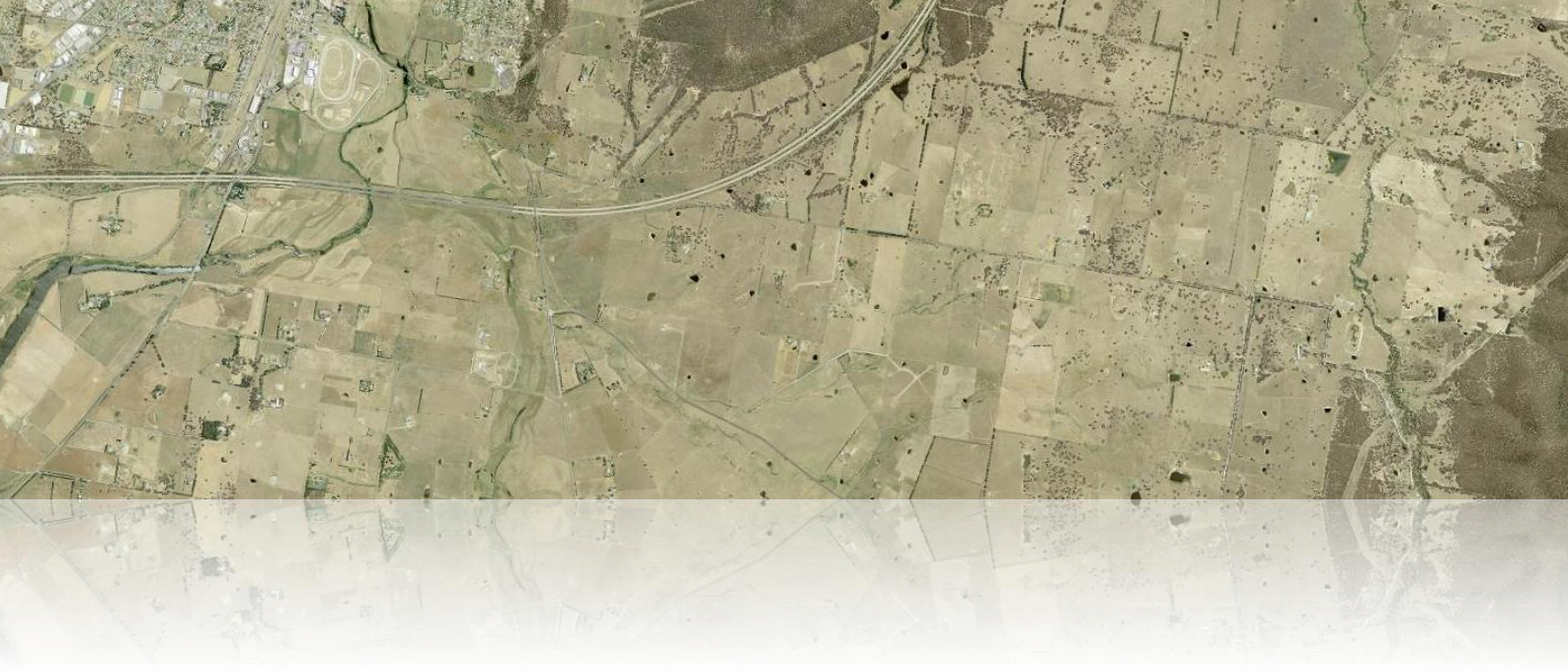

TRAFFIC AND PARKING IMPACT ASSESSMENT OF THE PROPOSED RESIDENTIAL SUBDIVISION AT

LOT 1 DP779194, LOT 103 DP70346, LOT 1 DP853498, LOTS 104-106 DP126140, LOT 1-3 DP835278, LOT 1 DP731427, AND LOTS 22-24 DP811954

ALONG MOUNTAIN ASH DRIVE, GUNDARY

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Division of RAMTRANS Australia ABN: 45067491678 RPEQ: 19457

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

220913.01FB - 8 February 2023

Development Type: **Residential Subdivision**

Site Address: **Various Lots along Mountain Ash Road, Gundary**

Prepared for: **Design Build Instruct Pty Ltd**

Document reference: **220913.01FB**

Status	Issue	Prepared By	Checked By	Date
Draft	A	DF	DF	19 December 2022
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Final	B	DF/JC	DF	8 February 2023

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1 INTRODUCTION

M^{C}Laren Traffic Engineering (MTE) was commissioned by *Design Build Instruct Pty Ltd* to provide a traffic and parking impact assessment of the proposed residential subdivision at Lot 1 DP779194, Lot 103 DP70346, Lot 1 DP853498, Lots 104-106 DP126140, Lots 1-3 DP835278, Lot 1 DP731427, and Lots 22-24 DP811954. Proposed plans of the subdivision are provided in **Annexure A** for reference. This report forms part of a rezoning application which proposed a change from the current RU1 zone to an R5 zone.

1.1 Description and Scale of Development

The proposed residential subdivision has the following characteristics relevant to traffic and parking:

- A total of 108 large residential lots incorporating 277 hectares of site area.

Access to the proposed subdivision is proposed via new GIVE-WAY T-junctions with Mountain Ash Road, Barretts Lane and Rosemont Road.

1.2 State Environmental Planning Policy (Transport and Infrastructure) 2021

The proposed development does not qualify as a traffic generating development with relevant size and/or capacity under *Clause 2.121* of the *SEPP (Transport and Infrastructure) 2021*. Accordingly, formal referral to Transport for NSW (TfNSW) is unnecessary and the application can be assessed by Goulburn Mulwaree Council officers accordingly.

The subject site is located within the local government area of the Goulburn Mulwaree Council and is subject to their relevant planning controls.

1.3 Site Description

The subject site consists of 13 lots which are formally identified as Lot 1 DP779194, Lot 103 DP70346, Lot 1 DP853498, Lots 104-106 DP126140, Lots 1-3 DP835278, Lot 1 DP731427, and Lots 22-24 DP811954. The subject sites are currently occupied by agricultural land with some associated structures on-site. The site has site frontages to Mountain Ash Road, Barretts Lane and Rosemont Road.

The subject site is currently zoned *RU1 – Primary Production* under the *Goulburn Mulwaree Local Environmental Plan 2009*. The subject site is generally surrounded by agricultural uses with some single dwellings surrounding the area. The township of Goulburn is approximately 4km to the north of the site along Windellama Road.

1.4 Site Context

The location of the site is shown on an aerial image and a street map in **Figure 1** and **Figure 2** respectively.

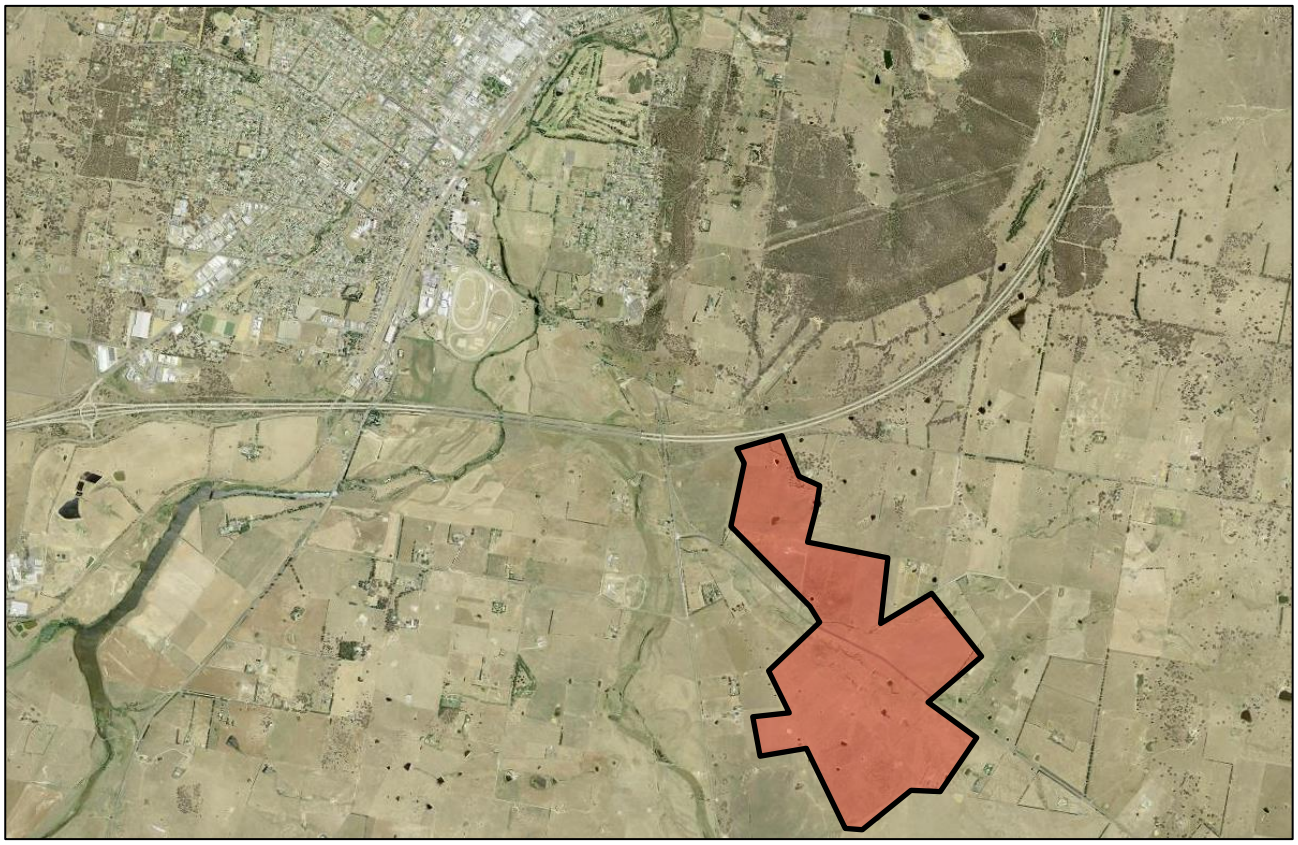


FIGURE 1: SITE CONTEXT – AERIAL IMAGERY

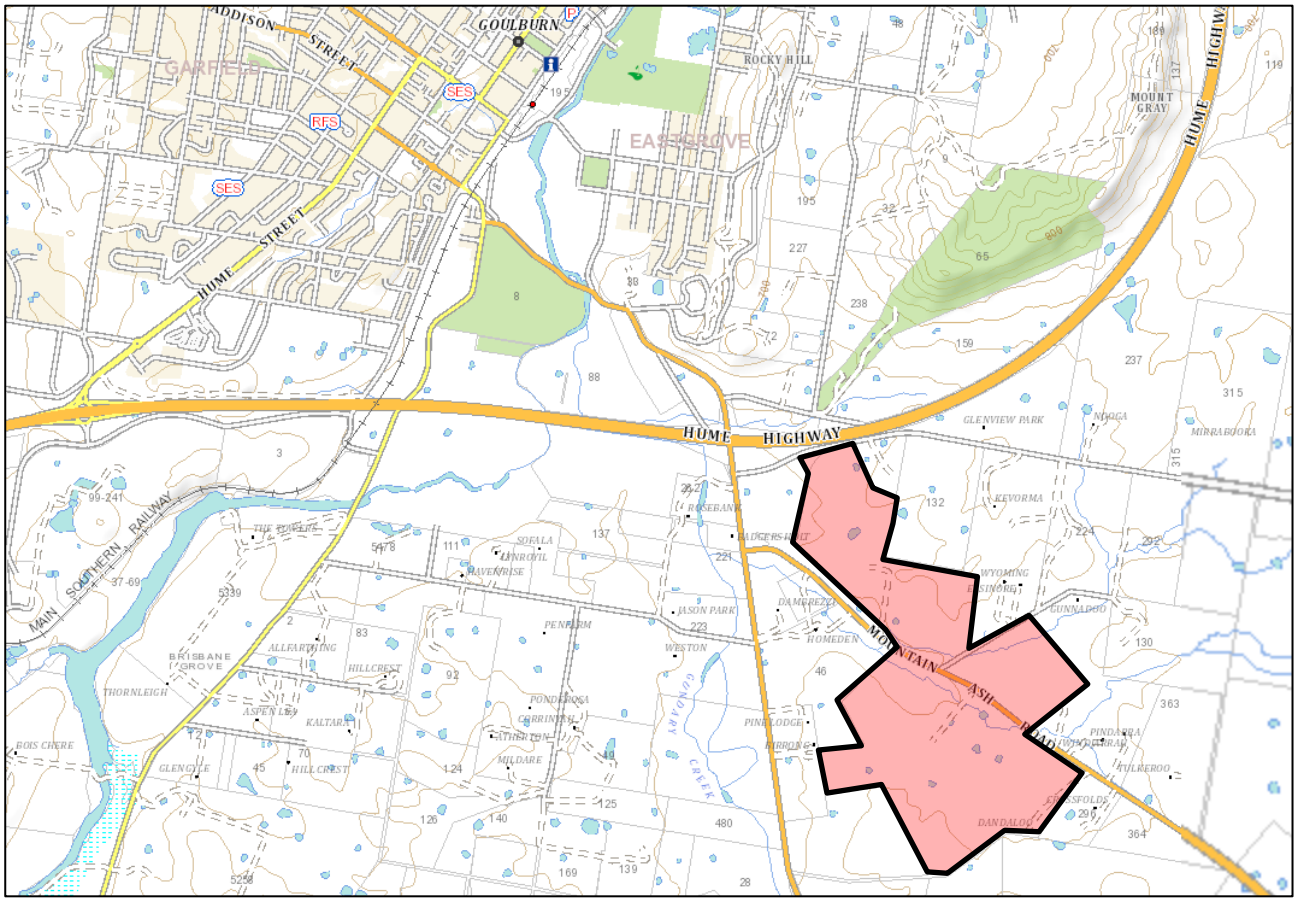


FIGURE 2: SITE CONTEXT – STREET MAP

2 EXISTING TRAFFIC AND PARKING CONDITIONS

2.1 Road Hierarchy

The existing road network in close proximity to the site has the following characteristics:

2.1.1 Hume Highway

- TfNSW Classified STATE Highway (Highway No. 2);
- Approximately 34m wide carriageway facilitating two (2) traffic flow lanes in each direction separated by a 10m wide physical median;
- Signposted 110km/h speed limit;
- No kerbside parking permitted on either side of the road.

