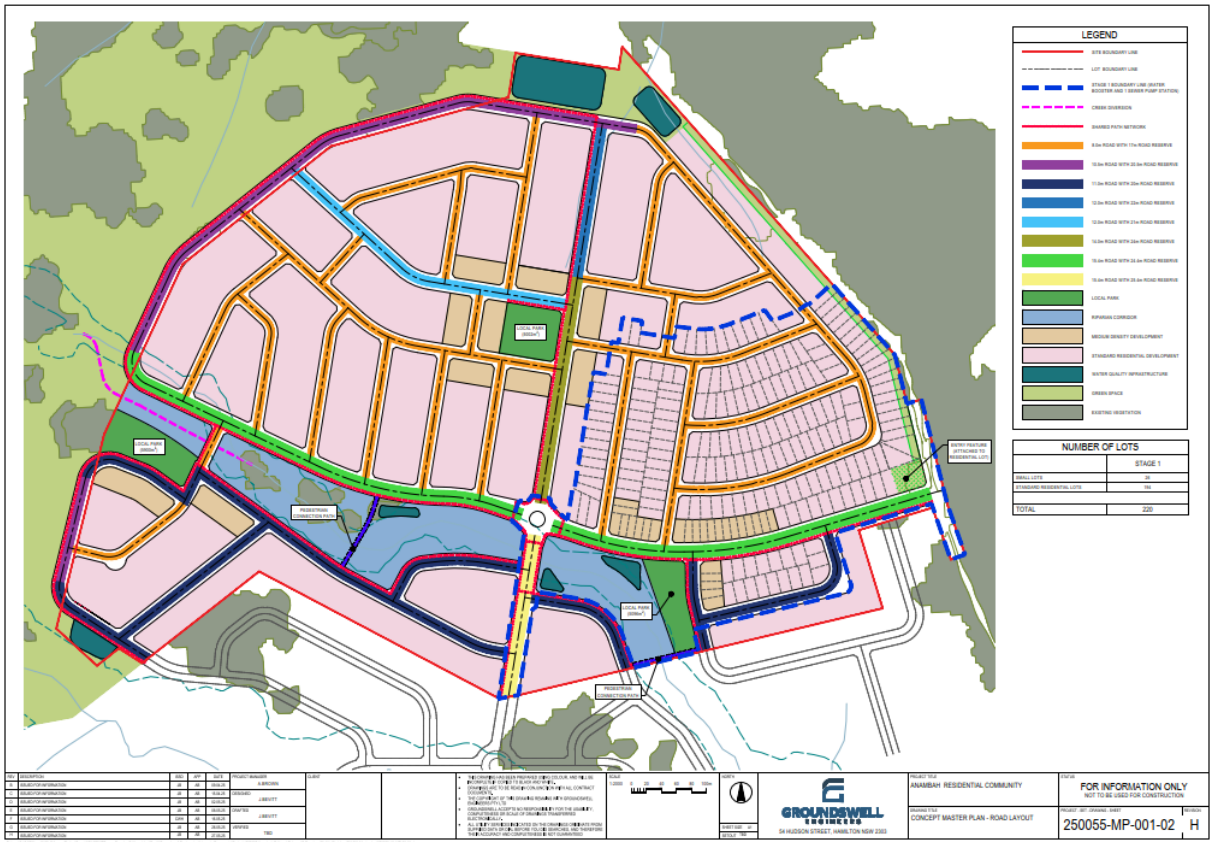
28 May 2025

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

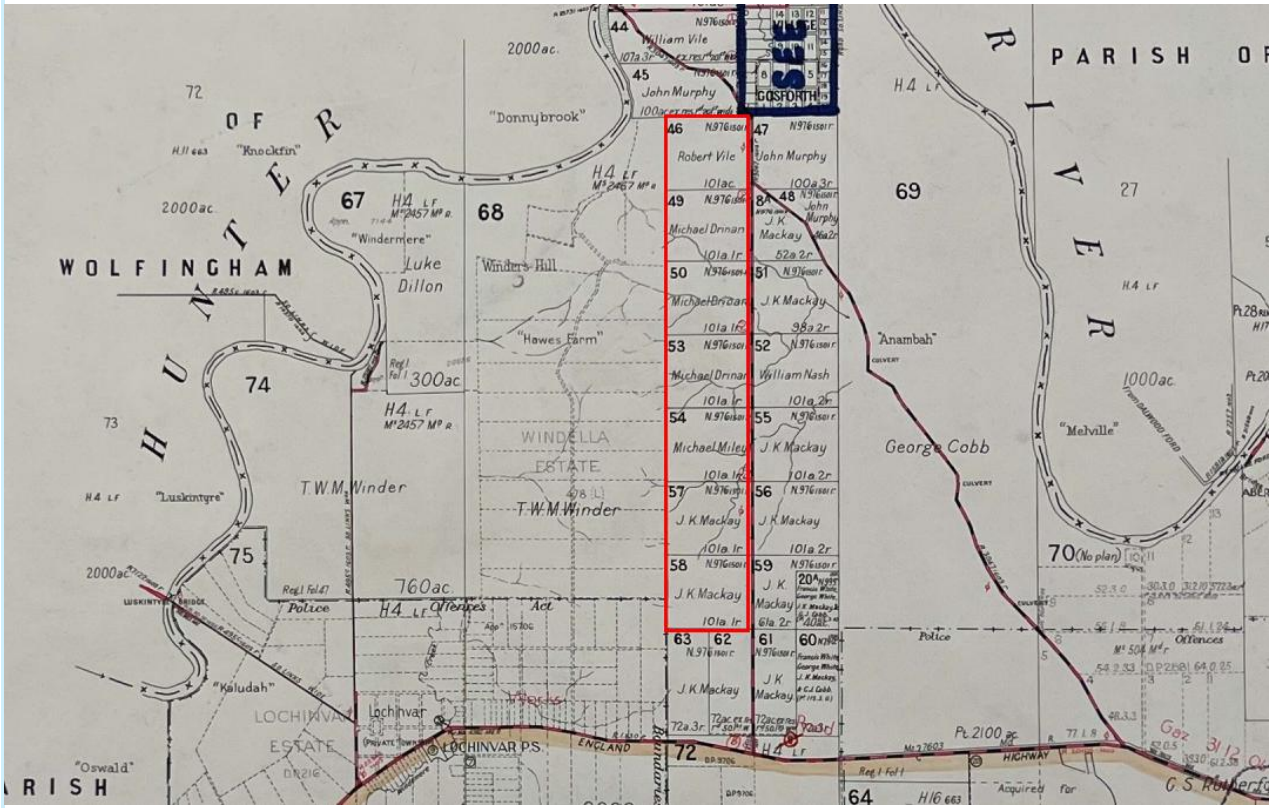
SCT Consulting has been engaged by Thirdi Anambah Pty Ltd to prepare a Traffic Impact Assessment for a proposed residential subdivision development application (DA) at 599 Anambah Road in the suburb of Gosforth, within the Maitland City Local Government Area (see master plan below).



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.

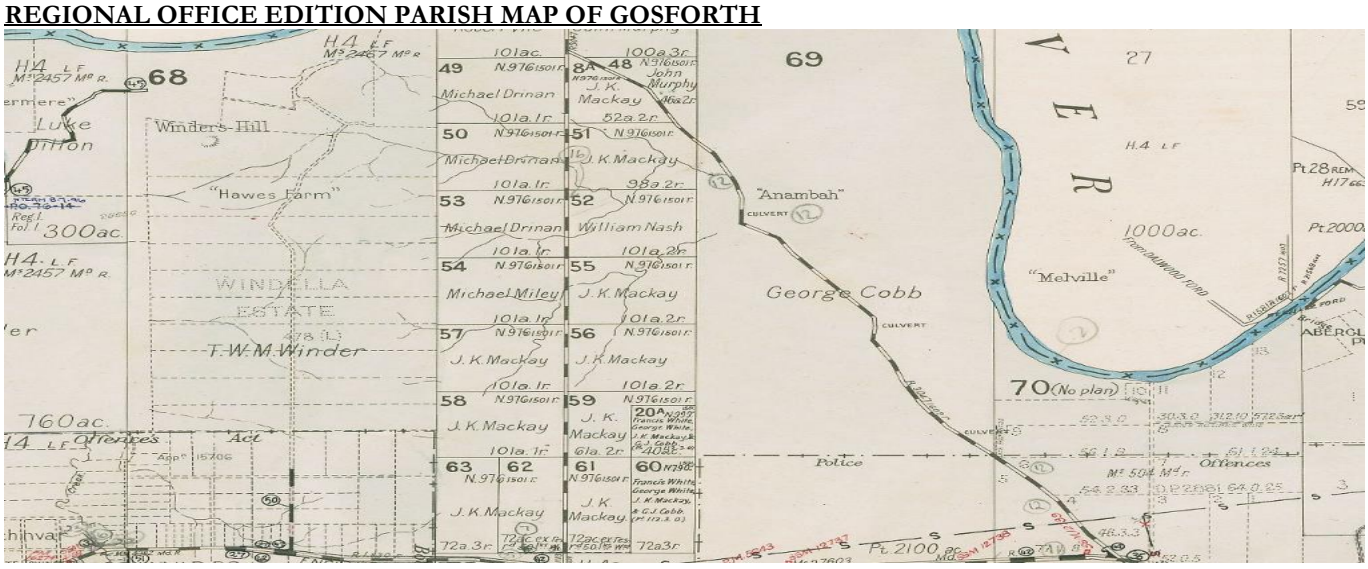
In view of my findings and in view of Section 8 of the Local Government Amending Act of 1908, this part of River Road is no longer a Crown Road, but now deemed to be a Council Public Road.

