M^CLAREN TRAFFIC ENGINEERING

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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

3 February 2025 Reference: 250068.01FA

AllenPrice
75 Plunkett Street
Nowra 2541
Attention: Sebastian Tauni

LETTER OF ADVICE
RESIDENTIAL SUBDIVISION
AT CAMPBELL STREET, GERRINGONG

Dear Sebastian,

Reference is made to your request to provide a letter of advice for the proposed Residential Subdivision at Campbell Street, Gerringong, with plans shown in **Annexure A** for reference. This letter of advice provides a summary of the investigations carried out to date in relation to a connection to Elambra Parade and the traffic impacts associated with this connection.

M^CLaren Traffic Engineering has historically undertaken a traffic and parking impact assessment for the Planning Proposal for the Elambra West Urban Release Area (reference 190601.01FA), which assessed a residential yield of 326 residential lots and assessed three (3) Access Options including:

- A public road connection to Campbell Street at the northern edge of the site;
- A public road connection to Elambra Parade at its intersection with Union Way, on the eastern edge of the site.

It should be noted that the current planning proposal is for a lesser development yield of 148 dwellings and hence the reproduced results provide a highly conservative assessment. A summary of the results for the subdivision with two (2) access points and a yield of 326 dwellings is reproduced in the following subsections:

1 Traffic Generation

The traffic generation of the indicative masterplan has been estimated based upon the most recent RMS published data for low-density residential dwellings, being the RMS *TDT 2013/04a* (an update to the *Guide to Traffic Generating Developments October 2002*), which provides the following rates:

> ***TDT 2013/04a***
>
> ***Low density residential dwellings***
>
> *Weekday average evening peak hour vehicle trips = 0.78 per dwelling in regional areas (maximum 0.90).*
>
> *Weekday average morning peak hour vehicle trips = 0.71 per dwelling in regional areas (maximum 0.85).*

The resulting traffic generation is summarised in **Table 1**.

TABLE 1: ESTIMATED TRAFFIC GENERATION

Scale	Period	Rate	Total Volume	Direction(1)
326 dwellings	AM Peak	0.71 per dwelling	231	46 in; 185 out
	PM Peak	0.78 per dwelling	254	203 in; 51 out
	Daily	7.4 per dwelling	2,412	NA

NOTES:

(1) Assumed traffic distribution of 20% inbound / 80% outbound in the AM peak period. Vice versa for PM peak

As shown in **Table 1**, it is expected that the peak traffic generation of the indicative masterplan is in the order of 231 trips (46 in; 185 out) in the AM peak hourly period, and 254 trips (203 in; 51 out) in the PM peak hourly period.

2 Traffic Assignment

The road network and the locations of residential areas and towns surrounding the site have been assessed and the following traffic assignment has been assumed for all traffic to and from the dwellings within the indicative masterplan for each scenario:

- 50% to/from the North via the Belinda Street/Princes Highway interchange
    - 50% to/from Campbell Street
- 20% to/from the North via the Fern Street/Princes Highway interchange
    - 10% to/from Greta Street
    - 5% to/from Campbell Street
    - 5% to/from Elambra Parade
- 15% to/from the South via Crooked River Road (Fern Street)
- 15% to/from Elambra Parade.

3 Traffic Impact

The traffic generation and distribution outlined in **Section 1 & 2** above has been added to the existing traffic volumes recorded. SIDRA INTERSECTION 8.0 was used to assess the intersections performance. The purpose of this assessment is to compare the existing intersection operations to the future scenario both in 2019 and 2029 under the increased traffic load. The results of the assessment with the development is summarised in **Table 3** below, with the base case SIDRA results (2019 and 2029) provided in Table 2. All SIDRA results are reproduced in **Annexure B** for reference.

TABLE 2: EXISTING INTERSECTION PERFORMANCES (SIDRA INTERSECTION 8.0)

Intersection	Peak Hour	Degree of Saturation(1)	Average Delay(2) (sec/veh)	Level of Service(3)	Control Type	Worst Movement	95th Percentile Queue
2019 EXISTING PERFORMANCE							
Campbell Street / Belinda Street	AM	0.16	1.2 (Worst: 12.1)	**NA** (Worst: A)	Stop	RT from Campbell Street	0.2 veh (1.8m) Campbell Street
	PM	0.17	1.2 (Worst: 13.7)	**NA** (Worst: A)		RT from Campbell Street	0.3 veh (1.8m) Campbell Street
Greta Street / Belinda Street	AM	0.21	6.5 (Worst: 10)	**A** (Worst: A)	Roundabout	UT from Belinda Street	1.2 veh (8.3m) Greta Street
	PM	0.24	6.4 (Worst: 11.1)	**A** (Worst: A)		UT from Greta Street	1.4 veh (10.3m) Belinda Street
Fern Street / Elambra Parade	AM	0.14	5.1 (Worst: 11)	**A** (Worst: A)	Roundabout	UT from Elambra Parade	0.7 veh (5.3m) Fern Street
	PM	0.25	5.1 (Worst: 10.4)	**A** (Worst: A)		UT from Fern Street	1.6 veh (11.2m) Fern Street
2029 GROWTH PERFORMANCE – With No Development							
Campbell Street / Belinda Street	AM	0.19	1.1 (Worst: 13.5)	**NA** (Worst: A)	Stop	RT from Campbell Street	0.3 veh (2.1m) Campbell Street
	PM	0.21	1.1 (Worst: 15.8)	**NA** (Worst: B)		RT from Campbell Street	0.3 veh (2.1m) Campbell Street
Greta Street / Belinda Street	AM	0.22	6.5 (Worst: 10)	**A** (Worst: A)	Roundabout	UT from Belinda Street	1.3 veh (9.2m) Belinda Street
	PM	0.27	6.4 (Worst: 11.4)	**A** (Worst: A)		UT from Greta Street	1.7 veh (12m) Belinda Street
Fern Street / Elambra Parade	AM	0.16	5 (Worst: 11.2)	**A** (Worst: A)	Roundabout	UT from Elambra Parade	0.9 veh (6.3m) Fern Street
	PM	0.29	5 (Worst: 10.5)	**A** (Worst: A)		UT from Fern Street	2 veh (14m) Fern Street

NOTES:
(1) The Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.
(2) The average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.
(3) The Level of Service is a qualitative measure of performance describing operational conditions. There are six levels of service, designated from A to F, with A representing the best operational condition and level of service F the worst. The LoS of the intersection is shown in bold, and the LoS of the most disadvantaged movement is shown in brackets.
(4) No overall Level of Service is provided for Give Way and Stop controlled intersections as the low delays associated with the dominant movements skew the average delay of the intersection. The Level of Service of the worst approach is an indicator of the operation of the intersection, with a worse Level of Service corresponding to long delays and reduced safety outcomes for that approach.

