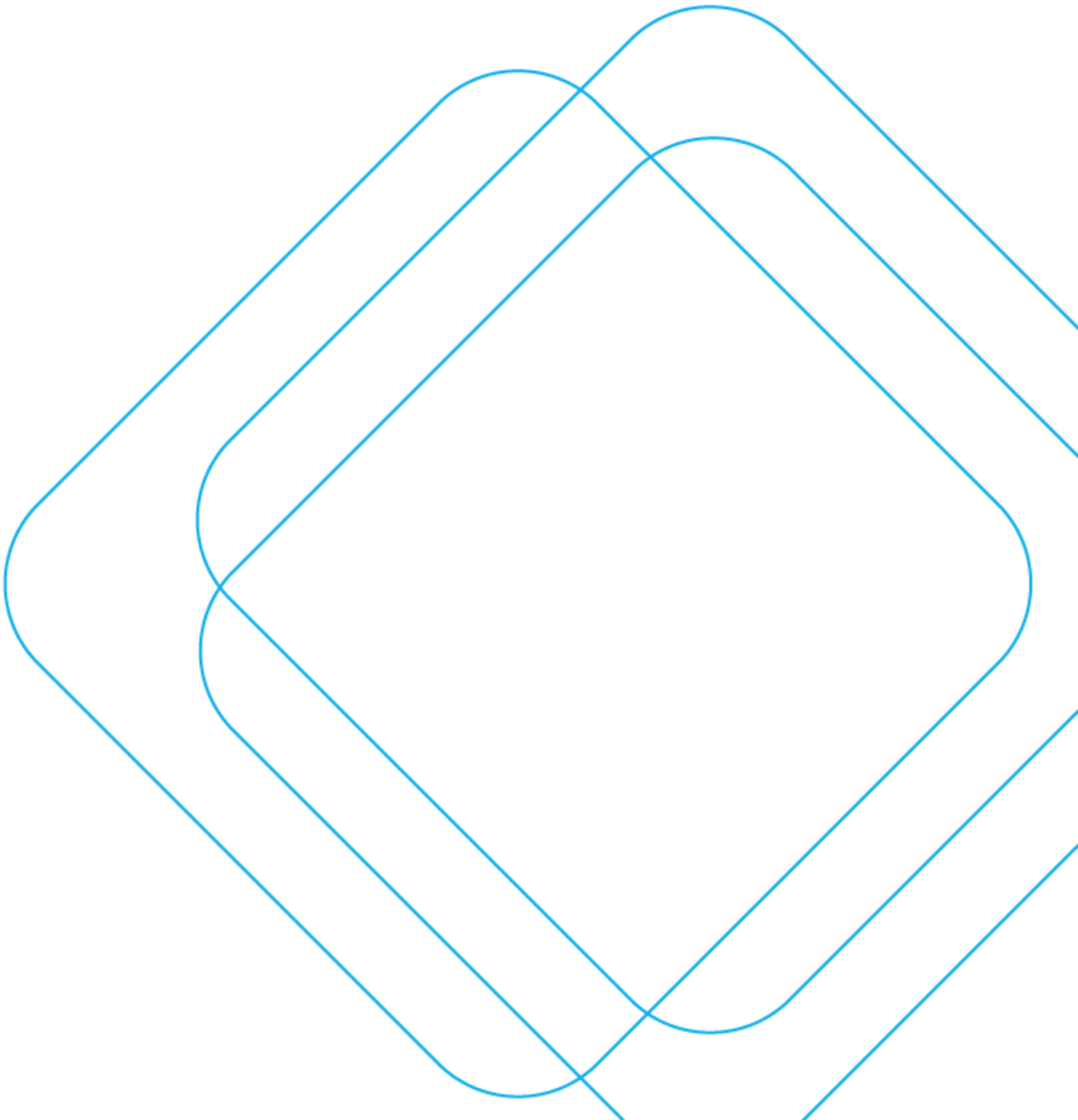
SCT Consulting

559 ANAMBAH ROAD GOSFORTH

Transport Impact Assessment

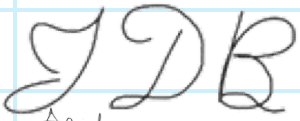
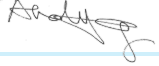
30 AUGUST 2024

SCT Consulting acknowledges the traditional owners of the lands on which we work.
We pay our respects to Elders past, present and emerging.



Quality Assurance

Project:	559 Anambah Road Gosforth		
Project Number:	SCT_00581		
Client:	Thirdi Anambah Pty Ltd	**ACN:**	661 880 619
Prepared by:	SCT Consulting PTY. LTD. (SCT Consulting)	**ABN:**	53 612 624 058

Information	Name	Position	Signature
Author:	Shawn Cen	Principal Consultant	
Reviewer:	Jonathan Busch	Associate Director	
Authoriser:	Andy Yung	Director	

Version	Date	Details
1.0	30 July 2024	Draft report
2.0	26 August 2024	Updated draft report
3.0	29 August 2024	Final report
4.0	30 August 2024	Updated final report

Contents

Executive Summary

Background

SCT Consulting has been engaged by Thirdi Anambah Pty Ltd to prepare a Traffic Impact Assessment for a proposed residential subdivision development application (DA) at 599 Anambah Road in the suburb of Gosforth, within the Maitland City Local Government Area.

The proposal

The proposed site covers a land area of approximately 66 hectares zoned R1 General Residential, which is located in the northernmost proportion of the Anambah Urban Release Area (URA). It is proposed that the site be subdivided for residential development, with associated roads and services including Stage 1 works and a concept master plan for full development. Stage 1 of the development seeks consent for 240 residential allotments and the full development will deliver up to 900 dwellings. The east-west and north-south sub-arterial roads form the higher-order roads in the subdivision master plan.

Access to the state road network would be via Anambah Road to New England Highway only, which permits all movements in and out.

The proposed cross-sections of the internal road network are designed according to Maitland City Council's Manual of Engineering Standards. The deviations are additional width for shared paths along watercourses and the edge of the subdivision. The carriageway is widened locally to satisfy bus movement.

Traffic impacts

As requested by TfNSW, and documented in correspondence dated 31 May 2024, the modelling assumptions have been confirmed as follows:

– 70% west and 30% east traffic distribution (A 50%:50% sensitivity analysis will be included at the request of TfNSW)

– A release rate of 300 lots per year in Lochinvar URA

– Three per cent p.a. growth on New England Highway in addition to development traffic from the Lochinvar URA

– Site completion year of 2028 and sensitivity test of 2038 (This will be carried out for 240 dwellings of Stage 1 and 900 dwellings of full development)

– Adoption of 0.71/0.78 veh/h (AM peak/PM peak) traffic generation rates for residential dwellings across the area.

– Based on the access strategy of the proposal, New England Highway / Anambah Road / Shipley Drive (roundabout) is considered for traffic modelling.

The modelling scenarios are summarised below.

Development scenario	Without background traffic growth	2028 with background growth	2038 with background growth
Future year base	-	Yes	Yes
With Stage 1 (240 lots)	Yes	Yes	Yes
Full development (900 lots)	Yes	Yes	Yes

The modelling confirms that the existing infrastructure will accommodate both the Stage 1 development and the full development scenario without any background traffic growth.

Existing infrastructure will cater for traffic growth generated by Stage 1 by 2028 (with background growth), without infrastructure upgrade. For the full development in 2028 (with background growth), an additional left turn lane for eastbound traffic would be required at the existing roundabout to maintain a satisfactory level of service (refer to **Figure 4-1**).

Without any infrastructure upgrade, the roundabout will fail in 2038 based on background growth alone (i.e. before the introduction of any additional traffic from the proposal). Hence, the roundabout needs to be upgraded by 2038 to respond to the significant background traffic growth on New England Highway including Lochinvar URA. These upgrades include a full signalisation at the Anambah Road intersection and additional lanes on New England Highway.

No further upgrade is required for Stage 1 development in 2038 (with background growth) due to the subject development's additional 240 lots. For full development (900 lots), traffic modelling indicates that additional upgrades are required at the Anambah Road intersection, such as additional lanes on the north approach and right turn lanes on the east approach (refer to **Figure 4-3**).

Given the complexities and uncertainty resulting from background growth and timing, along with multiple different Urban Release Areas, developments and landowners contributing to the need for upgrades, the exact timing and scope of any upgrades should be re-evaluated closer to the delivery dates and during each future subdivision application.

Conclusion

Due to background growth alone, the roundabout at the intersection of New England Highway / Anambah Road / Shipley Drive will fail by 2038, independent of any additional traffic resulting from the proposal. Conversely, without any background growth applied to the New England Highway corridor, the roundabout can accommodate all 900 lots under the proposal.

The study concludes that the impacts of the proposed development are at a level able to be accommodated by the existing and proposed infrastructure and that a Traffic Impact Assessment will be prepared for each Stage subsequent to Stage 1 to fully consider the impacts of actual traffic growth at that time.

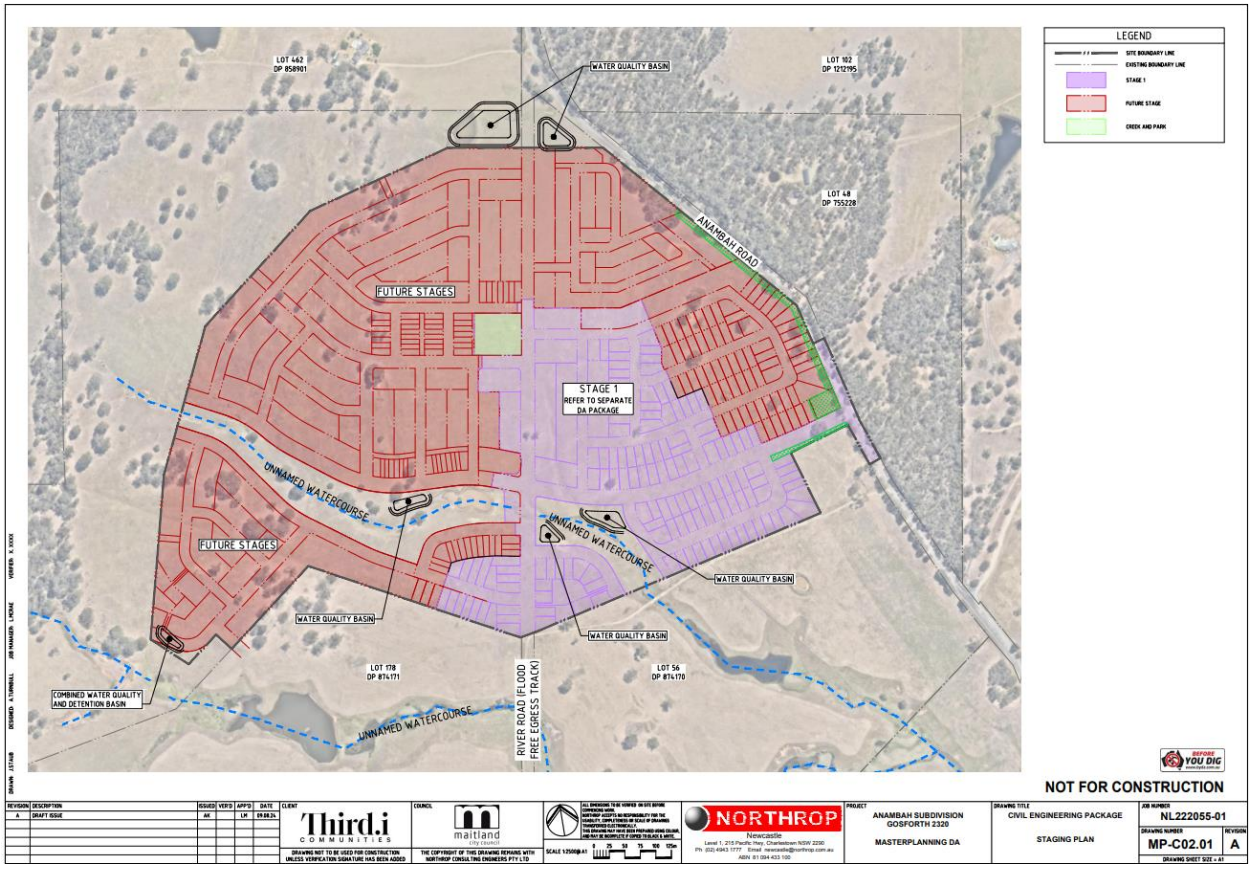
1.0 Introduction

1.1 Background

SCT Consulting has been engaged by Thirdi Anambah Pty Ltd to prepare a Traffic Impact Assessment for a proposed subdivision development application (DA) at 599 Anambah Road Gosforth, in Maitland City Local Government Area (LGA).

As shown in **Figure 1-1,** the site is located in the northernmost portion of the Anambah Urban Release Area (URA). It is currently R1 General Residential zoned land, which is located around 10km to the northwest of Maitland City Centre and 5km to the New England Highway. The subdivision will deliver 900 residential lots covering a land area of about 66 hectares whereas Stage 1 (labelled in purple) is expected to deliver 240 lots in the east portion of the site including the access road with Anambah Road. This DA will therefore consider both the concept master plan for full development and the Stage 1 works.

Figure 1-1 Proposed master plan and staging



Source: Northrop, 2024

1.2 Purpose of this report

SCT Consulting has assessed traffic impacts to support the subdivision. The report includes the following:

– A review of existing conditions

– Traffic data collection during the weekday morning and afternoon peak periods for the intersection of Anambah Road / New England Highway

– Future vehicle trip generation from the proposed development and surrounding urban growth area and distribution of the trips to the surrounding road network based on preferred access strategies and travel patterns

– SIDRA intersection modelling for the scenarios requested by TfNSW

– Assessment of cumulative impacts on the road, active transport, and public transport network

– Evaluation of the consistency of the proposed road cross-sections as part of this DA with Council's guidelines.

1.3 Report structure

The report comprises the following sections:

– **Section 2** describes the existing transport conditions for all modes of transport

– **Section 3** describes the proposed development, including its access strategy and proposed road network

– **Section 4** assesses the estimated trips generated, their distribution based on the preferred access strategy, and the likely traffic impacts associated with the additional trips

– **Section 5** summarises the report and presents the conclusion.

2.0 Existing conditions

2.1 The site

The proposed development is located in the northernmost portion of Anambah URA at 559 Anambah Road, bounded to the east by Anambah Road (**Figure 2-1**). The site is predominantly rural land with small vegetation patches across the central and northern parts of the site.

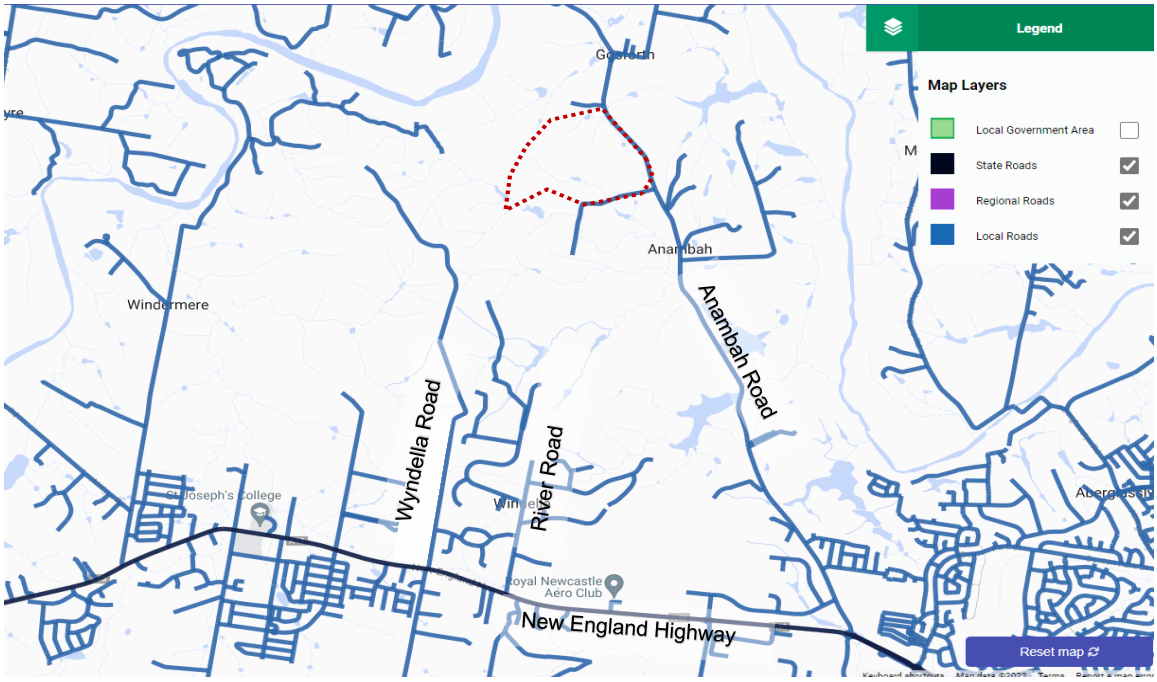
Figure 2-1 Existing site aerial

Source: Nearmap, 2024

2.2 Road network

The road network in the vicinity of the site is shown in **Figure 2-2** where New England Highway is a classified State road and other roads are all Local roads. New England Highway connects to Maitland and through onto Newcastle to the east. To the west, it connects to Branxton. There are interchanges with the M15 Hunter Expressway via Allandale Road and Lovedale Road at Allandale.

Figure 2-2 Classified state and regional road network



Source: Transport for NSW, 2024

– **New England Highway** is a state road, classified as a primary road. It would provide the main access for residents to the site in all directions. It generally varies between one and two lanes with no on-street parking provided. Speed limit also varies from 40 and 50 km/h in urban areas and school zones to 90 km/h west of Lochinvar. The New England Highway provides key connections to the Hunter Expressway and Pacific Highway / Motorway.

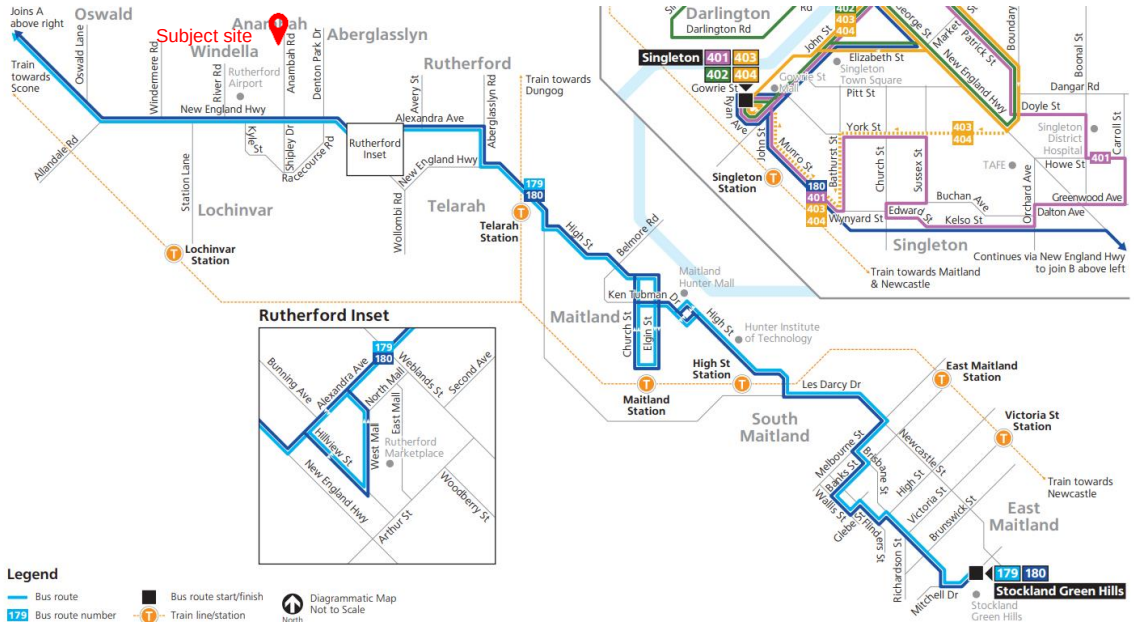
– **Anambah Road** is a local rural road, which is the only existing road connected to the site. The speed limit is 100 km/h and one travel lane is available in each direction. No formal on-street parking is provided, however, in some locations, there is sufficient shoulder width for vehicles to park. No kerb or gutter is currently in place along the road. Anambah Road connects to the New England Highway at a dual-lane roundabout in Rutherford.

– **River Road** is a local two-lane road, providing access to the nearby suburb of Windella. The speed limit is 50 km/h and no on-street parking is provided, however, there would be space to park on the road shoulder at places along its length. The formed section of River Road is currently 1.3km in length and ends at a turnaround point to the north. River Road connects to the New England Highway with a priority (give-way) intersection. There is an unformed section of River Road from the northern extent of the formed section of River Road and the southern boundary of the Site.

2.3 Public transport

The closest bus stop is on Anambah Road before Cagney Road where Route 178 (Loop service Rutherford to Anambah Road) is running at 11 services per day. Other bus stops on New England Highway are 600m to the west of the Anambah Road roundabout where Routes 179 and 180 follow a similar route (Maitland and Stockland Green Hills). The frequency is approximately hourly from 8 am to 6 pm (**Figure 2-3**). Two school bus routes (2481 and 2482) are provided along Anambah Road.

Figure 2-3 Public transport network



Source: Transport for NSW, 2023

Lochinvar Station is 7km to the southwest of the site. There are no feeder bus routes to this station. Lochinvar Station is served by the Hunter Line, which has an approximately hourly frequency from 7am to 10pm. The Hunter Line connects Lochinvar to Newcastle Interchange and Scone.

2.4 Active transport

There are no dedicated active transport facilities located near the site. With a lack of footpaths along any local roads, pedestrians and cyclists are required to utilise road shoulders or the roadway if they need to walk or cycle.

The walking and cycling infrastructure along New England Highway is shown in **Figure 2-4** and **Figure 2-5**.

Figure 2-4 Walking and cycling infrastructure – Anambah Road/ New England Highway

Source: Nearmaps, SCT Consulting, 2024

There are shared paths on all legs of the New England Highway/ Anambah Road roundabout. There are wide shoulders along New England Highway that would be suitable for experienced cyclists.

Figure 2-5 Walking and cycling infrastructure – Wyndella Road/ New England Highway

Source: Nearmaps, SCT Consulting, 2024

There is a footpath within the subdivision area to the south of the New England Highway with crossings on all legs of New England Highway/ Wyndella Road.

There are on-road cycle lanes on the eastern, western and southern approaches to New England Highway/ Wyndella Road. There are wide shoulders along New England Highway that would be suitable for experienced cyclists. A shared path runs along the western side of Springfield Drive south of New England Highway.

2.5 Intersection performance

To determine the impact of the development on future traffic, the current performance of nearby intersections should be understood. The key intersection to this project was identified as New England Highway / Anambah Road / Shipley Drive (roundabout) because the subject site will only be accessed via Anambah Road.

2.5.1 Traffic surveys

Intersection turning count surveys were undertaken at the roundabout on 11 October 2023 (Wednesday). Surveys were conducted between 7am-9am and 3pm-5pm to capture typical weekday peak periods. The survey was within the school term and collected turning counts of light and heavy vehicles within fifteen-minute intervals. Queue lengths were also collected in five-minute intervals for calibration.

2.5.2 Modelling

Intersections were modelled in SIDRA 9.1. SIDRA models the delay to road users based on demands and geometry of intersections, it is a typical software used for developments of this scale. Queue lengths were used to calibrate the model.

2.5.3 Intersection level of service definition

Intersection Level of Service (LoS) is a typical measure used by traffic engineers to identify when roads are congested. The Level of Service, as defined in TfNSW Traffic Modelling Guidelines, is provided in **Table 2-1**.

Table 2-1 Level of Service definitions

Level of Service	Average delay per vehicle	Performance explanation
A	Less than 14.5s	Good operation
B	14.5s to 28.4s	Good with acceptable delays and spare capacity
C	28.5s to 42.4s	Satisfactory
D	42.5s to 56.4s	Operating near capacity
E	56.5s to 70.4s	At capacity. At signals incidents will cause excessive delays. Roundabouts require another control method.
F	70.5s or greater	At capacity. At signals incidents will cause excessive delays. Roundabouts require another control method.

Source: Roads and Maritime Services (2002), Traffic Modelling Guidelines

In addition, the following measure of performance is included to complement the Level of Service measure:

– **Degree of Saturation (DoS):** a measure of the volume/capacity for the worst turning movement at the intersection. A DoS of 1.0 implies the turning movement is at capacity.

2.5.4 Intersection performance

The performance of the intersection is presented in **Table 2-2**:

Table 2-2 2023 existing intersection performance

Intersection	Delay	LoS	DoS	Delay	LoS	DoS
	Weekday AM peak			Weekday PM peak		
New England Highway / Anambah Road / Shipley Drive	17.5s	B	0.47	16.5s	B	0.54

Traffic modelling confirms that there are no existing capacity issues at the intersection. It is currently operating satisfactorily with limited delay and excess capacity for some future growth.

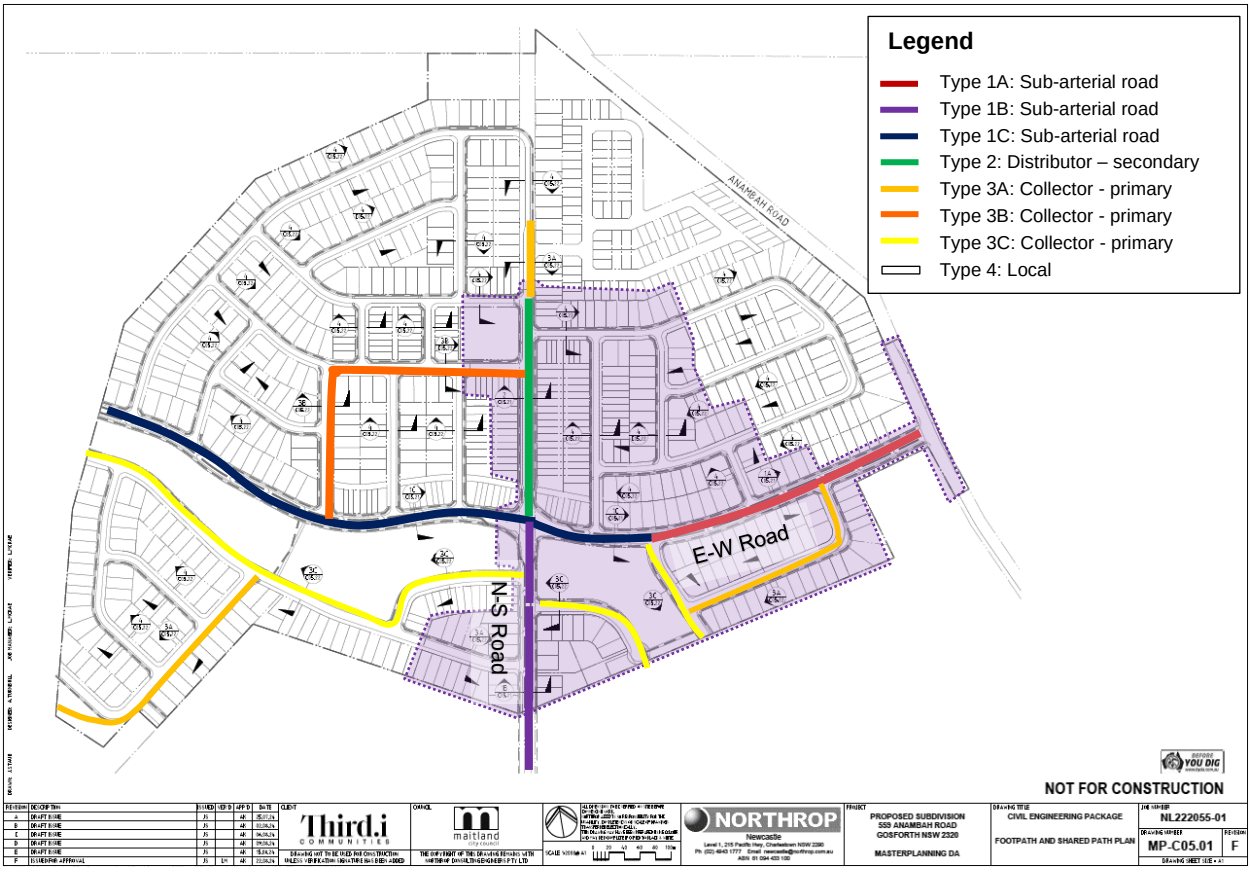
SIDRA output summaries are documented in **Appendix A**.

3.0 The proposal

3.1 Proposed development

The proposed site covers a land area of approximately 66 hectares zoned R1 General Residential which is proposed to be subdivided for residential development, with associated roads and services. The subdivision will deliver 240 residential lots in Stage 1 (labelled in purple in **Figure 3-1**) and 900 lots when fully developed. The layout plan is based on a grid road network containing different road hierarchies.

Figure 3-1 Proposed master plan



Source: Northrop, 2024

The east-west and north-south sub-arterial roads form the higher-order roads in the subdivision and intersect as a roundabout in the centre of the site. They are further extended as sub-arterial and distributor to the west and north. Lower hierarchy roads are provided across the four quadrants to ensure connectivity and permeability for the subdivision. The site would gain strategic access as follows via Anambah Road to New England Highway, which permits all movements in and out

3.2 Street cross-section

The Maitland City Council's Manual of Engineering Standards (MOES) – Road Design defines the requirements for street cross sections for the DA (**Figure 3-2**).

Figure 3-2 Street cross sections for different road types

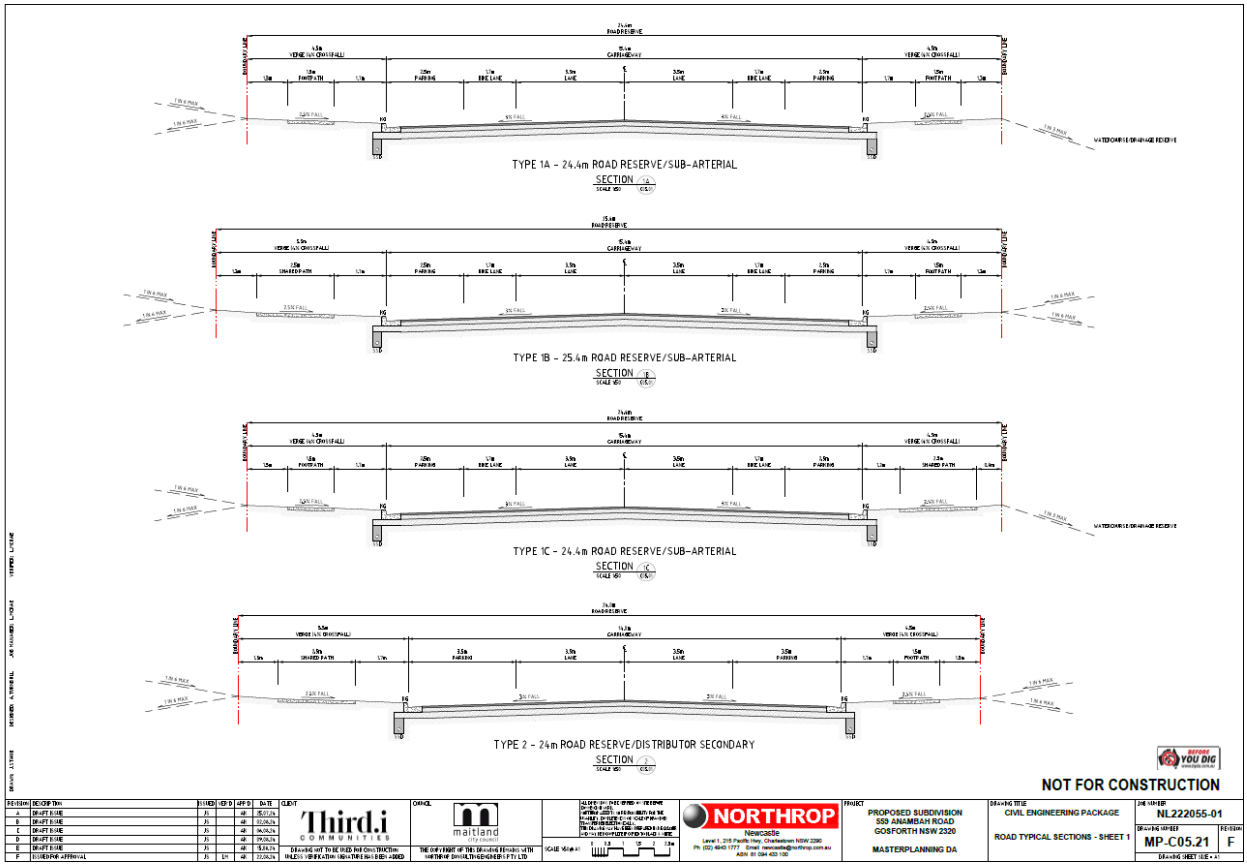
ROAD TYPE	MAX NO. LOTS	RESERVE WIDTH (m) [a]	CARRIAGEWAY / KERB-KERB (m) [b]	ON-ROAD BICYCLE FACILITY	FOOTWAY VERGE (m) [c]	KERB [d]	FOOTPATH (1.5m WIDE) [e]	DESIGN ESA [f]
Local – Place [i]	10	17	8	Mixed	4.5	Rolled	As Required	1×10^5
Local – Access [i]	20	17	8	Mixed	4.5	Rolled	One side	1×10^5
Local – Secondary [i]	50	17	8	Mixed	4.5	Rolled	One side	2×10^5
Local - Primary [i]	100	17	8	Mixed	4.5	Rolled	One side	5×10^5
Collector - Secondary [i]	200	17	8	Mixed (Parking)	4.5	Upright	One side	1×10^6
Collector - Primary [iv]	300	20	11	Mixed (Parking) [p]	4.5	Upright	One side	1.5×10^6
Distributor –Secondary [v]	400	23	14	Mixed (Parking) [p]	4.5	Upright	Both sides	2×10^6
Distributor - Primary [m v]	500	24	15 [q]	1.5m Lane	4.5	Upright	Both sides	5×10^6
Sub-Arterial [n]	3500	24.4	15.4 [r]	1.7m Lane [s]	4.5	Upright	Both sides	1×10^7 min
Industrial - Secondary	10 [g]	22	13	Mixed	4.5	Upright	As Required	5×10^6
Industrial - Primary	> 10	22	13	Mixed	4.5	Upright	As Required	1×10^7
School Bus/Public Route [o]			9min / 12min					$2/5 \times 10^6$ min
Business / School Precinct			15.4	1.7m Lane	5.5 min [h]	Upright		1×10^7 min

Source: Maitland City Council, 2024

The proposed road sections as shown in **Figure 3-3** and **Figure 3-4** generally follow MOES including:

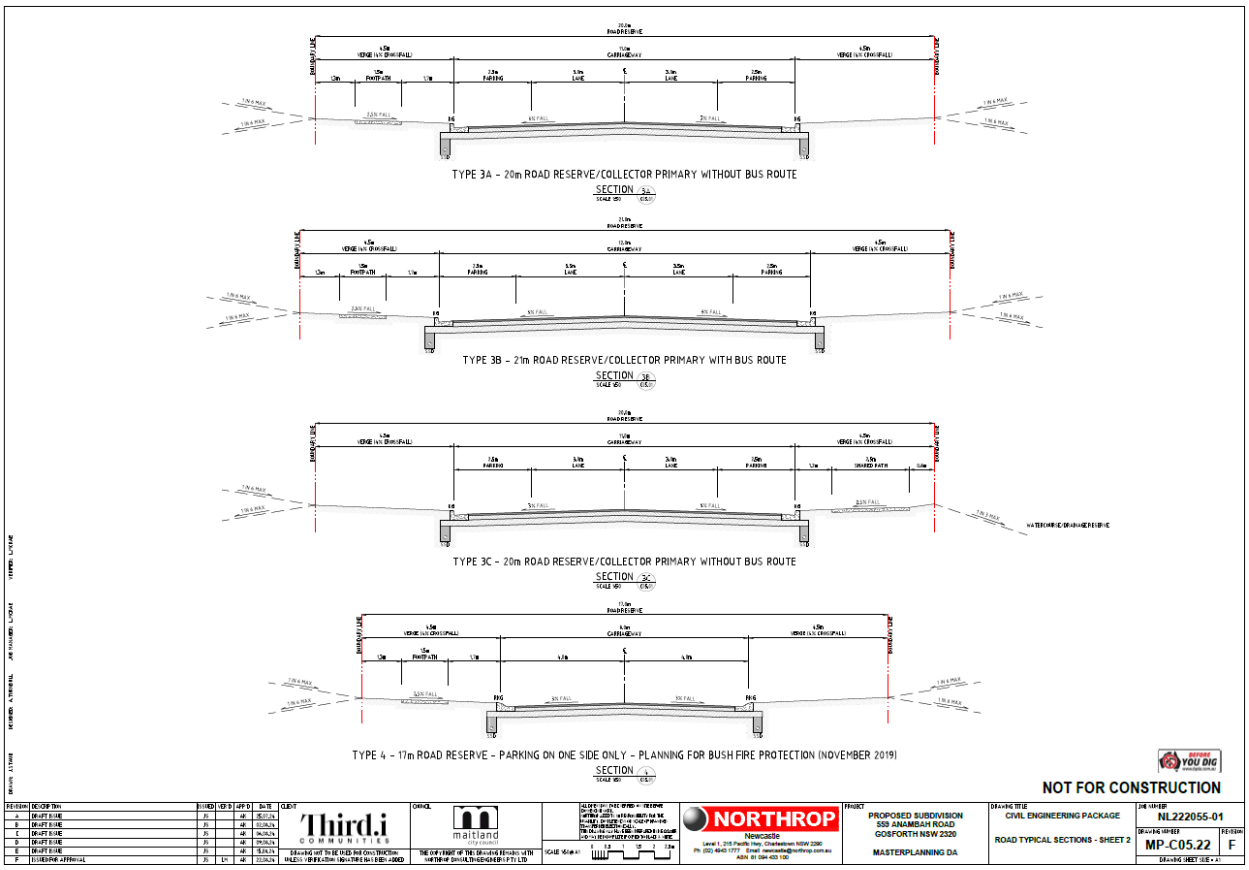
- Type 1A: Sub-arterial road (24.4m wide)
- Type 1B: Sub-arterial (25.4m wide)
- Type 1C: Sub-arterial road (24.4m wide)
- Type 2: Distributor – secondary (24m wide)
- Type 3A: Collector - primary (20m wide)
- Type 3B: Collector - primary (21m wide)
- Type 3C: Collector - primary (20m wide)
- Type 4: Parking on one side only – Planning for bush fire protection (17m wide)

Figure 3-3 Road cross-sections – 24-25.4m wide roads



Source: Northrop, 2024

Figure 3-4 Road cross-sections - 17-21m wide roads



Source: Northrop, 2024

Table 3-1 assessed the proposed road cross-sections against the Council's requirements. The justification of the deviations is discussed as follows.

– **25.4m Type 1B Sub-arterial** (from 24.4m): the verge close to the watercourse(s) is/are widened by 1m to accommodate a shared path per local examples. There is no widening for the verge given no street trees and limited services. The proposed section is beneficial to promote active transport given it complies with Council's requirement and includes an additional shared path.

– **24.4m Type 1C Sub-arterial** (from 24.4m): the 4.5m verge close to the watercourse(s) accommodates 2.5m shared path per local examples. The proposed section is beneficial to promote active transport given it complies with Council's requirement and includes an additional shared path.

– **24m Type 2 Distributor secondary** (from 23m): the verge close to the watercourse is widened by 1m to accommodate a shared path per local examples. The proposed section is beneficial to promote active transport given it complies with Council's requirement and includes an additional shared path.

– **21m Type 3B Collector Primary with Bus Route** (from 20m): the carriageway width is widened by 1m to accommodate bus movement, which improves its functionality and is beneficial to bus use increase.

– **17m Type 6 Parking on one side only – Planning for bush fire protection** (from 17m): There is no change to the cross-section for a local primary. Parking is allowed on one side only which leaves the space for two-way movements.

Table 3-1 Proposed road characteristics and DCP compliance

Road type	Indicative number of dwellings that the road would serve under this DA	Proposed reserve width	Proposed carriageway / kerb – kerb width	On-Road Bicycle Facility	Footpath (1.5m wide)	Compliance
1A Sub-Arterial	Up to 630 dwellings	24.4m	15.4m	1.7m	Both sides	**Yes**
1B Sub-Arterial	Up to 630 dwellings	25.4m	15.4m	1.7m	One side with shared path on the other side	**See justification above**
1C Sub-Arterial	Up to 630 dwellings	24.4m	15.4m	1.7m	One side with shared path on the other side	**See justification above**
2 Distributor - Secondary	Up to 400 dwellings	24m	14m	Mixed (Parking)	Both sides	**See justification above**
3A Collector – Primary without bus route	Up to 300 dwellings	20m	11m	Mixed (Parking)	One side	**Yes**
3B Collector – Primary with bus route	Up to 300 dwellings	21m	12m	Mixed (Parking)	One side	**See justification above**
3C Collector – Primary without bus route	Up to 300 dwellings	20m	11m	Mixed (Parking)	One side	**Yes**
4 Parking on one side only – Planning for bush fire protection	Up to 100 dwellings	17m	8m	Mixed	One side	**See justification above**

3.3 Proposed active transport

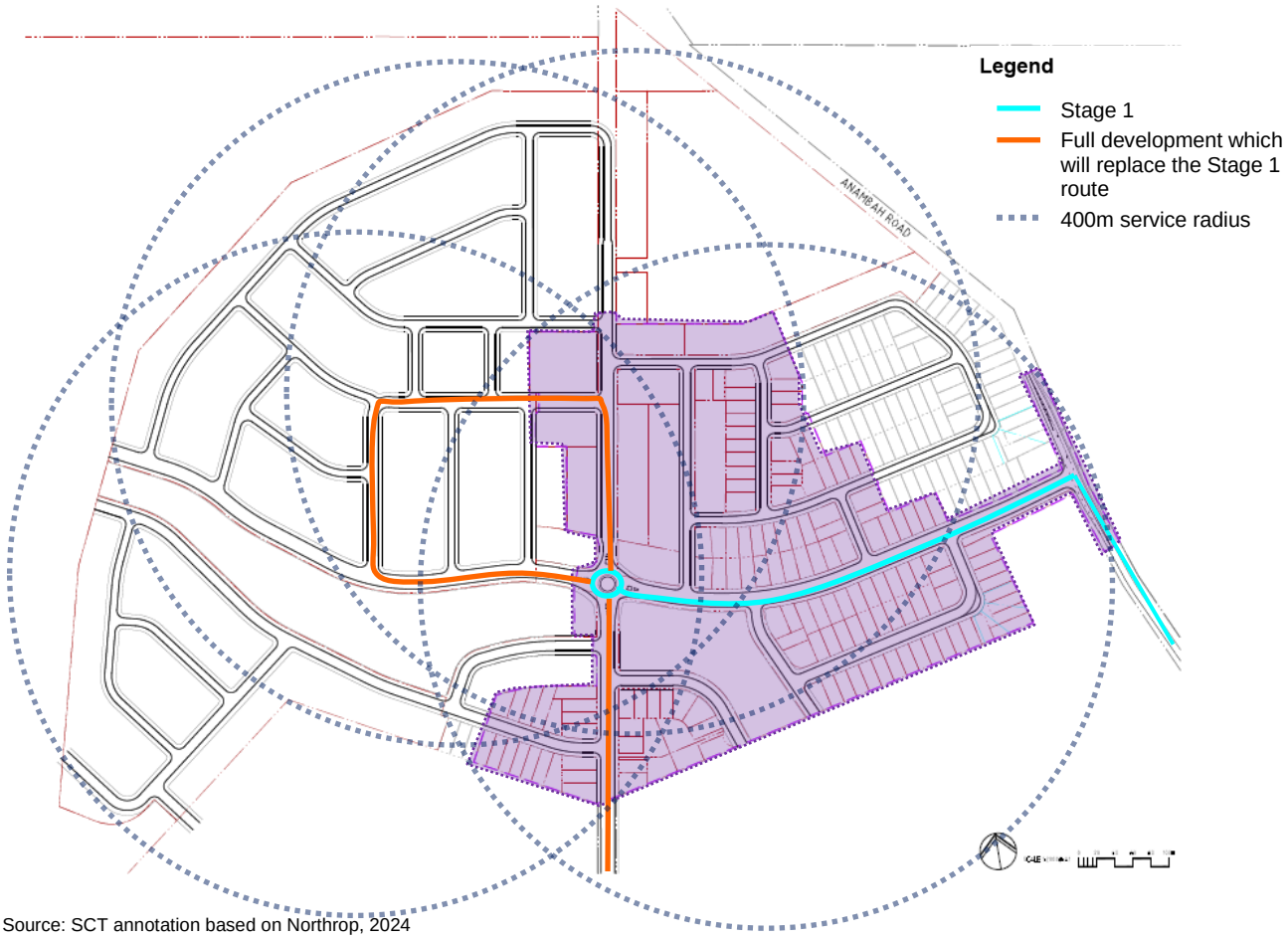
On-road bicycle lanes are provided on the sub-arterial. 2.5m shared paths are also available around the proposed park. The verges will accommodate a 2.5m shared path when it faces with watercourse or on the edge of the site, which provides further opportunity for safe cycling within the subdivision.

Footpaths are available on all roads with additional pedestrian pathways available to cross the watercourse in the south.

3.4 Proposed bus route

Bus routes are proposed for development both at Stage 1 and at full development. The potential routes are proposed along E-W Road and N-S Road and directed to the centre of the development, as shown in **Figure 3-5**. It is evident that the majority of the properties are within a 400m radial distance of the bus route.

Figure 3-5 Bus route



Source: SCT annotation based on Northrop, 2024

4.0 Traffic impact assessment

4.1 Trip generation and distribution

According to correspondence with TfNSW dated on 31 May 2024 (**Appendix B**), the modelling assumptions have been confirmed as follows:

– 70% west and 30% east traffic distribution (A 50%:50% sensitivity analysis will be included at the request of TfNSW)

– A release rate of 300 lots per year in Lochinvar URA

– Three per cent p.a. growth on New England Highway. This is in addition to development traffic from the Lochinvar URA

– Site completion year of 2028 and sensitivity test of 2038 (This will be carried out for 240 dwellings of Stage 1 and 900 dwellings of full development)

– Adoption of 0.71/0.78 veh/h (AM peak/PM peak) traffic generation rates for residential dwellings in the area.

– A 90% outbound and 10% inbound ratio is applied to the development traffic in the AM peak, which is inversed for the PM peak hour.

The trip generation from Lochinvar and the proposal are shown in **Table 4-1**.