- 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.

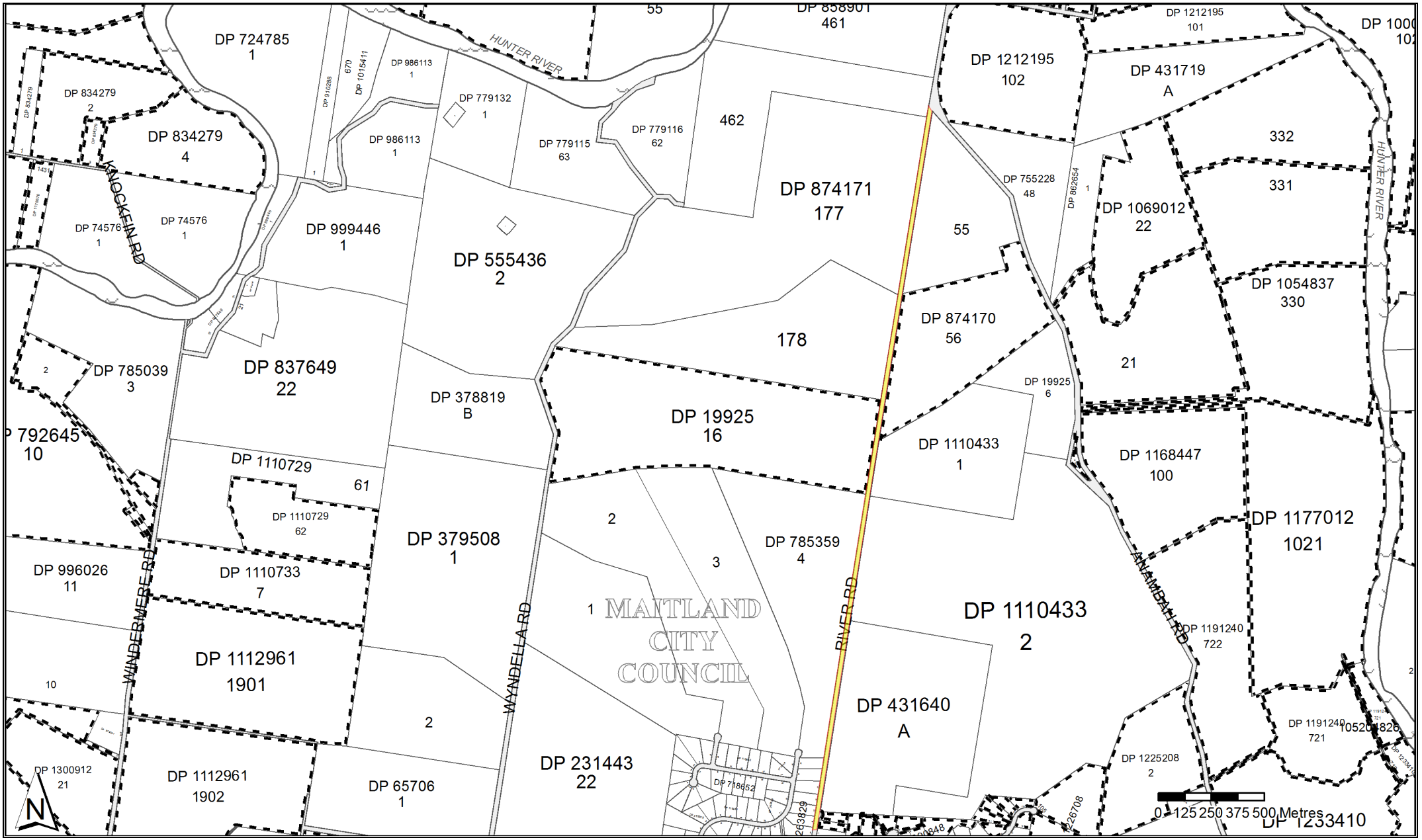
REGIONAL OFFICE EDITION PARISH MAP OF GOSFORTH



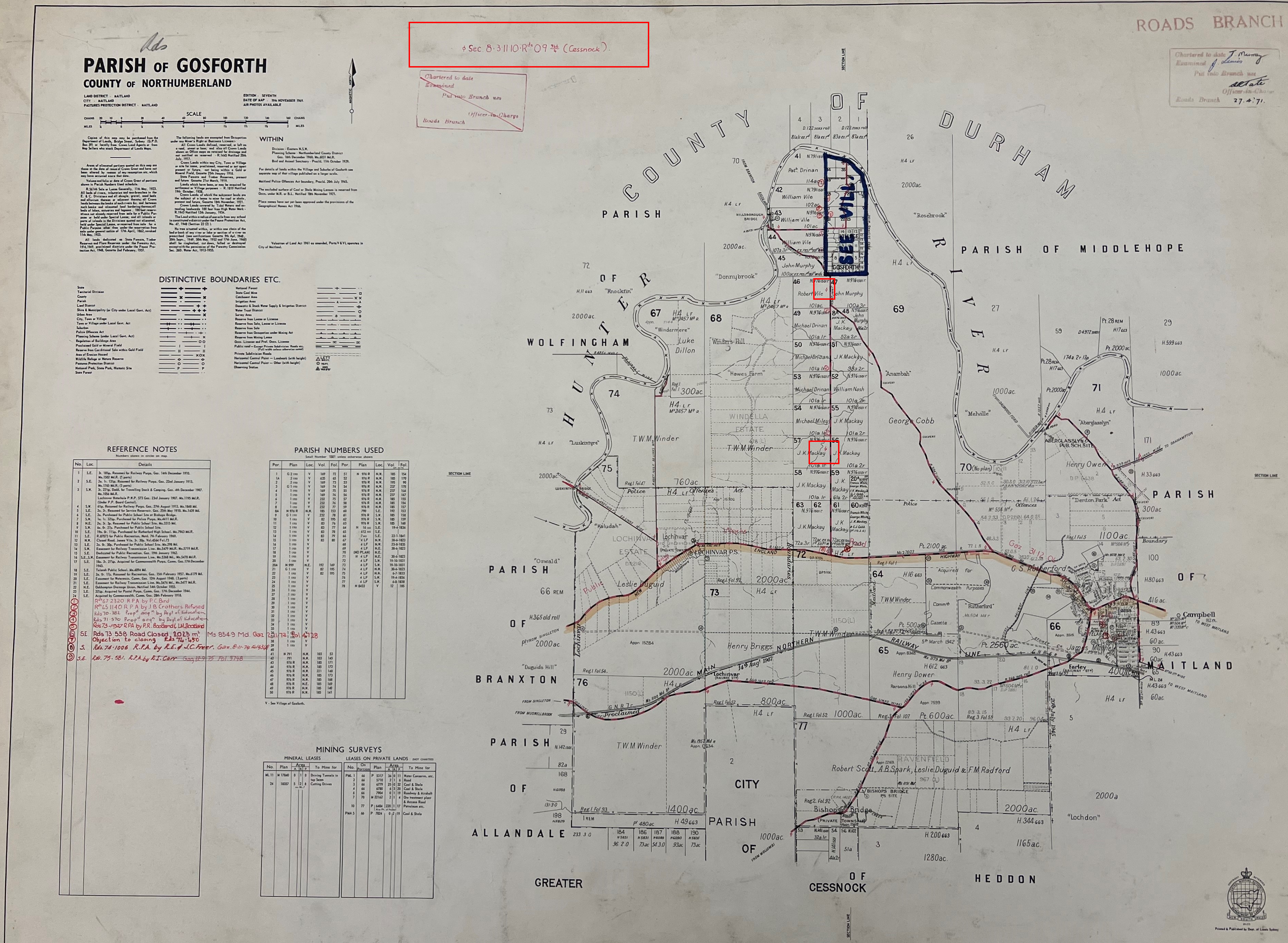
Yours sincerely
Mark Groll
24 July 2024

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



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
Sec 8.3.11.10.Rd 09 (Cessnock)
Chartered to date
Examined
Put into Branch use
Officer-in-Charge
Roads Branch
ROADS BRANCH
27.4.71.
COUNTY OF DURHAM
PARISH OF MIDDLEHOPE
HUNTER RIVER
PARISH OF WOLFINGHAM
PARISH OF BRANXTON
PARISH OF ALLANDALE
GREATER CITY OF CESSNOCK
PARISH OF HEDDON
PARISH OF MAITLAND
SEE VILL. GOSFORTH
"Donnybrook"
"Knockfin"
"Windermere"
Luke Dillon
Windella Estate
T.W.M. Winder
"Rosebrook"
"Anambah"
George Cobb
"Melville"
"Aberglasslyn"
Henry Owen
Lochinvar
Leslie Duguid
Henry Briggs
Henry Dower
Ravenfield
Robert Scott, A.B. Spark, Leslie Duguid & F.M. Radford
Bishops Bridge
"Lochdon"
"Oswald"
"Luskintyre"
"Kaludah"
"Duguids Hill"
Campbell
NORTHERN RAILWAY
MAIN
NEW ENGLAND HIGHWAY
Rds 73-558 Road Closed 2023 m²
Rds 74-1006 R.P.A. by R.E. & J.C. Freer
Rds 75-581 R.P.A. by R.I. Carr

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

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 XX XXI	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
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

	Date	Station	Star	Culmination	Observed Altd.	True Altitude	Declination	Latitude	Mean
For Latitude	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"	

	Date	Station	Star	Elongation	Magc. Bearing	True Bearing	Declination	Variation	Mean
For Variation	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"	

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

and Schedule prepd. for D.S.O. 22/3/88

3047-1603

R 1103-1603

72/152

Laid before the Executive Council on 27th May 1873. (Min: 73/33.)