TABLE 3: FUTURE INTERSECTION PERFORMANCES

Intersection	Peak Hour	Degree of Saturation[1]	Average Delay[2] (sec/veh)	Level of Service[3]	Control Type	Worst Movement	95th Percentile Queue
2019 FUTURE PERFORMANCE							
Campbell Street / Belinda Street	AM	0.20	3.1 (Worst: 13.1)	**NA** (Worst: A)	Stop	RT from Campbell Street	0.8 veh (5.8m) Campbell Street
	PM	0.18	2.5 (Worst: 16.2)	**NA** (Worst: B)		RT from Campbell Street	0.6 veh (3.9m) Belinda Street
Greta Street / Belinda Street	AM	0.22	6.6 (Worst: 10.2)	**A** (Worst: A)	Roundabout	UT from Belinda Street	1.3 veh (9.1m) Greta Street
	PM	0.24	6.4 (Worst: 11.2)	**A** (Worst: A)		UT from Greta Street	1.5 veh (10.6m) Belinda Street
Fern Street / Elambra Parade	AM	0.15	5.4 (Worst: 11.1)	**A** (Worst: A)	Roundabout	UT from Elambra Parade	0.8 veh (5.6m) Fern Street
	PM	0.26	5.2 (Worst: 10.5)	**A** (Worst: A)		UT from Fern Street	1.7 veh (11.8m) Fern Street
2029 GROWTH PERFORMANCE – With Development							
Campbell Street / Belinda Street	AM	0.22	2.9 (Worst: 14.8)	**NA** (Worst: B)	Stop	RT from Campbell Street	0.9 veh (6.3m) Campbell Street
	PM	0.21	2.4 (Worst: 19)	**NA** (Worst: B)		RT from Campbell Street	0.6 veh (4.1m) Belinda Street
Greta Street / Belinda Street	AM	0.23	6.6 (Worst: 10.2)	**A** (Worst: A)	Roundabout	UT from Belinda Street	1.4 veh (9.8m) Belinda Street
	PM	0.27	6.4 (Worst: 11.4)	**A** (Worst: A)		UT from Greta Street	1.7 veh (12.3m) Belinda Street
Fern Street / Elambra Parade	AM	0.17	5.3 (Worst: 11.3)	**A** (Worst: A)	Roundabout	UT from Elambra Parade	0.9 veh (6.7m) Fern Street
	PM	0.31	5.2 (Worst: 10.5)	**A** (Worst: A)		UT from Fern Street	2.1 veh (14.7m) Fern Street

Note: - Refer to **Table 2**

The intersection of Fern Street/Elambra Parade operates at a Level of Service “A” in both 2019 and in 2029 (following 10-year growth), representing low approach delays and additional spare capacity. The intersection of Greta Street/Belinda Street intersection retains the Level of Service of “A” in both the AM and PM peaks. This is the best possible performance outcome for these intersections.

For Campbell Street/Belinda Street intersection the worst movement performance of the intersection in 2019 is the right turn from Campbell Street to Belinda Street which still operates under a Level of Service “B” during the PM peak. The increase in average delay for this right turn movement, when compared to the intersections existing operation, is only 2.5 seconds, which is a relatively minor increase.

The 2029 future performance of the Campbell Street/Belinda Street intersection has a worst movement performance, again being the right turn from Campbell Street to Belinda Street operating with a Level of Service “B” during both the AM and PM peaks. The increase in average delays experienced by this movement is only 1.3 seconds in the AM and 3.2 seconds in the PM, which is a relatively minor increase in average delay from the intersections existing operation.

Therefore, the performance of the assessed intersections inclusive of background traffic growth remains well within acceptable limits and is supportable in terms of its traffic impacts.

4 Residential Amenity

The *RMS Guide to Traffic Generating Developments* provides environmental capacity criteria for local roads in Table 4.6, which is introduced in **Figure 1** for reference.

Table 4.6
Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

FIGURE 1: EXTRACT FROM RMS GUIDE – TABLE 4.6

Considering that some traffic will be utilising existing residential streets, it is important to assess the impact (if any) on these streets. To undertake this assessment the proposed traffic flows have been added to the existing traffic flows observed, with the results summarised in **Table 4.**

Considering the results in **Table 4** the following results can be concluded:

- Elambra Parade is a local street within the network and the future two-way traffic volumes along Elambra Parade, with the development are maintained at levels below the environmental goal for residential amenity of 200 veh/h for local streets.
- Greta Street is currently a local collector road with existing traffic volumes in both the AM and PM peak periods already exceeding 300 veh/h, which is the environmental goal for collector roads. The development will have a relatively minor impact of Greta Street, with future two-way peak hour traffic volumes of 359 and 331 in the AM and PM peak hours respectively, which is still significantly below the residential amenity maximum for collector roads of 500 veh/h.
- Campbell Street currently operates as a local road and the future two-way traffic volumes of 228 and 255 in the AM and PM peak hours respectively, are both below the maximum volume of 300 veh/h for residential amenity impact along Campbell Street.

TABLE 4: EXISTING AND FUTURE TWO-WAY TRAFFIC FLOWS

Intersection	Peak Hour	Existing	Traffic Associated with Site	Total Future Traffic Volumes
Campbell Street (South of Belinda Street)	AM	66	162	228
	PM	77	178	255
Greta Street (South of Belinda Street)	AM	336	23	359
	PM	306	25	331
Saxonia Road (South of Elambra Parade)	AM	42	0	42
	PM	52	0	52
Elambra Parade (West of Fern Street)	AM	97	46	143
	PM	105	51	156

In view of the above, the traffic generated by the development is not expected to adversely affect the traffic flow efficiency and performance of nearby critical intersections or the existing road network either in the existing conditions or in the 10-year growth scenarios. The assessment presented above is based upon a yield of 326 dwellings, rather than the currently 148 dwellings and hence is conservative in its assessment and demonstrates that the proposed development will not have an adverse impact from a traffic flow efficiency, residential amenity and road safety perspective.

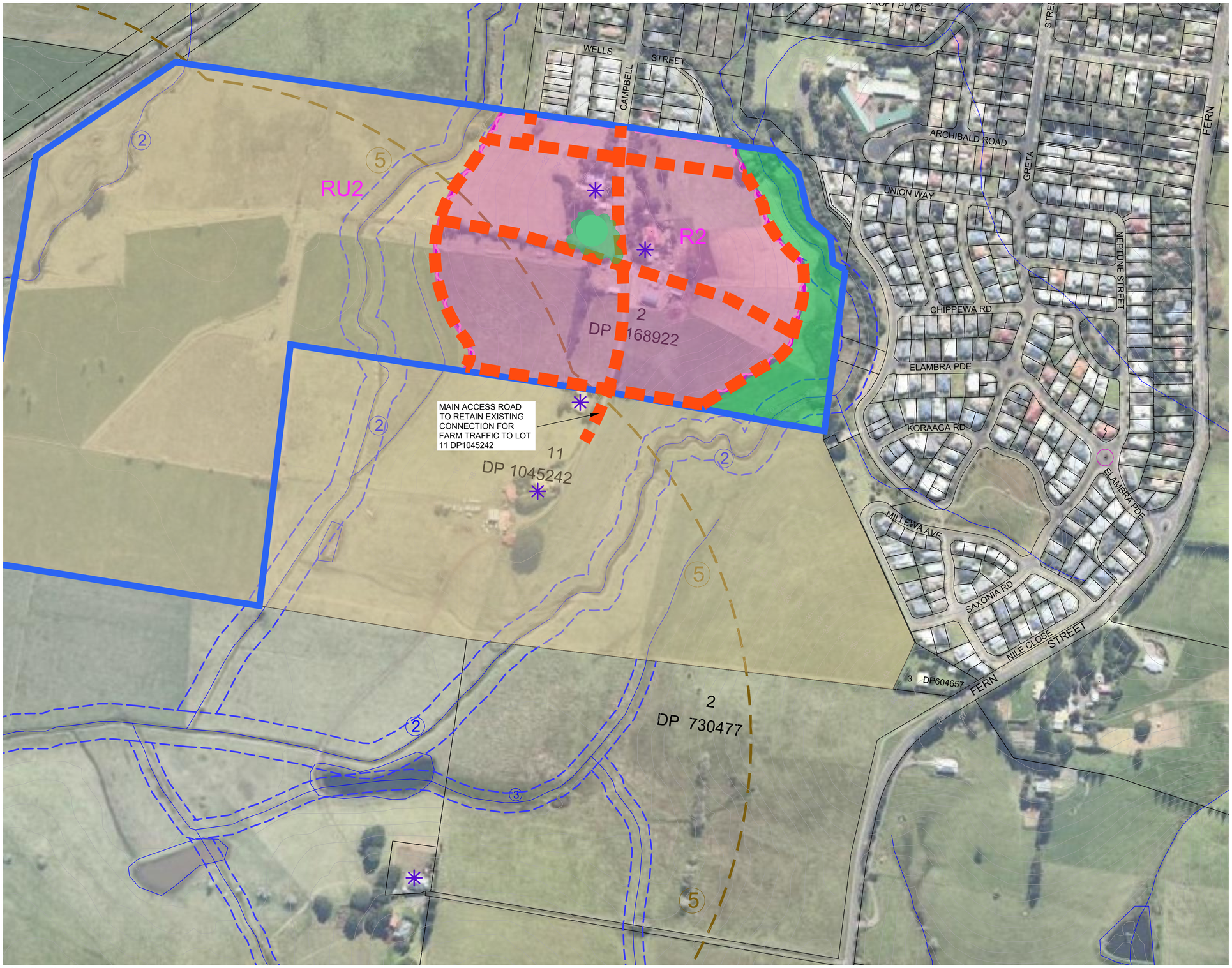
Please contact the undersigned on 9521 7199 should you require further information or assistance.