Table 4-1 Trip generation for the proposed development and Lochinvar

Development Precinct		Expected number of lots	Trip generation rate	Peak hour traffic	
				AM peak	PM peak
Traffic growth by LURA		Up to 4,200 dwellings by 2038	0.71/0.78 veh/dwg for AM and PM peak hour	+2,982 trips	+3,276 trips
Development traffic	*Stage 1*	240 dwellings		+170 trips	+187 trips
	Full development	900 dwellings		+639 trips	+702 trips
Total		**4,440 – 5,100 dwellings**		**+3,153 – 3,621 trips**	**+3,463 – 3,978 trips**

4.2 Road network impact

4.2.1 Intersection on New England Highway

SIDRA 9.1 modelling was undertaken for the intersection of New England Highway / Anambah Road / Shipley Drive given it provides strategic access for the proposal. The following scenarios were tested to assess the cumulative impact of the development on the New England Highway according to TfNSW requirements (**Table 4-2**).

Table 4-2 Modelling scenarios

Development scenario	Without background traffic growth		2028 with background growth		2038 with background growth	
Future year base	-		Yes		Yes	
Stage 1 (240 dwellings)	Yes (70%:30% distribution)	Yes (50%:50% distribution)	Yes (70%:30% distribution)	Yes (50%:50% distribution)	Yes (70%:30% distribution)	Yes (50%:50% distribution)
Full development (900 dwellings)	Yes (70%:30% distribution)	Yes (50%:50% distribution)	Yes (70%:30% distribution)	Yes (50%:50% distribution)	Yes (70%:30% distribution)	Yes (50%:50% distribution)

Modelling results are shown in **Table 4-3** and detailed SIDRA summary are shown in **Appendix A**.

Table 4-3 Intersection performances – New England Highway / Anambah Road

Without background growth						2028 (with infrastructure upgrade for full development of 900 dwellings only)						2038 (with infrastructure upgrade)					
Delay	LoS	DoS	Delay	LoS	DoS	Delay	LoS	DoS	Delay	LoS	DoS	Delay	LoS	DoS	Delay	LoS	DoS
Weekday AM peak			Weekday PM peak			Weekday AM peak			Weekday PM peak			Weekday AM peak			Weekday PM peak		
Future year base																	
-			-			22.4s	B	0.64	21.1s	B	0.64	52.5s	D	0.96	53.8s	D	0.96
With Stage 1 (240 dwellings) – 70%:30% distribution																	
19.1s	B	0.48	16.6s	B	0.63	21.7s	B	0.65	23.0s	B	0.73	55.4s	D	0.97	52.0s	D	0.99
With Stage 1 (240 dwellings) – 50%:50% distribution																	
18.7s	B	0.48	17.0s	B	0.63	20.9s	B	0.65	23.9s	B	0.73	54.3s	D	0.96	54.5s	D	1.00
Full development (900 dwellings) – 70%:30% distribution																	
36.0s	C	0.74	31.7s	C	0.92	44.3s	D	0.9	32.9s	C	0.8	53.9s	D	0.95	54.7s	D	0.93
Full development (900 dwellings) – 50%:50% distribution																	
29.8s	C	0.78	36.5s	C	0.93	35.4s	C	0.95	46.9s	D	0.89	53.6s	D	0.95	56.2s	D	0.95

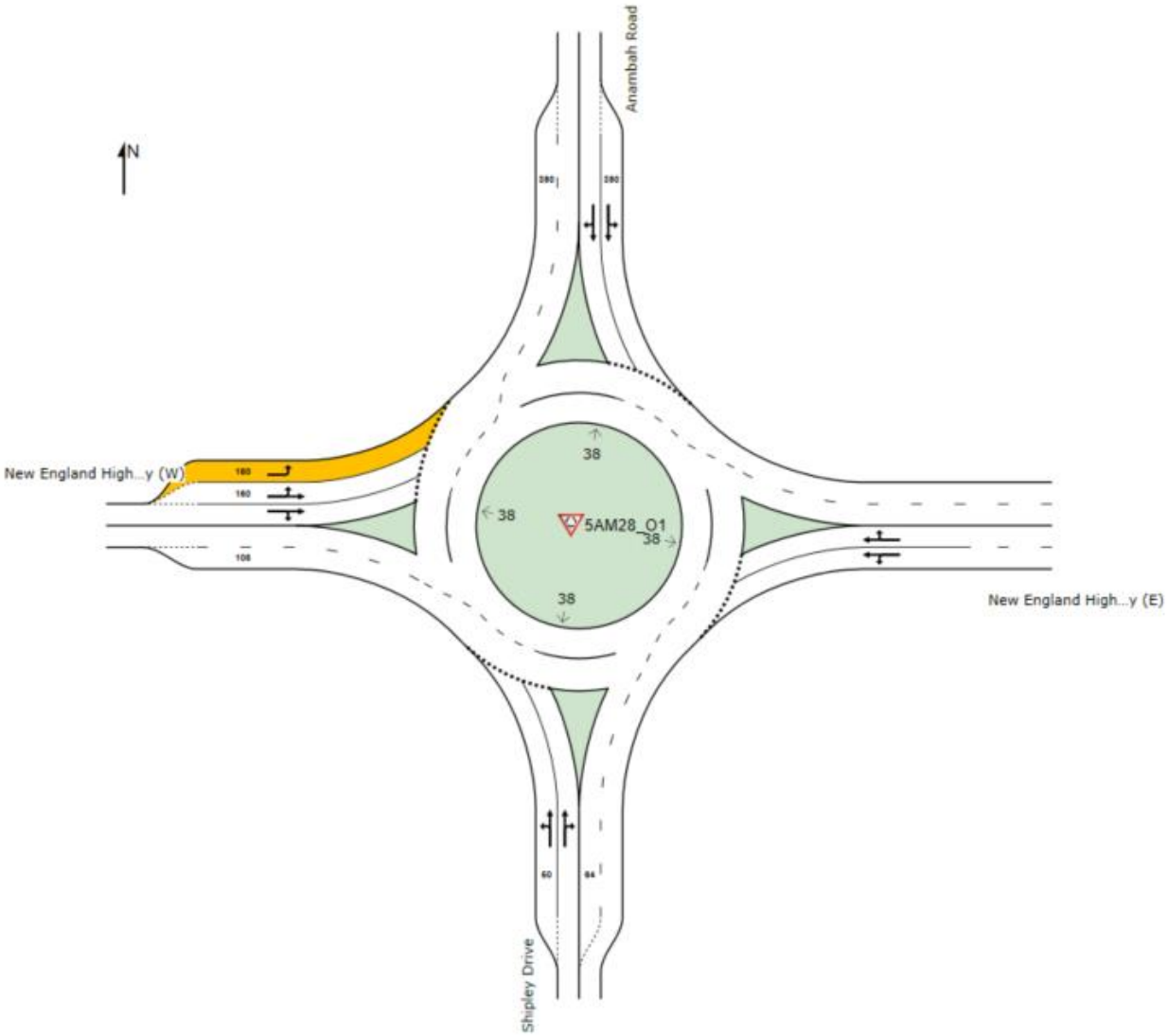
4.2.1.1 Without background traffic growth

The modelling confirms that the existing infrastructure (i.e. the existing roundabout) will accommodate the traffic growth as a result of both the Stage 1 development (240 lots) and the full development (900 lots) scenarios without any background traffic growth applied. No infrastructure upgrade is required.

4.2.1.2 Future 2028

The modelling confirms that the existing infrastructure will accommodate traffic growth generated by Stage 1 by 2028, including background growth. For the full development in 2028 (with background growth applied), however, the roundabout fails in the PM peak hour with a LoS of F with a degree of saturation of 1.04 at the west approach. An additional left turn lane on the west approach would improve the intersection performance which results in a LoS of D (Delay at 44 seconds) for the roundabout. This infrastructure is shown in **Figure 4-1**.

Figure 4-1 Intersection upgrade for future 2028 + 900 dwellings



Note that the yellow section represents the infrastructure required for the development.

4.2.1.3 Future 2038

Future year base 2038

Traffic modelling confirms that without any infrastructure upgrade, the roundabout will fail in 2038 based on background growth alone (i.e. before the introduction of any additional traffic from the proposal). The modelling shows a LoS F with a degree of saturation of 1.60 for the Anambah Road roundabout in the PM peak.

Hence, the roundabout needs to be upgraded by 2038 independent of any additional traffic from the proposal to respond to the significant background traffic growth on New England Highway (**Figure 4-2**):

– Signalisation of the intersection

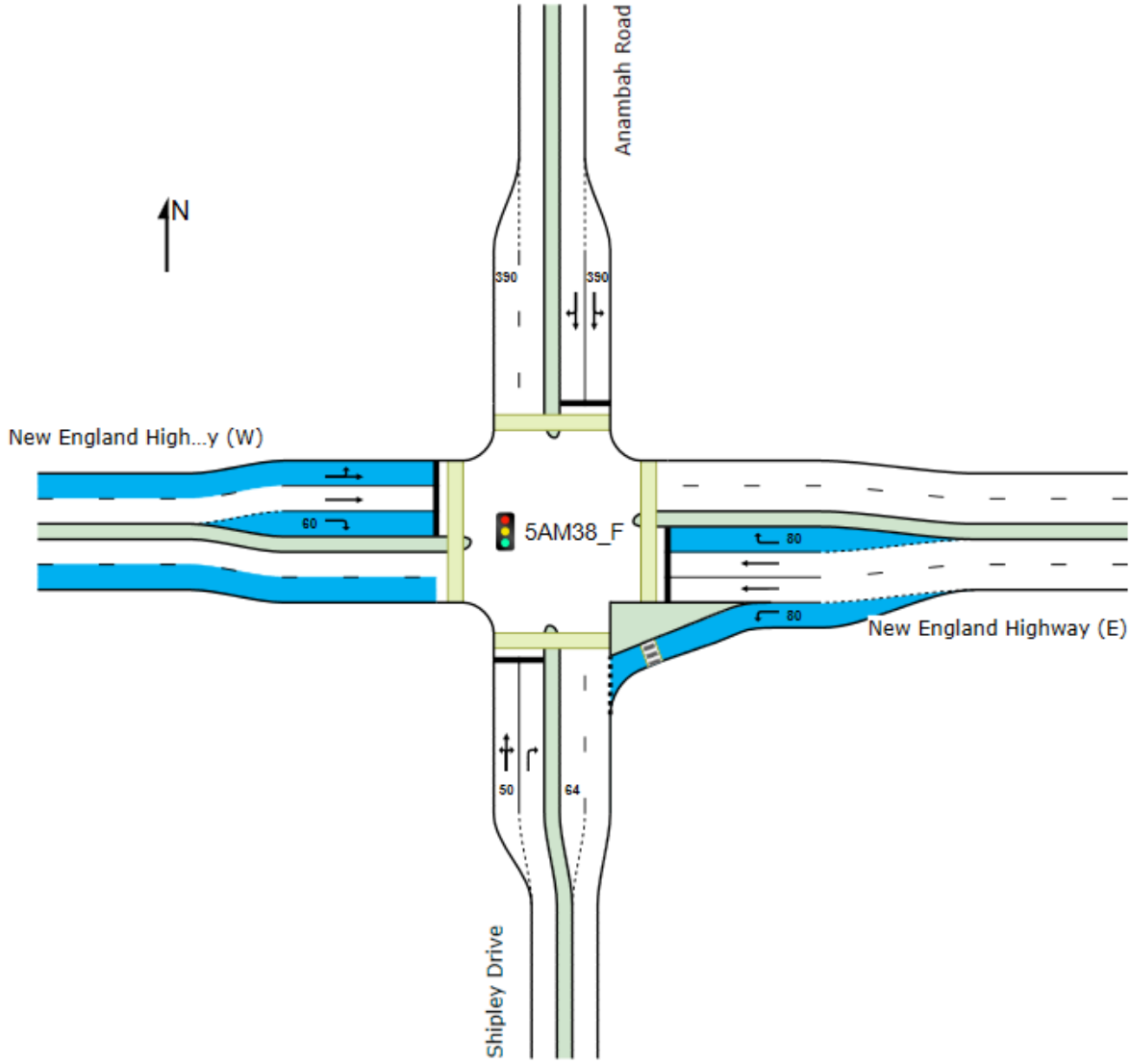
– Duplication of the west approach and exit

– High angle slip lane for left turners on the westbound approach of the New England Highway

– Additional westbound right turn bay of the New England Highway

– Additional eastbound right turn bay of the New England Highway.

Figure 4-2 Intersection upgrade for future base case 2038



Note that the blue section represents the infrastructure required for the background traffic growth

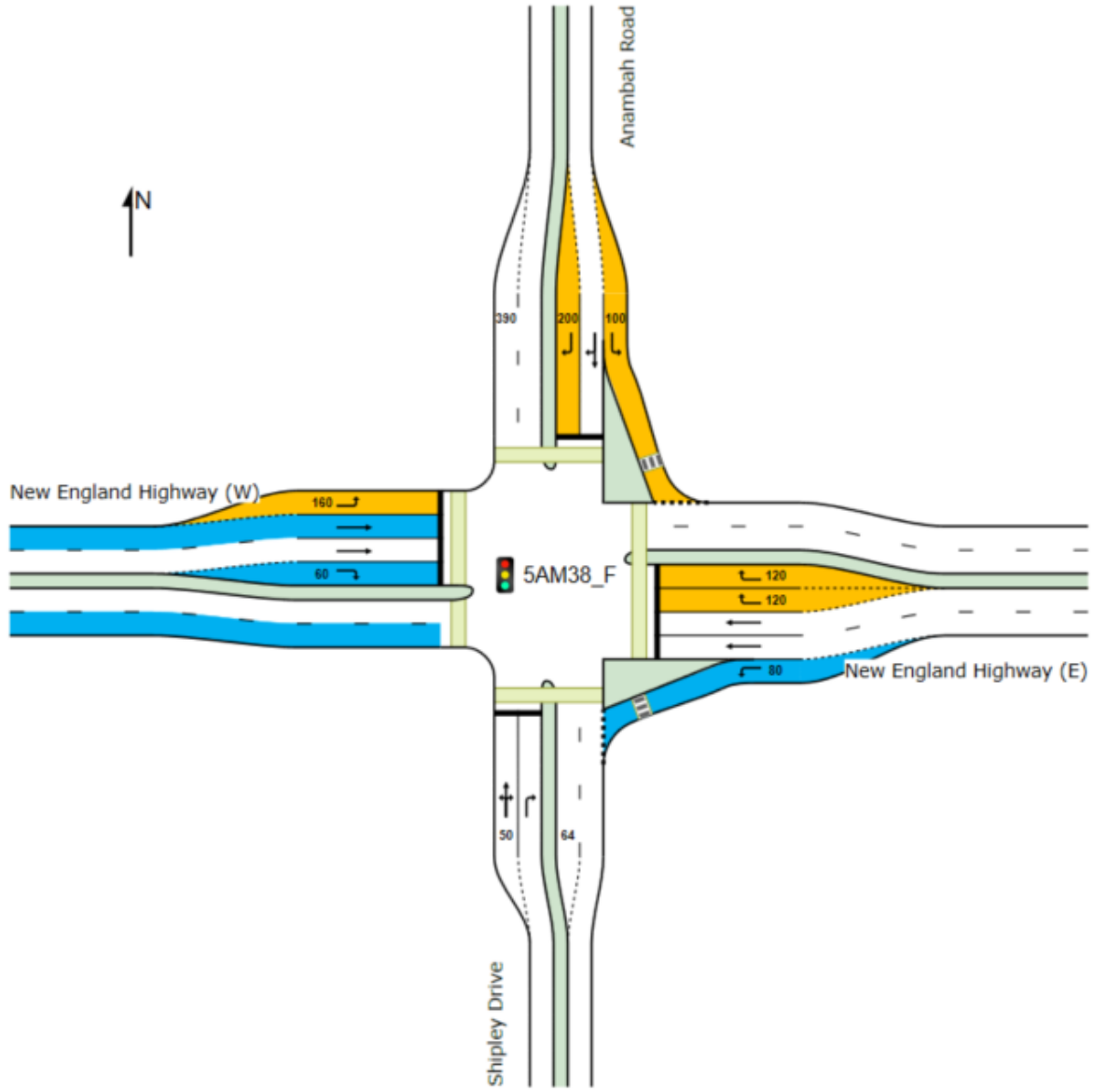
The proposed infrastructure upgrade is considered a minimum requirement to cater for background traffic growth and would result in a satisfactory intersection performance, i.e. a 53.8-second delay (LoS D) at Anambah Road.

Future year with development 2038

No further upgrade is required for Stage 1 development except for phase time optimisation.

For the full development, additional upgrades may be required at the Anambah Road intersection due to the increased development traffic in both peak hours (**Figure 4-3**).

Figure 4-3 Intersection upgrade for full development by 2038



Note that the blue section represents the infrastructure required for the background growth/ the yellow section represents the infrastructure required for the development.

The proposed upgrade will include:

– High angle slip lane for left turners on the southbound Anambah Road

– Additional southbound right turn bay of Anambah Road

– Additional eastbound left turn bay of the New England Highway

– Additional westbound right turn bays of the New England Highway.

The above upgrade at the Anambah Road intersection would ensure the intersection performance is maintained at a satisfactory level by 2038 with the addition of full development traffic.

4.2.2 Site Entry Road

Given the site location and the nature of the surrounding development, it is expected that the mid-block traffic volume on Anambah Road in the vicinity of the site will be low. In line with the intersection modelling for New England Highway, the traffic modelling was undertaken for the Site Entry Road / Anambah Road to make sure there is no

capacity issue at the proposed access. The modelling result indicates that there is no capacity issue at the proposed Anambah Road access point (**Table 4-4**).

Table 4-4 Intersection performances – Site Entry Road

Scenarios	Delay	LoS	DoS	Delay	LoS	DoS
	Weekday AM peak			Weekday PM peak		
Full development (900 dwellings)	5.7s	A	0.41	7.8s	A	0.38

4.3 Walking and cycling

A minimum of 1.5m footpath is provided at least on one side across the precinct, which will encourage walking. On-road cycle paths are proposed according to the *Maitland Manual of Engineering Standards* including 1.7m wide on both sides of the sub-arterial. Additional shared paths of 2.5m are available adjacent to the park and near watercourses. This complies with the Council-recommended geometric design for shared paths. With the high-quality cycleway, the cycling facility will promote cycling to and from nearby destinations.

It is expected that pedestrian refuges are available near the roundabout (where east and west sub-arterial roads intersect) to facilitate pedestrian crossings. The proposed pedestrian infrastructure, including footpaths and walkways in the landscape, will ensure pedestrian comfort and permeability while shortening walking distances overall from surrounding destinations.

Due to the long travel distances, walking and cycling is expected to be low, regardless of infrastructure provision. However, the proposed on-road bike lane on the north-south sub-arterial road together with the shared paths and footpaths on the lower-hierarchy road network can be further integrated into the future development to the south, which will enhance active transport accessibility within the entire urban release area.

4.4 Public transport

Bus-capable carriageway is available within the site to satisfy future bus needs. Given the scale of the development, it is expected that the public transport demand would be limited, hence no significant impact on the public transport network.

5.0 Conclusion

This traffic impact assessment shows:

– The cross-section requirements per Maitland Council's Manual of Engineering Standards – Road Design are generally met.

– Some deviations exist due to the provision of additional shared paths and bus-capable carriageways. The proposed sections are beneficial to promote active transport and bus use given it complies with the Council's requirements and have better functional outcomes.

– The roundabout of Anambah Road / New England Highway performs at a satisfactory level,

  - With proposal but without background traffic growth
  - With background traffic growth up to 2028 with Stage 1 of the development.

– An additional left turn lane (west to north) is proposed for the roundabout due to full development by 2028 (with background growth), which will ensure the roundabout operates at Level of Service D.

– Intersection upgrades would be required in 2038 (with background growth only), due to growth on the road network and the release of the Lochinvar URA, independent of the proposed development.

– No further upgrade is required for Stage 1 development in 2038 (with background growth) at the intersection.

– Additional development traffic as the result of the full development in 2038 (with background growth) indicates that the development does trigger the need for further upgrades at the Anambah Road intersection, especially turning lanes in the east, north and west approaches that service the development.

APPENDIX A

SIDRA OUTPUT

MOVEMENT SUMMARY

Site: 5AM_X [NEW_ANA_23_AM_X (Site Folder: Base Year)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.228	15.3	LOS B	0.9	6.9	0.71	0.81	0.71	48.4
2	T1	All MCs	39	8.1	39	8.1	0.228	13.4	LOS A	1.1	8.1	0.71	0.83	0.71	48.4
3	R2	All MCs	71	10.4	71	10.4	0.228	17.5	LOS B	1.1	8.1	0.71	0.89	0.71	46.6
Approach			153	8.3	153	8.3	0.228	15.8	LOS B	1.1	8.1	0.71	0.85	0.71	47.5
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.189	3.5	LOS A	1.0	7.1	0.25	0.37	0.25	54.9
5	T1	All MCs	681	7.7	681	7.7	0.239	3.6	LOS A	1.5	11.2	0.24	0.41	0.24	54.4
6	R2	All MCs	198	1.6	198	1.6	0.239	9.6	LOS A	1.5	11.2	0.24	0.42	0.24	53.2
Approach			1106	5.7	1106	5.7	0.239	4.7	LOS A	1.5	11.2	0.24	0.40	0.24	54.3
North: Anambah Road															
7	L2	All MCs	154	8.9	154	8.9	0.282	7.3	LOS A	1.2	9.1	0.67	0.74	0.67	52.7
8	T1	All MCs	34	3.1	34	3.1	0.282	7.8	LOS A	1.2	9.1	0.67	0.80	0.67	51.1
9	R2	All MCs	49	12.8	49	12.8	0.163	15.7	LOS B	0.6	4.7	0.66	0.85	0.66	48.1
Approach			237	8.9	237	8.9	0.282	9.1	LOS A	1.2	9.1	0.67	0.77	0.67	51.4
West: New England Highway (W)															
10	L2	All MCs	27	7.7	27	7.7	0.468	5.8	LOS A	2.6	19.5	0.54	0.51	0.54	53.2
11	T1	All MCs	802	6.4	802	6.4	0.468	5.1	LOS A	2.7	19.8	0.54	0.52	0.54	53.4
12	R2	All MCs	60	8.8	60	8.8	0.468	12.0	LOS A	2.7	19.8	0.54	0.53	0.54	52.1
Approach			889	6.6	889	6.6	0.468	5.6	LOS A	2.7	19.8	0.54	0.52	0.54	53.3
All Vehicles			2385	6.5	2385	6.5	0.468	6.2	LOS A	2.7	19.8	0.43	0.51	0.43	53.1

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

MOVEMENT SUMMARY

Site: 5PM_X [NEW_ANA_23_PM_X (Site Folder: Base Year)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.316	11.3	LOS A	1.4	9.9	0.69	0.78	0.72	50.9
2	T1	All MCs	49	4.3	49	4.3	0.316	10.0	LOS A	1.4	9.9	0.69	0.78	0.72	51.3
3	R2	All MCs	306	1.0	306	1.0	0.498	15.8	LOS B	2.9	20.6	0.74	0.90	0.91	47.3
Approach			447	2.1	447	2.1	0.498	14.3	LOS A	2.9	20.6	0.73	0.86	0.85	48.4
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.336	4.0	LOS A	1.9	13.9	0.35	0.41	0.35	54.4
5	T1	All MCs	635	4.3	635	4.3	0.425	4.0	LOS A	2.8	20.3	0.36	0.43	0.36	54.0
6	R2	All MCs	159	7.3	159	7.3	0.425	10.1	LOS A	2.8	20.3	0.36	0.44	0.36	52.7
Approach			1038	4.5	1038	4.5	0.425	5.0	LOS A	2.8	20.3	0.36	0.43	0.36	53.9
North: Anambah Road															
7	L2	All MCs	283	2.6	283	2.6	0.465	9.1	LOS A	2.7	19.4	0.80	0.88	0.95	51.4
8	T1	All MCs	55	5.8	55	5.8	0.240	10.9	LOS A	1.0	7.2	0.74	0.86	0.74	49.7
9	R2	All MCs	32	3.3	32	3.3	0.240	16.5	LOS B	1.0	7.2	0.74	0.86	0.74	48.9
Approach			369	3.1	369	3.1	0.465	10.0	LOS A	2.7	19.4	0.79	0.87	0.90	50.9
West: New England Highway (W)															
10	L2	All MCs	34	3.1	34	3.1	0.541	7.3	LOS A	3.8	27.6	0.70	0.69	0.80	52.5
11	T1	All MCs	849	5.2	849	5.2	0.541	6.9	LOS A	3.8	27.6	0.70	0.70	0.80	52.6
12	R2	All MCs	59	0.0	59	0.0	0.541	13.6	LOS A	3.8	27.3	0.70	0.71	0.80	51.5
Approach			942	4.8	942	4.8	0.541	7.3	LOS A	3.8	27.6	0.70	0.70	0.80	52.5
All Vehicles			2797	4.0	2797	4.0	0.541	7.9	LOS A	3.8	27.6	0.59	0.65	0.66	52.1

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

MOVEMENT SUMMARY

Site: 5AM_X [NEW_ANA_23_AM_X_Stage 1 (Site Folder: Base Year Stage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.261	17.7	LOS B	1.1	8.1	0.76	0.85	0.76	47.2
2	T1	All MCs	39	8.1	39	8.1	0.261	15.3	LOS B	1.2	9.4	0.76	0.86	0.76	47.2
3	R2	All MCs	71	10.4	71	10.4	0.261	19.1	LOS B	1.2	9.4	0.76	0.91	0.76	45.7
Approach			153	8.3	153	8.3	0.261	17.8	LOS B	1.2	9.4	0.76	0.88	0.76	46.5
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.196	3.7	LOS A	1.1	7.9	0.35	0.40	0.35	54.4
5	T1	All MCs	681	7.7	681	7.7	0.249	3.9	LOS A	1.8	13.3	0.36	0.42	0.36	53.8
6	R2	All MCs	203	1.6	203	1.6	0.249	9.7	LOS A	1.8	13.3	0.37	0.43	0.37	52.7
Approach			1112	5.7	1112	5.7	0.249	4.9	LOS A	1.8	13.3	0.36	0.42	0.36	53.7
North: Anambah Road															
7	L2	All MCs	202	6.8	202	6.8	0.383	7.9	LOS A	1.8	13.6	0.71	0.79	0.78	52.3
8	T1	All MCs	34	3.1	34	3.1	0.383	7.4	LOS A	1.8	13.6	0.71	0.79	0.78	52.8
9	R2	All MCs	162	3.9	162	3.9	0.294	13.8	LOS A	1.3	9.0	0.68	0.85	0.68	48.4
Approach			398	5.3	398	5.3	0.383	10.3	LOS A	1.8	13.6	0.70	0.81	0.74	50.6
West: New England Highway (W)															
10	L2	All MCs	40	5.3	40	5.3	0.476	5.8	LOS A	2.7	20.1	0.55	0.52	0.55	53.2
11	T1	All MCs	802	6.4	802	6.4	0.476	5.1	LOS A	2.8	20.4	0.55	0.53	0.55	53.4
12	R2	All MCs	60	8.8	60	8.8	0.476	12.1	LOS A	2.8	20.4	0.55	0.53	0.55	52.1
Approach			902	6.5	902	6.5	0.476	5.6	LOS A	2.8	20.4	0.55	0.53	0.55	53.3
All Vehicles			2565	6.1	2565	6.1	0.476	6.8	LOS A	2.8	20.4	0.50	0.54	0.51	52.6

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

MOVEMENT SUMMARY

Site: 5PM_X [NEW_ANA_23_PM_X_Stage 1 (Site Folder: Base Year Stage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.334	12.0	LOS A	1.5	10.7	0.71	0.81	0.77	50.4
2	T1	All MCs	49	4.3	49	4.3	0.334	10.9	LOS A	1.5	10.7	0.71	0.81	0.77	50.8
3	R2	All MCs	306	1.0	306	1.0	0.523	16.6	LOS B	3.1	22.2	0.77	0.93	0.98	46.8
Approach			447	2.1	447	2.1	0.523	15.1	LOS B	3.1	22.2	0.75	0.89	0.91	47.9
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.357	4.1	LOS A	2.1	15.2	0.38	0.42	0.38	54.3
5	T1	All MCs	635	4.3	635	4.3	0.452	4.2	LOS A	3.1	22.5	0.39	0.45	0.39	53.7
6	R2	All MCs	212	5.5	212	5.5	0.452	10.2	LOS A	3.1	22.5	0.40	0.47	0.40	52.3
Approach			1091	4.2	1091	4.2	0.452	5.3	LOS A	3.1	22.5	0.39	0.45	0.39	53.6
North: Anambah Road															
7	L2	All MCs	289	2.5	289	2.5	0.498	9.9	LOS A	3.1	22.1	0.83	0.90	1.02	50.9
8	T1	All MCs	55	5.8	55	5.8	0.272	10.8	LOS A	1.2	8.6	0.76	0.87	0.76	49.4
9	R2	All MCs	45	2.3	45	2.3	0.272	16.4	LOS B	1.2	8.6	0.76	0.87	0.76	48.6
Approach			389	3.0	389	3.0	0.498	10.8	LOS A	3.1	22.1	0.82	0.89	0.95	50.4
West: New England Highway (W)															
10	L2	All MCs	159	0.7	159	0.7	0.634	8.8	LOS A	5.3	38.0	0.78	0.79	0.97	52.1
11	T1	All MCs	849	5.2	849	5.2	0.634	8.5	LOS A	5.3	38.0	0.78	0.79	0.98	52.1
12	R2	All MCs	59	0.0	59	0.0	0.634	15.2	LOS B	5.2	37.7	0.78	0.80	0.98	51.1
Approach			1067	4.2	1067	4.2	0.634	8.9	LOS A	5.3	38.0	0.78	0.79	0.97	52.0
All Vehicles			2995	3.8	2995	3.8	0.634	8.8	LOS A	5.3	38.0	0.64	0.69	0.75	51.7

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

MOVEMENT SUMMARY

Site: 5AM_X [NEW_ANA_23_AM_X_Stage 1 50% (Site Folder: Base Year Stage 1 50%)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.252	17.1	LOS B	1.0	7.7	0.75	0.84	0.75	47.5
2	T1	All MCs	39	8.1	39	8.1	0.252	14.8	LOS B	1.2	9.1	0.75	0.85	0.75	47.5
3	R2	All MCs	71	10.4	71	10.4	0.252	18.7	LOS B	1.2	9.1	0.75	0.90	0.75	45.9
Approach			153	8.3	153	8.3	0.252	17.2	LOS B	1.2	9.1	0.75	0.87	0.75	46.8
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.195	3.6	LOS A	1.1	7.7	0.32	0.39	0.32	54.6
5	T1	All MCs	681	7.7	681	7.7	0.247	3.8	LOS A	1.7	12.8	0.33	0.42	0.33	54.0
6	R2	All MCs	207	1.5	207	1.5	0.247	9.7	LOS A	1.7	12.8	0.33	0.43	0.33	52.8
Approach			1115	5.7	1115	5.7	0.247	4.9	LOS A	1.7	12.8	0.33	0.41	0.33	53.9
North: Anambah Road															
7	L2	All MCs	234	5.8	234	5.8	0.432	8.2	LOS A	2.2	16.2	0.72	0.82	0.83	52.1
8	T1	All MCs	34	3.1	34	3.1	0.432	7.8	LOS A	2.2	16.2	0.72	0.82	0.83	52.5
9	R2	All MCs	130	4.9	130	4.9	0.276	14.7	LOS B	1.1	8.2	0.68	0.86	0.68	47.9
Approach			398	5.3	398	5.3	0.432	10.3	LOS A	2.2	16.2	0.71	0.83	0.78	50.6
West: New England Highway (W)															
10	L2	All MCs	37	5.7	37	5.7	0.476	5.8	LOS A	2.7	20.0	0.56	0.52	0.56	53.2
11	T1	All MCs	802	6.4	802	6.4	0.476	5.2	LOS A	2.7	20.3	0.56	0.53	0.56	53.4
12	R2	All MCs	60	8.8	60	8.8	0.476	12.1	LOS A	2.7	20.3	0.56	0.54	0.56	52.1
Approach			899	6.6	899	6.6	0.476	5.7	LOS A	2.7	20.3	0.56	0.53	0.56	53.3
All Vehicles			2565	6.1	2565	6.1	0.476	6.7	LOS A	2.7	20.3	0.49	0.55	0.50	52.7

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

MOVEMENT SUMMARY

Site: 5PM_X [NEW_ANA_23_PM_X_Stage 1 50% (Site Folder: Base Year Stage 1 50%)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.341	12.3	LOS A	1.5	11.0	0.72	0.82	0.79	50.2
2	T1	All MCs	49	4.3	49	4.3	0.341	11.3	LOS A	1.5	11.0	0.72	0.82	0.79	50.6
3	R2	All MCs	306	1.0	306	1.0	0.533	17.0	LOS B	3.2	22.8	0.78	0.94	1.00	46.6
Approach			447	2.1	447	2.1	0.533	15.4	LOS B	3.2	22.8	0.76	0.90	0.93	47.7
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.367	4.1	LOS A	2.2	15.8	0.38	0.42	0.38	54.3
5	T1	All MCs	635	4.3	635	4.3	0.465	4.2	LOS A	3.2	23.3	0.39	0.46	0.39	53.7
6	R2	All MCs	248	4.7	248	4.7	0.465	10.1	LOS A	3.2	23.3	0.40	0.48	0.40	52.2
Approach			1127	4.1	1127	4.1	0.465	5.5	LOS A	3.2	23.3	0.39	0.45	0.39	53.5
North: Anambah Road															
7	L2	All MCs	293	2.5	293	2.5	0.503	9.8	LOS A	3.1	22.2	0.83	0.90	1.02	50.9
8	T1	All MCs	55	5.8	55	5.8	0.268	10.9	LOS A	1.1	8.3	0.76	0.87	0.76	49.4
9	R2	All MCs	41	2.5	41	2.5	0.268	16.5	LOS B	1.1	8.3	0.76	0.87	0.76	48.7
Approach			389	3.0	389	3.0	0.503	10.7	LOS A	3.1	22.2	0.81	0.90	0.95	50.4
West: New England Highway (W)															
10	L2	All MCs	123	0.9	123	0.9	0.628	9.1	LOS A	5.1	37.3	0.78	0.80	0.99	52.0
11	T1	All MCs	849	5.2	849	5.2	0.628	8.7	LOS A	5.1	37.3	0.79	0.81	0.99	52.0
12	R2	All MCs	59	0.0	59	0.0	0.628	15.5	LOS B	5.1	36.9	0.79	0.81	1.00	50.9
Approach			1032	4.4	1032	4.4	0.628	9.2	LOS A	5.1	37.3	0.79	0.81	0.99	51.9
All Vehicles			2995	3.8	2995	3.8	0.628	8.9	LOS A	5.1	37.3	0.64	0.70	0.75	51.6

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

MOVEMENT SUMMARY

Site: 5AM_X [NEW_ANA_23_AM_X_wDev (Site Folder: Base Year with Dev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.402	27.4	LOS B	2.1	15.5	0.88	0.97	1.05	43.3
2	T1	All MCs	39	8.1	39	8.1	0.402	23.7	LOS B	2.1	15.5	0.88	0.97	1.05	43.3
3	R2	All MCs	71	10.4	71	10.4	0.402	36.0	LOS C	2.0	15.1	0.88	1.02	1.10	38.0
Approach			153	8.3	153	8.3	0.402	30.4	LOS C	2.1	15.5	0.88	0.99	1.07	40.6
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.246	4.5	LOS A	1.7	12.2	0.60	0.49	0.60	53.3
5	T1	All MCs	681	7.7	681	7.7	0.311	5.3	LOS A	3.0	22.1	0.66	0.49	0.66	52.5
6	R2	All MCs	218	1.4	218	1.4	0.311	10.5	LOS A	3.0	22.1	0.68	0.49	0.68	51.4
Approach			1126	5.6	1126	5.6	0.311	6.2	LOS A	3.0	22.1	0.65	0.49	0.65	52.4
North: Anambah Road															
7	L2	All MCs	335	4.1	335	4.1	0.647	11.4	LOS A	4.3	30.9	0.82	0.96	1.13	49.9
8	T1	All MCs	34	3.1	34	3.1	0.647	11.1	LOS A	4.3	30.9	0.82	0.96	1.13	50.2
9	R2	All MCs	473	1.3	473	1.3	0.743	18.5	LOS B	5.9	42.0	0.86	1.06	1.31	45.8
Approach			842	2.5	842	2.5	0.743	15.4	LOS B	5.9	42.0	0.84	1.01	1.23	47.4
West: New England Highway (W)															
10	L2	All MCs	74	2.8	74	2.8	0.506	5.9	LOS A	3.2	23.7	0.60	0.55	0.62	53.1
11	T1	All MCs	802	6.4	802	6.4	0.506	5.5	LOS A	3.2	23.8	0.60	0.57	0.62	53.2
12	R2	All MCs	60	8.8	60	8.8	0.506	12.5	LOS A	3.2	23.8	0.60	0.58	0.62	51.9
Approach			937	6.3	937	6.3	0.506	6.0	LOS A	3.2	23.8	0.60	0.57	0.62	53.1
All Vehicles			3058	5.1	3058	5.1	0.743	9.9	LOS A	5.9	42.0	0.70	0.68	0.82	50.4

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

MOVEMENT SUMMARY

Site: 5PM_X [NEW_ANA_23_PM_X_wDev (Site Folder: Base Year with Dev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.390	14.4	LOS A	1.8	13.2	0.76	0.89	0.90	48.8
2	T1	All MCs	49	4.3	49	4.3	0.390	14.0	LOS A	1.8	13.2	0.76	0.89	0.90	49.2
3	R2	All MCs	306	1.0	306	1.0	0.601	19.5	LOS B	4.0	27.9	0.83	1.01	1.16	45.3
Approach			447	2.1	447	2.1	0.601	17.9	LOS B	4.0	27.9	0.81	0.97	1.08	46.3
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.417	4.3	LOS A	2.6	18.7	0.45	0.44	0.45	53.9
5	T1	All MCs	635	4.3	635	4.3	0.528	4.5	LOS A	3.9	28.1	0.47	0.49	0.47	53.2
6	R2	All MCs	358	3.2	358	3.2	0.528	10.3	LOS A	3.9	28.1	0.48	0.52	0.48	51.6
Approach			1237	3.7	1237	3.7	0.528	6.1	LOS A	3.9	28.1	0.47	0.49	0.47	52.8
North: Anambah Road															
7	L2	All MCs	305	2.4	305	2.4	0.631	13.9	LOS A	4.9	34.8	0.93	1.00	1.27	48.2
8	T1	All MCs	55	5.8	55	5.8	0.631	13.0	LOS A	4.9	34.8	0.85	0.94	0.99	47.8
9	R2	All MCs	83	1.3	83	1.3	0.364	18.2	LOS B	1.9	13.6	0.83	0.93	0.92	46.9
Approach			443	2.6	443	2.6	0.631	14.6	LOS B	4.9	34.8	0.90	0.98	1.17	47.9
West: New England Highway (W)															
10	L2	All MCs	500	0.2	500	0.2	0.924	25.0	LOS B	17.8	126.7	1.00	1.42	2.30	42.8
11	T1	All MCs	849	5.2	849	5.2	0.924	24.9	LOS B	17.8	126.7	1.00	1.43	2.33	42.6
12	R2	All MCs	59	0.0	59	0.0	0.924	31.7	LOS C	17.0	124.0	1.00	1.43	2.34	41.9
Approach			1409	3.2	1409	3.2	0.924	25.2	LOS B	17.8	126.7	1.00	1.42	2.32	42.6
All Vehicles			3537	3.2	3537	3.2	0.924	16.3	LOS B	17.8	126.7	0.78	0.98	1.37	46.9

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

MOVEMENT SUMMARY

Site: 5AM_X [NEW_ANA_23_AM_X_wDev 50% (Site Folder: Base Year with Dev 50%)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.344	21.3	LOS B	1.7	12.6	0.84	0.92	0.94	45.9
2	T1	All MCs	39	8.1	39	8.1	0.344	18.8	LOS B	1.7	12.6	0.84	0.93	0.94	45.9
3	R2	All MCs	71	10.4	71	10.4	0.344	29.8	LOS C	1.6	12.3	0.84	0.98	0.98	40.4
Approach			153	8.3	153	8.3	0.344	24.6	LOS B	1.7	12.6	0.84	0.95	0.96	43.1
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.224	4.1	LOS A	1.4	10.3	0.50	0.45	0.50	53.7
5	T1	All MCs	681	7.7	681	7.7	0.284	4.7	LOS A	2.5	18.5	0.55	0.46	0.55	53.0
6	R2	All MCs	232	1.4	232	1.4	0.284	10.1	LOS A	2.5	18.5	0.56	0.46	0.56	51.8
Approach			1140	5.5	1140	5.5	0.284	5.7	LOS A	2.5	18.5	0.54	0.46	0.54	52.9
North: Anambah Road															
7	L2	All MCs	456	3.0	456	3.0	0.781	13.6	LOS A	6.7	47.8	0.88	1.07	1.42	48.4
8	T1	All MCs	34	3.1	34	3.1	0.781	13.4	LOS A	6.7	47.8	0.88	1.07	1.42	48.8
9	R2	All MCs	352	1.8	352	1.8	0.621	17.1	LOS B	3.9	28.0	0.81	0.99	1.09	46.5
Approach			842	2.5	842	2.5	0.781	15.0	LOS B	6.7	47.8	0.85	1.04	1.28	47.6
West: New England Highway (W)															
10	L2	All MCs	61	3.4	61	3.4	0.503	6.1	LOS A	3.2	23.3	0.60	0.56	0.62	53.0
11	T1	All MCs	802	6.4	802	6.4	0.503	5.6	LOS A	3.2	23.3	0.60	0.58	0.62	53.2
12	R2	All MCs	60	8.8	60	8.8	0.503	12.6	LOS A	3.1	23.3	0.60	0.59	0.62	51.8
Approach			923	6.4	923	6.4	0.503	6.1	LOS A	3.2	23.3	0.60	0.58	0.62	53.1
All Vehicles			3058	5.1	3058	5.1	0.781	9.3	LOS A	6.7	47.8	0.66	0.68	0.79	50.8

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

MOVEMENT SUMMARY

Site: 5PM_X [NEW_ANA_23_PM_X_wDev 50% (Site Folder: Base Year with Dev 50%)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.427	16.0	LOS B	2.0	14.9	0.80	0.93	0.98	47.7
2	T1	All MCs	49	4.3	49	4.3	0.427	16.0	LOS B	2.0	14.9	0.80	0.93	0.98	48.1
3	R2	All MCs	306	1.0	306	1.0	0.654	21.8	LOS B	4.5	31.9	0.86	1.06	1.29	44.1
Approach			447	2.1	447	2.1	0.654	20.0	LOS B	4.5	31.9	0.84	1.02	1.19	45.2
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.455	4.3	LOS A	3.0	22.0	0.46	0.44	0.46	53.9
5	T1	All MCs	635	4.3	635	4.3	0.576	4.6	LOS A	4.7	33.7	0.48	0.49	0.48	53.0
6	R2	All MCs	491	2.4	491	2.4	0.576	10.4	LOS A	4.7	33.7	0.50	0.54	0.50	51.1
Approach			1370	3.4	1370	3.4	0.576	6.6	LOS A	4.7	33.7	0.48	0.50	0.48	52.5
North: Anambah Road															
7	L2	All MCs	320	2.3	320	2.3	0.617	12.6	LOS A	4.5	32.4	0.91	0.98	1.22	49.0
8	T1	All MCs	55	5.8	55	5.8	0.354	12.0	LOS A	1.8	12.7	0.82	0.92	0.90	48.3
9	R2	All MCs	69	1.5	69	1.5	0.354	17.6	LOS B	1.8	12.7	0.82	0.92	0.90	47.6
Approach			443	2.6	443	2.6	0.617	13.3	LOS A	4.5	32.4	0.89	0.96	1.13	48.7
West: New England Highway (W)															
10	L2	All MCs	367	0.3	367	0.3	0.926	29.8	LOS C	17.9	127.7	1.00	1.51	2.55	40.7
11	T1	All MCs	849	5.2	849	5.2	0.926	29.5	LOS C	17.9	127.7	1.00	1.51	2.56	40.4
12	R2	All MCs	59	0.0	59	0.0	0.926	36.5	LOS C	16.8	122.5	1.00	1.51	2.57	39.7
Approach			1276	3.5	1276	3.5	0.926	29.9	LOS C	17.9	127.7	1.00	1.51	2.56	40.5
All Vehicles			3537	3.2	3537	3.2	0.926	17.5	LOS B	17.9	127.7	0.77	0.99	1.40	46.2

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

MOVEMENT SUMMARY

Site: 5AM28_F [NEW_ANA_28_AM_F (Site Folder: Future Year 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.255	14.5	LOS A	1.1	8.5	0.75	0.84	0.75	49.2
2	T1	All MCs	39	8.1	39	8.1	0.255	13.1	LOS A	1.1	8.5	0.75	0.84	0.75	49.2
3	R2	All MCs	71	10.4	71	10.4	0.255	22.4	LOS B	1.1	8.2	0.76	0.91	0.76	43.8
Approach			153	8.3	153	8.3	0.255	17.8	LOS B	1.1	8.5	0.75	0.87	0.75	46.5
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.212	3.5	LOS A	1.1	8.3	0.26	0.37	0.26	54.9
5	T1	All MCs	810	7.5	810	7.5	0.268	3.8	LOS A	1.8	13.1	0.25	0.40	0.25	54.4
6	R2	All MCs	198	1.6	198	1.6	0.268	9.6	LOS A	1.8	13.1	0.25	0.41	0.25	53.3
Approach			1235	5.8	1235	5.8	0.268	4.7	LOS A	1.8	13.1	0.25	0.39	0.25	54.3
North: Anambah Road															
7	L2	All MCs	154	8.9	154	8.9	0.370	9.3	LOS A	1.8	13.2	0.77	0.87	0.86	51.3
8	T1	All MCs	34	3.1	34	3.1	0.370	9.6	LOS A	1.8	13.2	0.77	0.89	0.83	50.0
9	R2	All MCs	49	12.8	49	12.8	0.214	18.2	LOS B	0.8	6.2	0.77	0.91	0.77	46.6
Approach			237	8.9	237	8.9	0.370	11.2	LOS A	1.8	13.2	0.77	0.88	0.84	50.0
West: New England Highway (W)															
10	L2	All MCs	27	7.7	27	7.7	0.641	7.0	LOS A	5.3	38.7	0.66	0.62	0.74	52.6
11	T1	All MCs	1165	5.1	1165	5.1	0.641	6.4	LOS A	5.3	38.7	0.66	0.63	0.74	52.9
12	R2	All MCs	60	8.8	60	8.8	0.641	13.5	LOS A	5.3	38.7	0.66	0.63	0.75	51.6
Approach			1252	5.3	1252	5.3	0.641	6.8	LOS A	5.3	38.7	0.66	0.63	0.74	52.8
All Vehicles			2877	6.0	2877	6.0	0.641	6.8	LOS A	5.3	38.7	0.50	0.56	0.54	52.8