2.1.2 Windellama Road

- Unclassified LOCAL Road;
- Approximately 14m wide sealed carriageway facilitating two (2) traffic flow lanes in (one in each direction) and approximately 3.5m sealed shoulders;
- Signposted 60km/h speed limit;
- Road shoulders provided, which may result in informal unrestricted kerbside parking along both sides of the road partly within the verge.

2.1.3 Mountain Ash Road

- Unclassified LOCAL Road;
- Approximately 12m wide sealed carriageway facilitating one (1) traffic flow lane in each direction and sealed shoulders;
- No speed limit signposted – default 60km/h limit applies;
- Road shoulders provided, which may result in informal unrestricted kerbside parking along both sides of the road partly within the verge.

2.1.4 Barretts Lane

- Unclassified LOCAL Road;
- Approximately 6m wide sealed carriageway facilitating two-way passing and unsealed shoulders;
- No speed limit signposted – default 60km/h limit applies;

2.2 Existing Traffic Management

- Stop-controlled intersection of Windellama Road / Mountain Ash Road;
- Priority-controlled intersection of Mountain Ash Road / Barretts Lane;

2.3 Existing Traffic Volumes

Intersection traffic surveys were conducted at the intersections of Windellama Road / Rosemont Road, Mountain Ash Road / Barretts Lane, Mountain Ash Road / Windellama Road and Mountain Ash Road / Shaws Creek Road from 6:00 AM to 9:00 AM and 3:00 PM to 7:00 PM on Tuesday the 1st of November 2022 representing a typical operating weekday. The full survey results are shown in **Annexure B**.

2.3.1 Existing Road Performance

The performance of the surrounding intersections under the existing traffic conditions has been assessed using SIDRA INTERSECTION 9.1, **Table 1** summarises the resultant intersection performance data, with full SIDRA results reproduced in **Annexure C**.

TABLE 1: EXISTING INTERSECTION PERFORMANCES (SIDRA INTERSECTION 9.1)

Intersection	Peak Hour	Degree of Saturation[1]	Average Delay[2] (sec/veh)	Level of Service[3]	Control Type	Worst Movement	95th Percentile Queue
EXISTING PERFORMANCE							
Windellama Road/Rosemont Road	AM	0.09	0.8 (Worst: 6.3)	**NA** (Worst A)	Give Way	RT from Rosemont Road	0.1 veh (0.4m) Rosemont Rd
	PM	0.08	0.8 (Worst: 6.3)	**NA** (Worst A)		RT from Rosemont Rd	0 veh (0.2m) Rosemont Rd
Windellama Road/Mountain Ash Road	AM	0.06	3.3 (Worst: 10)	**NA** (Worst A)	Stop	LT from Mountain Ash Road	0.2 veh (1.5m) Mountain Ash Road
	PM	0.07	2.7 (Worst: 8.4)	**NA** (Worst A)		RT from Mountain Ash Road	0 veh (0.3m) Mountain Ash Road
Mountain Ash Road/Barretts Lane	AM	0.04	0.4 (Worst: 5.7)	**NA** (Worst A)	Give Way	RT from Barretts Lane	0 veh (0.1m) Barretts Lane
	PM	0.02	0.4 (Worst: 5.6)	**NA** (Worst A)		RT from Barretts Lane	0 veh (0m) Barretts Lane
Mountain Ash Road/Shaws Creek Road	AM	0.03	0.8 (Worst: 5.6)	**NA** (Worst A)	Give Way	RT from Shaws Creek Road	0 veh (0.1m) Shaws Creek Road
	PM	0.02	0.4 (Worst: 5.7)	**NA** (Worst A)		RT from Shaws Creek Road	0 veh (0m) Shaws Creek Road

NOTES:
(1) Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.
(2) Average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.
(3) 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.

As shown above, the two relevant intersections are currently performing at a high level of efficiency, with a level of service “A” conditions in both the AM & PM peak hour periods. The level of service “A” performance is characterised by low approach delays and spare capacity.

It should be noted that give wait and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all movements are operating at a level of Service A, except one which is at level of Service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved. Based upon RMS crash data from their website, there are no existing cluster of accidents at any of the subject intersections.

2.4 Public Transport

The site is not well serviced by public transportation. The nearest bus stops are in South Goulburn approximately 4km to the north.

2.5 Future Road and Infrastructure Upgrades

According to the Goulburn Mulwaree Council Development Application tracker, there are only minor farm-related development applications in the last year along Mountain Ash Road, including 477 Mountain Ash Road and 606 Mountain Ash Road. These applications will not have a significant impact on the ongoing operation of Mountain Ash Road.

3 SUBDIVISION STREET DESIGN

3.1 Site Layout

For convenience in referencing, the following sections are defined and referred to throughout this report. Sections A and B are accessed by the northern road connecting Rosemont Road and Barretts Lane. Section C is accessed from Mountain Ash Road, and Sections D and E are accessed from a loop road connecting to Mountain Ash Road at both ends.

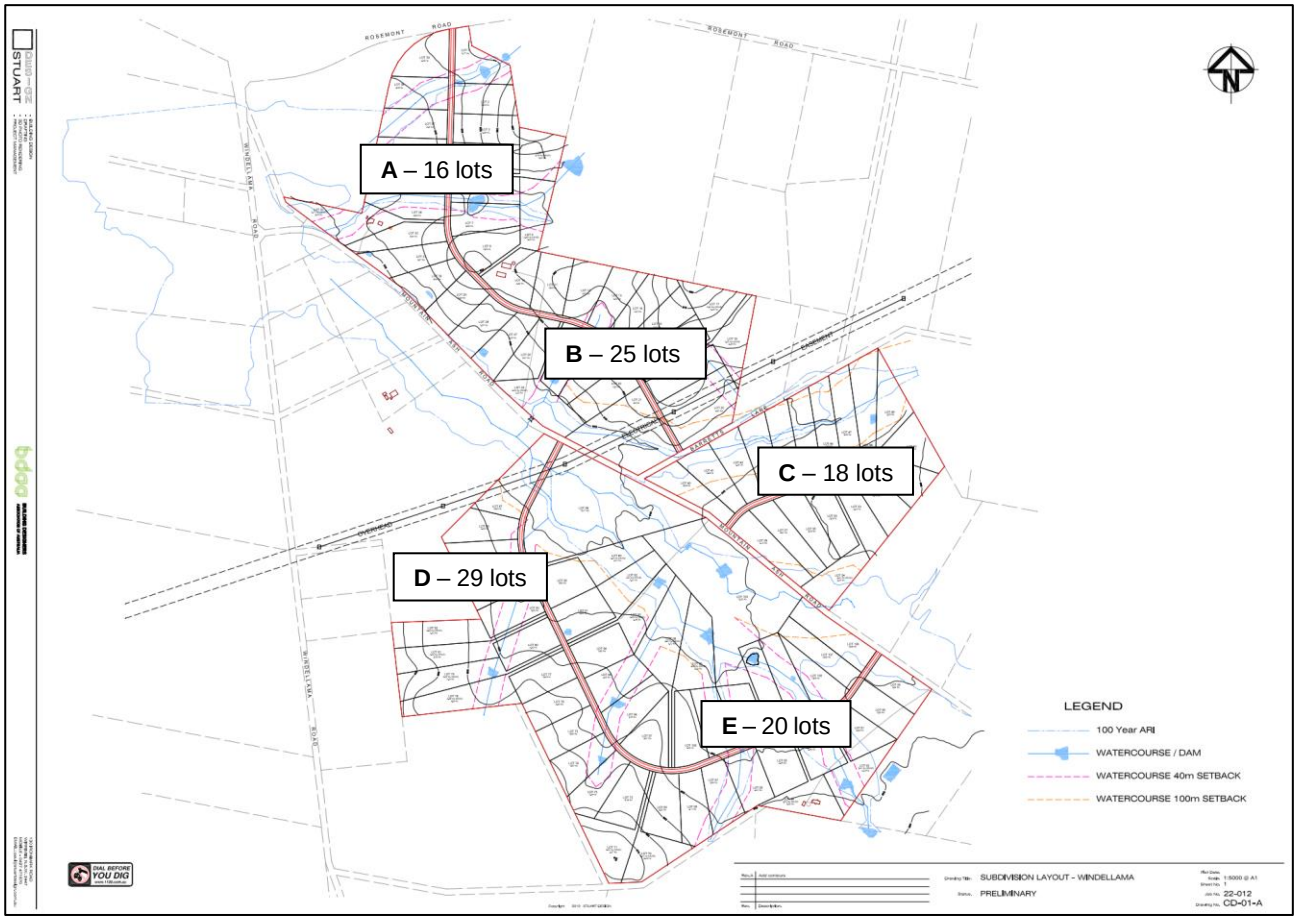


FIGURE 3: LOT SECTIONS

3.2 Design Standards

Reference is made to *Goulburn Mulwaree Council – Development Design Specification* which outlines design requirements for carriageway widths for rural roads, with the extract reproduced in **Figure 4**.

D1.27 CARRIAGEWAYS

1. Carriageway widths for rural roads shall be as follows:

Table D1.8

Lots Serviced[1]	Seal Width[2] (m)	Shoulder Width	Design Speed (km/h)
Up to 2	4m gravel[3]	2 x 1.5m (unformed)	N/A
Up to 10	5[4]	2 x 1m	60
Up to 50	6	2 x 1m	80
Over 50	7	2 x 1m	100

Notes:

1. If development is for a use other than rural lots, then substitute 9 trips for 1 lot.
2. Road widths shall be uniform along the length of a road. Changes of width are only permissible at intersections
3. Refer to Clause D1.34 for design and construction standards for 4m wide gravel roads, including rural rights-of-way.
4. If this road commences from a road of substantial length of unsealed road, then sealing may be omitted.
5. Road reserve width shall be minimum 20m in all cases.
6. Cul-de-sac turning heads to be 12m radius plus shoulders
7. Rural residential subdivisions with lot sizes up to 2,000sqm shall have roads with kerb and gutter and shall comply with the requirements of Table D1.5A.
8. Bridges shall have a width of seal width plus shoulder width

FIGURE 4: TABLE D1.8 OF COUNCILS STANDARD FOR ENGINEERING WORKS 2013

As the proposed subdivision incorporates 108 large residential lots over three (3) roads. The road which serves sections D and E contain 49 lots, A and B contains 41 lots and C contains 18 lots. The road carriageway servicing section D and E is required have a sealed width of 7m sealed plus 2 x 1m shoulders and a total road reserve width of 20m, whilst the other roads must have a minimum of 6m sealed width. Each of the roadways within the proposed site have a 20m road reserve width, an 8m carriageway width and 6m shoulders on each side.

The turning head in section C currently has an 8m radius, where 12m is required, along with a 1m shoulder. This can be altered at the development application stage.

4 PARKING ASSESSMENT

4.1 Car Parking Requirements

Reference is made to the *Goulburn Mulwaree Council Development Control Plan* (DCP) *2009 – Part 3: General Development Controls – Table 3.2: Off-street parking requirements* which provides the following car parking rates applicable to the likely land uses within the residential subdivision:

> ***Dwelling House***
>
> *1 space per dwelling*

Car parking for each lot is to be provided by vehicular access from the proposed road which circulates within the site. It will be a requirement at DA and CC stage of each lot to check parking provision, driveway location and compliance, although the proposed lots would generally be able to accommodate suitable driveway locations and suitable parking provision on each individual site.

4.2 Bicycle & Motorcycle Parking Requirements

The Goulburn Mulwaree Council DCP 2009 does not provide rates of parking provision for bicycle or motorcycle parking. As such, the Goulburn Mulwaree Council does not require the provision of bicycle / motorcycle parking.

In any case, the site is not constrained by its ability to provide an adequate quantum of bicycle or motorcycle parking and the bicycle and motorcycle parking demands of the considered uses, if any, can be fully provided on-site.

4.3 Servicing / Deliveries

Council's DCP does not outline specific provisions for servicing and loading for the proposed development. The proposed development will be able to service vehicles up to and including a 12.5m length HRV for waste collection.

It is reiterated that each individual residential lot is subject to its own development application to assess the specific loading requirements of the development, though the loading requirements of a residential dwelling would not be above that of Council's waste collection vehicle.

4.4 Accessible Parking

Reference is made to the *Goulburn Mulwaree Council Development Control Plan* (DCP) *2009 – Chapter 3: General Development Controls* which provides the following accessible car parking rates applicable to the proposed development:

> ***3.6.2 Specific land use requirements***
>
> *Disabled standard will apply to most land uses at a rate of 1 space per 50 spaces or part thereof. The Building Code of Australia Part D prescribes the minimum requirements for the provision of parking spaces for people with*

disabilities. This plan does not relieve an applicant of any obligation to comply with the Building Code of Australia.

Each individual lot, being a residential lot, has the ability to provide a compliant accessible space if needed.