Yours faithfully,
McLaren Traffic Engineering

Matthew McCarthy
Associate
BE Civil Engineering
Masters of Engineering Science
RMS Accredited Level 3 Road Safety Auditor
RMS Accredited Work Zone Traffic Management Plan Designer and Inspector

ANNEXURE A: PLANS

(1 SHEET)



NOTE:

This plan was prepared for the client as an indicative structure plan to accompany a planning application to Kiama Municipal Council.

The information shown on this plan is not suitable for any other purpose.

The property dimensions, contours and other physical features have been compiled from existing information and have not been verified by field survey.

The dimensions, areas etc shown on this plan are subject to field survey and also to the requirements of Council and any other authority which may have requirements under any relevant legislation.

In particular, no reliance should be placed on the information on this plan for detailed subdivision design or for any financial dealings involving the land.

Allen Price & Scarratts Pty Ltd therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying an application to council for planning purposes and which may be subject to alteration for reasons beyond the control of Allen Price & Scarratts Pty Ltd.

Unless stamped by Council, this plan is not a plan of an approved subdivision.

This note is an integral part of this plan.

PROPOSED DEVELOPMENT AREA

LOT 2 DP 1168922 13.833ha

APPROX. YIELD @12 DWELLINGS/ha - 166 DWELLINGS

LEGEND

- EXISTING DWELLING
- PRINCIPAL ROADS
- R2 RESIDENTIAL AREA
- PUBLIC RESERVE
- FIG TREE / PUBLIC RESERVE
- SUBJECT LOT
- INDICATIVE DEVELOPMENT AREA
- WATERCOURSE DERIVED FROM DCDB
- RIPARIAN OFFSET - APPROX 5m CHANNEL +20m EACH SIDE (CAT 2) +10m EACH SIDE (CAT 3)

KIAMA LEP MAPPING

(2) WATERCOURSE CATEGORY

(5) ACID SULFATE SOILS

NOTE:
CADASTRAL INFORMATION HAS BEEN OBTAINED FROM NSW LAND & PROPERTY INFORMATION (LPI) DIGITAL CADASTRAL DATA BASE (DCDB) AND IS SUBJECT TO SURVEY. IT SHOULD BE VIEWED AS APPROXIMATE ONLY.

CONTOURS ARE AT 2m INTERVALS AND HAVE ALSO BEEN DERIVED FROM DCDB MAPPING.

RATIO: 1:2500 (AT A1 ORIGINAL)

DATUM: AUSTRALIAN HEIGHT DATUM
ORIGIN: DCDB
DATE OF PLAN: 26.10.2020

	SURVEY	DCDB
	DESIGN	
	DRAWN	DS
	CHECK'D	MJP

REV	DESCRIPTION	BY	DATE

allen price & scarratts pty ltd
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PROPOSED STRUCTURE PLAN
OVER LOT 2 DP 1168922
ELAMBRA WEST URA
CAMPBELL ST GERRINGONG
FOR CAMPBELL

DRAWING STATUS: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DRAWING NUMBER: K128069-07
SHEET 1 OF 1
REVISION 0

K:\Projects-Kiama\128000\K128069\Drawings\K128069-07 ELAMBRA WEST- Lot 2 DP1168922 STRUCTURE PLAN.dwg

ANNEXURE B: SIDRA RESULTS

(24 SHEETS)

MOVEMENT SUMMARY

Site: 001 [001EXAM - Belinda Street / Campbell Street]

001 - EXISITING AM
Belinda Street / Campbell Street, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campbell Street (S)												
1	L2	15	13.3	0.067	10.0	LOS A	0.2	1.8	0.49	0.92	0.49	49.7
3	R2	28	3.6	0.067	12.1	LOS A	0.2	1.8	0.49	0.92	0.49	49.6
Approach		43	7.0	0.067	11.3	LOS A	0.2	1.8	0.49	0.92	0.49	49.7
East: Belinda Street (E)												
4	L2	25	4.0	0.162	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.7
5	T1	278	5.8	0.162	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
Approach		303	5.6	0.162	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.4
West: Belinda Street (W)												
11	T1	193	6.2	0.104	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	7	14.3	0.006	6.7	LOS A	0.0	0.2	0.39	0.57	0.39	51.4
Approach		200	6.5	0.104	0.2	NA	0.0	0.2	0.01	0.02	0.01	59.6
All Vehicles		546	6.0	0.162	1.2	NA	0.2	1.8	0.04	0.11	0.04	58.6

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

MOVEMENT SUMMARY

Site: 001 [001EXPM - Belinda Street / Campbell Street]

001 - EXISITING PM
Belinda Street / Campbell Street, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campbell Street (S)												
1	L2	15	0.0	0.070	9.3	LOS A	0.3	1.8	0.53	0.92	0.53	49.6
3	R2	25	0.0	0.070	13.7	LOS A	0.3	1.8	0.53	0.92	0.53	49.2
Approach		40	0.0	0.070	12.0	LOS A	0.3	1.8	0.53	0.92	0.53	49.3
East: Belinda Street (E)												
4	L2	28	0.0	0.174	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.9
5	T1	301	4.7	0.174	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
Approach		329	4.3	0.174	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.3
West: Belinda Street (W)												
11	T1	299	3.3	0.158	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	25	0.0	0.019	6.5	LOS A	0.1	0.6	0.40	0.59	0.40	52.0
Approach		324	3.1	0.158	0.5	NA	0.1	0.6	0.03	0.05	0.03	59.3
All Vehicles		693	3.5	0.174	1.2	NA	0.3	1.8	0.04	0.10	0.04	58.6

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

MOVEMENT SUMMARY

Site: 002 [002EXAM - Belinda Street / Greta Street]

002 - EXISITING AM
Belinda Street / Greta Street, Gerringong, NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Greta Street (S)												
1	L2	111	3.6	0.207	5.9	LOS A	1.2	8.3	0.39	0.60	0.39	52.1
2	T1	53	0.0	0.207	5.7	LOS A	1.2	8.3	0.39	0.60	0.39	53.1
3	R2	59	0.0	0.207	8.9	LOS A	1.2	8.3	0.39	0.60	0.39	52.7
Approach		223	1.8	0.207	6.6	LOS A	1.2	8.3	0.39	0.60	0.39	52.5
East: Belinda Street (E)												
4	L2	38	10.5	0.167	5.9	LOS A	0.9	6.6	0.36	0.54	0.36	52.4
5	T1	137	6.6	0.167	5.7	LOS A	0.9	6.6	0.36	0.54	0.36	53.4
6	R2	1	0.0	0.167	8.7	LOS A	0.9	6.6	0.36	0.54	0.36	53.3
Approach		176	7.4	0.167	5.8	LOS A	0.9	6.6	0.36	0.54	0.36	53.2
North: Greta Street (N)												
7	L2	31	9.7	0.107	6.5	LOS A	0.5	3.9	0.44	0.61	0.44	51.7
8	T1	47	0.0	0.107	6.1	LOS A	0.5	3.9	0.44	0.61	0.44	52.9
9	R2	27	0.0	0.107	9.3	LOS A	0.5	3.9	0.44	0.61	0.44	52.5
Approach		105	2.9	0.107	7.1	LOS A	0.5	3.9	0.44	0.61	0.44	52.4
West: Belinda Street (W)												
10	L2	27	3.7	0.197	5.5	LOS A	1.1	8.1	0.32	0.57	0.32	52.1
11	T1	118	3.4	0.197	5.4	LOS A	1.1	8.1	0.32	0.57	0.32	52.9
12	R2	82	2.4	0.197	8.5	LOS A	1.1	8.1	0.32	0.57	0.32	52.6
12u	U	2	0.0	0.197	10.0	LOS A	1.1	8.1	0.32	0.57	0.32	53.2
Approach		229	3.1	0.197	6.5	LOS A	1.1	8.1	0.32	0.57	0.32	52.7
All Vehicles		733	3.7	0.207	6.5	LOS A	1.2	8.3	0.37	0.58	0.37	52.7

