



412 Cessnock Road, Gillieston Heights,
Maitland, NSW
Traffic Impact Assessment

Prepared for:
The Bathla Group

24 June 2022

The Transport Planning Partnership

412 Cessnock Road, Gillieston Heights, Maitland, NSW

Traffic Impact Assessment

Client: The Bathla Group

Version: V02

Date: 24 June 2022

TTPP Reference: 21342

Quality Record


Version	Date	Prepared by	Reviewed by	Approved by	Signature
V01	23/06/2022	Ashwini Uthishtran	Paul Cai	Ken Hollyoak	
V02	24/06/2022	Ashwini Uthishtran	Paul Cai	Ken Hollyoak	

Table of Contents

1	Introduction	1
2	Existing Conditions	2
2.1	Site Description	2
2.2	Road Network	2
2.3	Public Transport Facilities	3
2.4	Existing Traffic Volumes	3
3	Proposed Development.....	5
3.1	Proposal Description	5
3.2	Site Access and Internal Roads	5
4	Parking Assessment.....	7
4.1	Car Parking Requirements.....	7
4.2	Waste Collection Vehicle Access	7
5	Traffic Assessment	8
5.1	Existing Trip Generation.....	8
5.2	Future Traffic Generation.....	8
5.3	Traffic Distribution.....	8
5.4	Growth Rate	9
5.5	Traffic Modelling Scenarios.....	9
5.6	Modelling Results	11
6	Conclusion	14

Tables

Table 5-1: RMS Level of Service Criteria.....	12
Table 5.2: Modelling Results AM Peak Hour	12
Table 5.3: Modelling Results PM Peak.....	13

Figures

Figure 2.1: Locality Map	2
Figure 2.2: Existing AM Peak Traffic Volumes (7:45am-8:45am)	4
Figure 2.3: Existing PM Peak Traffic Volumes (4:45pm-5:45pm)	4

Figure 3.1: Proposed Site Layout	5
Figure 3.2: Right of Way Access	6
Figure 5.1: Trip Distribution	9
Figure 5.2: Existing Traffic + Development Traffic (AM Peak)	10
Figure 5.3: Existing Traffic + Development Traffic (PM Peak)	10
Figure 5.4: Existing+10yr Background Traffic + Development Traffic (AM Peak)	11
Figure 5.5: Existing+10yr Background Traffic + Development Traffic (PM Peak)	11

APPENDICES

- A. ARCHITECTURAL PLANS
- B. SIDRA RESULTS

1 Introduction

This report relates to the traffic and parking aspects of a proposed residential subdivision at 412 Cessnock Road, Gillieston Heights.

The proposed development comprises 63 residential dwelling houses and construction of a new road connecting with the existing partially constructed Broad Street.

This report has been prepared by The Transport Planning Partnership (TPPP) on behalf of the Bathla Group. It has been prepared to accompany a Development Application (DA) to Maitland City Council.

This report sets out an assessment of the anticipated transport impacts of the proposed development, including the following:

- Chapter 2 discusses the existing conditions including a description of the subject site
- Chapter 3 provides a brief description of the proposed development
- Chapter 4 assesses the proposed on-site parking provision and internal layout
- Chapter 5 examines the traffic generation and its impacts, and
- Chapter 6 presents the conclusions of the assessment.

2 Existing Conditions

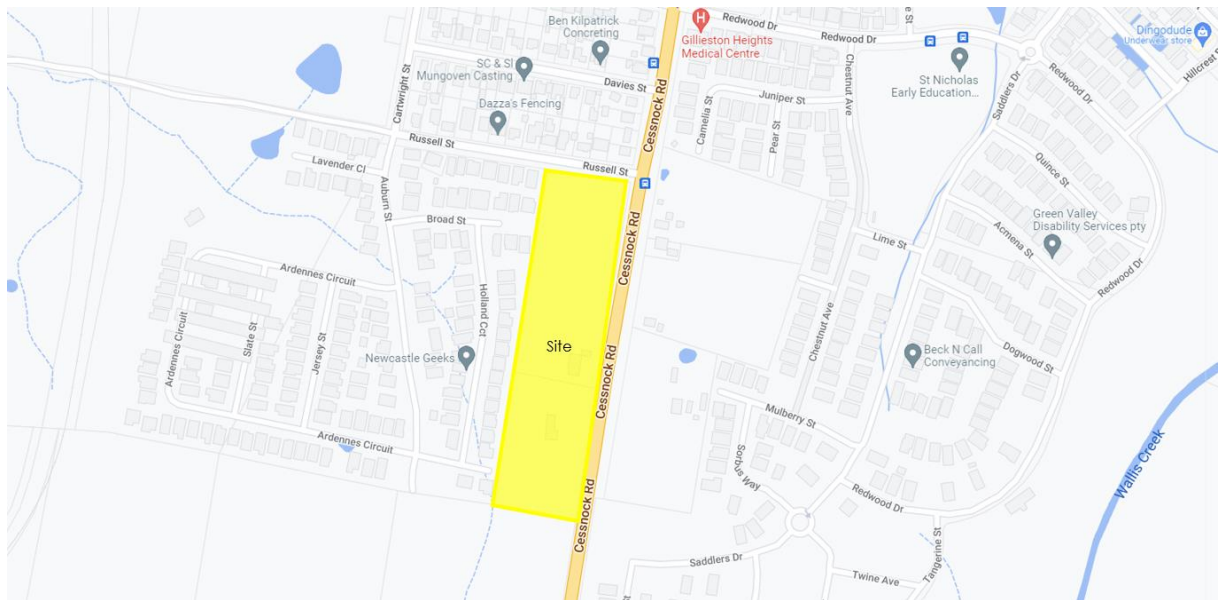
2.1 Site Description

The subject site is located at 412 Cessnock Road, Gillieston Heights (Lot 21/22, DP1092105) and falls under the local government area of Maitland City Council (Council).

The site is currently zoned as R1 General Residential use and is primarily surrounded by residential dwellings. The existing site contains two dwelling houses.

The location of the subject site is presented in Figure 2.1.

Figure 2.1: Locality Map



2.2 Road Network

Cessnock Road is a two-way road with one lane in either direction. Cessnock Road is a state road under control by TfNSW. It provides a connection between New England Highway to the north and Main Road to the south. The posted speed limit of 60km/hr applies to the northbound direction and a speed limit of 80km/hr applies to the southbound direction of Cessnock Road.

Russell Street is an undivided two-way road with one lane in either direction. There are no restrictions applied to the kerb-side parking. Russell Street provides a connection between Cessnock Road to the east and Auburn Street and Cartwright Street to the west. The posted speed limit of 50km/hr applies to both directions.