4.5 Car Park Design and Compliance

The details regarding the proposed subdivision design were previously outlined in **Section 3**. No further compliance has been undertaken for the lots as each lot is subject to its own development application. It is expected that the parking and manoeuvring areas of each lot will be able to satisfy the requirements of the relevant Australian Standards including, but not limited to, *AS2890.1:2004 – Off-street parking*, *AS2890.2:2018 – Off-street commercial vehicle facilities* and *AS2890.6:2022 – Off-street parking for people with disabilities*.

5 TRAFFIC ASSESSMENT

The impact of the expected traffic generation levels associated with the subject proposal is discussed in the following sub-sections.

5.1 Traffic Generation

5.1.1 TfNSW Guide to Traffic Generating Developments

Traffic generation rates for the relevant land uses are provided in the *Roads and Traffic Authority* (RTA) *Guide to Traffic Generating Developments, October 2002* (Guide) and recent supplements (Namely TDT2013/04a) as adopted by Transport for NSW (TfNSW) and are as follows:

TDT 2013/04a

Low density residential dwellings

AM Peak Regional Average = 0.78

PM Peak Regional Average = 0.71

The resulting traffic generation rates from the similar sites assessment is summarised in **Table 4**.

TABLE 2: TRAFFIC GENERATION

Site	Scale	Peak Period	Rate	Trips Generated
Goulburn	108	AM	0.78	84 (8 in, 76 out)
		PM	0.71	77 (69 in, 8 out)

As shown in **Table 2**, the scale of the proposed residential subdivision is estimated to generate **84** trips (8 in, 76 out) in the AM peak hour and **77** PM (69 in, 8 out) vehicle trips in the peak hour period.

5.2 Traffic Assignment

The traffic assignment for the proposed subdivision is based upon the proposed road network design as well as the nearby population areas and existing road hierarchy. The traffic assignment is depicted in **Figure 5**.

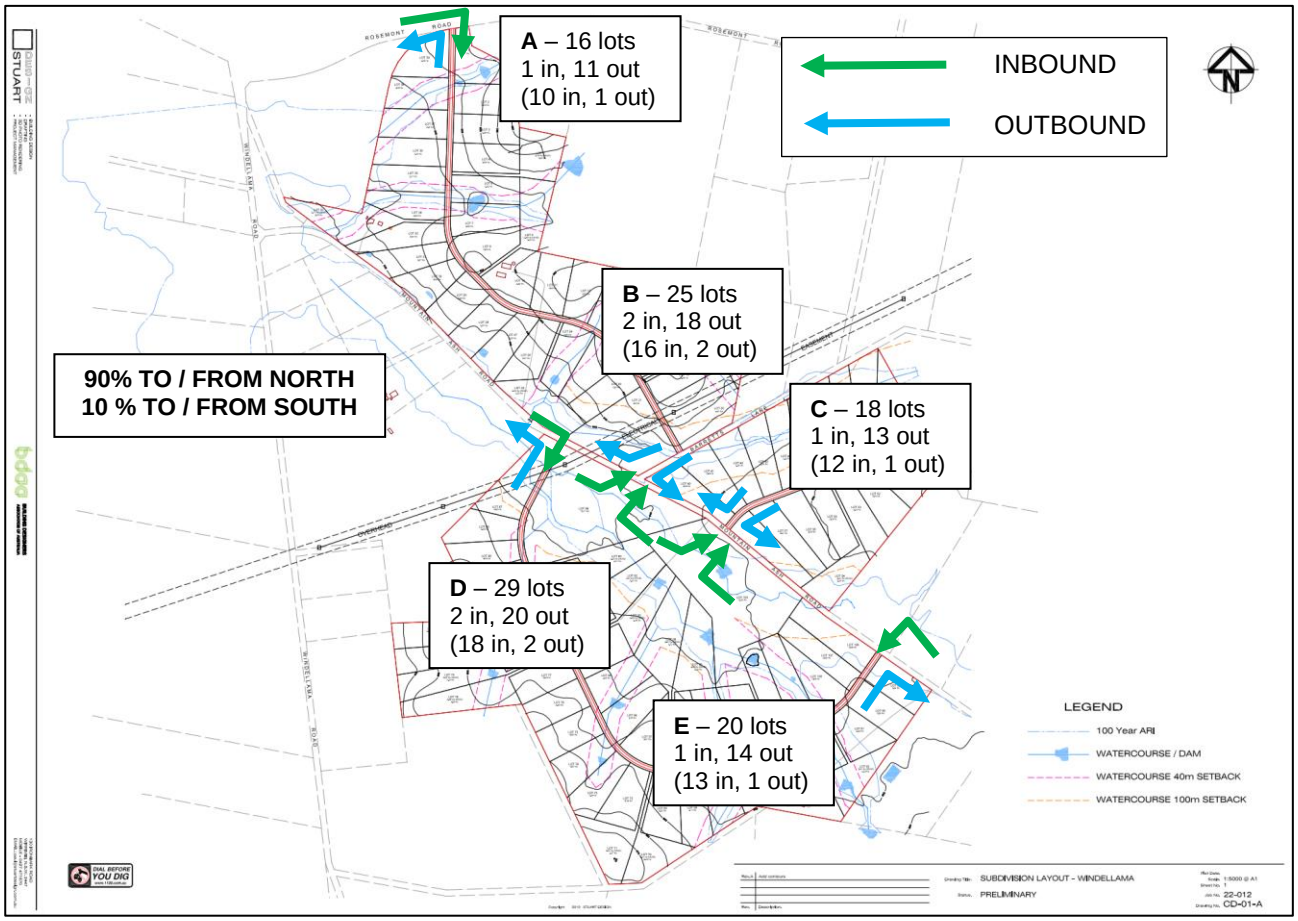


FIGURE 5: TRAFFIC ASSIGNMENT

5.3 Assessed Growth

As part of this assessment, we have considered growth for the through movements along Mountain Ash Road and Windellama Road, to ensure that the subdivision will operate with acceptable performances in the future. The assessed growth along Mountain Ash Road Windellama Road is assumed to be 2% linear growth p.a. after 10 years.

5.4 Traffic Impact

The traffic generation outlined in **Section 5.1** above has been added to the existing traffic volumes recorded, through the use of the growth outlined in **Section 5.3**. SIDRA INTERSECTION 9.0 was used to assess the intersections performance. The purpose of this assessment is to compare the existing intersection operations to the future scenario under the increased traffic load. The results of the existing + growth scenario are summarised in **Table 3**, the results of the post development + growth scenario are summarised in **Table 4**, and a comparison of all three scenarios is provided in **Table 5**. Full results provided in **Annexure C**.

As shown, the intersections maintain the same Level of Service (LoS) of “A” in both the AM and PM peak hour periods from the existing operation. The results indicate that all intersections will operate at a high level of efficiency with low approach delays and spare capacity.

TABLE 3: EXISTING INTERSECTION PERFORMANCES INCLUDING 10 YR GROWTH

Intersection	Peak Hour	Degree of Saturation[1]	Average Delay[2] (sec/veh)	Level of Service[3]	Control Type	Worst Movement	95th Percentile Queue
EXISTING PERFORMANCE (Including 10 year growth)							
Windellama Road/Rosemont Road	AM	0.11	0.7 (Worst: 6.4)	**NA** (Worst: A)	Give Way	RT from Rosemont Road	0.1 veh (0.4m) Rosemont Road
	PM	0.09	0.7 (Worst: 6.2)	**NA** (Worst: A)		RT from Rosemont Road	0 veh (0.2m) Windellama Road
Windellama Road/Mountain Ash Road	AM	0.08	3.4 (Worst: 10)	**NA** (Worst: A)	Give Way	LT from Mountain Ash Road	0.3 veh (1.9m) Mountain Ash Road
	PM	0.08	2.7 (Worst: 8.5)	**NA** (Worst: A)		RT from Mountain Ash Road	0.1 veh (0.4m) Mountain Ash Road
Barretts Lane/Mountain Ash Road	AM	0.04	0.3 (Worst: 5.7)	**NA** (Worst: A)	Give Way	RT from Barretts Lane	0 veh (0.1m) Mountain Ash Road
	PM	0.02	0.3 (Worst: 5.7)	**NA** (Worst: A)		LT from Barretts Lane	0 veh (0m) Mountain Ash Road
Shaws Creek Road/Mountain Ash Road	AM	0.04	0.6 (Worst: 5.7)	**NA** (Worst: A)	Give Way	RT from Shaws Creek Road	0 veh (0.1m) Mountain Ash Road
	PM	0.02	0.3 (Worst: 5.7)	**NA** (Worst: A)		RT from Shaws Creek Road	0 veh (0m) Mountain Ash Road

TABLE 4: FUTURE INTERSECTION PERFORMANCES INCLUDING 10 YR GROWTH

Intersection	Peak Hour	Degree of Saturation[1]	Average Delay[2] (sec/veh)	Level of Service[3]	Control Type	Worst Movement	95th Percentile Queue
FUTURE PERFORMANCE (Including 10 year growth)							
Windellama Road/Rosemont Road	AM	0.14	0.8 (Worst: 6.8)	**NA** (Worst: A)	Give Way	RT from Rosemont Road	0.1 veh (0.8m) Rosemont Road
	PM	0.13	0.8 (Worst: 6.5)	**NA** (Worst: A)		RT from Rosemont Road	0 veh (0.2m) Windellama Road
Windellama Road/Mountain Ash Road	AM	0.15	4.5 (Worst: 10)	**NA** (Worst: A)	Give Way	LT from Mountain Ash Road	0.5 veh (3.9m) Mountain Ash Road
	PM	0.11	3.5 (Worst: 8.6)	**NA** (Worst: A)		RT from Mountain Ash Road	0.1 veh (0.6m) Mountain Ash Road
Barretts Lane/Mountain Ash Road	AM	0.06	1 (Worst: 5.9)	**NA** (Worst: A)	Give Way	RT from Barretts Lane	0.1 veh (0.5m) Barretts Lane
	PM	0.05	1.2 (Worst: 5.8)	**NA** (Worst: A)		RT from Barretts Lane	0 veh (0.2m) Mountain Ash Road
Shaws Creek Road/Mountain Ash Road	AM	0.04	0.6 (Worst: 5.7)	**NA** (Worst: A)	Give Way	RT from Shaws Creek Road	0 veh (0.1m) Mountain Ash Road
	PM	0.03	0.3 (Worst: 5.7)	**NA** (Worst: A)		RT from Shaws Creek Road	0 veh (0m) Mountain Ash Road

TABLE 5: SUMMARY OF TRAFFIC SCENARIOS

Intersection	Peak Hour	Average Delay (seconds)		
		Existing	Existing + Growth	Post Development + Growth
Windellama Road/Rosemont Road	AM	0.8 (Worst 6.3)	0.7 (Worst 6.4)	0.8 (Worst 6.8)
	PM	0.8 (Worst 6.3)	0.7 (Worst 6.2)	0.8 (Worst 6.5)
Windellama Road/Mountain Ash Road	AM	3.3 (Worst 10)	3.4 (Worst 10)	4.5 (Worst 10)
	PM	2.7 (Worst 8.4)	2.7 (Worst 8.5)	3.5 (Worst 8.6)
Mountain Ash Road/Barretts Lane	AM	0.4 (Worst 5.7)	0.3 (Worst 5.7)	1.0 (Worst 5.9)
	PM	0.4 (Worst 5.6)	0.3 (Worst 5.7)	1.2 (Worst 5.8)
Mountain Ash Road / Shaws Creek Road	AM	0.8 (Worst 5.6)	0.6 (Worst 5.7)	0.6 (Worst 5.7)
	PM	0.4 (Worst 5.7)	0.3 (Worst 5.7)	0.3 (Worst 5.7)

5.5 Flood Evacuation

Reference is made to council's request to provide additional information regarding flood evacuation within an email dated 30 January 2023. It is acknowledged that the request for additional information regarding evacuation is derived from a council resolution as stated below:

> *The submission of a traffic impact assessment undertaken by a suitably qualified professional which:*
>
> *iv. Demonstrates the ability to evacuate lots within stages 1-3 during periods of heavy rain and inundation of Mountain Ash Road.*
>
> *v. Provides recommendations to resolve any identified adverse impacts on the road network as a result of the proposed development.*

As such, an evacuation route map for the proposed subdivision has been developed and is depicted in **Figure 6** below.