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

MOVEMENT SUMMARY

Site: 5PM28_F [NEW_ANA_28_PM_F (Site Folder: Future Year 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.416	17.3	LOS B	2.0	14.2	0.79	0.92	0.96	48.0
2	T1	All MCs	49	4.3	49	4.3	0.416	14.5	LOS A	2.0	14.2	0.79	0.92	0.96	48.3
3	R2	All MCs	306	1.0	306	1.0	0.635	21.1	LOS B	4.3	30.1	0.85	1.05	1.25	44.5
Approach			447	2.1	447	2.1	0.635	19.6	LOS B	4.3	30.1	0.83	1.01	1.16	45.5
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.448	4.1	LOS A	3.0	21.2	0.40	0.41	0.40	54.2
5	T1	All MCs	997	3.2	997	3.2	0.567	4.7	LOS A	4.5	32.8	0.42	0.43	0.42	53.9
6	R2	All MCs	159	7.3	159	7.3	0.567	10.3	LOS A	4.5	32.8	0.44	0.43	0.44	52.6
Approach			1400	3.6	1400	3.6	0.567	5.2	LOS A	4.5	32.8	0.42	0.42	0.42	53.8
North: Anambah Road															
7	L2	All MCs	283	2.6	283	2.6	0.526	10.7	LOS A	3.2	23.2	0.85	0.94	1.07	50.3
8	T1	All MCs	55	5.8	55	5.8	0.272	11.9	LOS A	1.1	8.4	0.79	0.89	0.81	49.0
9	R2	All MCs	32	3.3	32	3.3	0.272	17.5	LOS B	1.1	8.4	0.79	0.89	0.81	48.3
Approach			369	3.1	369	3.1	0.526	11.5	LOS A	3.2	23.2	0.84	0.93	1.01	49.9
West: New England Highway (W)															
10	L2	All MCs	34	3.1	34	3.1	0.637	8.3	LOS A	5.3	39.0	0.77	0.76	0.94	52.1
11	T1	All MCs	1007	5.1	1007	5.1	0.637	8.0	LOS A	5.3	39.0	0.77	0.77	0.95	52.2
12	R2	All MCs	59	0.0	59	0.0	0.637	14.7	LOS B	5.3	38.5	0.77	0.78	0.95	51.2
Approach			1099	4.7	1099	4.7	0.637	8.3	LOS A	5.3	39.0	0.77	0.77	0.95	52.2
All Vehicles			3316	3.7	3316	3.7	0.637	8.9	LOS A	5.3	39.0	0.64	0.67	0.76	51.5

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

MOVEMENT SUMMARY

Site: 5AM28_O1 [NEW_ANA_28_AM_O1 (Site Folder: Future Year 2028 wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.301	21.4	LOS B	1.3	9.7	0.80	0.89	0.87	45.5
2	T1	All MCs	39	8.1	39	8.1	0.301	18.1	LOS B	1.4	10.8	0.80	0.90	0.87	45.6
3	R2	All MCs	71	10.4	71	10.4	0.301	21.7	LOS B	1.4	10.8	0.81	0.94	0.85	44.3
Approach			153	8.3	153	8.3	0.301	20.7	LOS B	1.4	10.8	0.80	0.92	0.86	44.9
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.222	3.8	LOS A	1.4	10.1	0.38	0.40	0.38	54.3
5	T1	All MCs	810	7.5	810	7.5	0.282	4.2	LOS A	2.3	17.2	0.40	0.42	0.40	53.8
6	R2	All MCs	203	1.6	203	1.6	0.282	9.8	LOS A	2.3	17.2	0.41	0.42	0.41	52.6
Approach			1241	5.7	1241	5.7	0.282	5.1	LOS A	2.3	17.2	0.40	0.41	0.40	53.7
North: Anambah Road															
7	L2	All MCs	202	6.8	202	6.8	0.427	9.7	LOS A	2.2	15.9	0.79	0.90	0.92	50.9
8	T1	All MCs	34	3.1	34	3.1	0.427	9.7	LOS A	2.2	15.9	0.79	0.95	0.93	48.5
9	R2	All MCs	163	3.9	163	3.9	0.427	16.1	LOS B	2.1	15.4	0.79	0.95	0.93	47.6
Approach			399	5.3	399	5.3	0.427	12.3	LOS A	2.2	15.9	0.79	0.92	0.92	49.3
West: New England Highway (W)															
10	L2	All MCs	40	5.3	40	5.3	0.650	6.9	LOS A	5.5	40.0	0.67	0.63	0.76	52.6
11	T1	All MCs	1165	5.1	1165	5.1	0.650	6.6	LOS A	5.5	40.1	0.67	0.64	0.76	52.8
12	R2	All MCs	60	8.8	60	8.8	0.650	13.0	LOS A	5.5	40.1	0.67	0.64	0.76	51.6
Approach			1265	5.3	1265	5.3	0.650	6.9	LOS A	5.5	40.1	0.67	0.64	0.76	52.8
All Vehicles			3057	5.6	3057	5.6	0.650	7.5	LOS A	5.5	40.1	0.58	0.60	0.64	52.2

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

MOVEMENT SUMMARY

Site: 5PM28_O1 [NEW_ANA_28_PM_O1 (Site Folder: Future Year 2028 wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.443	18.6	LOS B	2.1	15.5	0.81	0.94	1.02	47.2
2	T1	All MCs	49	4.3	49	4.3	0.443	15.5	LOS B	2.1	15.5	0.81	0.94	1.02	47.6
3	R2	All MCs	306	1.0	306	1.0	0.674	23.0	LOS B	4.7	33.5	0.87	1.09	1.35	43.5
Approach			447	2.1	447	2.1	0.674	21.3	LOS B	4.7	33.5	0.85	1.04	1.24	44.6
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.471	4.2	LOS A	3.2	23.1	0.43	0.42	0.43	54.0
5	T1	All MCs	997	3.2	997	3.2	0.596	4.9	LOS A	5.0	36.0	0.46	0.44	0.46	53.7
6	R2	All MCs	212	5.5	212	5.5	0.596	10.3	LOS A	5.0	36.0	0.48	0.45	0.48	52.3
Approach			1453	3.5	1453	3.5	0.596	5.6	LOS A	5.0	36.0	0.46	0.44	0.46	53.5
North: Anambah Road															
7	L2	All MCs	289	2.5	289	2.5	0.570	11.9	LOS A	3.8	27.0	0.88	0.97	1.15	49.5
8	T1	All MCs	55	5.8	55	5.8	0.312	11.8	LOS A	1.4	10.3	0.80	0.92	0.86	48.5
9	R2	All MCs	45	2.3	45	2.3	0.312	17.9	LOS B	1.4	10.3	0.80	0.92	0.86	47.8
Approach			389	3.0	389	3.0	0.570	12.6	LOS A	3.8	27.0	0.86	0.96	1.07	49.1
West: New England Highway (W)															
10	L2	All MCs	158	0.7	158	0.7	0.734	10.1	LOS A	7.5	54.1	0.86	0.88	1.17	51.0
11	T1	All MCs	1007	5.1	1007	5.1	0.734	10.2	LOS A	7.5	54.1	0.86	0.89	1.18	51.0
12	R2	All MCs	59	0.0	59	0.0	0.734	16.5	LOS B	7.4	53.6	0.86	0.90	1.18	50.0
Approach			1224	4.2	1224	4.2	0.734	10.5	LOS A	7.5	54.1	0.86	0.89	1.18	50.9
All Vehicles			3514	3.5	3514	3.5	0.734	10.1	LOS A	7.5	54.1	0.69	0.73	0.88	50.8

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

MOVEMENT SUMMARY

Site: 5AM28_O1 [NEW_ANA_28_AM_O1_50% (Site Folder: Future Year 2028 wDev_50%)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.289	20.3	LOS B	1.2	9.2	0.79	0.88	0.84	46.0
2	T1	All MCs	39	8.1	39	8.1	0.289	17.2	LOS B	1.4	10.3	0.79	0.89	0.84	46.1
3	R2	All MCs	71	10.4	71	10.4	0.289	20.9	LOS B	1.4	10.3	0.79	0.93	0.82	44.7
Approach			153	8.3	153	8.3	0.289	19.8	LOS B	1.4	10.3	0.79	0.91	0.83	45.4
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.221	3.7	LOS A	1.4	9.9	0.36	0.39	0.36	54.4
5	T1	All MCs	810	7.5	810	7.5	0.279	4.1	LOS A	2.3	16.6	0.37	0.41	0.37	53.9
6	R2	All MCs	206	1.6	206	1.6	0.279	9.8	LOS A	2.3	16.6	0.37	0.42	0.37	52.7
Approach			1244	5.7	1244	5.7	0.279	5.0	LOS A	2.3	16.6	0.37	0.41	0.37	53.8
North: Anambah Road															
7	L2	All MCs	234	6.8	234	6.8	0.491	10.4	LOS A	2.6	19.4	0.81	0.93	0.99	50.4
8	T1	All MCs	34	3.1	34	3.1	0.395	10.0	LOS A	1.9	13.5	0.78	0.95	0.90	48.3
9	R2	All MCs	132	3.9	132	3.9	0.395	16.4	LOS B	1.9	13.5	0.78	0.95	0.90	47.5
Approach			399	5.5	399	5.5	0.491	12.4	LOS A	2.6	19.4	0.80	0.94	0.95	49.2
West: New England Highway (W)															
10	L2	All MCs	37	5.3	37	5.3	0.650	6.9	LOS A	5.5	39.9	0.67	0.63	0.77	52.6
11	T1	All MCs	1165	5.1	1165	5.1	0.650	6.6	LOS A	5.5	40.1	0.67	0.64	0.77	52.8
12	R2	All MCs	60	8.8	60	8.8	0.650	13.1	LOS A	5.5	40.1	0.67	0.65	0.76	51.6
Approach			1262	5.3	1262	5.3	0.650	6.9	LOS A	5.5	40.1	0.67	0.64	0.77	52.8
All Vehicles			3057	5.6	3057	5.6	0.650	7.5	LOS A	5.5	40.1	0.57	0.60	0.63	52.3

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

MOVEMENT SUMMARY

Site: 5PM28_O1 [NEW_ANA_28_PM_O1_50% (Site Folder: Future Year 2028 wDev_50%)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.454	19.1	LOS B	2.2	16.0	0.82	0.95	1.04	46.9
2	T1	All MCs	49	4.3	49	4.3	0.454	16.0	LOS B	2.2	16.0	0.82	0.95	1.04	47.2
3	R2	All MCs	306	1.0	306	1.0	0.690	23.9	LOS B	4.9	34.8	0.88	1.11	1.39	43.1
Approach			447	2.1	447	2.1	0.690	22.1	LOS B	4.9	34.8	0.86	1.06	1.28	44.2
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.481	4.2	LOS A	3.3	23.8	0.43	0.42	0.43	54.0
5	T1	All MCs	997	3.2	997	3.2	0.609	4.9	LOS A	5.2	37.5	0.46	0.45	0.46	53.6
6	R2	All MCs	247	5.5	247	5.5	0.609	10.3	LOS A	5.2	37.5	0.48	0.46	0.48	52.2
Approach			1488	3.5	1488	3.5	0.609	5.7	LOS A	5.2	37.5	0.46	0.45	0.46	53.4
North: Anambah Road															
7	L2	All MCs	293	2.5	293	2.5	0.573	11.8	LOS A	3.8	27.1	0.88	0.97	1.15	49.6
8	T1	All MCs	55	5.8	55	5.8	0.307	11.8	LOS A	1.4	10.0	0.80	0.92	0.85	48.6
9	R2	All MCs	42	2.3	42	2.3	0.307	17.8	LOS B	1.4	10.0	0.80	0.92	0.85	47.9
Approach			389	3.0	389	3.0	0.573	12.4	LOS A	3.8	27.1	0.86	0.96	1.08	49.2
West: New England Highway (W)															
10	L2	All MCs	123	0.7	123	0.7	0.731	10.4	LOS A	7.4	53.4	0.86	0.90	1.19	50.7
11	T1	All MCs	1007	5.1	1007	5.1	0.731	10.6	LOS A	7.4	53.4	0.86	0.91	1.20	50.7
12	R2	All MCs	59	0.0	59	0.0	0.731	16.9	LOS B	7.2	52.7	0.86	0.91	1.20	49.7
Approach			1189	4.3	1189	4.3	0.731	10.9	LOS A	7.4	53.4	0.86	0.90	1.20	50.7
All Vehicles			3514	3.6	3514	3.6	0.731	10.3	LOS A	7.4	53.4	0.69	0.74	0.88	50.7

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

MOVEMENT SUMMARY

Site: 5AM28_O1 [NEW_ANA_28_AM_O1_No Wyndella (Site Folder: Future Year 2028 wDev (No Wyndella))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.475	35.2	LOS C	2.6	19.2	0.91	1.01	1.16	40.4
2	T1	All MCs	39	8.1	39	8.1	0.475	29.7	LOS C	2.6	19.2	0.91	1.01	1.16	40.6
3	R2	All MCs	71	10.4	71	10.4	0.475	44.4	LOS D	2.4	18.0	0.91	1.06	1.23	35.1
Approach			153	8.3	153	8.3	0.475	38.0	LOS C	2.6	19.2	0.91	1.03	1.20	37.7
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.279	4.5	LOS A	2.0	14.6	0.63	0.49	0.63	53.1
5	T1	All MCs	810	7.5	810	7.5	0.353	5.9	LOS A	3.6	26.4	0.69	0.48	0.69	52.5
6	R2	All MCs	218	1.4	218	1.4	0.353	10.6	LOS A	3.6	26.4	0.71	0.48	0.71	51.3
Approach			1256	5.7	1256	5.7	0.353	6.5	LOS A	3.6	26.4	0.68	0.48	0.68	52.4
North: Anambah Road															
7	L2	All MCs	335	4.1	335	4.1	0.886	26.1	LOS B	8.3	60.2	0.95	1.31	2.04	41.6
8	T1	All MCs	34	3.1	34	3.1	0.886	25.8	LOS B	8.3	60.2	0.95	1.31	2.04	41.9
9	R2	All MCs	473	1.3	473	1.3	0.976	48.1	LOS D	15.7	111.2	0.99	1.71	3.22	34.0
Approach			842	2.5	842	2.5	0.976	38.5	LOS C	15.7	111.2	0.97	1.53	2.70	36.9
West: New England Highway (W)															
10	L2	All MCs	74	2.8	74	2.8	0.685	7.7	LOS A	6.4	46.9	0.73	0.68	0.85	52.4
11	T1	All MCs	1165	5.1	1165	5.1	0.685	7.2	LOS A	6.4	47.0	0.73	0.69	0.86	52.5
12	R2	All MCs	60	8.8	60	8.8	0.685	14.3	LOS A	6.4	47.0	0.73	0.69	0.86	51.3
Approach			1299	5.1	1299	5.1	0.685	7.5	LOS A	6.4	47.0	0.73	0.69	0.86	52.5
All Vehicles			3550	4.8	3550	4.8	0.976	15.8	LOS B	15.7	111.2	0.78	0.83	1.25	46.9

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

MOVEMENT SUMMARY

Site: 5PM28_O1 [NEW_ANA_28_PM_O1_No Wyndella (Site Folder: Future Year 2028 wDev (No Wyndella))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.535	23.6	LOS B	2.8	20.0	0.87	1.01	1.19	44.5
2	T1	All MCs	49	4.3	49	4.3	0.535	21.4	LOS B	2.8	20.0	0.87	1.01	1.19	44.8
3	R2	All MCs	306	1.0	306	1.0	0.805	33.2	LOS C	6.9	48.5	0.93	1.25	1.80	39.1
Approach			447	2.1	447	2.1	0.805	29.9	LOS C	6.9	48.5	0.91	1.17	1.61	40.6
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.534	4.5	LOS A	3.8	27.6	0.51	0.45	0.51	53.6
5	T1	All MCs	997	3.2	997	3.2	0.676	5.4	LOS A	6.2	44.7	0.56	0.48	0.56	53.0
6	R2	All MCs	358	3.2	358	3.2	0.676	10.6	LOS A	6.2	44.7	0.58	0.51	0.58	51.5
Approach			1599	3.2	1599	3.2	0.676	6.4	LOS A	6.2	44.7	0.56	0.48	0.56	52.8
North: Anambah Road															
7	L2	All MCs	305	2.4	305	2.4	0.700	17.1	LOS B	5.7	40.6	0.96	1.07	1.42	46.3
8	T1	All MCs	55	5.8	55	5.8	0.700	14.9	LOS B	5.7	40.6	0.88	0.99	1.08	46.7
9	R2	All MCs	83	1.3	83	1.3	0.404	19.8	LOS B	2.1	15.3	0.85	0.96	0.99	46.0
Approach			443	2.6	443	2.6	0.700	17.3	LOS B	5.7	40.6	0.93	1.04	1.30	46.3
West: New England Highway (W)															
10	L2	All MCs	499	0.2	499	0.2	1.038	67.5	LOS E	43.2	308.0	1.00	2.51	4.93	28.8
11	T1	All MCs	1007	5.1	1007	5.1	1.038	67.6	LOS E	43.2	308.0	1.00	2.49	4.90	28.8
12	R2	All MCs	59	0.0	59	0.0	1.038	74.5	LOS F	40.5	294.8	1.00	2.48	4.89	28.5
Approach			1565	3.3	1565	3.3	1.038	67.8	LOS E	43.2	308.0	1.00	2.50	4.91	28.8
All Vehicles			4055	3.0	4055	3.0	1.038	33.9	LOS C	43.2	308.0	0.81	1.40	2.43	38.6

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

MOVEMENT SUMMARY

Site: 5AM28_O1 [NEW_ANA_28_AM_O1_Mod_No Wyndella (Site Folder: Future Year 2028 wDev Modified (No Wyndella))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.474	35.2	LOS C	2.6	19.1	0.91	1.01	1.16	40.4
2	T1	All MCs	39	8.1	39	8.1	0.474	29.6	LOS C	2.6	19.1	0.91	1.01	1.16	40.6
3	R2	All MCs	71	10.4	71	10.4	0.474	44.3	LOS D	2.3	17.9	0.91	1.06	1.23	35.1
Approach			153	8.3	153	8.3	0.474	38.0	LOS C	2.6	19.1	0.91	1.03	1.19	37.8
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.278	4.5	LOS A	2.0	14.3	0.62	0.49	0.62	53.1
5	T1	All MCs	810	7.5	810	7.5	0.352	5.9	LOS A	3.5	26.0	0.69	0.48	0.69	52.5
6	R2	All MCs	218	1.4	218	1.4	0.352	10.6	LOS A	3.5	26.0	0.71	0.48	0.71	51.3
Approach			1256	5.7	1256	5.7	0.352	6.5	LOS A	3.5	26.0	0.68	0.48	0.68	52.4
North: Anambah Road															
7	L2	All MCs	335	4.1	335	4.1	0.822	19.2	LOS B	6.4	46.0	0.92	1.18	1.67	45.1
8	T1	All MCs	34	3.1	34	3.1	0.822	18.8	LOS B	6.4	46.0	0.92	1.18	1.67	45.4
9	R2	All MCs	473	1.3	473	1.3	0.903	29.9	LOS C	9.7	68.4	0.95	1.37	2.17	40.4
Approach			842	2.5	842	2.5	0.903	25.2	LOS B	9.7	68.4	0.93	1.29	1.95	42.3
West: New England Highway (W)															
10	L2	All MCs	74	2.8	74	2.8	0.105	6.0	LOS A	0.4	3.1	0.46	0.56	0.46	53.8
11	T1	All MCs	1165	5.1	1165	5.1	0.555	5.1	LOS A	3.9	28.5	0.61	0.53	0.63	53.2
12	R2	All MCs	60	8.8	60	8.8	0.555	12.3	LOS A	3.9	28.5	0.61	0.56	0.64	51.9
Approach			1299	5.1	1299	5.1	0.555	5.5	LOS A	3.9	28.5	0.60	0.53	0.62	53.2
All Vehicles			3550	4.8	3550	4.8	0.903	11.9	LOS A	9.7	68.4	0.72	0.71	0.98	49.0

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

MOVEMENT SUMMARY

Site: 5PM28_O1 [NEW_ANA_28_PM_O1_Mod_No Wyndella (Site Folder: Future Year 2028 wDev Modified (No Wyndella))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.533	23.5	LOS B	2.7	19.9	0.87	1.01	1.18	44.5
2	T1	All MCs	49	4.3	49	4.3	0.533	21.4	LOS B	2.7	19.9	0.87	1.01	1.18	44.8
3	R2	All MCs	306	1.0	306	1.0	0.802	32.9	LOS C	6.8	48.1	0.93	1.24	1.79	39.2
Approach			447	2.1	447	2.1	0.802	29.7	LOS C	6.8	48.1	0.91	1.17	1.60	40.7
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.533	4.5	LOS A	3.8	27.1	0.51	0.45	0.51	53.6
5	T1	All MCs	997	3.2	997	3.2	0.675	5.4	LOS A	6.1	43.8	0.55	0.49	0.55	53.1
6	R2	All MCs	358	3.2	358	3.2	0.675	10.6	LOS A	6.1	43.8	0.58	0.51	0.58	51.5
Approach			1599	3.2	1599	3.2	0.675	6.4	LOS A	6.1	43.8	0.55	0.49	0.55	52.8
North: Anambah Road															
7	L2	All MCs	305	2.4	305	2.4	0.585	10.9	LOS A	3.7	26.6	0.86	0.97	1.13	50.2
8	T1	All MCs	55	5.8	55	5.8	0.585	11.2	LOS A	3.7	26.6	0.81	0.94	0.93	48.9
9	R2	All MCs	83	1.3	83	1.3	0.337	16.8	LOS B	1.5	11.0	0.79	0.93	0.86	47.7
Approach			443	2.6	443	2.6	0.585	12.1	LOS A	3.7	26.6	0.84	0.96	1.05	49.5
West: New England Highway (W)															
10	L2	All MCs	499	0.2	499	0.2	0.584	9.9	LOS A	4.9	35.6	0.80	0.82	0.98	51.6
11	T1	All MCs	1007	5.1	1007	5.1	0.584	8.0	LOS A	4.9	35.6	0.80	0.79	0.97	52.1
12	R2	All MCs	59	0.0	59	0.0	0.584	15.3	LOS B	4.6	33.2	0.80	0.81	0.99	51.0
Approach			1565	3.3	1565	3.3	0.584	8.9	LOS A	4.9	35.6	0.80	0.80	0.97	51.9
All Vehicles			4055	3.0	4055	3.0	0.802	10.6	LOS A	6.8	48.1	0.72	0.73	0.88	50.4

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

MOVEMENT SUMMARY

Site: 5AM28_O1 [NEW_ANA_28_AM_O1_Mod_50%_No Wyndella (Site Folder: Future Year 2028 wDev Modified_50% (No Wyndella))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.398	26.7	LOS B	2.0	15.0	0.87	0.97	1.04	43.6
2	T1	All MCs	39	8.1	39	8.1	0.398	23.1	LOS B	2.0	15.0	0.87	0.97	1.04	43.6
3	R2	All MCs	71	10.4	71	10.4	0.398	35.4	LOS C	1.9	14.6	0.88	1.02	1.10	38.2
Approach			153	8.3	153	8.3	0.398	29.8	LOS C	2.0	15.0	0.88	0.99	1.07	40.9
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.252	4.1	LOS A	1.7	12.1	0.53	0.44	0.53	53.6
5	T1	All MCs	810	7.5	810	7.5	0.319	5.1	LOS A	2.9	21.7	0.57	0.45	0.57	53.0
6	R2	All MCs	232	1.4	232	1.4	0.319	10.2	LOS A	2.9	21.7	0.59	0.46	0.59	51.8
Approach			1269	5.6	1269	5.6	0.319	5.8	LOS A	2.9	21.7	0.56	0.45	0.56	52.9
North: Anambah Road															
7	L2	All MCs	456	3.0	456	3.0	0.945	31.1	LOS C	12.5	89.5	0.97	1.53	2.71	39.4
8	T1	All MCs	34	3.1	34	3.1	0.945	30.9	LOS C	12.5	89.5	0.97	1.53	2.71	39.6
9	R2	All MCs	352	1.8	352	1.8	0.781	23.3	LOS B	5.6	39.9	0.90	1.15	1.51	43.3
Approach			842	2.5	842	2.5	0.945	27.9	LOS B	12.5	89.5	0.94	1.37	2.21	41.0
West: New England Highway (W)															
10	L2	All MCs	61	3.5	61	3.5	0.087	6.1	LOS A	0.4	2.5	0.46	0.56	0.46	53.8
11	T1	All MCs	1165	5.1	1165	5.1	0.557	5.2	LOS A	3.9	28.6	0.61	0.54	0.64	53.2
12	R2	All MCs	60	8.8	60	8.8	0.557	12.5	LOS A	3.9	28.6	0.62	0.58	0.65	51.9
Approach			1286	5.2	1286	5.2	0.557	5.6	LOS A	3.9	28.6	0.60	0.55	0.63	53.1
All Vehicles			3550	4.8	3550	4.8	0.945	12.0	LOS A	12.5	89.5	0.68	0.73	1.00	49.0

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

MOVEMENT SUMMARY

Site: 5PM28_O1 [NEW_ANA_28_PM_O1_Mod_50%_No Wyndella (Site Folder: Future Year 2028 wDev Modified_50% (No Wyndella))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.595	27.5	LOS B	3.2	23.1	0.90	1.05	1.30	42.4
2	T1	All MCs	49	4.3	49	4.3	0.595	25.9	LOS B	3.2	23.1	0.90	1.05	1.30	42.7
3	R2	All MCs	306	1.0	306	1.0	0.889	46.9	LOS D	9.3	65.5	0.96	1.42	2.36	34.4
Approach			447	2.1	447	2.1	0.889	40.6	LOS C	9.3	65.5	0.95	1.30	2.03	36.5
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.569	4.5	LOS A	4.4	31.3	0.52	0.45	0.52	53.6
5	T1	All MCs	997	3.2	997	3.2	0.721	5.5	LOS A	7.3	52.1	0.57	0.49	0.57	52.8
6	R2	All MCs	491	2.4	491	2.4	0.721	10.6	LOS A	7.3	52.1	0.61	0.53	0.61	51.1
Approach			1733	2.9	1733	2.9	0.721	6.8	LOS A	7.3	52.1	0.57	0.50	0.57	52.4
North: Anambah Road															
7	L2	All MCs	320	2.3	320	2.3	0.603	11.1	LOS A	3.9	28.0	0.87	0.98	1.15	50.0
8	T1	All MCs	55	5.8	55	5.8	0.603	11.5	LOS A	3.9	28.0	0.80	0.93	0.89	48.7
9	R2	All MCs	69	1.5	69	1.5	0.348	17.0	LOS B	1.6	11.4	0.80	0.93	0.88	47.9
Approach			443	2.6	443	2.6	0.603	12.1	LOS A	3.9	28.0	0.85	0.97	1.08	49.5
West: New England Highway (W)															
10	L2	All MCs	367	0.3	367	0.3	0.493	10.6	LOS A	3.4	24.0	0.79	0.81	0.94	51.4
11	T1	All MCs	1007	5.1	1007	5.1	0.638	10.3	LOS A	6.0	44.2	0.86	0.89	1.16	51.0
12	R2	All MCs	59	0.0	59	0.0	0.638	17.7	LOS B	5.5	40.1	0.86	0.91	1.18	49.4
Approach			1433	3.6	1433	3.6	0.638	10.7	LOS A	6.0	44.2	0.85	0.87	1.10	51.0
All Vehicles			4056	3.0	4056	3.0	0.889	12.5	LOS A	9.3	65.5	0.74	0.77	0.98	49.2

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

MOVEMENT SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F (Site Folder: Future Year 2038)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.527	44.0	LOS D	4.9	36.2	0.99	0.77	0.99	30.7
2	T1	All MCs	39	8.1	39	8.1	* 0.527	68.2	LOS E	4.9	36.2	0.99	0.77	0.99	31.5
3	R2	All MCs	71	10.4	71	10.4	0.493	77.0	LOS F	5.0	37.9	1.00	0.77	1.00	26.1
Approach			153	8.3	153	8.3	0.527	65.4	LOS E	5.0	37.9	1.00	0.77	1.00	28.6
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.189	11.1	LOS A	3.1	22.3	0.23	0.61	0.23	51.2
5	T1	All MCs	1082	7.1	1082	7.1	0.551	23.9	LOS B	23.9	177.7	0.67	0.61	0.67	45.0
6	R2	All MCs	198	1.6	198	1.6	* 0.868	86.7	LOS F	15.3	108.3	1.00	0.95	1.23	25.0
Approach			1507	5.8	1507	5.8	0.868	30.2	LOS C	23.9	177.7	0.65	0.65	0.68	39.9
North: Anambah Road															
7	L2	All MCs	154	8.9	154	8.9	0.475	54.4	LOS D	11.5	86.1	0.92	0.80	0.92	30.3
8	T1	All MCs	34	3.1	34	3.1	0.475	68.8	LOS E	11.5	86.1	0.92	0.80	0.92	31.1
9	R2	All MCs	49	12.8	49	12.8	0.351	76.0	LOS F	3.4	26.7	0.98	0.75	0.98	26.2
Approach			237	8.9	237	8.9	0.475	61.0	LOS E	11.5	86.1	0.93	0.79	0.93	29.4
West: New England Highway (W)															
10	L2	All MCs	27	7.7	27	7.7	* 0.960	40.7	LOS C	83.8	605.6	1.00	1.08	1.16	30.8
11	T1	All MCs	2011	3.7	2011	3.7	* 0.960	66.1	LOS E	83.8	605.6	1.00	1.08	1.16	31.7
12	R2	All MCs	60	8.8	60	8.8	0.277	92.0	LOS F	3.9	29.5	0.95	0.76	0.95	27.6
Approach			2099	3.9	2099	3.9	0.960	66.5	LOS E	83.8	605.6	1.00	1.07	1.16	28.7
All Vehicles			3995	5.1	3995	5.1	0.960	52.5	LOS D	83.8	605.6	0.86	0.89	0.96	32.1

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
East: New England Highway (E)												

P2	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
North: Anambah Road												
P3	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
West: New England Highway (W)												
P4	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
All Pedestrians		0	211	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91

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

MOVEMENT SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F (Site Folder: Future Year 2038)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 149 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	* 0.963	97.8	LOS F	19.8	142.1	1.00	1.13	1.43	23.1
2	T1	All MCs	49	4.3	49	4.3	* 0.963	108.5	LOS F	19.8	142.1	1.00	1.13	1.43	23.5
3	R2	All MCs	306	1.0	306	1.0	0.963	114.8	LOS F	19.8	142.1	1.00	1.14	1.43	22.3
Approach			447	2.1	447	2.1	0.963	110.6	LOS F	19.8	142.1	1.00	1.14	1.43	21.1
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.190	19.8	LOS B	2.5	18.0	0.15	0.59	0.15	52.0
5	T1	All MCs	1853	2.1	1853	2.1	* 0.898	45.4	LOS D	63.6	453.2	0.93	0.89	0.98	39.5
6	R2	All MCs	159	7.3	159	7.3	0.559	83.3	LOS F	10.8	80.4	0.97	0.81	0.97	27.7
Approach			2256	2.6	2256	2.6	0.898	45.3	LOS D	63.6	453.2	0.85	0.85	0.89	34.3
North: Anambah Road															
7	L2	All MCs	283	2.6	283	2.6	0.881	72.7	LOS F	26.5	190.8	1.00	0.97	1.18	26.1
8	T1	All MCs	55	5.8	55	5.8	0.881	96.5	LOS F	26.5	190.8	1.00	0.97	1.18	26.6
9	R2	All MCs	32	3.3	32	3.3	0.432	86.2	LOS F	2.4	17.3	1.00	0.73	1.00	24.5
Approach			369	3.1	369	3.1	0.881	77.3	LOS F	26.5	190.8	1.00	0.95	1.16	26.0
West: New England Highway (W)															
10	L2	All MCs	34	3.1	34	3.1	* 0.730	21.7	LOS B	39.0	284.2	0.84	0.79	0.84	37.5
11	T1	All MCs	1335	4.8	1335	4.8	0.730	40.9	LOS C	39.0	284.2	0.84	0.78	0.84	39.4
12	R2	All MCs	59	0.0	59	0.0	0.788	108.3	LOS F	4.7	32.8	1.00	0.86	1.25	23.8
Approach			1428	4.6	1428	4.6	0.788	43.3	LOS D	39.0	284.2	0.85	0.78	0.86	35.1
All Vehicles			4501	3.2	4501	3.2	0.963	53.8	LOS D	63.6	453.2	0.88	0.87	0.96	31.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	68.8	LOS F	0.2	0.2	0.96	0.96	222.6	200.0	0.90
East: New England Highway (E)												

P2	Full	50	53	68.8	LOS F	0.2	0.2	0.96	0.96	222.6	200.0	0.90
North: Anambah Road												
P3	Full	50	53	68.8	LOS F	0.2	0.2	0.96	0.96	222.6	200.0	0.90
West: New England Highway (W)												
P4	Full	50	53	68.8	LOS F	0.2	0.2	0.96	0.96	222.6	200.0	0.90
All Pedestrians		0	211	68.8	LOS F	0.2	0.2	0.96	0.96	222.6	200.0	0.90

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

MOVEMENT SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_O1 (Site Folder: Future Year 2038 wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.573	44.1	LOS D	4.9	36.5	1.00	0.77	1.00	30.6
2	T1	All MCs	39	8.1	39	8.1	* 0.573	69.2	LOS E	4.9	36.5	1.00	0.77	1.00	31.4
3	R2	All MCs	71	10.4	71	10.4	0.538	78.4	LOS F	5.0	38.4	1.00	0.77	1.00	25.9
Approach			153	8.3	153	8.3	0.573	66.4	LOS E	5.0	38.4	1.00	0.77	1.00	28.4
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.190	11.4	LOS A	3.2	23.3	0.24	0.61	0.24	51.0
5	T1	All MCs	1082	7.1	1082	7.1	0.551	23.9	LOS B	23.9	177.6	0.67	0.61	0.67	45.0
6	R2	All MCs	203	1.6	203	1.6	* 0.892	89.5	LOS F	16.0	113.8	1.00	0.98	1.28	24.6
Approach			1512	5.7	1512	5.7	0.892	30.8	LOS C	23.9	177.6	0.65	0.66	0.69	39.6
North: Anambah Road															
7	L2	All MCs	202	6.8	202	6.8	0.545	53.8	LOS D	14.5	107.3	0.92	0.82	0.92	30.5
8	T1	All MCs	34	3.1	34	3.1	0.545	68.4	LOS E	14.5	107.3	0.92	0.82	0.92	31.3
9	R2	All MCs	163	3.9	163	3.9	0.933	95.2	LOS F	13.6	98.0	1.00	1.03	1.40	23.1
Approach			399	5.3	399	5.3	0.933	72.0	LOS F	14.5	107.3	0.95	0.90	1.12	27.1
West: New England Highway (W)															
10	L2	All MCs	40	5.3	40	5.3	* 0.966	42.4	LOS C	86.1	622.1	1.00	1.10	1.17	30.2
11	T1	All MCs	2011	3.7	2011	3.7	* 0.966	69.0	LOS E	86.1	622.1	1.00	1.10	1.18	31.0
12	R2	All MCs	60	8.8	60	8.8	0.277	92.2	LOS F	3.9	29.5	0.95	0.76	0.95	27.6
Approach			2111	3.9	2111	3.9	0.966	69.1	LOS E	86.1	622.1	1.00	1.09	1.17	28.1
All Vehicles			4175	4.9	4175	4.9	0.966	55.4	LOS D	86.1	622.1	0.87	0.90	0.99	31.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
East: New England Highway (E)												

P2	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
North: Anambah Road												
P3	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
West: New England Highway (W)												
P4	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
All Pedestrians		0	211	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91

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

MOVEMENT SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_O1 (Site Folder: Future Year 2038 wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 147 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	* 0.989	108.9	LOS F	20.7	148.8	1.00	1.17	1.51	21.7
2	T1	All MCs	49	4.3	49	4.3	* 0.989	117.9	LOS F	20.7	148.8	1.00	1.17	1.51	22.1
3	R2	All MCs	306	1.0	306	1.0	0.989	124.4	LOS F	20.7	148.8	1.00	1.18	1.51	21.0
Approach			447	2.1	447	2.1	0.989	120.5	LOS F	20.7	148.8	1.00	1.18	1.51	20.0
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.189	17.1	LOS B	2.4	17.0	0.14	0.58	0.14	52.1
5	T1	All MCs	1853	2.1	1853	2.1	* 0.865	33.1	LOS C	54.0	385.1	0.86	0.80	0.87	44.0
6	R2	All MCs	212	5.5	212	5.5	0.832	90.2	LOS F	16.1	117.6	1.00	0.92	1.16	25.7
Approach			2309	2.5	2309	2.5	0.865	36.7	LOS C	54.0	385.1	0.80	0.79	0.82	37.3
North: Anambah Road															
7	L2	All MCs	289	2.5	289	2.5	0.992	106.1	LOS F	32.7	234.8	1.00	1.13	1.45	21.1
8	T1	All MCs	55	5.8	55	5.8	0.992	127.4	LOS F	32.7	234.8	1.00	1.13	1.45	21.5
9	R2	All MCs	45	2.3	45	2.3	0.731	89.6	LOS F	3.6	25.5	1.00	0.83	1.21	24.0
Approach			389	3.0	389	3.0	0.992	107.2	LOS F	32.7	234.8	1.00	1.09	1.42	21.5
West: New England Highway (W)															
10	L2	All MCs	158	0.7	158	0.7	* 0.757	22.1	LOS B	41.3	299.1	0.84	0.82	0.84	38.4
11	T1	All MCs	1335	4.8	1335	4.8	0.757	40.0	LOS C	41.3	299.1	0.84	0.80	0.84	40.4
12	R2	All MCs	59	0.0	59	0.0	0.933	117.4	LOS F	5.0	34.8	1.00	0.96	1.54	22.4
Approach			1553	4.2	1553	4.2	0.933	41.1	LOS C	41.3	299.1	0.85	0.80	0.87	35.8
All Vehicles			4698	3.1	4698	3.1	0.992	52.0	LOS D	54.0	385.1	0.85	0.86	0.95	32.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
East: New England Highway (E)												

P2	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
North: Anambah Road												
P3	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
West: New England Highway (W)												
P4	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
All Pedestrians		0	211	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90

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

MOVEMENT SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_O1_50% (Site Folder: Future Year 2038 wDev_50%)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.573	44.1	LOS D	4.9	36.5	1.00	0.77	1.00	30.6
2	T1	All MCs	39	8.1	39	8.1	* 0.573	69.2	LOS E	4.9	36.5	1.00	0.77	1.00	31.4
3	R2	All MCs	71	10.4	71	10.4	0.538	78.4	LOS F	5.0	38.4	1.00	0.77	1.00	25.9
Approach			153	8.3	153	8.3	0.573	66.4	LOS E	5.0	38.4	1.00	0.77	1.00	28.4
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.190	11.4	LOS A	3.2	23.3	0.24	0.61	0.24	51.0
5	T1	All MCs	1082	7.1	1082	7.1	0.552	23.9	LOS B	23.9	177.6	0.67	0.61	0.67	45.0
6	R2	All MCs	206	1.6	206	1.6	* 0.905	91.4	LOS F	16.5	117.2	1.00	0.99	1.30	24.3
Approach			1515	5.7	1515	5.7	0.905	31.2	LOS C	23.9	177.6	0.65	0.66	0.69	39.4
North: Anambah Road															
7	L2	All MCs	234	6.8	234	6.8	0.612	54.5	LOS D	16.7	123.5	0.94	0.83	0.94	30.4
8	T1	All MCs	34	3.1	34	3.1	0.612	69.3	LOS E	16.7	123.5	0.94	0.83	0.94	31.2
9	R2	All MCs	131	3.9	131	3.9	0.748	79.0	LOS F	9.6	69.1	1.00	0.87	1.12	25.8
Approach			398	5.5	398	5.5	0.748	63.8	LOS E	16.7	123.5	0.96	0.84	1.00	28.8
West: New England Highway (W)															
10	L2	All MCs	36	5.3	36	5.3	* 0.964	41.5	LOS C	85.3	616.4	1.00	1.09	1.17	30.4
11	T1	All MCs	2011	3.7	2011	3.7	* 0.964	67.9	LOS E	85.3	616.4	1.00	1.09	1.17	31.2
12	R2	All MCs	60	8.8	60	8.8	0.277	92.1	LOS F	3.9	29.5	0.95	0.76	0.95	27.6
Approach			2107	3.9	2107	3.9	0.964	68.2	LOS E	85.3	616.4	1.00	1.08	1.17	28.3
All Vehicles			4173	4.9	4173	4.9	0.964	54.3	LOS D	85.3	616.4	0.87	0.90	0.97	31.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
East: New England Highway (E)												

P2	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
North: Anambah Road												
P3	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
West: New England Highway (W)												
P4	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
All Pedestrians		0	211	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91

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

MOVEMENT SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_O1_50% (Site Folder: Future Year 2038 wDev_50%)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 147 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	* 0.989	108.9	LOS F	20.7	148.8	1.00	1.17	1.51	21.7
2	T1	All MCs	49	4.3	49	4.3	* 0.989	118.0	LOS F	20.7	148.8	1.00	1.17	1.51	22.1
3	R2	All MCs	306	1.0	306	1.0	0.989	124.4	LOS F	20.7	148.8	1.00	1.18	1.51	21.0
Approach			447	2.1	447	2.1	0.989	120.5	LOS F	20.7	148.8	1.00	1.18	1.51	20.0
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.189	17.4	LOS B	2.4	17.0	0.14	0.58	0.14	52.1
5	T1	All MCs	1853	2.1	1853	2.1	* 0.874	35.0	LOS C	55.5	395.5	0.88	0.82	0.90	43.1
6	R2	All MCs	247	5.5	247	5.5	0.969	115.2	LOS F	22.2	162.8	1.00	1.07	1.43	21.9
Approach			2344	2.6	2344	2.6	0.969	41.6	LOS C	55.5	395.5	0.81	0.82	0.87	35.5
North: Anambah Road															
7	L2	All MCs	293	2.5	293	2.5	0.999	110.1	LOS F	33.6	241.6	1.00	1.14	1.47	20.7
8	T1	All MCs	55	5.8	55	5.8	0.999	131.4	LOS F	33.6	241.6	1.00	1.14	1.47	21.0
9	R2	All MCs	41	2.3	41	2.3	0.661	88.6	LOS F	3.2	22.8	1.00	0.79	1.14	24.1
Approach			388	3.0	388	3.0	0.999	110.8	LOS F	33.6	241.6	1.00	1.10	1.44	21.0
West: New England Highway (W)															
10	L2	All MCs	123	0.7	123	0.7	* 0.739	21.8	LOS B	39.8	288.7	0.83	0.80	0.83	38.5
11	T1	All MCs	1335	4.8	1335	4.8	0.739	39.0	LOS C	39.8	288.7	0.83	0.78	0.83	40.5
12	R2	All MCs	59	0.0	59	0.0	0.933	116.8	LOS F	5.0	34.8	1.00	0.96	1.54	22.4
Approach			1517	4.3	1517	4.3	0.933	40.6	LOS C	39.8	288.7	0.84	0.79	0.86	36.0
All Vehicles			4697	3.1	4697	3.1	0.999	54.5	LOS D	55.5	395.5	0.85	0.87	0.98	31.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
East: New England Highway (E)												

P2	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
North: Anambah Road												
P3	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
West: New England Highway (W)												
P4	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
All Pedestrians		0	211	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90

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

MOVEMENT SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_O1_Mod_No Wyndella_Infra test (Site Folder: Future Year 2038 wDev Mod (No Wydnella))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	* 0.874	90.1	LOS F	6.3	46.8	1.00	0.96	1.38	24.5
2	T1	All MCs	39	8.1	39	8.1	0.874	81.3	LOS F	6.3	46.8	1.00	0.96	1.38	25.0
3	R2	All MCs	71	10.4	71	10.4	0.635	79.1	LOS F	5.0	38.2	1.00	0.81	1.07	25.8
Approach			153	8.3	153	8.3	0.874	82.8	LOS F	6.3	46.8	1.00	0.89	1.24	25.2
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.170	8.4	LOS A	1.3	9.4	0.13	0.59	0.13	52.6
5	T1	All MCs	1082	7.1	1082	7.1	0.522	20.4	LOS B	22.8	169.1	0.66	0.59	0.66	45.6
6	R2	All MCs	218	1.4	218	1.4	* 0.923	92.6	LOS F	8.7	61.4	1.00	1.01	1.45	23.5
Approach			1527	5.7	1527	5.7	0.923	28.9	LOS C	22.8	169.1	0.63	0.65	0.69	40.5
North: Anambah Road															
7	L2	All MCs	335	4.1	335	4.1	0.664	41.8	LOS C	18.4	133.2	0.90	0.84	0.90	34.9
8	T1	All MCs	34	3.1	34	3.1	* 0.916	79.4	LOS F	20.0	141.6	1.00	1.03	1.31	25.3
9	R2	All MCs	473	1.3	473	1.3	0.916	85.0	LOS F	20.0	141.6	1.00	1.03	1.31	24.8
Approach			842	2.5	842	2.5	0.916	67.6	LOS E	20.0	141.6	0.96	0.95	1.14	28.1
West: New England Highway (W)															
10	L2	All MCs	74	2.8	74	2.8	0.055	21.0	LOS B	1.3	9.2	0.27	0.64	0.27	49.4
11	T1	All MCs	2011	3.7	2011	3.7	* 0.950	64.9	LOS E	77.1	557.3	1.00	1.06	1.15	33.3
12	R2	All MCs	60	8.8	60	8.8	0.481	97.7	LOS F	4.1	31.1	1.00	0.76	1.00	26.1
Approach			2146	3.8	2146	3.8	0.950	64.3	LOS E	77.1	557.3	0.97	1.03	1.12	29.2
All Vehicles			4668	4.3	4668	4.3	0.950	53.9	LOS D	77.1	557.3	0.86	0.89	0.99	31.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92

East: New England Highway (E)											
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
North: Anambah Road											
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
West: New England Highway (W)											
P41	Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
P42	Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
All Pedestrians		0	263	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92