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

MOVEMENT SUMMARY

Site: 002 [002EXPM - Belinda Street / Greta Street]

002 - EXISITING PM
Belinda Street / Greta Street, Gerringong, NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Greta Street (S)												
1	L2	109	0.0	0.170	5.9	LOS A	0.9	6.6	0.41	0.59	0.41	52.5
2	T1	48	2.1	0.170	5.9	LOS A	0.9	6.6	0.41	0.59	0.41	53.3
3	R2	22	4.5	0.170	9.1	LOS A	0.9	6.6	0.41	0.59	0.41	52.8
Approach		179	1.1	0.170	6.3	LOS A	0.9	6.6	0.41	0.59	0.41	52.8
East: Belinda Street (E)												
4	L2	29	0.0	0.170	5.9	LOS A	0.9	6.6	0.39	0.55	0.39	52.7
5	T1	147	5.4	0.170	5.9	LOS A	0.9	6.6	0.39	0.55	0.39	53.3
6	R2	1	0.0	0.170	8.9	LOS A	0.9	6.6	0.39	0.55	0.39	53.2
Approach		177	4.5	0.170	5.9	LOS A	0.9	6.6	0.39	0.55	0.39	53.2
North: Greta Street (N)												
7	L2	46	0.0	0.139	6.5	LOS A	0.7	5.1	0.48	0.64	0.48	51.8
8	T1	45	0.0	0.139	6.4	LOS A	0.7	5.1	0.48	0.64	0.48	52.6
9	R2	43	0.0	0.139	9.6	LOS A	0.7	5.1	0.48	0.64	0.48	52.3
9u	U	1	0.0	0.139	11.1	LOS A	0.7	5.1	0.48	0.64	0.48	52.7
Approach		135	0.0	0.139	7.5	LOS A	0.7	5.1	0.48	0.64	0.48	52.2
West: Belinda Street (W)												
10	L2	24	4.2	0.238	5.2	LOS A	1.4	10.3	0.26	0.54	0.26	52.4
11	T1	182	2.2	0.238	5.1	LOS A	1.4	10.3	0.26	0.54	0.26	53.3
12	R2	95	2.1	0.238	8.2	LOS A	1.4	10.3	0.26	0.54	0.26	52.9
12u	U	1	0.0	0.238	9.8	LOS A	1.4	10.3	0.26	0.54	0.26	53.5
Approach		302	2.3	0.238	6.1	LOS A	1.4	10.3	0.26	0.54	0.26	53.1
All Vehicles		793	2.1	0.238	6.4	LOS A	1.4	10.3	0.36	0.57	0.36	52.9

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

MOVEMENT SUMMARY

Site: 003 [003EXAM - Fern Street / Elambra Parade]

003 - EXISITING AM
Fern Street / Elambra Parade, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fern Street (S)												
1	L2	34	0.0	0.140	4.2	LOS A	0.7	5.3	0.09	0.44	0.09	54.5
2	T1	175	3.4	0.140	4.4	LOS A	0.7	5.3	0.09	0.44	0.09	55.5
Approach		209	2.9	0.140	4.4	LOS A	0.7	5.3	0.09	0.44	0.09	55.4
North: Fern Street (N)												
8	T1	160	5.6	0.130	4.6	LOS A	0.7	5.2	0.17	0.45	0.17	54.8
9	R2	12	0.0	0.130	8.5	LOS A	0.7	5.2	0.17	0.45	0.17	54.8
9u	U	3	0.0	0.130	10.4	LOS A	0.7	5.2	0.17	0.45	0.17	55.5
Approach		175	5.1	0.130	5.0	LOS A	0.7	5.2	0.17	0.45	0.17	54.8
West: Elambra Parade (W)												
10	L2	10	0.0	0.046	5.0	LOS A	0.2	1.5	0.33	0.61	0.33	51.5
12	R2	41	0.0	0.046	9.2	LOS A	0.2	1.5	0.33	0.61	0.33	52.3
12u	U	1	0.0	0.046	11.0	LOS A	0.2	1.5	0.33	0.61	0.33	53.0
Approach		52	0.0	0.046	8.4	LOS A	0.2	1.5	0.33	0.61	0.33	52.2
All Vehicles		436	3.4	0.140	5.1	LOS A	0.7	5.3	0.15	0.47	0.15	54.7

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

MOVEMENT SUMMARY

Site: 003 [003EXPM - Fern Street / Elambra Parade]

003 - EXISITING PM
Fern Street / Elambra Parade, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fern Street (S)												
1	L2	32	3.1	0.187	4.3	LOS A	1.0	7.5	0.12	0.43	0.12	54.3
2	T1	244	2.9	0.187	4.5	LOS A	1.0	7.5	0.12	0.43	0.12	55.4
Approach		276	2.9	0.187	4.4	LOS A	1.0	7.5	0.12	0.43	0.12	55.3
North: Fern Street (N)												
8	T1	326	1.5	0.251	4.6	LOS A	1.6	11.2	0.21	0.45	0.21	54.8
9	R2	19	5.3	0.251	8.7	LOS A	1.6	11.2	0.21	0.45	0.21	54.4
9u	U	4	0.0	0.251	10.4	LOS A	1.6	11.2	0.21	0.45	0.21	55.4
Approach		349	1.7	0.251	4.9	LOS A	1.6	11.2	0.21	0.45	0.21	54.8
West: Elambra Parade (W)												
10	L2	19	5.3	0.067	5.5	LOS A	0.3	2.3	0.40	0.63	0.40	51.4
12	R2	52	0.0	0.067	9.6	LOS A	0.3	2.3	0.40	0.63	0.40	52.3
Approach		71	1.4	0.067	8.5	LOS A	0.3	2.3	0.40	0.63	0.40	52.1
All Vehicles		696	2.2	0.251	5.1	LOS A	1.6	11.2	0.19	0.46	0.19	54.7

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

MOVEMENT SUMMARY

Site: 001 [001GROAM - Belinda Street / Campbell Street - 2029-NoDev]

001 - 2029 GROWTH AM - NoDev - 2% ann. growth on Belinda Street
Belinda Street / Campbell Street, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campbell Street (S)												
1	L2	15	13.3	0.077	10.3	LOS A	0.3	2.1	0.54	0.94	0.54	49.1
3	R2	28	3.6	0.077	13.5	LOS A	0.3	2.1	0.54	0.94	0.54	49.0
Approach		43	7.0	0.077	12.4	LOS A	0.3	2.1	0.54	0.94	0.54	49.0
East: Belinda Street (E)												
4	L2	25	4.0	0.191	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	57.8
5	T1	334	5.7	0.191	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
Approach		359	5.6	0.191	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
West: Belinda Street (W)												
11	T1	232	6.5	0.125	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	7	14.3	0.006	7.0	LOS A	0.0	0.2	0.43	0.58	0.43	51.3
Approach		239	6.7	0.125	0.2	NA	0.0	0.2	0.01	0.02	0.01	59.7
All Vehicles		641	6.1	0.191	1.1	NA	0.3	2.1	0.04	0.09	0.04	58.7

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

MOVEMENT SUMMARY

Site: 001 [001GROPM - Belinda Street / Campbell Street - 2029-NoDev]