Alex. C. Budge[?]
Clerk of the Council

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.

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

Wm. D. Linden[?]
Licensed Surveyor

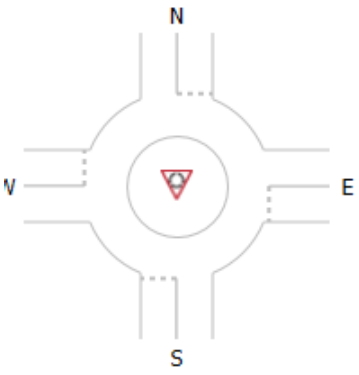
Opening Vou: No. 73.75 18 Nov 73.

Vouched 72/3 2nd May 73

APPENDIX B

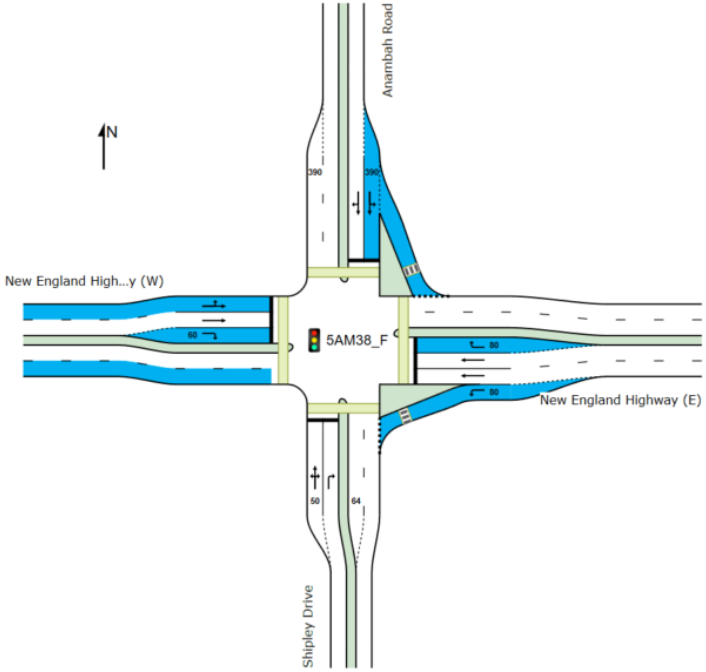
TFNSW RFI FOR SIDRA MODELLING

<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

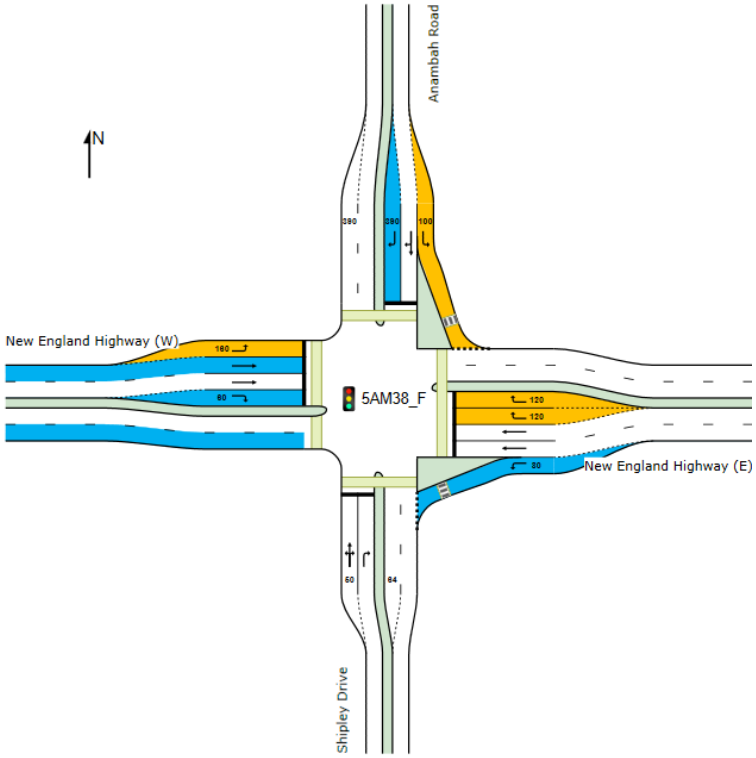
The proposed infrastructure upgrade is considered a minimum requirement to cater for background traffic growth and would result in satisfactory intersection performance.

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



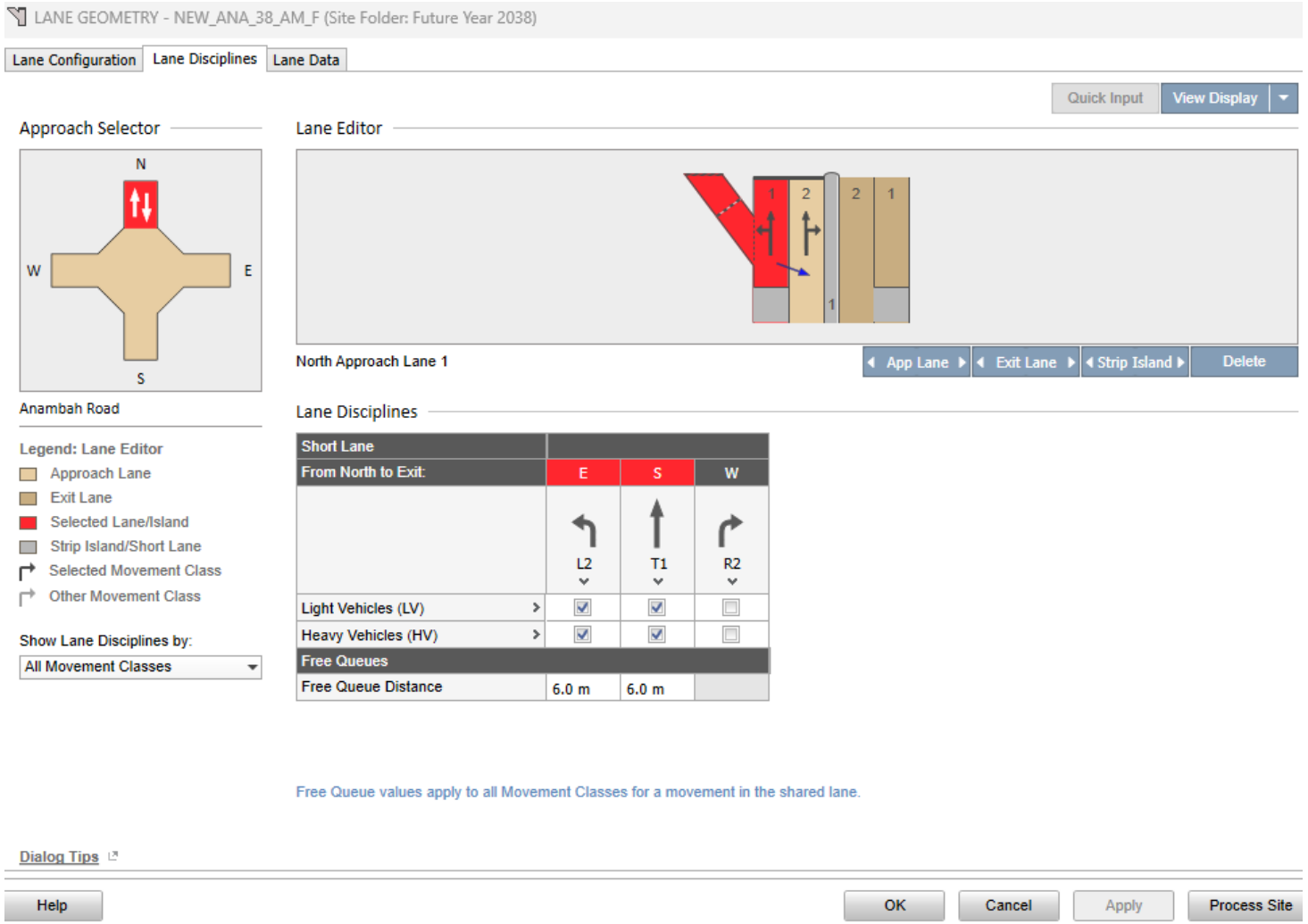
Note that the blue section represents the infrastructure required for the background growth/ the yellow section represents the infrastructure required for the development.

