68% inbound 32% outbound	48% inbound 52% outbound

5.5. Future background traffic growth

The Rosedale development is expected to be delivered over approximately 12 stages (excluding completed stage 1). It is expected that the development would be delivered over the next 10 years, hence modelling is undertaken for future year in 2033.

- George Bass Drive (Regional Road) - Future background traffic growth for the George Bass Drive was obtained from the data provided by TfNSW. Table 13 shows the traffic volumes on George Bass Drive in 2016, 2019 and 2021 provided by TfNSW along with the 10-year growth rate.

Table 13 – Traffic volumes and Backround growth rates on George Bass Drive provided by TfNSW

Road Sections	Year	Year difference	Traffic Volumes	Growth rate per annum
George Bass Drive to the north of Bevian Road, south of Illabunda Drive	03/03/2016	3	2204	8.85%
	21/08/2019		2843	
George Bass Drive to the south of Bevian Road, north of Rosedale Parade	19/05/2016	5	2553	5.62%
	03/03/2021		3356	

TfNSW provided growth rates ranging between 5-9% per annum. It is considered a growth rate of 9% is unsustainable, and will tend to reduce in the future, therefore a growth rate of 7% per annum has been adopted for 10 years between 2023 and 2033.

- Princes Highway (State Road) – A future background traffic growth rate of 2% per annum has been assumed for Princes Highway and applied over a 9-year period from 2024 to 2033.

5.6. SIDRA Modelling

An analysis has been undertaken using the SIDRA Intersection 9.1 software, a micro-analytical tool for individual intersection and whole-network modelling. The models use inputs based on the collected traffic survey data, the forecast generation and distribution of traffic associated with the proposed development.

SIDRA provides a number of performance indicators outlined below:

- Degree of Saturation – The total usage of the intersection expressed as a factor of 1 with 1 representing 100% use/saturation. (e.g. 0.8=80% saturation).

- Average Delay – The average delay encountered by all vehicles passing through the intersection. It is often important to review the average delay of each approach as a side road could have a long delay time, while the large free flowing major traffic will provide an overall low average delay.
- 95% Queue Lengths (Q95) – is defined to be the queue length in metres that has only a 5-percent probability of being exceeded during the analysis time period. It transforms the average delay into measurable distance units.
- Level of Service (LoS) – This is a categorization of average delay, intended for simple reference. It is a good indicator of overall performance for individual intersections.

TfNSW adopts the bands shown in Table 14.

Table 14 - Intersection performance - Levels of Service

Level of Service	Average Delay (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	<14	Good operation	
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity. At signals, incidents would cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	>70	Extra capacity required	Extreme delay, major treatment required

5.7. Base Model Development

The base model was developed as per *TfNSW Traffic Modelling Guidelines, version 1, February 2013 (TfNSW guidelines).* Given that the key intersections are spaced more than 2 kilometres apart, the base SIDRA model was developed to reflect the site environment.

Figure 20 shows the individual sites modelled within the base SIDRA.

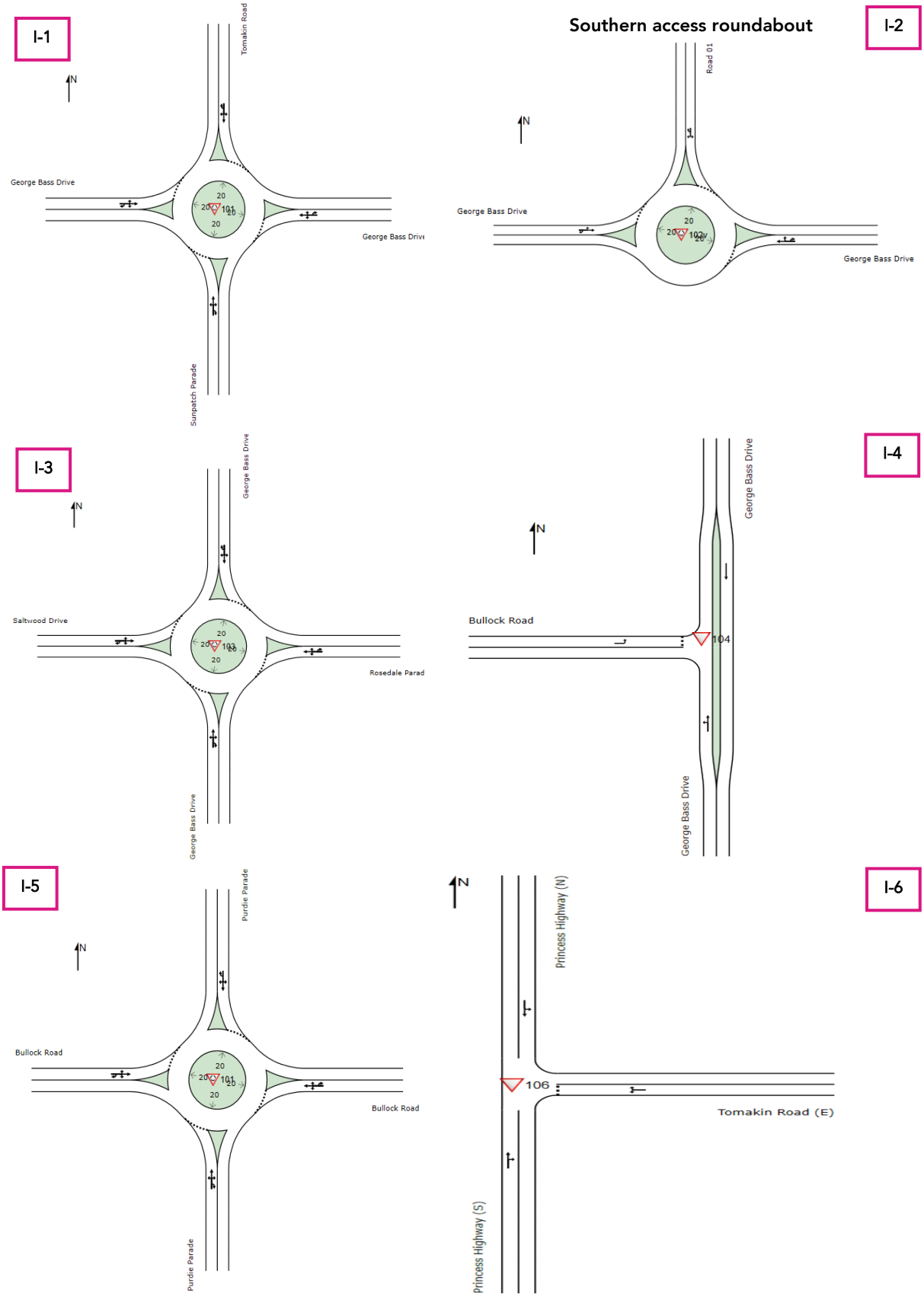


Figure 20 – Base SIDRA model

5.8. Modelling Scenarios

The SIDRA modelling scenarios were undertaken with and without the proposal for future year in 2033 AM and PM peaks (Table 15).

Table 15 – Modelling Scenarios

S. No	Scenarios	Meaning
1	Existing	Base case scenario using traffic volumes collected during the surveys. This case represents the existing peak hour traffic conditions.
2	Existing + Background Growth	Base case scenario along with the future traffic background growth on George Bass Drive.
3	Existing + Development	Future scenario that combines the existing scenario with the additional development traffic generation volumes.
4	Existing + Background Growth + Development	The same methodology as above along with the background growth on George Bass Drive.

5.9. SIDRA Results

Table 16 compares the results of the existing traffic volumes, future base case, and additional development volumes for 792 dwellings. The full movement summaries have been provided as Appendix 4.

Table 16 - SIDRA traffic modelling results summary

Intersections	Peak Hour	Scenarios	Average delay (sec)	Average LoS[1]	Highest DoS (v/c)	Highest Q95 (m)
(I-1) George Bass Drive / Tomakin Road / Sunpatch Parade	Weekday AM	Existing	B	14.5	0.367	17.4
		Existing + Growth	B	17.7	0.626	44.4
		Existing + Development	B	17	0.586	37.8
		Existing + Growth + Development	B	22.5	0.841	108.4
	Weekday PM	Existing	A	12.4	0.292	13.6
		Existing + Growth	A	13.4	0.419	22.9
		Existing + Development	A	13.6	0.446	24.8
		Existing + Growth + Development	B	15.2	0.577	39.4
	Weekend Mid-day	Existing	A	12.8	0.344	16.3
		Existing + Growth	A	13.9	0.487	27.7
		Existing + Development	A	13.6	0.472	25.8

[1] It is noted that for priority-controlled intersections, the minor road usually experiences the highest delay whereas the major road experiences zero delay. In light of this, the average performance indicators may not be a suitable method of assessing the performance of an intersection. Therefore, the performance indicators for the worst movement have been reported for priority-controlled intersections.

		Existing + Growth + Development	B	15.5	0.622	42.1
(I-2) George Bass Drive / Road 01 (New southern access roundabout)	**Weekday AM**	Existing	A	11.5	0.172	8.1
		Existing + Growth	A	12.2	0.330	18.6
		Existing + Development	A	12	0.310	16.2
		Existing + Growth + Development	A	12.9	0.525	35.2
	Weekday PM	Existing	A	11.8	0.129	5.6
		Existing + Growth	A	13	0.244	12.0
		Existing + Development	A	12.6	0.305	16.2
		Existing + Growth + Development	A	14.1	0.427	27
	Weekend Mid-day	Existing	A	12.2	0.168	7.6
		Existing + Growth	A	13.9	0.322	17.4
		Existing + Development	A	13	0.294	16.2
		Existing + Growth + Development	B	15.3	0.454	31.2
(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive	**Weekday AM**	Existing	A	11.6	0.126	4.7
		Existing + Growth	A	12.4	0.229	9.4
		Existing + Development	A	12.5	0.235	10
		Existing + Growth + Development	A	13.5	0.353	17.5
	Weekday PM	Existing	A	11.5	0.112	4.2
		Existing + Growth	A	12.1	0.198	8.1
		Existing + Development	A	12.6	0.272	12.1
		Existing + Growth + Development	A	13.2	0.373	17.4
	Weekend Mid-day	Existing	A	11.7	0.149	5.6
		Existing + Growth	A	12.7	0.269	11.9
		Existing + Development	A	12.4	0.266	11.1
		Existing + Growth + Development	A	13.2	0.419	20.7
(I-4) George Bass Drive / Bullock Road	**Weekday AM**	Existing	A	5.6	0.1	0
		Existing + Growth	A	5.6	0.194	0
		Existing + Development	A	5.6	0.164	2.9
		Existing + Growth + Development	A	5.6	0.258	3.2
	Weekday PM	Existing	A	5.6	0.087	0
		Existing + Growth	A	5.6	0.167	0

		Existing + Development	A	5.6	0.201	1.5
		Existing + Growth + Development	A	5.6	0.267	1.7
	Weekend Mid-day	Existing	A	6.2	0.115	0
		Existing + Growth	A	7	0.225	0
		Existing + Development	A	6.6	0.168	2.7
		Existing + Growth + Development	A	7.7	0.275	3.3
(I-5) Bullock Road / Purdie Parade	**Weekday AM**	*Existing*	*N/A*	*N/A*	*N/A*	*N/A*
		Existing + Growth	*N/A*	*N/A*	*N/A*	*N/A*
		Existing + Development	A	11.3	0.087	2.9
		Existing + Growth + Development	A	11.3	0.087	2.9
	Weekday PM	*Existing*	*N/A*	*N/A*	*N/A*	*N/A*
		Existing + Growth	*N/A*	*N/A*	*N/A*	*N/A*
		Existing + Development	A	11	0.049	1.6
		Existing + Growth + Development	A	11	0.049	1.6
	Weekend Mid-day	*Existing*	*N/A*	*N/A*	*N/A*	*N/A*
		Existing + Growth	*N/A*	*N/A*	*N/A*	*N/A*
		Existing + Development	A	11.2	0.076	2.5
		Existing + Growth + Development	A	11.2	0.076	2.5
(I-6) Princes Highway / Tomakin Road	**Weekday AM**	Existing	A	12.1	0.372	12.0
		Existing + Growth	B	14.8	0.447	14.8
		Existing + Development	A	13.0	0.455	16.5
		Existing + Growth + Development	B	16.3	0.546	20.5
	Weekday PM	Existing	B	15.3	0.355	10.1
		Existing + Growth	B	20.6	0.464	13.3
		Existing + Development	B	16.6	0.426	12.9
		Existing + Growth + Development	B	22.8	0.559	17.4
	Weekend Mid-day	Existing	A	11.6	0.389	12.8
		Existing + Growth	A	13.9	0.457	15.5
		Existing + Development	A	12.5	0.462	16.8
		Existing + Growth + Development	B	15.2	0.543	20.5

The Sidra results shows that George Bass Drive / Tomakin Road / Sunpatch Parade (I-1) and Princes Highway / Tomakin Road (I-6) intersections are operating with average delays for the highest delayed of less than 23 seconds per vehicle during the weekday morning and afternoon peak periods. This represents a Level of Service B, which is considered acceptable for intersection operation.

The remaining intersections, George Bass Drive / Road 01 (I-2), George Bass Drive / Rosedale Parade / Saltwood Drive (I-3), George Bass Drive / Bullock Road (I-4) and Bullock Road / Purdie Parade (I-5) were found to operate at a level of service A/B during peak periods. Average delays for all movements through the intersections were less than 15 seconds per vehicle, indicating a good level of intersection operation.

6. Access Design Assessment

The development involves a proposed new southern access at the southern boundary of site to George Bass Drive, which operates at 100km/h. The southern access is proposed to be a 3-arm single-lane roundabout, established from George Bass Drive with the introduction of a northern leg that connects with the development site identified in civil drawings as 'Road 01'.

Reference has been made to *Austroads Guide to Road Design Part 4B: Roundabouts* for the design compliance review of the proposed new roundabout, as shown in Table 17. And explained in detail in the below sections.

The design of the proposed roundabout is shown in Figure 21 and attached in **Appendix 5.**

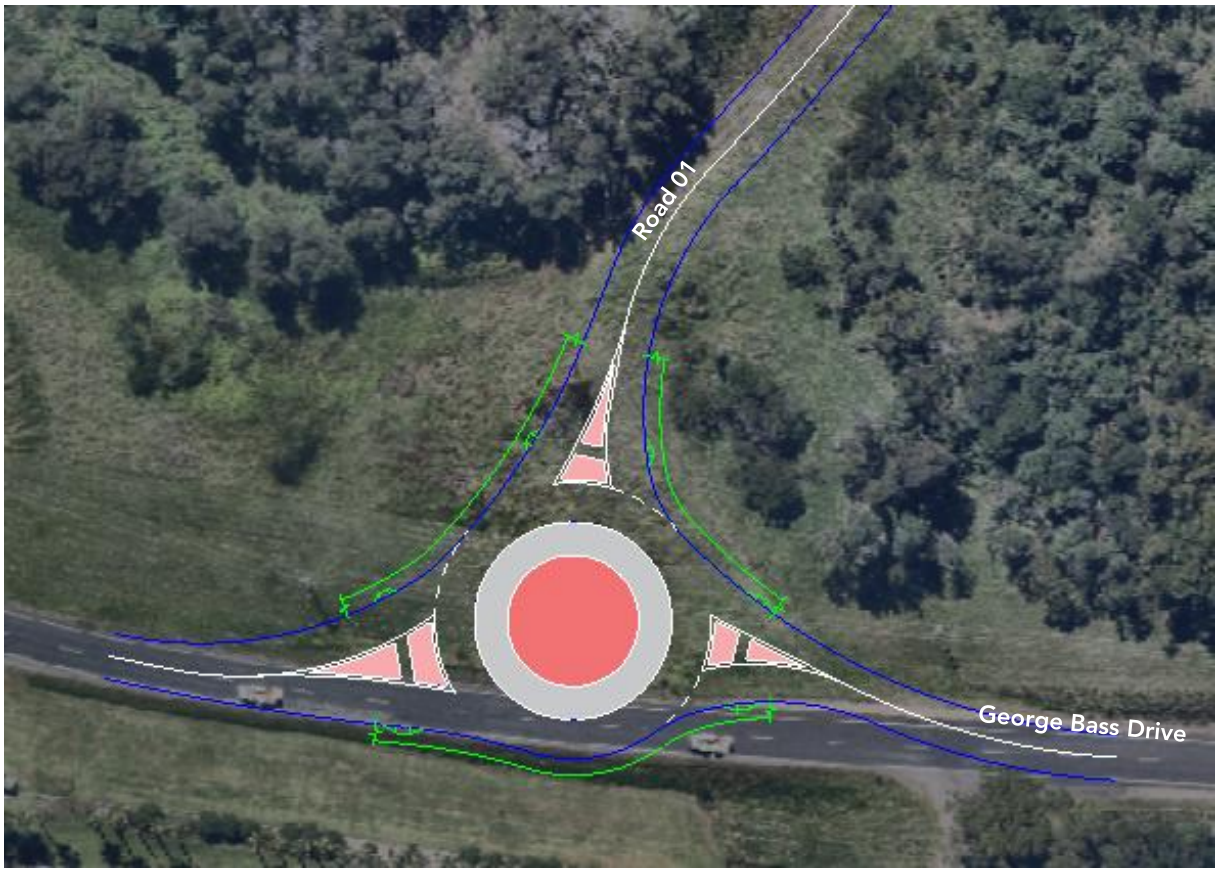


Figure 21 – Proposed George Bass Drive / Road 01 roundabout design

Table 17 – Geometric Design Elements as per Austroads guidelines

S. No	Geometric Design Elements of Roundabout	Reference Section from Guide	Speed	Value
1	Central Island Radius of a single lane roundabout	Table 4.1	>90 km/h	Minimum – 14m Desirable – 22m
2	Maximum entry path radius	Table 4.2	>or=90 km/h	<or=55m
3	Construction of the entry path of a single-lane entry	Figure 4.5	-	-

6.1. Central Island Radius

George Bass Drive has a posted speed limit of 100km/h (low pedestrian activity area), with reference to the Austroads guide shown in Figure 22 , any single lane roundabouts are subject to the minimum central island radius of 14m and desirable of 22m to reduce the relative speed and crash rates between the vehicles.

Based on this guide, the proposed southern access roundabout is provided with a central radius of 20m, thus it is compliant with the minimum and desirable requirements.

Desired driver speed on the fastest leg prior to the roundabout (km/h)	Central island radius of a single-lane roundabout (m)		Central island radius of a two-lane roundabout (m)		Speed reduction treatments required prior to the entry curve[1]
	Minimum[5]	Desirable	Minimum[5]	Desirable	
≤ 40[2]	5[4]	10	8	12	No
50[2]	8	11	8	12	No
60[3]	10	12	14	16	No
70[3]	12	18	18	20	No
80[3]	14	22	20	24	Desirable
≥ 90[3]	14	22	20	24	Yes

Figure 22 – Central Island Radius requirements at single lane roundabouts (Source : Austroads Guide to Road Design Part 4B)

6.2. Entry path radius

Austroads Part 4B requires that the maximum entry path radius shall be provided on each entry of the roundabout as shown in Figure 23. This criterion is to ensure that adequate geometry is provided to discourage motorists against cutting across entry lanes, minimising the likelihood of sideswipe crashes.

The maximum entry path radius for the proposed single lane roundabout of less than or equal to 55m is provided in accordance with the guide.

Desired driver speed on the leg prior to the roundabout (km/h)	Maximum entry path radius (m)[5]	
	Single-lane entries[1] Two-lane entry – staying in correct lane[2]	Two-lane entry – cutting across lanes[3]
≤ 40	≤ 55	1.9 x actual entry path radius when staying in correct lane[4]
50		1.8 x actual entry path radius when staying in correct lane[4]
60		1.6 x actual entry path radius when staying in correct lane[4]
70		1.5 x actual entry path radius when staying in correct lane[4]
80		1.5 x actual entry path radius when staying in correct lane[4]
≥ 90		1.5 x actual entry path radius when staying in correct lane[4]

Figure 23 – Maximum entry path radii for one lane roundabouts (Source : Austroads Guide to Road Design Part 4B)

6.3. Construction of the entry path

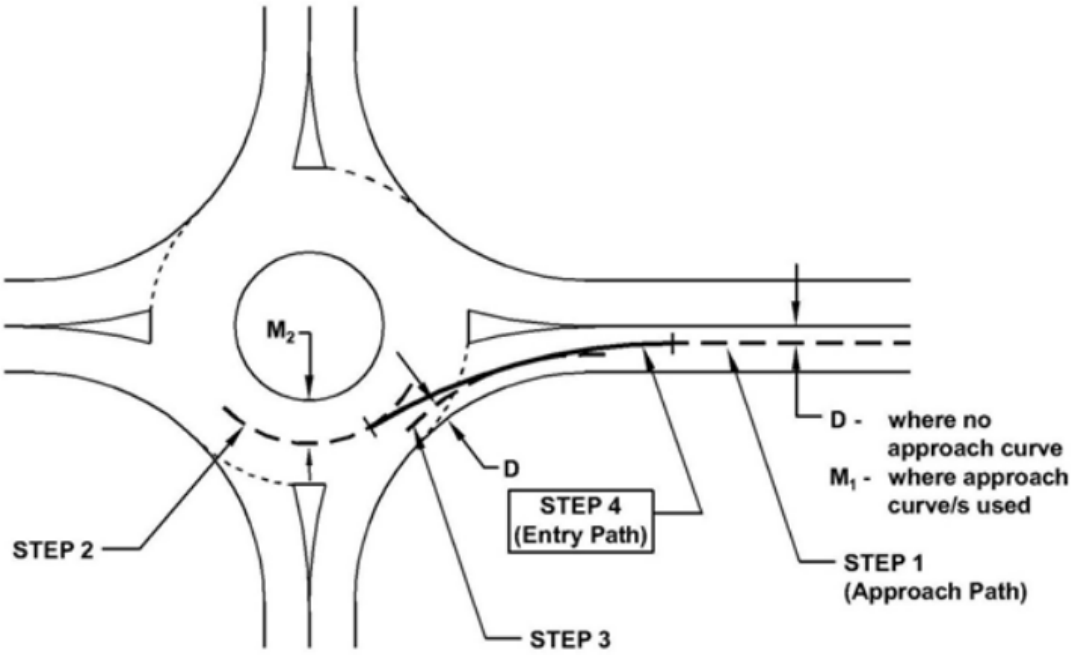
Austroads Part 4B provides the method of construction of the entry path for single entries. The steps to construct the entry path and the schematic representation are shown in Figure 24 and Figure 25.

The proposed roundabout has been checked by following the construction steps and ensuring that the measured radius does not exceed the criteria given in Table 4.2 of the Austroads guide.

- Step 1 – Where no approach curve/s is used, draw a line parallel to the right edge of the approach lane at an offset 'D' prior to the entry curve. This line is the approach path. Where an approach curve/s is used, draw this line along the last approach curve in the direction of travel at an offset of 'M_1'.
- Step 2 – Draw a curved line parallel to the edge of the central island at an offset 'M_2'. For an elliptical/oval/oblong roundabout the line may comprise multiple radii.
- Step 3 – Draw a curved line parallel to the left edge of the entry lane at an offset 'D'.
- Step 4 – Draw the entry path. This is a circular curve drawn tangentially to the lines constructed in Steps 1, 2 and 3. This path approximates the path taken by passenger car drivers on single-lane roundabout entries.

The radius of the entry path drawn in Step 4 must be no greater than the values for single-lane entries given in Table 4.2. If the measured radius exceeds the criteria, tighten the entry curve, relocate the approach leg, and/or increase the roundabout size to reduce the entry path radius to the required limit.

Figure 24 – Steps to construct the entry path (Source : Austroads Guide to Road Design Part 4B)



D = 1.5 m when measuring from a road centreline or kerb face, 1.0 m when measuring from an edge line.
M_1 = Half the width of the approach lane.
M_2 = Half of the width of the circulating carriageway.

Source: Department of Main Roads (2006)[4].

Figure 25 – Construction of the entry path of a single-lane entry (Source : Austroads Guide to Road Design Part 4B)

7. Preliminary Construction Traffic Management Plan

The following sections outline the preliminary traffic management arrangements and considerations for the delivery of the project. Noting that this TIA has been written to support a Concept Plan Approval modification for the Site, a detailed CTMP will need to be prepared to support the subsequent detailed Development Applications prior to Subdivision Works Certification which outlines the specific site requirements and scope upon the appointment of a Principal Contractor.

7.1. Key Standards and Guidelines

Reference has been made to the following Standards and guidelines:

- *TfNSW Traffic Control at Works Sites (TCAWS) Technical Manual Issue 6.1*
- *AS1742.3:2009 Manual of Uniform Traffic Control Devices Part 3: Traffic Control Devices for Works on Roads*

7.2. Objective

The traffic management plan associated with the construction activity aims to ensure the safety of all workers and road users within the vicinity of the construction site and the following are the primary objectives:

- To minimise the impact of the construction vehicle traffic on the overall operation of the road network;
- To ensure continuous, safe and efficient movement of traffic for both the general public and construction workers;
- Installation of appropriate advance warning signs to inform users of the changed traffic conditions;
- To provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site;
- To provide information regarding the changed access arrangement and also a description of the proposed external routes for vehicles including the construction vehicles accessing the site; and
- Establishment of a safe pedestrian environment in the vicinity of the site.

7.3. General Requirements

In accordance with the Standards and guidelines outlined in Section 0, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during travel to and from the site.

All subcontractors must be inducted by the lead contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The lead contractors will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles.

Vehicles operating to, from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration. No tracked vehicles will be permitted or required on any paved roads. Public roads and access points will not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances.

7.4. Staging and Program

While the civil drawings nominate a proposed staging plan and noting that this TIA has been written to support a Concept Plan Approval modification for the Site, the exact construction staging, and program will be determined and addressed during the subsequent detailed Development Application processes, and once a Principal Contractor has been appointed for delivery of the construction works.

7.5. Hours of Work

All works associated with the project will be restricted to the time periods outlined within the Conditions of Consent upon approval of the DA.

Until this is available, it has been assumed the indicative hours of work will be as follows:

- Mon-Fri 7:00am – 6:00pm
- Sat 8:00am – 1:00pm
- Sunday & Public Holidays No works to be carried out.

7.6. Construction Vehicle Types

The construction of the development will involve the use of several different vehicle types in relation to the various stages and tasks involved. The proposed works are envisaged to be carried out using a mix of commercial small to heavy rigid vehicles.

Given the size of the excavation project and the structural concrete pours, vehicles up to and including 19m semi-trailer and truck-and-dog trailer units will be used for material removal and deliveries.

Any oversized vehicle (including the use of mobile cranes) that is required to travel to the project into the vicinity of the site will be dealt with separately, with the submission of required permits to and subsequent approval by Eurobodolla Shire Council prior to any delivery being undertaken. Any road closures associated with the use of a mobile crane must be applied to Council in advance as it requires Local Traffic Committee approval. All Oversize Over Mass (OSOM) applications must be submitted via the National Heavy Vehicle Regulator (NHVR) portal.

The delivery of materials to and from the site will result in minimal generated traffic activity associated with the works. All deliveries are to be scheduled to occur outside of the peak commuter periods.

The indicative construction vehicle type and volumes during each stage are shown in Table 18.

Table 18 – Indicative Construction vehicle size and Estimated Volumes

Stage	Indicative Vehicle Types	Estimated Average - Peak No. of Trucks per Day[2]
Site Establishment and Civil Works	• 19m Articulated Vehicle • 19m Truck & Dog • 12.5m Heavy Rigid Vehicle • 8.8m Medium Rigid Vehicle • Low Loader	60 – 85 trucks[3]

7.7. Indicative Construction Vehicle Routes

All vehicle routes are constrained to existing public roads that have the physical geometry to accommodate the turning movements. Approaching the site, some vehicle movements may entail the assistance of traffic controllers, as more than one lane will be required for turning manoeuvres.

No queuing or marshalling of trucks is permitted on any public road and all loading and unloading of materials will be undertaken either within the site or within the Works Zones.

All access gates to the site will be managed by gate controllers to ensure the safe management of the access and egress to the site and its interaction with non-construction traffic on the road network.

Whilst not anticipated, any oversized vehicle that is required to travel to the site will be dealt with separately, with the submission of required permits to and subsequent approval by Council prior to any delivery. Requests shall be submitted 28 days prior to the scheduled date of use of an oversized vehicle.

Appropriate Traffic Guidance Schemes (TGSs) will need to be prepared as part of the detailed CTMP to outline the traffic management measures required for the project.

Details of any Work Zones, if required, will be finalised in the detailed Construction Traffic Management Plan.

The development proposes to develop Stage 2 first shown in Figure 3, hence the construction vehicle routes will be via Saltwood Drive. For this site, different ingress and egress routes have been identified for the construction vehicles and analysed further, as outlined in the following subsections.