Auburn Street is an undivided two-way road. Width of the road is about 10 metres from kerb to kerb. Speed limit of 50 km/hr applies in Auburn Street.

Broad Street is an undivided two-way road. Width of the road is about 7.5 metres from kerb to kerb. It is a partially constructed road with two non-through sections on either side of Holland Circuit. The proposed development will construct a new road connecting each end of the partially constructed Broad Street.

2.3 Public Transport Facilities

The closest bus stop is located on Cessnock Road directly opposite the site. This stop is serviced by the routes 164 (Cessnock to Maitland via Kurri Kurri) and 166 (Kurri Kurri to Maitland) every 15 minutes to 60 minutes.

2.4 Existing Traffic Volumes

TTPP commissioned traffic surveys on Thursday, 17 February 2022 between the hours of 5:45am – 10:15am and 3:15pm – 7:45pm. The survey included counts of vehicle turning movements at the following four intersections:

- Cessnock Road and Russell Street
- Cessnock road and Heyes Street
- Cartwright Street and Russell Street
- Cartwright Street and Heyes Street

The road network peak hours with the highest number of overall vehicle movements were recorded as occurring at 7:45am-8:45am in the morning period and 4:45pm-5:45pm in the evening period. The traffic volumes during the peak periods are presented in Figure 2.2 and Figure 2.3.

Figure 2.2: Existing AM Peak Traffic Volumes (7:45am-8:45am)

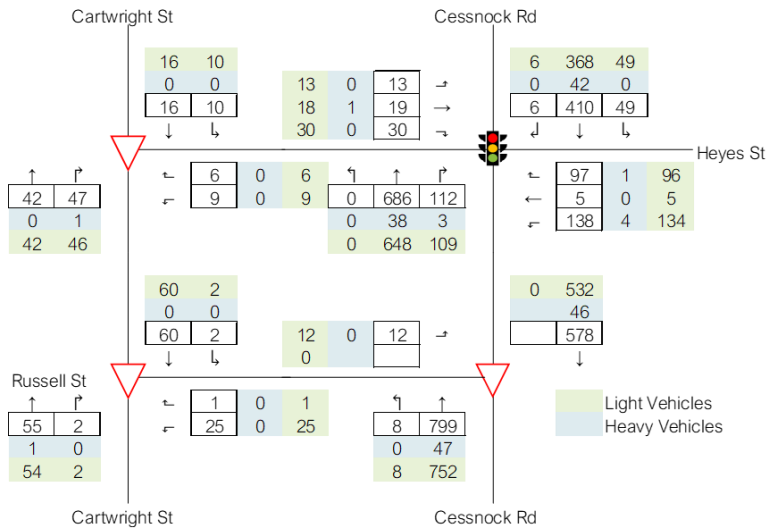
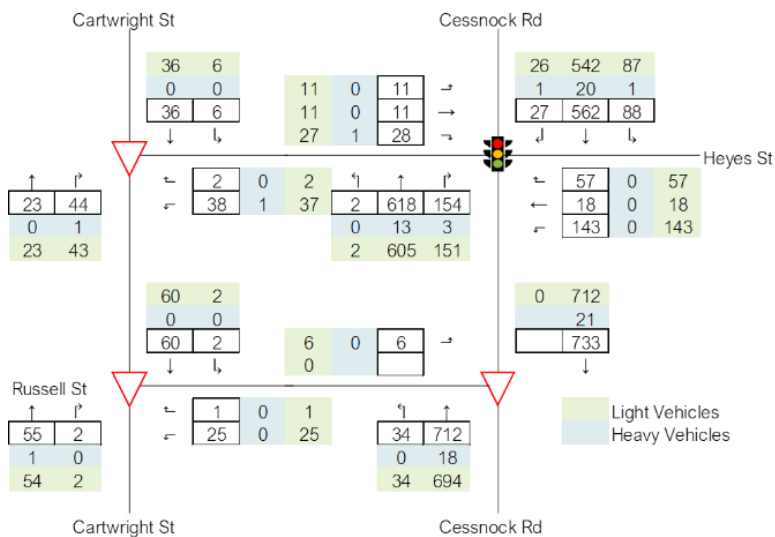


Figure 2.3: Existing PM Peak Traffic Volumes (4:45pm-5:45pm)



3 Proposed Development

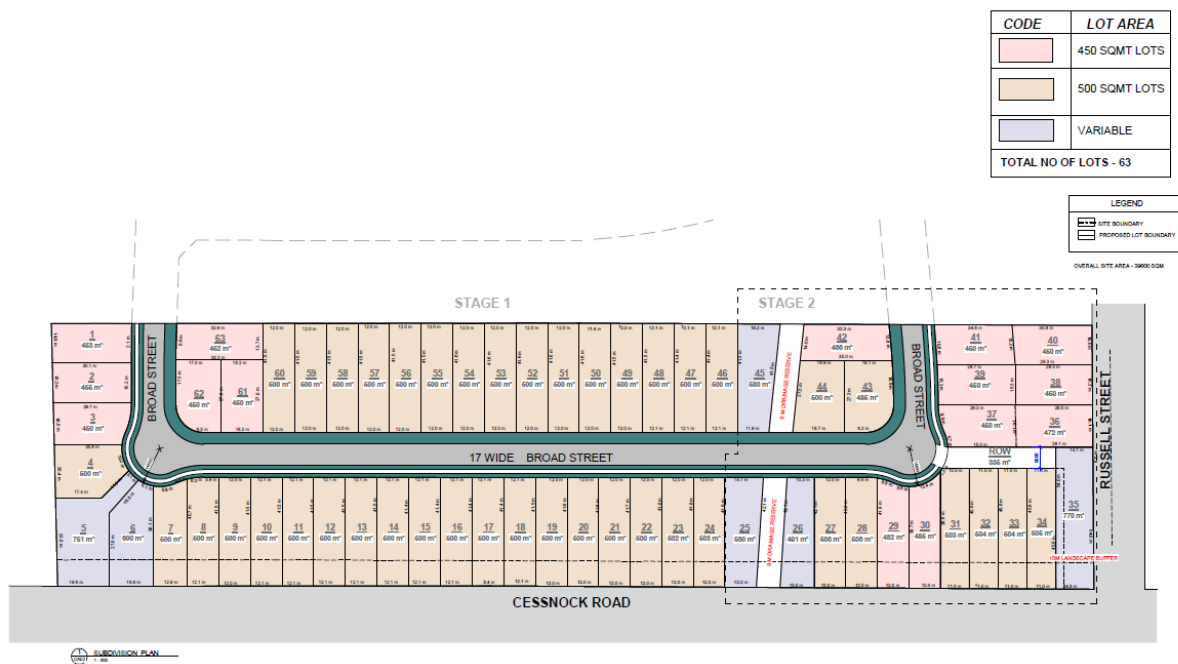
3.1 Proposal Description

The proposed development involves subdivision of the existing lands and construction of 63 dwelling houses.