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

MOVEMENT SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_O1_Mod_No Wyndella_Infra test (Site Folder: Future Year 2038 wDev Mod (No Wydnella))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.787	77.0	LOS F	15.4	110.7	1.00	0.91	1.11	27.8
2	T1	All MCs	49	4.3	49	4.3	* 0.787	72.0	LOS F	15.4	110.7	1.00	0.91	1.11	28.5
3	R2	All MCs	306	1.0	306	1.0	0.787	77.0	LOS F	15.6	110.7	1.00	0.90	1.11	27.9
Approach			447	2.1	447	2.1	0.787	76.4	LOS F	15.6	110.7	1.00	0.90	1.11	26.4
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.190	21.8	LOS B	2.0	14.3	0.18	0.60	0.18	52.2
5	T1	All MCs	1853	2.1	1853	2.1	* 0.929	56.1	LOS D	68.9	491.5	0.99	1.00	1.11	35.4
6	R2	All MCs	358	3.2	358	3.2	0.512	66.8	LOS E	11.1	79.6	0.95	0.81	0.95	29.6
Approach			2455	2.4	2455	2.4	0.929	54.2	LOS D	68.9	491.5	0.90	0.93	0.99	31.7
North: Anambah Road															
7	L2	All MCs	305	2.4	305	2.4	0.445	27.8	LOS B	12.5	89.5	0.73	0.78	0.73	40.3
8	T1	All MCs	55	5.8	55	5.8	* 0.584	72.4	LOS F	4.9	35.9	1.00	0.78	1.03	27.3
9	R2	All MCs	83	3.3	83	3.3	0.584	78.1	LOS F	4.9	35.9	1.00	0.78	1.03	26.1
Approach			443	3.0	443	3.0	0.584	42.8	LOS D	12.5	89.5	0.81	0.78	0.82	34.7
West: New England Highway (W)															
10	L2	All MCs	499	3.1	499	3.1	0.663	42.7	LOS D	27.3	195.9	0.87	0.85	0.87	35.0
11	T1	All MCs	1335	4.8	1335	4.8	0.853	54.1	LOS D	43.1	314.3	0.97	0.92	1.02	35.5
12	R2	All MCs	59	0.0	59	0.0	* 0.889	114.1	LOS F	4.6	32.2	1.00	0.93	1.46	23.7
Approach			1893	4.2	1893	4.2	0.889	52.9	LOS D	43.1	314.3	0.94	0.90	0.99	32.0
All Vehicles			5239	3.1	5239	3.1	0.929	54.7	LOS D	68.9	491.5	0.92	0.91	0.99	31.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92

East: New England Highway (E)											
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
North: Anambah Road											
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
West: New England Highway (W)											
P41	Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
P42	Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
All Pedestrians		0	263	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92

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

MOVEMENT SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_O1_50%_No Wyndella (Site Folder: Future Year 2038 wDev_50% (No Wyndella))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.789	83.2	LOS F	6.1	44.8	1.00	0.89	1.23	25.4
2	T1	All MCs	39	8.1	39	8.1	* 0.789	77.8	LOS F	6.1	44.8	1.00	0.89	1.23	25.9
3	R2	All MCs	71	10.4	71	10.4	0.714	81.7	LOS F	5.1	39.1	1.00	0.84	1.15	25.4
Approach			153	8.3	153	8.3	0.789	81.1	LOS F	6.1	44.8	1.00	0.87	1.19	25.5
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.170	8.1	LOS A	1.3	9.4	0.13	0.58	0.13	52.6
5	T1	All MCs	1082	7.1	1082	7.1	0.515	19.6	LOS B	22.3	165.6	0.65	0.58	0.65	46.0
6	R2	All MCs	232	1.4	232	1.4	* 0.882	86.9	LOS F	8.9	62.8	1.00	0.97	1.35	24.4
Approach			1541	5.6	1541	5.6	0.882	28.0	LOS B	22.3	165.6	0.62	0.64	0.68	40.9
North: Anambah Road															
7	L2	All MCs	456	4.1	456	4.1	0.910	70.8	LOS F	31.8	230.7	1.00	1.04	1.21	28.4
8	T1	All MCs	34	3.1	34	3.1	* 0.699	67.7	LOS E	12.9	92.2	1.00	0.85	1.04	28.6
9	R2	All MCs	352	1.8	352	1.8	0.699	70.7	LOS F	12.9	92.2	1.00	0.84	1.04	28.0
Approach			842	3.1	842	3.1	0.910	70.6	LOS F	31.8	230.7	1.00	0.95	1.13	27.5
West: New England Highway (W)															
10	L2	All MCs	61	3.5	61	3.5	0.045	21.0	LOS B	1.0	7.5	0.27	0.64	0.27	49.4
11	T1	All MCs	2011	3.7	2011	3.7	* 0.948	63.8	LOS E	76.6	553.0	1.00	1.05	1.14	33.6
12	R2	All MCs	60	8.8	60	8.8	0.481	97.6	LOS F	4.1	31.1	1.00	0.76	1.00	26.1
Approach			2132	3.9	2132	3.9	0.948	63.5	LOS E	76.6	553.0	0.98	1.03	1.12	29.4
All Vehicles			4667	4.5	4667	4.5	0.948	53.6	LOS D	76.6	553.0	0.87	0.88	0.98	31.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
East: New England Highway (E)												

P2 Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
North: Anambah Road											
P3 Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
West: New England Highway (W)											
P41 Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
P42 Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
All Pedestrians	0	263	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92

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

MOVEMENT SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_O1_50%_No Wyndella (Site Folder: Future Year 2038 wDev_50% (No Wyndella))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 136 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.863	82.8	LOS F	16.1	115.5	1.00	0.98	1.23	26.6
2	T1	All MCs	49	4.3	49	4.3	* 0.863	77.9	LOS F	16.1	115.5	1.00	0.98	1.23	27.2
3	R2	All MCs	306	1.0	306	1.0	0.863	82.7	LOS F	16.2	115.5	1.00	0.97	1.23	26.6
Approach			447	2.1	447	2.1	0.863	82.2	LOS F	16.2	115.5	1.00	0.98	1.23	25.3
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.190	18.4	LOS B	2.0	14.3	0.19	0.60	0.19	52.2
5	T1	All MCs	1853	2.1	1853	2.1	0.876	36.4	LOS C	54.7	389.7	0.90	0.86	0.94	41.8
6	R2	All MCs	491	3.2	491	3.2	* 0.799	73.3	LOS F	16.7	119.9	1.00	0.91	1.12	27.7
Approach			2587	2.4	2587	2.4	0.876	41.7	LOS C	54.7	389.7	0.85	0.84	0.90	35.5
North: Anambah Road															
7	L2	All MCs	320	2.4	320	2.4	0.550	38.2	LOS C	15.6	111.3	0.87	0.82	0.87	36.2
8	T1	All MCs	55	5.8	55	5.8	* 0.753	76.5	LOS F	4.5	32.8	1.00	0.85	1.21	26.6
9	R2	All MCs	69	1.5	69	1.5	0.753	82.2	LOS F	4.5	32.8	1.00	0.85	1.22	25.3
Approach			443	2.7	443	2.7	0.753	49.7	LOS D	15.6	111.3	0.90	0.83	0.96	32.6
West: New England Highway (W)															
10	L2	All MCs	366	0.3	366	0.3	0.951	66.1	LOS E	66.5	477.0	1.00	1.08	1.19	29.5
11	T1	All MCs	1335	4.8	1335	4.8	* 0.951	72.5	LOS F	66.5	477.0	1.00	1.10	1.20	30.6
12	R2	All MCs	59	0.0	59	0.0	0.863	111.3	LOS F	4.4	31.0	1.00	0.91	1.41	24.3
Approach			1760	3.7	1760	3.7	0.951	72.5	LOS F	66.5	477.0	1.00	1.09	1.20	27.4
All Vehicles			5238	2.9	5238	2.9	0.951	56.2	LOS D	66.5	477.0	0.92	0.94	1.04	31.1

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93
East: New England Highway (E)												

P2 Full	50	53	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93
North: Anambah Road											
P3 Full	50	53	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93
West: New England Highway (W)											
P41 Stage 1	50	53	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93
P42 Stage 2	50	53	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93
All Pedestrians	0	263	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93

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

MOVEMENT SUMMARY

Site: 4AM_X [ANA_ACC_AM_X (Site Folder: Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anambah Road / Access Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anambah Road (S)															
10	L2	All MCs	67	1.0	67	1.0	0.053	5.6	LOS A	0.0	0.0	0.00	0.40	0.00	54.2
11	T1	All MCs	32	1.0	32	1.0	0.053	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	56.5
Approach			99	1.0	99	1.0	0.053	3.8	NA	0.0	0.0	0.00	0.40	0.00	54.9
North: Anambah Road (N)															
5	T1	All MCs	32	1.0	32	1.0	0.019	0.0	LOS A	0.0	0.2	0.06	0.10	0.06	59.0
6	R2	All MCs	5	1.0	5	1.0	0.019	5.7	LOS A	0.0	0.2	0.06	0.10	0.06	52.1
Approach			37	1.0	37	1.0	0.019	0.8	NA	0.0	0.2	0.06	0.10	0.06	57.9
West: Access Road															
7	L2	All MCs	5	1.0	5	1.0	0.411	4.7	LOS A	1.4	9.7	0.16	0.55	0.16	48.8
9	R2	All MCs	605	1.0	605	1.0	0.411	4.8	LOS A	1.4	9.7	0.16	0.55	0.16	48.5
Approach			611	1.0	611	1.0	0.411	4.8	LOS A	1.4	9.7	0.16	0.55	0.16	48.5
All Vehicles			746	1.0	746	1.0	0.411	4.5	NA	1.4	9.7	0.13	0.50	0.13	49.7

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

MOVEMENT SUMMARY

Site: 4AM_X [ANA_ACC_PM_X (Site Folder: Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anambah Road / Access Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anambah Road (S)															
10	L2	All MCs	665	1.0	665	1.0	0.377	5.7	LOS A	0.0	0.0	0.00	0.55	0.00	52.9
11	T1	All MCs	32	1.0	32	1.0	0.377	0.1	LOS A	0.0	0.0	0.00	0.55	0.00	55.0
Approach			697	1.0	697	1.0	0.377	5.4	NA	0.0	0.0	0.00	0.55	0.00	53.0
North: Anambah Road (N)															
5	T1	All MCs	32	1.0	32	1.0	0.021	0.6	LOS A	0.1	0.4	0.20	0.23	0.20	58.4
6	R2	All MCs	5	1.0	5	1.0	0.021	7.8	LOS A	0.1	0.4	0.20	0.23	0.20	51.6
Approach			37	1.0	37	1.0	0.021	1.6	NA	0.1	0.4	0.20	0.23	0.20	57.3
West: Access Road															
7	L2	All MCs	5	1.0	5	1.0	0.060	4.6	LOS A	0.1	1.0	0.20	0.56	0.20	48.7
9	R2	All MCs	74	1.0	74	1.0	0.060	5.2	LOS A	0.1	1.0	0.20	0.56	0.20	48.4
Approach			79	1.0	79	1.0	0.060	5.1	LOS A	0.1	1.0	0.20	0.56	0.20	48.5
All Vehicles			813	1.0	813	1.0	0.377	5.2	NA	0.1	1.0	0.03	0.54	0.03	52.7

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

APPENDIX B

TFNSW EMAIL CORRESPONDENCE

Shawn Cen

From: Development North <Development.North@transport.nsw.gov.au>
Sent: Friday, 31 May 2024 1:34 PM
To: Shawn Cen
Cc: Tfnsw ExternalContact211
Subject: RE: 559 Anambah Road Gosforth NSW 2320 - consultation with TfNSW

Hi Shawn,

Thanks for reaching out to TfNSW regarding traffic assumptions for your future TIA.

TfNSW provides the following comments for you in red:

- 3% p.a. growth on New England Highway - Agreed
- 300 lots per year in Lochinvar URA – Seek confirmation from Council
- Site completion year of 2028 and sensitivity test of 2038 – Agreed
- 70% west and 30% east traffic distribution – A 50% / 50% sensitivity analysis is also requested as this site is located closer to Maitland.
- Adopt 0.71/0.78 veh/h traffic generation rate for dwellings - Agreed

Please note that flood free access along Anambah Road and a possible concept DA is an issue that will need to be resolved with Council.

Apologies for the delayed response.

Regards,

Masa Kimura
Development Services Case Officer
Regional and Outer Metropolitan
Development Services
Transport for NSW

T 1300 207 783 **M** 0407 707 999 **E** masa.kimura@transport.nsw.gov.au

transport.nsw.gov.au

6 Stewart Avenue, Newcastle NSW 2302
Locked Bag 2030, Newcastle NSW 2302

Working days Monday to Friday, 8:00am – 3:30pm

Transport
for NSW

OFFICIAL

From: Liz Smith <Liz.Smith@transport.nsw.gov.au>
Sent: Wednesday, May 22, 2024 12:15 PM
To: Shawn Cen <shawn.cen@sctconsulting.com.au>; Development North <Development.North@transport.nsw.gov.au>

Thoughtful Transport Solutions

Suite 4.03, Level 4, 157 Walker Street, North Sydney NSW 2060
sctconsulting.com.au

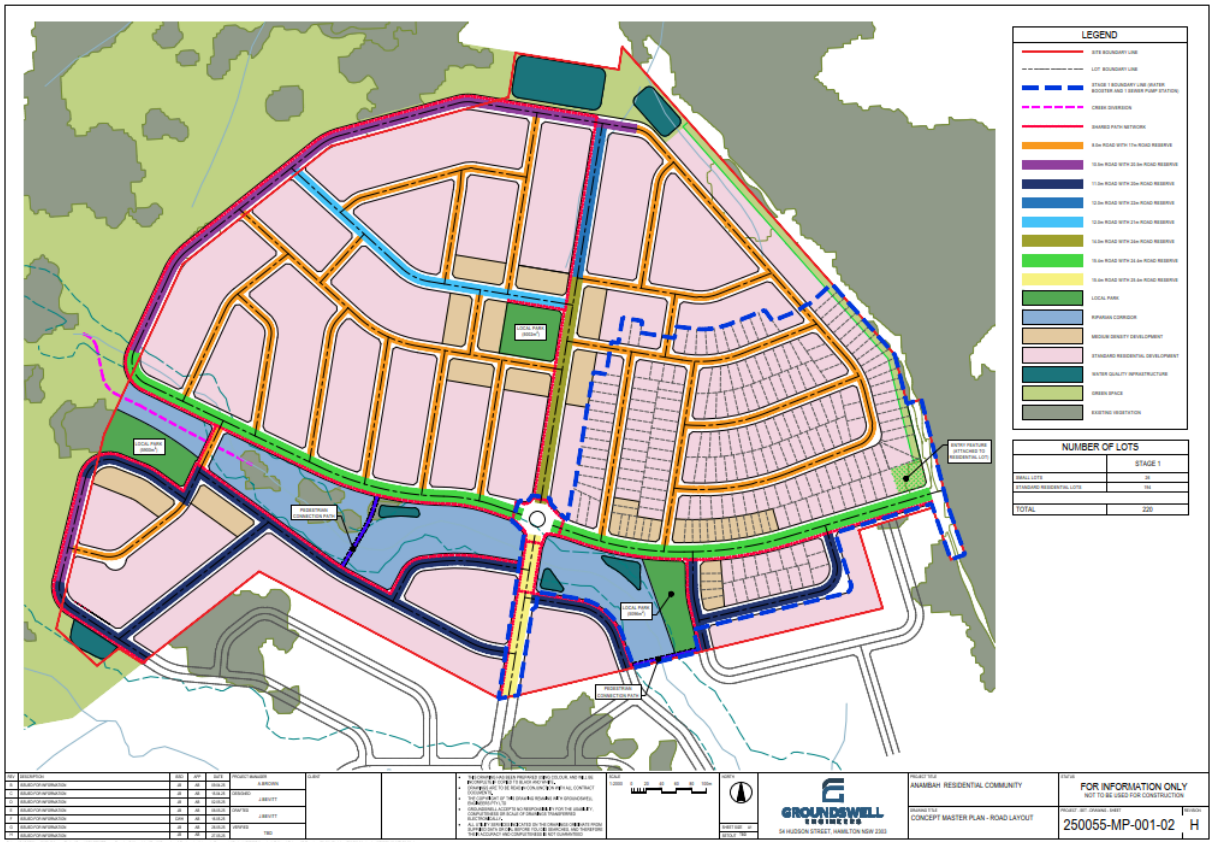
28 May 2025

Emmilia Marshall
Senior Development Planner, Principal Planner
Maitland City Council
263 High Street
Maitland NSW 2320

Dear Emmilia

Request for Additional Information DA/2024/763 - Concept Development Application for Two (2) into Nine Hundred (900) Lot Staged Torrens Title Subdivision, and Stage 1 Torrens Title Subdivision of Two Hundred and Twenty 177/874171, 55/874170 559 Anambah Road GOSFORTH NSW 2320

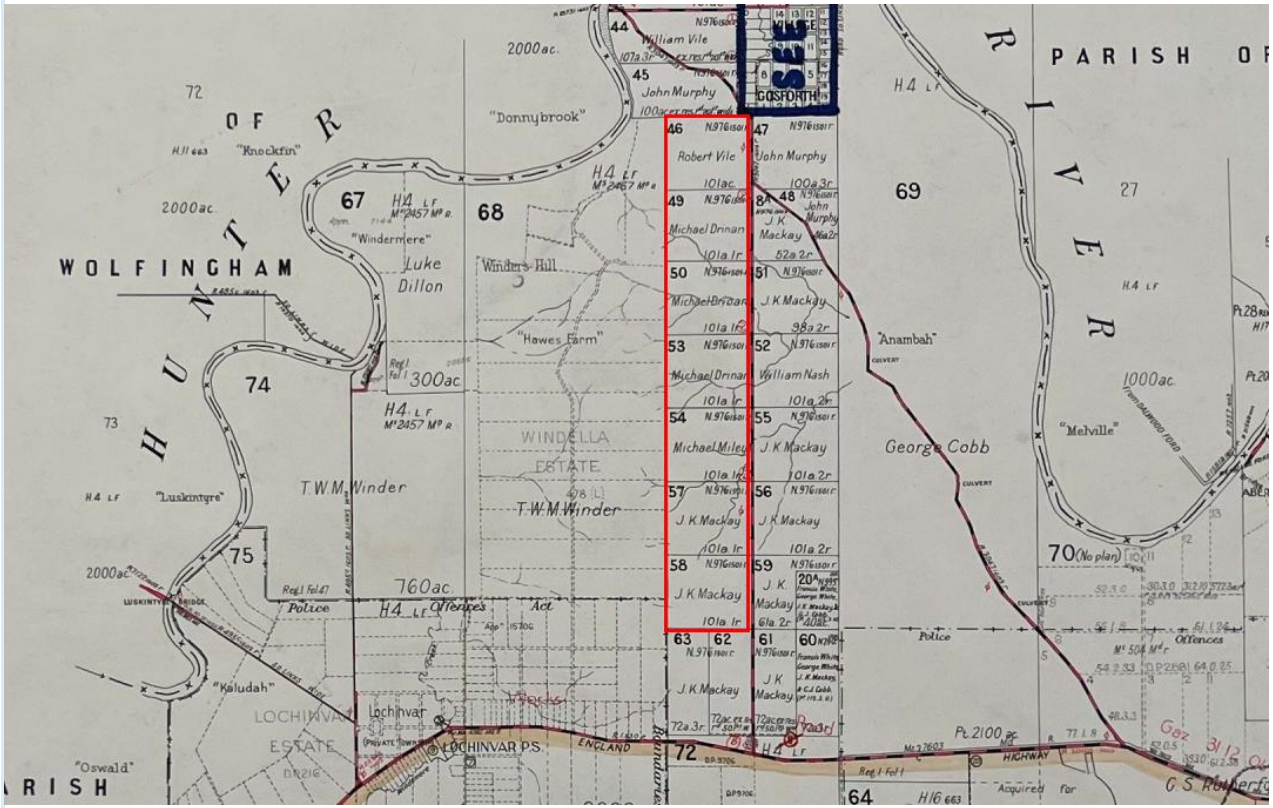
SCT Consulting has been engaged by Thirdi Anambah Pty Ltd to prepare a Traffic Impact Assessment for a proposed residential subdivision development application (DA) at 599 Anambah Road in the suburb of Gosforth, within the Maitland City Local Government Area (see master plan below).



Council have reviewed relevant supporting technical studies and provided preliminary review of the DA for the proponent's consideration.

A previous letter was provided addressing some of the civil design and transport planning matters included in the RFI letter issued by the Council to the proponent on 11 October 2024.

This letter responds to additional civil design and transport planning matters included in the subsequent RFI letter issued by the Council on 6 February 2025.

No.	Transport planning matters included in RFI letter dated 06 February 2025	Proponent responses
1f)	The Panel seek clarification on the status of River Road, and the practical and legal arrangements for restricting access as proposed. (Refer to point 9(a) below).	River Road between the northern extent of Third.i landholding to the southern existing form is deemed to be a Council public road, though it used to be a Crown Road abutting Portions 46, 49, 50, 53, 54, 57 and 58 (see **Appendix A**) 
3a)	Analysis of the River Road and New England Highway (NEH) intersection in the event of an emergency (bushfire or flooding).	SIDRA 9.1 modelling was conducted for the intersection of New England Highway and River Road. This modelling tested the scenario where, in the event of an emergency such as a bushfire or flooding, River Road would be used instead of Anambah Road to access the development. The analysis shows that: – The existing LoS is B in both peak hours with 50% remaining capacity. – In 2028 with the background growth and LURA traffic (consistent with TfNSW assumptions), the intersection fails before any Anambah traffic.

No.	Transport planning matters included in RFI letter dated 06 February 2025	Proponent responses
		– The current priority intersection (RIRO) allows for up to 249 lots from Anambah before it fails, which is more than that is required for the first stage of the development. – If the right turn out from River Road is banned and implementing left turn out only (i.e. retaining right turn in from NEH to River Road), up to 560 lots from Anambah can be allowed without any further infrastructure upgrade, which is a consideration for future stages of the development. It is noted that LoS D is considered an appropriate service target for tolerance, whereas in the event of emergency, even worse network efficiency can be accepted, i.e. LoS E. The related SIDRA models are named under folders “Base Year (River Road)”, “Base Year (River Road)_Trigger Test” and “Base Year (River Road)_LO Trigger Test”. The results are in **Appendix D**.
3b)	A revised SIDRA model addressing all matters raised in the supporting spreadsheet.	Refer to **Appendix B**.
3d)	There has also been limited consideration given to public transport beyond noting existing routes/stops on the New England Highway. Bus stops to support the proposed 262 lots have not been included within the proposed development. The proposed development should be considered in accordance with the Guidelines for Public Transport Capable Infrastructure in Greenfield Sites, the State Transit Bus Infrastructure Guide and Integrated Public Transport Service Planning Guidelines. This includes ensuring that the roads are capable to support standard buses and that there is adequate pedestrian access to the existing bus stops.	The proposed development includes new bus routes that ensure all lots have access to public transportation within 400 meters. The bus route will occur on 24.4m road, 20.5m road, 21m road and 24m road. All carriageways are greater than 12m, which satisfies bus passage (see 15b). The only exception is the edge road however, given that there is only parking on one side of the carriage way, this is considered acceptable. The proposed bus routes and coverage area is shown in **Figure 3-5** of the TIA report. We have added proposed bus stop locations in the image below.
15b)	Bus stops shall be provided generally at 400m spacings along the proposed bus route and facilitate maximum 400m walking	

No.	Transport planning matters included in RFI letter dated 06 February 2025	Proponent responses
	distances from surroundings lots. These locations are to be accompanied by pedestrian refuges with kerb extensions and kerb indents for bus bay/lay down (minimum 13m pavement width).	
9d)	Anambah Road Upgrade – To facilitate regular access/egress from the site, Anambah Road shall be upgraded to be above the local 1%AEP storm event (equivalent to 5%AEP Hunter River Flood level), to avoid frequent isolation of the new community. The upgrade shall also incorporate safety	In accordance with Div 4.4 of the EPA Act, the consent authority "does not need to consider the likely impact of the carrying out of development that may be the subject of subsequent development applications". Regardless, based on the 900 dwellings in the full development, it is estimated that there will be 800 (southbound) and 865 (northbound) vehicles on Anambah Road during the peak hour. This is considered to be accommodated by one lane, assuming the capacity for each lane of a major collector road is 1,200 vehicles per hour. No widening of Anambah Road is required. When it comes to the 220 lots for Stage 1, the estimated demand is even lower at 400 vehicles per hour, only a third of the total capacity. Hence, the current infrastructure is sufficient to satisfy the demand. Flood appropriateness is addressed in the LEP (i.e. requirement for flood-free egress via Western Link Road) at 1,200 lots

No.	Transport planning matters included in RFI letter dated 06 February 2025	Proponent responses
	improvements, road widening and road reconstruction along the corridor to support the increase in traffic along Anambah Road.	Anambah Road need not be upgraded to be above the 1%AEP storm event (equivalent to 5%AEP Hunter River Flood level), as an appropriate evacuation route can be provided via the River Road. The civil design includes intersection safety improvements at the access road/entry.
9g)	Upgrades of the New England Hwy/Anambah Road Intersection will be required for full development (900 lots) as identified in the TIA. TfNSW are to comment on the upgrade requirements.	See comments addressed in item 3b and **Appendix B.** Noted. Stage 1 development only will not trigger any upgrade. Upgrades may be required prior to 900 lots, however, as confirmed in the TIA, this is not a result of the development alone but due to background growth in the NEH corridor. This would be confirmed with the subsequent DA. TfNSW to determine appropriate contributions for this intersection.
9j)	Long road lengths shall include Local Area Traffic Management (LATM) devices at regular intervals to control vehicle speeds. This may include kerb extension/blisters at intersections, raised intersection thresholds, etc.	Agree – civil engineer to provide.
9k)	Incorporate second watercourse road crossing near the western side of the development for greater connectivity, circulation, evacuation needs and facilitate more efficient emergency services access.	This has been added.
9o)	The traffic report only considers external trip distributions and impacts to intersections outside of the development. The report shall model internal trip generation/distribution to demonstrate the proposed road network is suitable and detail the volume of traffic expected on the main collector roads, including Anambah Road.	We have carried out a SIDRA assessment for the intersection of the site access road and Anambah Road and the internal roundabout based on full development (900 dwellings). The related SIDRA models are named under the folder “Access Road”. The results are in **Appendix D**. It is confirmed that LoS are As at the proposed intersection during the peak hours.

No.	Transport planning matters included in RFI letter dated 06 February 2025	Proponent responses
15d)	Minimal detail has been provided around the suitability of the intersection selected off Anambah Road. Including design, Level of Service, Safety assessment, etc. Noting the posted speed limit in the area is 100km/h, meaning a 110km/h design speed poses a major safety concern having an urban environment access this road with an inadequate intersection.	The LoS has been included in the submitted TIA and the response in 9o), which confirms there is no capacity issue at the proposed access. Civil engineer to provide details on safety assessment. We have discussed with Jamie Smoother and Nicholas Trajcevski at TfNSW regarding speed reduction on Anambah Road. The proposal is in principle supported. According to TfNSW, the proponent should inform Tfnsw four months prior to development construction, such that they can undertake a comprehensive speed zone review. Based on Speed Zoning Standards, the entire length of Anambah Road would be required to reduce to 80km/h.

Yours sincerely

Shawn Cen
Principal Consultant
shawn.cen@sctconsulting.com.au
0416 292 374 | (02) 9060 7222
Suite 4.03, Level 4, 157 Walker Street, North Sydney NSW 2060

APPENDIX A

RIVER ROAD STATUS REPORT

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

Report

Re: - River Road, Anambah

Summary information

Parcel Description	Details	Title Reference
As regards the part of River Road tinted yellow on the attached Cadastral Records Enquiry Report	Council Public Road (Section 8 of the Local Government Amending Act of 1908)	Not under the act

Detailed information.

As regards the part of River Road tinted yellow on the attached Cadastral Records Enquiry Report

This part of River Road was originally a Crown Road abutting Portions 46. 49, 50, 53, 54, 57 & 58 in the Parish of Gosforth.

No evidence could be found of a gazette dedication or transfer to the local council.

The roads Branch Edition of the Parish Map of Gosforth shows the subject part of River Road to be affected by Roads Branch File Rds 1909.966/4 Cessnock, 3rd November 1910 Section 8.

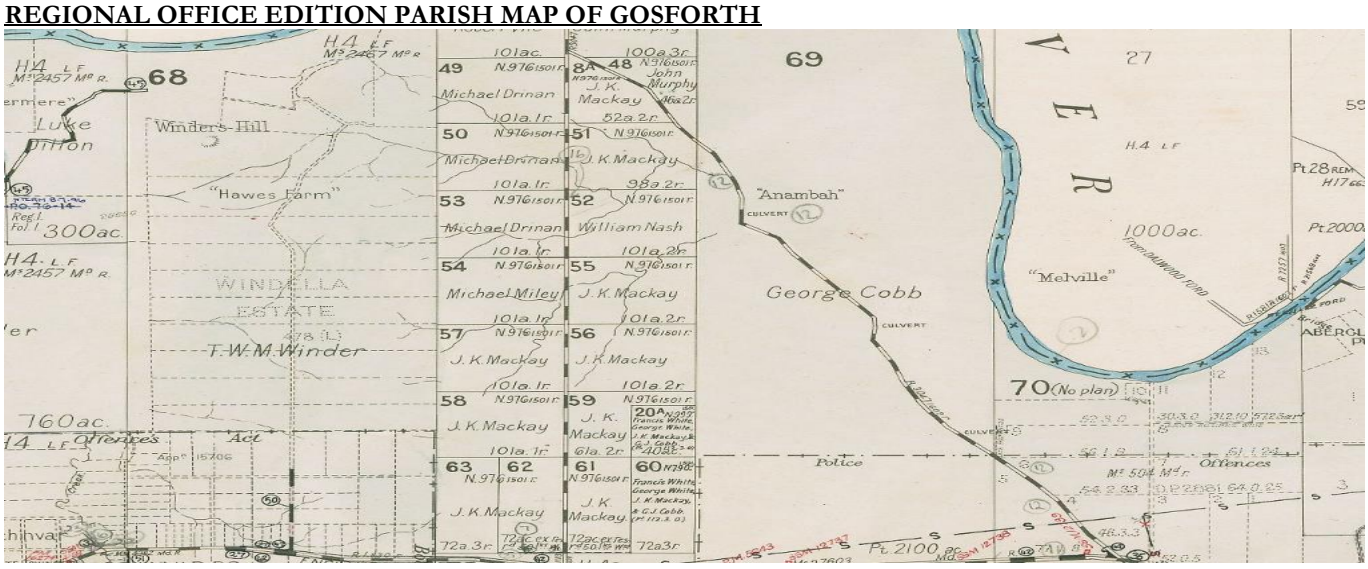
In view of my findings and in view of Section 8 of the Local Government Amending Act of 1908, this part of River Road is no longer a Crown Road, but now deemed to be a Council Public Road.

- It is noted that this part of River Road has never been deemed to be a private road.

Documentary title.

The title to this part of River Road has never been held in a Real Property Act Title.

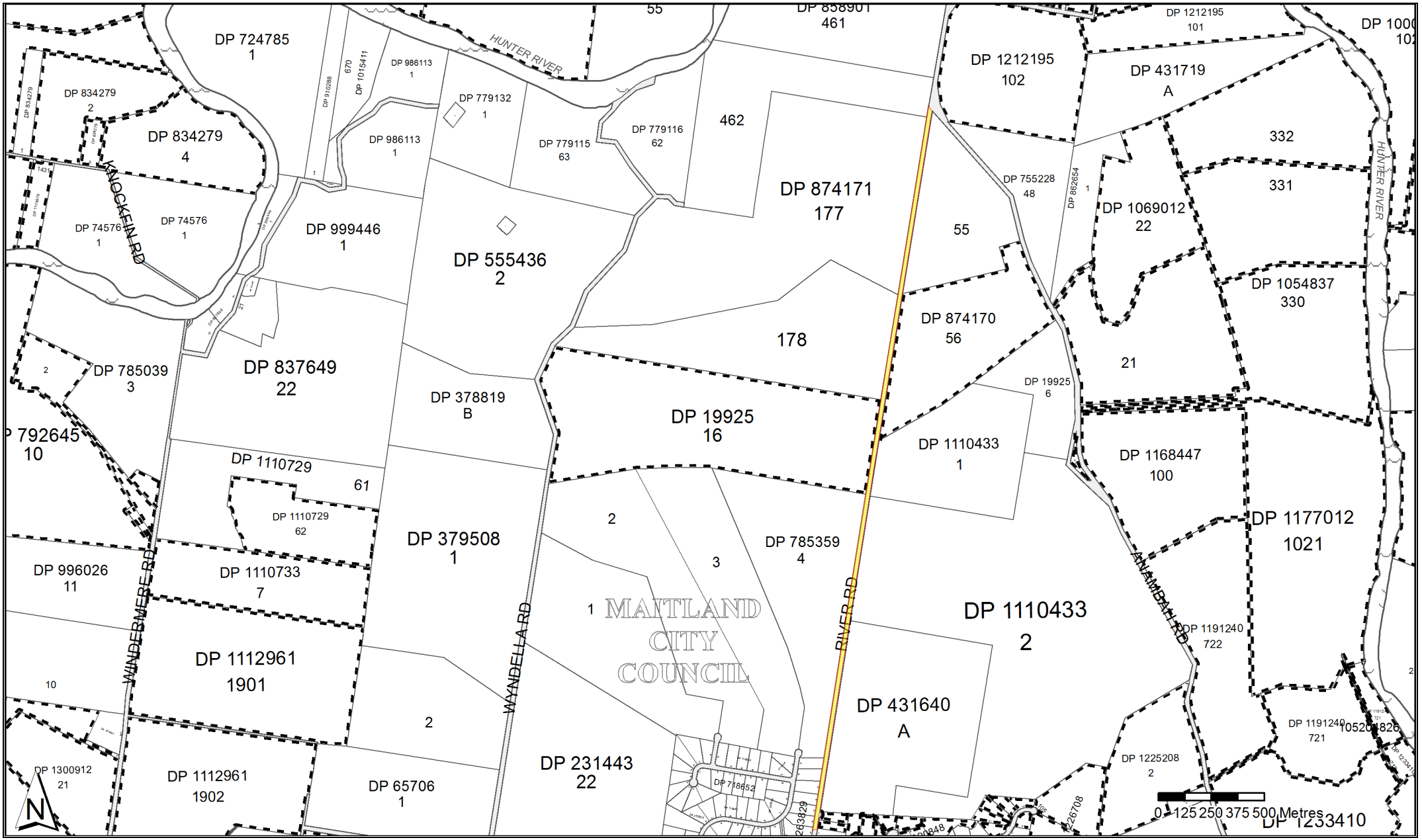
REGIONAL OFFICE EDITION PARISH MAP OF GOSFORTH



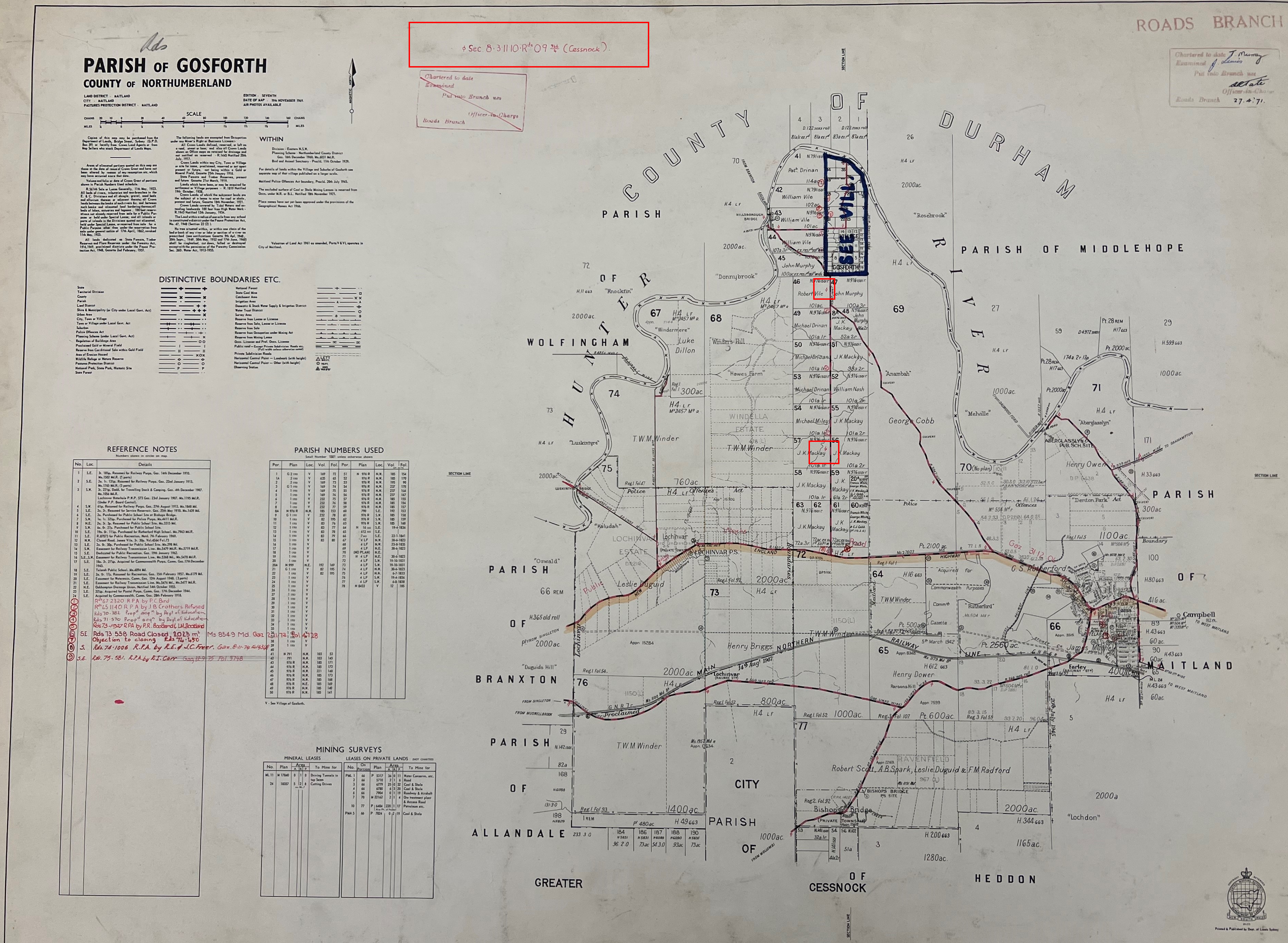
Yours sincerely
Mark Groll
24 July 2024

Cadastral Records Enquiry Report : Lot 16 DP 19925

Locality : ANAMBAH
Parish : GOSFORTH
LGA : MAITLAND
County : NORTHUMBERLAND



This information is provided as a searching aid only.Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For ALL ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps



ROADS BRANCH
PARISH OF GOSFORTH
COUNTY OF NORTHUMBERLAND
LAND DISTRICT - MAITLAND
CITY - MAITLAND
PASTURES PROTECTION DISTRICT - MAITLAND
EDITION - SEVENTH
SCALE
WITHIN
DISTINCTIVE BOUNDARIES ETC.
REFERENCE NOTES
PARISH NUMBERS USED
MINING SURVEYS
MINERAL LEASES
LEASES ON PRIVATE LANDS
COUNTY OF DURHAM
HUNTER RIVER
PARISH OF MIDDLEHOPE
PARISH OF WOLFINGHAM
PARISH OF BRANXTON
PARISH OF ALLANDALE
CITY PARISH OF CESSNOCK
GREATER CESSNOCK
HEDDON
PARISH OF MAITLAND
SEE VILL. GOSFORTH
"Donnybrook"
"Knockfin"
"Windermere"
"Hawes Farm"
"Roselbrook"
"Anambah"
"Melville"
"Aberglasslyn"
"Luskintyre"
"Kaludah"
"Oswald"
"Duguids Hill"
"Lochdon"
"Rutherford"
WINDELLA ESTATE
LOCHINVAR ESTATE
RAVENSFIELD
T.W.M. Winder
George Cobb
Henry Owen
Henry Dower
Henry Briggs
Leslie Duguid
Robert Scott, A.B. Spark, Leslie Duguid & F.M. Radford
Bishops Bridge
NORTHERN RAILWAY
MAIN
NEW ENGLAND HIGHWAY
Campbell
Telarah
Sec. 8-3-1110 R^ds 09 ¾ (Cessnock)
Chartered to date
Examined
Put into Branch
Officer in Charge
Roads Branch
27.4.71

PLAN

OF A ROAD

from "Hudson's Crossing" of the Hunter River, to the "Main North Road"

Parish of Gosforth

COUNTY OF NORTHUMBERLAND

proposed to be opened as a Parish Road under Act of Council, 4 William IV. No. 11

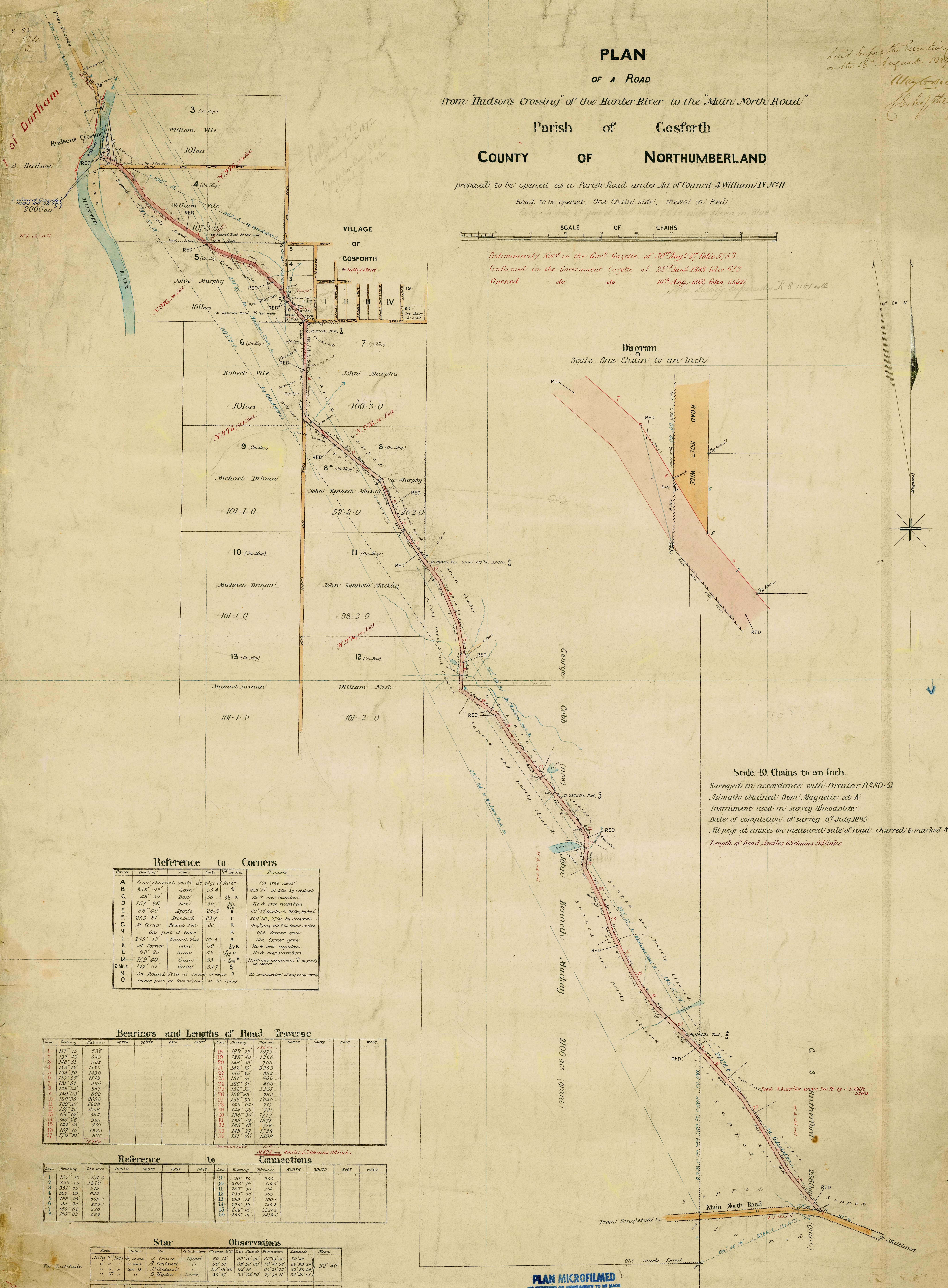
Road to be opened, One Chain wide, shewn in Red

Laid before the Executive Council on the 16th August 1887
Alex C. Budge
Clerk of the Council

SCALE OF CHAINS

Preliminarily Notd in the Govt Gazette of 30th Augt 87 folio 5753
Confirmed in the Government Gazette of 23rd Jany 1888 folio 612
Opened do do 10th Aug. 1888 folio 5532

This survey supersedes R 8 1181 roll



Scale 10 Chains to an Inch.

Surveyed in accordance with Circular No. 80·51
Azimuth obtained from Magnetic at "A"
Instrument used in survey Theodolite
Date of completion of survey 6th July 1885
All pegs at angles on measured side of road charred & marked ↑
Length of Road 4 miles, 63 chains, 94 links.

Reference to Corners

Corner	Bearing	From	Links	No. on Tree	Remarks
A	↑ on charred stake at edge of River				No tree near
B	353° 09'	Gum	55·4	↑R	353° 15' 55·5 lks. by Original
C	48° 50'	Box	56	C XX R	No ↑ over numbers
D	157° 36	Box	50	C XXI XXII	No ↑ over numbers
E	66° 46'	Apple	24·5	2	69° 00', Ironbark, 25 lks, by Origl.
F	253° 31'	Ironbark	23·7	1	250° 30', 27 lks. by Original
G	At Corner	Round Post	00	R	Origl peg, mkd 14, found at side
H	On post of fence			R	Old Corner gone
I	245° 13'	Round Post	02·5	R	Old Corner gone
K	At Corner	Gum	00	C XIV R	No ↑ over numbers
L	63° 20	Gum	43	C XIV XV R	No ↑ over numbers
M	159° 40'	Gum	55	C XVIII R	No ↑ over numbers – ↑R on post at corner
2 Mile	147° 51'	Gum	52·7	2 M	
N	On Round Post at corner of fence			R	At termination of my road survey
O	Corner post at intersection of old fences				

Bearings and Lengths of Road Traverse

Line	Bearing	Distance	NORTH	SOUTH	EAST	WEST	Line	Bearing	Distance	NORTH	SOUTH	EAST	WEST
									18686				
1	117° 15'	636					18	182° 12'	1072				
2	137° 43'	643					19	123° 40'	1230				
3	148° 51'	502					20	148° 59'	756				
4	129° 12'	1120					21	142° 12'	3203				
5	124° 30'	1430					22	146° 29'	382				
6	110° 58'	1149					23	181° 14'	466				
7	131° 54'	996					24	186° 51'	456				
8	149° 04'	367					25	153° 12'	1231				
9	140° 02'	802					26	162° 46'	782				
10	180° 38'	2693					27	153° 32'	1040				
11	129° 50'	2823					28	149° 04'	717				
12	157° 26'	1058					29	144° 08'	721				
13	151° 57'	564					30	134° 30'	1717				
14	146° 26'	996					31	138° 19'	1877				
15	142° 06'	759					32	145° 13'	718				
16	157° 15'	1329					33	149° 27'	1728				
17	170° 31'	820					34	141° 26'	1498				
		18686											

Connection line 11 — 114
38394 = 4 miles, 63 chains, 94 links.