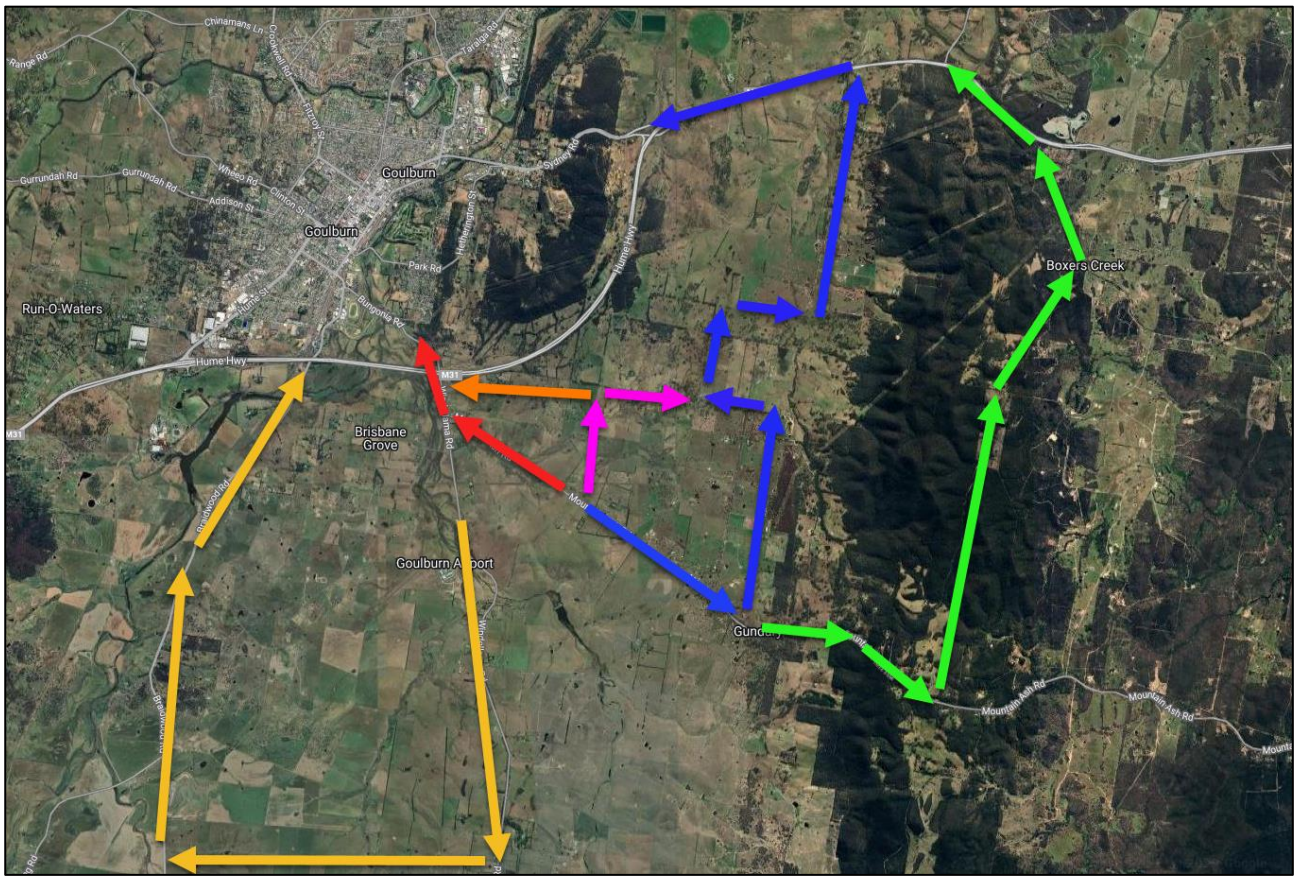


FIGURE 6: EVACUATION ROUTE MAP

As shown in **Figure 6**, there are currently six (6) different evacuation routes residents of the subdivision can take in the event of heavy rain. The routes are detailed below with any relevant roads, bridges and intersections listed:

- Route 1 (red): Mountain Ash Road to Windellama Road to Bungonia Road;
    - Largely Flood Affected;
    - Bridge over Hume Highway.
- Route 2 (orange): Rosemont Road to Windella Road to Bungonia Road;
- Route 3 (pink): Rosemont Road to Boxers Creek Road to Hume Highway;
- Route 4 (blue): Mountain Ash Road to Shaws Creek Road to Rosemont Road to Boxers Creek Road to Hume Highway;
- Route 5 (green): Mountain Ash Road to Marian Vale Road to Ticyes Lane to Hume Highway;
- Route 6 (yellow): Windellama Road to Painters Lane to Braidwood Road.

Figure 7, **Figure 8** and **Figure 9** below illustrate the relevant routes overlayed onto the flood maps provided by Council. The maps provided demonstrate the flood hazards in the event of a 1 in 20-year flood event, a 1 in 100-year flood event and the probable maximum flood (PMF) event with the flood hazard categories being ranked from H1 to H6.

The results summarised in **Table 6** show the worst flood hazard category encountered along each route for each flood event and each section of lots. Additionally, it notates the length which vehicles must navigate along the worst flood hazard category.

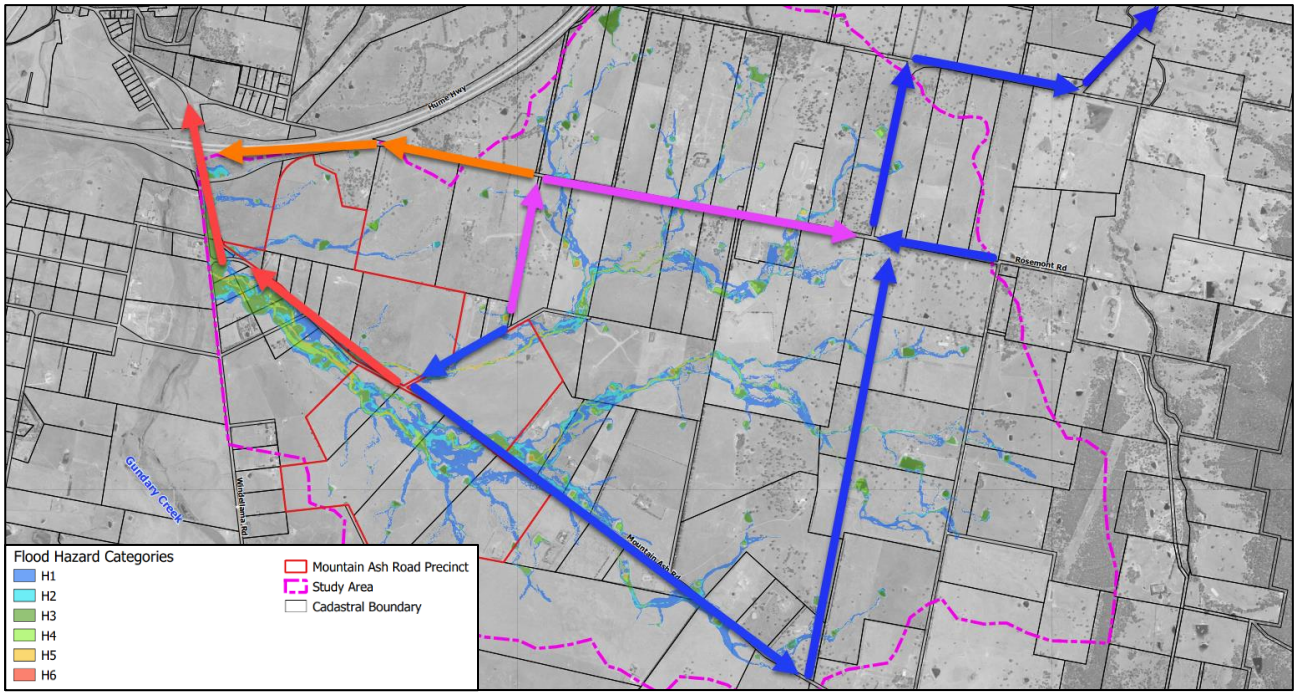


FIGURE 7: EVACUATION ROUTE MAP – 5% AEP

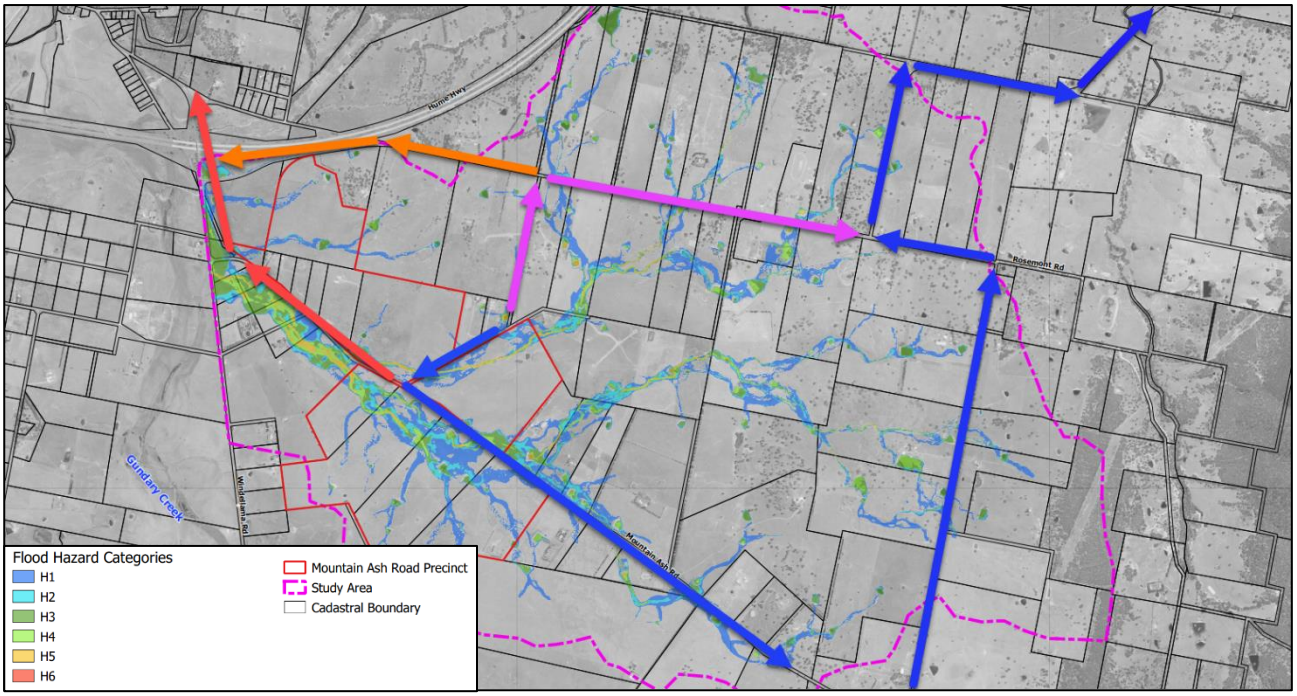


FIGURE 8: EVACUATION ROUTE MAP – 1% AEP

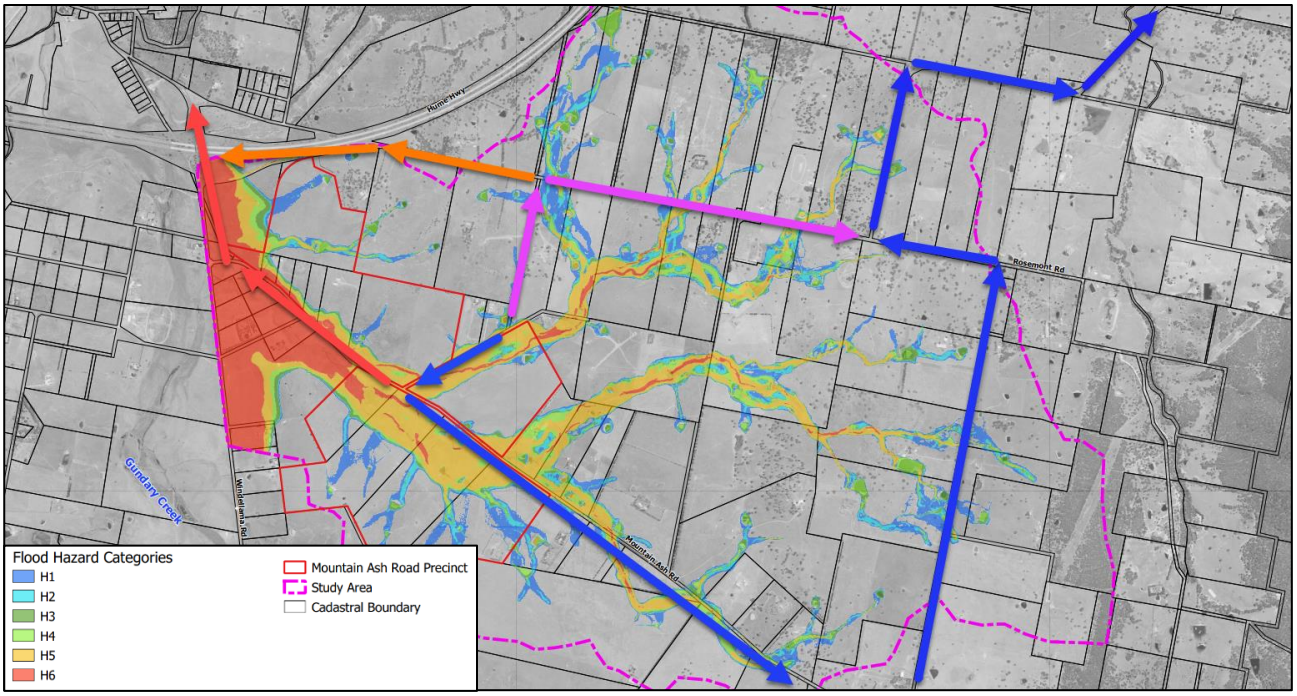


FIGURE 9: EVACUATION ROUTE MAP – PMF

TABLE 6: SUMMARY OF FLOOD ROUTE SCENARIOS

1 in 20 Year Event (5% AEP)				
	Route 1	**Route 2**	**Route 3**	**Route 4**
Lot Group A	H3 (350m)	H3 (85m)	H1 (200m)	H5 (50m)
Lot Group B	H5 (50m)	H3 (85m)	H1 (200m)	H5 (50m)
Lot Group C	H5 (50m)	H3 (85m)	H1 (200m)	H5 (50m)
Lot Group D	H3 (350m)	H5 (50m)	H5 (50m)	H5 (1) (50m)
Lot Group E	H3 (350m)	H5 (50m)	H5 (50m)	H4 (30m)
1 in 100 Year Event (1% AEP)				
Lot Group A	H3 (375m)	H3 (85m)	H1 (200m)	H5 (90m)
Lot Group B	H5 (90m)	H3 (85m)	H1 (200m)	H5 (90m)
Lot Group C	H5 (90m)	H3 (85m)	H1 (200m)	H5 (90m)
Lot Group D	H5 (40m)	H5 (90m)	H5 (90m)	H5 (50m)
Lot Group E	H5 (40m)	H5 (90m)	H5 (90m)	H5 (50m)
Probable Maximum Flood Event (PMF)				
Lot Group A	H6 (1.7km)	H6 (225m)	H6 (85m)	H5 (1.2km)
Lot Group B	H6 (1.7km)	H6 (225m)	H5 (130m)	H6 (85m)
Lot Group C	H6 (1.7km)	H6 (225m)	H5 (130m)	H6 (85m)
Lot Group D	H6 (1.7km)	H6 (225m)	H6 (85m)	H5 (1) (1.2km)
Lot Group E	H6 (1.7km)	H6 (225m)	H5 (1.2km)	H5 (500m)

Note (1): Lot Group D can follow the same route as Lot Group E for Route 4 and bypass the length of Mountain Ash Road that travels through a higher flood hazard category.