Currently, there are two large lot with residential dwelling house in each lot at the subject site.

The site layout for the proposed development is shown in Figure 3.1, with the architectural site plans contained in Appendix A.

Figure 3.1: Proposed Site Layout



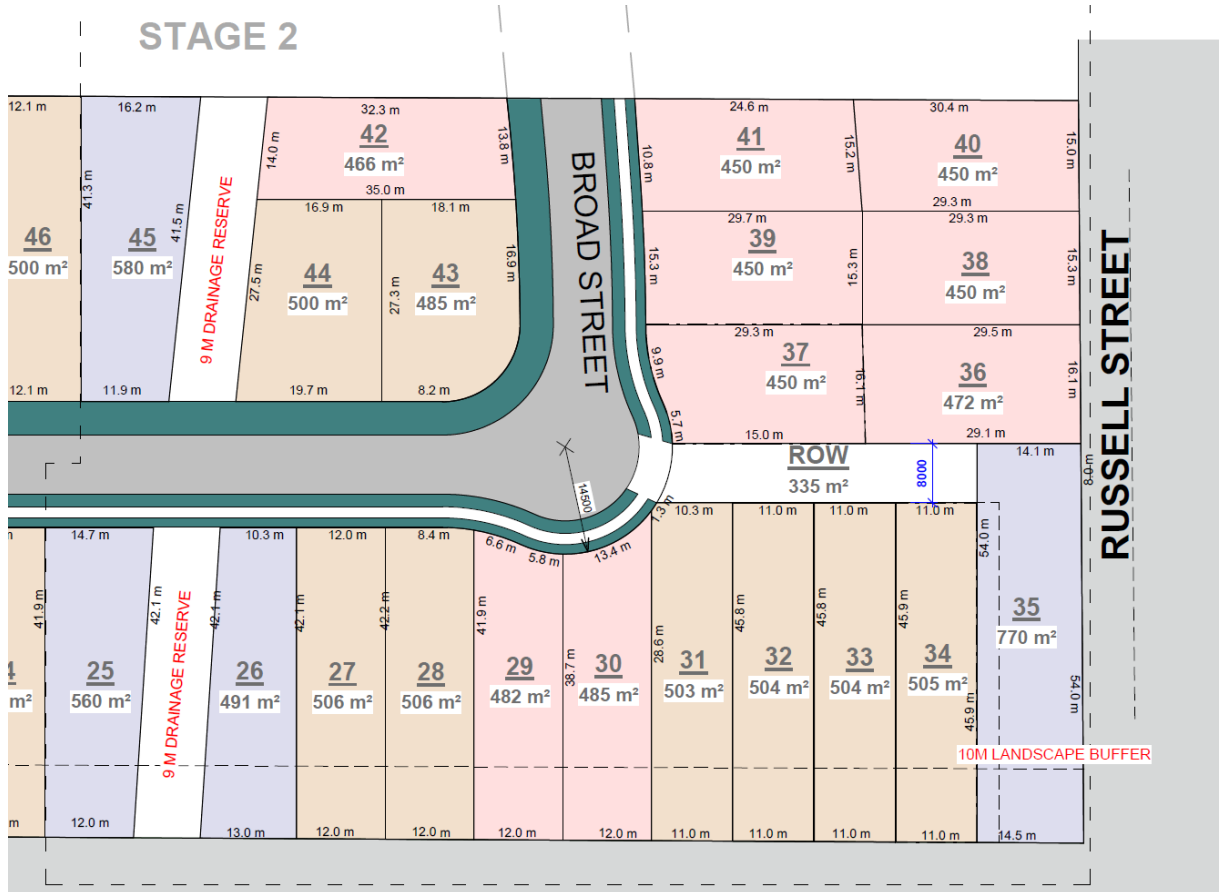
3.2 Site Access and Internal Roads

The proposed development will provide a new two-way road section connecting to the partially constructed Broad Street.

The new road is to be designed for a local secondary road type as per the minimum requirements of the DCP. That is, a reserve width of 17m with a carriageway width of 8m.

No properties will be provided with access to Cessnock Road. A new Right of Way will be constructed to provide access to properties No. 31-35, as shown in Figure 3.2. Properties No. 36, 38 and 40 will be accessed via Russell Street.

Figure 3.2: Right of Way Access



4 Parking Assessment

4.1 Car Parking Requirements

The Maitland City Council DCP 2011 stipulates off-street car parking rates for new developments within its LGA. Car parking provisions for the proposed development has been calculated in accordance with the DCP parking rates for residential dwellings.

The DCP states a minimum parking rate of one space per dwelling house. The detailed design of each dwelling house is unknown at this stage. However, each dwelling house is to be provided with at least one off-street parking space in compliance with Council's DCP requirements.

4.2 Waste Collection Vehicle Access

It is proposed that waste will be collected via Council kerbside collection.

The proposed Broad Street will allow waste vehicle to travel through the subject site without the requirement of turnaround facilities.

5 Traffic Assessment

5.1 Existing Trip Generation

The RMS Technical Direction TDT2013/04a has been the source for determining the traffic generation associated with the existing site and future development.

There are currently two single dwelling houses at the subject site. Based on the RMS trip rates for low-density dwellings in regional areas, which is 0.71 trips per dwelling in the AM peak and 0.78 trips per dwelling in the PM peak, the existing dwellings are estimated to generate approximately two trips in each peak period.

5.2 Future Traffic Generation

Trip rates for the low-density residential component of the proposed development were sourced from the RMS Technical Direction TDT2013/04a. As per the existing site, regional trip rates have been applied to estimate the site's future trip generation.

For the propose 63 residential dwelling houses, the development is estimated to generate 45 trips in the AM peak and 50 trips in the PM peak.

The net traffic generation is 43 trips in the AM peak and 48 trips in the PM peak. This is equivalent to approximately one trip every one to two minutes in the AM peak and PM peak periods.