Reference to Connections

Line	Bearing	Distance	NORTH	SOUTH	EAST	WEST	Line	Bearing	Distance	NORTH	SOUTH	EAST	WEST
1	197° 13'	101·6					9	90° 35'	200				
2	359° 25'	1329					10	205° 19'	110·5				
3	351° 45'	619					11	152° 30'	114				
4	322° 20'	644					12	233° 38'	103				
5	166° 08'	362·2					13	239° 12'	100·1				
6	00° 24'	229·1					14	279° 12'	148·8				
7	140° 02'	220					15	268° 05'	3331·2				
8	140° 02'	582					16	180° 06'	1412·6				

Star Observations

For Latitude

Date	Station	Star	Culmination	Observed Altd.	True Altitude	Declination	Latitude	Mean
July 2nd 1885	✻ at end of road line 18.	α Crucis	Upper	60° 13'	60° 12' 26"	62° 27' 36"	32° 40'	32° 40'
" " "		β Centauri	"	62° 51'	62° 50' 30"	59° 49' 04"	32° 39' 34"	
" " "		α² Centauri	"	62° 18' 30"	62° 18'	60° 21' 24"	32° 39' 24"	
" 3rd "	"	β Hydri	Lower	20° 37'	20° 34' 30"	77° 54' 11"	32° 40' 19"	

For Variation

Date	Station	Star	Elongation	Magc. Bearing	True Bearing	Declination	Variation	Mean
July 3rd 1885	✻ at end of road line 18	β Argus	West	195° 27' 30"	170° 33' 46"	69° 14' 40"	9° 26' 14"	9° 26' 11"
" " "		α Pavonis	East	130° 23'	170° 33' 52	57° 06' 06"	9° 26' 08"	

and Schedule prepd. for D.S.O.

Transmitted to the Surveyor General with Book of Reference and my Letter of 18th July No. 85/39

Enoch y Coborofh

3047-1603

R 1103 - 1603

72/152

PLAN of a ROAD
from the Main Northern Road to the Church and School Estate in the Parish of Gosforth and County of Northumberland

proposed to be opened one chain wide as a PARISH ROAD under the ACT IN COUNCIL 4 Wm IV No 11.

The Road is shown on Plan by a Red Band.

Scale. 10 chains to 1 inch.

Laid before the Executive Council on 27th May 1873. Min: 73/33. Alex. C. Budge(?) Clerk of the Council

Preliminarily notified in Gov: Gaz: 25th June 72 fol 1636
Confirmed in Gov: Gaz: 25th Octr 72 fol 2773.
Opened in Gov: Gaz: 28th November 73 fol 3344

R 1103-1603

PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE

Standard Tracings Prepared

Instructions verbal arising out of No. 71/127

Surveyed January 2, 1872
Theodolite used

Transmitted to the Surveyor General with Letter 22nd January 1872/1

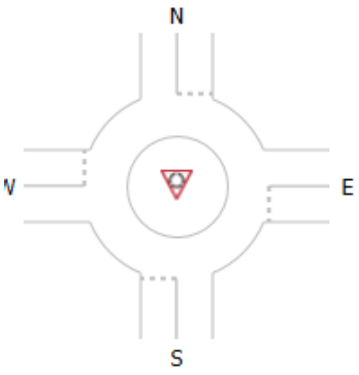
TRACING AVAILABLE

Opening Vou: No. 73.75 18 Nov 73.
Voucher 73/3 2nd May 73

APPENDIX B

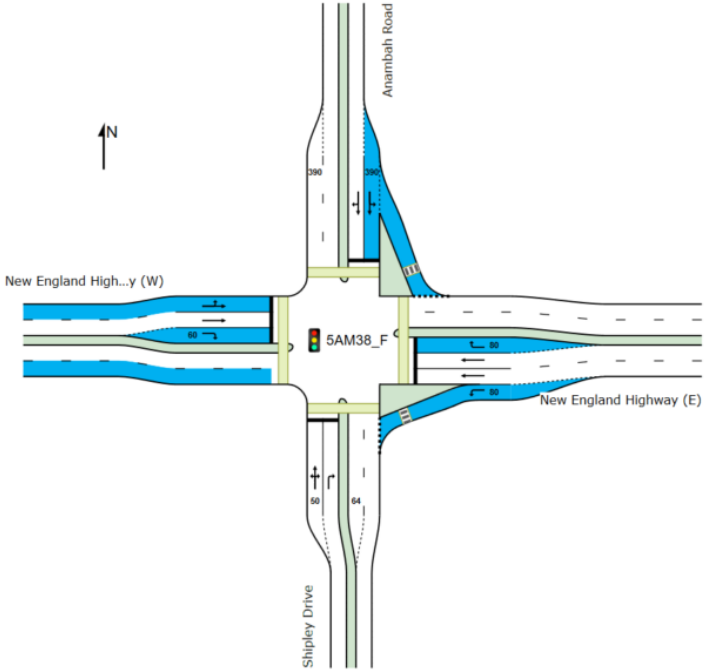
TFNSW RFI FOR SIDRA MODELLING

<table>
<tr><th>Item No.</th><th>Comment from Transport for NSW RFI on 30 October 2024</th><th>Proponent responses</th></tr>
<tr><td>3(b)
(i)</td><td>Please provide the Traffic survey data in the report.
Please document volume that went into model in each scenario and also volume contributed by Anambah and Lochinvar development.</td><td>The survey data will be attached in Appendix C.
Volumes for New England Highway | Anambah Road that went into each scenario and volume contributed by Anambah and Lochinvar developments are documented below. It should be noted that the volumes with infrastructure upgrade (_Mod) will be the same as the volume without infrastructure upgrade.
<table>
<tr><th rowspan="2">Scenario</th><th colspan="2">Total throughput</th><th colspan="2">3% growth p.a. of NEH</th><th colspan="2">Lochinvar demand</th><th colspan="2">Development demand</th></tr>
<tr><th>AM</th><th>PM</th><th>AM</th><th>PM</th><th>AM</th><th>PM</th><th>AM</th><th>PM</th></tr>
<tr><td>Base Year</td><td>2,266</td><td>2,657</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>Base Year with Stage 1</td><td>2,412</td><td>2,818</td><td>0</td><td>0</td><td>0</td><td>0</td><td>146</td><td>160</td></tr>
<tr><td>Base Year with full development</td><td>2,905</td><td>3,360</td><td>0</td><td>0</td><td>0</td><td>0</td><td>639</td><td>702</td></tr>
<tr><td>Future Year 2028</td><td>2,733</td><td>3,150</td><td>212</td><td>212</td><td>256</td><td>282</td><td>0</td><td>0</td></tr>
<tr><td>Future Year 2028 with Stage 1</td><td>2,878</td><td>3,310</td><td>212</td><td>212</td><td>256</td><td>282</td><td>146</td><td>160</td></tr>
<tr><td>Future Year 2028 with full development</td><td>3,372</td><td>3,852</td><td>212</td><td>212</td><td>256</td><td>282</td><td>639</td><td>702</td></tr>
<tr><td>Future Year 2038</td><td>3,796</td><td>4,276</td><td>635</td><td>635</td><td>896</td><td>984</td><td>0</td><td>0</td></tr>
<tr><td>Future Year 2038 with Stage 1</td><td>3,941</td><td>4,436</td><td>635</td><td>635</td><td>896</td><td>984</td><td>146</td><td>160</td></tr>
<tr><td>Future Year 2038 with full development</td><td>4,435</td><td>4,978</td><td>635</td><td>635</td><td>896</td><td>984</td><td>639</td><td>702</td></tr>
</table></td></tr>
<tr><td>3(b)
(ii)</td><td>It is recommended to apply consistent input for 'Volume Data Method'(i.e. 'Separate' or 'Total & %')</td><td>Consistent input for Data Method applied to all Scenarios and Sites (Separate)</td></tr>
<tr><td>3(b)
(iii)</td><td>It is noted that Environmental Factor has been adjusted in the model, please</td><td>The Environmental Factor is a parameter used to validate the observed and obtained 95th percentile queue length from traffic count data.
For the AM peak scenario, the Environmental Factor involved modifying the south approach to 2.0.</td></tr>
</table>

	include in the report how the model has been calibrated.	For the PM peak scenario, it involved modifying the south and west approaches to 1.2 and 1.1, respectively.
3(b) (iv)	Roundabout geometry parameters like entry radius and entry angle has been left default. Please adjust these parameters to reflect existing roundabout geometry.	Roundabout geometry parameters for entry radius have been adjusted to reflect the existing roundabout geometry. Site Display  Current Roundabout Capacity Model: SIDRA Standard Geometry Approach: S E N W Number of Circ Lanes 2 2 2 2 Circulating Width 11.0 m 11.0 m 11.0 m 11.0 m Island Diameter 38.0 m 38.0 m 38.0 m 38.0 m Inscribed Diameter Program Program Program Program Entry Radius 18.0 m 27.0 m 26.0 m 29.0 m Entry Angle 23.0 ° 12.0 ° 21.0 ° 22.0 ° Raindrop Design Circulating Transition Line Number of Downstream Circ Lanes Program Program Program Program
3(b) (v)	The report does not detail the upgrades to the intersection found in the model.	Report details the upgrades found in the model, including the upgrade staging: **Without background traffic growth** The modelling confirms that the existing infrastructure (i.e. the existing roundabout) will accommodate the traffic growth as a result of both the Stage 1 development (220 lots) and the full development (900 lots) scenarios without any background traffic growth applied. No infrastructure upgrade is required. **Future 2028** The modelling confirms that the existing infrastructure will accommodate traffic growth generated by Stage 1 and the full development by 2028, including background growth. **Future year base 2038** Traffic modelling confirms that without any infrastructure upgrade, the roundabout will fail in 2038 based on background growth alone (i.e. before the introduction of any additional traffic from the proposal). The modelling shows a LoS F (worst delay of 580s) with a degree of saturation of 1.03 for the Anambah Road roundabout in the PM peak. Hence, the roundabout needs to be upgraded by 2038 independent of any additional traffic from the proposal to respond to the significant background traffic growth on New England Highway: – Signalisation of the intersection

- Duplication of the west approach and exit
- High angle slip lane for left turners on the westbound approach of the New England Highway
- Additional westbound right turn bay of the New England Highway
- High angle slip lane for left turners on the southbound approach of Anambah Road
- Additional eastbound right turn bay of the New England Highway.

Figure 1 Intersection upgrade for future base case 2038



Note that the blue section represents the infrastructure required for the background traffic growth

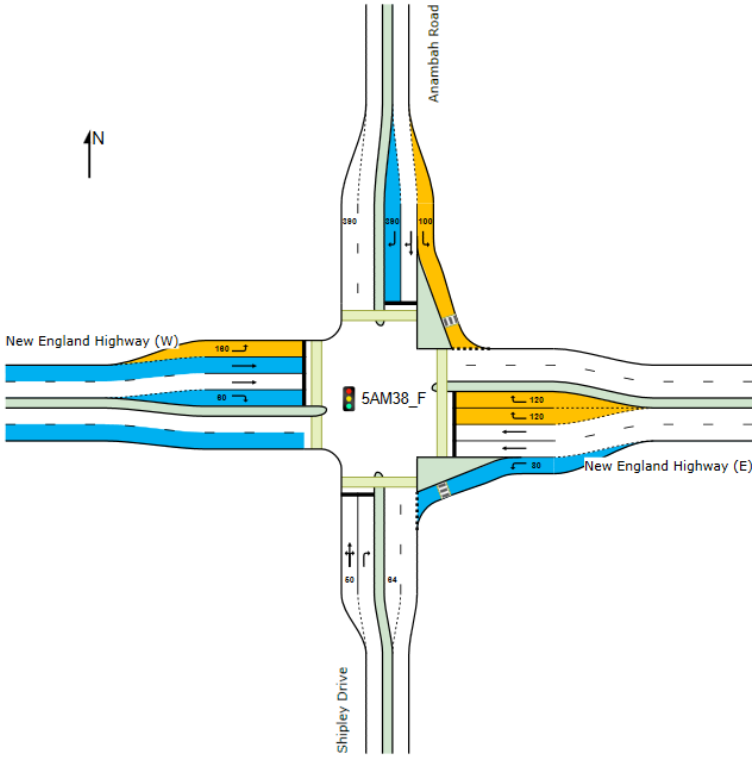
The proposed infrastructure upgrade is considered a minimum requirement to cater for background traffic growth and would result in satisfactory intersection performance.

Future year with development 2038

No further upgrade is required for Stage 1 development except for phase time optimisation.

For the full development, additional upgrades may be required at the Anambah Road intersection due to the increased development traffic in both peak hours (**Figure 2**).

Figure 2 Intersection upgrade for full development by 2038



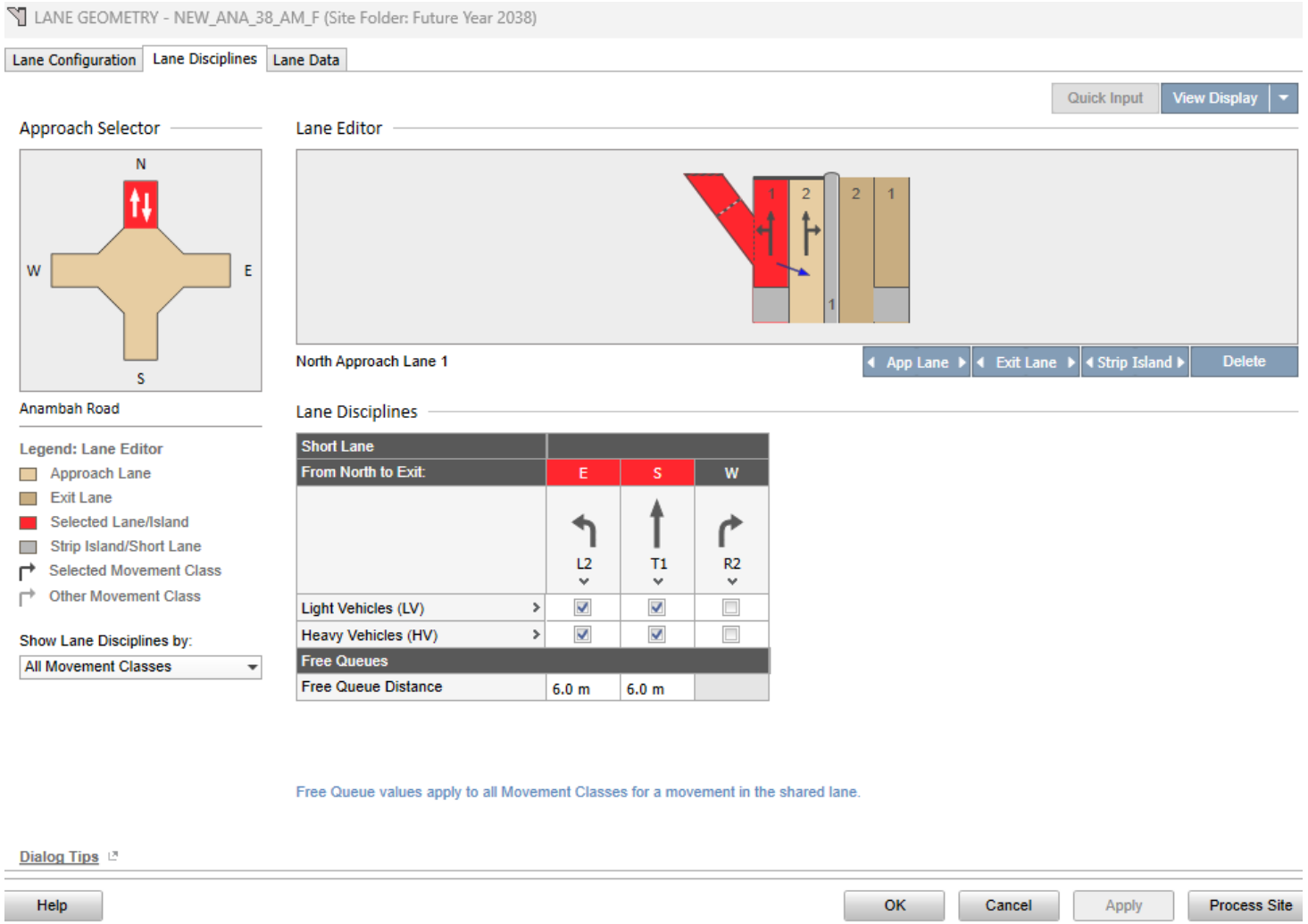
Note that the blue section represents the infrastructure required for the background growth/ the yellow section represents the infrastructure required for the development.

The proposed upgrade will include:

- High angle slip lane for left turners on the southbound Anambah Road
- Additional eastbound left turn bay of the New England Highway
- Additional westbound right turn bays of the New England Highway.

The above upgrade at the Anambah Road intersection would ensure the intersection performance is maintained at a satisfactory level by 2038 with the addition of full development traffic.

3(b) (vi)	Please provide reasoning for using free queue distance of 20m for Lane 1 on the northern approach.	In the 2038 future year base scenario, Lane 1 on the northern approach has been adjusted to be a high-angle slip lane for left turners. Free queue distance for this lane approach has been changed to 6m and 6m for left and through movements respectively. This is considered reasonable given the slip lane configuration.



3(b) (vii)	Please provide reasoning for adjusting Gap Acceptance / Follow up headway values	Gap acceptance and follow-up headway values are calibration parameters used to validate the observed and obtained 95th percentile queue length from traffic count data. For all signalised scenarios, these values fall within the recommended ranges for use in SIDRA.
3(b) (viii)	Please document signal phasing plan adopted for the model. It was observed that some phases do not have any name assigned to it. Please provide appropriate phase names. It was observed that Anambah Road approach was reference phase. Looking at traffic volume, we recommend making New England Highway the reference phase. It was observed that some scenarios were modelled with Optimum Cycle Time. The use of Optimum Cycle time in this model is not supported. Please seek concurrence from TfNSW NOPS team for signal timing and phases and document it's approval.	Phases now all have appropriately assigned names. New England Highway is now the reference phase for all scenarios The signalisation of Anambah Road will be triggered in 2038. The signal phasing plan will be addressed as part of the future subsequent DAs. The SIDRA Phase Summary is found in **Appendix E.**

3(b) (ix)	It was observed that NEW_ANA_38_PM_O1_50%_No Wyndella has different intersection layout than other scenarios. Please update the model to match geometry or provide reasoning and document the changes for the scenario.	The geometry has been shown in 3(b)(v).
3(b) (x)	Please ensure appropriate priority is applied for pedestrian movements in all scenarios and also apply corresponding Gap Acceptance values.	Priorities have been updated with corresponding Gap acceptance values to the appropriate priority for pedestrian movements in all scenarios.
3(b) (xi)	Please clarify scenarios corresponding to model in table 4-3 of the report and also document output for all the scenarios in the model or remove scenario that is not required. It was observed that movement summary from the model does not match movement summary provided in the Appendix. Please document movement summary corresponding to model output.	The SIDRA Outputs and Summary Table found in **Appendix D**.

	Please update folder name to match model and output in Appendix. Please ensure movement summary for all scenarios are documented in Appendix.	
3(b) (xii)	Since access road is on local road, this scenario has not been reviewed	Noted.

APPENDIX C

TRAFFIC SURVEY

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of New England Hwy and River Rd, Windella

GPS *-32.704501, 151.479402*

Date:	Wed 11/10/23
Weather:	Fine
Suburban:	Windella
Customer:	SCT

North:	River Rd
East:	New England Hwy
South:	N/A
West:	New England Hwy

Survey Period	AM:	7:00 AM-9:00 AM
	PM:	3:00 PM-5:00 PM
Traffic Peak	AM:	8:00 AM-9:00 AM
	PM:	3:30 PM-4:30 PM

All Vehicles

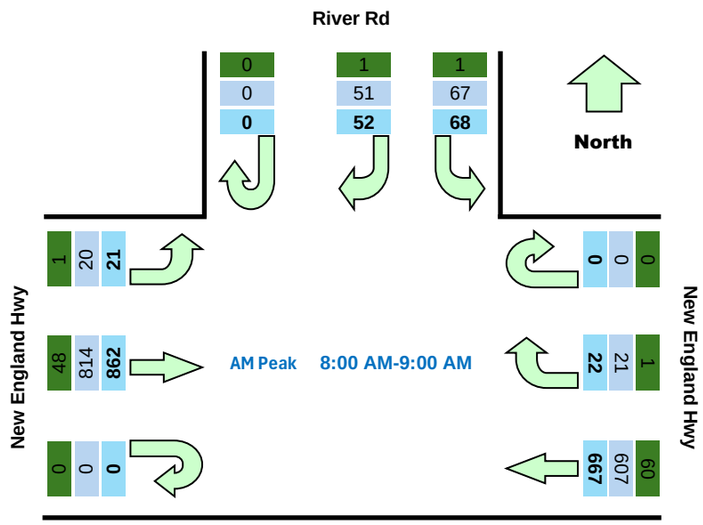
Time		North Approach River Rd			East Approach New England Hwy			West Approach New England Hwy			Hourly Total	
Period Start	**Period End**	**U**	**R**	**L**	**U**	**R**	**WB**	**U**	**EB**	**L**	**Hour**	**Peak**
7:00	7:15	0	6	14	0	6	117	0	143	3	1323	
7:15	7:30	0	8	12	0	4	120	0	162	2	1406	
7:30	7:45	1	8	16	0	6	143	0	176	1	1517	
7:45	8:00	0	8	23	0	5	133	0	198	8	1670	
8:00	8:15	0	14	21	0	4	159	0	172	2	1692	Peak
8:15	8:30	0	9	18	0	5	195	0	187	5		
8:30	8:45	0	19	15	0	5	202	0	255	8		
8:45	9:00	0	10	14	0	8	111	0	248	6		
15:00	15:15	0	11	7	0	16	204	0	205	13		
15:15	15:30	0	9	12	0	25	151	0	190	20		
15:30	15:45	0	7	14	0	18	234	0	212	13	1730	Peak
15:45	16:00	0	3	3	0	22	183	0	156	12	1672	
16:00	16:15	0	4	18	0	19	231	0	177	7	1720	
16:15	16:30	0	5	11	0	13	195	0	170	3		
16:30	16:45	0	4	13	0	20	233	0	166	4		
16:45	17:00	0	2	9	0	25	213	0	171	7		

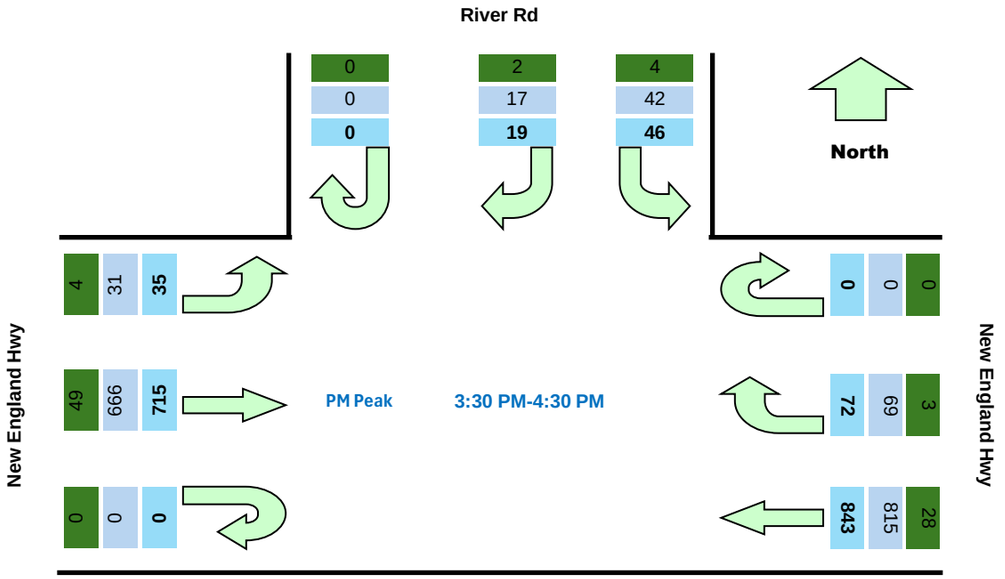
Peak Time		North Approach River Rd			East Approach New England Hwy			West Approach New England Hwy			Peak total
Period Start	**Period End**	U	R	L	U	R	WB	U	EB	L	
8:00	9:00	0	52	68	0	22	667	0	862	21	1692
15:30	16:30	0	19	46	0	72	843	0	715	35	1730

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy





Light Vehicles

Time		North Approach River Rd			East Approach New England Hwy			West Approach New England Hwy		
Period Start	**Period End**	U	R	L	U	R	WB	U	EB	L
7:00	7:15	0	6	13	0	5	102	0	134	2
7:15	7:30	0	8	12	0	4	105	0	156	2
7:30	7:45	1	8	16	0	6	130	0	170	1
7:45	8:00	0	7	23	0	4	123	0	187	8
8:00	8:15	0	14	21	0	4	140	0	158	2
8:15	8:30	0	9	18	0	4	177	0	177	4
8:30	8:45	0	18	14	0	5	187	0	247	8
8:45	9:00	0	10	14	0	8	103	0	232	6
15:00	15:15	0	11	7	0	16	192	0	186	13
15:15	15:30	0	9	11	0	24	142	0	177	18
15:30	15:45	0	6	13	0	16	228	0	194	13
15:45	16:00	0	2	2	0	21	175	0	149	11
16:00	16:15	0	4	17	0	19	220	0	164	5
16:15	16:30	0	5	10	0	13	192	0	159	2
16:30	16:45	0	3	13	0	19	225	0	157	4
16:45	17:00	0	2	9	0	25	202	0	157	7

Peak Time		North Approach River Rd			East Approach New England Hwy			West Approach New England Hwy			Peak total
Period Start	**Period End**	U	R	L	U	R	WB	U	EB	L	
8:00	9:00	0	51	67	0	21	607	0	814	20	1580
15:30	16:30	0	17	42	0	69	815	0	666	31	1640

Heavy Vehicles

Time		North Approach River Rd			East Approach New England Hwy			West Approach New England Hwy		
Period Start	**Period End**	U	R	L	U	R	WB	U	EB	L
7:00	7:15	0	0	1	0	1	15	0	9	1
7:15	7:30	0	0	0	0	0	15	0	6	0
7:30	7:45	0	0	0	0	0	13	0	6	0
7:45	8:00	0	1	0	0	1	10	0	11	0
8:00	8:15	0	0	0	0	0	19	0	14	0
8:15	8:30	0	0	0	0	1	18	0	10	1
8:30	8:45	0	1	1	0	0	15	0	8	0
8:45	9:00	0	0	0	0	0	8	0	16	0
15:00	15:15	0	0	0	0	0	12	0	19	0
15:15	15:30	0	0	1	0	1	9	0	13	2
15:30	15:45	0	1	1	0	2	6	0	18	0
15:45	16:00	0	1	1	0	1	8	0	7	1
16:00	16:15	0	0	1	0	0	11	0	13	2
16:15	16:30	0	0	1	0	0	3	0	11	1
16:30	16:45	0	1	0	0	1	8	0	9	0
16:45	17:00	0	0	0	0	0	11	0	14	0

Peak Time		North Approach River Rd			East Approach New England Hwy			West Approach New England Hwy			Peak total
Period Start	**Period End**	U	R	L	U	R	WB	U	EB	L	
8:00	9:00	0	1	1	0	1	60	0	48	1	112
15:30	16:30	0	2	4	0	3	28	0	49	4	90

Queue

Time Per 5 Min		Queue Length on North Approach		Queue Length on East Approach		Queue Length on West Approach	
Period Start	**Period End**	Kerb Lane	Right Lane	Kerb Lane	Right Lane	Kerb Lane	Right Lane
7:00	7:05	1	0	2	0	0	0
7:05	7:10	3	0	0	0	0	0
7:10	7:15	2	1	1	0	0	0
7:15	7:20	1	1	0	0	0	0
7:20	7:25	1	1	0	0	0	0
7:25	7:30	1	1	0	0	0	0
7:30	7:35	1	1	1	0	0	0
7:35	7:40	3	1	1	0	0	0
7:40	7:45	1	1	0	0	0	0
7:45	7:50	1	1	2	0	0	0
7:50	7:55	3	1	0	0	0	0
7:55	8:00	2	2	0	0	0	0
8:00	8:05	1	1	1	0	0	0
8:05	8:10	2	1	0	0	0	0
8:10	8:15	1	2	0	0	0	0
8:15	8:20	1	1	0	0	0	0
8:20	8:25	2	1	1	0	0	0
8:25	8:30	1	2	1	0	0	0
8:30	8:35	3	4	0	0	0	0
8:35	8:40	1	2	1	0	0	0
8:40	8:45	2	2	1	0	0	0
8:45	8:50	2	1	1	0	0	0
8:50	8:55	1	1	1	0	0	0
8:55	9:00	1	3	0	0	0	0
15:00	15:05	1	2	1	0	0	0
15:05	15:10	2	1	2	0	0	0
15:10	15:15	1	1	1	0	0	0
15:15	15:20	1	1	5	0	0	0
15:20	15:25	1	1	1	0	0	0
15:25	15:30	1	1	2	0	0	0
15:30	15:35	2	2	2	0	0	0
15:35	15:40	2	1	2	0	0	0
15:40	15:45	1	2	1	0	0	0
15:45	15:50	1	2	1	0	0	0
15:50	15:55	0	0	0	0	0	0
15:55	16:00	0	0	1	0	0	0

16:00	16:05	3	1	1	0	0	0
16:05	16:10	3	2	2	0	0	0
16:10	16:15	2	1	1	0	0	0
16:15	16:20	2	2	1	0	0	0
16:20	16:25	1	1	0	0	0	0
16:25	16:30	1	0	1	0	0	0
16:30	16:35	1	1	1	0	0	0
16:35	16:40	1	2	1	0	0	0
16:40	16:45	2	1	1	0	0	0
16:45	16:50	1	0	2	0	0	0
16:50	16:55	1	0	1	0	0	0
16:55	17:00	2	1	2	0	0	0

TRANS TRAFFIC SURVEY
trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of New England Hwy and Anambah Rd, Rutherford

GPS *-32.707990, 151.510599*

Date:	Wed 11/10/23
Weather:	Fine
Suburban:	Rutherford
Customer:	SCT

North:	Anambah Rd
East:	New England Hwy
South:	Shipley Dr
West:	New England Hwy

Survey Period	AM:	7:00 AM-9:00 AM
	PM:	3:00 PM-5:00 PM
Traffic Peak	AM:	8:00 AM-9:00 AM
	PM:	3:30 PM-4:30 PM

All Vehicles

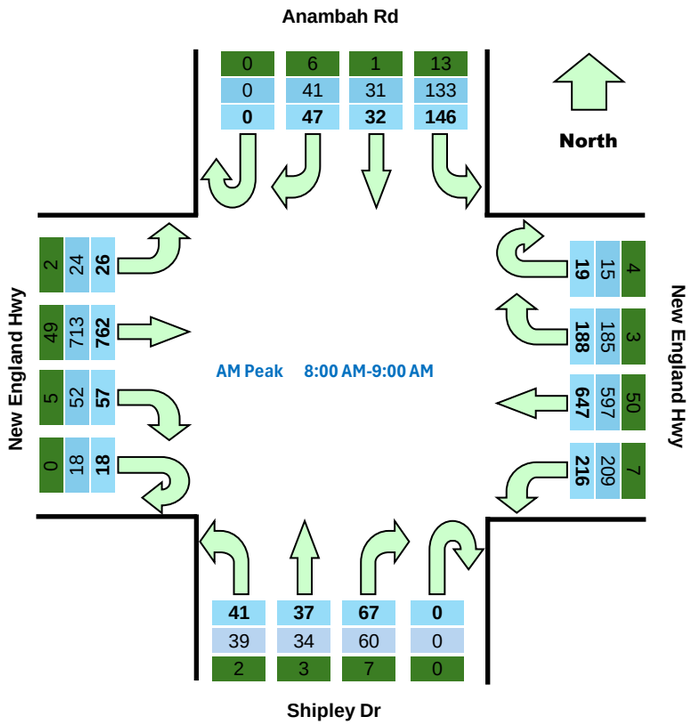
Time		North Approach Anambah Rd				East Approach New England Hwy				South Approach Shipley Dr				West Approach New England Hwy				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:00	7:15	0	6	3	22	8	27	133	39	0	10	4	7	0	10	115	5	1809	
7:15	7:30	0	3	3	22	2	62	136	30	0	18	10	10	4	5	127	2	1947	
7:30	7:45	0	7	7	33	5	44	138	35	0	17	13	8	1	6	129	4	2057	
7:45	8:00	0	8	10	33	1	59	169	33	0	13	10	10	6	8	173	6	2231	
8:00	8:15	0	7	12	36	2	47	172	37	0	14	10	7	1	13	163	6	2303	Peak
8:15	8:30	0	13	3	31	4	51	182	40	0	17	10	12	4	10	161	6		
8:30	8:45	0	18	9	41	3	34	165	60	0	16	9	14	5	14	229	4		
8:45	9:00	0	9	8	38	10	56	128	79	0	20	8	8	8	20	209	10		
15:00	15:15	0	7	7	53	21	30	130	40	0	96	4	26	3	13	202	15	2605	
15:15	15:30	0	11	5	37	18	35	156	53	0	41	11	9	6	10	174	11	2687	
15:30	15:45	0	7	18	79	24	37	130	49	0	72	7	25	2	12	241	9	2763	Peak
15:45	16:00	0	3	17	56	16	34	164	80	0	82	12	18	4	11	169	3	2756	
16:00	16:15	1	11	9	78	26	45	148	50	0	82	17	28	1	16	207	10	2737	
16:15	16:30	0	9	8	56	26	35	161	53	0	55	11	16	6	17	190	10		
16:30	16:45	0	8	16	69	16	37	189	55	0	61	14	22	2	12	196	8		
16:45	17:00	0	3	8	46	20	42	175	49	0	78	16	20	0	19	165	9		

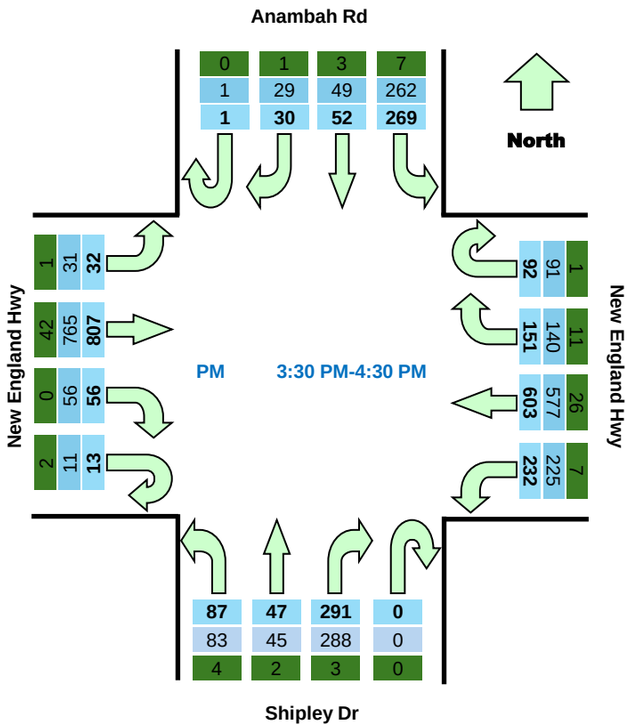
Peak Time		North Approach Anambah Rd				East Approach New England Hwy				South Approach Shipley Dr				West Approach New England Hwy				Peak total
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
8:00	9:00	0	47	32	146	19	188	647	216	0	67	37	41	18	57	762	26	2303
15:30	16:30	1	30	52	269	92	151	603	232	0	291	47	87	13	56	807	32	2763

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy





Light Vehicles

Time		North Approach Anambah Rd				East Approach New England Hwy				South Approach Shipley Dr				West Approach New England Hwy			
Period Start	**Period End**	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:00	7:15	0	6	3	19	7	24	120	36	0	10	3	7	0	9	108	5
7:15	7:30	0	3	3	20	1	57	119	28	0	15	10	9	4	4	117	2
7:30	7:45	0	6	6	29	5	42	126	25	0	13	12	7	1	6	125	4
7:45	8:00	0	8	10	28	0	54	156	31	0	10	10	8	6	8	163	6
8:00	8:15	0	5	12	31	2	47	157	37	0	14	9	7	1	12	148	6
8:15	8:30	0	11	2	29	3	50	169	37	0	15	10	11	4	9	149	5
8:30	8:45	0	18	9	39	2	33	151	59	0	14	8	14	5	12	218	4
8:45	9:00	0	7	8	34	8	55	120	76	0	17	7	7	8	19	198	9
15:00	15:15	0	6	7	48	21	30	119	38	0	94	4	26	3	13	190	15
15:15	15:30	0	9	5	37	18	31	150	51	0	40	9	8	6	9	163	10
15:30	15:45	0	7	16	78	24	34	124	47	0	72	7	23	1	12	230	9
15:45	16:00	0	3	16	55	15	33	154	77	0	80	10	17	3	11	159	3
16:00	16:15	1	10	9	76	26	40	142	48	0	81	17	28	1	16	196	10
16:15	16:30	0	9	8	53	26	33	157	53	0	55	11	15	6	17	180	9
16:30	16:45	0	8	15	68	15	32	180	54	0	61	13	19	2	10	187	8
16:45	17:00	0	2	8	44	20	40	171	48	0	78	15	20	0	18	156	9

Peak Time		North Approach Anambah Rd				East Approach New England Hwy				South Approach Shipley Dr				West Approach New England Hwy				Peak total
Period Start	**Period End**	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
8:00	9:00	0	41	31	133	15	185	597	209	0	60	34	39	18	52	713	24	2151
15:30	16:30	1	29	49	262	91	140	577	225	0	288	45	83	11	56	765	31	2653

Heavy Vehicles

Time		North Approach Anambah Rd				East Approach New England Hwy				South Approach Shipley Dr				West Approach New England Hwy			
Period Start	**Period End**	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:00	7:15	0	0	0	3	1	3	13	3	0	0	1	0	0	1	7	0
7:15	7:30	0	0	0	2	1	5	17	2	0	3	0	1	0	1	10	0
7:30	7:45	0	1	1	4	0	2	12	10	0	4	1	1	0	0	4	0
7:45	8:00	0	0	0	5	1	5	13	2	0	3	0	2	0	0	10	0
8:00	8:15	0	2	0	5	0	0	15	0	0	0	1	0	0	1	15	0
8:15	8:30	0	2	1	2	1	1	13	3	0	2	0	1	0	1	12	1
8:30	8:45	0	0	0	2	1	1	14	1	0	2	1	0	0	2	11	0
8:45	9:00	0	2	0	4	2	1	8	3	0	3	1	1	0	1	11	1
15:00	15:15	0	1	0	5	0	0	11	2	0	2	0	0	0	0	12	0
15:15	15:30	0	2	0	0	0	4	6	2	0	1	2	1	0	1	11	1
15:30	15:45	0	0	2	1	0	3	6	2	0	0	0	2	1	0	11	0
15:45	16:00	0	0	1	1	1	1	10	3	0	2	2	1	1	0	10	0
16:00	16:15	0	1	0	2	0	5	6	2	0	1	0	0	0	0	11	0
16:15	16:30	0	0	0	3	0	2	4	0	0	0	0	1	0	0	10	1
16:30	16:45	0	0	1	1	1	5	9	1	0	0	1	3	0	2	9	0
16:45	17:00	0	1	0	2	0	2	4	1	0	0	1	0	0	1	9	0

Peak Time		North Approach Anambah Rd				East Approach New England Hwy				South Approach Shipley Dr				West Approach New England Hwy				Peak total
Period Start	**Period End**	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
8:00	9:00	0	6	1	13	4	3	50	7	0	7	3	2	0	5	49	2	152
15:30	16:30	0	1	3	7	1	11	26	7	0	3	2	4	2	0	42	1	110

Queue

Time Per 5 Min		Queue Length on North Approach		Queue Length on East Approach		Queue Length on South Approach		Queue Length on West Approach	
Period Start	**Period End**	Kerb Lane	Right Lane	Kerb Lane	Right Lane	Kerb Lane	Right Lane	Kerb Lane	Middle Lane
7:00	7:05	0	0	0	0	1	1	2	0
7:05	7:10	0	0	3	0	0	1	0	0
7:10	7:15	0	0	0	0	2	1	0	0
7:15	7:20	0	0	0	0	0	0	0	2
7:20	7:25	0	0	0	0	1	1	0	5
7:25	7:30	2	0	0	0	2	2	1	1
7:30	7:35	0	0	0	0	1	2	0	2
7:35	7:40	2	0	0	0	1	1	0	0
7:40	7:45	3	0	0	0	1	1	2	1
7:45	7:50	1	0	0	0	1	2	3	2
7:50	7:55	3	0	0	0	1	1	0	0
7:55	8:00	1	0	0	0	1	2	2	1
8:00	8:05	2	1	0	0	1	1	3	0
8:05	8:10	1	0	0	0	2	1	0	1
8:10	8:15	0	1	0	0	2	1	0	1
8:15	8:20	1	0	0	0	2	3	1	2
8:20	8:25	1	1	0	0	1	2	2	2
8:25	8:30	2	1	0	0	1	2	0	1
8:30	8:35	2	1	0	0	2	3	0	2
8:35	8:40	3	2	0	0	1	2	1	2
8:40	8:45	2	1	0	0	1	1	1	0
8:45	8:50	2	1	0	0	2	4	1	3
8:50	8:55	4	2	0	0	2	4	0	4
8:55	9:00	0	1	0	0	1	2	2	4
15:00	15:05	4	0	0	0	1	4	0	3
15:05	15:10	2	2	0	0	1	4	7	4
15:10	15:15	0	1	0	0	3	2	2	2
15:15	15:20	2	1	0	0	1	2	0	1
15:20	15:25	0	1	0	0	2	1	0	0
15:25	15:30	1	3	0	0	2	3	3	3
15:30	15:35	3	2	0	0	3	4	0	2
15:35	15:40	3	4	2	3	2	3	1	2
15:40	15:45	3	3	0	0	2	3	2	5
15:45	15:50	0	3	0	0	3	5	0	8
15:50	15:55	0	2	0	0	1	6	4	4

15:55	16:00	0	2	0	0	2	2	2	3
16:00	16:05	1	2	0	0	1	3	2	5
16:05	16:10	3	2	2	2	3	4	1	5
16:10	16:15	2	2	0	2	1	4	2	3
16:15	16:20	4	1	0	0	1	2	1	2
16:20	16:25	0	3	0	0	1	3	2	0
16:25	16:30	0	1	1	0	1	3	1	5
16:30	16:35	2	3	1	2	3	4	1	2
16:35	16:40	4	1	0	0	3	3	2	3
16:40	16:45	2	1	0	0	1	2	2	4
16:45	16:50	1	1	3	0	1	5	2	1
16:50	16:55	2	1	0	0	2	4	2	5
16:55	17:00	2	1	0	1	2	2	2	4

APPENDIX D

MOVEMENT OUTPUTS

Table 1 SIDRA Output summary table – Anambah Road / New England Highway

Without background growth						2028						2038 (with infrastructure upgrade)*					
Delay	LoS	DoS	Delay	LoS	DoS	Delay	LoS	DoS	Delay	LoS	DoS	Delay	LoS	DoS	Delay	LoS	DoS
AM peak			PM peak			AM peak			PM peak			AM peak			PM peak		
Base																	
17.1	B	0.43	13.1	A	0.47	21.6	B	0.49	15.8	B	0.56	51.9	D	0.96	54.1	D	0.96
With Stage 1 (220 dwellings) – 70%:30% distribution																	
18.3	B	0.47	13.6	A	0.54	24.0	B	0.52	16.5	B	0.63	54.0	D	0.97	51.4	D	0.99
With Stage 1 (220 dwellings) – 50%:50% distribution																	
18.0	B	0.46	13.8	A	0.54	23.4	B	0.52	16.8	B	0.62	53.2	D	0.96	53.1	D	1.00
Full development (900 dwellings) – 70%:30% distribution																	
33.6	C	0.59	20.4	B	0.80	40.8	C	0.67	26.9	B	0.90	53.5	D	0.95	54.0	D	0.92
Full development (900 dwellings) – 50%:50% distribution																	
28.3	B	0.55	22.7	B	0.79	23.7	B	0.52	17.0	B	0.64	55.1	D	0.96	46.2	D	0.93

*The level of service for PM with background traffic growth only is F (DoS=1.032) at the roundabout. Hence, it needs upgrade before any development traffic.