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

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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

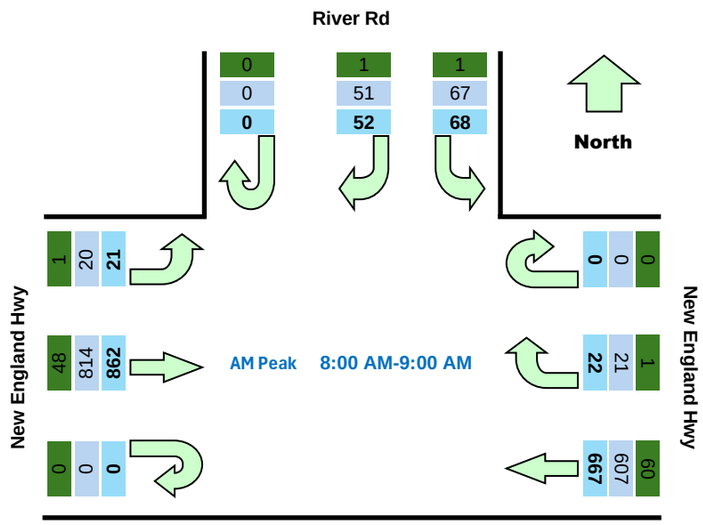
Time		North Approach River Rd			East Approach New England Hwy			West Approach New England Hwy			Hourly Total	
Period Start	**Period End**	**U**	**R**	**L**	**U**	**R**	**WB**	**U**	**EB**	**L**	**Hour**	**Peak**
7:00	7:15	0	6	14	0	6	117	0	143	3	1323	
7:15	7:30	0	8	12	0	4	120	0	162	2	1406	
7:30	7:45	1	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		

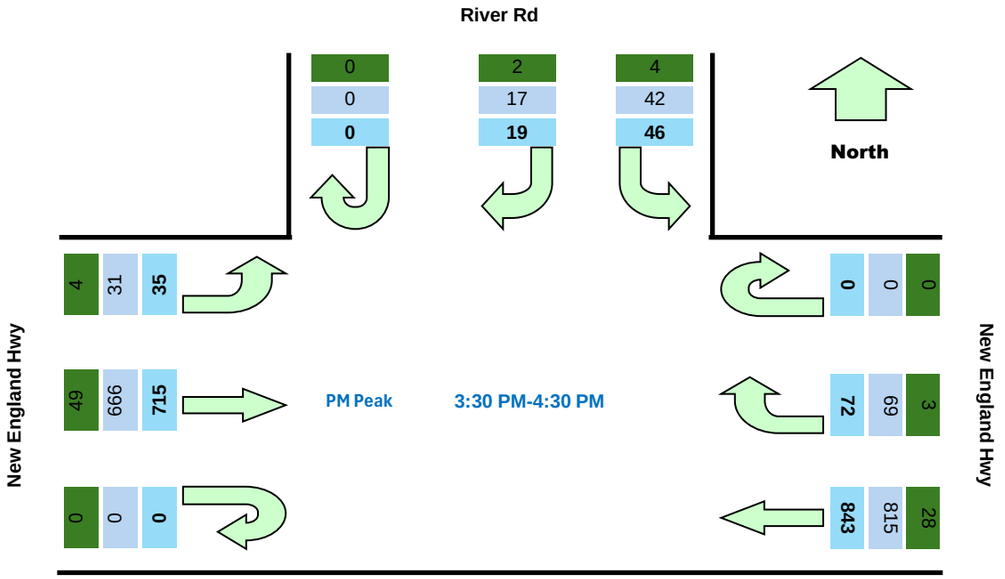
Peak Time		North Approach River Rd			East Approach New England Hwy			West Approach New England Hwy			Peak total
Period Start	**Period End**	U	R	L	U	R	WB	U	EB	L	
8:00	9:00	0	52	68	0	22	667	0	862	21	1692
15:30	16:30	0	19	46	0	72	843	0	715	35	1730

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

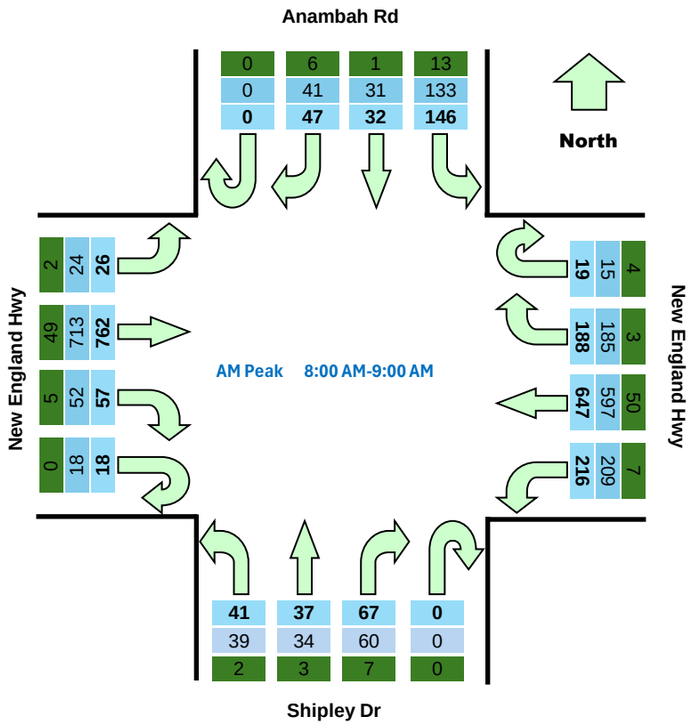
Time		North Approach Anambah Rd				East Approach New England Hwy				South Approach Shipley Dr				West Approach New England Hwy				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:00	7:15	0	6	3	22	8	27	133	39	0	10	4	7	0	10	115	5	1809	
7:15	7:30	0	3	3	22	2	62	136	30	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		

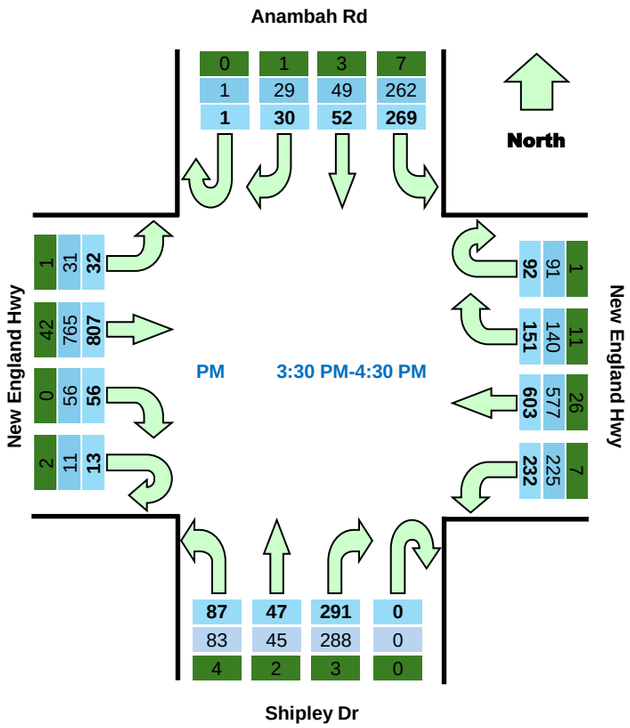
Peak Time		North Approach Anambah Rd				East Approach New England Hwy				South Approach Shipley Dr				West Approach New England Hwy				Peak total
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
8:00	9:00	0	47	32	146	19	188	647	216	0	67	37	41	18	57	762	26	2303
15:30	16:30	1	30	52	269	92	151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

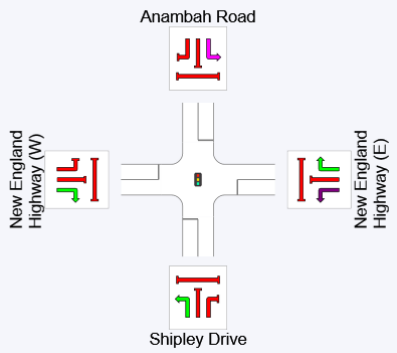
Phase	D	A	B	C
Phase Change Time (sec)	123	0	89	107
Green Time (sec)	18	83	12	12
Phase Time (sec)	24	89	16	16
Phase Split	17%	61%	11%	11%
Phase Frequency (%)	100.0	100.0	59.3[2]	59.3[2]

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%.