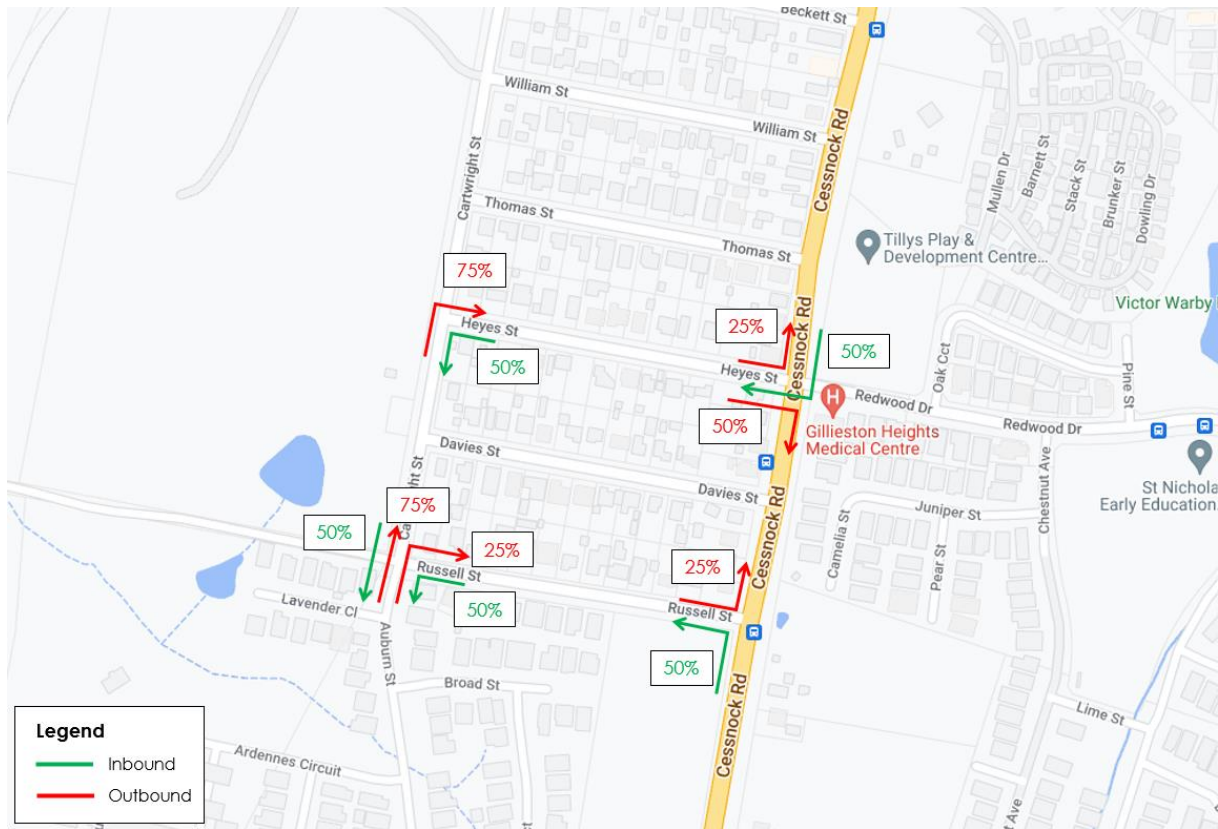
5.3 Traffic Distribution

In-line with typical directional proportions for residential dwellings, the trips generated by the proposed development have been distributed in the peak periods as follows:

- AM peak:
 - Inbound Trips: 20% of total trip generation
 - Outbound Trips: 80% of total trip generation
- PM peak:
 - Inbound Trips: 80% of total trip generation
 - Outbound Trips: 20% of total trip generation.

Additionally, an equal split in trips to/ from the north and south directions has been assumed i.e., 50% of the traffic entering (or leaving) the site is travelling to/from the north and 50% to/from the south as shown in Figure 5.1.

Figure 5.1: Trip Distribution



5.4 Growth Rate

The Sydney's Strategic Travel Forecast Model (STFM) provided by TfNSW is a strategic transport planning model that considers population and employment growths and is used for high level of assessment of major infrastructure proposals, transport strategies and policy decision making.

The STFM provides future year traffic volumes to determine the relative traffic growth between baseline traffic and future year traffic conditions.

The STFM growth rates have been adopted to determine the future base traffic volumes.

5.5 Traffic Modelling Scenarios

Traffic modelling has been carried out to assess the capacity of intersections surrounding the subject site. SIDRA Intersection modelling software, version 9.0, has been used to assess intersection performance during the peak periods.

The existing conditions have been assessed based on the 2022 surveyed traffic flows. Future conditions have been assessed in year 2022 and 2032. The scenarios which have been modelled are as follows:

- Scenario 0 (S0) – Existing conditions (“2022 Base Case”)
- Scenario 1 (S1) – Future case (2022) with subject site development traffic.
- Scenario 2 (S2) – Future Case (2032) with background traffic growth only
- Scenario 2 (S3) – Future case (2032) with background traffic growth and subject site development traffic

The traffic turning movement diagrams with the distributed development traffic is shown in Figure 5.2 to Figure 5.5.

Figure 5.2: Existing Traffic + Development Traffic (AM Peak)

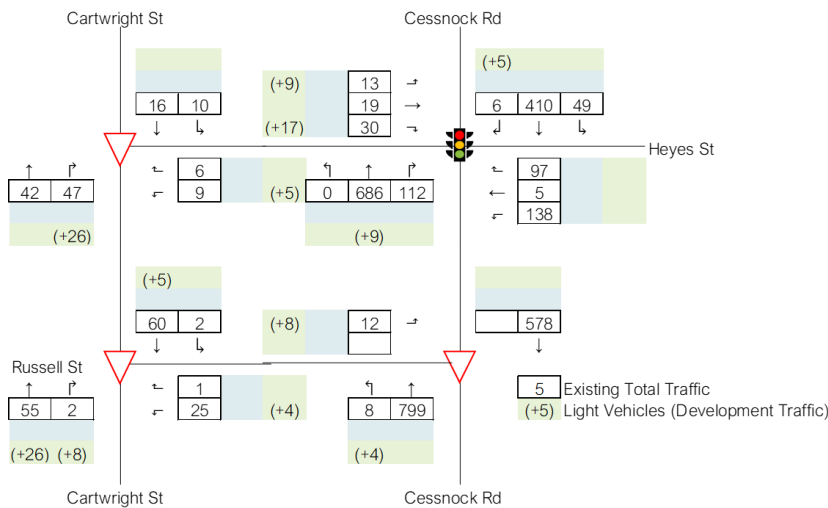


Figure 5.3: Existing Traffic + Development Traffic (PM Peak)