Swept path assessments along the proposed entry / exit routes will be undertaken for the largest vehicles used for construction in the detailed Construction Traffic Management Plan.

[2] These volumes are indicative only and the appointed Principal Contractor shall undertake an analysis of construction vehicle movements based on its final methodology and the CTMP will be updated accordingly.
[3] 1 truck = 2 trips (1 inbound trip and 1 outbound trip)

7.7.1. Access Route for Construction Vehicles

The site access routes are described below and presented in Figure 26.

7.7.1.1. Ingress Route

The ingress route for all types of construction vehicles travelling to the site will be either from north or south of the site. The ingress routes are shown in pink lines in Figure 26.

Vehicles approaching the site either from the north or south will arrive via George Bass Drive (Regional Road) and turn left or right to Saltwood Drive (Local Road) to reach the site.

7.7.1.2. Egress Route

Construction vehicles will leave the site either north or south. The egress routes are shown in blue lines in Figure 26.

Vehicles leaving the site either to the north or south will exit via Saltwood Drive (Local Road) onto George Bass Drive (Regional Road) by turning either left or right.

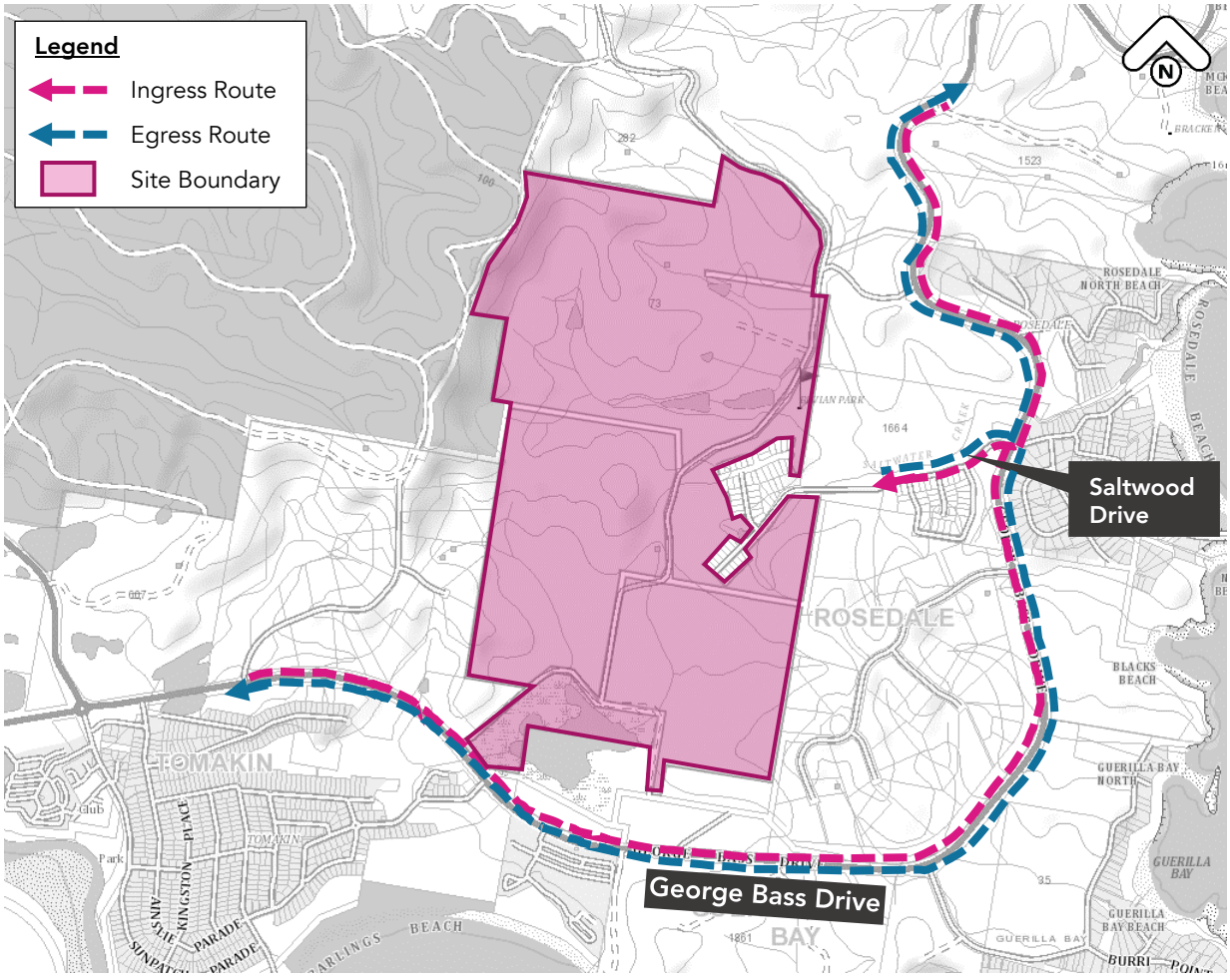


Figure 26 – Construction Vehicle Routes

7.8. Site Access Arrangements

The site establishment including construction site access will be prepared once the principal contractor is appointed for the project.

Until the construction site access is finalised, it is assumed that the site will provide up to three (3) access points at different stages of the proposed works as civil works progress and roads are completed providing additional access points.

7.9. Pedestrian Access

Pedestrian access to the site will be via designated pedestrian gates and the exact location of these gates will be determined during the Subdivision Works Certification processes once a Principal Contractor has been appointed for delivery of the construction works.

All access points are to be securely locked when construction activities are not in progress.

The exact location of this fence is to be agreed on site, prior to commencement of the works.

7.10. Special Deliveries

Whilst not anticipated, any oversized vehicle that is required to travel to the site will be dealt with separately, with the submission of required permits to and subsequent approval by TfNSW and/or Council prior to any delivery. Requests shall be submitted at least 28 days prior to the scheduled date of use of an oversized vehicle.

7.11. Staff Parking

The site has sufficient room to provide parking to accommodate the parking demand generated by the site personnel for the civil works.

All site personnel are encouraged to park on site in the vicinity of the development site. To minimise the required parking, the contractor will be encouraged to assist in the transportation of workers to the site. Also, site personnel will be advised to carpool (wherever practicable) and will be informed of the alternative transport options available in the vicinity of the site and encouraged to utilise these facilities (wherever practicable).

A public transport information pack will be provided to all staff and contractors, advising them of the public transport options available.

7.12. Work Site Security

To provide security to the works site and protection to the general public, it is proposed that temporary fencing is to be erected along the construction site boundary by the Principal Contractor. This fencing will define the extent of the works site. All access points are to be securely locked when construction activities are not in progress. The exact location of this fence is to be agreed on site, prior to commencement of the works.

7.13. Staff Induction

All staff and subcontractors engaged on site will be required to undergo a site induction. The induction will include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, OH&S, driver protocols and emergency procedures. Additionally, the Principal Contractor will discuss TMP requirements regularly as a part of toolbox talks and advise workers of public transport and car-pooling opportunities.

7.14. Emergency Vehicle Access

The proposed traffic control arrangements do not propose closure of any local roads.

Any emergency vehicles require access to the project site will do so via the site access on Saltwood Drive.

7.15. Access to Adjoining Properties

Access to all adjoining properties will be maintained throughout the works.

7.16. Occupational Health and Safety

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold the appropriate SafeWork NSW accreditation in accordance with the Standards and guidelines outlined in Section 0.

7.17. Method of Communicating Traffic Changes

Traffic Guidance Schemes (TGSs) in accordance with the Standards and guidelines outlined in Section 0 will advise motorist of upcoming changes in the road network.

During construction, the contractor shall each morning, prior to work commencing, ensure all signage is erected in accordance with the TGS and clearly visible. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required. Sign size is to be size "A'.

No deviation from the approved TGS shall be permitted, unless otherwise approved by Council and certified by SafeWork NSW accredited personnel.

The associated TGS road signage will inform drivers of works activities in the area including truck movements in operation.

The TGSs will be formalised in the detailed Construction Traffic Management Plan.

Prior to commencement of works on site, the contractor is to inform neighbouring properties of proposed works and provide site contact information by means of a letter box distribution.

7.18. Contact Details for On-site Enquiries and Site Access

The Principal Contractor for the development has not yet been engaged and the contact and telephone will be confirmed prior to commencement on site.

8. Conclusion

This report documents the traffic impact assessment undertaken to support a modification of the 2008 Concept plan Approval proposing a residential development at Bevian Road, Rosedale (the Proposal).

The modification proposes:

- 792 residential subdivision lots and neighbourhood shops inclusive of the 51 residential lots recently completed and registered (DP1293369);
- vehicular access to the proposed subdivision will be via three intersections, two existing intersections on the east and new proposed roundabout in the south on George Bass Drive;
- the proposed subdivision will increase residential densities and strengthen the demand for existing and future public transport services in the area;
- a possible bus route could be provided through the proposed residential subdivision, along the internal collector road;
- pedestrians and cycle networks through the proposed residential subdivision are considered appropriate.

A consultation process involving TfNSW, Eurobodolla Shire Council and the private bus company in Rosedale division constituted an important element of this study. Key traffic modelling assumption such as background growth were provided by TfNSW.

This assessment report identified the following key findings:

- Tube Count surveys were conducted at two locations of George Bass Drive, one near Barlings Beach Holiday Park and the other near Rosedale Parade. The results showed that current traffic volumes are low, ranging from 300 to 350 vehicles per hour.
- TfNSW guides provides trip generation rates of 0.85 and 0.9 during AM and PM peak hours for low-density residential dwellings. A rate of 0.9 is assumed for the weekend mid-day, as the guide does not provide any trip generation rate for the weekend. The proposed development is expected to generate peak period traffic volumes of 673, 713 and 713 vehicles per hour during weekday AM, PM and weekend mid-day peak hours.
- TfNSW advised adopting a background growth rate of 5-9% per annum for George Bass Drive. However, it is considered a growth rate of 9% is unsustainable and will tend to reduce in the future, therefore, a middle-value growth rate of 7% was adopted for traffic modelling. A growth rate of 2% is assumed for Princes Highway.
- Six intersections were assessed as part of this TIA. According to SIDRA results, in 2033 for post-development conditions, the analysis typically shows a level of service ranging from 'A' to 'B' for all six key intersections. This indicates a better level of service through these intersections with the capacity to handle additional growth and trip volumes in the future.
- The road network, including the proposed roundabout on the south of the site onto George Bass Drive will be able to accommodate future traffic growth, including traffic from the proposed development. The proposed modification is considered supportable from a traffic and transport perspective.

Appendix 1. Subdivision Drawing including Road Hierarchy Plan

Concept Subdivision Plan

LAND USE AND DEVELOPMENT LOTS

Housing Diversity& Mixed Use Zone

Height:	Maximum 2 Storeys
Typical Lot Size:	100m² - + 450m²
Number of lots:	40

The General Zone

Height:	Maximum 2 Storeys
Typical Lot Size:	450m² - 1,000m²
Number of lots:	119

The Suburban Zone

Height:	Maximum 2 Storeys
Typical Lot Size:	450m² - 2,000m²
Number of lots:	177

The Park Edge Zone

Height:	Maximum 2 Storeys
Typical Lot Size:	700m² - 1,500m²
Number of lots:	181

The Outlook Zone

Height:	Maximum 2 Storeys
Typical Lot Size:	1,000m² - 10,000m²
Number of lots:	224
TOTAL LOTS	**741**

Deferred Super Lot Area
Area of future residential development subject to separate Development Application and further agreement with Council in relation to Odour and Noise operation of the STP

Rural Zone

OTHERS:

- Non Developable Land/ Retained Managed Land
- Recreation, Parks and Infrastructure
- Lakes and Dams
- Bevian Wetland
- Modified Site Area
- Developable Area Boundary
- 100m Bevian Wetland Setback

BEVIAN ROAD- Modified Concept Application

Date
April 2025

Drawing number
AA_01

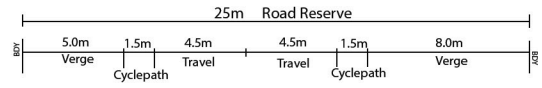
walker

Road Hierarchy Plan

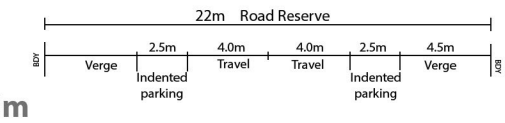
LEGEND

- Distributor Road (min 25m)
- Collector Road (min 20m)
- Local Street (min18.5m)
- Access Street (min 17m)
- Perimeter Street (min 17m)
- Evacuation Access Street (min 10.2m)
- Application Boundary

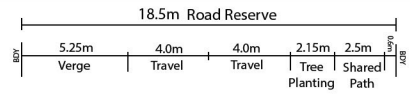
Section - Distributor Road - 25m



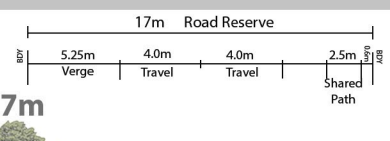
Section - Collector Road - 22m



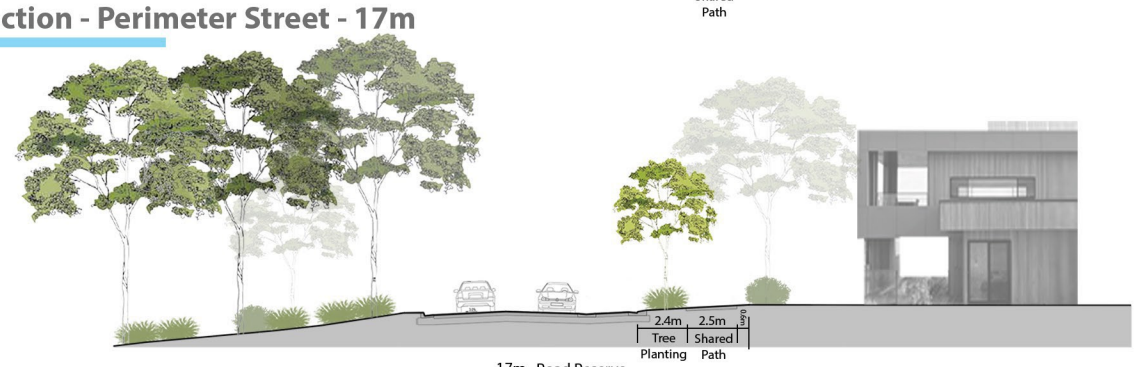
Section - Local Street - 18.5m

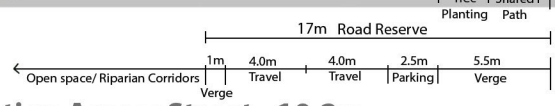


Section - Access Street - 17m

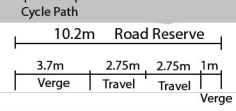


Section - Perimeter Street - 17m





Section - Evacuation Access Street - 10.2m



OCEAN RIDGE- Modified Concept Application

Date
April 2025

Drawing number
AA_06

walker

Appendix 2. Consultation with relevant authorities

Priya Baaskaraun

From: Alister Robertson <Alister.Robertson@esc.nsw.gov.au>
Sent: Friday, 5 April 2024 2:58 PM
To: Priya Baaskaraun
Cc: Andrew Morse
Subject: RE: 73 Bevian Road - Rosedale Subdivision

Hi Priya,

Sorry I've not been in touch, Council has a Transport Network Plan - Northern Area of Eurobodalla relevant to the precinct you currently considering.

Kind Regards,

Alister Robertson
Coordinator Development Engineering
t 02 4474 1312 | f 02 4474 1234

Please ensure all correspondence that requires actioning is addressed to council@esc.nsw.gov.au, detailing the application number and addressed to the appropriate officer, to ensure proper record keeping and a timely response is provided.

From: Priya Baaskaraun <priya.baaskaraun@ptcconsultants.co>
Sent: Thursday, March 21, 2024 9:24 AM
To: Alister Robertson <Alister.Robertson@esc.nsw.gov.au>
Cc: Andrew Morse <andrew.morse@ptcconsultants.co>
Subject: RE: 73 Bevian Road - Rosedale Subdivision

This email DID NOT come from a council email address.

Morning Alister,

Hope you are doing good.

I'm reaching out to follow up on our previous discussions. Have you had an opportunity to review the growth rate along George Bass Drive and share any relevant information with us?

I look forward to hearing from you soon.

Thanks

Priya Baaskaraun
Graduate Traffic Engineer

ptc.

m +61 499 165 038
t +61 2 8920 0800
priya.baaskaraun@ptcconsultants.co

Suite 502, 1 James Place
North Sydney NSW 2060

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From: Priya Baaskaraun

Sent: Tuesday, February 27, 2024 2:42 PM
To: Alister Robertson <Alister.Robertson@esc.nsw.gov.au>
Cc: Andrew Morse <andrew.morse@ptcconsultants.co>; Sichao Miao <sichao.miao@ptcconsultants.co>
Subject: RE: 73 Bevian Road - Rosedale Subdivision

Hi Alister,

Nice talking to you.

Following our call now, I've attached the presentation that we've presented for your reference along with the approved Traffic report 2008.

Looking forward to your advice on the discussions we had today.

Thanks

Priya Baaskaraun
Graduate Traffic Engineer

ptc.

m +61 499 165 038
t +61 2 8920 0800
priya.baaskaraun@ptcconsultants.co

Suite 502, 1 James Place
North Sydney NSW 2060

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From: Alister Robertson <Alister.Robertson@esc.nsw.gov.au>
Sent: Tuesday, February 20, 2024 12:46 PM
To: Priya Baaskaraun <priya.baaskaraun@ptcconsultants.co>
Cc: Andrew Morse <andrew.morse@ptcconsultants.co>; Sichao Miao <sichao.miao@ptcconsultants.co>
Subject: RE: 73 Bevian Road - Rosedale Subdivision

Hi Priya,

Happy to meet and discuss, how does 2pm Monday or Tuesday next week sound. Please send through a meeting invite and I'll lock it in.

Thanks
Alister

Kind Regards,

Alister Robertson
Coordinator Development Engineering
t 02 4474 1312 | f 02 4474 1234

Please ensure all correspondence that requires actioning is addressed to council@esc.nsw.gov.au, detailing the application number and addressed to the appropriate officer, to ensure proper record keeping and a timely response is provided.

From: Priya Baaskaraun <priya.baaskaraun@ptcconsultants.co>
Sent: Tuesday, February 20, 2024 11:30 AM
To: Alister Robertson <Alister.Robertson@esc.nsw.gov.au>; Council <council@esc.nsw.gov.au>
Cc: Andrew Morse <andrew.morse@ptcconsultants.co>; Sichao Miao <sichao.miao@ptcconsultants.co>
Subject: RE: 73 Bevian Road - Rosedale Subdivision

This email DID NOT come from a council email address.

Hi Alister,

Following up with you regarding the email I sent last week.

I was informed that you are quite busy and was advised by your council member to loop the mail in again.

Please let us know if you have some available time.

Kind Regards

Priya Baaskaraun
Graduate Traffic Engineer

ptc.

m +61 499 165 038
t +61 2 8920 0800

priya.baaskaraun@ptcconsultants.co

Suite 502, 1 James Place
North Sydney NSW 2060

Taking the money out of basements and into the streets

read the article

ptc.

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From: Priya Baaskaraun

Sent: Wednesday, February 14, 2024 2:55 PM
To: alister.robertson@esc.nsw.gov.au; council@esc.nsw.gov.au
Cc: Andrew Morse <andrew.morse@ptcconsultants.co>; Sichao Miao <sichao.miao@ptcconsultants.co>
Subject: 73 Bevian Road - Rosedale Subdivision

Hi Alister,

Hope all is well.

We are emailing to commence the consultation required by the application process for the proposed subdivision at 73 Bevian Road, Rosedale. We are engaged by Walker to prepare the Traffic Impact Assessment and road design input for a modification to the current approval and would like to arrange an on-line meeting to introduce you to the project and receive any feedback that you may have for us to include within the Traffic Impact Assessment.

Thanks

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Graduate Traffic Engineer

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t +61 2 8920 0800
priya.baaskaraun@ptcconsultants.co

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Priya Baaskaraun

From: Nathan Boscaro <Nathan.BOSCARO@transport.nsw.gov.au>
Sent: Wednesday, 14 February 2024 3:30 PM
To: Priya Baaskaraun
Subject: RE: 73 Bevian Road - Rosedale Subdivision

Hi Priya,

Nice to meet you.

If you could send through some times and ill arrange the meeting.

Regards

Nathan Boscaro
Team Leader, Development Services South
Community and Place
Regional and Outer Metropolitan
Transport for NSW

M 9549 9728

transport.nsw.gov.au

Level 4, 90 Crown Street
Wollongong NSW 2505

I work flexibly. Unless it suits you, I don't expect you to read or respond to my emails outside of your normal work hours.

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From: Priya Baaskaraun <priya.baaskaraun@ptcconsultants.co>
Sent: Wednesday, February 14, 2024 2:58 PM
To: Development South <development.south@transport.nsw.gov.au>
Cc: Andrew Morse <andrew.morse@ptcconsultants.co>; Sichao Miao <sichao.miao@ptcconsultants.co>
Subject: 73 Bevian Road - Rosedale Subdivision

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Dear TfNSW team,

Hope all is well.

We are emailing to commence the consultation required by the application process for the proposed subdivision at 73 Bevian Road, Rosedale. We are engaged by Walker to prepare the Traffic Impact Assessment and road design input for a modification to the current approval and would like to arrange an on-line meeting to introduce you to the project and receive any feedback that you may have for us to include within the Traffic Impact Assessment.

Thanks

Priya Baaskaraun
Graduate Traffic Engineer

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priya.baaskaraun@ptcconsultants.co

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North Sydney NSW 2060

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Priya Baaskaraun

From: Josiah Poulter <Josiah.Poulter@transport.nsw.gov.au>
Sent: Friday, 22 March 2024 2:53 PM
To: Priya Baaskaraun
Subject: RE: 73 Bevian Road, Rosedale Subdivision - TfNSW Consultation

Hi Priya,

The dates are updated below:

George Bass Drive to the north of Bevian Road, south of Illabunda Dr,

2016	2204	3.3.2016
2019	2843	21.8.2019

George Bass Drive south of Bevian Road, north of Rosedale Pde

2016	2553	19.5.2016
2021	3356	3.3.2021

Josiah

OFFICIAL

From: Priya Baaskaraun <priya.baaskaraun@ptcconsultants.co>
Sent: Thursday, March 21, 2024 3:36 PM
To: Josiah Poulter <Josiah.Poulter@transport.nsw.gov.au>
Cc: Nathan Boscaro <Nathan.BOSCARO@transport.nsw.gov.au>
Subject: RE: 73 Bevian Road, Rosedale Subdivision - TfNSW Consultation

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Thanks Josiah for the information.

Is it possible to give us the specific months associated with these traffic volumes?

Thanks

Priya Baaskaraun
Graduate Traffic Engineer

ptc.

m +61 499 165 038

t +61 2 8920 0800
priya.baaskaraun@ptcconsultants.co

Suite 502, 1 James Place
North Sydney NSW 2060

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OFFICIAL

From: Josiah Poulter <Josiah.Poulter@transport.nsw.gov.au>
Sent: Thursday, March 21, 2024 2:20 PM
To: Priya Baaskaraun <priya.baaskaraun@ptcconsultants.co>
Cc: Nathan Boscaro <Nathan.BOSCARO@transport.nsw.gov.au>
Subject: RE: 73 Bevian Road, Rosedale Subdivision - TfNSW Consultation

Hi Priya,

Council has provided us with following count data on George Bass Drive:

Data for George Bass Drive to the north of Bevian Road, south of Illabunda Dr:

- 2016 2204
- 2019 2843

Data for George Bass Drive south of Bevian Road, north of Rosedale Pde:

- 2016 2553
- 2021 3356

From this we can assume an annual growth rate of between 5-9%.

Regarding traffic generation rates, we would prefer that the standard low density residential rates be applied from the guide. We acknowledge that you have conducted your own survey but, without knowing the make-up of the catchment used, it is Transport's view that the standard rates would be more appropriate. We have no issue with the retail rates.

Could you please send through any existing plans for upgrade to the northern access intersection to George Bass Dr via Bevian Rd?

Regards,

Josiah Poulter
Business Trainee,
Development Services, South

Transport for NSW

P 02 9983 3879
E josiah.poulter@transport.nsw.com.au
Level 4, 90 Crown Street, Wollongong NSW 2500

Transport for NSW

OFFICIAL

From: Priya Baaskaraun <priya.baaskaraun@ptcconsultants.co>
Sent: Thursday, March 21, 2024 9:25 AM
To: Josiah Poulter <Josiah.Poulter@transport.nsw.gov.au>; Nathan Boscaro <Nathan.BOSCARO@transport.nsw.gov.au>
Cc: Andrew Morse <andrew.morse@ptcconsultants.co>
Subject: RE: 73 Bevian Road, Rosedale Subdivision - TfNSW Consultation

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CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Morning transport team,

Hope you are doing good.

I'm reaching out to follow up on our previous discussions. Have you had an opportunity to review the growth rate along George Bass Drive and share any relevant information with us?

I look forward to hearing from you soon.

Thanks

Priya Baaskaraun
Graduate Traffic Engineer

ptc.

m +61 499 165 038
t +61 2 8920 0800
priya.baaskaraun@ptcconsultants.co

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North Sydney NSW 2060

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From: Priya Baaskaraun
Sent: Tuesday, February 27, 2024 10:54 AM
To: Josiah Poulter <Josiah.Poulter@transport.nsw.gov.au>
Cc: Andrew Morse <andrew.morse@ptcconsultants.co>; Sichao Miao <sichao.miao@ptcconsultants.co>
Subject: RE: 73 Bevian Road, Rosedale Subdivision - TfNSW Consultation

Hi Josiah,

Attached is the traffic impact report approved for Rosedale 2008.

Looking forward for your opinions on the discussion we had earlier.

Thanks

Priya Baaskaraun
Graduate Traffic Engineer

ptc.

m +61 499 165 038
t +61 2 8920 0800
priya.baaskaraun@ptcconsultants.co

Suite 502, 1 James Place
North Sydney NSW 2060

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From: Josiah Poulter <Josiah.Poulter@transport.nsw.gov.au>
Sent: Tuesday, February 27, 2024 10:39 AM
To: Priya Baaskaraun <priya.baaskaraun@ptcconsultants.co>
Subject: RE: 73 Bevian Road - Rosedale Subdivision

Hi Priya,

Could you please through a copy of the existing approval for the proposal?

Thanks and regards,

Josiah Poulter
Business Trainee,
Development Services, South
Transport for NSW

P 02 9983 3879
E josiah.poulter@transport.nsw.com.au
Level 4, 90 Crown Street, Wollongong NSW 2500

Transport for NSW

OFFICIAL

From: Priya Baaskaraun <priya.baaskaraun@ptcconsultants.co>
Sent: Wednesday, February 14, 2024 2:58 PM
To: Development South <development.south@transport.nsw.gov.au>
Cc: Andrew Morse <andrew.morse@ptcconsultants.co>; Sichao Miao <sichao.miao@ptcconsultants.co>
Subject: 73 Bevian Road - Rosedale Subdivision

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Dear TfNSW team,

Hope all is well.

We are emailing to commence the consultation required by the application process for the proposed subdivision at 73 Bevian Road, Rosedale. We are engaged by Walker to prepare the Traffic Impact Assessment and road design input for a modification to the current approval and would like to arrange an on-line meeting to introduce you to the project and receive any feedback that you may have for us to include within the Traffic Impact Assessment.

Thanks

Priya Baaskaraun
Graduate Traffic Engineer

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priya.baaskaraun@ptcconsultants.co

Suite 502, 1 James Place
North Sydney NSW 2060

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Priya Baaskaraun

From: Priors Bus Service <opsmanager@sctelco.net.au>
Sent: Friday, 19 April 2024 2:29 PM
To: Priya Baaskaraun; priorsbus@sctelco.net.au
Cc: Andrew Morse
Subject: RE: 73 Bevian Road Rosedale - Bus stop placements

Hi Priya,

All the information you have provided looks to be within specification.

As mentioned on the phone, we have a few new estates to try and incorporate into our timetables, and we will certainly be aware of Rosedale. We need to wait until the estate is complete before we can include it and timetable adjustment to include an entire area is not necessarily a straightforward process.

I look forward to seeing the finished product.

Regards,
Kath Karlsson
Operations Manager
Priors Bus Service
Phone: 4472 4040
www.priorsbus.com.au

From: Priya Baaskaraun <priya.baaskaraun@ptcconsultants.co>
Sent: Tuesday, April 9, 2024 2:45 PM
To: opsmanager@sctelco.net.au; priorsbus@sctelco.net.au
Cc: Andrew Morse <andrew.morse@ptcconsultants.co>
Subject: 73 Bevian Road Rosedale - Bus stop placements

Hi Kath,

It was nice talking to you over the phone yesterday.