As shown in **Table 6** above there are various routes available for each lot group. The lot groups used for the traffic assignment in **Section 5.2** have been adopted to summarise the available evacuation routes. Generally, those routes which avoid Mountain Ash Road as much as possible, particularly as it approaches Windellama Road to the west, tend to encounter the lowest flood hazard categories comparatively.

It should be noted however that any analysis of these evacuation routes should be undertaken by a flood engineer who may be able to comment on the suitability or make further recommendations in the event of heavy rainfall. Additionally, at the DA and detailed

design phase, the civil engineer utilising this Traffic Impact Assessment for vehicle counts, and the Council flood maps will be able to provide further civil engineering solutions at that point in time to further minimise the risk of flood hazard for future residents utilising the carriageways and also upon each allotment.

6 CONCLUSION

The traffic and parking impacts of the proposed large lot residential subdivision as depicted in **Annexure A** have been assessed and the following is relevant to note:

- The proposed subdivision layout is capable of providing adequate off-street parking on each lot but is subject to detailed design;

- The subdivision road design (including carriageway widths and access) are to be compliant with Council's design requirements. The roads and carriageway widths are generally compliant, subject to changes to the turning head from an 8m radius to a 12m radius;

- The proposal is estimated to generate **85** trips in the AM and **77** trips in the PM peak hour periods respectively. The estimated traffic generation was added to the existing traffic and modelled using SIDRA INTERSECTION 9.0, including assessments for 10-year growth along Mountain Ash Road and Windellama Road. The intersections maintain their existing Level of Service of "A". The level of service "A" performance is characterised by low approach delays and spare capacity.

- The lot groups used for the traffic assignment in **Section 5.2** have been adopted to summarise the available evacuation routes. Generally, those routes which avoid Mountain Ash Road as much as possible, particularly as it approaches Windellama Road to the west, tend to encounter the lowest flood hazard categories comparatively. It should be noted however that any analysis of these evacuation routes should be undertaken by a flood/civil engineer who may be able to comment on the suitability or make further recommendations in the event of heavy rainfall.

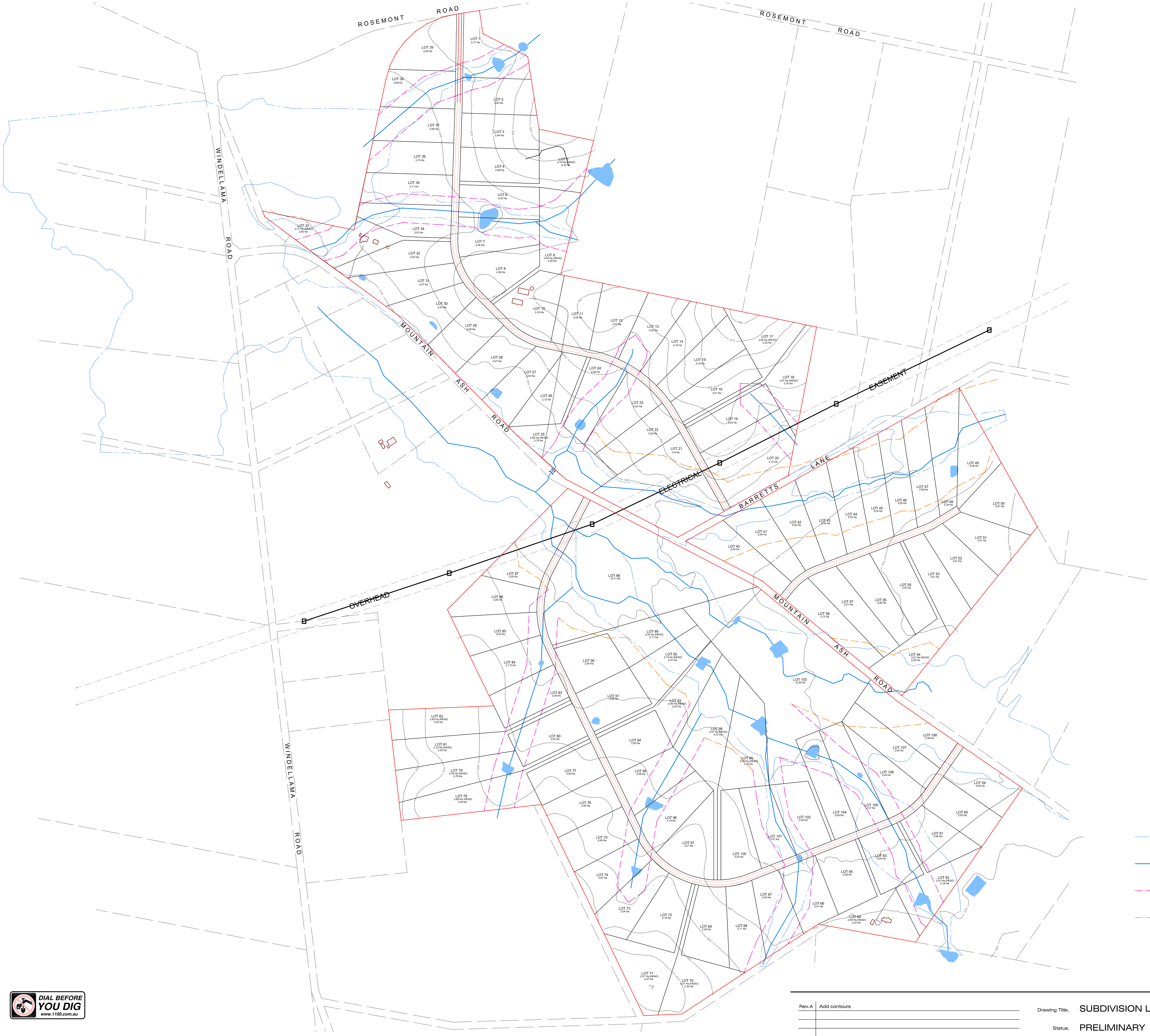
ANNEXURE A: PROPOSED PLANS

(1 SHEET)

STUART DESIGN
- BUILDING DESIGN
- DRAFTING
- 3D PHOTO RENDERING
- PROJECT MANAGEMENT

bdaa BUILDING DESIGNERS
ASSOCIATION OF AUSTRALIA

130 IRONBARK ROAD
WIRRIMBI, N.S.W. 2447
MOBILE - 0427 471670
EMAIL: paul@stuartdesign.com.au



LEGEND

- 100 Year ARI
- WATERCOURSE / DAM
- WATERCOURSE 40m SETBACK
- WATERCOURSE 100m SETBACK

DIAL BEFORE YOU DIG
www.1100.com.au

Rev.	Description.
Rev.A	Add contours

Drawing Title. SUBDIVISION LAYOUT - WINDELLAMA

Status. PRELIMINARY

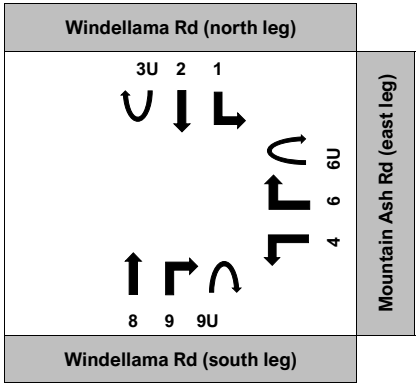
Plot Date.
Scale. 1:5000 @ A1
Sheet No. 1
Job No. 22-012
Drawing No. CD-01-A

Copyright 2019 STUART DESIGN

ANNEXURE B: TRAFFIC DATA

(4 SHEETS)

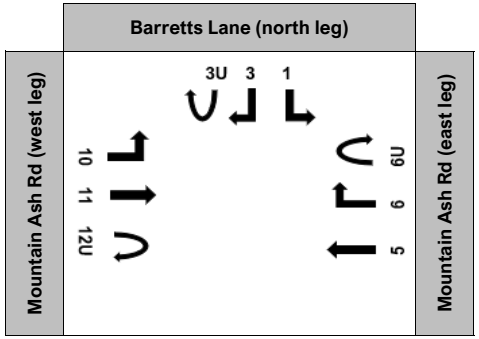
Report Type:	Classified Intersection Data - **60min**
Geocounts Job ID:	1667052231776
Client Job Number:	2022/913
Client Name:	McLaren Traffic Engineering
Location:	Gundary
Survey Site:	IC01 (Windellama Rd/Mountain Ash Rd)
Survey Date:	**Tuesday, 1st November 2022**
Site Coordinates:	-34.78439, 149.7344304



AM Peak Hour:	**8:00 to 9:00**
PM Peak Hour:	**15:30 to 16:30**
AM Peak Hour Volume:	**197**
PM Peak Hour Volume:	**180**

Approach	**Windellama Rd (north leg)**									**Mountain Ash Rd (east leg)**									**Windellama Rd (**				
Movement	Movement 1 (Left Turn)			Movement 2 (Through)			Movement 3U (U Turn)			Movement 4 (Left Turn)			Movement 6 (Right Turn)			Movement 6U (U Turn)			Movement 8 (Through)			Movement (Right Tur	
Time Interval	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy
06:00 to 07:00	8	0	**8**	14	2	**16**	0	0	**0**	3	0	**3**	16	0	**16**	0	0	**0**	37	0	**37**	0	0
06:15 to 07:15	5	1	**6**	16	5	**21**	0	0	**0**	6	0	**6**	14	0	**14**	0	0	**0**	38	2	**40**	0	0
06:30 to 07:30	13	1	**14**	23	5	**28**	0	0	**0**	5	0	**5**	20	0	**20**	0	0	**0**	44	4	**48**	1	0
06:45 to 07:45	16	2	**18**	26	6	**32**	0	0	**0**	6	0	**6**	24	0	**24**	0	0	**0**	54	4	**58**	2	0
07:00 to 08:00	17	2	**19**	29	5	**34**	0	0	**0**	5	0	**5**	32	0	**32**	0	0	**0**	59	4	**63**	2	0
07:15 to 08:15	18	1	**19**	31	4	**35**	0	0	**0**	2	2	**4**	46	0	**46**	0	0	**0**	77	2	**79**	3	0
07:30 to 08:30	8	2	**10**	25	5	**30**	0	0	**0**	5	2	**7**	49	3	**52**	0	0	**0**	77	1	**78**	3	0
07:45 to 08:45	6	2	**8**	20	3	**23**	0	0	**0**	5	3	**8**	53	3	**56**	0	0	**0**	88	2	**90**	3	1
08:00 to 09:00	7	2	**9**	19	3	**22**	0	0	**0**	5	4	**9**	52	5	**57**	0	0	**0**	93	2	**95**	4	1
15:00 to 16:00	35	0	**35**	49	1	**50**	0	0	**0**	20	1	**21**	12	1	**13**	0	0	**0**	46	1	**47**	0	0
15:15 to 16:15	41	1	**42**	59	2	**61**	0	0	**0**	16	1	**17**	11	1	**12**	0	0	**0**	45	1	**46**	0	0
15:30 to 16:30	45	1	**46**	70	1	**71**	0	0	**0**	14	0	**14**	12	1	**13**	0	0	**0**	35	1	**36**	0	0
15:45 to 16:45	46	1	**47**	71	1	**72**	0	0	**0**	12	0	**12**	10	2	**12**	0	0	**0**	34	1	**35**	0	0
16:00 to 17:00	42	2	**44**	70	1	**71**	0	0	**0**	9	1	**10**	9	2	**11**	0	0	**0**	35	2	**37**	0	0

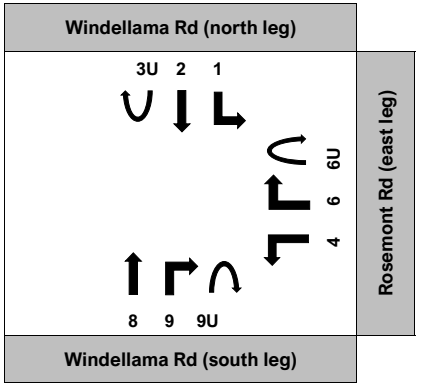
Report Type:	Classified Intersection Data - **60min**
Geocounts Job ID:	1667052231776
Client Job Number:	2022/913
Client Name:	McLaren Traffic Engineering
Location:	Gundary
Survey Site:	IC02 (Mountain Ash Rd/Barretts Lane)
Survey Date:	**Tuesday, 1st November 2022**
Site Coordinates:	-34.7914214, 149.7484208



AM Peak Hour:	**8:00 to 9:00**
PM Peak Hour:	**15:30 to 16:30**
AM Peak Hour Volume:	**77**
PM Peak Hour Volume:	**78**