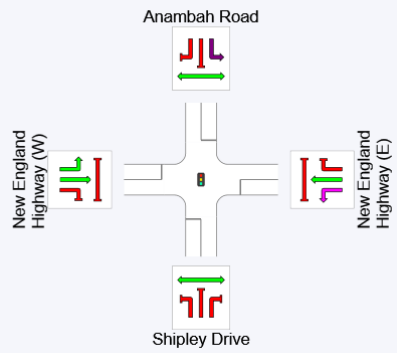
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

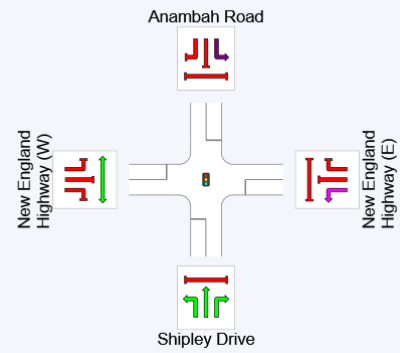
Phase D



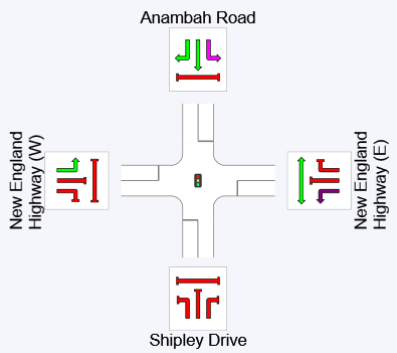
Phase A **REF**



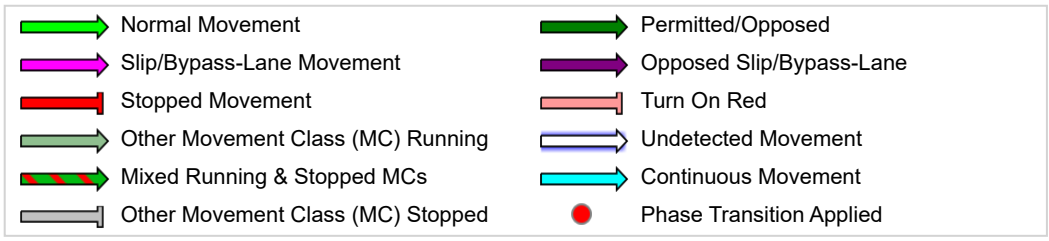
Phase B



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

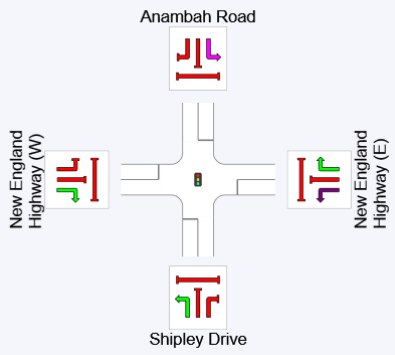
Phase	D	E	A	B	C
Phase Change Time (sec)	123	131	0	82	111
Green Time (sec)	6	12	76	23	6
Phase Time (sec)	12	18	82	29	8
Phase Split	8%	12%	55%	19%	5%
Phase Frequency (%)	100.0	100.0	100.0	100.0	29.6[2]

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%.

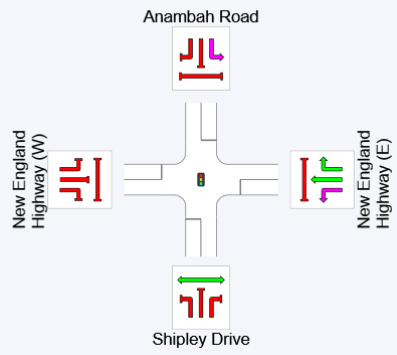
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

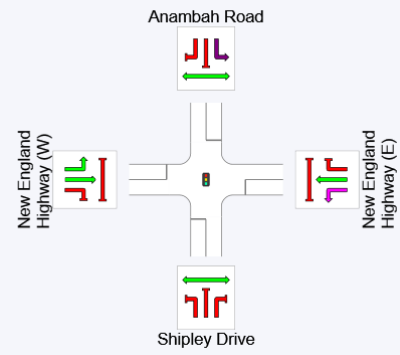
Phase D



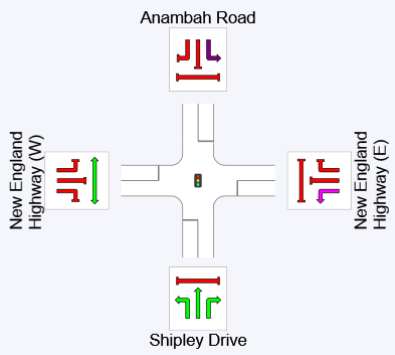
Phase E



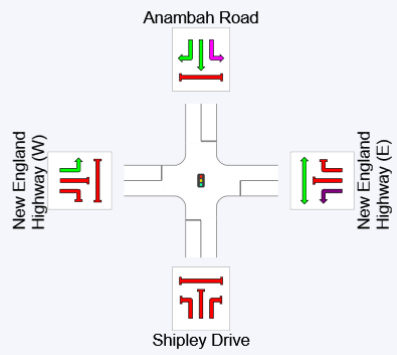
Phase A **REF**



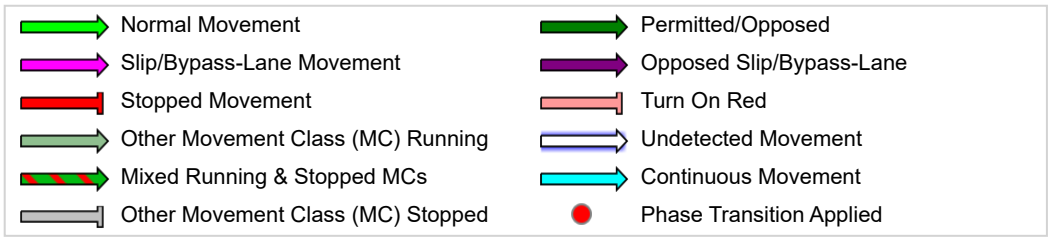
Phase B



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

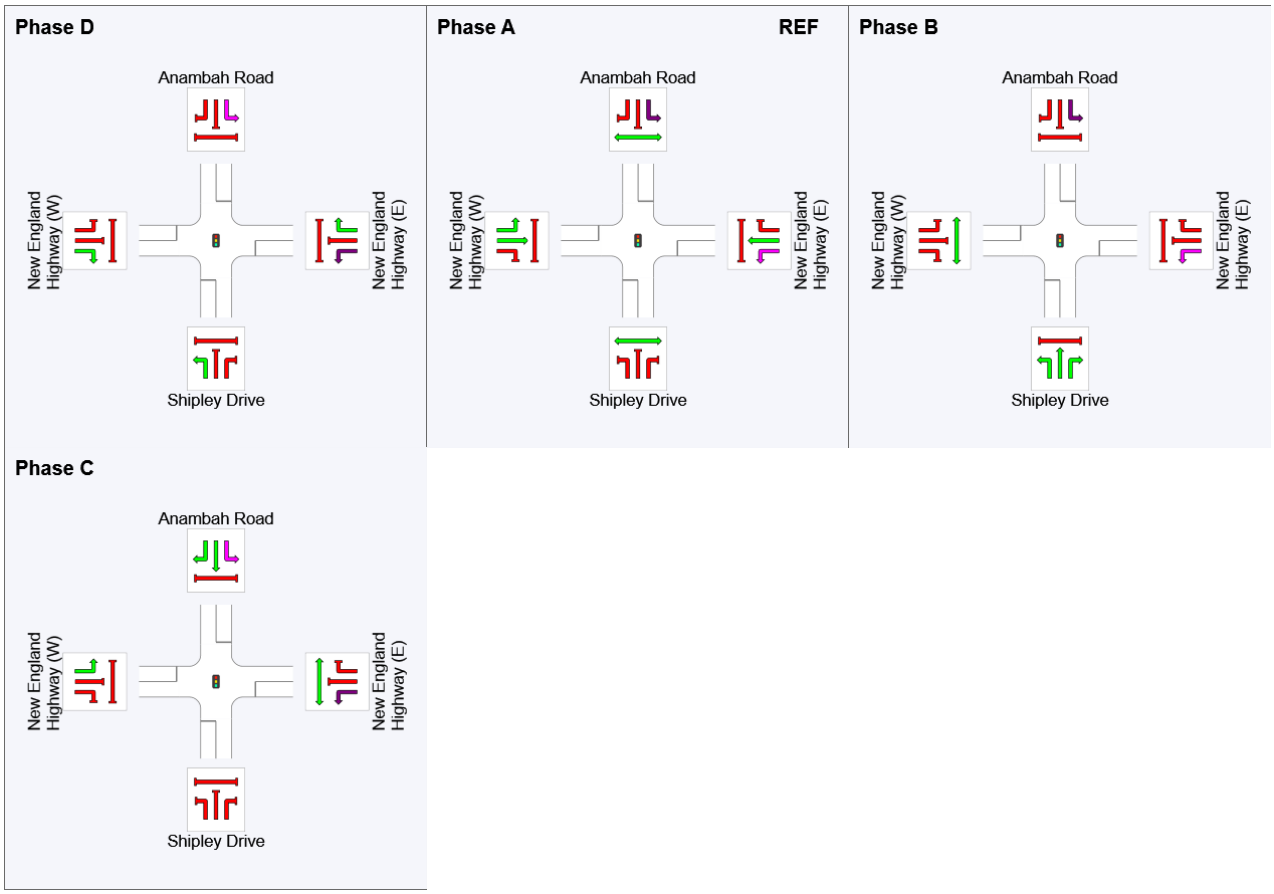
Phase Timing Summary

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]

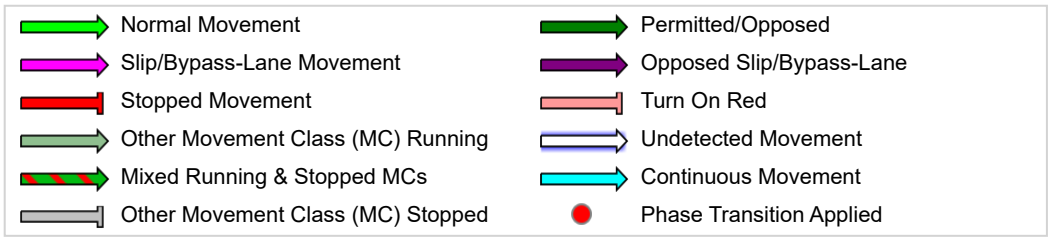
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

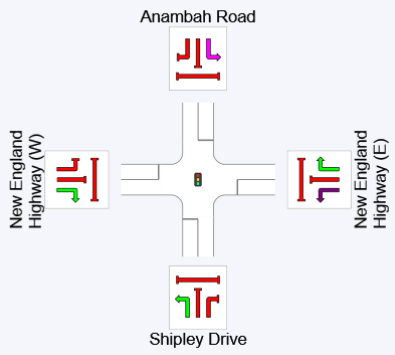
Phase	D	E	A	B	C
Phase Change Time (sec)	124	131	0	85	113
Green Time (sec)	5	12	79	22	5
Phase Time (sec)	9	18	85	28	7
Phase Split	6%	12%	58%	19%	5%
Phase Frequency (%)	75.0[2]	100.0	100.0	100.0	25.9[2]

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%.