Just to recap, we have been engaged by Walker to prepare the Traffic Impact Assessment Report for a modification to the current approval for the proposed subdivision at 73 Bevian Road, Rosedale.

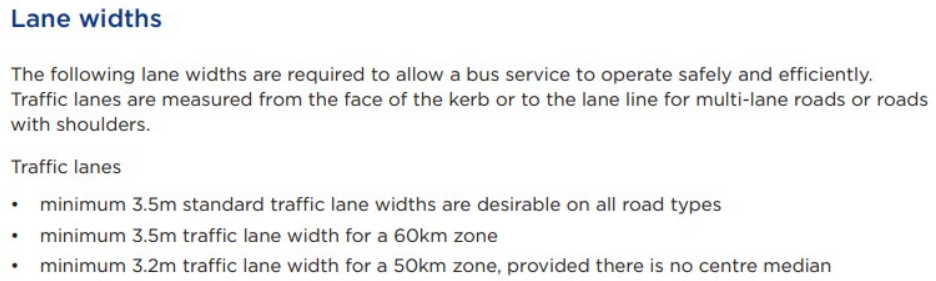
We are interested in developing the public transport strategy for our site and would like to know if the Priors bus services can be operated along the main internal collector road through our estate. We noticed your local bus services (860) running along George Bass Drive.

I've attached the Road Hierarchy plan of our proposed subdivision, indicating the bus stops location as per the NSW bus stop guidelines.

The important criteria involved in the bus stop location includes:

1. Spacing of around 400 metres between stops or spacing that reflects the local context and location in order to achieve a reasonable level of customer access to bus services
2. Generally, it is preferable to place stops on the departure side of a pedestrian crossing to reduce the risk of customers crossing the road in front of a stopped bus.
3. Minimise walking distance between interchange stops.
4. Bus stops are generally paired, such that the bus stop one side of a road is in close proximity to a partner stop in the other direction.

5. Generally, it is preferable to locate stops on the far side of intersections to allow a bus to clear the intersection before stopping for customers.
6. The following image shows the lane widths of the traffic lanes to allow for a safe operation of bus service, while the proposed internal collector road has a 4m lane width.



Lane widths

The following lane widths are required to allow a bus service to operate safely and efficiently. Traffic lanes are measured from the face of the kerb or to the lane line for multi-lane roads or roads with shoulders.

Traffic lanes

- minimum 3.5m standard traffic lane widths are desirable on all road types
- minimum 3.5m traffic lane width for a 60km zone
- minimum 3.2m traffic lane width for a 50km zone, provided there is no centre median

The proposed subdivision, with its increase in residential population, will strengthen demand for public transport services in the area such that these services will offer alternatives to travel by modes other than car.

Please have a look at the attached masterplan for the bus stops placement and let us know if the site is appropriate for the bus services.

Looking forward to hearing from you.

Thanks

Priya Baaskaraun
Graduate Traffic Engineer

ptc.

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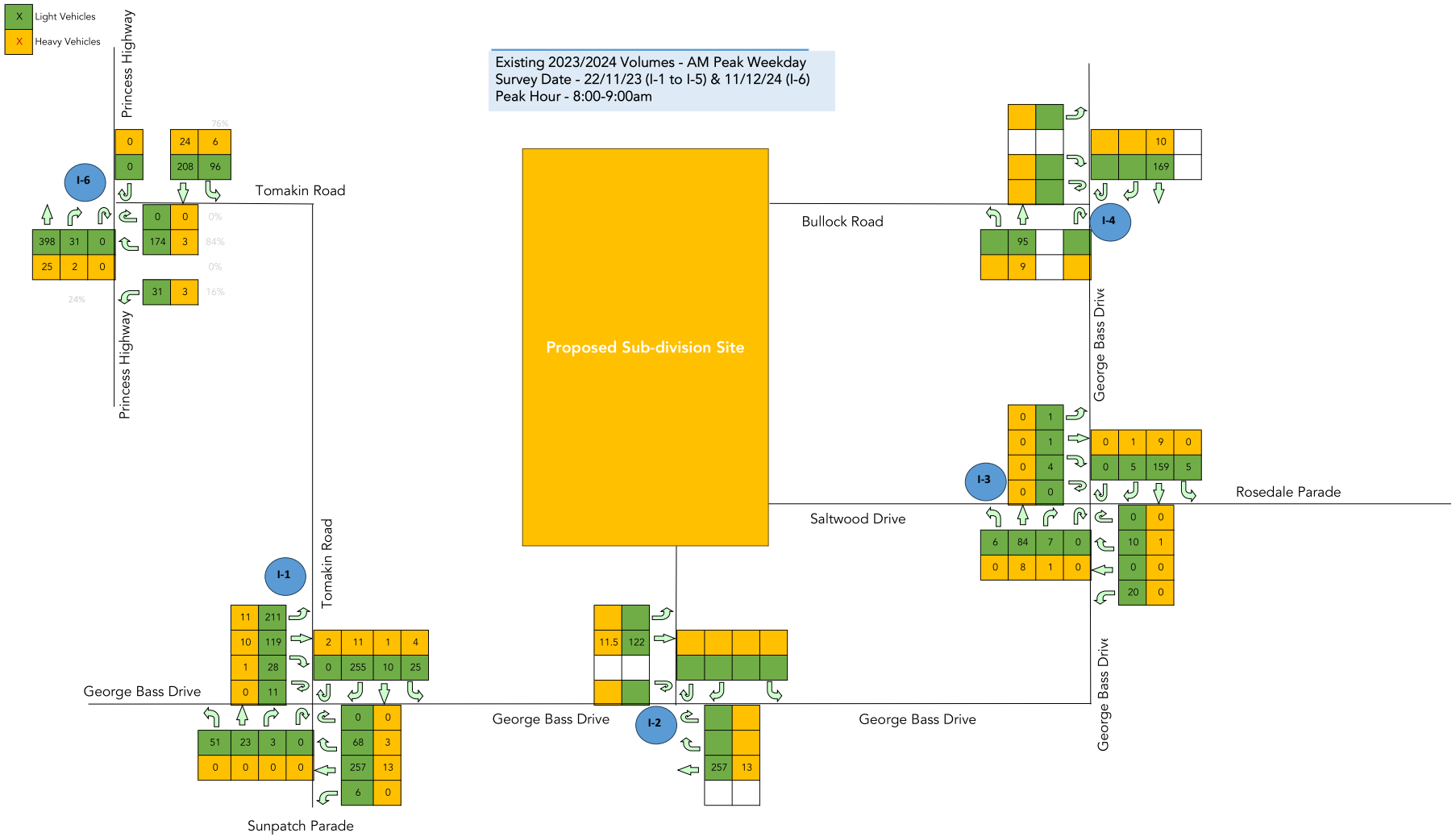
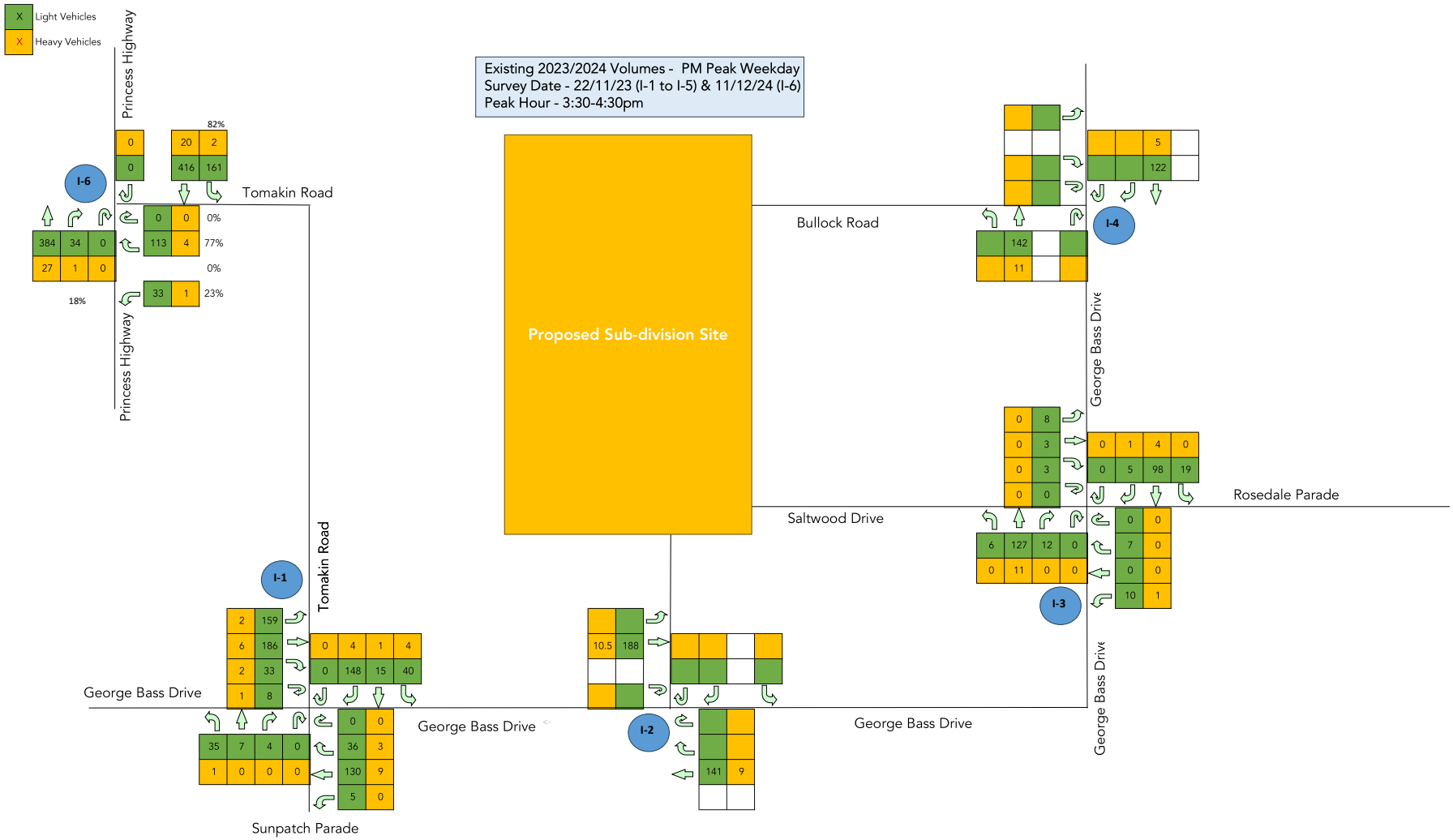
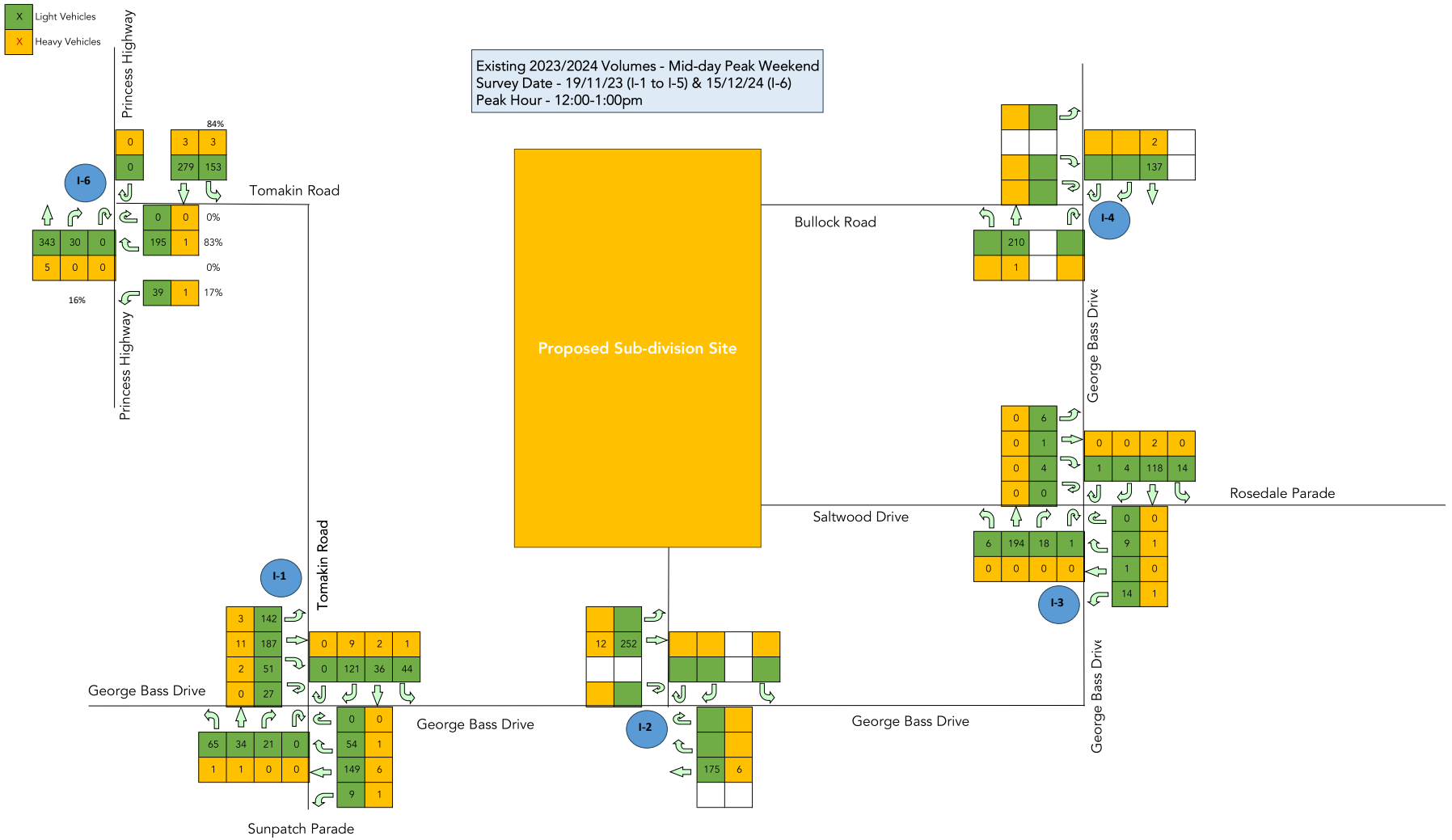
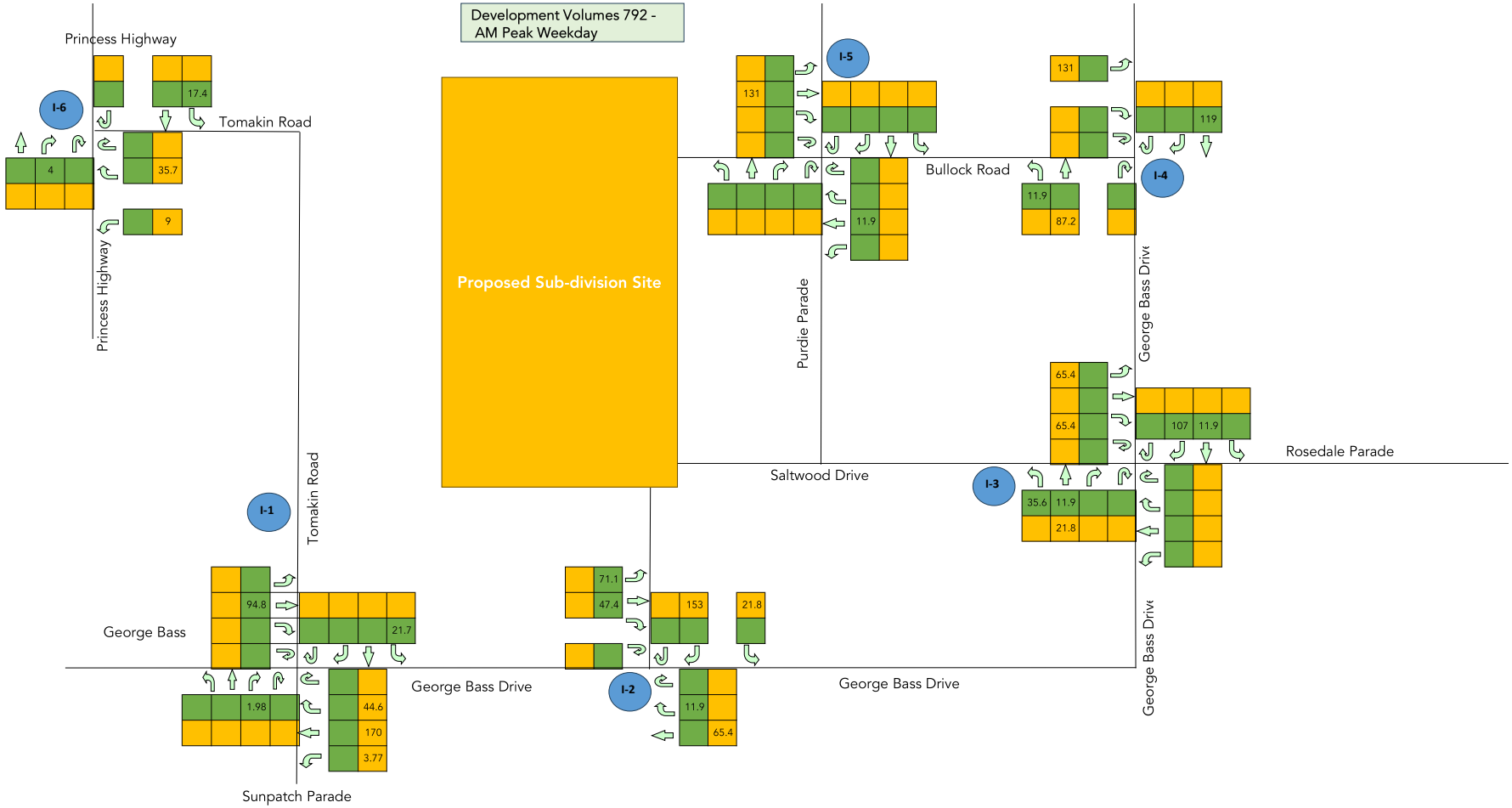
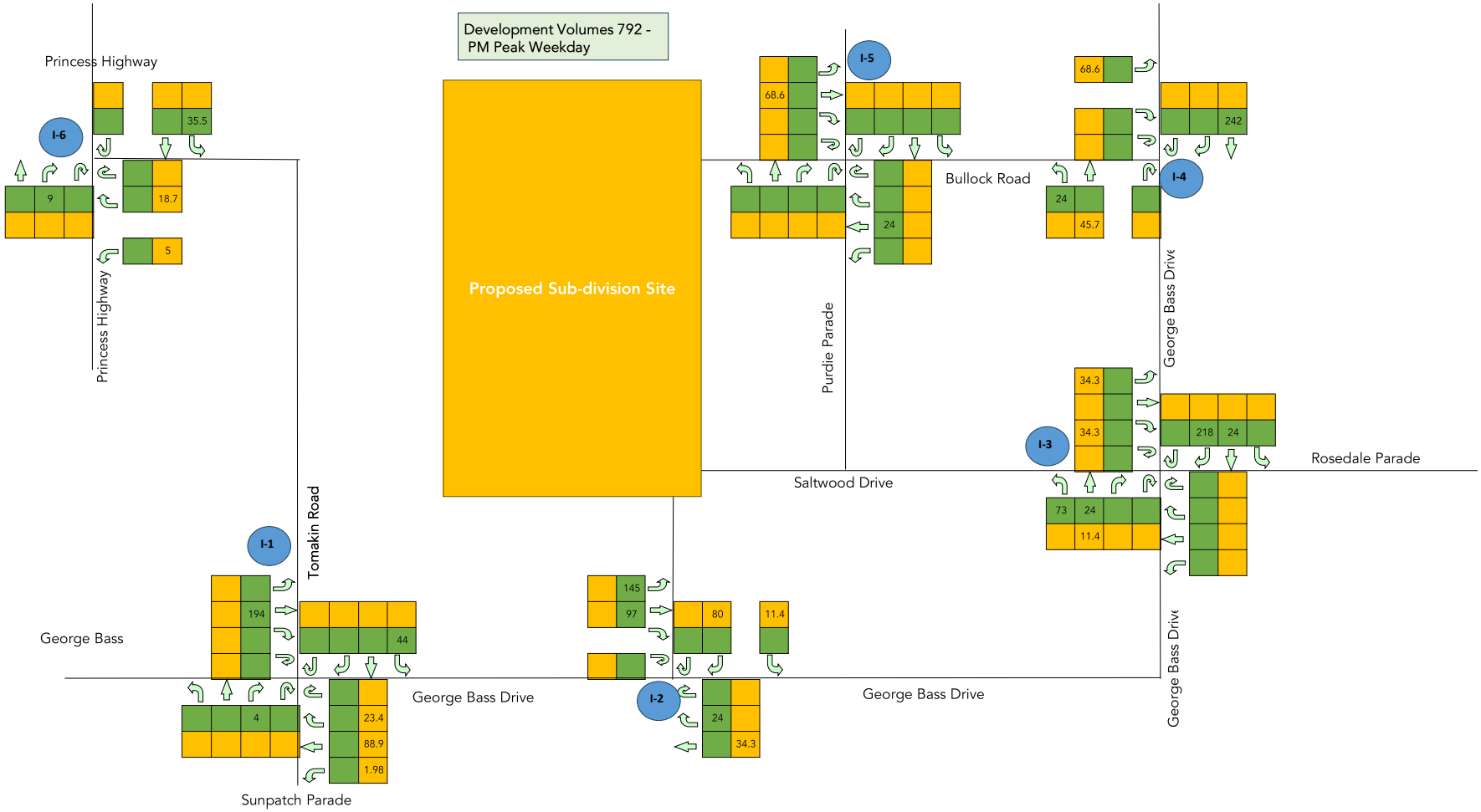
Appendix 3. Existing and Post-Development Traffic Volumes

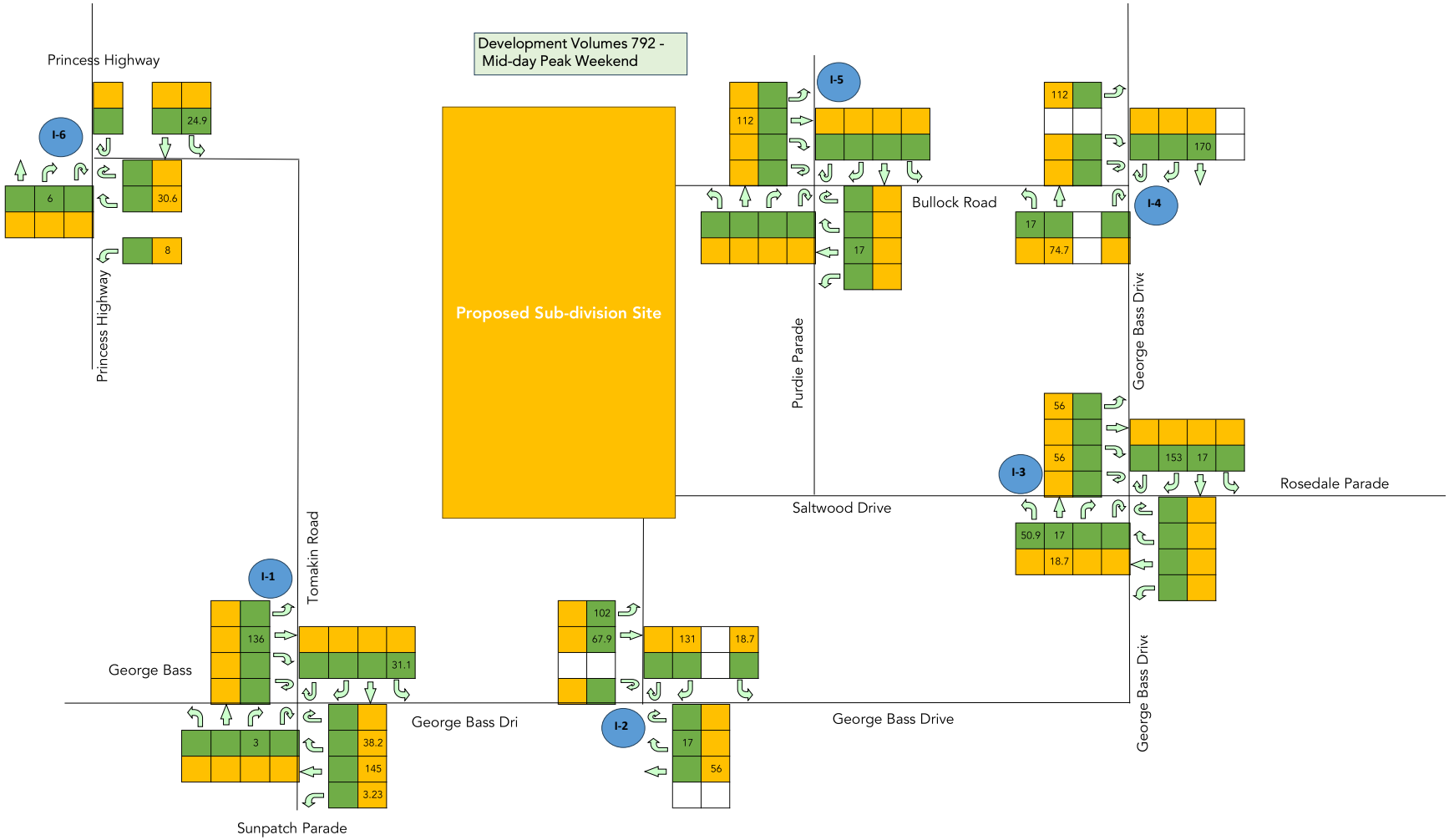

X Light Vehicles
X Heavy Vehicles
Existing 2023/2024 Volumes - AM Peak Weekday
Survey Date - 22/11/23 (I-1 to I-5) & 11/12/24 (I-6)
Peak Hour - 8:00-9:00am
Proposed Sub-division Site
Princess Highway
Princess Highway
Tomakin Road
Tomakin Road
Bullock Road
George Bass Drive
George Bass Drive
George Bass Drive
George Bass Drive
Saltwood Drive
Rosedale Parade
Sunpatch Parade
I-1
I-2
I-3
I-4
I-6
76%
24%
0%
84%
0%
16%


X Light Vehicles
X Heavy Vehicles
Existing 2023/2024 Volumes - PM Peak Weekday
Survey Date - 22/11/23 (I-1 to I-5) & 11/12/24 (I-6)
Peak Hour - 3:30-4:30pm
Proposed Sub-division Site
Princess Highway
Princess Highway
Tomakin Road
Tomakin Road
Bullock Road
George Bass Drive
Saltwood Drive
Rosedale Parade
George Bass Drive
George Bass Drive
George Bass Drive
George Bass Drive
Sunpatch Parade
I-1
I-2
I-3
I-4
I-6
82%
18%
0%
77%
0%
23%


X Light Vehicles
X Heavy Vehicles
Existing 2023/2024 Volumes - Mid-day Peak Weekend
Survey Date - 19/11/23 (I-1 to I-5) & 15/12/24 (I-6)
Peak Hour - 12:00-1:00pm
Proposed Sub-division Site
Princess Highway
Princess Highway
Tomakin Road
Tomakin Road
Bullock Road
George Bass Drive
George Bass Drive
George Bass Drive
George Bass Drive
George Bass Drive
Saltwood Drive
Rosedale Parade
Sunpatch Parade
I-1
I-2
I-3
I-4
I-6
84%
16%
0%
83%
0%
17%


Development Volumes 792 -
AM Peak Weekday
Princess Highway
Tomakin Road
Princess Highway
Proposed Sub-division Site
Purdie Parade
Bullock Road
George Bass Drive
Saltwood Drive
Rosedale Parade
Tomakin Road
George Bass
George Bass Drive
George Bass Drive
Sunpatch Parade
I-1
I-2
I-3
I-4
I-5
I-6
17.4
4
35.7
9
131
11.9
131
11.9
87.2
119
65.4
65.4
107
11.9
35.6
11.9
21.8
94.8
21.7
71.1
47.4
153
21.8
1.98
44.6
170
3.77
11.9
65.4


Development Volumes 792 - PM Peak Weekday
Proposed Sub-division Site
Princess Highway
Princess Highway
Bullock Road
Purdie Parade
George Bass Drive
Saltwood Drive
Rosedale Parade
Tomakin Road
George Bass
George Bass Drive
George Bass Drive
George Bass Drive
Sunpatch Parade
I-1
I-2
I-3
I-4
I-5
I-6
35.5
18.7
9
5
68.6
68.6
24
24
45.7
242
34.3
34.3
218
24
73
24
11.4
194
44
4
23.4
88.9
1.98
145
97
80
11.4
24
34.3