Approach	**Barretts Lane (north leg)**									**Mountain Ash Rd (east leg)**									**Mountain Ash Rd**				
Movement	Movement 1 (Left Turn)			Movement 3 (Right Turn)			Movement 3U (U Turn)			Movement 5 (Through)			Movement 6 (Right Turn)			Movement 6U (U Turn)			Movement 10 (Left Turn)			Movement (Through	
Time Interval	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy
06:00 to 07:00	0	0	**0**	0	0	**0**	0	0	**0**	19	0	**19**	0	0	**0**	0	0	**0**	0	0	**0**	8	0
06:15 to 07:15	0	0	**0**	0	0	**0**	0	0	**0**	20	0	**20**	0	0	**0**	0	0	**0**	0	0	**0**	4	1
06:30 to 07:30	1	0	**1**	0	0	**0**	0	0	**0**	24	0	**24**	0	0	**0**	0	0	**0**	1	0	**1**	13	1
06:45 to 07:45	1	0	**1**	0	0	**0**	0	0	**0**	29	0	**29**	0	0	**0**	0	0	**0**	1	0	**1**	18	2
07:00 to 08:00	1	0	**1**	1	0	**1**	0	0	**0**	35	0	**35**	0	0	**0**	0	0	**0**	1	0	**1**	20	2
07:15 to 08:15	1	0	**1**	3	0	**3**	0	0	**0**	43	2	**45**	0	0	**0**	0	0	**0**	1	0	**1**	21	1
07:30 to 08:30	0	0	**0**	3	0	**3**	0	0	**0**	50	3	**53**	0	0	**0**	0	0	**0**	0	0	**0**	11	2
07:45 to 08:45	0	0	**0**	3	0	**3**	0	0	**0**	54	4	**58**	0	0	**0**	0	0	**0**	0	0	**0**	9	3
08:00 to 09:00	0	0	**0**	2	0	**2**	0	0	**0**	53	7	**60**	0	0	**0**	0	0	**0**	0	0	**0**	11	3
15:00 to 16:00	0	0	**0**	0	0	**0**	0	0	**0**	32	2	**34**	1	0	**1**	0	0	**0**	0	0	**0**	38	0
15:15 to 16:15	0	0	**0**	0	0	**0**	0	0	**0**	27	2	**29**	1	0	**1**	0	0	**0**	0	0	**0**	42	2
15:30 to 16:30	0	0	**0**	0	0	**0**	0	0	**0**	26	2	**28**	1	0	**1**	0	0	**0**	1	0	**1**	46	2
15:45 to 16:45	0	0	**0**	0	0	**0**	0	0	**0**	22	2	**24**	0	0	**0**	0	0	**0**	1	0	**1**	45	2
16:00 to 17:00	0	0	**0**	0	0	**0**	0	0	**0**	18	3	**21**	0	0	**0**	0	0	**0**	1	0	**1**	41	3

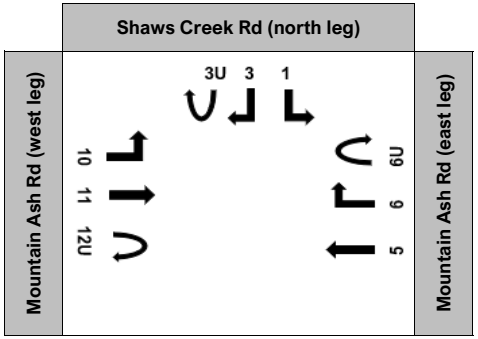
Report Type:	Classified Intersection Data - **60min**
Geocounts Job ID:	1667052231776
Client Job Number:	2022/913
Client Name:	McLaren Traffic Engineering
Location:	Gundary
Survey Site:	IC03 (Windellama Rd/Rosemont Rd)
Survey Date:	**Tuesday, 1st November 2022**
Site Coordinates:	-34.7800599, 149.7337357



AM Peak Hour:	**7:45 to 8:45**
PM Peak Hour:	**15:30 to 16:30**
AM Peak Hour Volume:	**214**
PM Peak Hour Volume:	**193**

Approach	**Windellama Rd (north leg)**									**Rosemont Rd (east leg)**									**Windellama Rd (**				
Movement	Movement 1 (Left Turn)			Movement 2 (Through)			Movement 3U (U Turn)			Movement 4 (Left Turn)			Movement 6 (Right Turn)			Movement 6U (U Turn)			Movement 8 (Through)			Movement (Right Tur	
Time Interval	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy
06:00 to 07:00	2	1	**3**	21	1	**22**	0	0	**0**	1	1	**2**	5	1	**6**	0	0	**0**	55	1	**56**	1	0
06:15 to 07:15	2	0	**2**	20	1	**21**	0	0	**0**	3	2	**5**	9	3	**12**	0	0	**0**	56	3	**59**	1	0
06:30 to 07:30	1	1	**2**	31	3	**34**	0	0	**0**	4	1	**5**	14	3	**17**	0	0	**0**	65	3	**68**	1	1
06:45 to 07:45	0	2	**2**	37	5	**42**	0	0	**0**	6	1	**7**	14	2	**16**	0	0	**0**	78	3	**81**	1	1
07:00 to 08:00	1	2	**3**	41	5	**46**	0	0	**0**	6	1	**7**	14	2	**16**	0	0	**0**	102	2	**104**	0	1
07:15 to 08:15	3	2	**5**	41	7	**48**	0	0	**0**	5	1	**6**	12	1	**13**	0	0	**0**	127	2	**129**	0	1
07:30 to 08:30	4	1	**5**	31	5	**36**	0	0	**0**	5	1	**6**	14	1	**15**	0	0	**0**	135	5	**140**	0	0
07:45 to 08:45	5	0	**5**	28	4	**32**	0	0	**0**	2	1	**3**	15	1	**16**	0	0	**0**	151	6	**157**	1	0
08:00 to 09:00	4	0	**4**	26	4	**30**	0	0	**0**	2	1	**3**	17	1	**18**	0	0	**0**	143	7	**150**	1	0
15:00 to 16:00	11	0	**11**	85	1	**86**	0	0	**0**	1	0	**1**	3	0	**3**	0	0	**0**	55	3	**58**	2	0
15:15 to 16:15	15	1	**16**	102	3	**105**	0	0	**0**	1	0	**1**	5	0	**5**	0	0	**0**	51	3	**54**	3	0
15:30 to 16:30	16	1	**17**	117	3	**120**	0	0	**0**	1	0	**1**	5	0	**5**	0	0	**0**	44	3	**47**	3	0
15:45 to 16:45	16	1	**17**	115	4	**119**	0	0	**0**	1	0	**1**	7	0	**7**	0	0	**0**	42	4	**46**	2	0
16:00 to 17:00	14	2	**16**	108	4	**112**	0	0	**0**	1	0	**1**	6	0	**6**	0	0	**0**	39	4	**43**	1	0

Report Type:	Classified Intersection Data - **60min**
Geocounts Job ID:	1667052231776
Client Job Number:	2022/913
Client Name:	McLaren Traffic Engineering
Location:	Gundary
Survey Site:	IC04 (Mountain Ash Rd/Shaws Creek Rd)
Survey Date:	**Tuesday, 1st November 2022**
Site Coordinates:	-34.8115985, 149.7833407



AM Peak Hour:	**8:00 to 9:00**
PM Peak Hour:	**15:00 to 16:00**
AM Peak Hour Volume:	**66**
PM Peak Hour Volume:	**68**

Approach	**Shaws Creek Rd (north leg)**									**Mountain Ash Rd (east leg)**									**Mountain Ash Rd**				
Movement	Movement 1 (Left Turn)			Movement 3 (Right Turn)			Movement 3U (U Turn)			Movement 5 (Through)			Movement 6 (Right Turn)			Movement 6U (U Turn)			Movement 10 (Left Turn)			Movement (Through	
Time Interval	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy	**Total**	Light	Heavy
06:00 to 07:00	0	0	**0**	0	0	**0**	0	0	**0**	14	0	**14**	0	0	**0**	0	0	**0**	0	0	**0**	9	0
06:15 to 07:15	0	0	**0**	0	0	**0**	0	0	**0**	16	0	**16**	1	0	**1**	0	0	**0**	0	0	**0**	5	1
06:30 to 07:30	0	0	**0**	0	0	**0**	0	0	**0**	19	0	**19**	1	0	**1**	0	0	**0**	0	0	**0**	13	1
06:45 to 07:45	0	0	**0**	0	0	**0**	0	0	**0**	26	0	**26**	1	0	**1**	0	0	**0**	1	0	**1**	17	2
07:00 to 08:00	0	0	**0**	2	0	**2**	0	0	**0**	35	0	**35**	1	0	**1**	0	0	**0**	1	0	**1**	18	2
07:15 to 08:15	0	0	**0**	3	0	**3**	0	0	**0**	37	2	**39**	0	0	**0**	0	0	**0**	1	0	**1**	19	1
07:30 to 08:30	0	0	**0**	6	0	**6**	0	0	**0**	43	3	**46**	0	0	**0**	0	0	**0**	2	0	**2**	9	2
07:45 to 08:45	0	0	**0**	7	0	**7**	0	0	**0**	42	4	**46**	1	0	**1**	0	0	**0**	1	0	**1**	6	2
08:00 to 09:00	0	0	**0**	5	0	**5**	0	0	**0**	41	7	**48**	1	0	**1**	0	0	**0**	2	0	**2**	8	2
15:00 to 16:00	1	0	**1**	0	0	**0**	0	0	**0**	29	2	**31**	0	0	**0**	0	0	**0**	2	0	**2**	34	0
15:15 to 16:15	1	0	**1**	0	0	**0**	0	0	**0**	24	2	**26**	0	0	**0**	0	0	**0**	0	0	**0**	38	1
15:30 to 16:30	0	0	**0**	0	0	**0**	0	0	**0**	22	3	**25**	0	0	**0**	0	0	**0**	0	0	**0**	37	1
15:45 to 16:45	0	0	**0**	0	0	**0**	0	0	**0**	21	2	**23**	0	0	**0**	0	0	**0**	0	0	**0**	41	1
16:00 to 17:00	1	0	**1**	0	0	**0**	0	0	**0**	15	2	**17**	0	0	**0**	0	0	**0**	0	0	**0**	32	2

ANNEXURE C: SIDRA ANNEXURES

(24 SHEETS)

MOVEMENT SUMMARY

Site: 101 [Rosemont Road / Windellama Road EX AM (Site Folder: Existing)]

Rosemont Road / Windellama Road
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	157	6	165	3.8	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	1	0	1	0.0	0.087	5.5	LOS A	0.0	0.0	0.00	0.00	0.00	57.3
Approach		158	6	166	3.8	0.087	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: Rosemont Road														
4	L2	3	1	3	33.3	0.002	6.1	LOS A	0.0	0.1	0.11	0.53	0.11	51.2
6	R2	18	1	19	5.6	0.018	6.3	LOS A	0.1	0.4	0.27	0.58	0.27	51.7
Approach		21	2	22	9.5	0.018	6.2	LOS A	0.1	0.4	0.24	0.58	0.24	51.6
North: Windellama Road														
7	L2	5	0	5	0.0	0.022	5.5	LOS A	0.0	0.0	0.00	0.08	0.00	56.7
8	T1	32	4	34	12.5	0.022	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	59.2
Approach		37	4	39	10.8	0.022	0.8	NA	0.0	0.0	0.00	0.08	0.00	58.8
All Vehicles		216	12	227	5.6	0.087	0.8	NA	0.1	0.4	0.03	0.07	0.03	58.8

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

MOVEMENT SUMMARY

Site: 101 [Rosemont Road / Windellama Road EX PM (Site Folder: Existing)]

Rosemont Road / Windellama Road
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	47	3	49	6.4	0.028	0.0	LOS A	0.0	0.2	0.04	0.05	0.04	59.5
3	R2	3	0	3	0.0	0.028	6.3	LOS A	0.0	0.2	0.04	0.05	0.04	56.9
Approach		50	3	53	6.0	0.028	0.4	NA	0.0	0.2	0.04	0.05	0.04	59.3
East: Rosemont Road														
4	L2	1	0	1	0.0	0.001	5.9	LOS A	0.0	0.0	0.21	0.52	0.21	52.2
6	R2	5	0	5	0.0	0.005	6.1	LOS A	0.0	0.1	0.25	0.56	0.25	52.0
Approach		6	0	6	0.0	0.005	6.0	LOS A	0.0	0.1	0.24	0.56	0.24	52.0
North: Windellama Road														
7	L2	17	1	18	5.9	0.076	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	56.6
8	T1	120	3	126	2.5	0.076	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
Approach		137	4	144	2.9	0.076	0.7	NA	0.0	0.0	0.00	0.07	0.00	59.0
All Vehicles		193	7	203	3.6	0.076	0.8	NA	0.0	0.2	0.02	0.08	0.02	58.8

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

MOVEMENT SUMMARY

Site: 101 [Windellama Road / Mountain Ash Road EX AM (Site Folder: Existing)]

Windellama Road / Mountain Ash Road
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	95	2	100	2.1	0.056	0.0	LOS A	0.0	0.3	0.01	0.03	0.01	59.7
3	R2	5	1	5	20.0	0.056	5.8	LOS A	0.0	0.3	0.01	0.03	0.01	56.1
Approach		100	3	105	3.0	0.056	0.3	NA	0.0	0.3	0.01	0.03	0.01	59.5
East: Mountain Ash Road														
4	L2	9	4	9	44.4	0.008	10.0	LOS A	0.0	0.3	0.10	0.99	0.10	49.4
6	R2	57	5	60	8.8	0.062	8.5	LOS A	0.2	1.5	0.23	0.91	0.23	50.6
Approach		66	9	69	13.6	0.062	8.7	LOS A	0.2	1.5	0.21	0.92	0.21	50.5
North: Windellama Road														
7	L2	9	2	9	22.2	0.019	5.8	LOS A	0.0	0.0	0.00	0.17	0.00	55.1
8	T1	22	3	23	13.6	0.019	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	58.6
Approach		31	5	33	16.1	0.019	1.7	NA	0.0	0.0	0.00	0.17	0.00	57.5
All Vehicles		197	17	207	8.6	0.062	3.3	NA	0.2	1.5	0.08	0.35	0.08	55.9