Table 2 SIDRA Output summary table – Anambah Road / access road and internal roundabout in 2038

Scenarios	Delay	LoS	DoS	Delay	LoS	DoS
	Weekday AM peak			Weekday PM peak		
Site Access Road / Anambah Road	5.7s	A	0.41	7.8s	A	0.38
Internal roundabout	8.9s	A	0.21	8.7	A	0.21

Table 3 SIDRA Output summary table – River Road / New England Highway

Scenarios	Delay	LoS	DoS	Delay	LoS	DoS
	Weekday AM peak			Weekday PM peak		
Base case	26.9s	B	0.48	22.9s	A	0.46
2028 background traffic only	210.3s	F	1.01	36.7	A	0.67
Base case with 249 lots (right in right out)	56.1s	D	0.86	35.3s	A	0.75
Base case with 560 lots (left out only no right out from River Road)	55.3s	D	1.00	48.8s	D	0.87

MOVEMENT SUMMARY

Site: 5AM_X [NEW_ANA_23_AM_X (Site Folder: Base Year)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.226	14.5	LOS B	0.9	6.8	0.71	0.81	0.71	48.8
2	T1	All MCs	39	8.1	39	8.1	0.226	12.8	LOS A	1.0	7.9	0.71	0.83	0.71	48.8
3	R2	All MCs	71	10.4	71	10.4	0.226	17.1	LOS B	1.0	7.9	0.71	0.89	0.71	46.8
Approach			153	8.3	153	8.3	0.226	15.3	LOS B	1.0	7.9	0.71	0.85	0.71	47.8
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.342	3.9	LOS A	1.9	13.7	0.34	0.40	0.34	54.5
5	T1	All MCs	681	7.7	681	7.7	0.433	4.1	LOS A	2.7	19.8	0.34	0.44	0.34	54.0
6	R2	All MCs	198	1.6	198	1.6	0.433	9.9	LOS A	2.7	19.8	0.34	0.45	0.34	52.7
Approach			1106	5.7	1106	5.7	0.433	5.1	LOS A	2.7	19.8	0.34	0.43	0.34	53.8
North: Anambah Road															
7	L2	All MCs	154	8.9	154	8.9	0.160	5.2	LOS A	0.7	5.4	0.59	0.61	0.59	53.4
8	T1	All MCs	34	3.1	34	3.1	0.160	5.5	LOS A	0.7	5.4	0.59	0.68	0.59	52.3
9	R2	All MCs	49	12.8	49	12.8	0.092	12.3	LOS A	0.4	2.8	0.59	0.74	0.59	50.0
Approach			237	8.9	237	8.9	0.160	6.7	LOS A	0.7	5.4	0.59	0.65	0.59	52.5
West: New England Highway (W)															
10	L2	All MCs	27	7.7	27	7.7	0.355	4.8	LOS A	1.9	14.1	0.44	0.41	0.44	53.7
11	T1	All MCs	802	6.4	802	6.4	0.355	4.3	LOS A	1.9	14.1	0.45	0.44	0.45	53.9
12	R2	All MCs	60	8.8	60	8.8	0.355	11.3	LOS A	1.8	13.7	0.46	0.48	0.46	52.5
Approach			889	6.6	889	6.6	0.355	4.7	LOS A	1.9	14.1	0.45	0.44	0.45	53.8
All Vehicles			2385	6.5	2385	6.5	0.433	5.8	LOS A	2.7	19.8	0.43	0.48	0.43	53.3

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

MOVEMENT SUMMARY

Site: 5PM_X [NEW_ANA_23_PM_X (Site Folder: Base Year)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.240	9.1	LOS A	1.0	7.5	0.65	0.71	0.65	52.5
2	T1	All MCs	49	4.3	49	4.3	0.240	7.9	LOS A	1.0	7.5	0.65	0.71	0.65	52.9
3	R2	All MCs	306	1.0	306	1.0	0.377	13.1	LOS A	2.0	14.0	0.68	0.80	0.71	48.9
Approach			447	2.1	447	2.1	0.377	11.7	LOS A	2.0	14.0	0.67	0.77	0.69	49.9
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.320	3.9	LOS A	1.8	13.0	0.34	0.41	0.34	54.5
5	T1	All MCs	635	4.3	635	4.3	0.405	4.0	LOS A	2.6	18.9	0.34	0.43	0.34	54.1
6	R2	All MCs	159	7.3	159	7.3	0.405	10.0	LOS A	2.6	18.9	0.35	0.44	0.35	52.8
Approach			1038	4.5	1038	4.5	0.405	4.9	LOS A	2.6	18.9	0.34	0.42	0.34	54.0
North: Anambah Road															
7	L2	All MCs	283	2.6	283	2.6	0.305	6.1	LOS A	1.7	12.2	0.75	0.74	0.75	53.0
8	T1	All MCs	55	5.8	55	5.8	0.134	7.3	LOS A	0.6	4.5	0.70	0.74	0.70	51.5
9	R2	All MCs	32	3.3	32	3.3	0.134	13.1	LOS A	0.6	4.5	0.70	0.74	0.70	50.7
Approach			369	3.1	369	3.1	0.305	6.9	LOS A	1.7	12.2	0.74	0.74	0.74	52.5
West: New England Highway (W)															
10	L2	All MCs	34	3.1	34	3.1	0.473	6.0	LOS A	3.0	21.9	0.65	0.56	0.67	52.8
11	T1	All MCs	849	5.2	849	5.2	0.473	5.7	LOS A	3.0	21.9	0.65	0.59	0.68	52.9
12	R2	All MCs	59	0.0	59	0.0	0.473	12.7	LOS A	2.9	21.4	0.66	0.64	0.70	51.8
Approach			942	4.8	942	4.8	0.473	6.2	LOS A	3.0	21.9	0.65	0.60	0.68	52.8
All Vehicles			2797	4.0	2797	4.0	0.473	6.7	LOS A	3.0	21.9	0.55	0.58	0.57	52.7

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

MOVEMENT SUMMARY

Site: 5AM_X [NEW_ANA_23_AM_X_S1 (Site Folder: Base Year wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.254	16.4	LOS B	1.1	7.8	0.75	0.84	0.75	47.8
2	T1	All MCs	39	8.1	39	8.1	0.254	14.3	LOS A	1.2	9.1	0.75	0.86	0.75	47.9
3	R2	All MCs	71	10.4	71	10.4	0.254	18.3	LOS B	1.2	9.1	0.76	0.91	0.76	46.1
Approach			153	8.3	153	8.3	0.254	16.7	LOS B	1.2	9.1	0.75	0.87	0.75	47.0
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.369	4.4	LOS A	2.1	15.1	0.44	0.45	0.44	54.0
5	T1	All MCs	681	7.7	681	7.7	0.467	4.6	LOS A	3.0	22.1	0.45	0.47	0.45	53.5
6	R2	All MCs	202	1.6	202	1.6	0.467	10.3	LOS A	3.0	22.1	0.46	0.48	0.46	52.2
Approach			1111	5.7	1111	5.7	0.467	5.6	LOS A	3.0	22.1	0.45	0.47	0.45	53.3
North: Anambah Road															
7	L2	All MCs	195	7.0	195	7.0	0.214	5.3	LOS A	1.0	7.4	0.61	0.61	0.61	53.3
8	T1	All MCs	34	3.1	34	3.1	0.214	4.9	LOS A	1.0	7.4	0.61	0.61	0.61	53.8
9	R2	All MCs	146	4.3	146	4.3	0.182	12.1	LOS A	0.8	5.6	0.61	0.79	0.61	49.1
Approach			375	5.6	375	5.6	0.214	7.9	LOS A	1.0	7.4	0.61	0.68	0.61	51.6
West: New England Highway (W)															
10	L2	All MCs	38	5.5	38	5.5	0.361	4.8	LOS A	2.0	14.5	0.45	0.42	0.45	53.7
11	T1	All MCs	802	6.4	802	6.4	0.361	4.3	LOS A	2.0	14.5	0.46	0.44	0.46	53.9
12	R2	All MCs	60	8.8	60	8.8	0.361	11.4	LOS A	1.9	14.1	0.47	0.48	0.47	52.5
Approach			900	6.5	900	6.5	0.361	4.8	LOS A	2.0	14.5	0.46	0.45	0.46	53.8
All Vehicles			2538	6.1	2538	6.1	0.467	6.3	LOS A	3.0	22.1	0.50	0.52	0.50	52.8

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

MOVEMENT SUMMARY

Site: 5PM_X [NEW_ANA_23_PM_X_S1 (Site Folder: Base Year wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.249	9.4	LOS A	1.1	7.9	0.67	0.73	0.67	52.2
2	T1	All MCs	49	4.3	49	4.3	0.249	8.3	LOS A	1.1	7.9	0.67	0.73	0.67	52.6
3	R2	All MCs	306	1.0	306	1.0	0.390	13.5	LOS A	2.1	15.0	0.71	0.82	0.75	48.6
Approach			447	2.1	447	2.1	0.390	12.1	LOS A	2.1	15.0	0.69	0.79	0.73	49.7
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.337	4.0	LOS A	2.0	14.1	0.36	0.41	0.36	54.4
5	T1	All MCs	635	4.3	635	4.3	0.427	4.1	LOS A	2.8	20.6	0.37	0.44	0.37	53.9
6	R2	All MCs	204	5.7	204	5.7	0.427	10.1	LOS A	2.8	20.6	0.37	0.46	0.37	52.5
Approach			1083	4.3	1083	4.3	0.427	5.2	LOS A	2.8	20.6	0.37	0.44	0.37	53.7
North: Anambah Road															
7	L2	All MCs	288	2.6	288	2.6	0.322	6.3	LOS A	1.9	13.4	0.78	0.75	0.78	52.9
8	T1	All MCs	55	5.8	55	5.8	0.156	7.5	LOS A	0.7	5.4	0.72	0.76	0.72	51.1
9	R2	All MCs	43	2.4	43	2.4	0.156	13.3	LOS A	0.7	5.4	0.72	0.76	0.72	50.3
Approach			386	3.0	386	3.0	0.322	7.3	LOS A	1.9	13.4	0.76	0.75	0.76	52.3
West: New England Highway (W)															
10	L2	All MCs	141	0.7	141	0.7	0.540	6.8	LOS A	3.9	28.4	0.70	0.67	0.78	52.7
11	T1	All MCs	849	5.2	849	5.2	0.540	6.7	LOS A	3.9	28.4	0.71	0.69	0.80	52.6
12	R2	All MCs	59	0.0	59	0.0	0.540	13.6	LOS A	3.8	27.7	0.71	0.72	0.82	51.5
Approach			1049	4.3	1049	4.3	0.540	7.1	LOS A	3.9	28.4	0.71	0.69	0.80	52.6
All Vehicles			2966	3.8	2966	3.8	0.540	7.2	LOS A	3.9	28.4	0.59	0.62	0.63	52.5

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

MOVEMENT SUMMARY

Site: 5AM_X [NEW_ANA_23_AM_X_S1 50% (Site Folder: Base Year wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.246	15.9	LOS B	1.0	7.5	0.74	0.83	0.74	48.1
2	T1	All MCs	39	8.1	39	8.1	0.246	13.9	LOS A	1.2	8.8	0.74	0.85	0.74	48.1
3	R2	All MCs	71	10.4	71	10.4	0.246	18.0	LOS B	1.2	8.8	0.75	0.90	0.75	46.3
Approach			153	8.3	153	8.3	0.246	16.3	LOS B	1.2	8.8	0.74	0.87	0.74	47.2
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.363	4.2	LOS A	2.0	14.7	0.42	0.44	0.42	54.1
5	T1	All MCs	681	7.7	681	7.7	0.459	4.5	LOS A	2.9	21.5	0.42	0.46	0.42	53.6
6	R2	All MCs	206	1.5	206	1.5	0.459	10.2	LOS A	2.9	21.5	0.43	0.47	0.43	52.3
Approach			1114	5.7	1114	5.7	0.459	5.5	LOS A	2.9	21.5	0.42	0.46	0.42	53.4
North: Anambah Road															
7	L2	All MCs	223	6.1	223	6.1	0.239	5.3	LOS A	1.1	8.3	0.61	0.61	0.61	53.3
8	T1	All MCs	34	3.1	34	3.1	0.239	5.0	LOS A	1.1	8.3	0.61	0.61	0.61	53.8
9	R2	All MCs	118	5.3	118	5.3	0.152	12.1	LOS A	0.6	4.6	0.61	0.79	0.61	49.1
Approach			375	5.6	375	5.6	0.239	7.4	LOS A	1.1	8.3	0.61	0.67	0.61	51.9
West: New England Highway (W)															
10	L2	All MCs	35	6.0	35	6.0	0.360	4.8	LOS A	2.0	14.4	0.45	0.42	0.45	53.7
11	T1	All MCs	802	6.4	802	6.4	0.360	4.3	LOS A	2.0	14.4	0.46	0.44	0.46	53.9
12	R2	All MCs	60	8.8	60	8.8	0.360	11.4	LOS A	1.9	14.0	0.47	0.48	0.47	52.5
Approach			897	6.6	897	6.6	0.360	4.8	LOS A	2.0	14.4	0.46	0.45	0.46	53.8
All Vehicles			2538	6.1	2538	6.1	0.459	6.2	LOS A	2.9	21.5	0.48	0.51	0.48	52.9

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

MOVEMENT SUMMARY

Site: 5PM_X [NEW_ANA_23_PM_X_S1 50% (Site Folder: Base Year wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.253	9.5	LOS A	1.1	8.0	0.68	0.74	0.68	52.1
2	T1	All MCs	49	4.3	49	4.3	0.253	8.5	LOS A	1.1	8.0	0.68	0.74	0.68	52.5
3	R2	All MCs	306	1.0	306	1.0	0.396	13.6	LOS A	2.2	15.3	0.71	0.83	0.77	48.5
Approach			447	2.1	447	2.1	0.396	12.2	LOS A	2.2	15.3	0.70	0.80	0.74	49.6
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.345	4.0	LOS A	2.0	14.5	0.36	0.41	0.36	54.4
5	T1	All MCs	635	4.3	635	4.3	0.437	4.1	LOS A	2.9	21.3	0.37	0.45	0.37	53.8
6	R2	All MCs	235	4.9	235	4.9	0.437	10.1	LOS A	2.9	21.3	0.37	0.47	0.37	52.4
Approach			1114	4.2	1114	4.2	0.437	5.3	LOS A	2.9	21.3	0.37	0.44	0.37	53.6
North: Anambah Road															
7	L2	All MCs	292	2.5	292	2.5	0.325	6.3	LOS A	1.9	13.5	0.78	0.75	0.78	52.9
8	T1	All MCs	55	5.8	55	5.8	0.150	7.4	LOS A	0.7	5.2	0.72	0.76	0.72	51.2
9	R2	All MCs	40	2.6	40	2.6	0.150	13.2	LOS A	0.7	5.2	0.72	0.76	0.72	50.4
Approach			386	3.0	386	3.0	0.325	7.2	LOS A	1.9	13.5	0.76	0.75	0.76	52.4
West: New England Highway (W)															
10	L2	All MCs	110	1.0	110	1.0	0.535	7.0	LOS A	3.9	28.1	0.71	0.68	0.80	52.6
11	T1	All MCs	849	5.2	849	5.2	0.535	6.8	LOS A	3.9	28.1	0.71	0.70	0.81	52.6
12	R2	All MCs	59	0.0	59	0.0	0.535	13.8	LOS A	3.7	27.2	0.72	0.73	0.83	51.4
Approach			1019	4.4	1019	4.4	0.535	7.2	LOS A	3.9	28.1	0.71	0.70	0.81	52.5
All Vehicles			2966	3.8	2966	3.8	0.535	7.3	LOS A	3.9	28.1	0.59	0.63	0.63	52.4

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

MOVEMENT SUMMARY

Site: 5AM_X [NEW_ANA_23_AM_X_FD (Site Folder: Base Year wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.391	25.3	LOS B	2.0	14.9	0.87	0.96	1.02	44.3
2	T1	All MCs	39	8.1	39	8.1	0.391	21.7	LOS B	2.0	14.9	0.87	0.96	1.02	44.3
3	R2	All MCs	71	10.4	71	10.4	0.391	33.6	LOS C	1.9	14.3	0.87	1.01	1.07	38.9
Approach			153	8.3	153	8.3	0.391	28.2	LOS B	2.0	14.9	0.87	0.98	1.05	41.5
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.466	6.3	LOS A	3.0	22.2	0.70	0.65	0.74	52.8
5	T1	All MCs	681	7.7	681	7.7	0.590	7.6	LOS A	5.0	37.0	0.73	0.69	0.81	52.1
6	R2	All MCs	218	1.4	218	1.4	0.590	12.5	LOS A	5.0	37.0	0.75	0.71	0.85	50.8
Approach			1126	5.6	1126	5.6	0.590	8.3	LOS A	5.0	37.0	0.73	0.69	0.80	52.0
North: Anambah Road															
7	L2	All MCs	335	4.1	335	4.1	0.461	7.1	LOS A	2.5	18.4	0.72	0.79	0.82	52.8
8	T1	All MCs	34	3.1	34	3.1	0.461	6.9	LOS A	2.5	18.4	0.72	0.79	0.82	53.2
9	R2	All MCs	473	1.3	473	1.3	0.434	11.9	LOS A	2.5	17.7	0.69	0.81	0.74	48.9
Approach			842	2.5	842	2.5	0.461	9.8	LOS A	2.5	18.4	0.70	0.80	0.78	50.5
West: New England Highway (W)															
10	L2	All MCs	74	2.8	74	2.8	0.385	4.8	LOS A	2.3	16.8	0.50	0.43	0.50	53.6
11	T1	All MCs	802	6.4	802	6.4	0.385	4.4	LOS A	2.3	16.8	0.51	0.46	0.51	53.7
12	R2	All MCs	60	8.8	60	8.8	0.385	11.5	LOS A	2.2	16.2	0.52	0.49	0.52	52.3
Approach			937	6.3	937	6.3	0.385	4.9	LOS A	2.3	16.8	0.51	0.46	0.51	53.6
All Vehicles			3058	5.1	3058	5.1	0.590	8.7	LOS A	5.0	37.0	0.66	0.66	0.72	51.4

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

MOVEMENT SUMMARY

Site: 5PM_X [NEW_ANA_23_PM_X_FD (Site Folder: Base Year wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.288	10.6	LOS A	1.3	9.5	0.73	0.79	0.73	51.4
2	T1	All MCs	49	4.3	49	4.3	0.288	10.2	LOS A	1.3	9.5	0.73	0.79	0.73	51.8
3	R2	All MCs	306	1.0	306	1.0	0.444	15.1	LOS B	2.7	18.9	0.78	0.89	0.91	47.7
Approach			447	2.1	447	2.1	0.444	13.6	LOS A	2.7	18.9	0.77	0.85	0.85	48.8
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.397	4.2	LOS A	2.4	17.5	0.43	0.43	0.43	54.0
5	T1	All MCs	635	4.3	635	4.3	0.502	4.4	LOS A	3.6	26.1	0.45	0.48	0.45	53.2
6	R2	All MCs	358	3.2	358	3.2	0.502	10.2	LOS A	3.6	26.1	0.45	0.51	0.45	51.7
Approach			1237	3.7	1237	3.7	0.502	6.0	LOS A	3.6	26.1	0.45	0.48	0.45	52.9
North: Anambah Road															
7	L2	All MCs	305	2.4	305	2.4	0.405	7.6	LOS A	2.8	20.3	0.88	0.81	0.93	52.5
8	T1	All MCs	55	5.8	55	5.8	0.405	8.4	LOS A	2.8	20.3	0.82	0.82	0.83	50.4
9	R2	All MCs	83	1.3	83	1.3	0.234	14.2	LOS A	1.3	9.2	0.81	0.83	0.81	49.2
Approach			443	2.6	443	2.6	0.405	9.0	LOS A	2.8	20.3	0.86	0.81	0.89	51.5
West: New England Highway (W)															
10	L2	All MCs	500	0.2	500	0.2	0.798	13.4	LOS A	10.2	72.8	0.92	1.02	1.43	49.4
11	T1	All MCs	849	5.2	849	5.2	0.798	13.3	LOS A	10.2	72.8	0.92	1.04	1.47	48.9
12	R2	All MCs	59	0.0	59	0.0	0.798	20.4	LOS B	9.5	68.9	0.93	1.05	1.49	47.8
Approach			1409	3.2	1409	3.2	0.798	13.6	LOS A	10.2	72.8	0.92	1.03	1.46	49.0
All Vehicles			3537	3.2	3537	3.2	0.798	10.4	LOS A	10.2	72.8	0.73	0.79	0.96	50.6

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

MOVEMENT SUMMARY

Site: 5AM_X [NEW_ANA_23_AM_X_FD 50% (Site Folder: Base Year wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.338	19.9	LOS B	1.7	12.4	0.84	0.92	0.92	46.6
2	T1	All MCs	39	8.1	39	8.1	0.338	17.4	LOS B	1.7	12.4	0.84	0.92	0.93	46.7
3	R2	All MCs	71	10.4	71	10.4	0.338	28.3	LOS B	1.6	11.9	0.84	0.98	0.97	41.0
Approach			153	8.3	153	8.3	0.338	23.1	LOS B	1.7	12.4	0.84	0.95	0.94	43.8
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.437	5.4	LOS A	2.6	19.1	0.62	0.56	0.62	53.2
5	T1	All MCs	681	7.7	681	7.7	0.553	6.2	LOS A	4.2	30.8	0.65	0.59	0.67	52.5
6	R2	All MCs	232	1.4	232	1.4	0.553	11.4	LOS A	4.2	30.8	0.66	0.60	0.70	51.3
Approach			1140	5.5	1140	5.5	0.553	7.1	LOS A	4.2	30.8	0.65	0.58	0.67	52.4
North: Anambah Road															
7	L2	All MCs	456	3.0	456	3.0	0.455	5.9	LOS A	2.7	19.2	0.70	0.73	0.77	53.1
8	T1	All MCs	34	3.1	34	3.1	0.455	5.7	LOS A	2.7	19.2	0.70	0.73	0.77	53.5
9	R2	All MCs	352	1.8	352	1.8	0.433	13.0	LOS A	2.3	16.5	0.70	0.85	0.79	48.9
Approach			842	2.5	842	2.5	0.455	8.8	LOS A	2.7	19.2	0.70	0.78	0.78	51.2
West: New England Highway (W)															
10	L2	All MCs	61	3.4	61	3.4	0.382	4.9	LOS A	2.2	16.4	0.50	0.43	0.50	53.6
11	T1	All MCs	802	6.4	802	6.4	0.382	4.4	LOS A	2.2	16.4	0.51	0.46	0.51	53.7
12	R2	All MCs	60	8.8	60	8.8	0.382	11.6	LOS A	2.1	15.8	0.52	0.49	0.52	52.3
Approach			923	6.4	923	6.4	0.382	4.9	LOS A	2.2	16.4	0.51	0.46	0.51	53.6
All Vehicles			3058	5.1	3058	5.1	0.553	7.7	LOS A	4.2	30.8	0.63	0.62	0.66	51.9

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

MOVEMENT SUMMARY

Site: 5PM_X [NEW_ANA_23_PM_X_FD 50% (Site Folder: Base Year wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.312	11.5	LOS A	1.5	10.6	0.76	0.83	0.79	50.7
2	T1	All MCs	49	4.3	49	4.3	0.312	11.5	LOS A	1.5	10.6	0.76	0.83	0.79	51.1
3	R2	All MCs	306	1.0	306	1.0	0.477	16.2	LOS B	3.0	21.2	0.82	0.92	1.00	47.1
Approach			447	2.1	447	2.1	0.477	14.7	LOS B	3.0	21.2	0.80	0.89	0.93	48.2
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.433	4.2	LOS A	2.8	20.5	0.44	0.43	0.44	54.0
5	T1	All MCs	635	4.3	635	4.3	0.548	4.5	LOS A	4.3	31.1	0.46	0.49	0.46	53.1
6	R2	All MCs	491	2.4	491	2.4	0.548	10.3	LOS A	4.3	31.1	0.47	0.54	0.47	51.2
Approach			1370	3.4	1370	3.4	0.548	6.5	LOS A	4.3	31.1	0.46	0.49	0.46	52.5
North: Anambah Road															
7	L2	All MCs	320	2.3	320	2.3	0.403	7.2	LOS A	2.7	19.6	0.86	0.80	0.91	52.5
8	T1	All MCs	55	5.8	55	5.8	0.219	8.0	LOS A	1.2	8.4	0.79	0.81	0.79	50.4
9	R2	All MCs	69	1.5	69	1.5	0.219	13.8	LOS A	1.2	8.4	0.79	0.81	0.79	49.7
Approach			443	2.6	443	2.6	0.403	8.3	LOS A	2.7	19.6	0.84	0.80	0.88	51.8
West: New England Highway (W)															
10	L2	All MCs	367	0.3	367	0.3	0.793	15.8	LOS B	10.2	73.2	0.95	1.08	1.57	48.1
11	T1	All MCs	849	5.2	849	5.2	0.793	15.4	LOS B	10.2	73.2	0.94	1.10	1.59	47.6
12	R2	All MCs	59	0.0	59	0.0	0.793	22.7	LOS B	9.3	67.4	0.94	1.10	1.61	46.4
Approach			1276	3.5	1276	3.5	0.793	15.9	LOS B	10.2	73.2	0.94	1.09	1.59	47.7
All Vehicles			3537	3.2	3537	3.2	0.793	11.1	LOS A	10.2	73.2	0.72	0.80	0.98	50.0

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

MOVEMENT SUMMARY

Site: 5AM28_X [NEW_ANA_28_AM_X (Site Folder: Future Year 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.254	13.7	LOS A	1.1	8.4	0.75	0.84	0.75	49.6
2	T1	All MCs	39	8.1	39	8.1	0.254	12.4	LOS A	1.1	8.4	0.75	0.84	0.75	49.7
3	R2	All MCs	71	10.4	71	10.4	0.254	21.6	LOS B	1.1	8.1	0.76	0.91	0.76	44.1
Approach			153	8.3	153	8.3	0.254	17.0	LOS B	1.1	8.4	0.76	0.87	0.76	46.9
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.382	4.0	LOS A	2.2	16.2	0.35	0.40	0.35	54.4
5	T1	All MCs	810	7.5	810	7.5	0.484	4.3	LOS A	3.3	23.9	0.36	0.43	0.36	54.0
6	R2	All MCs	198	1.6	198	1.6	0.484	10.0	LOS A	3.3	23.9	0.37	0.44	0.37	52.7
Approach			1235	5.8	1235	5.8	0.484	5.2	LOS A	3.3	23.9	0.36	0.43	0.36	53.8
North: Anambah Road															
7	L2	All MCs	154	8.9	154	8.9	0.186	5.8	LOS A	0.9	6.8	0.69	0.68	0.69	53.0
8	T1	All MCs	34	3.1	34	3.1	0.186	6.2	LOS A	0.9	6.8	0.69	0.74	0.69	51.8
9	R2	All MCs	49	12.8	49	12.8	0.107	13.2	LOS A	0.4	3.4	0.68	0.79	0.68	49.5
Approach			237	8.9	237	8.9	0.186	7.4	LOS A	0.9	6.8	0.69	0.72	0.69	52.0
West: New England Highway (W)															
10	L2	All MCs	27	7.7	27	7.7	0.494	5.0	LOS A	3.1	22.6	0.50	0.43	0.50	53.4
11	T1	All MCs	1165	5.1	1165	5.1	0.494	4.5	LOS A	3.1	22.6	0.52	0.45	0.52	53.7
12	R2	All MCs	60	8.8	60	8.8	0.494	11.6	LOS A	3.0	21.9	0.53	0.49	0.53	52.3
Approach			1252	5.3	1252	5.3	0.494	4.8	LOS A	3.1	22.6	0.52	0.46	0.52	53.6
All Vehicles			2877	6.0	2877	6.0	0.494	5.8	LOS A	3.3	23.9	0.48	0.49	0.48	53.2

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

MOVEMENT SUMMARY

Site: 5PM28_X [NEW_ANA_28_PM_X (Site Folder: Future Year 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.303	13.0	LOS A	1.4	10.1	0.75	0.82	0.77	50.8
2	T1	All MCs	49	4.3	49	4.3	0.303	10.1	LOS A	1.4	10.1	0.75	0.82	0.77	51.2
3	R2	All MCs	306	1.0	306	1.0	0.464	15.8	LOS B	2.8	20.0	0.80	0.92	0.97	47.3
Approach			447	2.1	447	2.1	0.464	14.6	LOS B	2.8	20.0	0.78	0.88	0.90	48.3
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.428	4.0	LOS A	2.7	19.7	0.38	0.41	0.38	54.2
5	T1	All MCs	997	3.2	997	3.2	0.542	4.6	LOS A	4.2	30.1	0.40	0.42	0.40	54.1
6	R2	All MCs	159	7.3	159	7.3	0.542	10.2	LOS A	4.2	30.1	0.41	0.42	0.41	52.7
Approach			1400	3.6	1400	3.6	0.542	5.2	LOS A	4.2	30.1	0.40	0.42	0.40	53.9
North: Anambah Road															
7	L2	All MCs	283	2.6	283	2.6	0.335	6.5	LOS A	2.0	14.0	0.80	0.78	0.80	52.8
8	T1	All MCs	55	5.8	55	5.8	0.145	7.6	LOS A	0.7	5.0	0.74	0.77	0.74	51.3
9	R2	All MCs	32	3.3	32	3.3	0.145	13.5	LOS A	0.7	5.0	0.74	0.77	0.74	50.4
Approach			369	3.1	369	3.1	0.335	7.3	LOS A	2.0	14.0	0.79	0.78	0.79	52.3
West: New England Highway (W)															
10	L2	All MCs	34	3.1	34	3.1	0.558	6.6	LOS A	4.2	30.5	0.70	0.65	0.79	52.5
11	T1	All MCs	1007	5.1	1007	5.1	0.558	6.4	LOS A	4.2	30.5	0.71	0.67	0.80	52.6
12	R2	All MCs	59	0.0	59	0.0	0.558	13.4	LOS A	4.1	29.6	0.71	0.71	0.81	51.5
Approach			1099	4.7	1099	4.7	0.558	6.8	LOS A	4.2	30.5	0.71	0.67	0.80	52.6
All Vehicles			3316	3.7	3316	3.7	0.558	7.2	LOS A	4.2	30.5	0.60	0.61	0.64	52.5

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

MOVEMENT SUMMARY

Site: 5AM28_X [NEW_ANA_28_AM_X_S1 (Site Folder: Future Year 2028 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.290	16.0	LOS B	1.3	10.0	0.80	0.87	0.82	48.6
2	T1	All MCs	39	8.1	39	8.1	0.290	14.1	LOS A	1.3	10.0	0.80	0.88	0.82	48.6
3	R2	All MCs	71	10.4	71	10.4	0.290	24.0	LOS B	1.3	9.6	0.80	0.94	0.85	42.9
Approach			153	8.3	153	8.3	0.290	19.2	LOS B	1.3	10.0	0.80	0.91	0.84	45.7
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.413	4.4	LOS A	2.5	18.0	0.47	0.46	0.47	53.8
5	T1	All MCs	810	7.5	810	7.5	0.523	4.9	LOS A	3.7	26.9	0.49	0.47	0.49	53.4
6	R2	All MCs	202	1.6	202	1.6	0.523	10.4	LOS A	3.7	26.9	0.50	0.48	0.50	52.2
Approach			1240	5.7	1240	5.7	0.523	5.7	LOS A	3.7	26.9	0.49	0.47	0.49	53.3
North: Anambah Road															
7	L2	All MCs	195	7.0	195	7.0	0.248	5.9	LOS A	1.2	9.2	0.71	0.68	0.71	52.9
8	T1	All MCs	34	3.1	34	3.1	0.248	5.5	LOS A	1.2	9.2	0.71	0.68	0.71	53.4
9	R2	All MCs	146	4.3	146	4.3	0.222	13.0	LOS A	1.0	7.2	0.71	0.85	0.71	48.8
Approach			375	5.6	375	5.6	0.248	8.6	LOS A	1.2	9.2	0.71	0.75	0.71	51.2
West: New England Highway (W)															
10	L2	All MCs	38	5.6	38	5.6	0.501	4.9	LOS A	3.2	23.3	0.52	0.43	0.52	53.4
11	T1	All MCs	1165	5.1	1165	5.1	0.501	4.5	LOS A	3.2	23.3	0.53	0.46	0.53	53.6
12	R2	All MCs	60	8.8	60	8.8	0.501	11.7	LOS A	3.1	22.6	0.54	0.49	0.54	52.2
Approach			1263	5.3	1263	5.3	0.501	4.8	LOS A	3.2	23.3	0.53	0.46	0.53	53.5
All Vehicles			3030	5.7	3030	5.7	0.523	6.4	LOS A	3.7	26.9	0.55	0.52	0.55	52.7

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

MOVEMENT SUMMARY

Site: 5PM28_X [NEW_ANA_28_PM_X_S1 (Site Folder: Future Year 2028 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.318	13.6	LOS A	1.5	10.8	0.76	0.84	0.81	50.4
2	T1	All MCs	49	4.3	49	4.3	0.318	10.9	LOS A	1.5	10.8	0.76	0.84	0.81	50.8
3	R2	All MCs	306	1.0	306	1.0	0.485	16.5	LOS B	3.1	21.6	0.82	0.94	1.02	46.9
Approach			447	2.1	447	2.1	0.485	15.3	LOS B	3.1	21.6	0.80	0.91	0.95	47.9
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.446	4.1	LOS A	2.9	21.2	0.41	0.41	0.41	54.1
5	T1	All MCs	997	3.2	997	3.2	0.565	4.8	LOS A	4.5	32.6	0.43	0.43	0.43	53.8
6	R2	All MCs	204	5.7	204	5.7	0.565	10.2	LOS A	4.5	32.6	0.44	0.44	0.44	52.5
Approach			1445	3.5	1445	3.5	0.565	5.4	LOS A	4.5	32.6	0.43	0.43	0.43	53.7
North: Anambah Road															
7	L2	All MCs	288	2.6	288	2.6	0.357	6.9	LOS A	2.2	15.7	0.83	0.79	0.85	52.7
8	T1	All MCs	55	5.8	55	5.8	0.171	8.0	LOS A	0.8	6.2	0.77	0.80	0.77	50.9
9	R2	All MCs	43	2.4	43	2.4	0.171	13.7	LOS A	0.8	6.2	0.77	0.80	0.77	50.1
Approach			386	3.0	386	3.0	0.357	7.8	LOS A	2.2	15.7	0.82	0.80	0.83	52.1
West: New England Highway (W)															
10	L2	All MCs	140	0.8	140	0.8	0.628	7.7	LOS A	5.4	39.2	0.76	0.74	0.92	52.3
11	T1	All MCs	1007	5.1	1007	5.1	0.628	7.6	LOS A	5.4	39.2	0.77	0.76	0.93	52.3
12	R2	All MCs	59	0.0	59	0.0	0.628	14.6	LOS B	5.2	37.9	0.77	0.78	0.95	51.2
Approach			1205	4.3	1205	4.3	0.628	7.9	LOS A	5.4	39.2	0.77	0.76	0.93	52.3
All Vehicles			3484	3.5	3484	3.5	0.628	7.8	LOS A	5.4	39.2	0.64	0.65	0.71	52.2

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

MOVEMENT SUMMARY

Site: 5AM28_X [NEW_ANA_28_AM_X_S1_50% (Site Folder: Future Year 2028 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.281	15.3	LOS B	1.3	9.5	0.79	0.86	0.80	48.9
2	T1	All MCs	39	8.1	39	8.1	0.281	13.6	LOS A	1.3	9.5	0.79	0.87	0.80	48.9
3	R2	All MCs	71	10.4	71	10.4	0.281	23.4	LOS B	1.2	9.2	0.79	0.93	0.83	43.3
Approach			153	8.3	153	8.3	0.281	18.6	LOS B	1.3	9.5	0.79	0.90	0.81	46.1
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.406	4.3	LOS A	2.4	17.6	0.44	0.44	0.44	54.0
5	T1	All MCs	810	7.5	810	7.5	0.515	4.8	LOS A	3.6	26.2	0.46	0.46	0.46	53.5
6	R2	All MCs	206	1.6	206	1.6	0.515	10.2	LOS A	3.6	26.2	0.47	0.47	0.47	52.3
Approach			1244	5.7	1244	5.7	0.515	5.6	LOS A	3.6	26.2	0.46	0.46	0.46	53.4
North: Anambah Road															
7	L2	All MCs	222	7.1	222	7.1	0.278	5.9	LOS A	1.4	10.5	0.72	0.69	0.72	52.9
8	T1	All MCs	34	3.1	34	3.1	0.278	5.6	LOS A	1.4	10.5	0.72	0.69	0.72	53.4
9	R2	All MCs	120	4.3	120	4.3	0.181	12.9	LOS A	0.8	5.8	0.70	0.84	0.70	48.8
Approach			376	5.8	376	5.8	0.278	8.1	LOS A	1.4	10.5	0.71	0.74	0.71	51.5
West: New England Highway (W)															
10	L2	All MCs	36	5.4	36	5.4	0.501	5.0	LOS A	3.2	23.2	0.52	0.43	0.52	53.4
11	T1	All MCs	1165	5.1	1165	5.1	0.501	4.5	LOS A	3.2	23.2	0.53	0.46	0.53	53.6
12	R2	All MCs	60	8.8	60	8.8	0.501	11.7	LOS A	3.1	22.5	0.54	0.49	0.54	52.2
Approach			1260	5.3	1260	5.3	0.501	4.9	LOS A	3.2	23.2	0.53	0.46	0.53	53.5
All Vehicles			3033	5.7	3033	5.7	0.515	6.3	LOS A	3.6	26.2	0.54	0.52	0.54	52.8

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

MOVEMENT SUMMARY

Site: 5PM28_X [NEW_ANA_28_PM_X_S1_50% (Site Folder: Future Year 2028 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.324	13.8	LOS A	1.5	11.1	0.77	0.85	0.83	50.2
2	T1	All MCs	49	4.3	49	4.3	0.324	11.2	LOS A	1.5	11.1	0.77	0.85	0.83	50.6
3	R2	All MCs	306	1.0	306	1.0	0.493	16.8	LOS B	3.1	22.2	0.83	0.95	1.04	46.7
Approach			447	2.1	447	2.1	0.493	15.6	LOS B	3.1	22.2	0.81	0.91	0.97	47.8
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.454	4.1	LOS A	3.0	21.8	0.41	0.41	0.41	54.1
5	T1	All MCs	997	3.2	997	3.2	0.575	4.8	LOS A	4.7	33.7	0.43	0.44	0.43	53.8
6	R2	All MCs	235	5.8	235	5.8	0.575	10.2	LOS A	4.7	33.7	0.44	0.45	0.44	52.4
Approach			1476	3.5	1476	3.5	0.575	5.5	LOS A	4.7	33.7	0.43	0.44	0.43	53.6
North: Anambah Road															
7	L2	All MCs	292	2.6	292	2.6	0.360	6.8	LOS A	2.2	15.8	0.83	0.80	0.85	52.7
8	T1	All MCs	55	5.8	55	5.8	0.165	7.9	LOS A	0.8	5.9	0.77	0.79	0.77	51.0
9	R2	All MCs	40	2.4	40	2.4	0.165	13.6	LOS A	0.8	5.9	0.77	0.79	0.77	50.2
Approach			386	3.0	386	3.0	0.360	7.7	LOS A	2.2	15.8	0.81	0.79	0.83	52.1
West: New England Highway (W)															
10	L2	All MCs	109	0.7	109	0.7	0.624	7.9	LOS A	5.4	38.8	0.77	0.76	0.93	52.2
11	T1	All MCs	1007	5.1	1007	5.1	0.624	7.8	LOS A	5.4	38.8	0.78	0.77	0.95	52.3
12	R2	All MCs	59	0.0	59	0.0	0.624	14.8	LOS B	5.1	37.3	0.78	0.79	0.97	51.2
Approach			1175	4.4	1175	4.4	0.624	8.2	LOS A	5.4	38.8	0.78	0.77	0.95	52.2
All Vehicles			3484	3.6	3484	3.6	0.624	7.9	LOS A	5.4	38.8	0.64	0.65	0.72	52.1

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

MOVEMENT SUMMARY

Site: 5AM28_X [NEW_ANA_28_AM_X_FD (Site Folder: Future Year 2028 wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.462	32.6	LOS C	2.5	18.2	0.91	1.00	1.13	41.5
2	T1	All MCs	39	8.1	39	8.1	0.462	27.5	LOS B	2.5	18.2	0.91	1.00	1.14	41.5
3	R2	All MCs	71	10.4	71	10.4	0.462	40.8	LOS C	2.3	17.5	0.91	1.05	1.20	36.3
Approach			153	8.3	153	8.3	0.462	35.1	LOS C	2.5	18.2	0.91	1.02	1.16	38.8
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.527	6.8	LOS A	3.8	28.2	0.74	0.71	0.83	52.6
5	T1	All MCs	810	7.5	810	7.5	0.667	8.9	LOS A	6.7	49.1	0.79	0.76	0.93	51.8
6	R2	All MCs	218	1.4	218	1.4	0.667	13.3	LOS A	6.7	49.1	0.81	0.79	0.97	50.5
Approach			1256	5.7	1256	5.7	0.667	9.3	LOS A	6.7	49.1	0.78	0.76	0.92	51.7
North: Anambah Road															
7	L2	All MCs	335	4.1	335	4.1	0.575	9.6	LOS A	3.6	25.8	0.82	0.94	1.06	51.1
8	T1	All MCs	34	3.1	34	3.1	0.575	9.3	LOS A	3.6	25.8	0.82	0.94	1.06	51.5
9	R2	All MCs	473	1.3	473	1.3	0.507	13.1	LOS A	3.3	23.6	0.81	0.90	0.95	48.5
Approach			842	2.5	842	2.5	0.575	11.6	LOS A	3.6	25.8	0.81	0.92	1.00	49.6
West: New England Highway (W)															
10	L2	All MCs	74	2.8	74	2.8	0.529	5.0	LOS A	3.7	26.7	0.57	0.45	0.57	53.2
11	T1	All MCs	1165	5.1	1165	5.1	0.529	4.6	LOS A	3.7	26.7	0.58	0.48	0.59	53.3
12	R2	All MCs	60	8.8	60	8.8	0.529	11.9	LOS A	3.6	26.1	0.60	0.51	0.61	52.0
Approach			1299	5.1	1299	5.1	0.529	5.0	LOS A	3.7	26.7	0.58	0.48	0.59	53.3
All Vehicles			3550	4.8	3550	4.8	0.667	9.4	LOS A	6.7	49.1	0.72	0.70	0.83	51.0

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

MOVEMENT SUMMARY

Site: 5PM28_X [NEW_ANA_28_PM_X_FD (Site Folder: Future Year 2028 wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.380	16.5	LOS B	1.9	14.1	0.82	0.91	0.95	48.6
2	T1	All MCs	49	4.3	49	4.3	0.380	14.3	LOS A	1.9	14.1	0.82	0.91	0.95	49.0
3	R2	All MCs	306	1.0	306	1.0	0.574	20.0	LOS B	4.1	28.8	0.89	1.02	1.23	45.0
Approach			447	2.1	447	2.1	0.574	18.6	LOS B	4.1	28.8	0.87	0.98	1.14	46.1
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.510	4.4	LOS A	3.6	25.8	0.49	0.44	0.49	53.7
5	T1	All MCs	997	3.2	997	3.2	0.645	5.2	LOS A	5.7	41.0	0.53	0.48	0.53	53.1
6	R2	All MCs	358	3.2	358	3.2	0.645	10.4	LOS A	5.7	41.0	0.55	0.50	0.55	51.7
Approach			1599	3.2	1599	3.2	0.645	6.3	LOS A	5.7	41.0	0.53	0.48	0.53	52.9
North: Anambah Road															
7	L2	All MCs	305	2.4	305	2.4	0.464	9.0	LOS A	3.5	25.2	0.94	0.88	1.06	51.5
8	T1	All MCs	55	5.8	55	5.8	0.464	9.2	LOS A	3.5	25.2	0.87	0.86	0.89	49.9
9	R2	All MCs	83	1.3	83	1.3	0.268	14.9	LOS B	1.5	10.9	0.86	0.86	0.86	48.9
Approach			443	2.6	443	2.6	0.464	10.2	LOS A	3.5	25.2	0.91	0.87	1.00	50.7
West: New England Highway (W)															
10	L2	All MCs	499	0.2	499	0.2	0.897	19.1	LOS B	16.4	117.0	1.00	1.27	1.97	45.9
11	T1	All MCs	1007	5.1	1007	5.1	0.897	19.5	LOS B	16.4	117.0	1.00	1.29	2.02	45.3
12	R2	All MCs	59	0.0	59	0.0	0.897	26.9	LOS B	15.0	109.5	1.00	1.30	2.04	44.2
Approach			1565	3.3	1565	3.3	0.897	19.7	LOS B	16.4	117.0	1.00	1.28	2.00	45.4
All Vehicles			4055	3.0	4055	3.0	0.897	13.2	LOS A	16.4	117.0	0.79	0.89	1.22	48.8

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

MOVEMENT SUMMARY

Site: 5AM28_X [NEW_ANA_28_AM_X_FD_50% (Site Folder: Future Year 2028 wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.285	15.6	LOS B	1.3	9.7	0.79	0.87	0.81	48.7
2	T1	All MCs	39	8.1	39	8.1	0.285	13.9	LOS A	1.3	9.7	0.79	0.87	0.81	48.8
3	R2	All MCs	71	10.4	71	10.4	0.285	23.7	LOS B	1.2	9.4	0.79	0.94	0.84	43.1
Approach			153	8.3	153	8.3	0.285	18.9	LOS B	1.3	9.7	0.79	0.90	0.82	45.9
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.410	4.3	LOS A	2.4	17.8	0.46	0.45	0.46	53.9
5	T1	All MCs	810	7.5	810	7.5	0.519	4.8	LOS A	3.6	26.6	0.47	0.47	0.47	53.5
6	R2	All MCs	206	1.6	206	1.6	0.519	10.3	LOS A	3.6	26.6	0.48	0.47	0.48	52.2
Approach			1244	5.7	1244	5.7	0.519	5.7	LOS A	3.6	26.6	0.47	0.46	0.47	53.3
North: Anambah Road															
7	L2	All MCs	234	6.8	234	6.8	0.290	5.9	LOS A	1.5	11.0	0.73	0.69	0.73	52.9
8	T1	All MCs	34	3.1	34	3.1	0.290	5.6	LOS A	1.5	11.0	0.73	0.69	0.73	53.4
9	R2	All MCs	132	3.9	132	3.9	0.199	12.9	LOS A	0.9	6.4	0.70	0.84	0.70	48.8
Approach			399	5.5	399	5.5	0.290	8.2	LOS A	1.5	11.0	0.72	0.74	0.72	51.4
West: New England Highway (W)															
10	L2	All MCs	37	5.3	37	5.3	0.502	5.0	LOS A	3.2	23.3	0.52	0.44	0.52	53.4
11	T1	All MCs	1165	5.1	1165	5.1	0.502	4.5	LOS A	3.2	23.3	0.53	0.46	0.53	53.6
12	R2	All MCs	60	8.8	60	8.8	0.502	11.7	LOS A	3.1	22.6	0.55	0.49	0.55	52.2
Approach			1262	5.3	1262	5.3	0.502	4.9	LOS A	3.2	23.3	0.53	0.46	0.53	53.5
All Vehicles			3057	5.6	3057	5.6	0.519	6.3	LOS A	3.6	26.6	0.54	0.52	0.55	52.7

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

MOVEMENT SUMMARY

Site: 5PM28_X [NEW_ANA_28_PM_X_FD_50% (Site Folder: Future Year 2028 wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.328	14.0	LOS A	1.6	11.3	0.77	0.85	0.84	50.1
2	T1	All MCs	49	4.3	49	4.3	0.328	11.4	LOS A	1.6	11.3	0.77	0.85	0.84	50.5
3	R2	All MCs	306	1.0	306	1.0	0.499	17.0	LOS B	3.2	22.6	0.83	0.95	1.05	46.6
Approach			447	2.1	447	2.1	0.499	15.8	LOS B	3.2	22.6	0.82	0.92	0.98	47.6
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.459	4.1	LOS A	3.1	22.1	0.41	0.41	0.41	54.1
5	T1	All MCs	997	3.2	997	3.2	0.581	4.8	LOS A	4.8	34.4	0.44	0.44	0.44	53.7
6	R2	All MCs	247	5.5	247	5.5	0.581	10.2	LOS A	4.8	34.4	0.45	0.46	0.45	52.3
Approach			1488	3.5	1488	3.5	0.581	5.6	LOS A	4.8	34.4	0.44	0.44	0.44	53.5
North: Anambah Road															
7	L2	All MCs	293	2.5	293	2.5	0.364	6.9	LOS A	2.3	16.1	0.84	0.80	0.86	52.6
8	T1	All MCs	55	5.8	55	5.8	0.170	7.9	LOS A	0.8	6.1	0.77	0.79	0.77	50.9
9	R2	All MCs	42	2.3	42	2.3	0.170	13.7	LOS A	0.8	6.1	0.77	0.79	0.77	50.1
Approach			389	3.0	389	3.0	0.364	7.8	LOS A	2.3	16.1	0.82	0.80	0.84	52.1
West: New England Highway (W)															
10	L2	All MCs	123	0.7	123	0.7	0.637	8.2	LOS A	5.6	40.6	0.79	0.77	0.96	52.1
11	T1	All MCs	1007	5.1	1007	5.1	0.637	8.1	LOS A	5.6	40.6	0.79	0.79	0.98	52.2
12	R2	All MCs	59	0.0	59	0.0	0.637	15.1	LOS B	5.4	38.9	0.79	0.81	1.00	51.1
Approach			1189	4.3	1189	4.3	0.637	8.4	LOS A	5.6	40.6	0.79	0.79	0.98	52.1
All Vehicles			3514	3.6	3514	3.6	0.637	8.1	LOS A	5.6	40.6	0.65	0.66	0.73	52.1