Development Volumes 792 - Mid-day Peak Weekend
Princess Highway
Princess Highway
Proposed Sub-division Site
Bullock Road
Purdie Parade
George Bass Drive
Saltwood Drive
Rosedale Parade
Tomakin Road
George Bass
George Bass Dri
George Bass Drive
Sunpatch Parade
I-1
I-2
I-3
I-4
I-5
I-6
24.9
6
30.6
8
112
17
112
170
17
74.7
56
56
153
17
50.9
17
18.7
102
67.9
131
18.7
136
31.1
3
38.2
145
3.23
17
56

Appendix 4. Full SIDRA Results

MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekday AM (Site Folder: Existing 2023 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	54	0.0	54	0.0	0.103	7.7	LOS A	0.6	4.2	0.68	0.67	0.68	51.7
2	T1	All MCs	24	0.0	24	0.0	0.103	7.8	LOS A	0.6	4.2	0.68	0.67	0.68	52.1
3	R2	All MCs	3	0.0	3	0.0	0.103	12.5	LOS A	0.6	4.2	0.68	0.67	0.68	55.9
3u	U	All MCs	1	0.0	1	0.0	0.103	14.5	LOS B	0.6	4.2	0.68	0.67	0.68	51.3
Approach			82	0.0	82	0.0	0.103	8.0	LOS A	0.6	4.2	0.68	0.67	0.68	52.2
East: George Bass Drive															
4	L2	All MCs	6	0.0	6	0.0	0.367	6.1	LOS A	2.4	17.4	0.60	0.60	0.60	56.1
5	T1	All MCs	284	4.8	284	4.8	0.367	6.4	LOS A	2.4	17.4	0.60	0.60	0.60	56.2
6	R2	All MCs	75	4.2	75	4.2	0.367	11.0	LOS A	2.4	17.4	0.60	0.60	0.60	55.8
6u	U	All MCs	1	0.0	1	0.0	0.367	12.9	LOS A	2.4	17.4	0.60	0.60	0.60	57.3
Approach			366	4.6	366	4.6	0.367	7.4	LOS A	2.4	17.4	0.60	0.60	0.60	56.1
North: Tomakin Road															
7	L2	All MCs	31	13.8	31	13.8	0.281	5.2	LOS A	1.7	12.6	0.43	0.61	0.43	55.3
8	T1	All MCs	12	9.1	12	9.1	0.281	5.3	LOS A	1.7	12.6	0.43	0.61	0.43	50.7
9	R2	All MCs	280	4.1	280	4.1	0.281	9.8	LOS A	1.7	12.6	0.43	0.61	0.43	50.0
9u	U	All MCs	2	100.0	2	100.0	0.281	14.2	LOS A	1.7	12.6	0.43	0.61	0.43	46.9
Approach			324	5.8	324	5.8	0.281	9.3	LOS A	1.7	12.6	0.43	0.61	0.43	51.0
West: George Bass Drive															
10	L2	All MCs	234	5.0	234	5.0	0.319	4.6	LOS A	2.1	15.6	0.34	0.48	0.34	53.1
11	T1	All MCs	136	7.8	136	7.8	0.319	4.8	LOS A	2.1	15.6	0.34	0.48	0.34	57.0
12	R2	All MCs	31	3.4	31	3.4	0.319	9.3	LOS A	2.1	15.6	0.34	0.48	0.34	52.6
12u	U	All MCs	12	0.0	12	0.0	0.319	11.3	LOS A	2.1	15.6	0.34	0.48	0.34	52.7
Approach			412	5.6	412	5.6	0.319	5.2	LOS A	2.1	15.6	0.34	0.48	0.34	55.1
All Vehicles			1184	5.0	1184	5.0	0.367	7.2	LOS A	2.4	17.4	0.47	0.56	0.47	54.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekday AM (Site Folder: Existing 2023 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	284	4.8	284	4.8	0.172	4.1	LOS A	1.1	8.1	0.04	0.40	0.04	58.7
6	R2	All MCs	1	0.0	1	0.0	0.172	8.7	LOS A	1.1	8.1	0.04	0.40	0.04	57.9
6u	U	All MCs	1	0.0	1	0.0	0.172	10.7	LOS A	1.1	8.1	0.04	0.40	0.04	58.7
Approach			286	4.8	286	4.8	0.172	4.1	LOS A	1.1	8.1	0.04	0.40	0.04	58.7
North: Road 01															
7	L2	All MCs	1	0.0	1	0.0	0.003	4.6	LOS A	0.0	0.1	0.32	0.55	0.32	56.8
9	R2	All MCs	1	0.0	1	0.0	0.003	9.4	LOS A	0.0	0.1	0.32	0.55	0.32	55.6
9u	U	All MCs	1	0.0	1	0.0	0.003	11.5	LOS A	0.0	0.1	0.32	0.55	0.32	50.8
Approach			3	0.0	3	0.0	0.003	8.5	LOS A	0.0	0.1	0.32	0.55	0.32	55.3
West: George Bass Drive															
10	L2	All MCs	1	0.0	1	0.0	0.090	3.8	LOS A	0.5	3.8	0.04	0.40	0.04	57.6
11	T1	All MCs	141	9.0	141	9.0	0.090	4.1	LOS A	0.5	3.8	0.04	0.40	0.04	58.7
12u	U	All MCs	1	0.0	1	0.0	0.090	10.7	LOS A	0.5	3.8	0.04	0.40	0.04	58.3
Approach			143	8.8	143	8.8	0.090	4.2	LOS A	0.5	3.8	0.04	0.40	0.04	58.7
All Vehicles			433	6.1	433	6.1	0.172	4.2	LOS A	1.1	8.1	0.04	0.40	0.04	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekday AM (Site Folder: Existing 2023 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	6	0.0	6	0.0	0.080	4.0	LOS A	0.4	3.0	0.11	0.42	0.11	57.9
2	T1	All MCs	97	8.7	97	8.7	0.080	4.2	LOS A	0.4	3.0	0.11	0.42	0.11	58.1
3	R2	All MCs	8	12.5	8	12.5	0.080	8.9	LOS A	0.4	3.0	0.11	0.42	0.11	57.5
3u	U	All MCs	1	0.0	1	0.0	0.080	10.8	LOS A	0.4	3.0	0.11	0.42	0.11	58.6
Approach			113	8.4	113	8.4	0.080	4.6	LOS A	0.4	3.0	0.11	0.42	0.11	58.1
East: Rosedale Parade															
4	L2	All MCs	21	0.0	21	0.0	0.030	4.7	LOS A	0.1	1.0	0.34	0.55	0.34	57.3
5	T1	All MCs	1	0.0	1	0.0	0.030	4.9	LOS A	0.1	1.0	0.34	0.55	0.34	53.0
6	R2	All MCs	12	9.1	12	9.1	0.030	9.7	LOS A	0.1	1.0	0.34	0.55	0.34	53.3
6u	U	All MCs	1	0.0	1	0.0	0.030	11.6	LOS A	0.1	1.0	0.34	0.55	0.34	52.1
Approach			35	3.0	35	3.0	0.030	6.6	LOS A	0.1	1.0	0.34	0.55	0.34	56.4
North: George Bass Drive															
7	L2	All MCs	5	0.0	5	0.0	0.126	3.9	LOS A	0.6	4.7	0.09	0.41	0.09	55.4
8	T1	All MCs	177	5.4	177	5.4	0.126	4.2	LOS A	0.6	4.7	0.09	0.41	0.09	58.2
9	R2	All MCs	6	16.7	6	16.7	0.126	8.9	LOS A	0.6	4.7	0.09	0.41	0.09	54.4
9u	U	All MCs	1	0.0	1	0.0	0.126	10.8	LOS A	0.6	4.7	0.09	0.41	0.09	55.8
Approach			189	5.6	189	5.6	0.126	4.3	LOS A	0.6	4.7	0.09	0.41	0.09	58.1
West: Saltwood Drive															
10	L2	All MCs	1	0.0	1	0.0	0.006	4.4	LOS A	0.0	0.2	0.26	0.57	0.26	53.0
11	T1	All MCs	1	0.0	1	0.0	0.006	4.6	LOS A	0.0	0.2	0.26	0.57	0.26	51.8
12	R2	All MCs	4	0.0	4	0.0	0.006	9.2	LOS A	0.0	0.2	0.26	0.57	0.26	56.6
12u	U	All MCs	1	0.0	1	0.0	0.006	11.2	LOS A	0.0	0.2	0.26	0.57	0.26	51.0
Approach			7	0.0	7	0.0	0.006	8.1	LOS A	0.0	0.2	0.26	0.57	0.26	55.6
All Vehicles			344	6.1	344	6.1	0.126	4.7	LOS A	0.6	4.7	0.12	0.43	0.12	57.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekday AM (Site Folder: Existing 2023 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	1	0.0	1	0.0	0.060	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	36.4
2	T1	All MCs	109	8.7	109	8.7	0.060	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
Approach			111	8.6	111	8.6	0.060	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.7
North: George Bass Drive															
8	T1	All MCs	188	5.6	188	5.6	0.100	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			188	5.6	188	5.6	0.100	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.001	4.6	LOS A	0.0	0.0	0.20	0.50	0.20	49.1
Approach			1	0.0	1	0.0	0.001	4.6	LOS A	0.0	0.0	0.20	0.50	0.20	49.1
All Vehicles			300	6.7	300	6.7	0.100	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekday PM (Site Folder: Existing 2023 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	38	2.8	38	2.8	0.050	5.6	LOS A	0.3	1.8	0.48	0.57	0.48	52.8
2	T1	All MCs	7	0.0	7	0.0	0.050	5.8	LOS A	0.3	1.8	0.48	0.57	0.48	53.2
3	R2	All MCs	4	0.0	4	0.0	0.050	10.4	LOS A	0.3	1.8	0.48	0.57	0.48	56.5
3u	U	All MCs	1	0.0	1	0.0	0.050	12.4	LOS A	0.3	1.8	0.48	0.57	0.48	52.4
Approach			51	2.1	51	2.1	0.050	6.2	LOS A	0.3	1.8	0.48	0.57	0.48	53.5
East: George Bass Drive															
4	L2	All MCs	5	0.0	5	0.0	0.178	5.1	LOS A	1.0	7.4	0.43	0.53	0.43	56.5
5	T1	All MCs	146	6.5	146	6.5	0.178	5.4	LOS A	1.0	7.4	0.43	0.53	0.43	56.6
6	R2	All MCs	41	7.7	41	7.7	0.178	10.1	LOS A	1.0	7.4	0.43	0.53	0.43	56.1
6u	U	All MCs	1	0.0	1	0.0	0.178	11.9	LOS A	1.0	7.4	0.43	0.53	0.43	57.5
Approach			194	6.5	194	6.5	0.178	6.4	LOS A	1.0	7.4	0.43	0.53	0.43	56.5
North: Tomakin Road															
7	L2	All MCs	46	9.1	46	9.1	0.207	5.5	LOS A	1.2	8.4	0.46	0.62	0.46	55.6
8	T1	All MCs	17	6.3	17	6.3	0.207	5.6	LOS A	1.2	8.4	0.46	0.62	0.46	51.2
9	R2	All MCs	160	2.6	160	2.6	0.207	10.1	LOS A	1.2	8.4	0.46	0.62	0.46	50.5
9u	U	All MCs	1	0.0	1	0.0	0.207	12.1	LOS A	1.2	8.4	0.46	0.62	0.46	50.6
Approach			224	4.2	224	4.2	0.207	8.9	LOS A	1.2	8.4	0.46	0.62	0.46	52.3
West: George Bass Drive															
10	L2	All MCs	169	1.2	169	1.2	0.292	4.2	LOS A	1.9	13.6	0.23	0.45	0.23	53.6
11	T1	All MCs	202	3.1	202	3.1	0.292	4.4	LOS A	1.9	13.6	0.23	0.45	0.23	57.2
12	R2	All MCs	37	5.7	37	5.7	0.292	9.1	LOS A	1.9	13.6	0.23	0.45	0.23	52.9
12u	U	All MCs	9	11.1	9	11.1	0.292	11.2	LOS A	1.9	13.6	0.23	0.45	0.23	52.7
Approach			418	2.8	418	2.8	0.292	4.9	LOS A	1.9	13.6	0.23	0.45	0.23	56.0
All Vehicles			886	3.9	886	3.9	0.292	6.3	LOS A	1.9	13.6	0.34	0.52	0.34	55.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekday PM (Site Folder: Existing 2023 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	158	6.0	158	6.0	0.098	4.1	LOS A	0.6	4.4	0.04	0.40	0.04	58.7
6	R2	All MCs	1	0.0	1	0.0	0.098	8.7	LOS A	0.6	4.4	0.04	0.40	0.04	57.9
6u	U	All MCs	1	0.0	1	0.0	0.098	10.7	LOS A	0.6	4.4	0.04	0.40	0.04	58.7
Approach			160	5.9	160	5.9	0.098	4.2	LOS A	0.6	4.4	0.04	0.40	0.04	58.7
North: Road 01															
7	L2	All MCs	1	0.0	1	0.0	0.003	4.9	LOS A	0.0	0.1	0.39	0.55	0.39	56.7
9	R2	All MCs	1	0.0	1	0.0	0.003	9.8	LOS A	0.0	0.1	0.39	0.55	0.39	55.5
9u	U	All MCs	1	0.0	1	0.0	0.003	11.8	LOS A	0.0	0.1	0.39	0.55	0.39	50.6
Approach			3	0.0	3	0.0	0.003	8.8	LOS A	0.0	0.1	0.39	0.55	0.39	55.2
West: George Bass Drive															
10	L2	All MCs	1	0.0	1	0.0	0.129	3.8	LOS A	0.8	5.6	0.04	0.40	0.04	57.6
11	T1	All MCs	209	5.5	209	5.5	0.129	4.1	LOS A	0.8	5.6	0.04	0.40	0.04	58.7
12u	U	All MCs	1	0.0	1	0.0	0.129	10.7	LOS A	0.8	5.6	0.04	0.40	0.04	58.3
Approach			212	5.5	212	5.5	0.129	4.1	LOS A	0.8	5.6	0.04	0.40	0.04	58.7
All Vehicles			375	5.6	375	5.6	0.129	4.2	LOS A	0.8	5.6	0.04	0.40	0.04	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekday PM (Site Folder: Existing 2023 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	6	0.0	6	0.0	0.112	3.9	LOS A	0.6	4.2	0.09	0.42	0.09	57.9
2	T1	All MCs	145	8.0	145	8.0	0.112	4.2	LOS A	0.6	4.2	0.09	0.42	0.09	58.1
3	R2	All MCs	13	0.0	13	0.0	0.112	8.7	LOS A	0.6	4.2	0.09	0.42	0.09	57.7
3u	U	All MCs	1	0.0	1	0.0	0.112	10.8	LOS A	0.6	4.2	0.09	0.42	0.09	58.6
Approach			165	7.0	165	7.0	0.112	4.6	LOS A	0.6	4.2	0.09	0.42	0.09	58.1
East: Rosedale Parade															
4	L2	All MCs	12	9.1	12	9.1	0.017	4.5	LOS A	0.1	0.6	0.26	0.53	0.26	57.2
5	T1	All MCs	1	0.0	1	0.0	0.017	4.6	LOS A	0.1	0.6	0.26	0.53	0.26	52.9
6	R2	All MCs	7	0.0	7	0.0	0.017	9.2	LOS A	0.1	0.6	0.26	0.53	0.26	53.5
6u	U	All MCs	1	0.0	1	0.0	0.017	11.3	LOS A	0.1	0.6	0.26	0.53	0.26	52.1
Approach			21	5.0	21	5.0	0.017	6.5	LOS A	0.1	0.6	0.26	0.53	0.26	56.2
North: George Bass Drive															
7	L2	All MCs	20	0.0	20	0.0	0.093	3.9	LOS A	0.5	3.3	0.10	0.42	0.10	55.3
8	T1	All MCs	107	3.9	107	3.9	0.093	4.2	LOS A	0.5	3.3	0.10	0.42	0.10	58.2
9	R2	All MCs	6	16.7	6	16.7	0.093	9.0	LOS A	0.5	3.3	0.10	0.42	0.10	54.3
9u	U	All MCs	1	0.0	1	0.0	0.093	10.8	LOS A	0.5	3.3	0.10	0.42	0.10	55.7
Approach			135	3.9	135	3.9	0.093	4.4	LOS A	0.5	3.3	0.10	0.42	0.10	57.9
West: Saltwood Drive															
10	L2	All MCs	8	0.0	8	0.0	0.013	4.6	LOS A	0.1	0.4	0.31	0.51	0.31	54.2
11	T1	All MCs	3	0.0	3	0.0	0.013	4.8	LOS A	0.1	0.4	0.31	0.51	0.31	53.2
12	R2	All MCs	3	0.0	3	0.0	0.013	9.4	LOS A	0.1	0.4	0.31	0.51	0.31	57.2
12u	U	All MCs	1	0.0	1	0.0	0.013	11.5	LOS A	0.1	0.4	0.31	0.51	0.31	52.3
Approach			16	0.0	16	0.0	0.013	6.0	LOS A	0.1	0.4	0.31	0.51	0.31	55.1
All Vehicles			337	5.3	337	5.3	0.112	4.7	LOS A	0.6	4.2	0.12	0.43	0.12	57.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekday PM (Site Folder: Existing 2023 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	1	0.0	1	0.0	0.087	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	36.4
2	T1	All MCs	161	7.2	161	7.2	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			162	7.1	162	7.1	0.087	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
North: George Bass Drive															
8	T1	All MCs	134	3.9	134	3.9	0.070	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			134	3.9	134	3.9	0.070	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.001	4.8	LOS A	0.0	0.0	0.25	0.50	0.25	48.9
Approach			1	0.0	1	0.0	0.001	4.8	LOS A	0.0	0.0	0.25	0.50	0.25	48.9
All Vehicles			297	5.7	297	5.7	0.087	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekend Mid-day (Site Folder: Existing 2023 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	69	1.5	69	1.5	0.131	5.9	LOS A	0.7	5.1	0.53	0.60	0.53	52.3
2	T1	All MCs	37	2.9	37	2.9	0.131	6.2	LOS A	0.7	5.1	0.53	0.60	0.53	52.7
3	R2	All MCs	22	0.0	22	0.0	0.131	10.7	LOS A	0.7	5.1	0.53	0.60	0.53	56.2
3u	U	All MCs	1	0.0	1	0.0	0.131	12.8	LOS A	0.7	5.1	0.53	0.60	0.53	51.9
Approach			129	1.6	129	1.6	0.131	6.9	LOS A	0.7	5.1	0.53	0.60	0.53	53.6
East: George Bass Drive															
4	L2	All MCs	11	10.0	11	10.0	0.217	5.6	LOS A	1.3	9.1	0.48	0.56	0.48	56.2
5	T1	All MCs	163	3.9	163	3.9	0.217	5.6	LOS A	1.3	9.1	0.48	0.56	0.48	56.4
6	R2	All MCs	58	1.8	58	1.8	0.217	10.2	LOS A	1.3	9.1	0.48	0.56	0.48	56.0
6u	U	All MCs	1	0.0	1	0.0	0.217	12.2	LOS A	1.3	9.1	0.48	0.56	0.48	57.4
Approach			233	3.6	233	3.6	0.217	6.8	LOS A	1.3	9.1	0.48	0.56	0.48	56.3
North: Tomakin Road															
7	L2	All MCs	47	2.2	47	2.2	0.222	5.7	LOS A	1.3	9.4	0.52	0.63	0.52	55.8
8	T1	All MCs	40	5.3	40	5.3	0.222	6.0	LOS A	1.3	9.4	0.52	0.63	0.52	51.4
9	R2	All MCs	137	6.9	137	6.9	0.222	10.7	LOS A	1.3	9.4	0.52	0.63	0.52	50.5
9u	U	All MCs	1	0.0	1	0.0	0.222	12.5	LOS A	1.3	9.4	0.52	0.63	0.52	50.7
Approach			225	5.6	225	5.6	0.222	8.8	LOS A	1.3	9.4	0.52	0.63	0.52	52.5
West: George Bass Drive															
10	L2	All MCs	153	2.1	153	2.1	0.344	4.6	LOS A	2.3	16.3	0.35	0.49	0.35	52.8
11	T1	All MCs	208	5.6	208	5.6	0.344	4.8	LOS A	2.3	16.3	0.35	0.49	0.35	56.8
12	R2	All MCs	56	3.8	56	3.8	0.344	9.5	LOS A	2.3	16.3	0.35	0.49	0.35	52.2
12u	U	All MCs	28	0.0	28	0.0	0.344	11.4	LOS A	2.3	16.3	0.35	0.49	0.35	52.3
Approach			445	3.8	445	3.8	0.344	5.8	LOS A	2.3	16.3	0.35	0.49	0.35	55.3
All Vehicles			1033	3.9	1033	3.9	0.344	6.8	LOS A	2.3	16.3	0.44	0.55	0.44	55.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekend Mid-day (Site Folder: Existing 2023 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	191	3.3	191	3.3	0.116	4.1	LOS A	0.7	5.2	0.04	0.40	0.04	58.8
6	R2	All MCs	1	0.0	1	0.0	0.116	8.7	LOS A	0.7	5.2	0.04	0.40	0.04	57.9
6u	U	All MCs	1	0.0	1	0.0	0.116	10.7	LOS A	0.7	5.2	0.04	0.40	0.04	58.7
Approach			193	3.3	193	3.3	0.116	4.1	LOS A	0.7	5.2	0.04	0.40	0.04	58.8
North: Road 01															
7	L2	All MCs	1	0.0	1	0.0	0.003	5.3	LOS A	0.0	0.1	0.44	0.56	0.44	56.6
9	R2	All MCs	1	0.0	1	0.0	0.003	10.1	LOS A	0.0	0.1	0.44	0.56	0.44	55.4
9u	U	All MCs	1	0.0	1	0.0	0.003	12.2	LOS A	0.0	0.1	0.44	0.56	0.44	50.5
Approach			3	0.0	3	0.0	0.003	9.2	LOS A	0.0	0.1	0.44	0.56	0.44	55.1
West: George Bass Drive															
10	L2	All MCs	1	0.0	1	0.0	0.168	3.8	LOS A	1.1	7.6	0.04	0.40	0.04	57.6
11	T1	All MCs	278	4.5	278	4.5	0.168	4.1	LOS A	1.1	7.6	0.04	0.40	0.04	58.8
12u	U	All MCs	1	0.0	1	0.0	0.168	10.7	LOS A	1.1	7.6	0.04	0.40	0.04	58.3
Approach			280	4.5	280	4.5	0.168	4.1	LOS A	1.1	7.6	0.04	0.40	0.04	58.7
All Vehicles			476	4.0	476	4.0	0.168	4.2	LOS A	1.1	7.6	0.04	0.40	0.04	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekend Mid-day (Site Folder: Existing 2023 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	6	0.0	6	0.0	0.149	3.9	LOS A	0.8	5.6	0.10	0.42	0.10	57.9
2	T1	All MCs	204	0.0	204	0.0	0.149	4.1	LOS A	0.8	5.6	0.10	0.42	0.10	58.2
3	R2	All MCs	19	0.0	19	0.0	0.149	8.8	LOS A	0.8	5.6	0.10	0.42	0.10	57.7
3u	U	All MCs	1	0.0	1	0.0	0.149	10.8	LOS A	0.8	5.6	0.10	0.42	0.10	58.6
Approach			231	0.0	231	0.0	0.149	4.5	LOS A	0.8	5.6	0.10	0.42	0.10	58.2
East: Rosedale Parade															
4	L2	All MCs	16	6.7	16	6.7	0.024	4.6	LOS A	0.1	0.8	0.28	0.54	0.28	57.2
5	T1	All MCs	1	0.0	1	0.0	0.024	4.6	LOS A	0.1	0.8	0.28	0.54	0.28	52.9
6	R2	All MCs	11	10.0	11	10.0	0.024	9.4	LOS A	0.1	0.8	0.28	0.54	0.28	53.2
6u	U	All MCs	1	0.0	1	0.0	0.024	11.3	LOS A	0.1	0.8	0.28	0.54	0.28	52.1
Approach			28	7.4	28	7.4	0.024	6.6	LOS A	0.1	0.8	0.28	0.54	0.28	56.2
North: George Bass Drive															
7	L2	All MCs	15	0.0	15	0.0	0.100	4.0	LOS A	0.5	3.5	0.11	0.41	0.11	55.3
8	T1	All MCs	126	1.7	126	1.7	0.100	4.2	LOS A	0.5	3.5	0.11	0.41	0.11	58.2
9	R2	All MCs	4	0.0	4	0.0	0.100	8.8	LOS A	0.5	3.5	0.11	0.41	0.11	54.9
9u	U	All MCs	1	0.0	1	0.0	0.100	10.9	LOS A	0.5	3.5	0.11	0.41	0.11	55.7
Approach			146	1.4	146	1.4	0.100	4.3	LOS A	0.5	3.5	0.11	0.41	0.11	58.0
West: Saltwood Drive															
10	L2	All MCs	6	0.0	6	0.0	0.011	4.9	LOS A	0.1	0.4	0.36	0.55	0.36	53.6
11	T1	All MCs	1	0.0	1	0.0	0.011	5.0	LOS A	0.1	0.4	0.36	0.55	0.36	52.6
12	R2	All MCs	4	0.0	4	0.0	0.011	9.7	LOS A	0.1	0.4	0.36	0.55	0.36	57.0
12u	U	All MCs	1	0.0	1	0.0	0.011	11.7	LOS A	0.1	0.4	0.36	0.55	0.36	51.7
Approach			13	0.0	13	0.0	0.011	7.1	LOS A	0.1	0.4	0.36	0.55	0.36	55.3
All Vehicles			418	1.0	418	1.0	0.149	4.7	LOS A	0.8	5.6	0.13	0.43	0.13	58.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekend Mid-day (Site Folder: Existing 2023 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	1	0.0	1	0.0	0.115	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.9