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Windellama Road / Mountain Ash Road EX PM (Site Folder: Existing)]

Windellama Road / Mountain Ash Road
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	36	1	38	2.8	0.020	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	59.8
3	R2	1	0	1	0.0	0.020	5.8	LOS A	0.0	0.0	0.01	0.02	0.01	57.2
Approach		37	1	39	2.7	0.020	0.2	NA	0.0	0.0	0.01	0.02	0.01	59.7
East: Mountain Ash Road														
4	L2	14	0	15	0.0	0.011	8.3	LOS A	0.0	0.3	0.17	0.89	0.17	51.1
6	R2	13	1	14	7.7	0.014	8.4	LOS A	0.0	0.3	0.23	0.89	0.23	50.7
Approach		27	1	28	3.7	0.014	8.3	LOS A	0.0	0.3	0.19	0.89	0.19	50.9
North: Windellama Road														
7	L2	46	1	48	2.2	0.065	5.6	LOS A	0.0	0.0	0.00	0.23	0.00	55.5
8	T1	71	1	75	1.4	0.065	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		117	2	123	1.7	0.065	2.2	NA	0.0	0.0	0.00	0.23	0.00	56.9
All Vehicles		181	4	191	2.2	0.065	2.7	NA	0.0	0.3	0.03	0.29	0.03	56.5

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

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Barretts Lane EX AM (Site Folder: Existing)]

Mountain Ash Road / Barretts Lane
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	60	7	63	11.7	0.035	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
6	R2	1	0	1	0.0	0.035	5.4	LOS A	0.0	0.0	0.00	0.01	0.00	57.1
Approach		61	7	64	11.5	0.035	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
North: Barretts Lane														
7	L2	1	0	1	0.0	0.002	5.6	LOS A	0.0	0.1	0.09	0.56	0.09	52.6
9	R2	2	0	2	0.0	0.002	5.7	LOS A	0.0	0.1	0.09	0.56	0.09	52.4
Approach		3	0	3	0.0	0.002	5.7	LOS A	0.0	0.1	0.09	0.56	0.09	52.5
West: Mountain Ash Road														
10	L2	1	0	1	0.0	0.009	5.5	LOS A	0.0	0.0	0.00	0.04	0.00	57.1
11	T1	14	3	15	21.4	0.009	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
Approach		15	3	16	20.0	0.009	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
All Vehicles		79	10	83	12.7	0.035	0.4	NA	0.0	0.1	0.01	0.04	0.01	59.4

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

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Barretts Lane EX PM (Site Folder: Existing)]

Mountain Ash Road / Barretts Lane
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	21	2	22	9.5	0.013	0.0	LOS A	0.0	0.0	0.01	0.03	0.01	59.7
6	R2	1	0	1	0.0	0.013	5.5	LOS A	0.0	0.0	0.01	0.03	0.01	56.9
Approach		22	2	23	9.1	0.013	0.2	NA	0.0	0.0	0.01	0.03	0.01	59.5
North: Barretts Lane														
7	L2	1	0	1	0.0	0.002	5.6	LOS A	0.0	0.0	0.11	0.55	0.11	52.6
9	R2	1	0	1	0.0	0.002	5.6	LOS A	0.0	0.0	0.11	0.55	0.11	52.3
Approach		2	0	2	0.0	0.002	5.6	LOS A	0.0	0.0	0.11	0.55	0.11	52.5
West: Mountain Ash Road														
10	L2	1	0	1	0.0	0.020	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	57.3
11	T1	35	2	37	5.7	0.020	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		36	2	38	5.6	0.020	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
All Vehicles		60	4	63	6.7	0.020	0.4	NA	0.0	0.0	0.01	0.04	0.01	59.4

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

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Shaws Creek Road EX AM (Site Folder: Existing)]

Mountain Ash Road / Shaws Creek Road
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	48	7	51	14.6	0.029	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
6	R2	1	0	1	0.0	0.029	5.4	LOS A	0.0	0.0	0.00	0.01	0.00	57.0
Approach		49	7	52	14.3	0.029	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
North: Shaws Creek Road														
7	L2	1	0	1	0.0	0.005	5.6	LOS A	0.0	0.1	0.10	0.56	0.10	52.7
9	R2	5	0	5	0.0	0.005	5.6	LOS A	0.0	0.1	0.10	0.56	0.10	52.4
Approach		6	0	6	0.0	0.005	5.6	LOS A	0.0	0.1	0.10	0.56	0.10	52.4
West: Mountain Ash Road														
10	L2	2	0	2	0.0	0.007	5.5	LOS A	0.0	0.0	0.00	0.10	0.00	56.5
11	T1	10	2	11	20.0	0.007	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	58.9
Approach		12	2	13	16.7	0.007	0.9	NA	0.0	0.0	0.00	0.10	0.00	58.5
All Vehicles		67	9	71	13.4	0.029	0.8	NA	0.0	0.1	0.01	0.08	0.01	58.8

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

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Shaws Creek Road EX PM (Site Folder: Existing)]

Mountain Ash Road / Shaws Creek Road
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	31	2	33	6.5	0.018	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	59.8
6	R2	1	0	1	0.0	0.018	5.5	LOS A	0.0	0.0	0.01	0.02	0.01	57.0
Approach		32	2	34	6.3	0.018	0.2	NA	0.0	0.0	0.01	0.02	0.01	59.7
North: Shaws Creek Road														
7	L2	1	0	1	0.0	0.002	5.6	LOS A	0.0	0.0	0.11	0.55	0.11	52.6
9	R2	1	0	1	0.0	0.002	5.7	LOS A	0.0	0.0	0.11	0.55	0.11	52.3
Approach		2	0	2	0.0	0.002	5.6	LOS A	0.0	0.0	0.11	0.55	0.11	52.4
West: Mountain Ash Road														
10	L2	2	0	2	0.0	0.019	5.5	LOS A	0.0	0.0	0.00	0.03	0.00	57.2
11	T1	34	0	36	0.0	0.019	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach		36	0	38	0.0	0.019	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles		70	2	74	2.9	0.019	0.4	NA	0.0	0.0	0.01	0.04	0.01	59.4

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

MOVEMENT SUMMARY

Site: 101 [Rosemont Road / Windellama Road EX AM + Growth (Site Folder: Existing + Growth)]

Rosemont Road / Windellama Road
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	157	6	198	3.8	0.105	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	1	0	1	0.0	0.105	5.7	LOS A	0.0	0.0	0.00	0.00	0.00	58.1
Approach		158	6	199	3.8	0.105	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
East: Rosemont Road														
4	L2	3	1	3	33.3	0.002	6.1	LOS A	0.0	0.1	0.12	0.53	0.12	51.9
6	R2	18	1	19	5.6	0.019	6.4	LOS A	0.1	0.4	0.29	0.59	0.29	52.1
Approach		21	2	22	9.5	0.019	6.4	LOS A	0.1	0.4	0.27	0.59	0.27	52.1
North: Windellama Road														
7	L2	5	0	5	0.0	0.025	5.5	LOS A	0.0	0.0	0.00	0.07	0.00	57.7
8	T1	32	4	40	12.5	0.025	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
Approach		37	4	46	11.1	0.025	0.6	NA	0.0	0.0	0.00	0.07	0.00	59.1
All Vehicles		216	12	267	5.5	0.105	0.7	NA	0.1	0.4	0.02	0.06	0.02	59.1

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

MOVEMENT SUMMARY

Site: 101 [Rosemont Road / Windellama Road EX PM + Growth (Site Folder: Existing + Growth)]

Rosemont Road / Windellama Road
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	47	3	59	6.4	0.034	0.0	LOS A	0.0	0.2	0.03	0.03	0.03	59.6
3	R2	3	0	3	0.0	0.034	6.0	LOS A	0.0	0.2	0.03	0.03	0.03	57.7
Approach		50	3	63	6.1	0.034	0.3	NA	0.0	0.2	0.03	0.03	0.03	59.5
East: Rosemont Road														
4	L2	1	0	1	0.0	0.001	5.9	LOS A	0.0	0.0	0.24	0.51	0.24	52.9
6	R2	5	0	5	0.0	0.005	6.2	LOS A	0.0	0.1	0.27	0.57	0.27	52.4
Approach		6	0	6	0.0	0.005	6.2	LOS A	0.0	0.1	0.27	0.56	0.27	52.5
North: Windellama Road														
7	L2	17	1	18	5.9	0.089	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	57.5
8	T1	120	3	152	2.5	0.089	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	59.4
Approach		137	4	169	2.9	0.089	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.2
All Vehicles		193	7	238	3.6	0.089	0.7	NA	0.0	0.2	0.02	0.07	0.02	59.1

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

MOVEMENT SUMMARY

Site: 101 [Windellama Road / Mountain Ash Road EX AM + Growth (Site Folder: Existing + Growth)]

Windellama Road / Mountain Ash Road
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	95	2	120	2.1	0.067	0.0	LOS A	0.0	0.3	0.02	0.03	0.02	59.7
3	R2	5	1	6	20.0	0.067	5.9	LOS A	0.0	0.3	0.02	0.03	0.02	56.8
Approach		100	3	126	3.0	0.067	0.3	NA	0.0	0.3	0.02	0.03	0.02	59.6
East: Mountain Ash Road														
4	L2	9	4	11	44.4	0.010	10.0	LOS A	0.0	0.4	0.11	0.98	0.11	50.0
6	R2	57	5	72	8.8	0.076	8.6	LOS A	0.3	1.9	0.26	0.91	0.26	51.0
Approach		66	9	83	13.6	0.076	8.8	LOS A	0.3	1.9	0.24	0.92	0.24	50.9
North: Windellama Road														
7	L2	9	2	11	22.2	0.023	5.8	LOS A	0.0	0.0	0.00	0.17	0.00	55.9
8	T1	22	3	28	13.6	0.023	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	58.6
Approach		31	5	39	16.1	0.023	1.7	NA	0.0	0.0	0.00	0.17	0.00	57.8
All Vehicles		197	17	249	8.6	0.076	3.4	NA	0.3	1.9	0.09	0.35	0.09	56.1

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

MOVEMENT SUMMARY

Site: 101 [Windellama Road / Mountain Ash Road EX PM + Growth (Site Folder: Existing + Growth)]

Windellama Road / Mountain Ash Road
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	36	1	45	2.8	0.025	0.0	LOS A	0.0	0.1	0.02	0.02	0.02	59.8
3	R2	1	0	1	0.0	0.025	5.9	LOS A	0.0	0.1	0.02	0.02	0.02	57.9
Approach		37	1	47	2.7	0.025	0.2	NA	0.0	0.1	0.02	0.02	0.02	59.7
East: Mountain Ash Road														
4	L2	14	0	18	0.0	0.013	8.3	LOS A	0.1	0.4	0.19	0.88	0.19	51.8
6	R2	13	1	16	7.7	0.017	8.5	LOS A	0.1	0.4	0.25	0.89	0.25	51.1
Approach		27	1	34	3.7	0.017	8.4	LOS A	0.1	0.4	0.22	0.88	0.22	51.4
North: Windellama Road														
7	L2	46	1	58	2.2	0.078	5.6	LOS A	0.0	0.0	0.00	0.23	0.00	56.3
8	T1	71	1	90	1.4	0.078	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		117	2	148	1.7	0.078	2.2	NA	0.0	0.0	0.00	0.23	0.00	57.3
All Vehicles		181	4	229	2.2	0.078	2.7	NA	0.1	0.4	0.04	0.29	0.04	56.8

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

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Barretts Lane EX AM + Growth (Site Folder: Existing + Growth)]

Mountain Ash Road / Barretts Lane
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	60	7	76	11.7	0.042	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
6	R2	1	0	1	0.0	0.042	5.5	LOS A	0.0	0.0	0.00	0.01	0.00	57.6
Approach		61	7	77	11.5	0.042	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.9
North: Barretts Lane														
7	L2	1	0	1	0.0	0.002	5.6	LOS A	0.0	0.1	0.08	0.57	0.08	53.4
9	R2	2	0	2	0.0	0.002	5.7	LOS A	0.0	0.1	0.08	0.57	0.08	52.9
Approach		3	0	3	0.0	0.002	5.7	LOS A	0.0	0.1	0.08	0.57	0.08	53.1
West: Mountain Ash Road														
10	L2	1	0	1	0.0	0.011	5.5	LOS A	0.0	0.0	0.00	0.03	0.00	58.0
11	T1	14	3	18	21.4	0.011	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.6
Approach		15	3	19	20.2	0.011	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles		79	10	99	12.8	0.042	0.3	NA	0.0	0.1	0.00	0.03	0.00	59.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Barretts Lane EX PM + Growth (Site Folder: Existing + Growth)]

Mountain Ash Road / Barretts Lane
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	21	2	27	9.5	0.015	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	59.7
6	R2	1	0	1	0.0	0.015	5.6	LOS A	0.0	0.0	0.01	0.02	0.01	57.5
Approach		22	2	28	9.2	0.015	0.2	NA	0.0	0.0	0.01	0.02	0.01	59.6
North: Barretts Lane														
7	L2	1	0	1	0.0	0.002	5.7	LOS A	0.0	0.0	0.12	0.55	0.12	53.3
9	R2	1	0	1	0.0	0.002	5.7	LOS A	0.0	0.0	0.12	0.55	0.12	52.8
Approach		2	0	2	0.0	0.002	5.7	LOS A	0.0	0.0	0.12	0.55	0.12	53.0
West: Mountain Ash Road														
10	L2	1	0	1	0.0	0.024	5.5	LOS A	0.0	0.0	0.00	0.01	0.00	58.2
11	T1	35	2	44	5.7	0.024	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
Approach		36	2	45	5.6	0.024	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
All Vehicles		60	4	75	6.7	0.024	0.3	NA	0.0	0.0	0.01	0.03	0.01	59.5