001 - 2029 GROWTH PM - NoDev - 2% ann. growth on Belinda Street
Belinda Street / Campbell Street, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campbell Street (S)												
1	L2	15	0.0	0.083	9.7	LOS A	0.3	2.1	0.58	0.95	0.58	48.7
3	R2	25	0.0	0.083	15.8	LOS B	0.3	2.1	0.58	0.95	0.58	48.3
Approach		40	0.0	0.083	13.5	LOS A	0.3	2.1	0.58	0.95	0.58	48.4
East: Belinda Street (E)												
4	L2	28	0.0	0.206	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	57.9
5	T1	361	4.7	0.206	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
Approach		389	4.4	0.206	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
West: Belinda Street (W)												
11	T1	359	3.3	0.190	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	25	0.0	0.020	6.8	LOS A	0.1	0.6	0.44	0.61	0.44	51.9
Approach		384	3.1	0.190	0.5	NA	0.1	0.6	0.03	0.04	0.03	59.4
All Vehicles		813	3.6	0.206	1.1	NA	0.3	2.1	0.04	0.09	0.04	58.7

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

MOVEMENT SUMMARY

Site: 002 [002GROAM - Belinda Street / Greta Street - 2029-NoDev]

002 - 2029 GROWTH AM - NoDev - 2% ann. growth on Belinda Street
Belinda Street / Greta Street , Gerringong, NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Greta Street (S)												
1	L2	111	3.6	0.213	6.1	LOS A	1.2	8.6	0.42	0.61	0.42	52.1
2	T1	53	0.0	0.213	5.9	LOS A	1.2	8.6	0.42	0.61	0.42	53.0
3	R2	59	0.0	0.213	9.1	LOS A	1.2	8.6	0.42	0.61	0.42	52.6
Approach		223	1.8	0.213	6.8	LOS A	1.2	8.6	0.42	0.61	0.42	52.4
East: Belinda Street (E)												
4	L2	38	10.5	0.192	5.9	LOS A	1.0	7.8	0.37	0.54	0.37	52.4
5	T1	165	6.7	0.192	5.8	LOS A	1.0	7.8	0.37	0.54	0.37	53.4
6	R2	1	0.0	0.192	8.8	LOS A	1.0	7.8	0.37	0.54	0.37	53.2
Approach		204	7.4	0.192	5.8	LOS A	1.0	7.8	0.37	0.54	0.37	53.2
North: Greta Street (N)												
7	L2	31	9.7	0.109	6.7	LOS A	0.6	4.0	0.46	0.62	0.46	51.6
8	T1	47	0.0	0.109	6.3	LOS A	0.6	4.0	0.46	0.62	0.46	52.8
9	R2	27	0.0	0.109	9.4	LOS A	0.6	4.0	0.46	0.62	0.46	52.4
Approach		105	2.9	0.109	7.2	LOS A	0.6	4.0	0.46	0.62	0.46	52.3
West: Belinda Street (W)												
10	L2	27	3.7	0.216	5.5	LOS A	1.3	9.2	0.33	0.56	0.33	52.2
11	T1	142	3.5	0.216	5.4	LOS A	1.3	9.2	0.33	0.56	0.33	53.0
12	R2	82	2.4	0.216	8.5	LOS A	1.3	9.2	0.33	0.56	0.33	52.6
12u	U	2	0.0	0.216	10.0	LOS A	1.3	9.2	0.33	0.56	0.33	53.2
Approach		253	3.2	0.216	6.4	LOS A	1.3	9.2	0.33	0.56	0.33	52.8
All Vehicles		785	3.8	0.216	6.5	LOS A	1.3	9.2	0.38	0.58	0.38	52.7

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

MOVEMENT SUMMARY

Site: 002 [002GROPM - Belinda Street / Greta Street - 2029-NoDev]

002 - 2029 GROWTH PM - NoDev - 2% ann. growth on Belinda Street
Belinda Street / Greta Street, Gerringong, NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Greta Street (S)												
1	L2	109	0.0	0.175	6.1	LOS A	1.0	6.8	0.44	0.61	0.44	52.4
2	T1	48	2.1	0.175	6.1	LOS A	1.0	6.8	0.44	0.61	0.44	53.2
3	R2	22	4.5	0.175	9.3	LOS A	1.0	6.8	0.44	0.61	0.44	52.7
Approach		179	1.1	0.175	6.5	LOS A	1.0	6.8	0.44	0.61	0.44	52.7
East: Belinda Street (E)												
4	L2	29	0.0	0.199	5.9	LOS A	1.1	8.0	0.40	0.56	0.40	52.7
5	T1	177	5.6	0.199	5.9	LOS A	1.1	8.0	0.40	0.56	0.40	53.3
6	R2	1	0.0	0.199	8.9	LOS A	1.1	8.0	0.40	0.56	0.40	53.1
Approach		207	4.8	0.199	5.9	LOS A	1.1	8.0	0.40	0.56	0.40	53.2
North: Greta Street (N)												
7	L2	46	0.0	0.143	6.8	LOS A	0.8	5.3	0.50	0.66	0.50	51.7
8	T1	45	0.0	0.143	6.7	LOS A	0.8	5.3	0.50	0.66	0.50	52.5
9	R2	43	0.0	0.143	9.8	LOS A	0.8	5.3	0.50	0.66	0.50	52.1
9u	U	1	0.0	0.143	11.4	LOS A	0.8	5.3	0.50	0.66	0.50	52.6
Approach		135	0.0	0.143	7.7	LOS A	0.8	5.3	0.50	0.66	0.50	52.1
West: Belinda Street (W)												
10	L2	24	4.2	0.265	5.3	LOS A	1.7	12.0	0.27	0.54	0.27	52.4
11	T1	219	2.3	0.265	5.1	LOS A	1.7	12.0	0.27	0.54	0.27	53.3
12	R2	95	2.1	0.265	8.3	LOS A	1.7	12.0	0.27	0.54	0.27	52.9
12u	U	1	0.0	0.265	9.8	LOS A	1.7	12.0	0.27	0.54	0.27	53.5
Approach		339	2.4	0.265	6.0	LOS A	1.7	12.0	0.27	0.54	0.27	53.1
All Vehicles		860	2.3	0.265	6.4	LOS A	1.7	12.0	0.37	0.58	0.37	52.9

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

MOVEMENT SUMMARY

Site: 003 [003GROAM - Fern Street / Elambra Parade - 2029-NoDev]

003 - 2029 GROWTH AM - NoDev - 2% ann. growth on Fern Street
Fern Street / Elambra Parade, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fern Street (S)												
1	L2	34	0.0	0.162	4.2	LOS A	0.9	6.2	0.09	0.44	0.09	54.5
2	T1	210	3.3	0.162	4.4	LOS A	0.9	6.2	0.09	0.44	0.09	55.5
Approach		244	2.9	0.162	4.4	LOS A	0.9	6.2	0.09	0.44	0.09	55.4
North: Fern Street (N)												
8	T1	192	5.7	0.153	4.6	LOS A	0.9	6.3	0.17	0.45	0.17	54.8
9	R2	12	0.0	0.153	8.5	LOS A	0.9	6.3	0.17	0.45	0.17	54.8
9u	U	3	0.0	0.153	10.4	LOS A	0.9	6.3	0.17	0.45	0.17	55.5
Approach		207	5.3	0.153	4.9	LOS A	0.9	6.3	0.17	0.45	0.17	54.8
West: Elambra Parade (W)												
10	L2	10	0.0	0.047	5.2	LOS A	0.2	1.6	0.36	0.62	0.36	51.4
12	R2	41	0.0	0.047	9.4	LOS A	0.2	1.6	0.36	0.62	0.36	52.2
12u	U	1	0.0	0.047	11.2	LOS A	0.2	1.6	0.36	0.62	0.36	52.9
Approach		52	0.0	0.047	8.6	LOS A	0.2	1.6	0.36	0.62	0.36	52.1
All Vehicles		503	3.6	0.162	5.0	LOS A	0.9	6.3	0.15	0.46	0.15	54.8

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

MOVEMENT SUMMARY

Site: 003 [003GROPM - Fern Street / Elambra Parade - 2029-NoDev]