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

MOVEMENT SUMMARY

Site: 5AM38_X [NEW_ANA_38_AM_X (Site Folder: Future Year 2038)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.328	19.0	LOS B	1.6	11.6	0.83	0.91	0.91	47.4
2	T1	All MCs	39	8.1	39	8.1	0.328	16.0	LOS B	1.6	11.6	0.83	0.91	0.91	47.7
3	R2	All MCs	71	10.4	71	10.4	0.336	27.9	LOS B	1.4	10.9	0.84	0.98	0.97	41.1
Approach			153	8.3	153	8.3	0.336	22.4	LOS B	1.6	11.6	0.83	0.94	0.94	44.2
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.467	4.1	LOS A	3.1	22.8	0.41	0.41	0.41	54.1
5	T1	All MCs	1082	7.1	1082	7.1	0.591	5.1	LOS A	4.8	35.4	0.43	0.43	0.43	53.8
6	R2	All MCs	198	1.6	198	1.6	0.591	10.1	LOS A	4.8	35.4	0.44	0.44	0.44	52.6
Approach			1507	5.8	1507	5.8	0.591	5.6	LOS A	4.8	35.4	0.43	0.43	0.43	53.7
North: Anambah Road															
7	L2	All MCs	154	8.9	154	8.9	0.338	10.1	LOS A	2.1	16.1	0.95	0.89	0.99	50.7
8	T1	All MCs	34	3.1	34	3.1	0.338	10.2	LOS A	2.1	16.1	0.91	0.91	0.93	49.5
9	R2	All MCs	49	12.8	49	12.8	0.195	17.1	LOS B	1.0	7.7	0.88	0.92	0.88	47.5
Approach			237	8.9	237	8.9	0.338	11.5	LOS A	2.1	16.1	0.93	0.90	0.96	49.8
West: New England Highway (W)															
10	L2	All MCs	27	7.7	27	7.7	0.817	7.6	LOS A	11.0	79.5	0.77	0.72	0.92	52.0
11	T1	All MCs	2011	3.7	2011	3.7	0.817	7.5	LOS A	11.1	80.2	0.79	0.74	0.97	52.3
12	R2	All MCs	60	8.8	60	8.8	0.817	15.2	LOS B	11.1	80.2	0.82	0.77	1.03	50.9
Approach			2099	3.9	2099	3.9	0.817	7.7	LOS A	11.1	80.2	0.79	0.74	0.97	52.2
All Vehicles			3995	5.1	3995	5.1	0.817	7.7	LOS A	11.1	80.2	0.67	0.64	0.76	52.2

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

MOVEMENT SUMMARY

Site: 5PM38_X [NEW_ANA_38_PM_X (Site Folder: Future Year 2038)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	0.707	580.6	LOS F	4.7	33.9	0.96	1.17	1.61	35.3
2	T1	All MCs	49	4.3	49	4.3	0.707	42.3	LOS C	4.7	33.9	0.96	1.17	1.61	35.5
3	R2	All MCs	306	1.0	306	1.0	1.032	121.6	LOS F	21.9	154.3	1.00	2.06	4.30	20.8
Approach			447	2.1	447	2.1	1.032	206.8	LOS F	21.9	154.3	0.99	1.78	3.45	23.8
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.681	4.5	LOS A	6.5	46.4	0.56	0.44	0.56	53.3
5	T1	All MCs	1853	2.1	1853	2.1	0.863	190.9	LOS F	14.0	100.6	0.67	0.46	0.67	52.9
6	R2	All MCs	159	7.3	159	7.3	0.863	11.0	LOS A	14.0	100.6	0.74	0.47	0.74	51.4
Approach			2256	2.6	2256	2.6	0.863	158.1	LOS F	14.0	100.6	0.67	0.46	0.67	52.8
North: Anambah Road															
7	L2	All MCs	283	2.6	283	2.6	0.420	8.3	LOS A	2.8	20.1	0.91	0.88	1.01	52.0
8	T1	All MCs	55	5.8	55	5.8	0.174	8.6	LOS A	0.9	6.6	0.83	0.83	0.83	50.8
9	R2	All MCs	32	3.3	32	3.3	0.174	14.4	LOS A	0.9	6.6	0.83	0.83	0.83	50.0
Approach			369	3.1	369	3.1	0.420	8.9	LOS A	2.8	20.1	0.89	0.87	0.97	51.6
West: New England Highway (W)															
10	L2	All MCs	34	3.1	34	3.1	0.733	8.6	LOS A	7.9	57.6	0.84	0.82	1.07	51.8
11	T1	All MCs	1335	4.8	1335	4.8	0.733	8.6	LOS A	7.9	57.6	0.85	0.83	1.09	51.9
12	R2	All MCs	59	0.0	59	0.0	0.733	15.7	LOS B	7.6	55.3	0.85	0.85	1.11	50.9
Approach			1428	4.6	1428	4.6	0.733	8.9	LOS A	7.9	57.6	0.85	0.83	1.09	51.9
All Vehicles			4501	3.2	4501	3.2	1.032	103.3	LOS F	21.9	154.3	0.77	0.74	1.10	46.7

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

MOVEMENT SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F (Site Folder: Future Year 2038)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.527	44.0	LOS D	4.9	36.2	0.99	0.77	0.99	30.7
2	T1	All MCs	39	8.1	39	8.1	* 0.527	68.2	LOS E	4.9	36.2	0.99	0.77	0.99	31.5
3	R2	All MCs	71	10.4	71	10.4	0.493	77.0	LOS F	5.0	37.9	1.00	0.77	1.00	26.1
Approach			153	8.3	153	8.3	0.527	65.4	LOS E	5.0	37.9	1.00	0.77	1.00	28.6
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.165	11.1	LOS A	3.0	21.8	0.22	0.61	0.22	51.3
5	T1	All MCs	1082	7.1	1082	7.1	0.546	23.8	LOS B	23.7	175.8	0.67	0.61	0.67	45.0
6	R2	All MCs	198	1.6	198	1.6	* 0.868	86.6	LOS F	15.3	108.3	1.00	0.95	1.23	25.0
Approach			1507	5.8	1507	5.8	0.868	30.1	LOS C	23.7	175.8	0.65	0.65	0.68	39.9
North: Anambah Road															
7	L2	All MCs	154	8.9	154	8.9	0.494	37.7	LOS C	10.5	78.5	0.87	0.81	0.87	33.9
8	T1	All MCs	34	3.1	34	3.1	0.494	77.9	LOS F	10.5	78.5	0.87	0.81	0.87	34.7
9	R2	All MCs	49	12.8	49	12.8	0.351	76.0	LOS F	3.4	26.7	0.98	0.75	0.98	26.2
Approach			237	8.9	237	8.9	0.494	51.4	LOS D	10.5	78.5	0.90	0.80	0.90	32.1
West: New England Highway (W)															
10	L2	All MCs	27	7.7	27	7.7	* 0.960	40.7	LOS C	83.8	605.6	1.00	1.08	1.16	30.8
11	T1	All MCs	2011	3.7	2011	3.7	* 0.960	66.1	LOS E	83.8	605.6	1.00	1.08	1.16	31.7
12	R2	All MCs	60	8.8	60	8.8	0.277	92.0	LOS F	3.9	29.5	0.95	0.76	0.95	27.6
Approach			2099	3.9	2099	3.9	0.960	66.5	LOS E	83.8	605.6	1.00	1.07	1.16	28.7
All Vehicles			3995	5.1	3995	5.1	0.960	51.9	LOS D	83.8	605.6	0.86	0.89	0.96	32.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
East: New England Highway (E)												

P2	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
North: Anambah Road												
P3	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
West: New England Highway (W)												
P4	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
All Pedestrians		0	211	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91

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

MOVEMENT SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F (Site Folder: Future Year 2038)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 149 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	* 0.963	97.9	LOS F	19.7	141.9	1.00	1.13	1.43	23.1
2	T1	All MCs	49	4.3	49	4.3	* 0.963	108.6	LOS F	19.7	141.9	1.00	1.13	1.43	23.5
3	R2	All MCs	306	1.0	306	1.0	0.963	115.0	LOS F	19.8	141.9	1.00	1.14	1.43	22.3
Approach			447	2.1	447	2.1	0.963	110.8	LOS F	19.8	141.9	1.00	1.13	1.43	21.1
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.172	19.7	LOS B	2.4	17.1	0.15	0.59	0.15	52.2
5	T1	All MCs	1853	2.1	1853	2.1	* 0.889	43.1	LOS D	61.1	435.6	0.92	0.87	0.95	40.5
6	R2	All MCs	159	7.3	159	7.3	0.559	83.0	LOS F	10.8	80.4	0.97	0.81	0.97	27.7
Approach			2256	2.6	2256	2.6	0.889	43.4	LOS D	61.1	435.6	0.84	0.84	0.87	34.9
North: Anambah Road															
7	L2	All MCs	283	2.6	283	2.6	0.949	75.7	LOS F	27.3	196.5	1.00	1.22	1.35	23.4
8	T1	All MCs	55	5.8	55	5.8	* 0.949	185.8	LOS F	27.3	196.5	1.00	1.22	1.35	23.8
9	R2	All MCs	32	3.3	32	3.3	0.432	86.2	LOS F	2.4	17.3	1.00	0.73	1.00	24.5
Approach			369	3.1	369	3.1	0.949	92.9	LOS F	27.3	196.5	1.00	1.18	1.32	23.6
West: New England Highway (W)															
10	L2	All MCs	34	3.1	34	3.1	0.730	21.7	LOS B	39.0	284.2	0.84	0.79	0.84	37.5
11	T1	All MCs	1335	4.8	1335	4.8	0.730	40.9	LOS C	39.0	284.2	0.84	0.78	0.84	39.4
12	R2	All MCs	59	0.0	59	0.0	0.788	108.3	LOS F	4.7	32.8	1.00	0.86	1.25	23.8
Approach			1428	4.6	1428	4.6	0.788	43.3	LOS D	39.0	284.2	0.85	0.78	0.86	35.1
All Vehicles			4501	3.2	4501	3.2	0.963	54.1	LOS D	61.1	435.6	0.87	0.88	0.96	31.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	68.8	LOS F	0.2	0.2	0.96	0.96	222.6	200.0	0.90
East: New England Highway (E)												

P2	Full	50	53	68.8	LOS F	0.2	0.2	0.96	0.96	222.6	200.0	0.90
North: Anambah Road												
P3	Full	50	53	68.8	LOS F	0.2	0.2	0.96	0.96	222.6	200.0	0.90
West: New England Highway (W)												
P4	Full	50	53	68.8	LOS F	0.2	0.2	0.96	0.96	222.6	200.0	0.90
All Pedestrians		0	211	68.8	LOS F	0.2	0.2	0.96	0.96	222.6	200.0	0.90

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

MOVEMENT SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F_S1 (Site Folder: Future Year 2038 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.573	44.1	LOS D	4.9	36.5	1.00	0.77	1.00	30.6
2	T1	All MCs	39	8.1	39	8.1	* 0.573	69.2	LOS E	4.9	36.5	1.00	0.77	1.00	31.4
3	R2	All MCs	71	10.4	71	10.4	0.538	78.4	LOS F	5.0	38.4	1.00	0.77	1.00	25.9
Approach			153	8.3	153	8.3	0.573	66.4	LOS E	5.0	38.4	1.00	0.77	1.00	28.4
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.165	11.4	LOS A	3.2	22.8	0.23	0.61	0.23	51.2
5	T1	All MCs	1082	7.1	1082	7.1	0.546	23.8	LOS B	23.7	175.7	0.67	0.61	0.67	45.0
6	R2	All MCs	202	1.6	202	1.6	* 0.886	88.6	LOS F	15.9	112.5	1.00	0.97	1.27	24.7
Approach			1511	5.7	1511	5.7	0.886	30.6	LOS C	23.7	175.7	0.65	0.66	0.69	39.7
North: Anambah Road															
7	L2	All MCs	195	7.0	195	7.0	0.543	39.6	LOS C	12.6	93.4	0.86	0.85	0.86	33.8
8	T1	All MCs	34	3.1	34	3.1	0.543	78.4	LOS F	12.6	93.4	0.86	0.85	0.86	34.6
9	R2	All MCs	146	4.3	146	4.3	0.841	83.5	LOS F	11.2	81.1	1.00	0.94	1.23	25.0
Approach			375	5.6	375	5.6	0.841	60.2	LOS E	12.6	93.4	0.92	0.88	1.01	29.7
West: New England Highway (W)															
10	L2	All MCs	38	5.6	38	5.6	* 0.965	42.0	LOS C	85.7	619.4	1.00	1.10	1.17	30.3
11	T1	All MCs	2011	3.7	2011	3.7	* 0.965	68.5	LOS E	85.7	619.4	1.00	1.10	1.18	31.1
12	R2	All MCs	60	8.8	60	8.8	0.277	92.2	LOS F	3.9	29.5	0.95	0.76	0.95	27.6
Approach			2109	3.9	2109	3.9	0.965	68.7	LOS E	85.7	619.4	1.00	1.09	1.17	28.2
All Vehicles			4148	4.9	4148	4.9	0.965	54.0	LOS D	85.7	619.4	0.86	0.90	0.97	31.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
East: New England Highway (E)												

P2	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
North: Anambah Road												
P3	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
West: New England Highway (W)												
P4	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
All Pedestrians		0	211	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91

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

MOVEMENT SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F_S1 (Site Folder: Future Year 2038 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 147 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	*0.989	109.0	LOS F	20.7	148.6	1.00	1.16	1.51	21.7
2	T1	All MCs	49	4.3	49	4.3	*0.989	118.0	LOS F	20.7	148.6	1.00	1.16	1.51	22.1
3	R2	All MCs	306	1.0	306	1.0	0.989	124.6	LOS F	20.7	148.6	1.00	1.18	1.51	21.0
Approach			447	2.1	447	2.1	0.989	120.7	LOS F	20.7	148.6	1.00	1.17	1.51	20.0
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.171	16.9	LOS B	2.2	15.9	0.14	0.58	0.14	52.2
5	T1	All MCs	1853	2.1	1853	2.1	*0.854	31.5	LOS C	52.2	372.3	0.85	0.78	0.85	44.8
6	R2	All MCs	204	5.7	204	5.7	0.801	87.9	LOS F	15.1	111.0	1.00	0.90	1.13	26.1
Approach			2301	2.5	2301	2.5	0.854	34.9	LOS C	52.2	372.3	0.79	0.77	0.80	38.0
North: Anambah Road															
7	L2	All MCs	288	2.6	288	2.6	0.992	97.4	LOS F	30.9	221.9	1.00	1.30	1.48	20.7
8	T1	All MCs	55	5.8	55	5.8	*0.992	204.0	LOS F	30.9	221.9	1.00	1.30	1.48	21.0
9	R2	All MCs	43	2.4	43	2.4	0.695	89.1	LOS F	3.4	24.1	1.00	0.81	1.17	24.1
Approach			386	3.0	386	3.0	0.992	111.6	LOS F	30.9	221.9	1.00	1.24	1.44	21.1
West: New England Highway (W)															
10	L2	All MCs	140	0.8	140	0.8	0.747	21.9	LOS B	40.5	293.7	0.84	0.81	0.84	38.4
11	T1	All MCs	1335	4.8	1335	4.8	0.747	39.4	LOS C	40.5	293.7	0.84	0.79	0.84	40.5
12	R2	All MCs	59	0.0	59	0.0	0.933	117.1	LOS F	5.0	34.8	1.00	0.96	1.54	22.4
Approach			1534	4.2	1534	4.2	0.933	40.8	LOS C	40.5	293.7	0.84	0.80	0.86	35.9
All Vehicles			4669	3.1	4669	3.1	0.992	51.4	LOS D	52.2	372.3	0.84	0.86	0.94	32.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
East: New England Highway (E)												

P2	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
North: Anambah Road												
P3	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
West: New England Highway (W)												
P4	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
All Pedestrians		0	211	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90

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

MOVEMENT SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F_S1_50% (Site Folder: Future Year 2038 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.573	44.1	LOS D	4.9	36.5	1.00	0.77	1.00	30.6
2	T1	All MCs	39	8.1	39	8.1	* 0.573	69.2	LOS E	4.9	36.5	1.00	0.77	1.00	31.4
3	R2	All MCs	71	10.4	71	10.4	0.538	78.4	LOS F	5.0	38.4	1.00	0.77	1.00	25.9
Approach			153	8.3	153	8.3	0.573	66.4	LOS E	5.0	38.4	1.00	0.77	1.00	28.4
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.166	11.4	LOS A	3.2	22.8	0.23	0.61	0.23	51.2
5	T1	All MCs	1082	7.1	1082	7.1	0.547	23.8	LOS B	23.7	175.7	0.67	0.61	0.67	45.0
6	R2	All MCs	205	1.6	205	1.6	* 0.900	90.6	LOS F	16.4	116.0	1.00	0.99	1.29	24.4
Approach			1514	5.7	1514	5.7	0.900	31.0	LOS C	23.7	175.7	0.65	0.66	0.69	39.5
North: Anambah Road															
7	L2	All MCs	224	7.1	224	7.1	0.595	40.2	LOS C	14.3	105.5	0.88	0.89	0.88	33.7
8	T1	All MCs	34	3.1	34	3.1	0.595	81.8	LOS F	14.3	105.5	0.88	0.89	0.88	34.5
9	R2	All MCs	117	4.3	117	4.3	0.671	77.0	LOS F	8.3	60.5	1.00	0.83	1.05	26.1
Approach			375	5.9	375	5.9	0.671	55.4	LOS D	14.3	105.5	0.91	0.87	0.93	31.0
West: New England Highway (W)															
10	L2	All MCs	35	5.5	35	5.5	* 0.963	41.2	LOS C	85.1	614.7	1.00	1.09	1.17	30.5
11	T1	All MCs	2011	3.7	2011	3.7	* 0.963	67.6	LOS E	85.1	614.7	1.00	1.09	1.17	31.3
12	R2	All MCs	60	8.8	60	8.8	0.277	92.1	LOS F	3.9	29.5	0.95	0.76	0.95	27.6
Approach			2106	3.9	2106	3.9	0.963	67.9	LOS E	85.1	614.7	1.00	1.08	1.17	28.4
All Vehicles			4148	4.9	4148	4.9	0.963	53.2	LOS D	85.1	614.7	0.86	0.90	0.96	31.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
East: New England Highway (E)												

P2	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
North: Anambah Road												
P3	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
West: New England Highway (W)												
P4	Full	50	53	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91
All Pedestrians		0	211	66.8	LOS F	0.2	0.2	0.96	0.96	220.6	200.0	0.91

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

MOVEMENT SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F_S1_50% (Site Folder: Future Year 2038 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 147 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	*0.989	109.0	LOS F	20.7	148.6	1.00	1.16	1.51	21.7
2	T1	All MCs	49	4.3	49	4.3	*0.989	118.0	LOS F	20.7	148.6	1.00	1.16	1.51	22.1
3	R2	All MCs	306	1.0	306	1.0	0.989	124.6	LOS F	20.7	148.6	1.00	1.18	1.51	21.0
Approach			447	2.1	447	2.1	0.989	120.7	LOS F	20.7	148.6	1.00	1.17	1.51	20.0
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.172	17.2	LOS B	2.2	15.9	0.14	0.58	0.14	52.2
5	T1	All MCs	1853	2.1	1853	2.1	*0.863	32.8	LOS C	53.2	379.0	0.86	0.80	0.87	44.1
6	R2	All MCs	237	5.7	237	5.7	0.928	103.0	LOS F	19.8	145.5	1.00	1.02	1.33	23.6
Approach			2333	2.6	2333	2.6	0.928	38.3	LOS C	53.2	379.0	0.80	0.80	0.84	36.7
North: Anambah Road															
7	L2	All MCs	292	2.6	292	2.6	0.997	99.5	LOS F	31.7	227.5	1.00	1.31	1.49	20.4
8	T1	All MCs	55	5.8	55	5.8	*0.997	211.5	LOS F	31.7	227.5	1.00	1.31	1.49	20.6
9	R2	All MCs	40	2.4	40	2.4	0.642	88.4	LOS F	3.1	22.1	1.00	0.79	1.12	24.2
Approach			386	3.0	386	3.0	0.997	114.2	LOS F	31.7	227.5	1.00	1.25	1.45	20.7
West: New England Highway (W)															
10	L2	All MCs	109	0.7	109	0.7	0.731	21.6	LOS B	39.3	284.7	0.82	0.80	0.82	38.5
11	T1	All MCs	1335	4.8	1335	4.8	0.731	38.4	LOS C	39.3	284.7	0.83	0.77	0.83	40.6
12	R2	All MCs	59	0.0	59	0.0	0.933	116.5	LOS F	5.0	34.8	1.00	0.96	1.54	22.4
Approach			1504	4.3	1504	4.3	0.933	40.3	LOS C	39.3	284.7	0.83	0.78	0.85	36.1
All Vehicles			4671	3.1	4671	3.1	0.997	53.1	LOS D	53.2	379.0	0.85	0.87	0.96	31.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
East: New England Highway (E)												

P2	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
North: Anambah Road												
P3	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
West: New England Highway (W)												
P4	Full	50	53	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90
All Pedestrians		0	211	67.8	LOS F	0.2	0.2	0.96	0.96	221.6	200.0	0.90

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

MOVEMENT SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F_FD_Mod (Site Folder: Future Year 2038 wDev Mod)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.675	49.4	LOS D	4.5	32.9	1.00	0.88	1.09	28.5
2	T1	All MCs	39	8.1	39	8.1	*0.675	82.4	LOS F	4.5	32.9	1.00	0.88	1.09	29.1
3	R2	All MCs	71	10.4	71	10.4	0.635	79.1	LOS F	5.0	38.2	1.00	0.81	1.07	25.8
Approach			153	8.3	153	8.3	0.675	71.6	LOS F	5.0	38.2	1.00	0.85	1.08	27.3
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.170	8.4	LOS A	1.3	9.4	0.13	0.59	0.13	52.6
5	T1	All MCs	1082	7.1	1082	7.1	0.522	20.4	LOS B	22.8	169.1	0.66	0.59	0.66	45.6
6	R2	All MCs	218	1.4	218	1.4	*0.923	92.6	LOS F	8.7	61.4	1.00	1.01	1.45	23.5
Approach			1527	5.7	1527	5.7	0.923	28.9	LOS C	22.8	169.1	0.63	0.65	0.69	40.5
North: Anambah Road															
7	L2	All MCs	335	4.1	335	4.1	0.626	41.7	LOS C	18.4	133.2	0.87	0.82	0.87	34.9
8	T1	All MCs	34	3.1	34	3.1	*0.916	79.4	LOS F	20.0	141.6	1.00	1.03	1.31	25.3
9	R2	All MCs	473	1.3	473	1.3	0.916	85.0	LOS F	20.0	141.6	1.00	1.03	1.31	24.8
Approach			842	2.5	842	2.5	0.916	67.6	LOS E	20.0	141.6	0.95	0.95	1.13	28.1
West: New England Highway (W)															
10	L2	All MCs	74	2.8	74	2.8	0.055	21.0	LOS B	1.3	9.2	0.27	0.64	0.27	49.4
11	T1	All MCs	2011	3.7	2011	3.7	*0.950	64.9	LOS E	77.1	557.3	1.00	1.06	1.15	33.3
12	R2	All MCs	60	8.8	60	8.8	0.481	97.7	LOS F	4.1	31.1	1.00	0.76	1.00	26.1
Approach			2146	3.8	2146	3.8	0.950	64.3	LOS E	77.1	557.3	0.97	1.03	1.12	29.2
All Vehicles			4668	4.3	4668	4.3	0.950	53.5	LOS D	77.1	557.3	0.86	0.89	0.98	31.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
East: New England Highway (E)												

P2 Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
North: Anambah Road											
P3 Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
West: New England Highway (W)											
P41 Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
P42 Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
All Pedestrians	0	263	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92

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

MOVEMENT SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F_FD_Mod (Site Folder: Future Year 2038 wDev Mod)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	* 0.906	88.2	LOS F	18.3	131.6	1.00	1.15	1.30	23.4
2	T1	All MCs	49	4.3	49	4.3	* 0.906	107.1	LOS F	18.3	131.6	1.00	1.15	1.30	23.8
3	R2	All MCs	306	1.0	306	1.0	0.906	99.5	LOS F	18.3	131.6	1.00	1.10	1.32	24.5
Approach			447	2.1	447	2.1	0.906	98.1	LOS F	18.3	131.6	1.00	1.11	1.31	22.8
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.190	21.1	LOS B	2.0	14.3	0.18	0.60	0.18	52.2
5	T1	All MCs	1853	2.1	1853	2.1	* 0.916	50.7	LOS D	65.5	467.2	0.97	0.96	1.06	37.0
6	R2	All MCs	358	3.2	358	3.2	0.512	66.5	LOS E	11.1	79.6	0.95	0.81	0.95	29.6
Approach			2455	2.4	2455	2.4	0.916	50.1	LOS D	65.5	467.2	0.89	0.90	0.96	32.9
North: Anambah Road															
7	L2	All MCs	305	2.4	305	2.4	0.446	35.5	LOS C	14.3	102.4	0.79	0.79	0.79	37.1
8	T1	All MCs	55	5.8	55	5.8	* 0.584	72.4	LOS F	4.9	35.9	1.00	0.78	1.03	27.3
9	R2	All MCs	83	3.3	83	3.3	0.584	78.1	LOS F	4.9	35.9	1.00	0.78	1.03	26.1
Approach			443	3.0	443	3.0	0.584	48.1	LOS D	14.3	102.4	0.86	0.79	0.86	33.1
West: New England Highway (W)															
10	L2	All MCs	499	3.1	499	3.1	0.652	41.6	LOS C	26.9	193.4	0.86	0.85	0.86	35.3
11	T1	All MCs	1335	4.8	1335	4.8	0.836	50.6	LOS D	41.7	303.9	0.96	0.89	0.99	36.5
12	R2	All MCs	59	0.0	59	0.0	0.889	113.3	LOS F	4.6	32.2	1.00	0.93	1.46	23.7
Approach			1893	4.2	1893	4.2	0.889	50.2	LOS D	41.7	303.9	0.93	0.88	0.97	32.8
All Vehicles			5239	3.1	5239	3.1	0.916	54.0	LOS D	65.5	467.2	0.91	0.90	0.98	31.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
East: New England Highway (E)												

P2 Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
North: Anambah Road											
P3 Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
West: New England Highway (W)											
P41 Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
P42 Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
All Pedestrians	0	263	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92

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

MOVEMENT SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F_FD_50%_Mod (Site Folder: Future Year 2038 wDev Mod)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	43	4.9	43	4.9	0.756	52.1	LOS D	4.6	33.9	1.00	0.91	1.19	27.8
2	T1	All MCs	39	8.1	39	8.1	* 0.756	85.7	LOS F	4.6	33.9	1.00	0.91	1.19	28.5
3	R2	All MCs	71	10.4	71	10.4	0.714	81.7	LOS F	5.1	39.1	1.00	0.84	1.15	25.4
Approach			153	8.3	153	8.3	0.756	74.3	LOS F	5.1	39.1	1.00	0.88	1.17	26.8
East: New England Highway (E)															
4	L2	All MCs	227	3.2	227	3.2	0.171	8.4	LOS A	1.3	9.4	0.13	0.59	0.13	52.6
5	T1	All MCs	1082	7.1	1082	7.1	0.523	20.4	LOS B	22.8	169.2	0.66	0.59	0.66	45.6
6	R2	All MCs	232	1.4	232	1.4	* 0.882	86.9	LOS F	8.9	62.8	1.00	0.97	1.35	24.4
Approach			1541	5.6	1541	5.6	0.882	28.6	LOS C	22.8	169.2	0.63	0.65	0.69	40.6
North: Anambah Road															
7	L2	All MCs	456	4.1	456	4.1	0.844	58.2	LOS E	28.7	207.8	0.98	0.97	1.07	31.4
8	T1	All MCs	34	3.1	34	3.1	* 0.699	67.2	LOS E	12.9	92.2	1.00	0.85	1.04	28.6
9	R2	All MCs	352	1.8	352	1.8	0.699	70.4	LOS E	12.9	92.2	1.00	0.84	1.04	28.0
Approach			842	3.1	842	3.1	0.844	63.7	LOS E	28.7	207.8	0.99	0.91	1.06	29.0
West: New England Highway (W)															
10	L2	All MCs	61	3.5	61	3.5	0.045	21.9	LOS B	1.1	7.7	0.28	0.64	0.28	49.2
11	T1	All MCs	2011	3.7	2011	3.7	* 0.960	70.1	LOS E	80.1	578.8	1.00	1.09	1.18	32.0
12	R2	All MCs	60	8.8	60	8.8	0.481	98.4	LOS F	4.1	31.1	1.00	0.76	1.00	26.1
Approach			2132	3.9	2132	3.9	0.960	69.5	LOS E	80.1	578.8	0.98	1.07	1.15	28.1
All Vehicles			4667	4.5	4667	4.5	0.960	55.1	LOS D	80.1	578.8	0.87	0.90	0.98	31.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
East: New England Highway (E)												

P2 Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
North: Anambah Road											
P3 Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
West: New England Highway (W)											
P41 Stage 1	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
P42 Stage 2	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
All Pedestrians	0	263	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92

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

MOVEMENT SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F_FD_50%_Mod (Site Folder: Future Year 2038 wDev Mod)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 136 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shipley Drive															
1	L2	All MCs	92	4.6	92	4.6	* 0.926	92.9	LOS F	18.5	133.1	1.00	1.17	1.35	22.9
2	T1	All MCs	49	4.3	49	4.3	* 0.926	109.1	LOS F	18.5	133.1	1.00	1.17	1.35	23.3
3	R2	All MCs	306	1.0	306	1.0	0.926	101.2	LOS F	18.5	133.1	1.00	1.11	1.37	24.0
Approach			447	2.1	447	2.1	0.926	100.4	LOS F	18.5	133.1	1.00	1.13	1.37	22.5
East: New England Highway (E)															
4	L2	All MCs	244	3.0	244	3.0	0.190	18.4	LOS B	2.0	14.3	0.19	0.60	0.19	52.2
5	T1	All MCs	1853	2.1	1853	2.1	* 0.876	36.4	LOS C	54.7	389.7	0.90	0.86	0.94	41.8
6	R2	All MCs	491	3.2	491	3.2	0.799	73.3	LOS F	16.7	119.9	1.00	0.91	1.12	27.7
Approach			2587	2.4	2587	2.4	0.876	41.7	LOS C	54.7	389.7	0.85	0.84	0.90	35.5
North: Anambah Road															
7	L2	All MCs	320	2.4	320	2.4	0.518	39.9	LOS C	16.0	114.0	0.86	0.81	0.86	35.6
8	T1	All MCs	55	5.8	55	5.8	* 0.753	76.5	LOS F	4.5	32.8	1.00	0.85	1.21	26.6
9	R2	All MCs	69	1.5	69	1.5	0.753	82.2	LOS F	4.5	32.8	1.00	0.85	1.22	25.4
Approach			443	2.7	443	2.7	0.753	51.0	LOS D	16.0	114.0	0.90	0.83	0.96	32.2
West: New England Highway (W)															
10	L2	All MCs	366	0.3	366	0.3	0.420	31.5	LOS C	15.8	110.7	0.71	0.79	0.71	38.8
11	T1	All MCs	1335	4.8	1335	4.8	0.735	36.7	LOS C	35.6	259.6	0.86	0.78	0.86	40.7
12	R2	All MCs	59	0.0	59	0.0	0.863	103.3	LOS F	4.4	31.0	1.00	0.91	1.41	24.3
Approach			1760	3.7	1760	3.7	0.863	37.8	LOS C	35.6	259.6	0.83	0.79	0.85	36.9
All Vehicles			5238	2.9	5238	2.9	0.926	46.2	LOS D	54.7	389.7	0.86	0.85	0.93	34.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shipley Drive												
P1	Full	50	53	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93
East: New England Highway (E)												

P2 Full	50	53	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93
North: Anambah Road											
P3 Full	50	53	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93
West: New England Highway (W)											
P41 Stage 1	50	53	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93
P42 Stage 2	50	53	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93
All Pedestrians	0	263	62.3	LOS F	0.2	0.2	0.96	0.96	216.1	200.0	0.93

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

MOVEMENT SUMMARY

Site: 4AM_X [ANA_ACC_AM_F (Site Folder: Access Road)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anambah Road / Access Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anambah Road (S)															
10	L2	All MCs	67	1.0	67	1.0	0.053	5.6	LOS A	0.0	0.0	0.00	0.40	0.00	54.2
11	T1	All MCs	32	1.0	32	1.0	0.053	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	56.5
Approach			99	1.0	99	1.0	0.053	3.8	NA	0.0	0.0	0.00	0.40	0.00	54.9
North: Anambah Road (N)															
5	T1	All MCs	32	1.0	32	1.0	0.019	0.0	LOS A	0.0	0.2	0.06	0.10	0.06	59.0
6	R2	All MCs	5	1.0	5	1.0	0.019	5.7	LOS A	0.0	0.2	0.06	0.10	0.06	52.1
Approach			37	1.0	37	1.0	0.019	0.8	NA	0.0	0.2	0.06	0.10	0.06	57.9
West: Access Road															
7	L2	All MCs	5	1.0	5	1.0	0.411	4.7	LOS A	1.4	9.7	0.16	0.55	0.16	48.8
9	R2	All MCs	605	1.0	605	1.0	0.411	4.8	LOS A	1.4	9.7	0.16	0.55	0.16	48.5
Approach			611	1.0	611	1.0	0.411	4.8	LOS A	1.4	9.7	0.16	0.55	0.16	48.5
All Vehicles			746	1.0	746	1.0	0.411	4.5	NA	1.4	9.7	0.13	0.50	0.13	49.7

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

MOVEMENT SUMMARY

Site: 4AM_X [ANA_ACC_PM_F (Site Folder: Access Road)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Anambah Road / Access Road
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Anambah Road (S)															
10	L2	All MCs	665	1.0	665	1.0	0.377	5.7	LOS A	0.0	0.0	0.00	0.55	0.00	52.9
11	T1	All MCs	32	1.0	32	1.0	0.377	0.1	LOS A	0.0	0.0	0.00	0.55	0.00	55.0
Approach			697	1.0	697	1.0	0.377	5.4	NA	0.0	0.0	0.00	0.55	0.00	53.0
North: Anambah Road (N)															
5	T1	All MCs	32	1.0	32	1.0	0.021	0.6	LOS A	0.1	0.4	0.20	0.23	0.20	58.4
6	R2	All MCs	5	1.0	5	1.0	0.021	7.8	LOS A	0.1	0.4	0.20	0.23	0.20	51.6
Approach			37	1.0	37	1.0	0.021	1.6	NA	0.1	0.4	0.20	0.23	0.20	57.3
West: Access Road															
7	L2	All MCs	5	1.0	5	1.0	0.060	4.6	LOS A	0.1	1.0	0.20	0.56	0.20	48.7
9	R2	All MCs	74	1.0	74	1.0	0.060	5.2	LOS A	0.1	1.0	0.20	0.56	0.20	48.4
Approach			79	1.0	79	1.0	0.060	5.1	LOS A	0.1	1.0	0.20	0.56	0.20	48.5
All Vehicles			813	1.0	813	1.0	0.377	5.2	NA	0.1	1.0	0.03	0.54	0.03	52.7

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

MOVEMENT SUMMARY

Site: 1AM [INT_INT_AM_F (Site Folder: Access Road)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Site Internal Roundabout
Site Category: Proposed Design 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Road MC02															
1	L2	All MCs	1	0.0	1	0.0	0.002	3.3	LOS A	0.0	0.1	0.16	0.34	0.16	47.0
2	T1	All MCs	1	0.0	1	0.0	0.002	3.1	LOS A	0.0	0.1	0.16	0.34	0.16	47.3
3	R2	All MCs	119	0.0	119	0.0	0.085	7.5	LOS A	0.4	2.6	0.13	0.58	0.13	44.6
Approach			121	0.0	121	0.0	0.085	7.4	LOS A	0.4	2.6	0.13	0.57	0.13	44.6
East: Road MC01 East															
4	L2	All MCs	14	0.0	14	0.0	0.012	3.0	LOS A	0.1	0.4	0.03	0.39	0.03	47.4
5	T1	All MCs	16	0.0	16	0.0	0.025	2.8	LOS A	0.1	0.8	0.03	0.51	0.03	46.3
6	R2	All MCs	22	0.0	22	0.0	0.025	7.4	LOS A	0.1	0.8	0.03	0.51	0.03	45.8
Approach			52	0.0	52	0.0	0.025	4.8	LOS A	0.1	0.8	0.03	0.48	0.03	46.3
North: Road MC03															
7	L2	All MCs	200	0.0	200	0.0	0.209	4.7	LOS A	1.0	7.1	0.43	0.50	0.43	46.5
8	T1	All MCs	1	0.0	1	0.0	0.209	4.3	LOS A	1.0	7.1	0.43	0.50	0.43	46.6
9	R2	All MCs	1	0.0	1	0.0	0.209	8.9	LOS A	1.0	7.1	0.43	0.50	0.43	46.1
Approach			202	0.0	202	0.0	0.209	4.8	LOS A	1.0	7.1	0.43	0.50	0.43	46.5
West: Road MC01 West															
10	L2	All MCs	1	0.0	1	0.0	0.036	4.3	LOS A	0.2	1.1	0.33	0.40	0.33	46.4
11	T1	All MCs	144	0.0	144	0.0	0.099	3.6	LOS A	0.4	3.1	0.29	0.37	0.29	46.9
12	R2	All MCs	1	0.0	1	0.0	0.099	8.0	LOS A	0.4	3.1	0.28	0.37	0.28	46.3
Approach			146	0.0	146	0.0	0.099	3.7	LOS A	0.4	3.1	0.29	0.37	0.29	46.8
All Vehicles			521	0.0	521	0.0	0.209	5.1	LOS A	1.0	7.1	0.28	0.48	0.28	46.1

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

MOVEMENT SUMMARY

Site: 1PM [INT_INT_PM_F (Site Folder: Access Road)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Site Internal Roundabout
Site Category: Proposed Design 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Road MC02															
1	L2	All MCs	1	0.0	1	0.0	0.003	5.8	LOS A	0.0	0.1	0.47	0.46	0.47	45.8
2	T1	All MCs	1	0.0	1	0.0	0.013	5.3	LOS A	0.1	0.4	0.46	0.49	0.46	45.6
3	R2	All MCs	14	0.0	14	0.0	0.013	8.7	LOS A	0.1	0.4	0.41	0.59	0.41	44.0
Approach			16	0.0	16	0.0	0.013	8.3	LOS A	0.1	0.4	0.42	0.58	0.42	44.2
East: Road MC01 East															
4	L2	All MCs	120	0.0	120	0.0	0.097	3.0	LOS A	0.4	3.1	0.03	0.39	0.03	47.4
5	T1	All MCs	146	0.0	146	0.0	0.206	2.8	LOS A	1.1	7.4	0.03	0.51	0.03	46.3
6	R2	All MCs	202	0.0	202	0.0	0.206	7.4	LOS A	1.1	7.4	0.03	0.51	0.03	45.8
Approach			468	0.0	468	0.0	0.206	4.8	LOS A	1.1	7.4	0.03	0.48	0.03	46.3
North: Road MC03															
7	L2	All MCs	22	0.0	22	0.0	0.020	3.0	LOS A	0.1	0.6	0.12	0.38	0.12	47.2
8	T1	All MCs	1	0.0	1	0.0	0.020	3.0	LOS A	0.1	0.6	0.12	0.38	0.12	47.4
9	R2	All MCs	1	0.0	1	0.0	0.020	7.5	LOS A	0.1	0.6	0.12	0.38	0.12	46.8
Approach			24	0.0	24	0.0	0.020	3.2	LOS A	0.1	0.6	0.12	0.38	0.12	47.2
West: Road MC01 West															
10	L2	All MCs	1	0.0	1	0.0	0.005	4.8	LOS A	0.0	0.1	0.38	0.41	0.38	46.2
11	T1	All MCs	16	0.0	16	0.0	0.013	3.8	LOS A	0.1	0.4	0.33	0.39	0.33	46.6
12	R2	All MCs	1	0.0	1	0.0	0.013	8.2	LOS A	0.1	0.4	0.32	0.39	0.32	46.0
Approach			18	0.0	18	0.0	0.013	4.1	LOS A	0.1	0.4	0.33	0.40	0.33	46.6
All Vehicles			526	0.0	526	0.0	0.206	4.8	LOS A	1.1	7.4	0.06	0.48	0.06	46.3

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

MOVEMENT SUMMARY

Site: 4AM [NEW_RIV_23_AM_X (Site Folder: Base Year (River Road))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway | River Road
Site Category: Base Year
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New England Highway East															
5	T1	All MCs	702	9.0	702	9.0	0.377	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	79.7
6	R2	All MCs	23	4.5	23	4.5	0.091	19.6	LOS B	0.3	1.9	0.79	0.92	0.79	59.2
Approach			725	8.9	725	8.9	0.377	0.9	NA	0.3	1.9	0.03	0.03	0.03	79.1
North: River Road															
7	L2	All MCs	72	1.5	72	1.5	0.144	11.0	LOS A	0.5	3.4	0.72	0.87	0.72	61.9
9	R2	All MCs	55	1.9	55	1.9	0.279	26.9	LOS B	1.0	6.9	0.86	0.97	0.98	54.2
Approach			126	1.7	126	1.7	0.279	17.9	LOS B	1.0	6.9	0.78	0.91	0.84	58.5
West: New England Highway West															
10	L2	All MCs	22	4.8	22	4.8	0.012	7.0	LOS A	0.0	0.0	0.00	0.63	0.00	70.4
11	T1	All MCs	907	5.6	907	5.6	0.482	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	79.5
Approach			929	5.5	929	5.5	0.482	0.6	NA	0.0	0.0	0.00	0.01	0.00	79.4
All Vehicles			1781	6.6	1781	6.6	0.482	1.9	NA	1.0	6.9	0.07	0.08	0.07	77.9

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

MOVEMENT SUMMARY

Site: 4AM [NEW_RIV_28_AM_X (Site Folder: Base Year (River Road))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway | River Road
Site Category: Base Year
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New England Highway East															
5	T1	All MCs	835	8.7	835	8.7	0.448	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	79.6
6	R2	All MCs	23	4.5	23	4.5	0.337	63.6	LOS E	0.8	6.0	0.95	1.01	1.08	44.6
Approach			858	8.6	858	8.6	0.448	2.1	NA	0.8	6.0	0.03	0.03	0.03	78.4
North: River Road															
7	L2	All MCs	72	1.5	72	1.5	0.401	29.3	LOS C	1.3	9.1	0.93	1.02	1.14	54.2
9	R2	All MCs	55	1.9	55	1.9	1.009	210.3	LOS F	5.4	38.2	1.00	1.43	2.64	22.9
Approach			126	1.7	126	1.7	1.009	107.7	LOS F	5.4	38.2	0.96	1.20	1.79	34.7
West: New England Highway West															
10	L2	All MCs	22	4.8	22	4.8	0.012	7.0	LOS A	0.0	0.0	0.00	0.63	0.00	70.4
11	T1	All MCs	1285	4.5	1285	4.5	0.678	0.9	LOS A	0.0	0.0	0.00	0.00	0.00	79.0
Approach			1307	4.5	1307	4.5	0.678	1.0	NA	0.0	0.0	0.00	0.01	0.00	78.9
All Vehicles			2292	5.9	2292	5.9	1.009	7.3	NA	5.4	38.2	0.06	0.08	0.11	75.1

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

MOVEMENT SUMMARY

Site: 4PM [NEW_RIV_23_PM_X (Site Folder: Base Year (River Road))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway | River Road
Site Category: Base Year
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New England Highway East															
5	T1	All MCs	887	3.3	887	3.3	0.460	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	79.6
6	R2	All MCs	76	4.2	76	4.2	0.211	16.1	LOS B	0.7	5.2	0.73	0.91	0.78	60.7
Approach			963	3.4	963	3.4	0.460	1.6	NA	0.7	5.2	0.06	0.07	0.06	78.2
North: River Road															
7	L2	All MCs	48	8.7	48	8.7	0.081	9.4	LOS A	0.3	2.1	0.63	0.82	0.63	62.2
9	R2	All MCs	20	10.5	20	10.5	0.091	22.9	LOS B	0.3	2.1	0.79	0.90	0.79	55.8
Approach			68	9.2	68	9.2	0.091	13.4	LOS A	0.3	2.1	0.67	0.84	0.67	60.4
West: New England Highway West															
10	L2	All MCs	37	11.4	37	11.4	0.022	7.2	LOS A	0.0	0.0	0.00	0.63	0.00	69.1
11	T1	All MCs	753	6.9	753	6.9	0.403	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	79.7
Approach			789	7.1	789	7.1	0.403	0.6	NA	0.0	0.0	0.00	0.03	0.00	79.3
All Vehicles			1821	5.2	1821	5.2	0.460	1.6	NA	0.7	5.2	0.06	0.08	0.06	78.1

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

MOVEMENT SUMMARY

Site: 4PM [NEW_RIV_28_PM_X (Site Folder: Base Year (River Road))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway | River Road
Site Category: Base Year
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New England Highway East															
5	T1	All MCs	1287	2.6	1287	2.6	0.665	0.9	LOS A	0.0	0.0	0.00	0.00	0.00	79.1
6	R2	All MCs	76	4.2	76	4.2	0.295	21.9	LOS B	1.0	7.2	0.83	0.97	0.97	58.2
Approach			1363	2.7	1363	2.7	0.665	2.1	NA	1.0	7.2	0.05	0.05	0.05	78.0
North: River Road															
7	L2	All MCs	48	8.7	48	8.7	0.109	11.8	LOS A	0.3	2.6	0.72	0.87	0.72	61.1
9	R2	All MCs	20	10.5	20	10.5	0.136	36.7	LOS C	0.4	2.9	0.86	0.93	0.86	52.4
Approach			68	9.2	68	9.2	0.136	19.1	LOS B	0.4	2.9	0.76	0.89	0.76	58.4
West: New England Highway West															
10	L2	All MCs	37	11.4	37	11.4	0.022	7.2	LOS A	0.0	0.0	0.00	0.63	0.00	69.1
11	T1	All MCs	895	6.6	895	6.6	0.478	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	79.5
Approach			932	6.8	932	6.8	0.478	0.7	NA	0.0	0.0	0.00	0.02	0.00	79.2
All Vehicles			2363	4.5	2363	4.5	0.665	2.0	NA	1.0	7.2	0.05	0.07	0.05	77.9