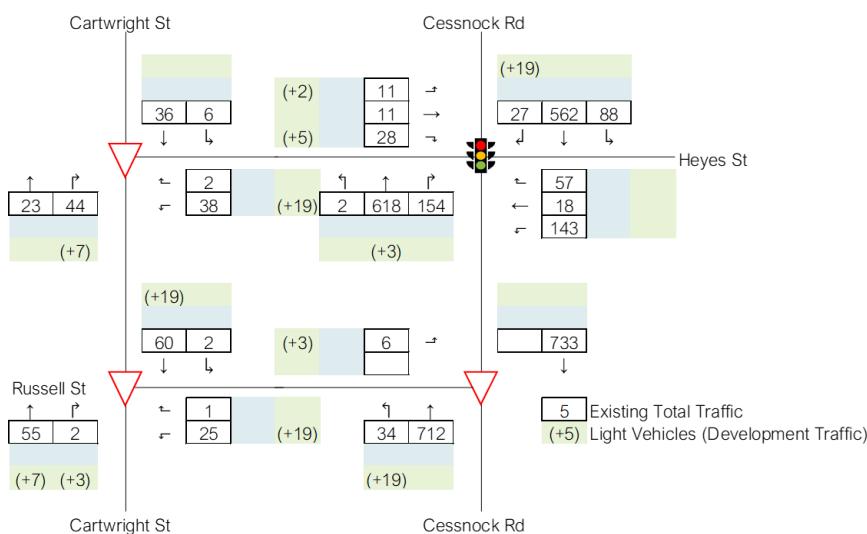


Figure 5.4: Existing+10yr Background Traffic + Development Traffic (AM Peak)

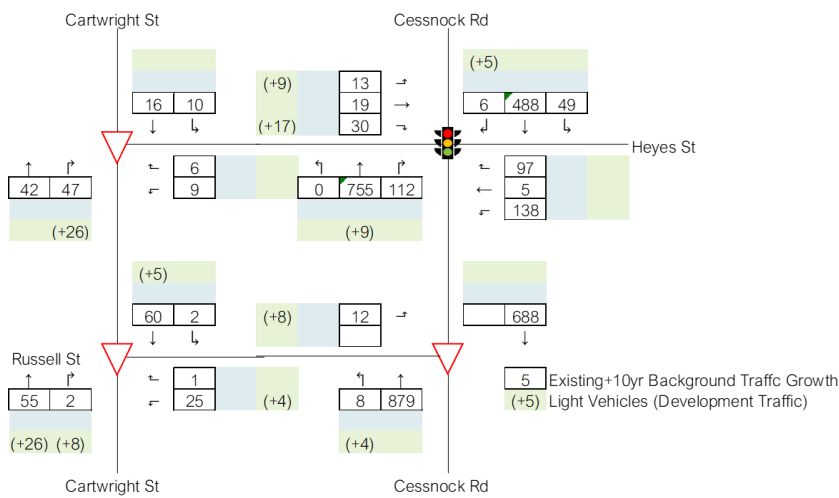
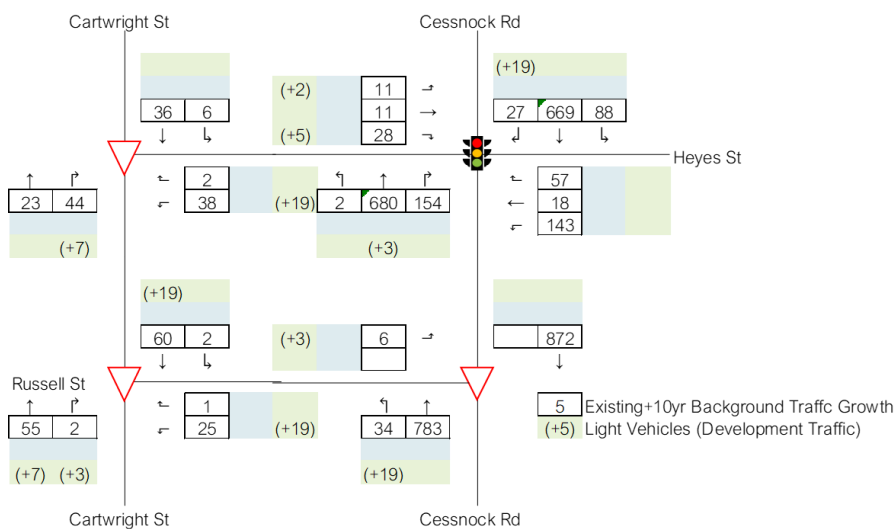


Figure 5.5: Existing+10yr Background Traffic + Development Traffic (PM Peak)



5.6 Modelling Results

Performance criteria for intersections are based on the RTA (RMS) Guide to Traffic Generating Developments. A qualitative rating and its corresponding Level of Service (LoS) are applied to the average delay per vehicle as shown in Table 5-1.

Table 5-1: RMS Level of Service Criteria

Level of Service (LoS)	Average Delay per vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode.
F	Greater than 70	Unsatisfactory, requires additional capacity	Unsatisfactory, requires other control mode or major treatment

At signalised intersections, the average delay is the volume weighted average of all movements. For roundabouts and priority (give way and stop sign) controlled intersections, the average delay relates to the worst movement.

The modelling results for the scenarios with and without development traffic for the years 2022 and 2032 are shown in Table 5.2 for the AM peak hour and in Table 5.3 for the PM peak hour.

Table 5.2: Modelling Results AM Peak Hour

Intersection	Scenario 1 (2022 Existing Surveyed)		Scenario 2 (2022 with Development)		Scenario 3 (2032 No Development)		Scenario 4 (2032 with Development)	
	Average Delay	LoS	Average Delay	LoS	Average Delay	LoS	Average Delay	LoS
Cessnock Road-Heyes Street	21	B	21	B	21	B	22	B
Cessnock Road-Russell Street	10	A	10	A	12	A	12	A
Cartwright Street-Heyes Street	6	A	6	A	6	A	6	A
Cartwright Street-Russell Street	6	A	6	A	6	A	6	A

Table 5.3: Modelling Results PM Peak

Intersection	Scenario 1 (2022 Existing Surveyed)		Scenario 2 (2022 with Development)		Scenario 3 (2032 No Development)		Scenario 4 (2032 with Development)	
	Ave Delay	LoS	Ave Delay	LoS	Ave Delay	LoS	Ave Delay	LoS
Cessnock Road-Heyes Street	20	B	20	B	20	B	20	B
Cessnock Road-Russell Street	9	A	9	A	10	A	10	A
Cartwright Street-Heyes Street	6	A	6	A	6	A	6	A
Cartwright Street-Russell Street	6	A	6	A	6	A	6	A

Table 5.2 and Table 5.3 indicate that the key intersections near the site post development scenarios would continue to operate at similar levels of service to existing conditions, that is level of service A or B.

6 Conclusion


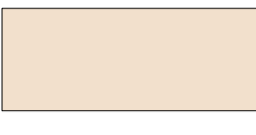

The above report details a traffic impact assessment of the proposed subdivision located at 412 Cessnock Road, Gillieston Heights. The key findings of the report are summarised as follows:



- The proposed subdivision includes 63 residential dwelling houses.
- Each dwelling would require a minimum of one car parking space in compliance with the Maitland City Council DCP requirements.
- Parking spaces are to be designed in accordance with Australian Standards AS 2890.1(2004).
- The net traffic generation is 43 trips in the AM peak and 48 trips in the PM peak. This is equivalent to approximately one trip every one to two minutes in the AM peak and PM peak periods.
- The SIDRA Intersection modelling results indicate that key intersections surrounding the subject site would operate at level of service A or B (good level of service) in the road network peak periods during the existing and post development scenarios.