2	T1	All MCs	222	0.5	222	0.5	0.115	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			223	0.5	223	0.5	0.115	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: George Bass Drive															
8	T1	All MCs	146	1.4	146	1.4	0.076	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			146	1.4	146	1.4	0.076	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.001	6.2	LOS A	0.0	0.0	0.29	0.51	0.29	52.0
Approach			1	0.0	1	0.0	0.001	6.2	LOS A	0.0	0.0	0.29	0.51	0.29	52.0
All Vehicles			371	0.9	371	0.9	0.115	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 106 [(I-6) Princess Highway / Tomakin Road_Weekday AM (Site Folder: Existing 2023 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	445	5.9	445	5.9	0.267	0.2	LOS A	0.3	2.5	0.09	0.11	0.09	59.2
3	R2	All MCs	35	6.1	35	6.1	0.267	7.3	LOS A	0.3	2.5	0.09	0.11	0.09	56.2
Approach			480	5.9	480	5.9	0.267	0.7	NA	0.3	2.5	0.09	0.11	0.09	59.0
East: Tomakin Road (E)															
4	L2	All MCs	36	8.8	36	8.8	0.372	7.6	LOS A	1.7	12.0	0.62	0.89	0.82	48.5
6	R2	All MCs	186	1.7	186	1.7	0.372	12.1	LOS A	1.7	12.0	0.62	0.89	0.82	48.5
Approach			222	2.8	222	2.8	0.372	11.3	LOS A	1.7	12.0	0.62	0.89	0.82	48.5
North: Princess Highway (N)															
7	L2	All MCs	107	5.9	107	5.9	0.194	5.7	LOS A	0.0	0.0	0.00	0.18	0.00	55.6
8	T1	All MCs	244	10.3	244	10.3	0.194	0.1	LOS A	0.0	0.0	0.00	0.18	0.00	58.2
Approach			352	9.0	352	9.0	0.194	1.8	NA	0.0	0.0	0.00	0.18	0.00	57.4
All Vehicles			1054	6.3	1054	6.3	0.372	3.3	NA	1.7	12.0	0.17	0.30	0.21	55.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [(I-6) Princess Highway / Tomakin Road_Weekday PM (Site Folder: Existing 2023 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	433	6.6	433	6.6	0.274	0.5	LOS A	0.5	3.7	0.13	0.17	0.13	58.8
3	R2	All MCs	37	2.9	37	2.9	0.274	9.1	LOS A	0.5	3.7	0.13	0.17	0.13	55.9
Approach			469	6.3	469	6.3	0.274	1.2	NA	0.5	3.7	0.13	0.17	0.13	58.6
East: Tomakin Road (E)															
4	L2	All MCs	36	2.9	36	2.9	0.355	8.7	LOS A	1.4	10.1	0.72	0.95	0.93	47.1
6	R2	All MCs	123	3.4	123	3.4	0.355	15.3	LOS B	1.4	10.1	0.72	0.95	0.93	46.9
Approach			159	3.3	159	3.3	0.355	13.9	LOS A	1.4	10.1	0.72	0.95	0.93	46.9
North: Princess Highway (N)															
7	L2	All MCs	172	1.2	172	1.2	0.336	5.6	LOS A	0.0	0.0	0.00	0.16	0.00	55.9
8	T1	All MCs	459	4.6	459	4.6	0.336	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	58.3
Approach			631	3.7	631	3.7	0.336	1.6	NA	0.0	0.0	0.00	0.16	0.00	57.6
All Vehicles			1259	4.6	1259	4.6	0.355	3.0	NA	1.4	10.1	0.14	0.26	0.17	56.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [(I-6) Princess Highway / Tomakin Road_Weekend Mid-day (Site Folder: Existing 2023 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	366	1.4	366	1.4	0.218	0.3	LOS A	0.3	2.3	0.11	0.13	0.11	59.1
3	R2	All MCs	32	0.0	32	0.0	0.218	7.5	LOS A	0.3	2.3	0.11	0.13	0.11	56.4
Approach			398	1.3	398	1.3	0.218	0.9	NA	0.3	2.3	0.11	0.13	0.11	58.9
East: Tomakin Road (E)															
4	L2	All MCs	42	2.5	42	2.5	0.389	7.7	LOS A	1.8	12.8	0.62	0.89	0.82	49.0
6	R2	All MCs	206	0.5	206	0.5	0.389	11.6	LOS A	1.8	12.8	0.62	0.89	0.82	48.8
Approach			248	0.8	248	0.8	0.389	10.9	LOS A	1.8	12.8	0.62	0.89	0.82	48.8
North: Princess Highway (N)															
7	L2	All MCs	164	1.9	164	1.9	0.243	5.6	LOS A	0.0	0.0	0.00	0.21	0.00	55.6
8	T1	All MCs	297	1.1	297	1.1	0.243	0.1	LOS A	0.0	0.0	0.00	0.21	0.00	58.0
Approach			461	1.4	461	1.4	0.243	2.0	NA	0.0	0.0	0.00	0.21	0.00	57.1
All Vehicles			1107	1.2	1107	1.2	0.389	3.6	NA	1.8	12.8	0.18	0.34	0.22	55.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekday AM (Site Folder: Existing + Growth - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	54	0.0	54	0.0	0.148	10.8	LOS A	1.0	7.0	0.86	0.76	0.86	49.6
2	T1	All MCs	24	0.0	24	0.0	0.148	11.0	LOS A	1.0	7.0	0.86	0.76	0.86	49.9
3	R2	All MCs	3	0.0	3	0.0	0.148	15.6	LOS B	1.0	7.0	0.86	0.76	0.86	54.8
3u	U	All MCs	1	0.0	1	0.0	0.148	17.7	LOS B	1.0	7.0	0.86	0.76	0.86	49.1
Approach			82	0.0	82	0.0	0.148	11.1	LOS A	1.0	7.0	0.86	0.76	0.86	50.1
East: George Bass Drive															
4	L2	All MCs	6	0.0	6	0.0	0.626	7.7	LOS A	6.2	44.4	0.77	0.68	0.86	55.8
5	T1	All MCs	559	2.4	559	2.4	0.626	8.0	LOS A	6.2	44.4	0.77	0.68	0.86	56.0
6	R2	All MCs	75	4.2	75	4.2	0.626	12.7	LOS A	6.2	44.4	0.77	0.68	0.86	55.5
6u	U	All MCs	1	0.0	1	0.0	0.626	14.6	LOS B	6.2	44.4	0.77	0.68	0.86	57.1
Approach			641	2.6	641	2.6	0.626	8.5	LOS A	6.2	44.4	0.77	0.68	0.86	55.9
North: Tomakin Road															
7	L2	All MCs	31	13.8	31	13.8	0.323	6.2	LOS A	2.0	14.9	0.57	0.65	0.57	55.1
8	T1	All MCs	12	9.1	12	9.1	0.323	6.3	LOS A	2.0	14.9	0.57	0.65	0.57	50.3
9	R2	All MCs	280	4.1	280	4.1	0.323	10.8	LOS A	2.0	14.9	0.57	0.65	0.57	49.6
9u	U	All MCs	2	100.0	2	100.0	0.323	16.0	LOS B	2.0	14.9	0.57	0.65	0.57	46.6
Approach			324	5.8	324	5.8	0.323	10.2	LOS A	2.0	14.9	0.57	0.65	0.57	50.6
West: George Bass Drive															
10	L2	All MCs	234	5.0	234	5.0	0.414	4.6	LOS A	3.2	23.0	0.39	0.47	0.39	53.0
11	T1	All MCs	267	3.9	267	3.9	0.414	4.8	LOS A	3.2	23.0	0.39	0.47	0.39	57.0
12	R2	All MCs	31	3.4	31	3.4	0.414	9.4	LOS A	3.2	23.0	0.39	0.47	0.39	52.5
12u	U	All MCs	12	0.0	12	0.0	0.414	11.4	LOS A	3.2	23.0	0.39	0.47	0.39	52.6
Approach			543	4.3	543	4.3	0.414	5.1	LOS A	3.2	23.0	0.39	0.47	0.39	55.6
All Vehicles			1591	3.7	1591	3.7	0.626	7.8	LOS A	6.2	44.4	0.60	0.61	0.64	54.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekday AM (Site Folder: Existing + Growth - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	559	2.4	559	2.4	0.330	4.1	LOS A	2.6	18.6	0.05	0.40	0.05	58.8
6	R2	All MCs	1	0.0	1	0.0	0.330	8.7	LOS A	2.6	18.6	0.05	0.40	0.05	57.9
6u	U	All MCs	1	0.0	1	0.0	0.330	10.7	LOS A	2.6	18.6	0.05	0.40	0.05	58.7
Approach			561	2.4	561	2.4	0.330	4.1	LOS A	2.6	18.6	0.05	0.40	0.05	58.8
North: Road 01															
7	L2	All MCs	1	0.0	1	0.0	0.003	5.3	LOS A	0.0	0.1	0.44	0.56	0.44	56.6
9	R2	All MCs	1	0.0	1	0.0	0.003	10.1	LOS A	0.0	0.1	0.44	0.56	0.44	55.4
9u	U	All MCs	1	0.0	1	0.0	0.003	12.2	LOS A	0.0	0.1	0.44	0.56	0.44	50.5
Approach			3	0.0	3	0.0	0.003	9.2	LOS A	0.0	0.1	0.44	0.56	0.44	55.1
West: George Bass Drive															
10	L2	All MCs	1	0.0	1	0.0	0.168	3.8	LOS A	1.0	7.6	0.04	0.40	0.04	57.6
11	T1	All MCs	277	4.6	277	4.6	0.168	4.1	LOS A	1.0	7.6	0.04	0.40	0.04	58.8
12u	U	All MCs	1	0.0	1	0.0	0.168	10.7	LOS A	1.0	7.6	0.04	0.40	0.04	58.3
Approach			279	4.5	279	4.5	0.168	4.1	LOS A	1.0	7.6	0.04	0.40	0.04	58.7
All Vehicles			843	3.1	843	3.1	0.330	4.1	LOS A	2.6	18.6	0.05	0.40	0.05	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekday AM (Site Folder: Existing + Growth - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	6	0.0	6	0.0	0.139	4.0	LOS A	0.8	5.6	0.11	0.41	0.11	57.9
2	T1	All MCs	191	4.4	191	4.4	0.139	4.2	LOS A	0.8	5.6	0.11	0.41	0.11	58.2
3	R2	All MCs	8	12.5	8	12.5	0.139	8.9	LOS A	0.8	5.6	0.11	0.41	0.11	57.5
3u	U	All MCs	1	0.0	1	0.0	0.139	10.8	LOS A	0.8	5.6	0.11	0.41	0.11	58.6
Approach			206	4.6	206	4.6	0.139	4.4	LOS A	0.8	5.6	0.11	0.41	0.11	58.2
East: Rosedale Parade															
4	L2	All MCs	21	0.0	21	0.0	0.034	5.5	LOS A	0.2	1.2	0.46	0.59	0.46	57.2
5	T1	All MCs	1	0.0	1	0.0	0.034	5.7	LOS A	0.2	1.2	0.46	0.59	0.46	52.6
6	R2	All MCs	12	9.1	12	9.1	0.034	10.6	LOS A	0.2	1.2	0.46	0.59	0.46	52.9
6u	U	All MCs	1	0.0	1	0.0	0.034	12.4	LOS A	0.2	1.2	0.46	0.59	0.46	51.7
Approach			35	3.0	35	3.0	0.034	7.4	LOS A	0.2	1.2	0.46	0.59	0.46	56.2
North: George Bass Drive															
7	L2	All MCs	5	0.0	5	0.0	0.229	3.9	LOS A	1.3	9.4	0.10	0.40	0.10	55.4
8	T1	All MCs	347	2.7	347	2.7	0.229	4.1	LOS A	1.3	9.4	0.10	0.40	0.10	58.3
9	R2	All MCs	6	16.7	6	16.7	0.229	8.9	LOS A	1.3	9.4	0.10	0.40	0.10	54.4
9u	U	All MCs	1	0.0	1	0.0	0.229	10.8	LOS A	1.3	9.4	0.10	0.40	0.10	55.8
Approach			360	2.9	360	2.9	0.229	4.2	LOS A	1.3	9.4	0.10	0.40	0.10	58.2
West: Saltwood Drive															
10	L2	All MCs	1	0.0	1	0.0	0.006	4.8	LOS A	0.0	0.2	0.35	0.57	0.35	52.8
11	T1	All MCs	1	0.0	1	0.0	0.006	4.9	LOS A	0.0	0.2	0.35	0.57	0.35	51.5
12	R2	All MCs	4	0.0	4	0.0	0.006	9.6	LOS A	0.0	0.2	0.35	0.57	0.35	56.5
12u	U	All MCs	1	0.0	1	0.0	0.006	11.6	LOS A	0.0	0.2	0.35	0.57	0.35	50.7
Approach			7	0.0	7	0.0	0.006	8.5	LOS A	0.0	0.2	0.35	0.57	0.35	55.4
All Vehicles			608	3.5	608	3.5	0.229	4.5	LOS A	1.3	9.4	0.13	0.41	0.13	58.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekday AM (Site Folder: Existing + Growth - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	1	0.0	1	0.0	0.114	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	36.4
2	T1	All MCs	216	4.4	216	4.4	0.114	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			217	4.4	217	4.4	0.114	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
North: George Bass Drive															
8	T1	All MCs	371	2.8	371	2.8	0.194	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			371	2.8	371	2.8	0.194	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.001	4.9	LOS A	0.0	0.0	0.29	0.50	0.29	48.8
Approach			1	0.0	1	0.0	0.001	4.9	LOS A	0.0	0.0	0.29	0.50	0.29	48.8
All Vehicles			588	3.4	588	3.4	0.194	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekday PM (Site Folder: Existing + Growth - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	38	2.8	38	2.8	0.056	6.5	LOS A	0.3	2.2	0.58	0.62	0.58	52.3
2	T1	All MCs	7	0.0	7	0.0	0.056	6.6	LOS A	0.3	2.2	0.58	0.62	0.58	52.8
3	R2	All MCs	4	0.0	4	0.0	0.056	11.2	LOS A	0.3	2.2	0.58	0.62	0.58	56.2
3u	U	All MCs	1	0.0	1	0.0	0.056	13.3	LOS A	0.3	2.2	0.58	0.62	0.58	51.9
Approach			51	2.1	51	2.1	0.056	7.0	LOS A	0.3	2.2	0.58	0.62	0.58	53.0
East: George Bass Drive															
4	L2	All MCs	5	0.0	5	0.0	0.302	5.2	LOS A	1.9	13.9	0.49	0.52	0.49	56.5
5	T1	All MCs	287	3.3	287	3.3	0.302	5.5	LOS A	1.9	13.9	0.49	0.52	0.49	56.6
6	R2	All MCs	41	7.7	41	7.7	0.302	10.2	LOS A	1.9	13.9	0.49	0.52	0.49	56.1
6u	U	All MCs	1	0.0	1	0.0	0.302	12.1	LOS A	1.9	13.9	0.49	0.52	0.49	57.5
Approach			335	3.8	335	3.8	0.302	6.1	LOS A	1.9	13.9	0.49	0.52	0.49	56.5
North: Tomakin Road															
7	L2	All MCs	46	9.1	46	9.1	0.242	6.8	LOS A	1.4	10.3	0.60	0.68	0.60	55.3
8	T1	All MCs	17	6.3	17	6.3	0.242	6.9	LOS A	1.4	10.3	0.60	0.68	0.60	50.6
9	R2	All MCs	160	2.6	160	2.6	0.242	11.4	LOS A	1.4	10.3	0.60	0.68	0.60	49.8
9u	U	All MCs	1	0.0	1	0.0	0.242	13.4	LOS A	1.4	10.3	0.60	0.68	0.60	49.9
Approach			224	4.2	224	4.2	0.242	10.1	LOS A	1.4	10.3	0.60	0.68	0.60	51.8
West: George Bass Drive															
10	L2	All MCs	169	1.2	169	1.2	0.419	4.2	LOS A	3.2	22.9	0.26	0.43	0.26	53.5
11	T1	All MCs	398	1.6	398	1.6	0.419	4.4	LOS A	3.2	22.9	0.26	0.43	0.26	57.2
12	R2	All MCs	37	5.7	37	5.7	0.419	9.1	LOS A	3.2	22.9	0.26	0.43	0.26	52.8
12u	U	All MCs	9	11.1	9	11.1	0.419	11.3	LOS A	3.2	22.9	0.26	0.43	0.26	52.6
Approach			614	1.9	614	1.9	0.419	4.7	LOS A	3.2	22.9	0.26	0.43	0.26	56.4
All Vehicles			1223	2.8	1223	2.8	0.419	6.2	LOS A	3.2	22.9	0.40	0.51	0.40	55.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekday PM (Site Folder: Existing + Growth - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	311	3.1	311	3.1	0.186	4.1	LOS A	1.3	9.1	0.04	0.40	0.04	58.8
6	R2	All MCs	1	0.0	1	0.0	0.186	8.7	LOS A	1.3	9.1	0.04	0.40	0.04	57.9
6u	U	All MCs	1	0.0	1	0.0	0.186	10.7	LOS A	1.3	9.1	0.04	0.40	0.04	58.7
Approach			313	3.0	313	3.0	0.186	4.1	LOS A	1.3	9.1	0.04	0.40	0.04	58.8
North: Road 01															
7	L2	All MCs	1	0.0	1	0.0	0.003	6.1	LOS A	0.0	0.1	0.53	0.57	0.53	56.5
9	R2	All MCs	1	0.0	1	0.0	0.003	10.9	LOS A	0.0	0.1	0.53	0.57	0.53	55.3
9u	U	All MCs	1	0.0	1	0.0	0.003	13.0	LOS A	0.0	0.1	0.53	0.57	0.53	50.1
Approach			3	0.0	3	0.0	0.003	10.0	LOS A	0.0	0.1	0.53	0.57	0.53	54.9
West: George Bass Drive															
10	L2	All MCs	1	0.0	1	0.0	0.244	3.8	LOS A	1.7	12.0	0.04	0.40	0.04	57.6
11	T1	All MCs	411	2.8	411	2.8	0.244	4.1	LOS A	1.7	12.0	0.04	0.40	0.04	58.8
12u	U	All MCs	1	0.0	1	0.0	0.244	10.7	LOS A	1.7	12.0	0.04	0.40	0.04	58.3
Approach			413	2.8	413	2.8	0.244	4.1	LOS A	1.7	12.0	0.04	0.40	0.04	58.8
All Vehicles			728	2.9	728	2.9	0.244	4.1	LOS A	1.7	12.0	0.04	0.40	0.04	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekday PM (Site Folder: Existing + Growth - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	6	0.0	6	0.0	0.198	3.9	LOS A	1.1	8.1	0.10	0.41	0.10	58.0
2	T1	All MCs	285	4.1	285	4.1	0.198	4.2	LOS A	1.1	8.1	0.10	0.41	0.10	58.2
3	R2	All MCs	13	0.0	13	0.0	0.198	8.7	LOS A	1.1	8.1	0.10	0.41	0.10	57.8
3u	U	All MCs	1	0.0	1	0.0	0.198	10.8	LOS A	1.1	8.1	0.10	0.41	0.10	58.6
Approach			305	3.8	305	3.8	0.198	4.4	LOS A	1.1	8.1	0.10	0.41	0.10	58.2
East: Rosedale Parade															
4	L2	All MCs	12	9.1	12	9.1	0.019	5.0	LOS A	0.1	0.6	0.36	0.55	0.36	57.1
5	T1	All MCs	1	0.0	1	0.0	0.019	5.0	LOS A	0.1	0.6	0.36	0.55	0.36	52.6
6	R2	All MCs	7	0.0	7	0.0	0.019	9.6	LOS A	0.1	0.6	0.36	0.55	0.36	53.3
6u	U	All MCs	1	0.0	1	0.0	0.019	11.7	LOS A	0.1	0.6	0.36	0.55	0.36	51.8
Approach			21	5.0	21	5.0	0.019	7.0	LOS A	0.1	0.6	0.36	0.55	0.36	56.0
North: George Bass Drive															
7	L2	All MCs	20	0.0	20	0.0	0.158	4.0	LOS A	0.8	6.0	0.11	0.41	0.11	55.4
8	T1	All MCs	212	2.0	212	2.0	0.158	4.2	LOS A	0.8	6.0	0.11	0.41	0.11	58.2
9	R2	All MCs	6	16.7	6	16.7	0.158	9.0	LOS A	0.8	6.0	0.11	0.41	0.11	54.4
9u	U	All MCs	1	0.0	1	0.0	0.158	10.8	LOS A	0.8	6.0	0.11	0.41	0.11	55.7
Approach			239	2.2	239	2.2	0.158	4.3	LOS A	0.8	6.0	0.11	0.41	0.11	58.1
West: Saltwood Drive															
10	L2	All MCs	8	0.0	8	0.0	0.015	5.2	LOS A	0.1	0.5	0.42	0.54	0.42	53.9
11	T1	All MCs	3	0.0	3	0.0	0.015	5.4	LOS A	0.1	0.5	0.42	0.54	0.42	52.8
12	R2	All MCs	3	0.0	3	0.0	0.015	10.0	LOS A	0.1	0.5	0.42	0.54	0.42	57.1
12u	U	All MCs	1	0.0	1	0.0	0.015	12.1	LOS A	0.1	0.5	0.42	0.54	0.42	52.0
Approach			16	0.0	16	0.0	0.015	6.7	LOS A	0.1	0.5	0.42	0.54	0.42	54.9
All Vehicles			581	3.1	581	3.1	0.198	4.5	LOS A	1.1	8.1	0.12	0.42	0.12	58.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekday PM (Site Folder: Existing + Growth - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	1	0.0	1	0.0	0.167	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
2	T1	All MCs	317	3.7	317	3.7	0.167	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			318	3.6	318	3.6	0.167	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
North: George Bass Drive															
8	T1	All MCs	263	2.0	263	2.0	0.137	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			263	2.0	263	2.0	0.137	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.001	5.3	LOS A	0.0	0.0	0.36	0.51	0.36	48.5
Approach			1	0.0	1	0.0	0.001	5.3	LOS A	0.0	0.0	0.36	0.51	0.36	48.5
All Vehicles			582	2.9	582	2.9	0.167	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekend Mid-day (Site Folder: Existing + Growth - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	69	1.5	69	1.5	0.151	7.0	LOS A	0.9	6.2	0.64	0.65	0.64	51.7
2	T1	All MCs	37	2.9	37	2.9	0.151	7.2	LOS A	0.9	6.2	0.64	0.65	0.64	52.0
3	R2	All MCs	22	0.0	22	0.0	0.151	11.7	LOS A	0.9	6.2	0.64	0.65	0.64	55.9
3u	U	All MCs	1	0.0	1	0.0	0.151	13.8	LOS A	0.9	6.2	0.64	0.65	0.64	51.2
Approach			129	1.6	129	1.6	0.151	7.9	LOS A	0.9	6.2	0.64	0.65	0.64	53.1
East: George Bass Drive															
4	L2	All MCs	11	10.0	11	10.0	0.360	5.8	LOS A	2.4	17.2	0.55	0.55	0.55	56.2
5	T1	All MCs	321	2.0	321	2.0	0.360	5.8	LOS A	2.4	17.2	0.55	0.55	0.55	56.5
6	R2	All MCs	58	1.8	58	1.8	0.360	10.4	LOS A	2.4	17.2	0.55	0.55	0.55	56.0
6u	U	All MCs	1	0.0	1	0.0	0.360	12.4	LOS A	2.4	17.2	0.55	0.55	0.55	57.4
Approach			391	2.2	391	2.2	0.360	6.5	LOS A	2.4	17.2	0.55	0.55	0.55	56.4
North: Tomakin Road															
7	L2	All MCs	47	2.2	47	2.2	0.264	7.1	LOS A	1.6	11.9	0.67	0.69	0.67	55.4
8	T1	All MCs	40	5.3	40	5.3	0.264	7.4	LOS A	1.6	11.9	0.67	0.69	0.67	50.5
9	R2	All MCs	137	6.9	137	6.9	0.264	12.1	LOS A	1.6	11.9	0.67	0.69	0.67	49.6
9u	U	All MCs	1	0.0	1	0.0	0.264	13.9	LOS A	1.6	11.9	0.67	0.69	0.67	49.9
Approach			225	5.6	225	5.6	0.264	10.2	LOS A	1.6	11.9	0.67	0.69	0.67	51.8
West: George Bass Drive															
10	L2	All MCs	153	2.1	153	2.1	0.487	4.7	LOS A	3.9	27.7	0.42	0.48	0.42	52.7
11	T1	All MCs	409	2.8	409	2.8	0.487	4.9	LOS A	3.9	27.7	0.42	0.48	0.42	56.8
12	R2	All MCs	56	3.8	56	3.8	0.487	9.6	LOS A	3.9	27.7	0.42	0.48	0.42	52.1
12u	U	All MCs	28	0.0	28	0.0	0.487	11.6	LOS A	3.9	27.7	0.42	0.48	0.42	52.2