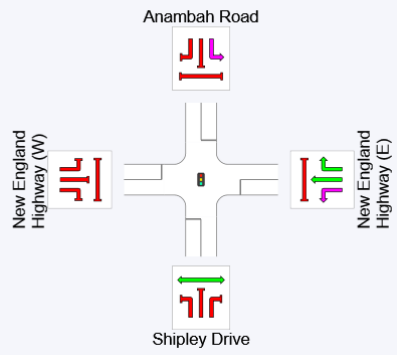
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

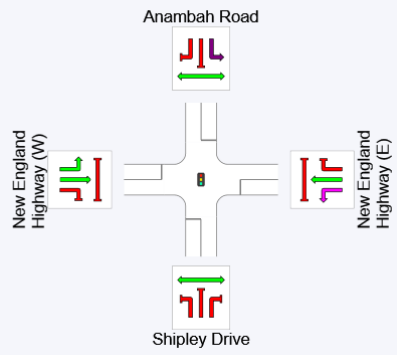
Phase D



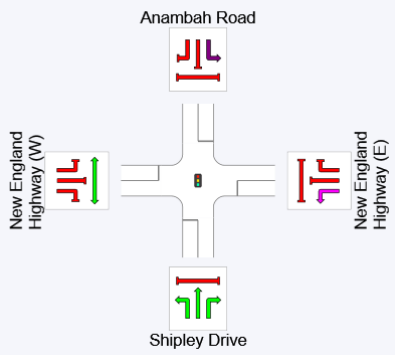
Phase E



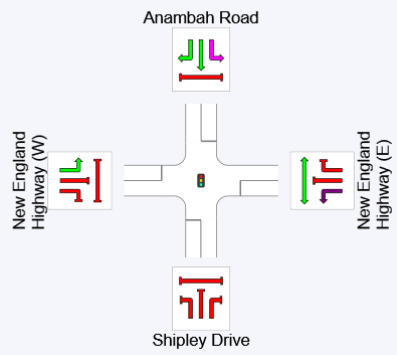
Phase A **REF**



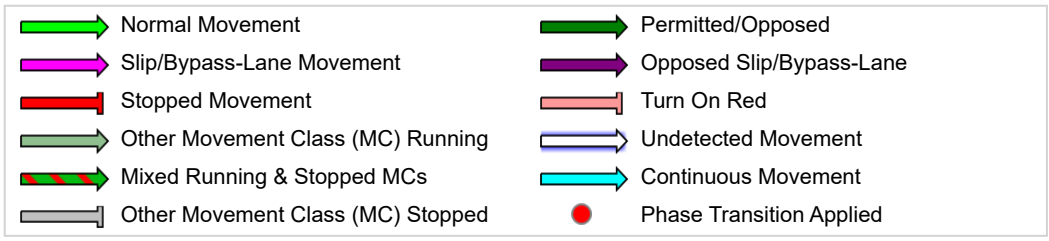
Phase B



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

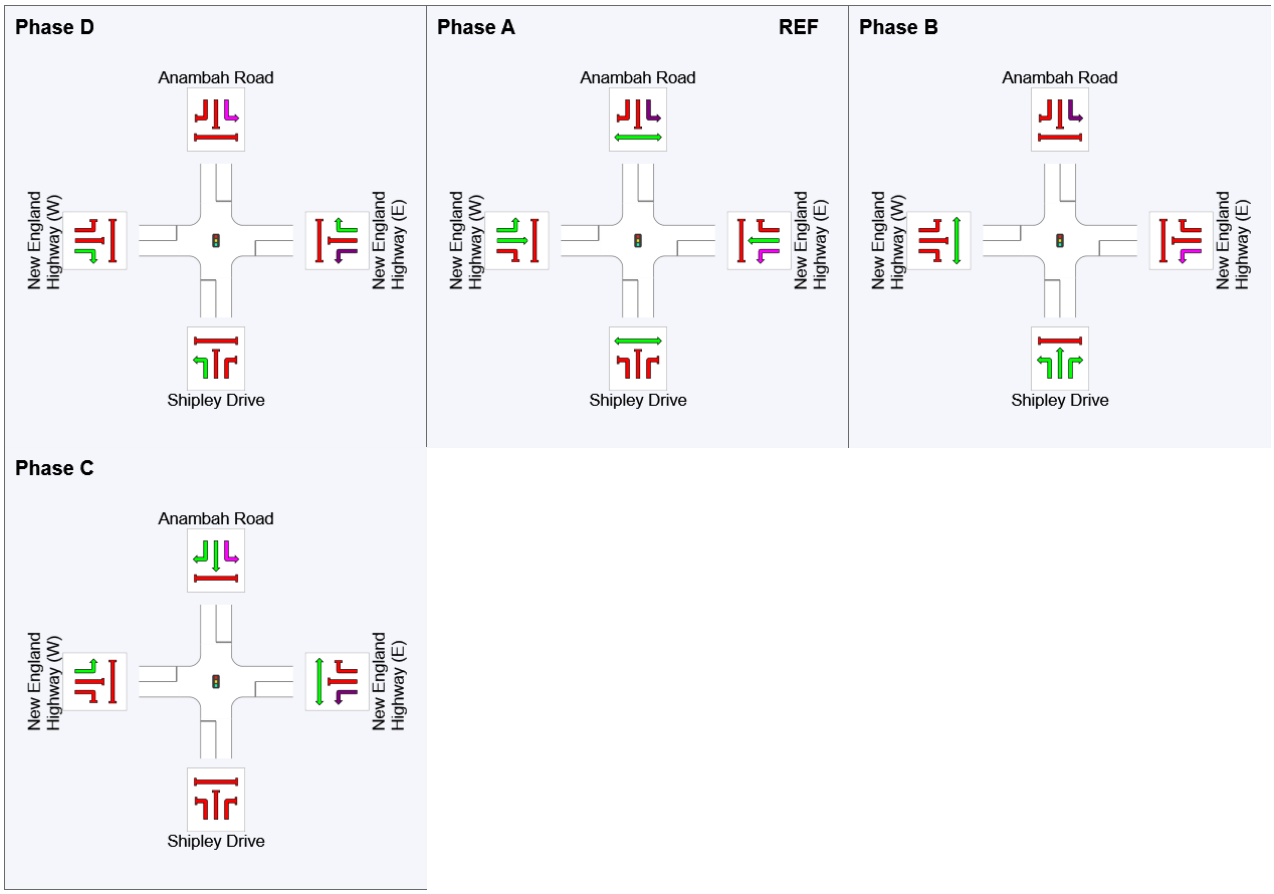
Phase Timing Summary

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]

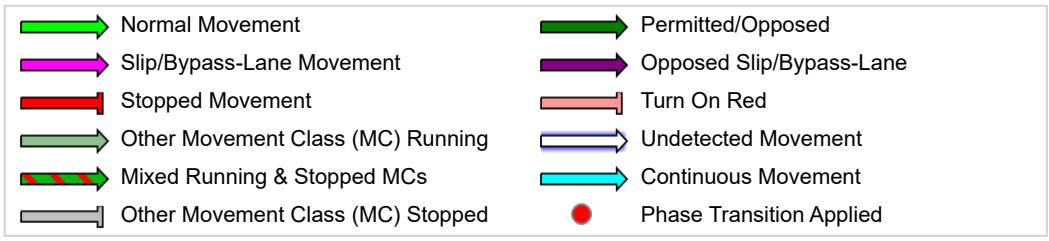
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

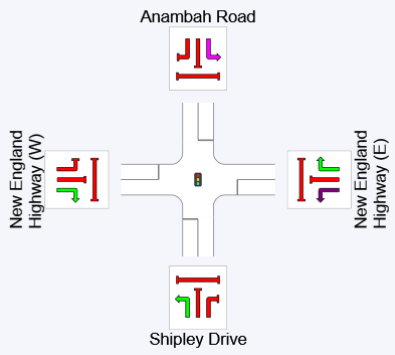
Phase	D	E	A	B	C
Phase Change Time (sec)	124	131	0	85	113
Green Time (sec)	5	12	79	22	5
Phase Time (sec)	9	18	85	28	7
Phase Split	6%	12%	58%	19%	5%
Phase Frequency (%)	75.0[2]	100.0	100.0	100.0	25.9[2]

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%.