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

MOVEMENT SUMMARY

Site: 4AM [NEW_RIV_23_AM_X (Site Folder: Base Year (River Road)_Trigger Test)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway | River Road
Site Category: Base Year
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New England Highway East															
5	T1	All MCs	702	9.0	702	9.0	0.377	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	79.7
6	R2	All MCs	28	3.7	28	3.7	0.111	19.6	LOS B	0.3	2.4	0.79	0.93	0.79	59.2
Approach			731	8.8	731	8.8	0.377	1.0	NA	0.3	2.4	0.03	0.04	0.03	79.0
North: River Road															
7	L2	All MCs	122	0.9	122	0.9	0.243	11.6	LOS A	0.9	6.3	0.75	0.90	0.82	61.7
9	R2	All MCs	172	0.6	172	0.6	0.859	56.1	LOS D	5.9	41.2	0.97	1.45	2.56	44.6
Approach			294	0.7	294	0.7	0.859	37.6	LOS C	5.9	41.2	0.88	1.23	1.84	50.8
West: New England Highway West															
10	L2	All MCs	35	3.0	35	3.0	0.019	7.0	LOS A	0.0	0.0	0.00	0.63	0.00	70.8
11	T1	All MCs	907	5.6	907	5.6	0.482	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	79.5
Approach			942	5.5	942	5.5	0.482	0.6	NA	0.0	0.0	0.00	0.02	0.00	79.3
All Vehicles			1966	6.0	1966	6.0	0.859	6.3	NA	5.9	41.2	0.14	0.21	0.29	74.8

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

MOVEMENT SUMMARY

Site: 4PM [NEW_RIV_23_PM_X (Site Folder: Base Year (River Road)_Trigger Test)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway | River Road
Site Category: Base Year
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New England Highway East															
5	T1	All MCs	887	3.3	887	3.3	0.460	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	79.6
6	R2	All MCs	185	1.7	185	1.7	0.749	35.3	LOS C	4.0	28.4	0.94	1.18	1.93	53.0
Approach			1073	3.0	1073	3.0	0.749	6.4	NA	4.0	28.4	0.16	0.20	0.33	74.9
North: River Road															
7	L2	All MCs	60	7.0	60	7.0	0.098	9.3	LOS A	0.3	2.5	0.63	0.82	0.63	62.4
9	R2	All MCs	48	4.3	48	4.3	0.303	33.3	LOS C	1.0	7.3	0.88	0.99	1.03	51.9
Approach			108	5.8	108	5.8	0.303	20.0	LOS B	1.0	7.3	0.74	0.90	0.81	57.5
West: New England Highway West															
10	L2	All MCs	292	1.4	292	1.4	0.160	7.1	LOS A	0.0	0.0	0.00	0.63	0.00	71.0
11	T1	All MCs	753	6.9	753	6.9	0.403	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	79.7
Approach			1044	5.3	1044	5.3	0.403	2.2	NA	0.0	0.0	0.00	0.18	0.00	77.8
All Vehicles			2225	4.3	2225	4.3	0.749	5.1	NA	4.0	28.4	0.11	0.22	0.20	75.4

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

MOVEMENT SUMMARY

Site: 4AM [NEW_RIV_23_AM_X (Site Folder: Base Year (River Road)_LO Trigger Test)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway | River Road
Site Category: Base Year
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New England Highway East															
5	T1	All MCs	1023	6.2	1023	6.2	0.471	1.9	LOS A	1.4	10.5	0.08	0.08	0.08	78.8
6	R2	All MCs	36	2.9	36	2.9	0.194	20.3	LOS B	1.4	10.5	0.59	0.65	0.59	62.9
Approach			1059	6.1	1059	6.1	0.471	2.5	NA	1.4	10.5	0.09	0.10	0.09	78.4
North: River Road															
7	L2	All MCs	507	0.4	507	0.4	0.999	55.3	LOS D	20.4	143.1	1.00	2.65	6.10	46.1
Approach			507	0.4	507	0.4	0.999	55.3	LOS D	20.4	143.1	1.00	2.65	6.10	46.1
West: New England Highway West															
10	L2	All MCs	52	2.0	52	2.0	0.028	7.0	LOS A	0.0	0.0	0.00	0.63	0.00	71.0
11	T1	All MCs	907	5.6	907	5.6	0.482	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	79.5
Approach			959	5.4	959	5.4	0.482	0.8	NA	0.0	0.0	0.00	0.03	0.00	79.2
All Vehicles			2525	4.7	2525	4.7	0.999	12.4	NA	20.4	143.1	0.24	0.59	1.27	71.2

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

MOVEMENT SUMMARY

Site: 4PM [NEW_RIV_23_PM_X (Site Folder: Base Year (River Road)_LO Trigger Test)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway | River Road
Site Category: Base Year
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New England Highway East															
5	T1	All MCs	938	3.1	938	3.1	0.486	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	79.5
6	R2	All MCs	201	1.6	201	1.6	0.868	48.8	LOS D	5.9	41.7	0.97	1.34	2.69	48.6
Approach			1139	2.9	1139	2.9	0.868	9.0	NA	5.9	41.7	0.17	0.24	0.48	73.5
North: River Road															
7	L2	All MCs	115	5.5	115	5.5	0.184	9.5	LOS A	0.7	4.8	0.65	0.83	0.65	62.4
Approach			115	5.5	115	5.5	0.184	9.5	LOS A	0.7	4.8	0.65	0.83	0.65	62.4
West: New England Highway West															
10	L2	All MCs	331	1.3	331	1.3	0.181	7.1	LOS A	0.0	0.0	0.00	0.63	0.00	71.1
11	T1	All MCs	753	6.9	753	6.9	0.403	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	79.7
Approach			1083	5.2	1083	5.2	0.403	2.4	NA	0.0	0.0	0.00	0.19	0.00	77.6
All Vehicles			2337	4.1	2337	4.1	0.868	5.9	NA	5.9	41.7	0.12	0.24	0.26	74.8

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

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

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

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

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

APPENDIX E

PHASE SUMMARY

PHASING SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F (Site Folder: Future Year 2038)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Copy - Import
Input Phase Sequence: D, A, B, C
Output Phase Sequence: D, A, B, C
Reference Phase: Phase A

Phase Timing Summary

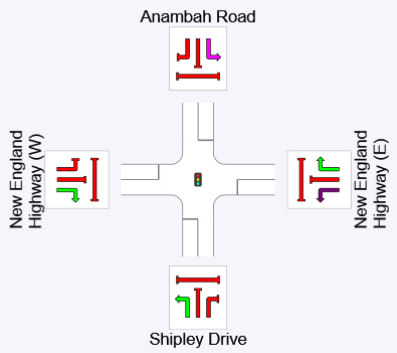
Phase	D	A	B	C
Phase Change Time (sec)	123	0	89	107
Green Time (sec)	18	83	12	12
Phase Time (sec)	24	89	16	16
Phase Split	17%	61%	11%	11%
Phase Frequency (%)	100.0	100.0	59.3[2]	59.3[2]

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

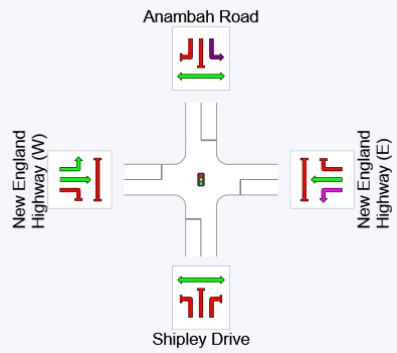
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

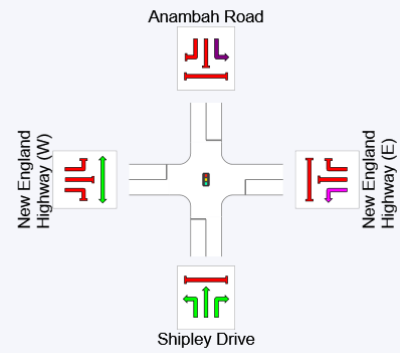
Phase D



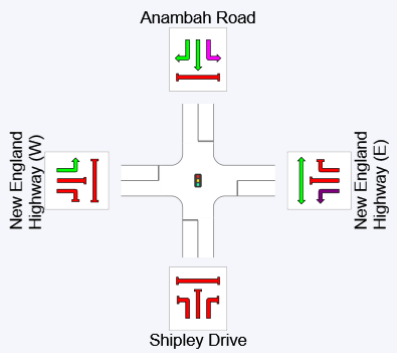
Phase A **REF**



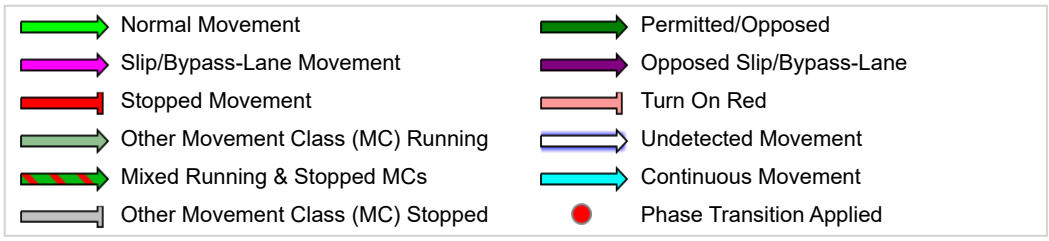
Phase B



Phase C



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F (Site Folder: Future Year 2038)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 149 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Import
Input Phase Sequence: D, E, A, B, C
Output Phase Sequence: D, E, A, B, C
Reference Phase: Phase A

Phase Timing Summary

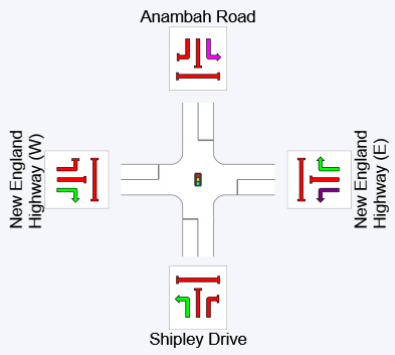
Phase	D	E	A	B	C
Phase Change Time (sec)	123	131	0	82	111
Green Time (sec)	6	12	76	23	6
Phase Time (sec)	12	18	82	29	8
Phase Split	8%	12%	55%	19%	5%
Phase Frequency (%)	100.0	100.0	100.0	100.0	29.6[2]

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

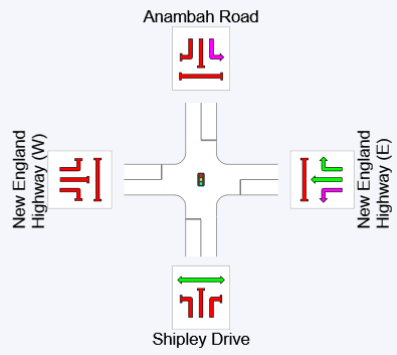
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

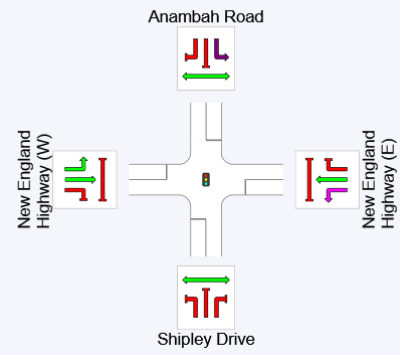
Phase D



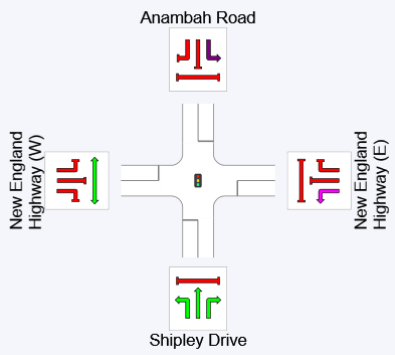
Phase E



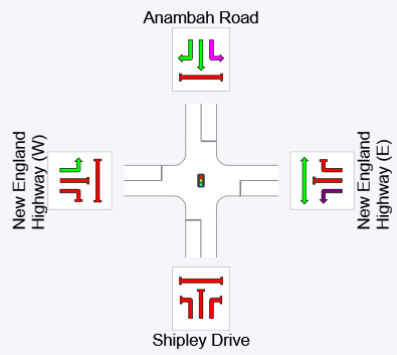
Phase A **REF**



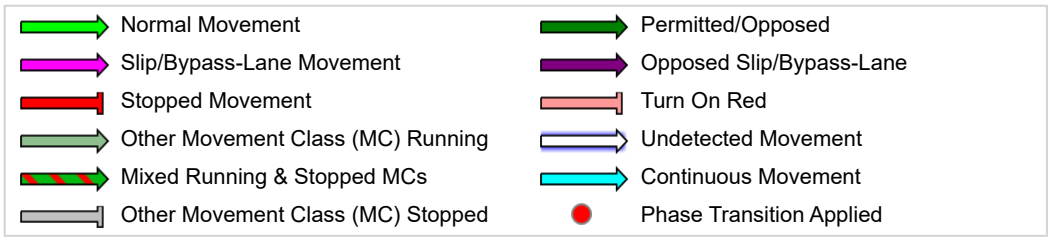
Phase B



Phase C



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F_S1 (Site Folder: Future Year 2038 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Copy - Import
Input Phase Sequence: D, A, B, C
Output Phase Sequence: D, A, B, C
Reference Phase: Phase A

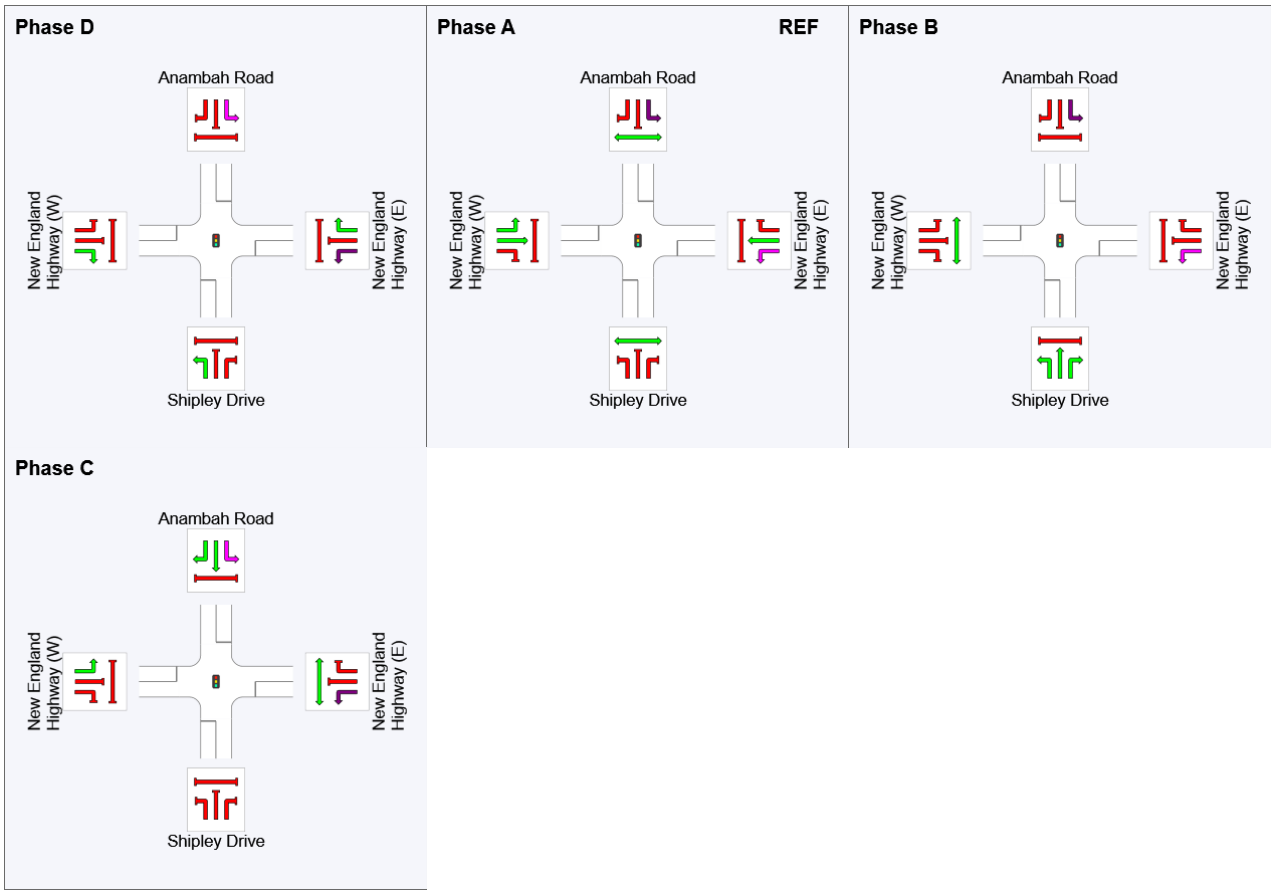
Phase Timing Summary

Phase	D	A	B	C
Phase Change Time (sec)	123	0	89	106
Green Time (sec)	18	83	11	14
Phase Time (sec)	24	89	14	18
Phase Split	17%	61%	10%	12%
Phase Frequency (%)	100.0	100.0	51.9[2]	66.7[2]

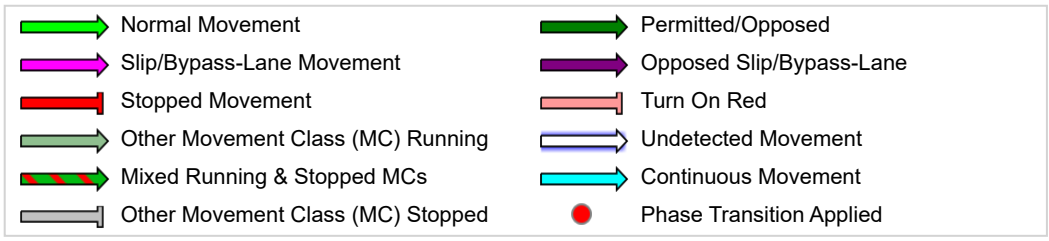
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F_S1 (Site Folder: Future Year 2038 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 147 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Import
Input Phase Sequence: D, E, A, B, C
Output Phase Sequence: D, E, A, B, C
Reference Phase: Phase A

Phase Timing Summary

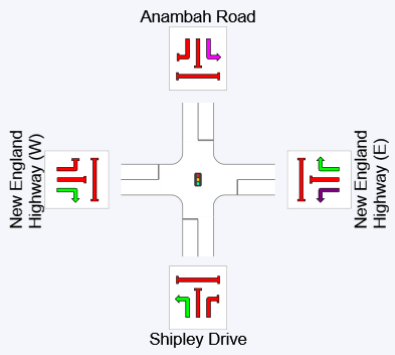
Phase	D	E	A	B	C
Phase Change Time (sec)	124	131	0	85	113
Green Time (sec)	5	12	79	22	5
Phase Time (sec)	9	18	85	28	7
Phase Split	6%	12%	58%	19%	5%
Phase Frequency (%)	75.0[2]	100.0	100.0	100.0	25.9[2]

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

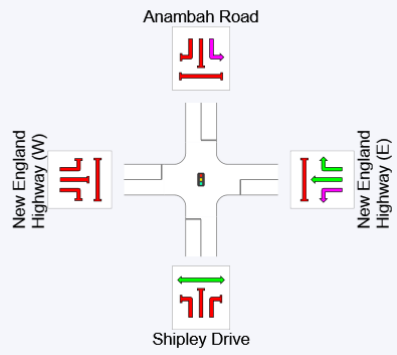
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

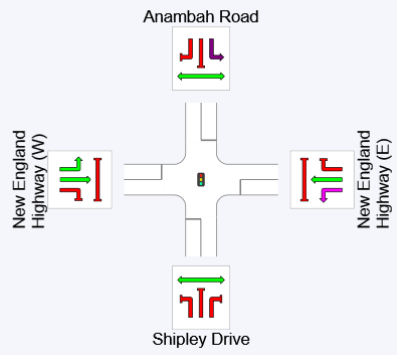
Phase D



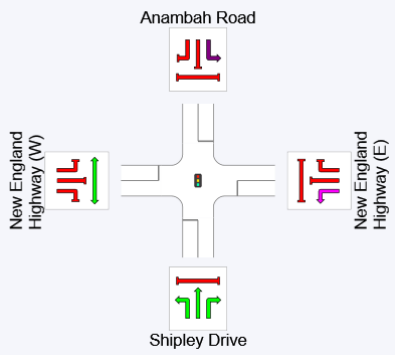
Phase E



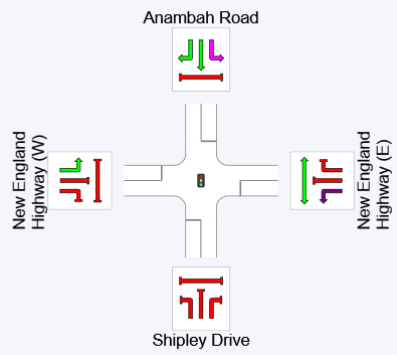
Phase A **REF**



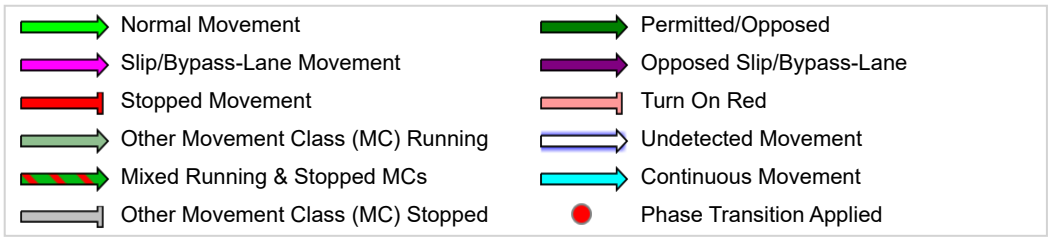
Phase B



Phase C



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F_S1_50% (Site Folder: Future Year 2038 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Copy - Import
Input Phase Sequence: D, A, B, C
Output Phase Sequence: D, A, B, C
Reference Phase: Phase A

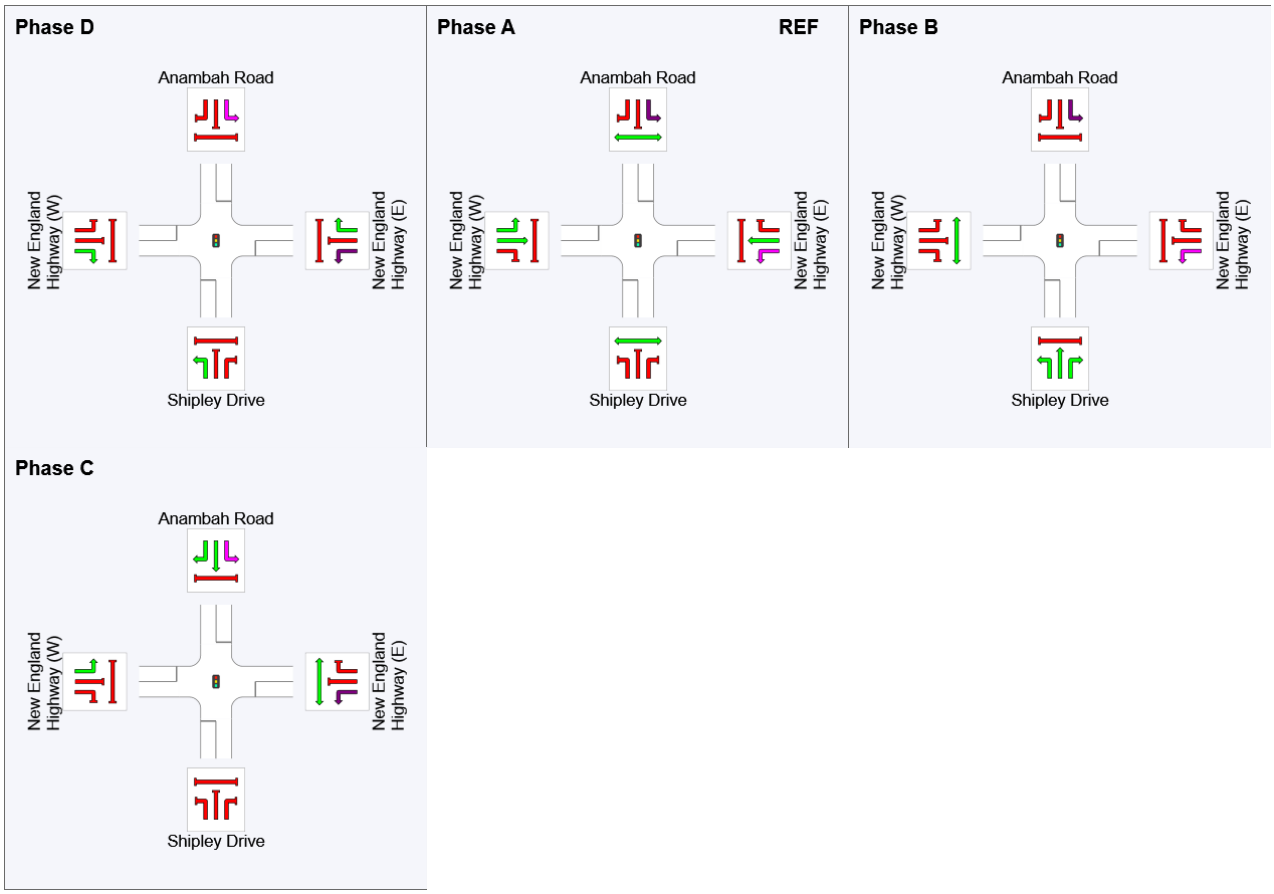
Phase Timing Summary

Phase	D	A	B	C
Phase Change Time (sec)	123	0	89	106
Green Time (sec)	18	83	11	14
Phase Time (sec)	24	89	14	18
Phase Split	17%	61%	10%	12%
Phase Frequency (%)	100.0	100.0	51.9[2]	66.7[2]

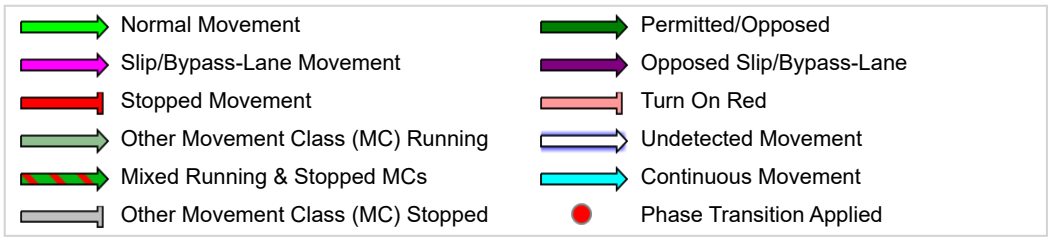
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F_S1_50% (Site Folder: Future Year 2038 wStage 1)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 147 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Import
Input Phase Sequence: D, E, A, B, C
Output Phase Sequence: D, E, A, B, C
Reference Phase: Phase A

Phase Timing Summary

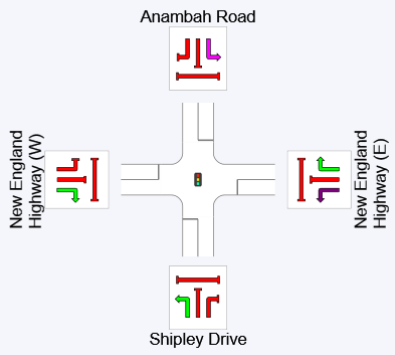
Phase	D	E	A	B	C
Phase Change Time (sec)	124	131	0	85	113
Green Time (sec)	5	12	79	22	5
Phase Time (sec)	9	18	85	28	7
Phase Split	6%	12%	58%	19%	5%
Phase Frequency (%)	75.0[2]	100.0	100.0	100.0	25.9[2]

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

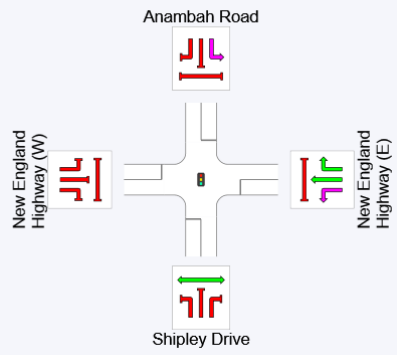
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

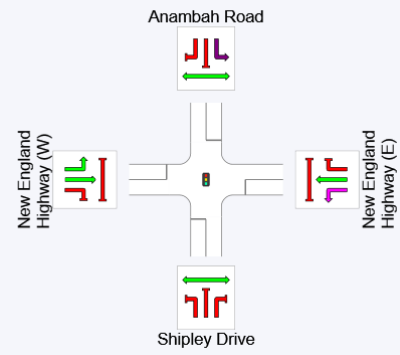
Phase D



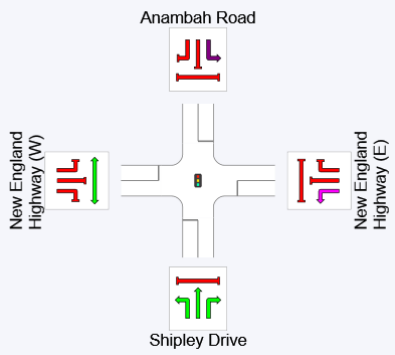
Phase E



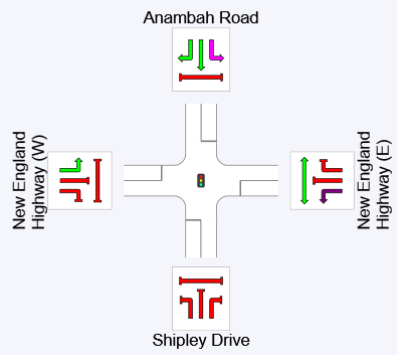
Phase A **REF**



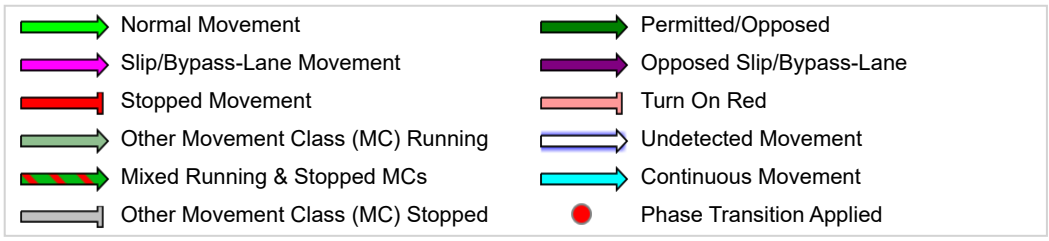
Phase B



Phase C



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F_FD (Site Folder: Future Year 2038 wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Copy - Import
Input Phase Sequence: D, A, B, C
Output Phase Sequence: D, A, B, C
Reference Phase: Phase A

Phase Timing Summary

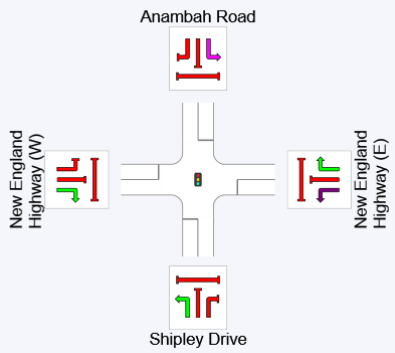
Phase	D	A	B	C
Phase Change Time (sec)	123	0	89	106
Green Time (sec)	18	83	11	14
Phase Time (sec)	24	89	14	18
Phase Split	17%	61%	10%	12%
Phase Frequency (%)	100.0	100.0	51.9[2]	66.7[2]

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

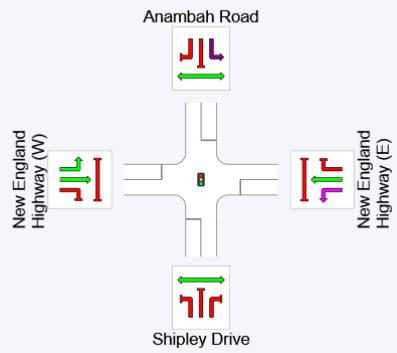
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

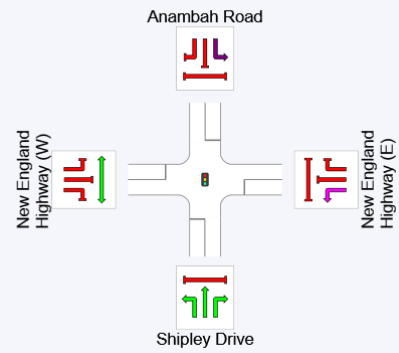
Phase D



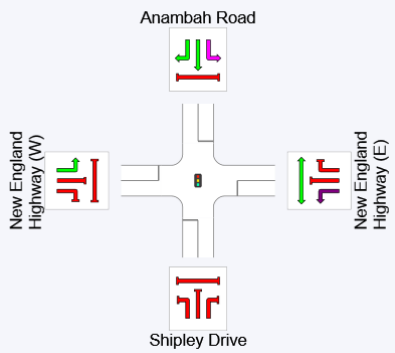
Phase A **REF**



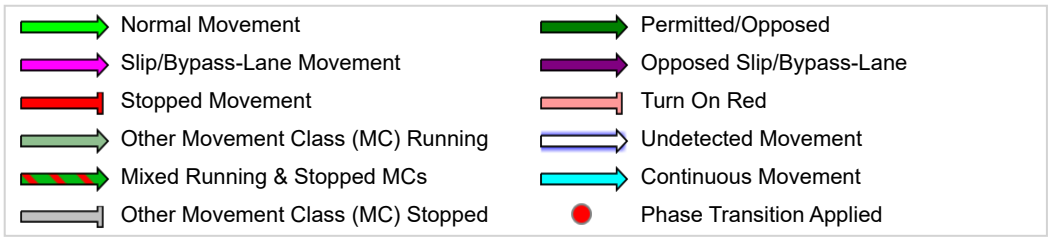
Phase B



Phase C



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F_FD (Site Folder: Future Year 2038 wDev)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 147 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Import
Input Phase Sequence: D, E, A, B, C
Output Phase Sequence: D, E, A, B, C
Reference Phase: Phase A

Phase Timing Summary

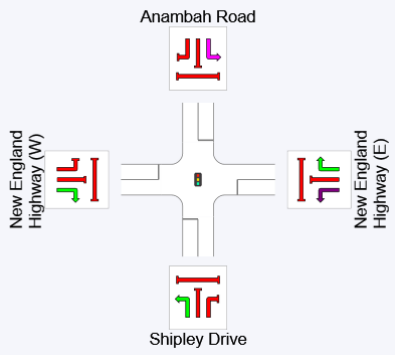
Phase	D	E	A	B	C
Phase Change Time (sec)	124	131	0	85	113
Green Time (sec)	5	12	79	22	5
Phase Time (sec)	9	18	85	28	7
Phase Split	6%	12%	58%	19%	5%
Phase Frequency (%)	75.0[2]	100.0	100.0	100.0	25.9[2]

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

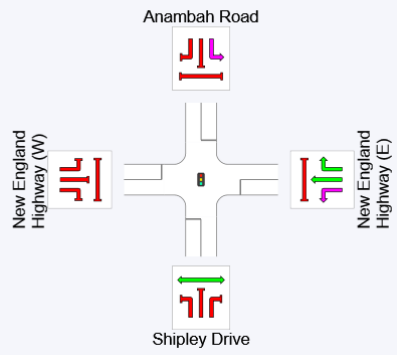
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

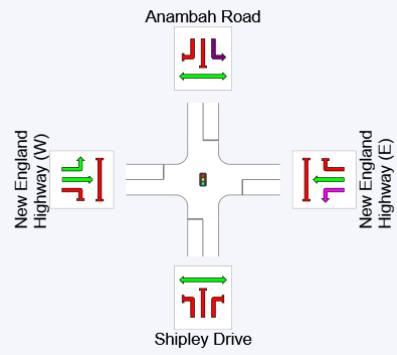
Phase D



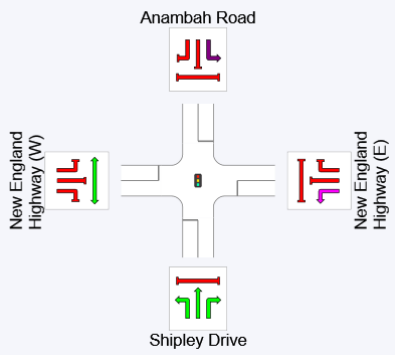
Phase E



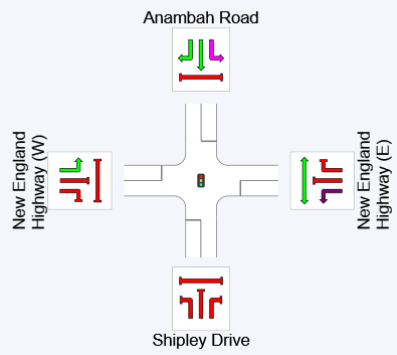
Phase A **REF**



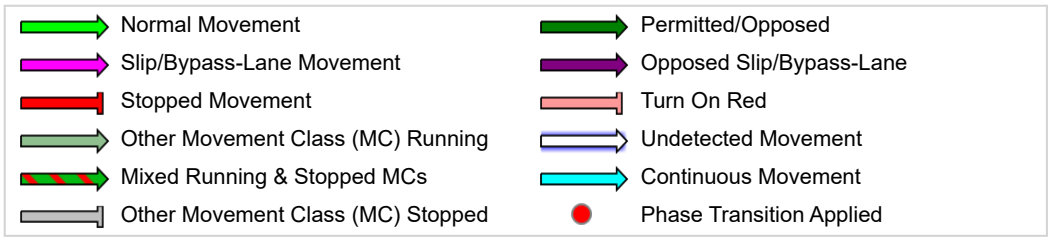
Phase B



Phase C



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F_FD_Mod (Site Folder: Future Year 2038 wDev Mod)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Copy - Import
Input Phase Sequence: A, E, B, C, D
Output Phase Sequence: A, E, B, C, D
Reference Phase: Phase A

Phase Timing Summary

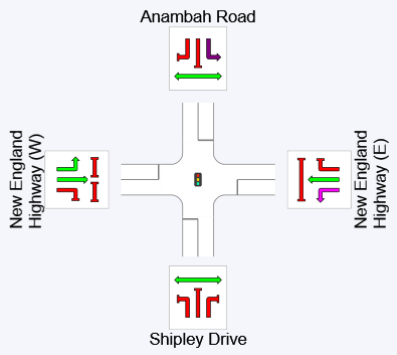
Phase	A	E	B	C	D
Phase Change Time (sec)	0	68	84	111	126
Green Time (sec)	65	10	21	9	9
Phase Time (sec)	71	16	27	14	12
Phase Split	51%	11%	19%	10%	9%
Phase Frequency (%)	98.1[2]	100.0	93.1[2]	87.5[2]	57.1[2]

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

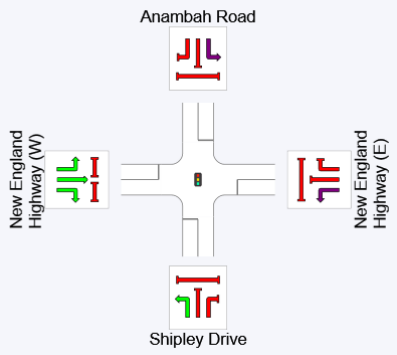
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

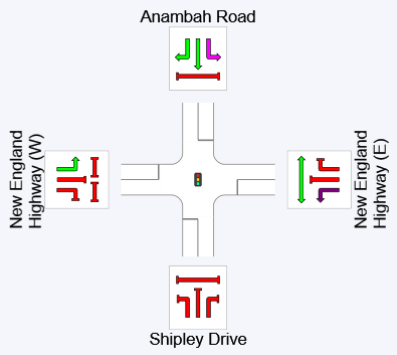
Phase A **REF**



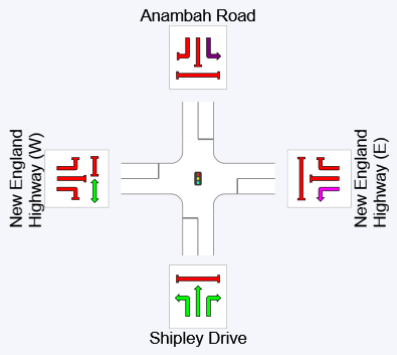
Phase E



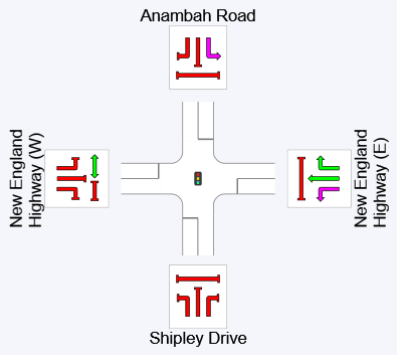
Phase B



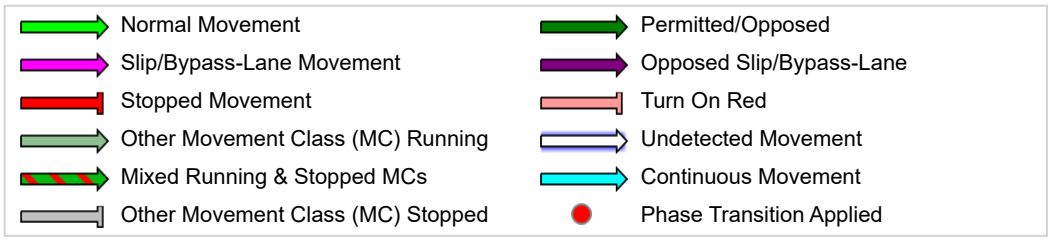
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F_FD_Mod (Site Folder: Future Year 2038 wDev Mod)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Import
Input Phase Sequence: A, E, B, C, D
Output Phase Sequence: A, E, B, C, D
Reference Phase: Phase A

Phase Timing Summary

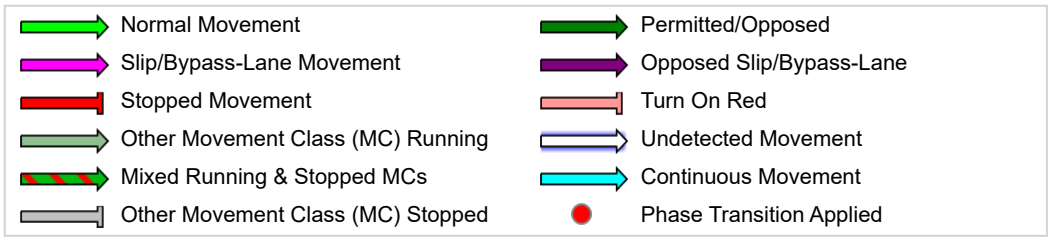
Phase	A	E	B	C	D
Phase Change Time (sec)	0	57	68	81	107
Green Time (sec)	51	5	9	24	27
Phase Time (sec)	57	9	11	30	33
Phase Split	41%	6%	8%	21%	24%
Phase Frequency (%)	98.1[2]	75.0[2]	37.9[2]	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5AM38_F [NEW_ANA_38_AM_F_FD_50%_Mod (Site Folder: Future Year 2038 wDev Mod)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Copy - Import
Input Phase Sequence: A, E, B, C, D
Output Phase Sequence: A, E, B, C, D
Reference Phase: Phase A

Phase Timing Summary

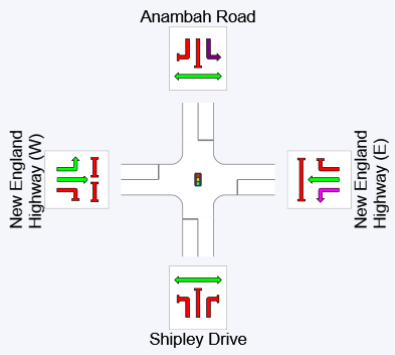
Phase	A	E	B	C	D
Phase Change Time (sec)	0	68	84	111	125
Green Time (sec)	64	10	21	8	10
Phase Time (sec)	70	16	27	13	14
Phase Split	50%	11%	19%	9%	10%
Phase Frequency (%)	98.1[2]	100.0	93.1[2]	81.3[2]	66.7[2]

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

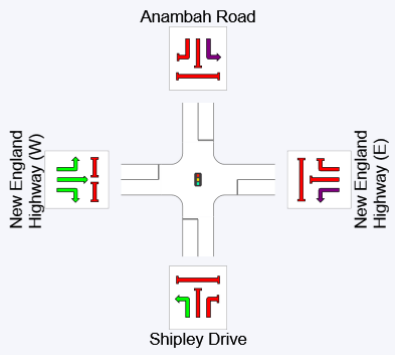
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

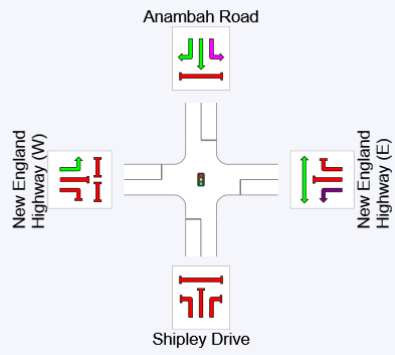
Phase A **REF**



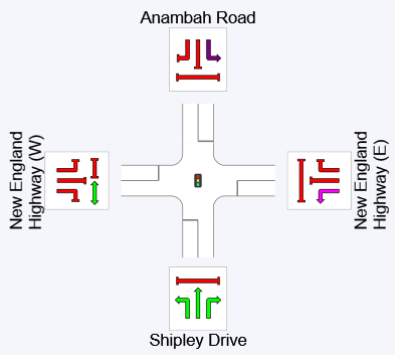
Phase E



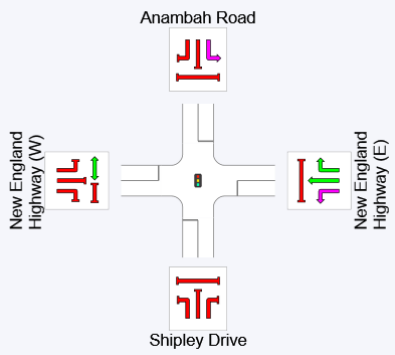
Phase B



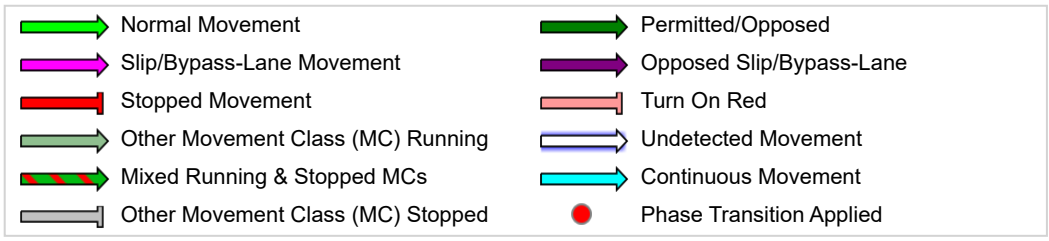
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5PM38_F [NEW_ANA_38_PM_F_FD_50%_Mod (Site Folder: Future Year 2038 wDev Mod)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New England Highway / Anambah Road / Shipley Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 136 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Convert Function Default - Import
Input Phase Sequence: A, E, B, C, D
Output Phase Sequence: A, E, B, C, D
Reference Phase: Phase A

Phase Timing Summary

Phase	A	E	B	C	D
Phase Change Time (sec)	0	62	73	83	107
Green Time (sec)	56	5	6	22	23
Phase Time (sec)	62	9	8	28	29
Phase Split	46%	7%	6%	21%	21%
Phase Frequency (%)	97.8[2]	75.0[2]	27.6[2]	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

REF: Reference Phase
VAR: Variable Phase