Approach			646	2.6	646	2.6	0.487	5.6	LOS A	3.9	27.7	0.42	0.48	0.42	55.9
All Vehicles			1392	2.9	1392	2.9	0.487	6.8	LOS A	3.9	27.7	0.52	0.55	0.52	55.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekend Mid-day (Site Folder: Existing + Growth - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	374	1.7	374	1.7	0.221	4.1	LOS A	1.6	11.3	0.04	0.40	0.04	58.8
6	R2	All MCs	1	0.0	1	0.0	0.221	8.7	LOS A	1.6	11.3	0.04	0.40	0.04	57.9
6u	U	All MCs	1	0.0	1	0.0	0.221	10.7	LOS A	1.6	11.3	0.04	0.40	0.04	58.7
Approach			376	1.7	376	1.7	0.221	4.1	LOS A	1.6	11.3	0.04	0.40	0.04	58.8
North: Road 01															
7	L2	All MCs	1	0.0	1	0.0	0.004	7.0	LOS A	0.0	0.1	0.60	0.59	0.60	56.2
9	R2	All MCs	1	0.0	1	0.0	0.004	11.8	LOS A	0.0	0.1	0.60	0.59	0.60	54.9
9u	U	All MCs	1	0.0	1	0.0	0.004	13.9	LOS A	0.0	0.1	0.60	0.59	0.60	49.5
Approach			3	0.0	3	0.0	0.004	10.9	LOS A	0.0	0.1	0.60	0.59	0.60	54.6
West: George Bass Drive															
10	L2	All MCs	1	0.0	1	0.0	0.322	3.8	LOS A	2.4	17.4	0.04	0.40	0.04	57.6
11	T1	All MCs	546	2.3	546	2.3	0.322	4.1	LOS A	2.4	17.4	0.04	0.40	0.04	58.8
12u	U	All MCs	1	0.0	1	0.0	0.322	10.7	LOS A	2.4	17.4	0.04	0.40	0.04	58.3
Approach			548	2.3	548	2.3	0.322	4.1	LOS A	2.4	17.4	0.04	0.40	0.04	58.8
All Vehicles			927	2.0	927	2.0	0.322	4.1	LOS A	2.4	17.4	0.05	0.40	0.05	58.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekend Mid-day (Site Folder: Existing + Growth - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	6	0.0	6	0.0	0.269	3.9	LOS A	1.7	11.9	0.11	0.40	0.11	57.9
2	T1	All MCs	402	0.0	402	0.0	0.269	4.1	LOS A	1.7	11.9	0.11	0.40	0.11	58.2
3	R2	All MCs	19	0.0	19	0.0	0.269	8.8	LOS A	1.7	11.9	0.11	0.40	0.11	57.7
3u	U	All MCs	1	0.0	1	0.0	0.269	10.8	LOS A	1.7	11.9	0.11	0.40	0.11	58.6
Approach			428	0.0	428	0.0	0.269	4.3	LOS A	1.7	11.9	0.11	0.40	0.11	58.2
East: Rosedale Parade															
4	L2	All MCs	16	6.7	16	6.7	0.027	5.1	LOS A	0.1	0.9	0.39	0.57	0.39	57.1
5	T1	All MCs	1	0.0	1	0.0	0.027	5.2	LOS A	0.1	0.9	0.39	0.57	0.39	52.6
6	R2	All MCs	11	10.0	11	10.0	0.027	10.1	LOS A	0.1	0.9	0.39	0.57	0.39	52.9
6u	U	All MCs	1	0.0	1	0.0	0.027	11.9	LOS A	0.1	0.9	0.39	0.57	0.39	51.8
Approach			28	7.4	28	7.4	0.027	7.2	LOS A	0.1	0.9	0.39	0.57	0.39	56.0
North: George Bass Drive															
7	L2	All MCs	15	0.0	15	0.0	0.178	4.0	LOS A	1.0	6.7	0.12	0.40	0.12	55.3
8	T1	All MCs	248	0.8	248	0.8	0.178	4.2	LOS A	1.0	6.7	0.12	0.40	0.12	58.2
9	R2	All MCs	4	0.0	4	0.0	0.178	8.8	LOS A	1.0	6.7	0.12	0.40	0.12	54.9
9u	U	All MCs	1	0.0	1	0.0	0.178	10.9	LOS A	1.0	6.7	0.12	0.40	0.12	55.7
Approach			268	0.8	268	0.8	0.178	4.3	LOS A	1.0	6.7	0.12	0.40	0.12	58.1
West: Saltwood Drive															
10	L2	All MCs	6	0.0	6	0.0	0.013	5.8	LOS A	0.1	0.4	0.49	0.59	0.49	53.3
11	T1	All MCs	1	0.0	1	0.0	0.013	6.0	LOS A	0.1	0.4	0.49	0.59	0.49	52.1
12	R2	All MCs	4	0.0	4	0.0	0.013	10.6	LOS A	0.1	0.4	0.49	0.59	0.49	56.8
12u	U	All MCs	1	0.0	1	0.0	0.013	12.7	LOS A	0.1	0.4	0.49	0.59	0.49	51.3
Approach			13	0.0	13	0.0	0.013	8.0	LOS A	0.1	0.4	0.49	0.59	0.49	55.0
All Vehicles			738	0.6	738	0.6	0.269	4.5	LOS A	1.7	11.9	0.13	0.41	0.13	58.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekend Mid-day (Site Folder: Existing + Growth - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	1	0.0	1	0.0	0.225	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.9
2	T1	All MCs	437	0.2	437	0.2	0.225	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			438	0.2	438	0.2	0.225	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: George Bass Drive															
8	T1	All MCs	287	0.7	287	0.7	0.148	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			287	0.7	287	0.7	0.148	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.001	7.0	LOS A	0.0	0.0	0.43	0.54	0.43	51.6
Approach			1	0.0	1	0.0	0.001	7.0	LOS A	0.0	0.0	0.43	0.54	0.43	51.6
All Vehicles			726	0.4	726	0.4	0.225	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 106 [(I-6) Princess Highway / Tomakin Road_Weekday AM (Site Folder: Existing + Growth - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	533	4.9	533	4.9	0.313	0.2	LOS A	0.4	2.7	0.08	0.10	0.08	59.3
3	R2	All MCs	35	6.1	35	6.1	0.313	7.6	LOS A	0.4	2.7	0.08	0.10	0.08	56.2
Approach			567	5.0	567	5.0	0.313	0.7	NA	0.4	2.7	0.08	0.10	0.08	59.1
East: Tomakin Road (E)															
4	L2	All MCs	36	8.8	36	8.8	0.447	8.5	LOS A	2.1	14.8	0.70	0.97	1.02	47.0
6	R2	All MCs	186	1.7	186	1.7	0.447	14.8	LOS B	2.1	14.8	0.70	0.97	1.02	47.0
Approach			222	2.8	222	2.8	0.447	13.8	LOS A	2.1	14.8	0.70	0.97	1.02	47.0
North: Princess Highway (N)															
7	L2	All MCs	107	5.9	107	5.9	0.218	5.7	LOS A	0.0	0.0	0.00	0.16	0.00	55.8
8	T1	All MCs	292	8.7	292	8.7	0.218	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	58.4
Approach			399	7.9	399	7.9	0.218	1.6	NA	0.0	0.0	0.00	0.16	0.00	57.7
All Vehicles			1188	5.6	1188	5.6	0.447	3.4	NA	2.1	14.8	0.17	0.28	0.23	55.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 106 [(I-6) Princess Highway / Tomakin Road_Weekday PM (Site Folder: Existing + Growth - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	517	5.5	517	5.5	0.324	0.6	LOS A	0.6	4.3	0.13	0.17	0.13	58.8
3	R2	All MCs	37	2.9	37	2.9	0.324	10.1	LOS A	0.6	4.3	0.13	0.17	0.13	55.9
Approach			554	5.3	554	5.3	0.324	1.3	NA	0.6	4.3	0.13	0.17	0.13	58.6
East: Tomakin Road (E)															
4	L2	All MCs	36	2.9	36	2.9	0.464	10.7	LOS A	1.9	13.3	0.82	1.02	1.17	44.5
6	R2	All MCs	123	3.4	123	3.4	0.464	20.6	LOS B	1.9	13.3	0.82	1.02	1.17	44.4
Approach			159	3.3	159	3.3	0.464	18.3	LOS B	1.9	13.3	0.82	1.02	1.17	44.5
North: Princess Highway (N)															
7	L2	All MCs	172	1.2	172	1.2	0.381	5.7	LOS A	0.0	0.0	0.00	0.14	0.00	56.0
8	T1	All MCs	548	3.8	548	3.8	0.381	0.1	LOS A	0.0	0.0	0.00	0.14	0.00	58.5
Approach			720	3.2	720	3.2	0.381	1.5	NA	0.0	0.0	0.00	0.14	0.00	57.9
All Vehicles			1433	4.0	1433	4.0	0.464	3.3	NA	1.9	13.3	0.14	0.25	0.18	56.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 106 [(I-6) Princess Highway / Tomakin Road_Weekend Mid-day (Site Folder: Existing + Growth - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	438	1.2	438	1.2	0.257	0.3	LOS A	0.4	2.5	0.10	0.12	0.10	59.2
3	R2	All MCs	32	0.0	32	0.0	0.257	8.0	LOS A	0.4	2.5	0.10	0.12	0.10	56.4
Approach			469	1.1	469	1.1	0.257	0.8	NA	0.4	2.5	0.10	0.12	0.10	59.0
East: Tomakin Road (E)															
4	L2	All MCs	42	2.5	42	2.5	0.457	8.6	LOS A	2.2	15.5	0.70	0.97	1.02	47.6
6	R2	All MCs	206	0.5	206	0.5	0.457	13.9	LOS A	2.2	15.5	0.70	0.97	1.02	47.5
Approach			248	0.8	248	0.8	0.457	13.0	LOS A	2.2	15.5	0.70	0.97	1.02	47.5
North: Princess Highway (N)															
7	L2	All MCs	164	1.9	164	1.9	0.273	5.6	LOS A	0.0	0.0	0.00	0.19	0.00	55.8
8	T1	All MCs	355	0.9	355	0.9	0.273	0.1	LOS A	0.0	0.0	0.00	0.19	0.00	58.2
Approach			519	1.2	519	1.2	0.273	1.8	NA	0.0	0.0	0.00	0.19	0.00	57.4
All Vehicles			1237	1.1	1237	1.1	0.457	3.7	NA	2.2	15.5	0.18	0.32	0.24	55.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekday AM (Site Folder: Existing + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	54	0.0	54	0.0	0.141	10.1	LOS A	0.9	6.5	0.83	0.75	0.83	50.0
2	T1	All MCs	24	0.0	24	0.0	0.141	10.3	LOS A	0.9	6.5	0.83	0.75	0.83	50.3
3	R2	All MCs	5	0.0	5	0.0	0.141	14.9	LOS B	0.9	6.5	0.83	0.75	0.83	55.0
3u	U	All MCs	1	0.0	1	0.0	0.141	17.0	LOS B	0.9	6.5	0.83	0.75	0.83	49.5
Approach			84	0.0	84	0.0	0.141	10.5	LOS A	0.9	6.5	0.83	0.75	0.83	50.7
East: George Bass Drive															
4	L2	All MCs	11	0.0	11	0.0	0.586	7.2	LOS A	5.3	37.8	0.74	0.66	0.79	55.8
5	T1	All MCs	463	3.0	463	3.0	0.586	7.5	LOS A	5.3	37.8	0.74	0.66	0.79	55.9
6	R2	All MCs	122	2.6	122	2.6	0.586	12.1	LOS A	5.3	37.8	0.74	0.66	0.79	55.5
6u	U	All MCs	1	0.0	1	0.0	0.586	14.1	LOS A	5.3	37.8	0.74	0.66	0.79	57.1
Approach			597	2.8	597	2.8	0.586	8.4	LOS A	5.3	37.8	0.74	0.66	0.79	55.8
North: Tomakin Road															
7	L2	All MCs	54	7.8	54	7.8	0.337	5.9	LOS A	2.2	16.0	0.56	0.64	0.56	55.3
8	T1	All MCs	12	9.1	12	9.1	0.337	6.1	LOS A	2.2	16.0	0.56	0.64	0.56	50.6
9	R2	All MCs	280	4.1	280	4.1	0.337	10.6	LOS A	2.2	16.0	0.56	0.64	0.56	49.9
9u	U	All MCs	2	100.0	2	100.0	0.337	15.7	LOS B	2.2	16.0	0.56	0.64	0.56	46.8
Approach			347	5.5	347	5.5	0.337	9.7	LOS A	2.2	16.0	0.56	0.64	0.56	51.4
West: George Bass Drive															
10	L2	All MCs	234	5.0	234	5.0	0.419	5.0	LOS A	3.2	23.0	0.47	0.50	0.47	52.7
11	T1	All MCs	236	4.5	236	4.5	0.419	5.1	LOS A	3.2	23.0	0.47	0.50	0.47	56.8
12	R2	All MCs	31	3.4	31	3.4	0.419	9.8	LOS A	3.2	23.0	0.47	0.50	0.47	52.2
12u	U	All MCs	12	0.0	12	0.0	0.419	11.7	LOS A	3.2	23.0	0.47	0.50	0.47	52.3
Approach			512	4.5	512	4.5	0.419	5.5	LOS A	3.2	23.0	0.47	0.50	0.47	55.3
All Vehicles			1540	3.8	1540	3.8	0.586	7.9	LOS A	5.3	37.8	0.61	0.61	0.64	54.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekday AM (Site Folder: Existing + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	353	3.9	353	3.9	0.310	5.3	LOS A	2.2	16.2	0.46	0.47	0.46	58.2
6	R2	All MCs	14	0.0	14	0.0	0.310	9.8	LOS A	2.2	16.2	0.46	0.47	0.46	57.2
6u	U	All MCs	1	0.0	1	0.0	0.310	11.9	LOS A	2.2	16.2	0.46	0.47	0.46	58.3
Approach			367	3.7	367	3.7	0.310	5.5	LOS A	2.2	16.2	0.46	0.47	0.46	58.2
North: Road 01															
7	L2	All MCs	24	0.0	24	0.0	0.164	5.1	LOS A	1.0	6.8	0.42	0.61	0.42	56.5
9	R2	All MCs	162	0.0	162	0.0	0.164	9.9	LOS A	1.0	6.8	0.42	0.61	0.42	55.3
9u	U	All MCs	1	0.0	1	0.0	0.164	12.0	LOS A	1.0	6.8	0.42	0.61	0.42	50.2
Approach			187	0.0	187	0.0	0.164	9.3	LOS A	1.0	6.8	0.42	0.61	0.42	55.5
West: George Bass Drive															
10	L2	All MCs	76	0.0	76	0.0	0.174	3.9	LOS A	1.2	8.6	0.11	0.41	0.11	57.5
11	T1	All MCs	191	6.6	191	6.6	0.174	4.2	LOS A	1.2	8.6	0.11	0.41	0.11	58.7
12u	U	All MCs	1	0.0	1	0.0	0.174	10.8	LOS A	1.2	8.6	0.11	0.41	0.11	58.2
Approach			267	4.7	267	4.7	0.174	4.1	LOS A	1.2	8.6	0.11	0.41	0.11	58.5
All Vehicles			822	3.2	822	3.2	0.310	5.9	LOS A	2.2	16.2	0.34	0.48	0.34	57.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekday AM (Site Folder: Existing + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	44	0.0	44	0.0	0.154	4.5	LOS A	0.8	6.0	0.32	0.46	0.32	57.6
2	T1	All MCs	133	6.3	133	6.3	0.154	4.8	LOS A	0.8	6.0	0.32	0.46	0.32	57.9
3	R2	All MCs	8	12.5	8	12.5	0.154	9.6	LOS A	0.8	6.0	0.32	0.46	0.32	57.2
3u	U	All MCs	1	0.0	1	0.0	0.154	11.4	LOS A	0.8	6.0	0.32	0.46	0.32	58.4
Approach			186	5.1	186	5.1	0.154	5.0	LOS A	0.8	6.0	0.32	0.46	0.32	57.8
East: Rosedale Parade															
4	L2	All MCs	21	0.0	21	0.0	0.035	5.6	LOS A	0.2	1.3	0.49	0.60	0.49	57.2
5	T1	All MCs	1	0.0	1	0.0	0.035	5.8	LOS A	0.2	1.3	0.49	0.60	0.49	52.5
6	R2	All MCs	12	9.1	12	9.1	0.035	10.7	LOS A	0.2	1.3	0.49	0.60	0.49	52.9
6u	U	All MCs	1	0.0	1	0.0	0.035	12.5	LOS A	0.2	1.3	0.49	0.60	0.49	51.7
Approach			35	3.0	35	3.0	0.035	7.6	LOS A	0.2	1.3	0.49	0.60	0.49	56.2
North: George Bass Drive															
7	L2	All MCs	5	0.0	5	0.0	0.235	4.3	LOS A	1.4	10.0	0.27	0.50	0.27	53.9
8	T1	All MCs	189	5.0	189	5.0	0.235	4.5	LOS A	1.4	10.0	0.27	0.50	0.27	57.6
9	R2	All MCs	119	0.9	119	0.9	0.235	9.1	LOS A	1.4	10.0	0.27	0.50	0.27	53.5
9u	U	All MCs	1	0.0	1	0.0	0.235	11.2	LOS A	1.4	10.0	0.27	0.50	0.27	54.5
Approach			315	3.3	315	3.3	0.235	6.3	LOS A	1.4	10.0	0.27	0.50	0.27	56.7
West: Saltwood Drive															
10	L2	All MCs	69	0.0	69	0.0	0.120	4.6	LOS A	0.6	4.4	0.34	0.57	0.34	53.5
11	T1	All MCs	1	0.0	1	0.0	0.120	4.8	LOS A	0.6	4.4	0.34	0.57	0.34	52.5
12	R2	All MCs	73	0.0	73	0.0	0.120	9.5	LOS A	0.6	4.4	0.34	0.57	0.34	56.9
12u	U	All MCs	1	0.0	1	0.0	0.120	11.5	LOS A	0.6	4.4	0.34	0.57	0.34	51.6
Approach			144	0.0	144	0.0	0.120	7.1	LOS A	0.6	4.4	0.34	0.57	0.34	55.9
All Vehicles			680	3.1	680	3.1	0.235	6.2	LOS A	1.4	10.0	0.31	0.51	0.31	56.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekday AM (Site Folder: Existing + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	14	0.0	14	0.0	0.114	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	36.2
2	T1	All MCs	201	4.7	201	4.7	0.114	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.7
Approach			215	4.4	215	4.4	0.114	0.4	NA	0.0	0.0	0.00	0.04	0.00	58.1
North: George Bass Drive															
8	T1	All MCs	314	3.4	314	3.4	0.164	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			314	3.4	314	3.4	0.164	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Bullock Road															
10	L2	All MCs	139	0.0	139	0.0	0.102	5.0	LOS A	0.4	2.9	0.30	0.56	0.30	48.7
Approach			139	0.0	139	0.0	0.102	5.0	LOS A	0.4	2.9	0.30	0.56	0.30	48.7
All Vehicles			667	3.0	667	3.0	0.164	1.2	NA	0.4	2.9	0.06	0.13	0.06	57.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 105 [(I-5) Bullock Road / Purdie Parade_Weekday AM (Site Folder: Existing + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Purdie Parade															
1	L2	All MCs	1	0.0	1	0.0	0.003	3.9	LOS A	0.0	0.1	0.08	0.56	0.08	52.5
2	T1	All MCs	1	0.0	1	0.0	0.003	4.1	LOS A	0.0	0.1	0.08	0.56	0.08	52.9
3	R2	All MCs	1	0.0	1	0.0	0.003	8.7	LOS A	0.0	0.1	0.08	0.56	0.08	30.8
3u	U	All MCs	1	0.0	1	0.0	0.003	10.8	LOS A	0.0	0.1	0.08	0.56	0.08	52.0
Approach			4	0.0	4	0.0	0.003	6.9	LOS A	0.0	0.1	0.08	0.56	0.08	47.1
East: Bullock Road															
4	L2	All MCs	1	0.0	1	0.0	0.011	2.8	LOS A	0.1	0.4	0.05	0.44	0.05	51.7
5	T1	All MCs	13	0.0	13	0.0	0.011	3.1	LOS A	0.1	0.4	0.05	0.44	0.05	52.3
6	R2	All MCs	1	0.0	1	0.0	0.011	7.5	LOS A	0.1	0.4	0.05	0.44	0.05	50.9
6u	U	All MCs	1	0.0	1	0.0	0.011	9.6	LOS A	0.1	0.4	0.05	0.44	0.05	13.7
Approach			16	0.0	16	0.0	0.011	3.8	LOS A	0.1	0.4	0.05	0.44	0.05	49.6
North: Purdie Parade															
7	L2	All MCs	1	0.0	1	0.0	0.003	4.4	LOS A	0.0	0.1	0.28	0.54	0.28	30.4
8	T1	All MCs	1	0.0	1	0.0	0.003	4.6	LOS A	0.0	0.1	0.28	0.54	0.28	52.3
9	R2	All MCs	1	0.0	1	0.0	0.003	9.3	LOS A	0.0	0.1	0.28	0.54	0.28	51.5
9u	U	All MCs	1	0.0	1	0.0	0.003	11.3	LOS A	0.0	0.1	0.28	0.54	0.28	51.5
Approach			4	0.0	4	0.0	0.003	7.4	LOS A	0.0	0.1	0.28	0.54	0.28	46.5
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.087	3.9	LOS A	0.4	2.9	0.04	0.40	0.04	54.6
11	T1	All MCs	138	0.0	138	0.0	0.087	4.1	LOS A	0.4	2.9	0.04	0.40	0.04	32.3
12	R2	All MCs	1	0.0	1	0.0	0.087	8.7	LOS A	0.4	2.9	0.04	0.40	0.04	54.1
12u	U	All MCs	1	0.0	1	0.0	0.087	10.8	LOS A	0.4	2.9	0.04	0.40	0.04	54.1
Approach			141	0.0	141	0.0	0.087	4.1	LOS A	0.4	2.9	0.04	0.40	0.04	32.9
All Vehicles			165	0.0	165	0.0	0.087	4.3	LOS A	0.4	2.9	0.05	0.41	0.05	34.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekday PM (Site Folder: Existing + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	38	2.8	38	2.8	0.060	6.3	LOS A	0.3	2.3	0.56	0.62	0.56	52.2
2	T1	All MCs	7	0.0	7	0.0	0.060	6.4	LOS A	0.3	2.3	0.56	0.62	0.56	52.6
3	R2	All MCs	8	0.0	8	0.0	0.060	11.1	LOS A	0.3	2.3	0.56	0.62	0.56	56.2
3u	U	All MCs	1	0.0	1	0.0	0.060	13.1	LOS A	0.3	2.3	0.56	0.62	0.56	51.8
Approach			55	1.9	55	1.9	0.060	7.2	LOS A	0.3	2.3	0.56	0.62	0.56	53.4
East: George Bass Drive															
4	L2	All MCs	7	0.0	7	0.0	0.284	5.2	LOS A	1.8	13.0	0.48	0.54	0.48	56.4
5	T1	All MCs	240	3.9	240	3.9	0.284	5.5	LOS A	1.8	13.0	0.48	0.54	0.48	56.5
6	R2	All MCs	65	4.8	65	4.8	0.284	10.1	LOS A	1.8	13.0	0.48	0.54	0.48	56.0
6u	U	All MCs	1	0.0	1	0.0	0.284	12.1	LOS A	1.8	13.0	0.48	0.54	0.48	57.5
Approach			314	4.0	314	4.0	0.284	6.4	LOS A	1.8	13.0	0.48	0.54	0.48	56.4
North: Tomakin Road															
7	L2	All MCs	93	4.5	93	4.5	0.296	6.9	LOS A	1.8	13.2	0.64	0.68	0.64	55.5
8	T1	All MCs	17	6.3	17	6.3	0.296	7.1	LOS A	1.8	13.2	0.64	0.68	0.64	50.8
9	R2	All MCs	160	2.6	160	2.6	0.296	11.6	LOS A	1.8	13.2	0.64	0.68	0.64	50.1
9u	U	All MCs	1	0.0	1	0.0	0.296	13.6	LOS A	1.8	13.2	0.64	0.68	0.64	50.2
Approach			271	3.5	271	3.5	0.296	9.7	LOS A	1.8	13.2	0.64	0.68	0.64	52.9
West: George Bass Drive															
10	L2	All MCs	169	1.2	169	1.2	0.446	4.4	LOS A	3.5	24.8	0.34	0.45	0.34	53.2
11	T1	All MCs	406	1.6	406	1.6	0.446	4.6	LOS A	3.5	24.8	0.34	0.45	0.34	57.1
12	R2	All MCs	37	5.7	37	5.7	0.446	9.3	LOS A	3.5	24.8	0.34	0.45	0.34	52.5
12u	U	All MCs	9	11.1	9	11.1	0.446	11.5	LOS A	3.5	24.8	0.34	0.45	0.34	52.3
Approach			622	1.9	622	1.9	0.446	5.0	LOS A	3.5	24.8	0.34	0.45	0.34	56.3
All Vehicles			1261	2.8	1261	2.8	0.446	6.4	LOS A	3.5	24.8	0.45	0.53	0.45	55.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: S:\PROJECTS_2023\0674_WALK_Rosedale Subdivision\03 WIP\07 SIDRA\240529 - SIDRA Modelling\5. Rosedale - Existing+Dev792 (RMS rates).sip9

MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekday PM (Site Folder: Existing + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	194	4.9	194	4.9	0.172	4.6	LOS A	1.1	8.3	0.31	0.44	0.31	58.3
6	R2	All MCs	26	0.0	26	0.0	0.172	9.2	LOS A	1.1	8.3	0.31	0.44	0.31	57.3
6u	U	All MCs	1	0.0	1	0.0	0.172	11.3	LOS A	1.1	8.3	0.31	0.44	0.31	58.4
Approach			221	4.3	221	4.3	0.172	5.2	LOS A	1.1	8.3	0.31	0.44	0.31	58.2
North: Road 01															
7	L2	All MCs	13	0.0	13	0.0	0.096	5.7	LOS A	0.6	3.9	0.51	0.64	0.51	56.4
9	R2	All MCs	85	0.0	85	0.0	0.096	10.6	LOS A	0.6	3.9	0.51	0.64	0.51	55.2
9u	U	All MCs	1	0.0	1	0.0	0.096	12.6	LOS A	0.6	3.9	0.51	0.64	0.51	50.0
Approach			99	0.0	99	0.0	0.096	10.0	LOS A	0.6	3.9	0.51	0.64	0.51	55.4
West: George Bass Drive															
10	L2	All MCs	154	0.0	154	0.0	0.305	4.0	LOS A	2.3	16.2	0.17	0.41	0.17	57.4
11	T1	All MCs	312	3.7	312	3.7	0.305	4.3	LOS A	2.3	16.2	0.17	0.41	0.17	58.6
12u	U	All MCs	1	0.0	1	0.0	0.305	10.9	LOS A	2.3	16.2	0.17	0.41	0.17	58.1
Approach			466	2.5	466	2.5	0.305	4.2	LOS A	2.3	16.2	0.17	0.41	0.17	58.4
All Vehicles			786	2.7	786	2.7	0.305	5.2	LOS A	2.3	16.2	0.25	0.45	0.25	58.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekday PM (Site Folder: Existing + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	83	0.0	83	0.0	0.255	5.3	LOS A	1.5	10.7	0.46	0.52	0.46	57.4
2	T1	All MCs	183	6.3	183	6.3	0.255	5.6	LOS A	1.5	10.7	0.46	0.52	0.46	57.7
3	R2	All MCs	13	0.0	13	0.0	0.255	10.1	LOS A	1.5	10.7	0.46	0.52	0.46	57.2
3u	U	All MCs	1	0.0	1	0.0	0.255	12.1	LOS A	1.5	10.7	0.46	0.52	0.46	58.3
Approach			280	4.1	280	4.1	0.255	5.7	LOS A	1.5	10.7	0.46	0.52	0.46	57.6
East: Rosedale Parade															
4	L2	All MCs	12	9.1	12	9.1	0.022	6.0	LOS A	0.1	0.8	0.50	0.60	0.50	56.9
5	T1	All MCs	1	0.0	1	0.0	0.022	5.9	LOS A	0.1	0.8	0.50	0.60	0.50	52.1
6	R2	All MCs	7	0.0	7	0.0	0.022	10.6	LOS A	0.1	0.8	0.50	0.60	0.50	52.9
6u	U	All MCs	1	0.0	1	0.0	0.022	12.6	LOS A	0.1	0.8	0.50	0.60	0.50	51.3
Approach			21	5.0	21	5.0	0.022	7.9	LOS A	0.1	0.8	0.50	0.60	0.50	55.8
North: George Bass Drive															
7	L2	All MCs	20	0.0	20	0.0	0.272	4.2	LOS A	1.7	12.1	0.22	0.55	0.22	53.5
8	T1	All MCs	133	3.2	133	3.2	0.272	4.4	LOS A	1.7	12.1	0.22	0.55	0.22	57.4
9	R2	All MCs	236	0.4	236	0.4	0.272	9.0	LOS A	1.7	12.1	0.22	0.55	0.22	53.1
9u	U	All MCs	1	0.0	1	0.0	0.272	11.0	LOS A	1.7	12.1	0.22	0.55	0.22	54.1
Approach			389	1.4	389	1.4	0.272	7.2	LOS A	1.7	12.1	0.22	0.55	0.22	55.5
West: Saltwood Drive															
10	L2	All MCs	44	0.0	44	0.0	0.076	4.8	LOS A	0.4	2.8	0.39	0.58	0.39	53.6
11	T1	All MCs	3	0.0	3	0.0	0.076	5.0	LOS A	0.4	2.8	0.39	0.58	0.39	52.5
12	R2	All MCs	39	0.0	39	0.0	0.076	9.7	LOS A	0.4	2.8	0.39	0.58	0.39	56.9
12u	U	All MCs	1	0.0	1	0.0	0.076	11.7	LOS A	0.4	2.8	0.39	0.58	0.39	51.6
Approach			87	0.0	87	0.0	0.076	7.1	LOS A	0.4	2.8	0.39	0.58	0.39	55.7
All Vehicles			778	2.3	778	2.3	0.272	6.7	LOS A	1.7	12.1	0.33	0.54	0.33	56.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekday PM (Site Folder: Existing + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	26	0.0	26	0.0	0.125	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	36.1
2	T1	All MCs	209	5.5	209	5.5	0.125	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.4
Approach			236	4.9	236	4.9	0.125	0.7	NA	0.0	0.0	0.00	0.07	0.00	56.6
North: George Bass Drive															
8	T1	All MCs	388	1.4	388	1.4	0.201	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			388	1.4	388	1.4	0.201	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Bullock Road															
10	L2	All MCs	74	0.0	74	0.0	0.054	5.0	LOS A	0.2	1.5	0.30	0.56	0.30	48.7
Approach			74	0.0	74	0.0	0.054	5.0	LOS A	0.2	1.5	0.30	0.56	0.30	48.7
All Vehicles			698	2.4	698	2.4	0.201	0.8	NA	0.2	1.5	0.03	0.08	0.03	58.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 105 [(I-5) Bullock Road / Purdie Parade_Weekday PM (Site Folder: Existing + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Purdie Parade															
1	L2	All MCs	1	0.0	1	0.0	0.003	4.0	LOS A	0.0	0.1	0.12	0.56	0.12	52.4
2	T1	All MCs	1	0.0	1	0.0	0.003	4.2	LOS A	0.0	0.1	0.12	0.56	0.12	52.8
3	R2	All MCs	1	0.0	1	0.0	0.003	8.8	LOS A	0.0	0.1	0.12	0.56	0.12	30.7
3u	U	All MCs	1	0.0	1	0.0	0.003	10.9	LOS A	0.0	0.1	0.12	0.56	0.12	51.9
Approach			4	0.0	4	0.0	0.003	7.0	LOS A	0.0	0.1	0.12	0.56	0.12	47.0
East: Bullock Road															
4	L2	All MCs	1	0.0	1	0.0	0.019	2.8	LOS A	0.1	0.6	0.05	0.42	0.05	52.1
5	T1	All MCs	25	0.0	25	0.0	0.019	3.1	LOS A	0.1	0.6	0.05	0.42	0.05	52.7
6	R2	All MCs	1	0.0	1	0.0	0.019	7.5	LOS A	0.1	0.6	0.05	0.42	0.05	51.2
6u	U	All MCs	1	0.0	1	0.0	0.019	9.6	LOS A	0.1	0.6	0.05	0.42	0.05	13.7
Approach			28	0.0	28	0.0	0.019	3.5	LOS A	0.1	0.6	0.05	0.42	0.05	51.2
North: Purdie Parade															
7	L2	All MCs	1	0.0	1	0.0	0.003	4.2	LOS A	0.0	0.1	0.20	0.54	0.20	30.5
8	T1	All MCs	1	0.0	1	0.0	0.003	4.4	LOS A	0.0	0.1	0.20	0.54	0.20	52.5
9	R2	All MCs	1	0.0	1	0.0	0.003	9.0	LOS A	0.0	0.1	0.20	0.54	0.20	51.7
9u	U	All MCs	1	0.0	1	0.0	0.003	11.0	LOS A	0.0	0.1	0.20	0.54	0.20	51.7
Approach			4	0.0	4	0.0	0.003	7.1	LOS A	0.0	0.1	0.20	0.54	0.20	46.7
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.049	3.9	LOS A	0.2	1.6	0.04	0.41	0.04	54.6
11	T1	All MCs	73	0.0	73	0.0	0.049	4.1	LOS A	0.2	1.6	0.04	0.41	0.04	32.3
12	R2	All MCs	1	0.0	1	0.0	0.049	8.7	LOS A	0.2	1.6	0.04	0.41	0.04	54.0
12u	U	All MCs	1	0.0	1	0.0	0.049	10.8	LOS A	0.2	1.6	0.04	0.41	0.04	54.0
Approach			76	0.0	76	0.0	0.049	4.2	LOS A	0.2	1.6	0.04	0.41	0.04	33.3
All Vehicles			113	0.0	113	0.0	0.049	4.2	LOS A	0.2	1.6	0.05	0.42	0.05	37.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekend Mid-day (Site Folder: Existing + Dev792 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	69	1.5	69	1.5	0.160	7.3	LOS A	1.0	6.7	0.67	0.67	0.67	51.5
2	T1	All MCs	37	2.9	37	2.9	0.160	7.5	LOS A	1.0	6.7	0.67	0.67	0.67	51.8
3	R2	All MCs	25	0.0	25	0.0	0.160	12.0	LOS A	1.0	6.7	0.67	0.67	0.67	55.8
3u	U	All MCs	1	0.0	1	0.0	0.160	14.1	LOS A	1.0	6.7	0.67	0.67	0.67	51.0
Approach			133	1.6	133	1.6	0.160	8.3	LOS A	1.0	6.7	0.67	0.67	0.67	53.0
East: George Bass Drive															
4	L2	All MCs	14	7.7	14	7.7	0.393	5.8	LOS A	2.7	19.2	0.56	0.57	0.56	56.1
5	T1	All MCs	316	2.0	316	2.0	0.393	5.8	LOS A	2.7	19.2	0.56	0.57	0.56	56.3
6	R2	All MCs	98	1.1	98	1.1	0.393	10.4	LOS A	2.7	19.2	0.56	0.57	0.56	55.9
6u	U	All MCs	1	0.0	1	0.0	0.393	12.5	LOS A	2.7	19.2	0.56	0.57	0.56	57.3
Approach			428	2.0	428	2.0	0.393	6.9	LOS A	2.7	19.2	0.56	0.57	0.56	56.2
North: Tomakin Road															
7	L2	All MCs	80	1.3	80	1.3	0.290	6.7	LOS A	1.8	13.2	0.66	0.68	0.66	55.6
8	T1	All MCs	40	5.3	40	5.3	0.290	7.1	LOS A	1.8	13.2	0.66	0.68	0.66	51.0
9	R2	All MCs	137	6.9	137	6.9	0.290	11.8	LOS A	1.8	13.2	0.66	0.68	0.66	50.1
9u	U	All MCs	1	0.0	1	0.0	0.290	13.6	LOS A	1.8	13.2	0.66	0.68	0.66	50.3
Approach			258	4.9	258	4.9	0.290	9.5	LOS A	1.8	13.2	0.66	0.68	0.66	52.9
West: George Bass Drive															
10	L2	All MCs	153	2.1	153	2.1	0.472	5.0	LOS A	3.6	25.8	0.48	0.51	0.48	52.4
11	T1	All MCs	352	3.3	352	3.3	0.472	5.2	LOS A	3.6	25.8	0.48	0.51	0.48	56.6
12	R2	All MCs	56	3.8	56	3.8	0.472	9.9	LOS A	3.6	25.8	0.48	0.51	0.48	51.8
12u	U	All MCs	28	0.0	28	0.0	0.472	11.9	LOS A	3.6	25.8	0.48	0.51	0.48	52.0
Approach			588	2.9	588	2.9	0.472	6.0	LOS A	3.6	25.8	0.48	0.51	0.48	55.6
All Vehicles			1407	2.8	1407	2.8	0.472	7.1	LOS A	3.6	25.8	0.55	0.57	0.55	55.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekend Mid-day (Site Folder: Existing + Dev792 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	249	2.5	249	2.5	0.224	5.0	LOS A	1.5	11.1	0.41	0.46	0.41	58.3
6	R2	All MCs	19	0.0	19	0.0	0.224	9.6	LOS A	1.5	11.1	0.41	0.46	0.41	57.2
6u	U	All MCs	1	0.0	1	0.0	0.224	11.7	LOS A	1.5	11.1	0.41	0.46	0.41	58.3
Approach			269	2.3	269	2.3	0.224	5.4	LOS A	1.5	11.1	0.41	0.46	0.41	58.2
North: Road 01															
7	L2	All MCs	21	0.0	21	0.0	0.162	6.1	LOS A	1.0	6.8	0.55	0.65	0.55	56.4
9	R2	All MCs	139	0.0	139	0.0	0.162	11.0	LOS A	1.0	6.8	0.55	0.65	0.55	55.1
9u	U	All MCs	1	0.0	1	0.0	0.162	13.0	LOS A	1.0	6.8	0.55	0.65	0.55	49.9
Approach			161	0.0	161	0.0	0.162	10.4	LOS A	1.0	6.8	0.55	0.65	0.55	55.3
West: George Bass Drive															
10	L2	All MCs	108	0.0	108	0.0	0.294	3.9	LOS A	2.3	16.2	0.15	0.40	0.15	57.4
11	T1	All MCs	349	3.6	349	3.6	0.294	4.2	LOS A	2.3	16.2	0.15	0.40	0.15	58.7
12u	U	All MCs	1	0.0	1	0.0	0.294	10.9	LOS A	2.3	16.2	0.15	0.40	0.15	58.1
Approach			459	2.8	459	2.8	0.294	4.2	LOS A	2.3	16.2	0.15	0.40	0.15	58.5
All Vehicles			889	2.1	889	2.1	0.294	5.6	LOS A	2.3	16.2	0.30	0.46	0.30	58.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekend Mid-day (Site Folder: Existing + Dev792 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	60	0.0	60	0.0	0.266	4.9	LOS A	1.6	11.1	0.40	0.48	0.40	57.5
2	T1	All MCs	242	0.0	242	0.0	0.266	5.1	LOS A	1.6	11.1	0.40	0.48	0.40	57.8
3	R2	All MCs	19	0.0	19	0.0	0.266	9.7	LOS A	1.6	11.1	0.40	0.48	0.40	57.3
3u	U	All MCs	1	0.0	1	0.0	0.266	11.7	LOS A	1.6	11.1	0.40	0.48	0.40	58.3
Approach			322	0.0	322	0.0	0.266	5.3	LOS A	1.6	11.1	0.40	0.48	0.40	57.7
East: Rosedale Parade															
4	L2	All MCs	16	6.7	16	6.7	0.029	5.8	LOS A	0.1	1.1	0.48	0.60	0.48	57.0
5	T1	All MCs	1	0.0	1	0.0	0.029	5.8	LOS A	0.1	1.1	0.48	0.60	0.48	52.3
6	R2	All MCs	11	10.0	11	10.0	0.029	10.7	LOS A	0.1	1.1	0.48	0.60	0.48	52.7
6u	U	All MCs	1	0.0	1	0.0	0.029	12.4	LOS A	0.1	1.1	0.48	0.60	0.48	51.5
Approach			28	7.4	28	7.4	0.029	7.8	LOS A	0.1	1.1	0.48	0.60	0.48	55.9
North: George Bass Drive															
7	L2	All MCs	15	0.0	15	0.0	0.240	4.3	LOS A	1.5	10.3	0.27	0.53	0.27	53.6
8	T1	All MCs	144	1.5	144	1.5	0.240	4.5	LOS A	1.5	10.3	0.27	0.53	0.27	57.5
9	R2	All MCs	165	0.0	165	0.0	0.240	9.1	LOS A	1.5	10.3	0.27	0.53	0.27	53.2
9u	U	All MCs	1	0.0	1	0.0	0.240	11.2	LOS A	1.5	10.3	0.27	0.53	0.27	54.2
Approach			325	0.6	325	0.6	0.240	6.9	LOS A	1.5	10.3	0.27	0.53	0.27	56.0
West: Saltwood Drive															
10	L2	All MCs	65	0.0	65	0.0	0.120	5.2	LOS A	0.7	4.6	0.45	0.60	0.45	53.3
11	T1	All MCs	1	0.0	1	0.0	0.120	5.4	LOS A	0.7	4.6	0.45	0.60	0.45	52.2
12	R2	All MCs	63	0.0	63	0.0	0.120	10.0	LOS A	0.7	4.6	0.45	0.60	0.45	56.8
12u	U	All MCs	1	0.0	1	0.0	0.120	12.1	LOS A	0.7	4.6	0.45	0.60	0.45	51.4
Approach			131	0.0	131	0.0	0.120	7.6	LOS A	0.7	4.6	0.45	0.60	0.45	55.7
All Vehicles			806	0.5	806	0.5	0.266	6.4	LOS A	1.6	11.1	0.36	0.53	0.36	56.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekend Mid-day (Site Folder: Existing + Dev792 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	19	0.0	19	0.0	0.165	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	57.7
2	T1	All MCs	301	0.3	301	0.3	0.165	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.7
Approach			320	0.3	320	0.3	0.165	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.5
North: George Bass Drive															
8	T1	All MCs	325	0.6	325	0.6	0.168	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			325	0.6	325	0.6	0.168	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Bullock Road															
10	L2	All MCs	119	0.0	119	0.0	0.096	6.6	LOS A	0.4	2.7	0.37	0.61	0.37	51.8
Approach			119	0.0	119	0.0	0.096	6.6	LOS A	0.4	2.7	0.37	0.61	0.37	51.8
All Vehicles			764	0.4	764	0.4	0.168	1.2	NA	0.4	2.7	0.06	0.11	0.06	58.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 105 [(I-5) Bullock Road / Purdie Parade_Weekend Mid-day (Site Folder: Existing + Dev792 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Purdie Parade															
1	L2	All MCs	1	0.0	1	0.0	0.003	4.0	LOS A	0.0	0.1	0.10	0.56	0.10	52.5
2	T1	All MCs	1	0.0	1	0.0	0.003	4.1	LOS A	0.0	0.1	0.10	0.56	0.10	52.8
3	R2	All MCs	1	0.0	1	0.0	0.003	8.8	LOS A	0.0	0.1	0.10	0.56	0.10	52.0
3u	U	All MCs	1	0.0	1	0.0	0.003	10.8	LOS A	0.0	0.1	0.10	0.56	0.10	52.0
Approach			4	0.0	4	0.0	0.003	6.9	LOS A	0.0	0.1	0.10	0.56	0.10	52.3
East: Bullock Road															
4	L2	All MCs	1	0.0	1	0.0	0.014	3.9	LOS A	0.1	0.5	0.05	0.44	0.05	54.2
5	T1	All MCs	18	0.0	18	0.0	0.014	4.1	LOS A	0.1	0.5	0.05	0.44	0.05	54.6
6	R2	All MCs	1	0.0	1	0.0	0.014	8.7	LOS A	0.1	0.5	0.05	0.44	0.05	53.7
6u	U	All MCs	1	0.0	1	0.0	0.014	10.8	LOS A	0.1	0.5	0.05	0.44	0.05	53.7
Approach			21	0.0	21	0.0	0.014	4.6	LOS A	0.1	0.5	0.05	0.44	0.05	54.5
North: Purdie Parade															
7	L2	All MCs	1	0.0	1	0.0	0.003	4.4	LOS A	0.0	0.1	0.25	0.54	0.25	52.0
8	T1	All MCs	1	0.0	1	0.0	0.003	4.5	LOS A	0.0	0.1	0.25	0.54	0.25	52.4
9	R2	All MCs	1	0.0	1	0.0	0.003	9.2	LOS A	0.0	0.1	0.25	0.54	0.25	51.5
9u	U	All MCs	1	0.0	1	0.0	0.003	11.2	LOS A	0.0	0.1	0.25	0.54	0.25	51.5
Approach			4	0.0	4	0.0	0.003	7.3	LOS A	0.0	0.1	0.25	0.54	0.25	51.9
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.076	3.9	LOS A	0.4	2.5	0.04	0.40	0.04	54.6
11	T1	All MCs	118	0.0	118	0.0	0.076	4.1	LOS A	0.4	2.5	0.04	0.40	0.04	55.0
12	R2	All MCs	1	0.0	1	0.0	0.076	8.7	LOS A	0.4	2.5	0.04	0.40	0.04	54.1
12u	U	All MCs	1	0.0	1	0.0	0.076	10.8	LOS A	0.4	2.5	0.04	0.40	0.04	54.1
Approach			121	0.0	121	0.0	0.076	4.2	LOS A	0.4	2.5	0.04	0.40	0.04	55.0
All Vehicles			151	0.0	151	0.0	0.076	4.4	LOS A	0.4	2.5	0.05	0.42	0.05	54.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 106 [(I-6) Princess Highway / Tomakin Road_Weekday AM (Site Folder: Existing + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	445	5.9	445	5.9	0.271	0.2	LOS A	0.4	2.9	0.10	0.12	0.10	59.1
3	R2	All MCs	39	5.4	39	5.4	0.271	7.4	LOS A	0.4	2.9	0.10	0.12	0.10	56.1
Approach			484	5.9	484	5.9	0.271	0.8	NA	0.4	2.9	0.10	0.12	0.10	58.9
East: Tomakin Road (E)															
4	L2	All MCs	45	7.0	45	7.0	0.455	8.1	LOS A	2.3	16.5	0.66	0.94	0.96	48.0
6	R2	All MCs	224	1.4	224	1.4	0.455	13.0	LOS A	2.3	16.5	0.66	0.94	0.96	47.9
Approach			269	2.3	269	2.3	0.455	12.2	LOS A	2.3	16.5	0.66	0.94	0.96	48.0
North: Princess Highway (N)															
7	L2	All MCs	125	5.0	125	5.0	0.204	5.6	LOS A	0.0	0.0	0.00	0.20	0.00	55.5
8	T1	All MCs	244	10.3	244	10.3	0.204	0.1	LOS A	0.0	0.0	0.00	0.20	0.00	58.0
Approach			369	8.5	369	8.5	0.204	2.0	NA	0.0	0.0	0.00	0.20	0.00	57.1
All Vehicles			1123	5.9	1123	5.9	0.455	3.9	NA	2.3	16.5	0.20	0.34	0.27	55.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 106 [(I-6) Princess Highway / Tomakin Road_Weekday PM (Site Folder: Existing + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	433	6.6	433	6.6	0.288	0.7	LOS A	0.7	4.8	0.17	0.21	0.17	58.5
3	R2	All MCs	46	2.3	46	2.3	0.288	9.4	LOS A	0.7	4.8	0.17	0.21	0.17	55.6
Approach			479	6.2	479	6.2	0.288	1.6	NA	0.7	4.8	0.17	0.21	0.17	58.2
East: Tomakin Road (E)															
4	L2	All MCs	41	2.6	41	2.6	0.426	9.3	LOS A	1.8	12.9	0.75	0.99	1.05	46.4
6	R2	All MCs	143	2.9	143	2.9	0.426	16.6	LOS B	1.8	12.9	0.75	0.99	1.05	46.2
Approach			184	2.9	184	2.9	0.426	15.0	LOS B	1.8	12.9	0.75	0.99	1.05	46.2
North: Princess Highway (N)															
7	L2	All MCs	209	1.0	209	1.0	0.356	5.7	LOS A	0.0	0.0	0.00	0.19	0.00	55.7
8	T1	All MCs	459	4.6	459	4.6	0.356	0.1	LOS A	0.0	0.0	0.00	0.19	0.00	58.1
Approach			668	3.5	668	3.5	0.356	1.9	NA	0.0	0.0	0.00	0.19	0.00	57.3
All Vehicles			1332	4.3	1332	4.3	0.426	3.6	NA	1.8	12.9	0.16	0.31	0.21	55.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 106 [(I-6) Princess Highway / Tomakin Road_Weekend Mid-day (Site Folder: Existing + Dev792 - Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	366	1.4	366	1.4	0.225	0.4	LOS A	0.4	2.8	0.13	0.16	0.13	58.9
3	R2	All MCs	38	0.0	38	0.0	0.225	7.7	LOS A	0.4	2.8	0.13	0.16	0.13	56.2
Approach			404	1.3	404	1.3	0.225	1.0	NA	0.4	2.8	0.13	0.16	0.13	58.7
East: Tomakin Road (E)															
4	L2	All MCs	51	2.1	51	2.1	0.462	8.1	LOS A	2.4	16.8	0.65	0.94	0.95	48.4
6	R2	All MCs	239	0.4	239	0.4	0.462	12.5	LOS A	2.4	16.8	0.65	0.94	0.95	48.3
Approach			289	0.7	289	0.7	0.462	11.7	LOS A	2.4	16.8	0.65	0.94	0.95	48.3
North: Princess Highway (N)															
7	L2	All MCs	191	1.7	191	1.7	0.257	5.6	LOS A	0.0	0.0	0.00	0.23	0.00	55.4
8	T1	All MCs	297	1.1	297	1.1	0.257	0.1	LOS A	0.0	0.0	0.00	0.23	0.00	57.8
Approach			487	1.3	487	1.3	0.257	2.2	NA	0.0	0.0	0.00	0.23	0.00	56.9
All Vehicles			1181	1.2	1181	1.2	0.462	4.2	NA	2.4	16.8	0.20	0.38	0.28	55.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekday AM (Site Folder: Existing + Growth + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	54	0.0	54	0.0	0.238	15.6	LOS B	1.8	12.6	1.00	0.83	1.00	46.5
2	T1	All MCs	24	0.0	24	0.0	0.238	15.8	LOS B	1.8	12.6	1.00	0.83	1.00	46.8
3	R2	All MCs	5	0.0	5	0.0	0.238	20.4	LOS B	1.8	12.6	1.00	0.83	1.00	53.1
3u	U	All MCs	1	0.0	1	0.0	0.238	22.5	LOS B	1.8	12.6	1.00	0.83	1.00	46.1
Approach			84	0.0	84	0.0	0.238	16.1	LOS B	1.8	12.6	1.00	0.83	1.00	47.4
East: George Bass Drive															
4	L2	All MCs	11	0.0	11	0.0	0.841	12.9	LOS A	15.2	108.4	1.00	0.92	1.38	54.1
5	T1	All MCs	738	1.9	738	1.9	0.841	13.2	LOS A	15.2	108.4	1.00	0.92	1.38	54.3
6	R2	All MCs	122	2.6	122	2.6	0.841	17.9	LOS B	15.2	108.4	1.00	0.92	1.38	53.9
6u	U	All MCs	1	0.0	1	0.0	0.841	19.8	LOS B	15.2	108.4	1.00	0.92	1.38	56.0
Approach			872	1.9	872	1.9	0.841	13.9	LOS A	15.2	108.4	1.00	0.92	1.38	54.2
North: Tomakin Road															
7	L2	All MCs	54	7.8	54	7.8	0.382	6.9	LOS A	2.6	18.8	0.68	0.69	0.68	55.1
8	T1	All MCs	12	9.1	12	9.1	0.382	7.1	LOS A	2.6	18.8	0.68	0.69	0.68	50.2
9	R2	All MCs	280	4.1	280	4.1	0.382	11.6	LOS A	2.6	18.8	0.68	0.69	0.68	49.4
9u	U	All MCs	2	100.0	2	100.0	0.382	17.5	LOS B	2.6	18.8	0.68	0.69	0.68	46.4
Approach			347	5.5	347	5.5	0.382	10.7	LOS A	2.6	18.8	0.68	0.69	0.68	51.0
West: George Bass Drive															
10	L2	All MCs	234	5.0	234	5.0	0.522	5.1	LOS A	4.7	33.7	0.55	0.51	0.55	52.4
11	T1	All MCs	367	2.9	367	2.9	0.522	5.3	LOS A	4.7	33.7	0.55	0.51	0.55	56.7
12	R2	All MCs	31	3.4	31	3.4	0.522	9.9	LOS A	4.7	33.7	0.55	0.51	0.55	51.9
12u	U	All MCs	12	0.0	12	0.0	0.522	11.9	LOS A	4.7	33.7	0.55	0.51	0.55	52.0
Approach			643	3.6	643	3.6	0.522	5.5	LOS A	4.7	33.7	0.55	0.51	0.55	55.5
All Vehicles			1946	3.0	1946	3.0	0.841	10.7	LOS A	15.2	108.4	0.79	0.74	0.96	54.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekday AM (Site Folder: Existing + Growth + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	627	2.2	627	2.2	0.525	5.6	LOS A	4.9	35.2	0.59	0.49	0.59	58.1
6	R2	All MCs	14	0.0	14	0.0	0.525	10.2	LOS A	4.9	35.2	0.59	0.49	0.59	57.0
6u	U	All MCs	1	0.0	1	0.0	0.525	12.2	LOS A	4.9	35.2	0.59	0.49	0.59	58.1
Approach			642	2.1	642	2.1	0.525	5.7	LOS A	4.9	35.2	0.59	0.49	0.59	58.1
North: Road 01															
7	L2	All MCs	24	0.0	24	0.0	0.185	6.0	LOS A	1.1	7.8	0.54	0.65	0.54	56.4
9	R2	All MCs	162	0.0	162	0.0	0.185	10.9	LOS A	1.1	7.8	0.54	0.65	0.54	55.1
9u	U	All MCs	1	0.0	1	0.0	0.185	12.9	LOS A	1.1	7.8	0.54	0.65	0.54	49.9
Approach			187	0.0	187	0.0	0.185	10.3	LOS A	1.1	7.8	0.54	0.65	0.54	55.3
West: George Bass Drive															
10	L2	All MCs	76	0.0	76	0.0	0.255	3.9	LOS A	2.0	14.2	0.12	0.40	0.12	57.4
11	T1	All MCs	326	3.9	326	3.9	0.255	4.2	LOS A	2.0	14.2	0.12	0.40	0.12	58.7
12u	U	All MCs	1	0.0	1	0.0	0.255	10.8	LOS A	2.0	14.2	0.12	0.40	0.12	58.2
Approach			403	3.1	403	3.1	0.255	4.1	LOS A	2.0	14.2	0.12	0.40	0.12	58.5
All Vehicles			1233	2.1	1233	2.1	0.525	5.9	LOS A	4.9	35.2	0.43	0.49	0.43	57.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekday AM (Site Folder: Existing + Growth + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	44	0.0	44	0.0	0.226	4.6	LOS A	1.3	9.4	0.34	0.45	0.34	57.6
2	T1	All MCs	226	3.7	226	3.7	0.226	4.8	LOS A	1.3	9.4	0.34	0.45	0.34	57.9
3	R2	All MCs	8	12.5	8	12.5	0.226	9.6	LOS A	1.3	9.4	0.34	0.45	0.34	57.2
3u	U	All MCs	1	0.0	1	0.0	0.226	11.4	LOS A	1.3	9.4	0.34	0.45	0.34	58.4
Approach			280	3.4	280	3.4	0.226	4.9	LOS A	1.3	9.4	0.34	0.45	0.34	57.8
East: Rosedale Parade															
4	L2	All MCs	21	0.0	21	0.0	0.040	6.7	LOS A	0.2	1.6	0.59	0.65	0.59	56.9
5	T1	All MCs	1	0.0	1	0.0	0.040	6.8	LOS A	0.2	1.6	0.59	0.65	0.59	51.8
6	R2	All MCs	12	9.1	12	9.1	0.040	11.8	LOS A	0.2	1.6	0.59	0.65	0.59	52.3
6u	U	All MCs	1	0.0	1	0.0	0.040	13.5	LOS A	0.2	1.6	0.59	0.65	0.59	51.0
Approach			35	3.0	35	3.0	0.040	8.6	LOS A	0.2	1.6	0.59	0.65	0.59	55.8
North: George Bass Drive															
7	L2	All MCs	5	0.0	5	0.0	0.353	4.3	LOS A	2.5	17.5	0.31	0.47	0.31	54.1
8	T1	All MCs	360	2.6	360	2.6	0.353	4.6	LOS A	2.5	17.5	0.31	0.47	0.31	57.7
9	R2	All MCs	119	0.9	119	0.9	0.353	9.2	LOS A	2.5	17.5	0.31	0.47	0.31	53.7
9u	U	All MCs	1	0.0	1	0.0	0.353	11.2	LOS A	2.5	17.5	0.31	0.47	0.31	54.7
Approach			485	2.2	485	2.2	0.353	5.7	LOS A	2.5	17.5	0.31	0.47	0.31	57.2
West: Saltwood Drive															
10	L2	All MCs	69	0.0	69	0.0	0.130	5.1	LOS A	0.7	4.9	0.43	0.60	0.43	53.3
11	T1	All MCs	1	0.0	1	0.0	0.130	5.3	LOS A	0.7	4.9	0.43	0.60	0.43	52.2
12	R2	All MCs	73	0.0	73	0.0	0.130	9.9	LOS A	0.7	4.9	0.43	0.60	0.43	56.8
12u	U	All MCs	1	0.0	1	0.0	0.130	12.0	LOS A	0.7	4.9	0.43	0.60	0.43	51.4
Approach			144	0.0	144	0.0	0.130	7.6	LOS A	0.7	4.9	0.43	0.60	0.43	55.8
All Vehicles			944	2.2	944	2.2	0.353	5.9	LOS A	2.5	17.5	0.35	0.49	0.35	57.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekday AM (Site Folder: Existing + Growth + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday AM Peak
Survey Date: 22 November 2023
Peak Hour: 8:00am - 9:00am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	14	0.0	14	0.0	0.168	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	36.2
2	T1	All MCs	307	3.1	307	3.1	0.168	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach			321	3.0	321	3.0	0.168	0.3	NA	0.0	0.0	0.00	0.03	0.00	58.7
North: George Bass Drive															