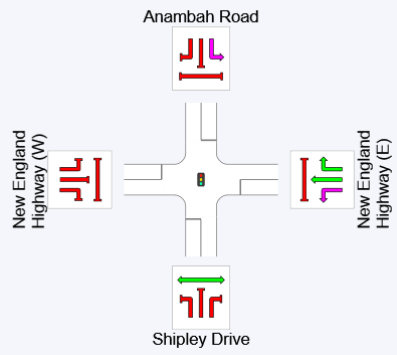
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

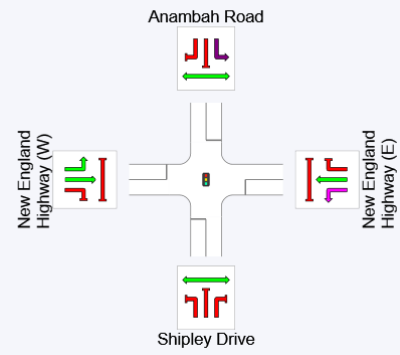
Phase D



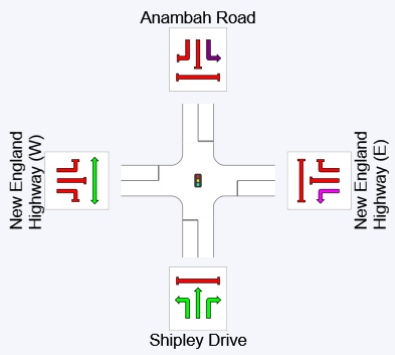
Phase E



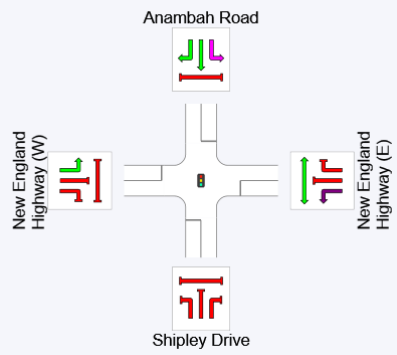
Phase A **REF**



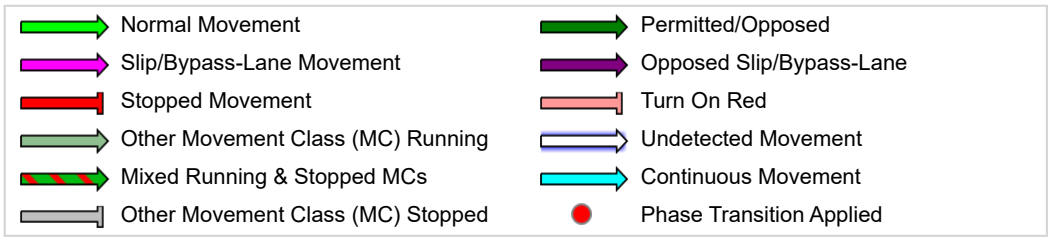
Phase B



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

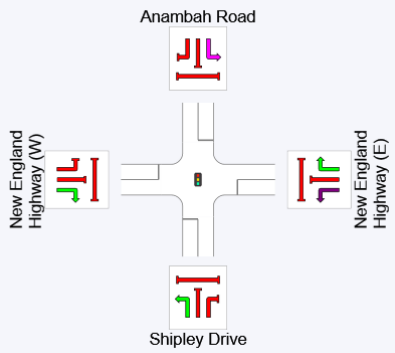
Phase	D	A	B	C
Phase Change Time (sec)	123	0	89	106
Green Time (sec)	18	83	11	14
Phase Time (sec)	24	89	14	18
Phase Split	17%	61%	10%	12%
Phase Frequency (%)	100.0	100.0	51.9[2]	66.7[2]

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%.

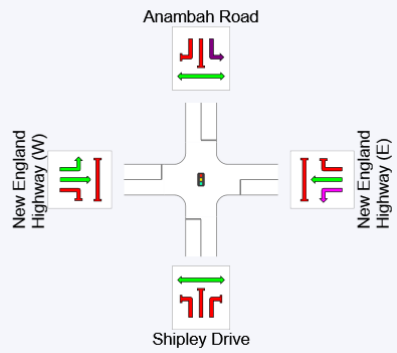
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

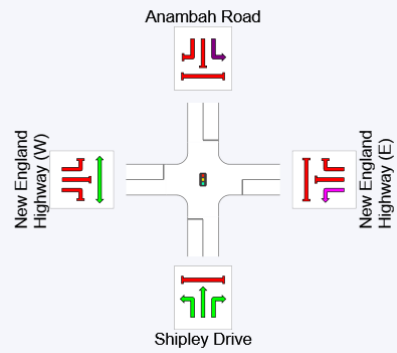
Phase D



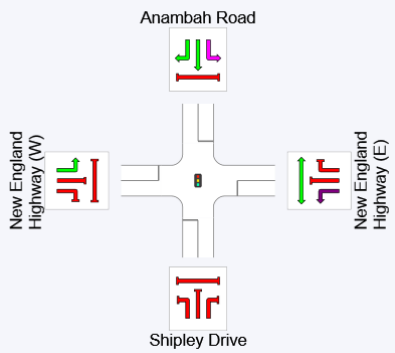
Phase A **REF**



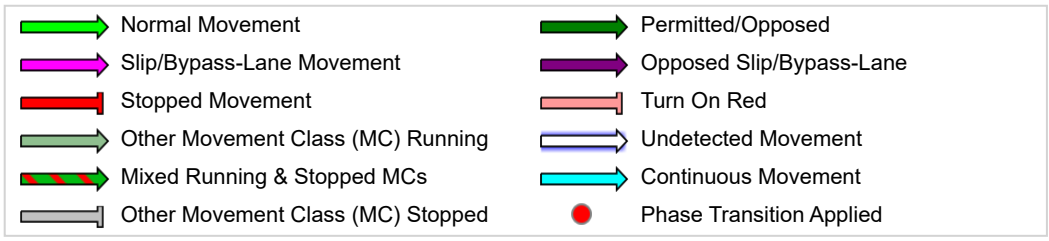
Phase B



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

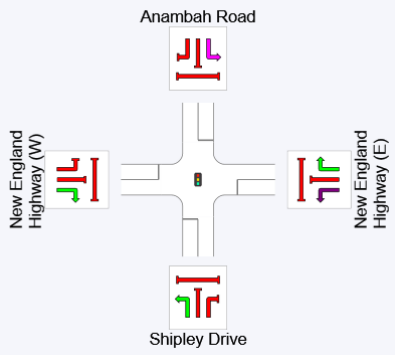
Phase	D	E	A	B	C
Phase Change Time (sec)	124	131	0	85	113
Green Time (sec)	5	12	79	22	5
Phase Time (sec)	9	18	85	28	7
Phase Split	6%	12%	58%	19%	5%
Phase Frequency (%)	75.0[2]	100.0	100.0	100.0	25.9[2]

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%.

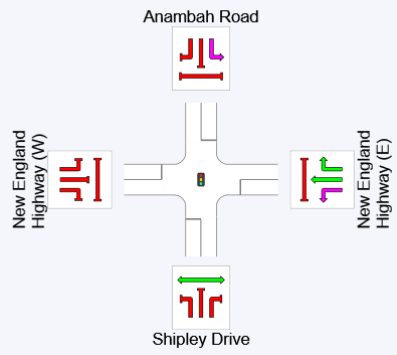
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