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

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Shaws Creek Road EX AM + Growth (Site Folder: Existing + Growth)]

Mountain Ash Road / Shaws Creek Road
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	48	7	61	14.6	0.035	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
6	R2	1	0	1	0.0	0.035	5.5	LOS A	0.0	0.0	0.00	0.01	0.00	57.6
Approach		49	7	62	14.3	0.035	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
North: Shaws Creek Road														
7	L2	1	0	1	0.0	0.005	5.6	LOS A	0.0	0.1	0.09	0.57	0.09	53.4
9	R2	5	0	5	0.0	0.005	5.7	LOS A	0.0	0.1	0.09	0.57	0.09	52.9
Approach		6	0	6	0.0	0.005	5.7	LOS A	0.0	0.1	0.09	0.57	0.09	53.0
West: Mountain Ash Road														
10	L2	2	0	2	0.0	0.008	5.5	LOS A	0.0	0.0	0.00	0.09	0.00	57.5
11	T1	10	2	13	20.0	0.008	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.1
Approach		12	2	15	17.1	0.008	0.8	NA	0.0	0.0	0.00	0.09	0.00	58.8
All Vehicles		67	9	83	13.7	0.035	0.6	NA	0.0	0.1	0.01	0.07	0.01	59.1

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

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Shaws Creek Road EX PM + Growth (Site Folder: Existing + Growth)]

Mountain Ash Road / Shaws Creek Road
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	31	2	39	6.5	0.022	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	59.8
6	R2	1	0	1	0.0	0.022	5.6	LOS A	0.0	0.0	0.01	0.02	0.01	57.6
Approach		32	2	40	6.3	0.022	0.1	NA	0.0	0.0	0.01	0.02	0.01	59.8
North: Shaws Creek Road														
7	L2	1	0	1	0.0	0.002	5.6	LOS A	0.0	0.0	0.12	0.55	0.12	53.3
9	R2	1	0	1	0.0	0.002	5.7	LOS A	0.0	0.0	0.12	0.55	0.12	52.8
Approach		2	0	2	0.0	0.002	5.7	LOS A	0.0	0.0	0.12	0.55	0.12	53.0
West: Mountain Ash Road														
10	L2	2	0	2	0.0	0.023	5.5	LOS A	0.0	0.0	0.00	0.03	0.00	58.1
11	T1	34	0	43	0.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach		36	0	45	0.0	0.023	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.7
All Vehicles		70	2	87	2.9	0.023	0.3	NA	0.0	0.0	0.01	0.03	0.01	59.5

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

MOVEMENT SUMMARY

Site: 101 [Rosemont Road / Windellama Road PD AM + Growth (Site Folder: Future + Growth)]

Rosemont Road / Windellama Road
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	215	6	272	2.8	0.142	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	60.0
3	R2	1	0	1	0.0	0.142	5.7	LOS A	0.0	0.1	0.00	0.00	0.00	58.1
Approach		216	6	273	2.8	0.142	0.0	NA	0.0	0.1	0.00	0.00	0.00	60.0
East: Rosemont Road														
4	L2	3	1	3	33.3	0.002	6.1	LOS A	0.0	0.1	0.14	0.53	0.14	51.8
6	R2	29	1	33	3.2	0.035	6.8	LOS A	0.1	0.8	0.35	0.63	0.35	52.0
Approach		32	2	36	5.8	0.035	6.7	LOS A	0.1	0.8	0.33	0.62	0.33	52.0
North: Windellama Road														
7	L2	6	0	7	0.0	0.031	5.5	LOS A	0.0	0.0	0.00	0.07	0.00	57.7
8	T1	40	4	51	10.0	0.031	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
Approach		46	4	57	8.9	0.031	0.6	NA	0.0	0.0	0.00	0.07	0.00	59.1
All Vehicles		294	12	366	4.0	0.142	0.8	NA	0.1	0.8	0.03	0.07	0.03	58.9

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Rosemont Road / Windellama Road PD PM + Growth (Site Folder: Future + Growth)]

Rosemont Road / Windellama Road
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	54	3	68	5.6	0.038	0.1	LOS A	0.0	0.2	0.04	0.03	0.04	59.6
3	R2	3	0	3	0.0	0.038	6.3	LOS A	0.0	0.2	0.04	0.03	0.04	57.7
Approach		57	3	71	5.3	0.038	0.3	NA	0.0	0.2	0.04	0.03	0.04	59.5
East: Rosemont Road														
4	L2	1	0	1	0.0	0.001	6.1	LOS A	0.0	0.0	0.29	0.51	0.29	52.7
6	R2	6	0	7	0.0	0.007	6.5	LOS A	0.0	0.1	0.33	0.59	0.33	52.2
Approach		7	0	8	0.0	0.007	6.5	LOS A	0.0	0.1	0.32	0.58	0.32	52.3
North: Windellama Road														
7	L2	27	1	31	3.4	0.130	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	57.5
8	T1	172	3	217	1.7	0.130	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
Approach		199	4	248	2.0	0.130	0.7	NA	0.0	0.0	0.00	0.07	0.00	59.1
All Vehicles		263	7	327	2.6	0.130	0.8	NA	0.0	0.2	0.02	0.07	0.02	59.0

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Windellama Road / Mountain Ash Road PD AM + Growth (Site Folder: Future + Growth)]

Windellama Road / Mountain Ash Road
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	95	2	120	2.1	0.067	0.0	LOS A	0.0	0.3	0.02	0.03	0.02	59.7
3	R2	5	1	6	20.0	0.067	5.9	LOS A	0.0	0.3	0.02	0.03	0.02	56.8
Approach		100	3	126	3.0	0.067	0.3	NA	0.0	0.3	0.02	0.03	0.02	59.5
East: Mountain Ash Road														
4	L2	9	4	11	44.4	0.010	10.0	LOS A	0.0	0.4	0.11	0.98	0.11	50.0
6	R2	115	5	145	4.3	0.151	8.5	LOS A	0.5	3.9	0.28	0.90	0.28	51.2
Approach		124	9	157	7.3	0.151	8.6	LOS A	0.5	3.9	0.27	0.91	0.27	51.1
North: Windellama Road														
7	L2	17	2	21	11.8	0.028	5.7	LOS A	0.0	0.0	0.00	0.26	0.00	55.6
8	T1	22	3	28	13.6	0.028	0.0	LOS A	0.0	0.0	0.00	0.26	0.00	57.7
Approach		39	5	49	12.8	0.028	2.5	NA	0.0	0.0	0.00	0.26	0.00	56.8
All Vehicles		263	17	332	6.5	0.151	4.5	NA	0.5	3.9	0.13	0.48	0.13	54.9

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Windellama Road / Mountain Ash Road PD PM + Growth (Site Folder: Future + Growth)]

Windellama Road / Mountain Ash Road
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Windellama Road														
2	T1	36	1	45	2.8	0.025	0.0	LOS A	0.0	0.1	0.02	0.02	0.02	59.8
3	R2	1	0	1	0.0	0.025	6.2	LOS A	0.0	0.1	0.02	0.02	0.02	57.9
Approach		37	1	47	2.7	0.025	0.2	NA	0.0	0.1	0.02	0.02	0.02	59.7
East: Mountain Ash Road														
4	L2	14	0	18	0.0	0.013	8.3	LOS A	0.1	0.4	0.19	0.88	0.19	51.8
6	R2	20	1	25	5.0	0.027	8.6	LOS A	0.1	0.6	0.28	0.89	0.28	51.1
Approach		34	1	43	2.9	0.027	8.5	LOS A	0.1	0.6	0.24	0.88	0.24	51.4
North: Windellama Road														
7	L2	98	1	124	1.0	0.114	5.6	LOS A	0.0	0.0	0.00	0.34	0.00	55.4
8	T1	71	1	90	1.4	0.114	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	56.9
Approach		169	2	213	1.2	0.114	3.2	NA	0.0	0.0	0.00	0.34	0.00	56.1
All Vehicles		240	4	303	1.7	0.114	3.5	NA	0.1	0.6	0.04	0.37	0.04	55.9

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Barretts Lane PD AM + Growth (Site Folder: Future + Growth)]

Mountain Ash Road / Barretts Lane
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	85	7	107	8.2	0.059	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
6	R2	1	0	1	0.0	0.059	5.5	LOS A	0.0	0.0	0.00	0.01	0.00	57.7
Approach		86	7	108	8.2	0.059	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.9
North: Barretts Lane														
7	L2	3	0	4	0.0	0.021	5.6	LOS A	0.1	0.5	0.15	0.57	0.15	53.2
9	R2	17	0	21	0.0	0.021	5.9	LOS A	0.1	0.5	0.15	0.57	0.15	52.7
Approach		20	0	25	0.0	0.021	5.9	LOS A	0.1	0.5	0.15	0.57	0.15	52.8
West: Mountain Ash Road														
10	L2	3	0	4	0.0	0.017	5.5	LOS A	0.0	0.0	0.00	0.07	0.00	57.7
11	T1	22	3	28	13.6	0.017	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
Approach		25	3	31	12.1	0.017	0.6	NA	0.0	0.0	0.00	0.07	0.00	59.1
All Vehicles		131	10	164	7.7	0.059	1.0	NA	0.1	0.5	0.02	0.10	0.02	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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Barretts Lane PD PM + Growth (Site Folder: Future + Growth)]

Mountain Ash Road / Barretts Lane
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	26	2	33	7.7	0.020	0.0	LOS A	0.0	0.2	0.04	0.06	0.04	59.3
6	R2	3	0	4	0.0	0.020	5.7	LOS A	0.0	0.2	0.04	0.06	0.04	57.0
Approach		29	2	36	6.9	0.020	0.6	NA	0.0	0.2	0.04	0.06	0.04	59.0
North: Barretts Lane														
7	L2	1	0	1	0.0	0.004	5.7	LOS A	0.0	0.1	0.17	0.55	0.17	53.2
9	R2	3	0	4	0.0	0.004	5.8	LOS A	0.0	0.1	0.17	0.55	0.17	52.6
Approach		4	0	5	0.0	0.004	5.8	LOS A	0.0	0.1	0.17	0.55	0.17	52.8
West: Mountain Ash Road														
10	L2	15	0	19	0.0	0.048	5.6	LOS A	0.0	0.0	0.00	0.12	0.00	57.3
11	T1	57	2	72	3.5	0.048	0.0	LOS A	0.0	0.0	0.00	0.12	0.00	58.8
Approach		72	2	91	2.8	0.048	1.2	NA	0.0	0.0	0.00	0.12	0.00	58.5
All Vehicles		105	4	132	3.8	0.048	1.2	NA	0.0	0.2	0.02	0.12	0.02	58.4

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

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Shaws Creek Road PD AM + Growth (Site Folder: Future + Growth)]

Mountain Ash Road / Shaws Creek Road
Existing Conditions
AM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	48	7	61	14.6	0.035	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
6	R2	1	0	1	0.0	0.035	5.5	LOS A	0.0	0.0	0.00	0.01	0.00	57.6
Approach		49	7	62	14.3	0.035	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
North: Shaws Creek Road														
7	L2	1	0	1	0.0	0.005	5.6	LOS A	0.0	0.1	0.12	0.56	0.12	53.3
9	R2	5	0	5	0.0	0.005	5.7	LOS A	0.0	0.1	0.12	0.56	0.12	52.8
Approach		6	0	6	0.0	0.005	5.7	LOS A	0.0	0.1	0.12	0.56	0.12	52.9
West: Mountain Ash Road														
10	L2	2	0	2	0.0	0.014	5.5	LOS A	0.0	0.0	0.00	0.05	0.00	57.9
11	T1	18	2	23	11.1	0.014	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
Approach		20	2	25	10.2	0.014	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.3
All Vehicles		75	9	93	12.2	0.035	0.6	NA	0.0	0.1	0.01	0.06	0.01	59.2

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

MOVEMENT SUMMARY

Site: 101 [Mountain Ash Road / Shaws Creek Road PD PM + Growth (Site Folder: Future + Growth)]

Mountain Ash Road / Shaws Creek Road
Existing Conditions
PM Peak
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND 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	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Mountain Ash Road														
5	T1	37	2	47	5.4	0.025	0.0	LOS A	0.0	0.0	0.01	0.01	0.01	59.8
6	R2	1	0	1	0.0	0.025	5.6	LOS A	0.0	0.0	0.01	0.01	0.01	57.6
Approach		38	2	48	5.3	0.025	0.1	NA	0.0	0.0	0.01	0.01	0.01	59.8
North: Shaws Creek Road														
7	L2	1	0	1	0.0	0.002	5.6	LOS A	0.0	0.0	0.12	0.55	0.12	53.3
9	R2	1	0	1	0.0	0.002	5.7	LOS A	0.0	0.0	0.12	0.55	0.12	52.8
Approach		2	0	2	0.0	0.002	5.7	LOS A	0.0	0.0	0.12	0.55	0.12	53.0
West: Mountain Ash Road														
10	L2	2	0	2	0.0	0.023	5.5	LOS A	0.0	0.0	0.00	0.03	0.00	58.1
11	T1	34	0	43	0.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach		36	0	45	0.0	0.023	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.7
All Vehicles		76	2	95	2.7	0.025	0.3	NA	0.0	0.0	0.01	0.03	0.01	59.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.