8	T1	All MCs	496	2.1	496	2.1	0.258	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			496	2.1	496	2.1	0.258	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Bullock Road															
10	L2	All MCs	139	0.0	139	0.0	0.113	5.4	LOS A	0.5	3.2	0.38	0.61	0.38	48.4
Approach			139	0.0	139	0.0	0.113	5.4	LOS A	0.5	3.2	0.38	0.61	0.38	48.4
All Vehicles			956	2.1	956	2.1	0.258	0.9	NA	0.5	3.2	0.06	0.10	0.06	58.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 105 [(I-5) Bullock Road / Purdie Parade_Weekday AM (Site Folder: Existing + Growth + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Purdie Parade															
1	L2	All MCs	1	0.0	1	0.0	0.003	3.9	LOS A	0.0	0.1	0.08	0.56	0.08	52.5
2	T1	All MCs	1	0.0	1	0.0	0.003	4.1	LOS A	0.0	0.1	0.08	0.56	0.08	52.9
3	R2	All MCs	1	0.0	1	0.0	0.003	8.7	LOS A	0.0	0.1	0.08	0.56	0.08	30.8
3u	U	All MCs	1	0.0	1	0.0	0.003	10.8	LOS A	0.0	0.1	0.08	0.56	0.08	52.0
Approach			4	0.0	4	0.0	0.003	6.9	LOS A	0.0	0.1	0.08	0.56	0.08	47.1
East: Bullock Road															
4	L2	All MCs	1	0.0	1	0.0	0.011	2.8	LOS A	0.1	0.4	0.05	0.44	0.05	51.7
5	T1	All MCs	13	0.0	13	0.0	0.011	3.1	LOS A	0.1	0.4	0.05	0.44	0.05	52.3
6	R2	All MCs	1	0.0	1	0.0	0.011	7.5	LOS A	0.1	0.4	0.05	0.44	0.05	50.9
6u	U	All MCs	1	0.0	1	0.0	0.011	9.6	LOS A	0.1	0.4	0.05	0.44	0.05	13.7
Approach			16	0.0	16	0.0	0.011	3.8	LOS A	0.1	0.4	0.05	0.44	0.05	49.6
North: Purdie Parade															
7	L2	All MCs	1	0.0	1	0.0	0.003	4.4	LOS A	0.0	0.1	0.28	0.54	0.28	30.4
8	T1	All MCs	1	0.0	1	0.0	0.003	4.6	LOS A	0.0	0.1	0.28	0.54	0.28	52.3
9	R2	All MCs	1	0.0	1	0.0	0.003	9.3	LOS A	0.0	0.1	0.28	0.54	0.28	51.5
9u	U	All MCs	1	0.0	1	0.0	0.003	11.3	LOS A	0.0	0.1	0.28	0.54	0.28	51.5
Approach			4	0.0	4	0.0	0.003	7.4	LOS A	0.0	0.1	0.28	0.54	0.28	46.5
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.087	3.9	LOS A	0.4	2.9	0.04	0.40	0.04	54.6
11	T1	All MCs	138	0.0	138	0.0	0.087	4.1	LOS A	0.4	2.9	0.04	0.40	0.04	32.3
12	R2	All MCs	1	0.0	1	0.0	0.087	8.7	LOS A	0.4	2.9	0.04	0.40	0.04	54.1
12u	U	All MCs	1	0.0	1	0.0	0.087	10.8	LOS A	0.4	2.9	0.04	0.40	0.04	54.1
Approach			141	0.0	141	0.0	0.087	4.1	LOS A	0.4	2.9	0.04	0.40	0.04	32.9
All Vehicles			165	0.0	165	0.0	0.087	4.3	LOS A	0.4	2.9	0.05	0.41	0.05	34.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekday PM (Site Folder: Existing + Growth + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	38	2.8	38	2.8	0.069	7.3	LOS A	0.4	2.8	0.66	0.67	0.66	51.5
2	T1	All MCs	7	0.0	7	0.0	0.069	7.4	LOS A	0.4	2.8	0.66	0.67	0.66	51.9
3	R2	All MCs	8	0.0	8	0.0	0.069	12.0	LOS A	0.4	2.8	0.66	0.67	0.66	55.8
3u	U	All MCs	1	0.0	1	0.0	0.069	14.1	LOS A	0.4	2.8	0.66	0.67	0.66	51.1
Approach			55	1.9	55	1.9	0.069	8.2	LOS A	0.4	2.8	0.66	0.67	0.66	52.8
East: George Bass Drive															
4	L2	All MCs	7	0.0	7	0.0	0.404	5.3	LOS A	2.9	21.0	0.55	0.54	0.55	56.3
5	T1	All MCs	381	2.5	381	2.5	0.404	5.6	LOS A	2.9	21.0	0.55	0.54	0.55	56.5
6	R2	All MCs	65	4.8	65	4.8	0.404	10.3	LOS A	2.9	21.0	0.55	0.54	0.55	56.0
6u	U	All MCs	1	0.0	1	0.0	0.404	12.2	LOS A	2.9	21.0	0.55	0.54	0.55	57.4
Approach			455	2.8	455	2.8	0.404	6.3	LOS A	2.9	21.0	0.55	0.54	0.55	56.4
North: Tomakin Road															
7	L2	All MCs	93	4.5	93	4.5	0.356	8.6	LOS A	2.4	17.0	0.78	0.74	0.78	54.9
8	T1	All MCs	17	6.3	17	6.3	0.356	8.9	LOS A	2.4	17.0	0.78	0.74	0.78	49.7
9	R2	All MCs	160	2.6	160	2.6	0.356	13.3	LOS A	2.4	17.0	0.78	0.74	0.78	49.0
9u	U	All MCs	1	0.0	1	0.0	0.356	15.2	LOS B	2.4	17.0	0.78	0.74	0.78	49.1
Approach			271	3.5	271	3.5	0.356	11.4	LOS A	2.4	17.0	0.78	0.74	0.78	52.1
West: George Bass Drive															
10	L2	All MCs	169	1.2	169	1.2	0.577	4.6	LOS A	5.6	39.4	0.41	0.44	0.41	52.9
11	T1	All MCs	602	1.0	602	1.0	0.577	4.7	LOS A	5.6	39.4	0.41	0.44	0.41	56.9
12	R2	All MCs	37	5.7	37	5.7	0.577	9.5	LOS A	5.6	39.4	0.41	0.44	0.41	52.2
12u	U	All MCs	9	11.1	9	11.1	0.577	11.6	LOS A	5.6	39.4	0.41	0.44	0.41	52.0
Approach			818	1.4	818	1.4	0.577	5.0	LOS A	5.6	39.4	0.41	0.44	0.41	56.3
All Vehicles			1598	2.2	1598	2.2	0.577	6.6	LOS A	5.6	39.4	0.52	0.53	0.52	55.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekday PM (Site Folder: Existing + Growth + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	346	2.7	346	2.7	0.282	4.7	LOS A	2.2	15.5	0.34	0.43	0.34	58.3
6	R2	All MCs	26	0.0	26	0.0	0.282	9.3	LOS A	2.2	15.5	0.34	0.43	0.34	57.3
6u	U	All MCs	1	0.0	1	0.0	0.282	11.3	LOS A	2.2	15.5	0.34	0.43	0.34	58.4
Approach			374	2.5	374	2.5	0.282	5.0	LOS A	2.2	15.5	0.34	0.43	0.34	58.3
North: Road 01															
7	L2	All MCs	13	0.0	13	0.0	0.114	7.2	LOS A	0.7	4.8	0.64	0.69	0.64	56.1
9	R2	All MCs	85	0.0	85	0.0	0.114	12.0	LOS A	0.7	4.8	0.64	0.69	0.64	54.8
9u	U	All MCs	1	0.0	1	0.0	0.114	14.1	LOS A	0.7	4.8	0.64	0.69	0.64	49.2
Approach			99	0.0	99	0.0	0.114	11.4	LOS A	0.7	4.8	0.64	0.69	0.64	54.9
West: George Bass Drive															
10	L2	All MCs	154	0.0	154	0.0	0.427	4.0	LOS A	3.8	27.0	0.20	0.40	0.20	57.3
11	T1	All MCs	513	2.3	513	2.3	0.427	4.3	LOS A	3.8	27.0	0.20	0.40	0.20	58.6
12u	U	All MCs	1	0.0	1	0.0	0.427	10.9	LOS A	3.8	27.0	0.20	0.40	0.20	58.1
Approach			667	1.7	667	1.7	0.427	4.2	LOS A	3.8	27.0	0.20	0.40	0.20	58.4
All Vehicles			1140	1.8	1140	1.8	0.427	5.1	LOS A	3.8	27.0	0.28	0.43	0.28	58.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekday PM (Site Folder: Existing + Growth + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	83	0.0	83	0.0	0.373	5.4	LOS A	2.4	17.4	0.51	0.52	0.51	57.3
2	T1	All MCs	323	3.6	323	3.6	0.373	5.7	LOS A	2.4	17.4	0.51	0.52	0.51	57.6
3	R2	All MCs	13	0.0	13	0.0	0.373	10.2	LOS A	2.4	17.4	0.51	0.52	0.51	57.1
3u	U	All MCs	1	0.0	1	0.0	0.373	12.3	LOS A	2.4	17.4	0.51	0.52	0.51	58.3
Approach			420	2.8	420	2.8	0.373	5.8	LOS A	2.4	17.4	0.51	0.52	0.51	57.6
East: Rosedale Parade															
4	L2	All MCs	12	9.1	12	9.1	0.024	6.6	LOS A	0.1	0.9	0.56	0.62	0.56	56.7
5	T1	All MCs	1	0.0	1	0.0	0.024	6.5	LOS A	0.1	0.9	0.56	0.62	0.56	51.7
6	R2	All MCs	7	0.0	7	0.0	0.024	11.2	LOS A	0.1	0.9	0.56	0.62	0.56	52.5
6u	U	All MCs	1	0.0	1	0.0	0.024	13.2	LOS A	0.1	0.9	0.56	0.62	0.56	50.9
Approach			21	5.0	21	5.0	0.024	8.5	LOS A	0.1	0.9	0.56	0.62	0.56	55.6
North: George Bass Drive															
7	L2	All MCs	20	0.0	20	0.0	0.340	4.2	LOS A	2.4	16.7	0.24	0.52	0.24	53.8
8	T1	All MCs	237	1.8	237	1.8	0.340	4.4	LOS A	2.4	16.7	0.24	0.52	0.24	57.5
9	R2	All MCs	236	0.4	236	0.4	0.340	9.0	LOS A	2.4	16.7	0.24	0.52	0.24	53.3
9u	U	All MCs	1	0.0	1	0.0	0.340	11.1	LOS A	2.4	16.7	0.24	0.52	0.24	54.4
Approach			494	1.1	494	1.1	0.340	6.6	LOS A	2.4	16.7	0.24	0.52	0.24	56.2
West: Saltwood Drive															
10	L2	All MCs	44	0.0	44	0.0	0.086	5.6	LOS A	0.5	3.3	0.51	0.62	0.51	53.3
11	T1	All MCs	3	0.0	3	0.0	0.086	5.7	LOS A	0.5	3.3	0.51	0.62	0.51	52.1
12	R2	All MCs	39	0.0	39	0.0	0.086	10.4	LOS A	0.5	3.3	0.51	0.62	0.51	56.8
12u	U	All MCs	1	0.0	1	0.0	0.086	12.4	LOS A	0.5	3.3	0.51	0.62	0.51	51.3
Approach			87	0.0	87	0.0	0.086	7.8	LOS A	0.5	3.3	0.51	0.62	0.51	55.5
All Vehicles			1022	1.8	1022	1.8	0.373	6.4	LOS A	2.4	17.4	0.38	0.53	0.38	56.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekday PM (Site Folder: Existing + Growth + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekday PM Peak
Survey Date: 22 November 2023
Peak Hour: 3:30pm - 4:30pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	26	0.0	26	0.0	0.205	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	36.2
2	T1	All MCs	365	3.2	365	3.2	0.205	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
Approach			392	3.0	392	3.0	0.205	0.5	NA	0.0	0.0	0.00	0.04	0.00	57.9
North: George Bass Drive															
8	T1	All MCs	518	1.0	518	1.0	0.267	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			518	1.0	518	1.0	0.267	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Bullock Road															
10	L2	All MCs	74	0.0	74	0.0	0.064	5.6	LOS A	0.2	1.7	0.41	0.62	0.41	48.3
Approach			74	0.0	74	0.0	0.064	5.6	LOS A	0.2	1.7	0.41	0.62	0.41	48.3
All Vehicles			983	1.7	983	1.7	0.267	0.6	NA	0.2	1.7	0.03	0.06	0.03	58.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 105 [(I-5) Bullock Road / Purdie Parade_Weekday AM (Site Folder: Existing + Growth + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Purdie Parade															
1	L2	All MCs	1	0.0	1	0.0	0.003	4.0	LOS A	0.0	0.1	0.12	0.56	0.12	52.4
2	T1	All MCs	1	0.0	1	0.0	0.003	4.2	LOS A	0.0	0.1	0.12	0.56	0.12	52.8
3	R2	All MCs	1	0.0	1	0.0	0.003	8.8	LOS A	0.0	0.1	0.12	0.56	0.12	30.7
3u	U	All MCs	1	0.0	1	0.0	0.003	10.9	LOS A	0.0	0.1	0.12	0.56	0.12	51.9
Approach			4	0.0	4	0.0	0.003	7.0	LOS A	0.0	0.1	0.12	0.56	0.12	47.0
East: Bullock Road															
4	L2	All MCs	1	0.0	1	0.0	0.019	2.8	LOS A	0.1	0.6	0.05	0.42	0.05	52.1
5	T1	All MCs	25	0.0	25	0.0	0.019	3.1	LOS A	0.1	0.6	0.05	0.42	0.05	52.7
6	R2	All MCs	1	0.0	1	0.0	0.019	7.5	LOS A	0.1	0.6	0.05	0.42	0.05	51.2
6u	U	All MCs	1	0.0	1	0.0	0.019	9.6	LOS A	0.1	0.6	0.05	0.42	0.05	13.7
Approach			28	0.0	28	0.0	0.019	3.5	LOS A	0.1	0.6	0.05	0.42	0.05	51.2
North: Purdie Parade															
7	L2	All MCs	1	0.0	1	0.0	0.003	4.2	LOS A	0.0	0.1	0.20	0.54	0.20	30.5
8	T1	All MCs	1	0.0	1	0.0	0.003	4.4	LOS A	0.0	0.1	0.20	0.54	0.20	52.5
9	R2	All MCs	1	0.0	1	0.0	0.003	9.0	LOS A	0.0	0.1	0.20	0.54	0.20	51.7
9u	U	All MCs	1	0.0	1	0.0	0.003	11.0	LOS A	0.0	0.1	0.20	0.54	0.20	51.7
Approach			4	0.0	4	0.0	0.003	7.1	LOS A	0.0	0.1	0.20	0.54	0.20	46.7
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.049	3.9	LOS A	0.2	1.6	0.04	0.41	0.04	54.6
11	T1	All MCs	73	0.0	73	0.0	0.049	4.1	LOS A	0.2	1.6	0.04	0.41	0.04	32.3
12	R2	All MCs	1	0.0	1	0.0	0.049	8.7	LOS A	0.2	1.6	0.04	0.41	0.04	54.0
12u	U	All MCs	1	0.0	1	0.0	0.049	10.8	LOS A	0.2	1.6	0.04	0.41	0.04	54.0
Approach			76	0.0	76	0.0	0.049	4.2	LOS A	0.2	1.6	0.04	0.41	0.04	33.3
All Vehicles			113	0.0	113	0.0	0.049	4.2	LOS A	0.2	1.6	0.05	0.42	0.05	37.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [(I-1) George Bass Drive / Sunpatch Parade / Tomakin Road_Weekend Mid-day (Site Folder: Existing + Growth + Dev792- Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sunpatch Parade															
1	L2	All MCs	69	1.5	69	1.5	0.192	8.7	LOS A	1.2	8.7	0.77	0.72	0.77	50.5
2	T1	All MCs	37	2.9	37	2.9	0.192	8.9	LOS A	1.2	8.7	0.77	0.72	0.77	50.9
3	R2	All MCs	25	0.0	25	0.0	0.192	13.4	LOS A	1.2	8.7	0.77	0.72	0.77	55.3
3u	U	All MCs	1	0.0	1	0.0	0.192	15.5	LOS B	1.2	8.7	0.77	0.72	0.77	50.1
Approach			133	1.6	133	1.6	0.192	9.7	LOS A	1.2	8.7	0.77	0.72	0.77	52.2
East: George Bass Drive															
4	L2	All MCs	14	7.7	14	7.7	0.531	6.1	LOS A	4.3	30.4	0.65	0.58	0.65	56.0
5	T1	All MCs	474	1.3	474	1.3	0.531	6.1	LOS A	4.3	30.4	0.65	0.58	0.65	56.2
6	R2	All MCs	98	1.1	98	1.1	0.531	10.7	LOS A	4.3	30.4	0.65	0.58	0.65	55.8
6u	U	All MCs	1	0.0	1	0.0	0.531	12.7	LOS A	4.3	30.4	0.65	0.58	0.65	57.3
Approach			586	1.4	586	1.4	0.531	6.9	LOS A	4.3	30.4	0.65	0.58	0.65	56.2
North: Tomakin Road															
7	L2	All MCs	80	1.3	80	1.3	0.359	8.5	LOS A	2.4	17.8	0.81	0.74	0.81	55.0
8	T1	All MCs	40	5.3	40	5.3	0.359	8.8	LOS A	2.4	17.8	0.81	0.74	0.81	49.9
9	R2	All MCs	137	6.9	137	6.9	0.359	13.6	LOS A	2.4	17.8	0.81	0.74	0.81	49.0
9u	U	All MCs	1	0.0	1	0.0	0.359	15.3	LOS B	2.4	17.8	0.81	0.74	0.81	49.2
Approach			258	4.9	258	4.9	0.359	11.3	LOS A	2.4	17.8	0.81	0.74	0.81	52.0
West: George Bass Drive															
10	L2	All MCs	153	2.1	153	2.1	0.622	5.3	LOS A	5.9	42.1	0.59	0.52	0.59	52.1
11	T1	All MCs	553	2.1	553	2.1	0.622	5.5	LOS A	5.9	42.1	0.59	0.52	0.59	56.5
12	R2	All MCs	56	3.8	56	3.8	0.622	10.2	LOS A	5.9	42.1	0.59	0.52	0.59	51.5
12u	U	All MCs	28	0.0	28	0.0	0.622	12.1	LOS A	5.9	42.1	0.59	0.52	0.59	51.6
Approach			789	2.1	789	2.1	0.622	6.0	LOS A	5.9	42.1	0.59	0.52	0.59	55.7
All Vehicles			1766	2.3	1766	2.3	0.622	7.4	LOS A	5.9	42.1	0.65	0.59	0.65	55.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 102 [(I-2) George Bass Drive / Road 01_Weekend Mid-day (Site Folder: Existing + Growth + Dev792- Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: George Bass Drive															
5	T1	All MCs	433	1.5	433	1.5	0.366	5.1	LOS A	3.0	21.4	0.48	0.46	0.48	58.2
6	R2	All MCs	19	0.0	19	0.0	0.366	9.7	LOS A	3.0	21.4	0.48	0.46	0.48	57.1
6u	U	All MCs	1	0.0	1	0.0	0.366	11.8	LOS A	3.0	21.4	0.48	0.46	0.48	58.2
Approach			453	1.4	453	1.4	0.366	5.3	LOS A	3.0	21.4	0.48	0.46	0.48	58.2
North: Road 01															
7	L2	All MCs	21	0.0	21	0.0	0.203	8.3	LOS A	1.3	9.0	0.72	0.72	0.72	55.8
9	R2	All MCs	139	0.0	139	0.0	0.203	13.2	LOS A	1.3	9.0	0.72	0.72	0.72	54.4
9u	U	All MCs	1	0.0	1	0.0	0.203	15.3	LOS B	1.3	9.0	0.72	0.72	0.72	48.4
Approach			161	0.0	161	0.0	0.203	12.6	LOS A	1.3	9.0	0.72	0.72	0.72	54.6
West: George Bass Drive															
10	L2	All MCs	108	0.0	108	0.0	0.454	4.0	LOS A	4.4	31.2	0.18	0.39	0.18	57.3
11	T1	All MCs	618	2.0	618	2.0	0.454	4.2	LOS A	4.4	31.2	0.18	0.39	0.18	58.6
12u	U	All MCs	1	0.0	1	0.0	0.454	10.9	LOS A	4.4	31.2	0.18	0.39	0.18	58.1
Approach			727	1.7	727	1.7	0.454	4.2	LOS A	4.4	31.2	0.18	0.39	0.18	58.5
All Vehicles			1341	1.4	1341	1.4	0.454	5.6	LOS A	4.4	31.2	0.34	0.45	0.34	58.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 103 [(I-3) George Bass Drive / Rosedale Parade / Saltwood Drive_Weekend Mid-day (Site Folder: Existing + Growth + Dev792- Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	60	0.0	60	0.0	0.419	5.0	LOS A	3.0	20.7	0.46	0.49	0.46	57.4
2	T1	All MCs	440	0.0	440	0.0	0.419	5.2	LOS A	3.0	20.7	0.46	0.49	0.46	57.7
3	R2	All MCs	19	0.0	19	0.0	0.419	9.8	LOS A	3.0	20.7	0.46	0.49	0.46	57.2
3u	U	All MCs	1	0.0	1	0.0	0.419	11.9	LOS A	3.0	20.7	0.46	0.49	0.46	58.3
Approach			520	0.0	520	0.0	0.419	5.4	LOS A	3.0	20.7	0.46	0.49	0.46	57.7
East: Rosedale Parade															
4	L2	All MCs	16	6.7	16	6.7	0.033	6.5	LOS A	0.2	1.2	0.56	0.63	0.56	56.8
5	T1	All MCs	1	0.0	1	0.0	0.033	6.4	LOS A	0.2	1.2	0.56	0.63	0.56	51.8
6	R2	All MCs	11	10.0	11	10.0	0.033	11.4	LOS A	0.2	1.2	0.56	0.63	0.56	52.3
6u	U	All MCs	1	0.0	1	0.0	0.033	13.1	LOS A	0.2	1.2	0.56	0.63	0.56	51.0
Approach			28	7.4	28	7.4	0.033	8.6	LOS A	0.2	1.2	0.56	0.63	0.56	55.6
North: George Bass Drive															
7	L2	All MCs	15	0.0	15	0.0	0.325	4.3	LOS A	2.2	15.7	0.30	0.50	0.30	53.8
8	T1	All MCs	266	0.8	266	0.8	0.325	4.5	LOS A	2.2	15.7	0.30	0.50	0.30	57.6
9	R2	All MCs	165	0.0	165	0.0	0.325	9.2	LOS A	2.2	15.7	0.30	0.50	0.30	53.4
9u	U	All MCs	1	0.0	1	0.0	0.325	11.2	LOS A	2.2	15.7	0.30	0.50	0.30	54.4
Approach			447	0.5	447	0.5	0.325	6.2	LOS A	2.2	15.7	0.30	0.50	0.30	56.7
West: Saltwood Drive															
10	L2	All MCs	65	0.0	65	0.0	0.141	6.4	LOS A	0.8	5.7	0.60	0.66	0.60	52.9
11	T1	All MCs	1	0.0	1	0.0	0.141	6.5	LOS A	0.8	5.7	0.60	0.66	0.60	51.6
12	R2	All MCs	63	0.0	63	0.0	0.141	11.2	LOS A	0.8	5.7	0.60	0.66	0.60	56.6
12u	U	All MCs	1	0.0	1	0.0	0.141	13.2	LOS A	0.8	5.7	0.60	0.66	0.60	50.8
Approach			131	0.0	131	0.0	0.141	8.8	LOS A	0.8	5.7	0.60	0.66	0.60	55.4
All Vehicles			1126	0.4	1126	0.4	0.419	6.2	LOS A	3.0	20.7	0.42	0.52	0.42	57.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 104 [(I-4) George Bass Drive / Bullock Road_Weekend Mid-day (Site Folder: Existing + Growth + Dev792- Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Existing - Weekend Mid-day Peak
Survey Date: 19 November 2023
Peak Hour: 12:00pm - 1:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: George Bass Drive															
1	L2	All MCs	19	0.0	19	0.0	0.275	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	57.7
2	T1	All MCs	516	0.2	516	0.2	0.275	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach			535	0.2	535	0.2	0.275	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.6
North: George Bass Drive															
8	T1	All MCs	466	0.5	466	0.5	0.240	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			466	0.5	466	0.5	0.240	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Bullock Road															
10	L2	All MCs	119	0.0	119	0.0	0.122	7.7	LOS A	0.5	3.3	0.50	0.72	0.50	51.3
Approach			119	0.0	119	0.0	0.122	7.7	LOS A	0.5	3.3	0.50	0.72	0.50	51.3
All Vehicles			1120	0.3	1120	0.3	0.275	1.0	NA	0.5	3.3	0.05	0.09	0.05	58.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 105 [(I-5) Bullock Road / Purdie Parade_Weekend Mid-day (Site Folder: Existing + Growth + Dev792- Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Purdie Parade															
1	L2	All MCs	1	0.0	1	0.0	0.003	4.0	LOS A	0.0	0.1	0.10	0.56	0.10	52.5
2	T1	All MCs	1	0.0	1	0.0	0.003	4.1	LOS A	0.0	0.1	0.10	0.56	0.10	52.8
3	R2	All MCs	1	0.0	1	0.0	0.003	8.8	LOS A	0.0	0.1	0.10	0.56	0.10	52.0
3u	U	All MCs	1	0.0	1	0.0	0.003	10.8	LOS A	0.0	0.1	0.10	0.56	0.10	52.0
Approach			4	0.0	4	0.0	0.003	6.9	LOS A	0.0	0.1	0.10	0.56	0.10	52.3
East: Bullock Road															
4	L2	All MCs	1	0.0	1	0.0	0.014	3.9	LOS A	0.1	0.5	0.05	0.44	0.05	54.2
5	T1	All MCs	18	0.0	18	0.0	0.014	4.1	LOS A	0.1	0.5	0.05	0.44	0.05	54.6
6	R2	All MCs	1	0.0	1	0.0	0.014	8.7	LOS A	0.1	0.5	0.05	0.44	0.05	53.7
6u	U	All MCs	1	0.0	1	0.0	0.014	10.8	LOS A	0.1	0.5	0.05	0.44	0.05	53.7
Approach			21	0.0	21	0.0	0.014	4.6	LOS A	0.1	0.5	0.05	0.44	0.05	54.5
North: Purdie Parade															
7	L2	All MCs	1	0.0	1	0.0	0.003	4.4	LOS A	0.0	0.1	0.25	0.54	0.25	52.0
8	T1	All MCs	1	0.0	1	0.0	0.003	4.5	LOS A	0.0	0.1	0.25	0.54	0.25	52.4
9	R2	All MCs	1	0.0	1	0.0	0.003	9.2	LOS A	0.0	0.1	0.25	0.54	0.25	51.5
9u	U	All MCs	1	0.0	1	0.0	0.003	11.2	LOS A	0.0	0.1	0.25	0.54	0.25	51.5
Approach			4	0.0	4	0.0	0.003	7.3	LOS A	0.0	0.1	0.25	0.54	0.25	51.9
West: Bullock Road															
10	L2	All MCs	1	0.0	1	0.0	0.076	3.9	LOS A	0.4	2.5	0.04	0.40	0.04	54.6
11	T1	All MCs	118	0.0	118	0.0	0.076	4.1	LOS A	0.4	2.5	0.04	0.40	0.04	55.0
12	R2	All MCs	1	0.0	1	0.0	0.076	8.7	LOS A	0.4	2.5	0.04	0.40	0.04	54.1
12u	U	All MCs	1	0.0	1	0.0	0.076	10.8	LOS A	0.4	2.5	0.04	0.40	0.04	54.1
Approach			121	0.0	121	0.0	0.076	4.2	LOS A	0.4	2.5	0.04	0.40	0.04	55.0
All Vehicles			151	0.0	151	0.0	0.076	4.4	LOS A	0.4	2.5	0.05	0.42	0.05	54.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 106 [(I-6) Princess Highway / Tomakin Road_Weekday AM (Site Folder: Existing + Growth + Dev792 - Weekday AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	533	4.9	533	4.9	0.318	0.3	LOS A	0.4	3.1	0.10	0.12	0.10	59.2
3	R2	All MCs	39	5.4	39	5.4	0.318	7.7	LOS A	0.4	3.1	0.10	0.12	0.10	56.2
Approach			572	5.0	572	5.0	0.318	0.8	NA	0.4	3.1	0.10	0.12	0.10	59.0
East: Tomakin Road (E)															
4	L2	All MCs	45	7.0	45	7.0	0.546	9.4	LOS A	2.9	20.5	0.75	1.04	1.23	46.2
6	R2	All MCs	224	1.4	224	1.4	0.546	16.3	LOS B	2.9	20.5	0.75	1.04	1.23	46.2
Approach			269	2.3	269	2.3	0.546	15.1	LOS B	2.9	20.5	0.75	1.04	1.23	46.2
North: Princess Highway (N)															
7	L2	All MCs	125	5.0	125	5.0	0.228	5.7	LOS A	0.0	0.0	0.00	0.18	0.00	55.7
8	T1	All MCs	292	8.7	292	8.7	0.228	0.1	LOS A	0.0	0.0	0.00	0.18	0.00	58.2
Approach			417	7.6	417	7.6	0.228	1.7	NA	0.0	0.0	0.00	0.18	0.00	57.4
All Vehicles			1258	5.3	1258	5.3	0.546	4.2	NA	2.9	20.5	0.20	0.33	0.31	55.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 106 [(I-6) Princess Highway / Tomakin Road_Weekday PM (Site Folder: Existing + Growth + Dev792 - Weekday PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	517	5.5	517	5.5	0.340	0.9	LOS A	0.8	5.9	0.17	0.21	0.17	58.4
3	R2	All MCs	46	2.3	46	2.3	0.340	10.5	LOS A	0.8	5.9	0.17	0.21	0.17	55.6
Approach			563	5.2	563	5.2	0.340	1.7	NA	0.8	5.9	0.17	0.21	0.17	58.1
East: Tomakin Road (E)															
4	L2	All MCs	41	2.6	41	2.6	0.559	12.1	LOS A	2.4	17.4	0.85	1.08	1.35	43.4
6	R2	All MCs	143	2.9	143	2.9	0.559	22.8	LOS B	2.4	17.4	0.85	1.08	1.35	43.2
Approach			184	2.9	184	2.9	0.559	20.4	LOS B	2.4	17.4	0.85	1.08	1.35	43.3
North: Princess Highway (N)															
7	L2	All MCs	209	1.0	209	1.0	0.402	5.7	LOS A	0.0	0.0	0.00	0.16	0.00	55.8
8	T1	All MCs	548	3.8	548	3.8	0.402	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	58.2
Approach			758	3.1	758	3.1	0.402	1.7	NA	0.0	0.0	0.00	0.16	0.00	57.6
All Vehicles			1505	3.8	1505	3.8	0.559	4.0	NA	2.4	17.4	0.17	0.29	0.23	55.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 106 [(I-6) Princess Highway / Tomakin Road_Weekend Mid-day (Site Folder: Existing + Growth + Dev792- Weekend Mid-day)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Princess Highway (S)															
2	T1	All MCs	438	1.2	438	1.2	0.264	0.4	LOS A	0.4	3.1	0.12	0.15	0.12	59.0
3	R2	All MCs	38	0.0	38	0.0	0.264	8.1	LOS A	0.4	3.1	0.12	0.15	0.12	56.3
Approach			476	1.1	476	1.1	0.264	1.0	NA	0.4	3.1	0.12	0.15	0.12	58.8
East: Tomakin Road (E)															
4	L2	All MCs	51	2.1	51	2.1	0.543	9.4	LOS A	2.9	20.5	0.74	1.03	1.20	46.9
6	R2	All MCs	239	0.4	239	0.4	0.543	15.2	LOS B	2.9	20.5	0.74	1.03	1.20	46.7
Approach			289	0.7	289	0.7	0.543	14.2	LOS A	2.9	20.5	0.74	1.03	1.20	46.8
North: Princess Highway (N)															
7	L2	All MCs	191	1.7	191	1.7	0.287	5.6	LOS A	0.0	0.0	0.00	0.21	0.00	55.6
8	T1	All MCs	355	0.9	355	0.9	0.287	0.1	LOS A	0.0	0.0	0.00	0.21	0.00	58.0
Approach			545	1.2	545	1.2	0.287	2.0	NA	0.0	0.0	0.00	0.21	0.00	57.1
All Vehicles			1311	1.0	1311	1.0	0.543	4.3	NA	2.9	20.5	0.21	0.37	0.31	55.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Appendix 5. Proposed Access Roundabout Drawing

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
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P1	01/02/24	FOR INFORMATION	PB	AM

DRAWING KEY

PROJECT
ROSEDALE SUBDIVISION

DRAWING TITLE
Concept Design Intersection - Road 01 / George Bass Drive

CLIENT	DEAN DAVIES
DRAWING #	PTC-001
PROJECT #	23-0674
SCALE	1 : 500 @ A1 1 : 1000 @ A3

PRELIMINARY

REV P1