003 - 2029 GROWTH PM - NoDev - 2% ann. growth on Fern Street
Fern Street / Elambra Parade, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fern Street (S)												
1	L2	32	3.1	0.219	4.3	LOS A	1.3	9.1	0.12	0.43	0.12	54.2
2	T1	293	3.1	0.219	4.5	LOS A	1.3	9.1	0.12	0.43	0.12	55.4
Approach		325	3.1	0.219	4.5	LOS A	1.3	9.1	0.12	0.43	0.12	55.3
North: Fern Street (N)												
8	T1	391	1.5	0.294	4.6	LOS A	2.0	14.0	0.22	0.45	0.22	54.8
9	R2	19	5.3	0.294	8.7	LOS A	2.0	14.0	0.22	0.45	0.22	54.4
9u	U	4	0.0	0.294	10.5	LOS A	2.0	14.0	0.22	0.45	0.22	55.4
Approach		414	1.7	0.294	4.9	LOS A	2.0	14.0	0.22	0.45	0.22	54.8
West: Elambra Parade (W)												
10	L2	19	5.3	0.069	5.8	LOS A	0.3	2.4	0.44	0.64	0.44	51.3
12	R2	52	0.0	0.069	9.8	LOS A	0.3	2.4	0.44	0.64	0.44	52.2
Approach		71	1.4	0.069	8.7	LOS A	0.3	2.4	0.44	0.64	0.44	52.0
All Vehicles		810	2.2	0.294	5.0	LOS A	2.0	14.0	0.20	0.46	0.20	54.7

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

MOVEMENT SUMMARY

Site: 201 [201FUAM - Belinda Street / Campbell Street - WithDev2/3]

201 - 2019 FUTURE AM - WITH DEVELOPMENT SCENARIO 2/3
Belinda Street / Campbell Street, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campbell Street (S)												
1	L2	135	1.5	0.197	9.5	LOS A	0.8	5.8	0.45	0.91	0.45	50.8
3	R2	37	2.7	0.197	13.1	LOS A	0.8	5.8	0.45	0.91	0.45	50.3
Approach		172	1.7	0.197	10.3	LOS A	0.8	5.8	0.45	0.91	0.45	50.7
East: Belinda Street (E)												
4	L2	27	3.7	0.163	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.7
5	T1	278	5.8	0.163	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
Approach		305	5.6	0.163	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.3
West: Belinda Street (W)												
11	T1	193	6.2	0.104	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	37	2.7	0.028	6.5	LOS A	0.1	0.9	0.39	0.60	0.39	52.0
Approach		230	5.7	0.104	1.1	NA	0.1	0.9	0.06	0.10	0.06	58.5
All Vehicles		707	4.7	0.197	3.1	NA	0.8	5.8	0.13	0.28	0.13	56.7

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

MOVEMENT SUMMARY

Site: 201 [201FUPM - Belinda Street / Campbell Street - WithDev2/3]

201 - 2019 FUTURE PM - WITH DEVELOPMENT SCENARIO 2/3
Belinda Street / Campbell Street, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campbell Street (S)												
1	L2	48	0.0	0.122	9.4	LOS A	0.5	3.2	0.51	0.91	0.51	49.7
3	R2	28	0.0	0.122	16.2	LOS B	0.5	3.2	0.51	0.91	0.51	49.3
Approach		76	0.0	0.122	11.9	LOS A	0.5	3.2	0.51	0.91	0.51	49.5
East: Belinda Street (E)												
4	L2	38	0.0	0.179	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	57.7
5	T1	301	4.7	0.179	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
Approach		339	4.1	0.179	0.6	NA	0.0	0.0	0.00	0.07	0.00	59.1
West: Belinda Street (W)												
11	T1	299	3.3	0.158	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	158	0.0	0.122	6.7	LOS A	0.6	3.9	0.43	0.65	0.43	52.0
Approach		457	2.2	0.158	2.3	NA	0.6	3.9	0.15	0.22	0.15	56.9
All Vehicles		872	2.8	0.179	2.5	NA	0.6	3.9	0.12	0.22	0.12	57.0

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

MOVEMENT SUMMARY

Site: 202 [202FUAM - Belinda Street / Greta Street - WithDev2/3]

202 - 2019 FUTURE AM - WITH DEVELOPMENT SCENARIO 2/3
Belinda Street / Greta Street, Gerringong, NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Greta Street (S)												
1	L2	111	3.6	0.223	5.9	LOS A	1.3	9.1	0.40	0.61	0.40	52.0
2	T1	53	0.0	0.223	5.7	LOS A	1.3	9.1	0.40	0.61	0.40	52.9
3	R2	78	0.0	0.223	8.9	LOS A	1.3	9.1	0.40	0.61	0.40	52.6
Approach		242	1.7	0.223	6.8	LOS A	1.3	9.1	0.40	0.61	0.40	52.4
East: Belinda Street (E)												
4	L2	43	9.3	0.173	5.9	LOS A	0.9	6.9	0.36	0.54	0.36	52.4
5	T1	139	6.5	0.173	5.7	LOS A	0.9	6.9	0.36	0.54	0.36	53.4
6	R2	1	0.0	0.173	8.8	LOS A	0.9	6.9	0.36	0.54	0.36	53.3
Approach		183	7.1	0.173	5.8	LOS A	0.9	6.9	0.36	0.54	0.36	53.2
North: Greta Street (N)												
7	L2	31	9.7	0.109	6.7	LOS A	0.6	4.0	0.46	0.62	0.46	51.6
8	T1	47	0.0	0.109	6.3	LOS A	0.6	4.0	0.46	0.62	0.46	52.8
9	R2	27	0.0	0.109	9.5	LOS A	0.6	4.0	0.46	0.62	0.46	52.4
Approach		105	2.9	0.109	7.2	LOS A	0.6	4.0	0.46	0.62	0.46	52.3
West: Belinda Street (W)												
10	L2	27	3.7	0.210	5.6	LOS A	1.2	8.7	0.35	0.58	0.35	52.1
11	T1	127	3.1	0.210	5.5	LOS A	1.2	8.7	0.35	0.58	0.35	52.9
12	R2	82	2.4	0.210	8.6	LOS A	1.2	8.7	0.35	0.58	0.35	52.5
12u	U	2	0.0	0.210	10.2	LOS A	1.2	8.7	0.35	0.58	0.35	53.1
Approach		238	2.9	0.210	6.6	LOS A	1.2	8.7	0.35	0.58	0.35	52.7
All Vehicles		768	3.5	0.223	6.6	LOS A	1.3	9.1	0.38	0.58	0.38	52.7

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

MOVEMENT SUMMARY

Site: 202 [202FUPM - Belinda Street / Greta Street - WithDev2/3]

202 - 2019 FUTURE PM - WITH DEVELOPMENT SCENARIO 2/3
Belinda Street / Greta Street, Gerringong, NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Greta Street (S)												
1	L2	109	0.0	0.177	6.0	LOS A	1.0	6.8	0.42	0.60	0.42	52.5
2	T1	48	2.1	0.177	6.0	LOS A	1.0	6.8	0.42	0.60	0.42	53.2
3	R2	27	3.7	0.177	9.1	LOS A	1.0	6.8	0.42	0.60	0.42	52.7
Approach		184	1.1	0.177	6.5	LOS A	1.0	6.8	0.42	0.60	0.42	52.7
East: Belinda Street (E)												
4	L2	49	0.0	0.198	5.9	LOS A	1.1	7.8	0.40	0.56	0.40	52.7
5	T1	157	5.1	0.198	5.9	LOS A	1.1	7.8	0.40	0.56	0.40	53.3
6	R2	1	0.0	0.198	8.9	LOS A	1.1	7.8	0.40	0.56	0.40	53.1
Approach		207	3.9	0.198	5.9	LOS A	1.1	7.8	0.40	0.56	0.40	53.2
North: Greta Street (N)												
7	L2	46	0.0	0.140	6.6	LOS A	0.7	5.2	0.48	0.65	0.48	51.8
8	T1	45	0.0	0.140	6.5	LOS A	0.7	5.2	0.48	0.65	0.48	52.6
9	R2	43	0.0	0.140	9.6	LOS A	0.7	5.2	0.48	0.65	0.48	52.2
9u	U	1	0.0	0.140	11.2	LOS A	0.7	5.2	0.48	0.65	0.48	52.7
Approach		135	0.0	0.140	7.6	LOS A	0.7	5.2	0.48	0.65	0.48	52.2
West: Belinda Street (W)												
10	L2	24	4.2	0.242	5.3	LOS A	1.5	10.6	0.27	0.55	0.27	52.4
11	T1	185	2.2	0.242	5.1	LOS A	1.5	10.6	0.27	0.55	0.27	53.2
12	R2	95	2.1	0.242	8.3	LOS A	1.5	10.6	0.27	0.55	0.27	52.9
12u	U	1	0.0	0.242	9.8	LOS A	1.5	10.6	0.27	0.55	0.27	53.4
Approach		305	2.3	0.242	6.1	LOS A	1.5	10.6	0.27	0.55	0.27	53.1
All Vehicles		831	2.0	0.242	6.4	LOS A	1.5	10.6	0.37	0.58	0.37	52.9