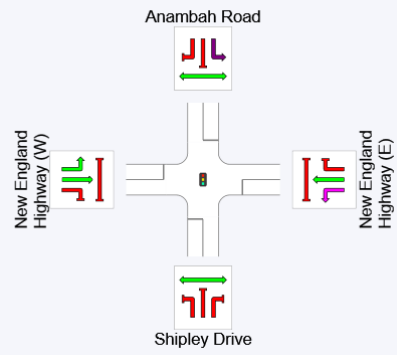
Phase D



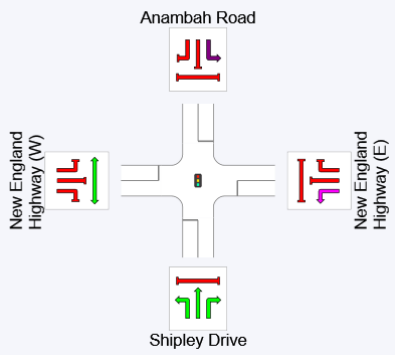
Phase E



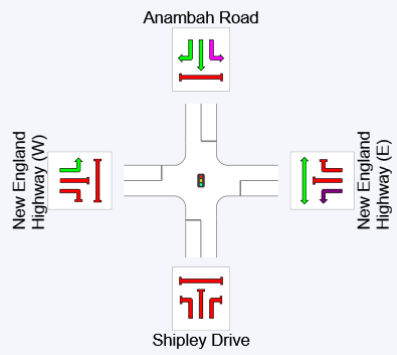
Phase A **REF**



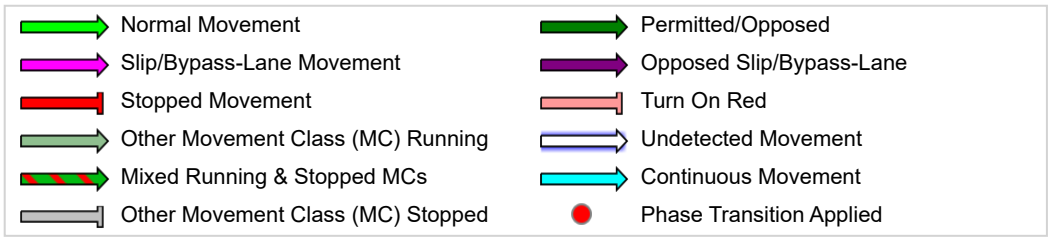
Phase B



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

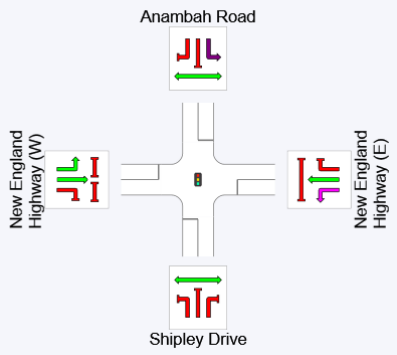
Phase	A	E	B	C	D
Phase Change Time (sec)	0	68	84	111	126
Green Time (sec)	65	10	21	9	9
Phase Time (sec)	71	16	27	14	12
Phase Split	51%	11%	19%	10%	9%
Phase Frequency (%)	98.1[2]	100.0	93.1[2]	87.5[2]	57.1[2]

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%.

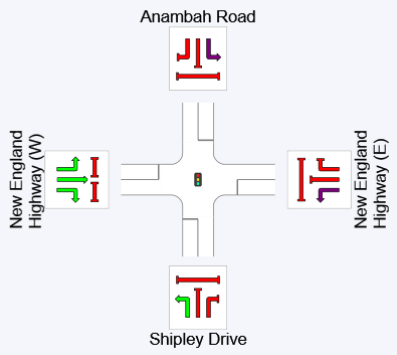
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

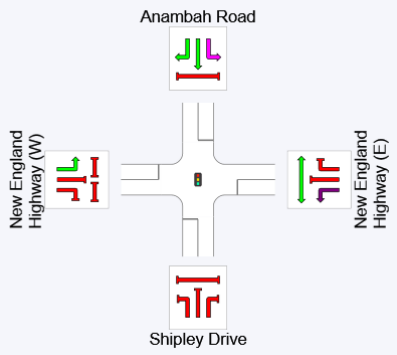
Phase A **REF**



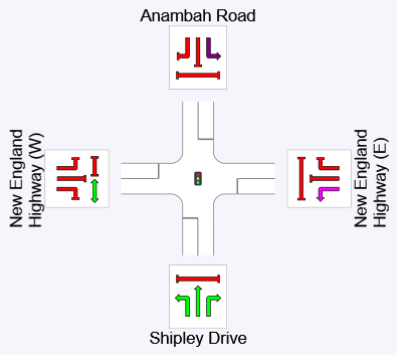
Phase E



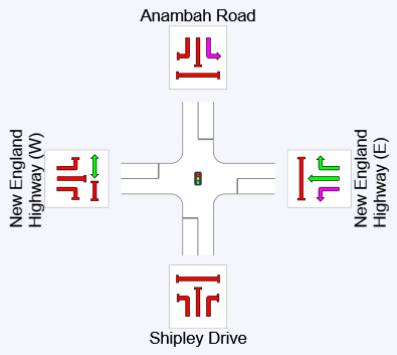
Phase B



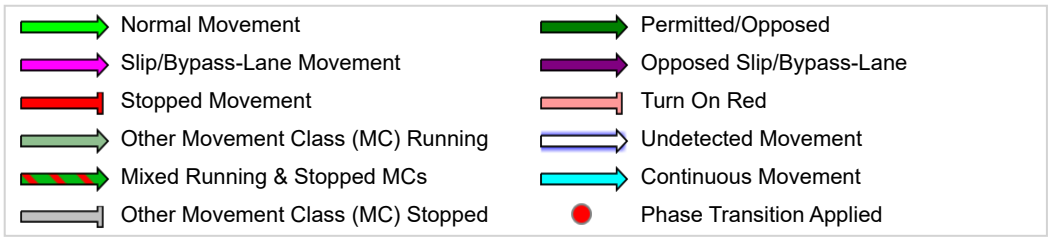
Phase C



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

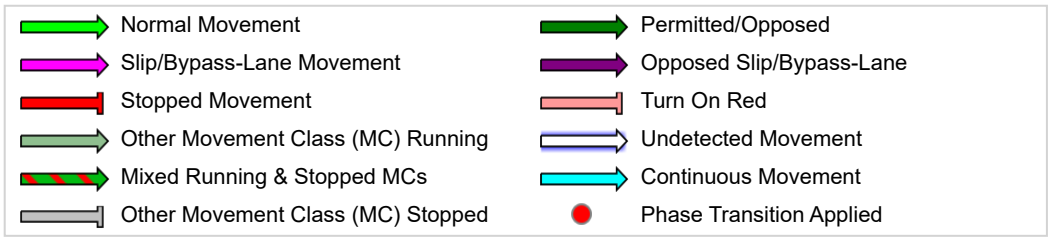
Phase	A	E	B	C	D
Phase Change Time (sec)	0	57	68	81	107
Green Time (sec)	51	5	9	24	27
Phase Time (sec)	57	9	11	30	33
Phase Split	41%	6%	8%	21%	24%
Phase Frequency (%)	98.1[2]	75.0[2]	37.9[2]	100.0	100.0

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

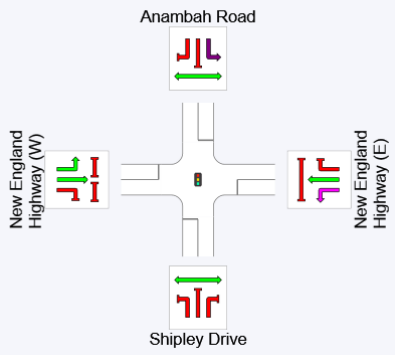
Phase	A	E	B	C	D
Phase Change Time (sec)	0	68	84	111	125
Green Time (sec)	64	10	21	8	10
Phase Time (sec)	70	16	27	13	14
Phase Split	50%	11%	19%	9%	10%
Phase Frequency (%)	98.1[2]	100.0	93.1[2]	81.3[2]	66.7[2]

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%.

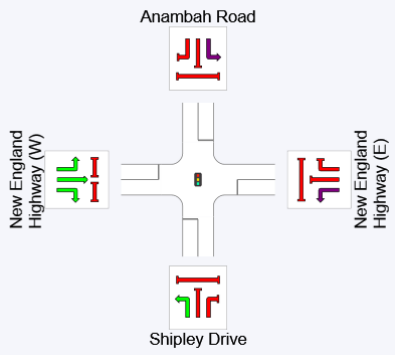
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

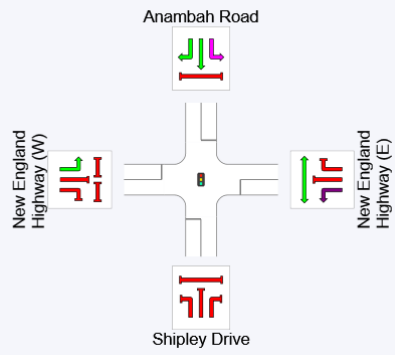
Phase A **REF**



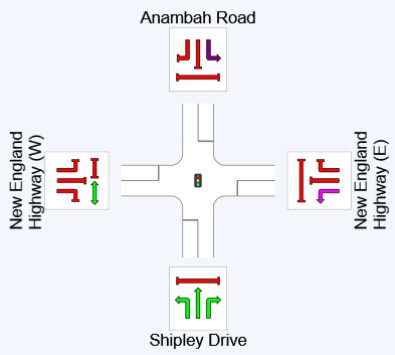
Phase E



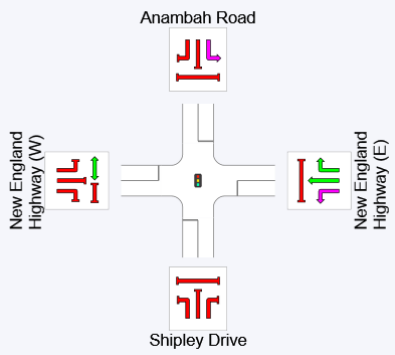
Phase B



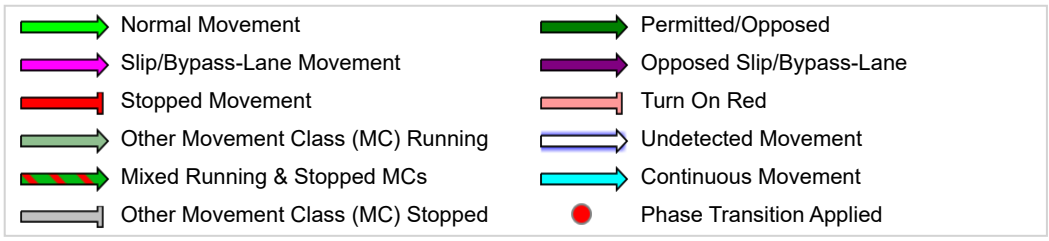
Phase C



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