In summary, the proposed development is not expected to have an adverse impact on the local road network.

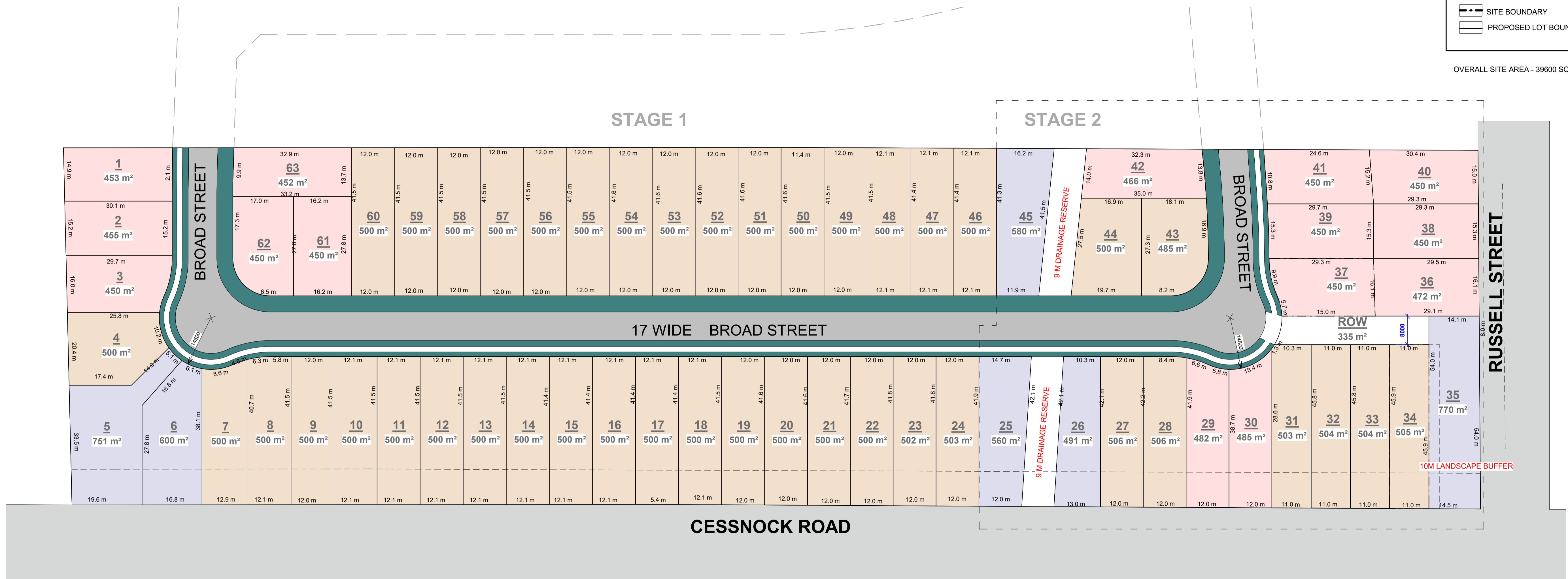
Appendix A

Architectural Plans

CODE	LOT AREA
	450 SQMT LOTS
	500 SQMT LOTS
	VARIABLE
TOTAL NO OF LOTS - 63	

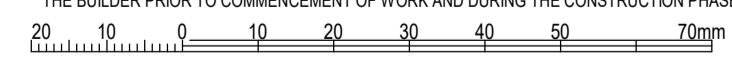
LEGEND	
	SITE BOUNDARY
	PROPOSED LOT BOUNDARY

OVERALL SITE AREA - 39600 SQM



1 SUBDIVISION PLAN
DA02 1:600

DO NOT SCALE
USE FIGURED DIMENSIONS AT ALL TIMES. IF IN DOUBT CHECK WITH THE BUILDER. CONTRACTORS TO CHECK AND VERIFY ALL LEVELS, DATUMS AND DIMENSIONS ON SITE AND SHALL REPORT ANY DISCREPANCIES OR OMISSIONS TO THE BUILDER PRIOR TO COMMENCEMENT OF WORK AND DURING THE CONSTRUCTION PHASE.



REV	DATE	DESCRIPTION	BY
1	15/06/2022	ISSUED FOR DA APPLICATION	SS

GENERAL NOTES:
THIS DRAWING IS THE EXCLUSIVE PROPERTY OF THE DEVELOPER & THE REPRODUCTION OF ANY PART WITHOUT THE PRIOR WRITTEN CONSENT OF THE DEVELOPER IS A VIOLATION OF APPLICABLE LAWS. IN NO EVENT SHALL THE DEVELOPER BE HELD LIABLE FOR SPECIAL, COLLATERAL, INCIDENTAL, OR CONSEQUENTIAL LIABILITY IN CONNECTION WITH THE USE OF THIS DIGITAL DATA ONCE RELEASED FROM THE DEVELOPER'S OFFICE. THIS DRAWING IS TO BE READ & UNDERSTOOD IN CONJUNCTION WITH THE STRUCTURAL, MECHANICAL, ELECTRICAL & /OR ANY OTHER CONSULTANT'S DOCUMENTATION AS MAY BE APPLICABLE TO THE PROJECT PRIOR TO THE START OF ANY WORKS AND FOR ITS DURATION.

NORTH



02 9636 2465 | 02 9688 4762 | www.bathla.com.au
The Bathla Group
 137 Gilba Road, Girraween NSW 2145
 PO Box 270, Westworthville NSW 2145
 Connect with us "Building dreams together"

PROJECT:
412 Cessnock Road Gillieston Heights
2321

LOT NUMBER:
21/22/DP1092105

DRAWING TITLE:
SUBDIVISION PLAN

PROJECT No.	DATE	DRAWING No.	REV.
SS	15/06/2022	DA02	1
DRAWN BY:	SCALE:	ISSUED BY:	
SS	As indicated	SS	

2:\Projects - Current\Cessnock Road 412-414, Gillieston Heights\03 DA\ARCHITECTURAL\REVIT\PROJECT\Cessnock Road 412-414, Gillieston Heights_R01_Russell Street.rvt

Appendix B

SIDRA Results

MOVEMENT SUMMARY

Site: TCS 4534 [Cessnock Road/ Redwood Drive/ Heyes Street - AM (Site Folder: Existing)]