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

MOVEMENT SUMMARY

Site: 203 [203FUAM - Fern Street / Elambra Parade - WithDev2/3]

203 - 2019 FUTURE AM - WITH DEVELOPMENT SCENARIO 2/3
Fern Street / Elambra Parade, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fern Street (S)												
1	L2	41	0.0	0.146	4.2	LOS A	0.8	5.6	0.10	0.44	0.10	54.5
2	T1	175	3.4	0.146	4.4	LOS A	0.8	5.6	0.10	0.44	0.10	55.5
Approach		216	2.8	0.146	4.4	LOS A	0.8	5.6	0.10	0.44	0.10	55.3
North: Fern Street (N)												
8	T1	160	5.6	0.139	4.7	LOS A	0.8	5.6	0.23	0.47	0.23	54.5
9	R2	14	0.0	0.139	8.7	LOS A	0.8	5.6	0.23	0.47	0.23	54.5
9u	U	3	0.0	0.139	10.5	LOS A	0.8	5.6	0.23	0.47	0.23	55.2
Approach		177	5.1	0.139	5.2	LOS A	0.8	5.6	0.23	0.47	0.23	54.5
West: Elambra Parade (W)												
10	L2	19	0.0	0.078	5.0	LOS A	0.4	2.7	0.34	0.62	0.34	51.5
12	R2	69	0.0	0.078	9.2	LOS A	0.4	2.7	0.34	0.62	0.34	52.4
12u	U	1	0.0	0.078	11.1	LOS A	0.4	2.7	0.34	0.62	0.34	53.1
Approach		89	0.0	0.078	8.3	LOS A	0.4	2.7	0.34	0.62	0.34	52.2
All Vehicles		482	3.1	0.146	5.4	LOS A	0.8	5.6	0.19	0.48	0.19	54.4

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

MOVEMENT SUMMARY

Site: 203 [203FUPM - Fern Street / Elambra Parade - WithDev2/3]

203 - 2019 FUTURE PM - WITH DEVELOPMENT SCENARIO 2/3
Fern Street / Elambra Parade, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fern Street (S)												
1	L2	63	1.6	0.213	4.3	LOS A	1.2	8.8	0.15	0.44	0.15	54.2
2	T1	244	2.9	0.213	4.5	LOS A	1.2	8.8	0.15	0.44	0.15	55.3
Approach		307	2.6	0.213	4.5	LOS A	1.2	8.8	0.15	0.44	0.15	55.1
North: Fern Street (N)												
8	T1	326	1.5	0.261	4.7	LOS A	1.7	11.8	0.23	0.46	0.23	54.7
9	R2	29	3.4	0.261	8.7	LOS A	1.7	11.8	0.23	0.46	0.23	54.3
9u	U	4	0.0	0.261	10.5	LOS A	1.7	11.8	0.23	0.46	0.23	55.3
Approach		359	1.7	0.261	5.1	LOS A	1.7	11.8	0.23	0.46	0.23	54.6
West: Elambra Parade (W)												
10	L2	21	4.8	0.076	5.5	LOS A	0.4	2.7	0.40	0.63	0.40	51.3
12	R2	60	0.0	0.076	9.6	LOS A	0.4	2.7	0.40	0.63	0.40	52.3
Approach		81	1.2	0.076	8.5	LOS A	0.4	2.7	0.40	0.63	0.40	52.1
All Vehicles		747	2.0	0.261	5.2	LOS A	1.7	11.8	0.22	0.47	0.22	54.5

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

MOVEMENT SUMMARY

Site: 201 [201GROAM - Belinda Street / Campbell Street - 2029-WithDev2/3]

201 - 2029 GROWTH AM - WITH DEVELOPMENT SCENARIO 2/3 & 2% ann. growth on Belinda Street
Belinda Street / Campbell Street, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campbell Street (S)												
1	L2	135	1.5	0.218	9.8	LOS A	0.9	6.3	0.50	0.92	0.50	50.4
3	R2	37	2.7	0.218	14.8	LOS B	0.9	6.3	0.50	0.92	0.50	49.9
Approach		172	1.7	0.218	10.9	LOS A	0.9	6.3	0.50	0.92	0.50	50.3
East: Belinda Street (E)												
4	L2	30	3.3	0.194	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.7
5	T1	334	5.7	0.194	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
Approach		364	5.5	0.194	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.4
West: Belinda Street (W)												
11	T1	232	6.5	0.125	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	37	2.7	0.030	6.8	LOS A	0.1	0.9	0.43	0.62	0.43	51.9
Approach		269	5.9	0.125	0.9	NA	0.1	0.9	0.06	0.08	0.06	58.7
All Vehicles		805	4.8	0.218	2.9	NA	0.9	6.3	0.13	0.25	0.13	56.9

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

MOVEMENT SUMMARY

Site: 201 [201GROPM - Belinda Street / Campbell Street - 2029-WithDev2/3]

201 - 2029 GROWTH PM - WITH DEVELOPMENT SCENARIO 2/3 & 2% ann. growth on Belinda Street
Belinda Street / Campbell Street, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campbell Street (S)												
1	L2	48	0.0	0.143	9.8	LOS A	0.5	3.6	0.56	0.93	0.56	49.0
3	R2	28	0.0	0.143	19.0	LOS B	0.5	3.6	0.56	0.93	0.56	48.5
Approach		76	0.0	0.143	13.2	LOS A	0.5	3.6	0.56	0.93	0.56	48.8
East: Belinda Street (E)												
4	L2	38	0.0	0.211	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	57.8
5	T1	361	4.7	0.211	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	59.4
Approach		399	4.3	0.211	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.3
West: Belinda Street (W)												
11	T1	359	3.3	0.190	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	158	0.0	0.131	7.0	LOS A	0.6	4.1	0.47	0.68	0.47	51.9
Approach		517	2.3	0.190	2.2	NA	0.6	4.1	0.14	0.21	0.14	57.2
All Vehicles		992	2.9	0.211	2.4	NA	0.6	4.1	0.12	0.20	0.12	57.3

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

MOVEMENT SUMMARY

Site: 202 [202GROAM - Belinda Street / Greta Street - 2029-WithDev2/3]