Network: N101 [AM Peak (Network Folder: Existing)]

Cessnock Road/ Redwood Drive/ Heyes Street

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 77 seconds (Site User-Given Phase Times)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Cessnock Road														
1	L2	1	0.0	1	0.0	0.323	19.4	LOS B	4.1	30.0	0.67	0.57	0.67	27.0
2	T1	722	5.5	722	5.5	*0.499	15.3	LOS B	7.0	51.7	0.71	0.62	0.71	44.2
3	R2	118	2.7	118	2.7	0.158	12.2	LOS A	1.0	6.8	0.59	0.71	0.59	40.1
Approach		841	5.1	841	5.1	0.499	14.9	LOS B	7.0	51.7	0.70	0.63	0.70	43.6
East: Redwood Drive														
4	L2	145	2.9	145	2.9	0.212	20.9	LOS B	2.2	16.0	0.68	0.72	0.68	30.0
5	T1	5	0.0	5	0.0	0.212	15.6	LOS B	2.2	16.0	0.68	0.72	0.68	30.0
6	R2	102	1.0	102	1.0	*0.523	41.3	LOS C	2.4	16.7	0.98	0.78	0.98	32.2
Approach		253	2.1	253	2.1	0.523	29.0	LOS C	2.4	16.7	0.80	0.74	0.80	31.3
North: Cessnock Road														
7	L2	52	0.0	52	0.0	0.405	30.6	LOS C	4.0	30.0	0.86	0.74	0.86	37.9
8	T1	432	10.2	432	10.2	0.504	24.9	LOS B	5.3	40.4	0.87	0.74	0.87	33.0
9	R2	6	0.0	6	0.0	*0.013	12.6	LOS A	0.0	0.3	0.59	0.63	0.59	42.6
Approach		489	9.0	489	9.0	0.504	25.4	LOS B	5.3	40.4	0.87	0.74	0.87	33.9
West: Heyes Street														
10	L2	14	0.0	14	0.0	0.110	35.0	LOS C	0.7	4.8	0.87	0.67	0.87	34.0
11	T1	20	5.3	20	5.3	0.110	29.1	LOS C	0.7	4.8	0.87	0.67	0.87	33.2
12	R2	32	0.0	32	0.0	0.153	39.0	LOS C	0.7	4.8	0.93	0.71	0.93	17.3
Approach		65	1.6	65	1.6	0.153	35.1	LOS C	0.7	4.8	0.90	0.69	0.90	26.8
All Vehicles		1648	5.7	1648	5.7	0.523	21.0	LOS B	7.0	51.7	0.77	0.68	0.77	37.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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 (Geometric Delay is included).

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Cessnock Road											
P1	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	216.0	219.8	1.02
East: Redwood Drive											
P2	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	197.3	213.8	1.08
North: Cessnock Road											
P3	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	202.8	221.0	1.09
West: Heyes Street											

P4 Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	196.7	213.1	1.08
All Pedestrians	211	32.8	LOS D	0.1	0.1	0.92	0.92	203.2	216.9	1.07

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.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TTPP - THE TRANSPORT PLANNING PARTNERSHIP | Licence: NETWORK / 1PC | Processed: Monday, 20 June 2022

10:13:19 AM

Project: C:\Users\61425\Documents\21342\21342-220616-Cessnock Road.sip9

MOVEMENT SUMMARY

Site: 101 [Cessnock Road-Russell Street - AM (Site Folder: Existing)]

Network: N101 [AM Peak (Network Folder: Existing)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cessnock Road (S)														
1	L2	8	0.0	8	0.0	0.452	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
2	T1	841	5.9	841	5.9	0.452	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
Approach		849	5.8	849	5.8	0.452	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.5
North: Cessnock Road (N)														
8	T1	608	8.0	608	8.0	0.328	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		608	8.0	608	8.0	0.328	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: Russel Street														
10	L2	13	0.0	13	0.0	0.022	10.3	LOS A	0.0	0.2	0.65	0.79	0.65	38.1
Approach		13	0.0	13	0.0	0.022	10.3	LOS A	0.0	0.2	0.65	0.79	0.65	38.1
All Vehicles		1471	6.7	1471	6.7	0.452	0.2	NA	0.0	0.2	0.01	0.01	0.01	59.5

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Heyes Street - AM (Site Folder: Existing)]

Network: N101 [AM Peak (Network Folder: Existing)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	44	0.0	44	0.0	0.052	0.1	LOS A	0.1	0.6	0.08	0.31	0.08	57.0
3	R2	49	2.1	49	2.1	0.052	5.5	LOS A	0.1	0.6	0.08	0.31	0.08	54.3
Approach		94	1.1	94	1.1	0.052	3.0	NA	0.1	0.6	0.08	0.31	0.08	56.0
East: Heyes Street														
4	L2	9	0.0	9	0.0	0.011	5.6	LOS A	0.0	0.1	0.05	0.57	0.05	44.9
6	R2	6	0.0	6	0.0	0.011	5.8	LOS A	0.0	0.1	0.05	0.57	0.05	51.2
Approach		16	0.0	16	0.0	0.011	5.7	LOS A	0.0	0.1	0.05	0.57	0.05	48.8
North: Cartwright Street (N)														
7	L2	11	0.0	11	0.0	0.014	5.5	LOS A	0.0	0.0	0.00	0.23	0.00	56.1
8	T1	17	0.0	17	0.0	0.014	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	56.1
Approach		27	0.0	27	0.0	0.014	2.1	NA	0.0	0.0	0.00	0.23	0.00	56.1
All Vehicles		137	0.8	137	0.8	0.052	3.1	NA	0.1	0.6	0.06	0.32	0.06	55.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

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

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

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

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

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Russel Street - AM (Site Folder: Existing)]

Network: N101 [AM Peak (Network Folder: Existing)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. %	Dist] m				
South: Cartwright Street (S)														
2	T1	58	1.8	58	1.8	0.031	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	59.5
3	R2	2	0.0	2	0.0	0.031	5.6	LOS A	0.0	0.0	0.01	0.02	0.01	59.5
Approach		60	1.8	60	1.8	0.031	0.2	NA	0.0	0.0	0.01	0.02	0.01	59.5
East: Russel Street														
4	L2	26	0.0	26	0.0	0.018	5.7	LOS A	0.0	0.2	0.14	0.54	0.14	51.6
6	R2	1	0.0	1	0.0	0.018	5.8	LOS A	0.0	0.2	0.14	0.54	0.14	44.8
Approach		27	0.0	27	0.0	0.018	5.7	LOS A	0.0	0.2	0.14	0.54	0.14	51.5
North: Cartwright Street (N)														
7	L2	2	0.0	2	0.0	0.034	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
8	T1	63	0.0	63	0.0	0.034	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		65	0.0	65	0.0	0.034	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
All Vehicles		153	0.7	153	0.7	0.034	1.2	NA	0.0	0.2	0.03	0.11	0.03	58.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