202 - 2029 GROWTH AM - WITH DEVELOPMENT SCENARIO 2/3 & 2% ann. growth on Belinda Street
Belinda Street / Greta Street, Gerringong, NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Greta Street (S)												
1	L2	111	3.6	0.231	6.1	LOS A	1.3	9.4	0.43	0.62	0.43	51.9
2	T1	53	0.0	0.231	5.9	LOS A	1.3	9.4	0.43	0.62	0.43	52.8
3	R2	78	0.0	0.231	9.1	LOS A	1.3	9.4	0.43	0.62	0.43	52.5
Approach		242	1.7	0.231	7.0	LOS A	1.3	9.4	0.43	0.62	0.43	52.3
East: Belinda Street (E)												
4	L2	43	9.3	0.197	5.9	LOS A	1.1	8.0	0.37	0.54	0.37	52.4
5	T1	166	6.6	0.197	5.8	LOS A	1.1	8.0	0.37	0.54	0.37	53.4
6	R2	1	0.0	0.197	8.8	LOS A	1.1	8.0	0.37	0.54	0.37	53.2
Approach		210	7.1	0.197	5.8	LOS A	1.1	8.0	0.37	0.54	0.37	53.2
North: Greta Street (N)												
7	L2	31	9.7	0.111	6.8	LOS A	0.6	4.1	0.48	0.63	0.48	51.5
8	T1	47	0.0	0.111	6.5	LOS A	0.6	4.1	0.48	0.63	0.48	52.7
9	R2	27	0.0	0.111	9.6	LOS A	0.6	4.1	0.48	0.63	0.48	52.3
Approach		105	2.9	0.111	7.4	LOS A	0.6	4.1	0.48	0.63	0.48	52.2
West: Belinda Street (W)												
10	L2	27	3.7	0.230	5.6	LOS A	1.4	9.8	0.36	0.57	0.36	52.1
11	T1	151	3.3	0.230	5.5	LOS A	1.4	9.8	0.36	0.57	0.36	52.9
12	R2	82	2.4	0.230	8.6	LOS A	1.4	9.8	0.36	0.57	0.36	52.6
12u	U	2	0.0	0.230	10.2	LOS A	1.4	9.8	0.36	0.57	0.36	53.2
Approach		262	3.1	0.230	6.5	LOS A	1.4	9.8	0.36	0.57	0.36	52.7
All Vehicles		819	3.7	0.231	6.6	LOS A	1.4	9.8	0.40	0.59	0.40	52.6

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

MOVEMENT SUMMARY

Site: 202 [202GROPM - Belinda Street / Greta Street - 2029-WithDev2/3]

202 - 2029 GROWTH PM - WITH DEVELOPMENT SCENARIO 2/3 & 2% ann. growth on Belinda Street
Belinda Street / Greta Street, Gerringong, NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Greta Street (S)												
1	L2	109	0.0	0.181	6.2	LOS A	1.0	7.1	0.45	0.61	0.45	52.4
2	T1	48	2.1	0.181	6.1	LOS A	1.0	7.1	0.45	0.61	0.45	53.1
3	R2	27	3.7	0.181	9.3	LOS A	1.0	7.1	0.45	0.61	0.45	52.6
Approach		184	1.1	0.181	6.6	LOS A	1.0	7.1	0.45	0.61	0.45	52.6
East: Belinda Street (E)												
4	L2	49	0.0	0.224	5.9	LOS A	1.3	9.1	0.41	0.56	0.41	52.7
5	T1	186	5.4	0.224	5.9	LOS A	1.3	9.1	0.41	0.56	0.41	53.3
Approach		235	4.3	0.224	5.9	LOS A	1.3	9.1	0.41	0.56	0.41	53.2
North: Greta Street (N)												
7	L2	46	0.0	0.144	6.8	LOS A	0.8	5.4	0.51	0.66	0.51	51.7
8	T1	45	0.0	0.144	6.7	LOS A	0.8	5.4	0.51	0.66	0.51	52.4
9	R2	43	0.0	0.144	9.9	LOS A	0.8	5.4	0.51	0.66	0.51	52.1
9u	U	1	0.0	0.144	11.4	LOS A	0.8	5.4	0.51	0.66	0.51	52.5
Approach		135	0.0	0.144	7.8	LOS A	0.8	5.4	0.51	0.66	0.51	52.0
West: Belinda Street (W)												
10	L2	24	4.2	0.268	5.3	LOS A	1.7	12.2	0.28	0.54	0.28	52.4
11	T1	221	2.3	0.268	5.1	LOS A	1.7	12.2	0.28	0.54	0.28	53.3
12	R2	95	2.1	0.268	8.3	LOS A	1.7	12.2	0.28	0.54	0.28	52.9
12u	U	1	0.0	0.268	9.8	LOS A	1.7	12.2	0.28	0.54	0.28	53.5
Approach		341	2.3	0.268	6.0	LOS A	1.7	12.2	0.28	0.54	0.28	53.1
All Vehicles		895	2.2	0.268	6.4	LOS A	1.7	12.2	0.38	0.58	0.38	52.9

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

MOVEMENT SUMMARY

Site: 203 [203GROAM - Fern Street / Elambra Parade - 2029-WithDev2/3]

203 - 2029 GROWTH AM - WITH DEVELOPMENT SCENARIO 2/3 & 2% ann. growth on Fern Street
Fern Street / Elambra Parade, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fern Street (S)												
1	L2	41	0.0	0.168	4.2	LOS A	0.9	6.6	0.10	0.44	0.10	54.5
2	T1	210	3.3	0.168	4.4	LOS A	0.9	6.6	0.10	0.44	0.10	55.5
Approach		251	2.8	0.168	4.4	LOS A	0.9	6.6	0.10	0.44	0.10	55.3
North: Fern Street (N)												
8	T1	192	5.7	0.163	4.8	LOS A	0.9	6.7	0.23	0.46	0.23	54.5
9	R2	14	0.0	0.163	8.7	LOS A	0.9	6.7	0.23	0.46	0.23	54.5
9u	U	3	0.0	0.163	10.5	LOS A	0.9	6.7	0.23	0.46	0.23	55.3
Approach		209	5.3	0.163	5.1	LOS A	0.9	6.7	0.23	0.46	0.23	54.6
West: Elambra Parade (W)												
10	L2	19	0.0	0.081	5.2	LOS A	0.4	2.8	0.37	0.63	0.37	51.5
12	R2	69	0.0	0.081	9.4	LOS A	0.4	2.8	0.37	0.63	0.37	52.3
12u	U	1	0.0	0.081	11.3	LOS A	0.4	2.8	0.37	0.63	0.37	53.0
Approach		89	0.0	0.081	8.5	LOS A	0.4	2.8	0.37	0.63	0.37	52.1
All Vehicles		549	3.3	0.168	5.3	LOS A	0.9	6.7	0.19	0.48	0.19	54.5

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

MOVEMENT SUMMARY

Site: 203 [203 GROPM - Fern Street / Elambra Parade - 2029-WithDev2/3]

203 - 2029 GROWTH PM - WITH DEVELOPMENT SCENARIO 2/3 & 2% ann. growth on Fern Street
Fern Street / Elambra Parade, Gerringong NSW
Job Ref: 190601
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fern Street (S)												
1	L2	63	1.6	0.245	4.3	LOS A	1.5	10.5	0.16	0.44	0.16	54.2
2	T1	293	3.1	0.245	4.5	LOS A	1.5	10.5	0.16	0.44	0.16	55.3
Approach		356	2.8	0.245	4.5	LOS A	1.5	10.5	0.16	0.44	0.16	55.1
North: Fern Street (N)												
8	T1	391	1.5	0.306	4.7	LOS A	2.1	14.7	0.25	0.46	0.25	54.6
9	R2	29	3.4	0.306	8.7	LOS A	2.1	14.7	0.25	0.46	0.25	54.3
9u	U	4	0.0	0.306	10.5	LOS A	2.1	14.7	0.25	0.46	0.25	55.2
Approach		424	1.7	0.306	5.0	LOS A	2.1	14.7	0.25	0.46	0.25	54.6
West: Elambra Parade (W)												
10	L2	21	4.8	0.079	5.8	LOS A	0.4	2.8	0.44	0.65	0.44	51.2
12	R2	60	0.0	0.079	9.8	LOS A	0.4	2.8	0.44	0.65	0.44	52.2
Approach		81	1.2	0.079	8.8	LOS A	0.4	2.8	0.44	0.65	0.44	51.9
All Vehicles		861	2.1	0.306	5.2	LOS A	2.1	14.7	0.23	0.47	0.23	54.5

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