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

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

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

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

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

MOVEMENT SUMMARY

Site: TCS 4534 [Cessnock Road/ Redwood Drive/ Heyes Street - PM (Site Folder: Existing)]

Network: N101 [PM Peak (Network Folder: Existing)]

Cessnock Road/ Redwood Drive/ Heyes Street

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 91 seconds (Site User-Given Phase Times)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Cessnock Road														
1	L2	2	0.0	2	0.0	0.229	15.3	LOS B	3.3	23.6	0.51	0.44	0.51	32.3
2	T1	651	2.1	651	2.1	0.354	10.7	LOS A	5.6	40.0	0.54	0.47	0.54	48.0
3	R2	162	1.9	162	1.9	*0.235	12.5	LOS A	1.4	9.6	0.59	0.72	0.59	39.9
Approach		815	2.1	815	2.1	0.354	11.1	LOS A	5.6	40.0	0.55	0.52	0.55	46.4
East: Redwood Drive														
4	L2	151	0.0	151	0.0	0.382	36.4	LOS C	3.9	27.1	0.87	0.78	0.87	23.1
5	T1	19	0.0	19	0.0	*0.382	30.8	LOS C	3.9	27.1	0.87	0.78	0.87	23.1
6	R2	60	0.0	60	0.0	0.373	48.4	LOS D	1.6	11.3	0.97	0.75	0.97	30.1
Approach		229	0.0	229	0.0	0.382	39.0	LOS C	3.9	27.1	0.90	0.77	0.90	25.7
North: Cessnock Road														
7	L2	93	1.1	93	1.1	0.402	28.2	LOS B	6.0	43.0	0.78	0.71	0.78	38.8
8	T1	592	3.6	592	3.6	*0.499	22.3	LOS B	7.8	56.3	0.79	0.70	0.79	34.6
9	R2	28	3.7	28	3.7	0.060	12.6	LOS A	0.2	1.7	0.55	0.67	0.55	42.7
Approach		713	3.2	713	3.2	0.499	22.7	LOS B	7.8	56.3	0.78	0.70	0.78	35.7
West: Heyes Street														
10	L2	12	0.0	12	0.0	0.088	42.9	LOS D	0.6	3.9	0.90	0.67	0.90	30.8
11	T1	12	0.0	12	0.0	0.088	37.3	LOS C	0.6	3.9	0.90	0.67	0.90	29.8
12	R2	29	3.6	29	3.6	0.176	48.0	LOS D	0.8	5.6	0.96	0.71	0.96	15.1
Approach		53	2.0	53	2.0	0.176	44.5	LOS D	0.8	5.6	0.93	0.70	0.93	22.7
All Vehicles		1809	2.3	1809	2.3	0.499	20.2	LOS B	7.8	56.3	0.70	0.63	0.70	37.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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 (Geometric Delay is included).

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Cessnock Road											
P1	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	223.0	219.8	0.99
East: Redwood Drive											
P2	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	204.2	213.8	1.05
North: Cessnock Road											
P3	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	209.8	221.0	1.05
West: Heyes Street											

P4 Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	203.7	213.1	1.05
All Pedestrians	211	39.8	LOS D	0.1	0.1	0.94	0.94	210.2	216.9	1.03

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.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TTPP - THE TRANSPORT PLANNING PARTNERSHIP | Licence: NETWORK / 1PC | Processed: Monday, 20 June 2022
10:13:23 AM

Project: C:\Users\61425\Documents\21342\21342-220616-Cessnock Road.sip9

MOVEMENT SUMMARY

Site: 101 [Cessnock Road-Russell Street - PM (Site Folder: Existing)]

Network: N101 [PM Peak (Network Folder: Existing)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cessnock Road (S)														
1	L2	36	0.0	36	0.0	0.410	5.7	LOS A	0.0	0.0	0.00	0.03	0.00	59.2
2	T1	749	2.5	749	2.5	0.410	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	59.2
Approach		785	2.4	785	2.4	0.410	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.2
North: Cessnock Road (N)														
8	T1	772	0.0	772	0.0	0.396	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		772	0.0	772	0.0	0.396	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
West: Russel Street														
10	L2	6	0.0	6	0.0	0.009	9.1	LOS A	0.0	0.1	0.58	0.69	0.58	39.8
Approach		6	0.0	6	0.0	0.009	9.1	LOS A	0.0	0.1	0.58	0.69	0.58	39.8
All Vehicles		1563	1.2	1563	1.2	0.410	0.3	NA	0.0	0.1	0.00	0.02	0.00	59.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

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

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

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

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

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Heyes Street - PM (Site Folder: Existing)]

Network: N101 [PM Peak (Network Folder: Existing)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	24	0.0	24	0.0	0.040	0.1	LOS A	0.1	0.5	0.12	0.37	0.12	56.3
3	R2	46	2.3	46	2.3	0.040	5.6	LOS A	0.1	0.5	0.12	0.37	0.12	53.0
Approach		71	1.5	71	1.5	0.040	3.7	NA	0.1	0.5	0.12	0.37	0.12	54.6
East: Heyes Street														
4	L2	40	2.6	40	2.6	0.027	5.7	LOS A	0.0	0.3	0.09	0.55	0.09	44.6
6	R2	2	0.0	2	0.0	0.027	5.8	LOS A	0.0	0.3	0.09	0.55	0.09	51.0
Approach		42	2.5	42	2.5	0.027	5.7	LOS A	0.0	0.3	0.09	0.55	0.09	45.4
North: Cartwright Street (N)														
7	L2	6	0.0	6	0.0	0.023	5.5	LOS A	0.0	0.0	0.00	0.09	0.00	58.5
8	T1	38	0.0	38	0.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	58.5
Approach		44	0.0	44	0.0	0.023	0.8	NA	0.0	0.0	0.00	0.09	0.00	58.5
All Vehicles		157	1.3	157	1.3	0.040	3.4	NA	0.1	0.5	0.08	0.34	0.08	53.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

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

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

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

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

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Russel Street - PM (Site Folder: Existing)]

Network: N101 [PM Peak (Network Folder: Existing)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. %	Dist] m				
South: Cartwright Street (S)														
2	T1	58	0.0	58	0.0	0.031	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	59.5
3	R2	2	0.0	2	0.0	0.031	5.6	LOS A	0.0	0.0	0.01	0.02	0.01	59.5
Approach		60	0.0	60	0.0	0.031	0.2	NA	0.0	0.0	0.01	0.02	0.01	59.5
East: Russel Street														
4	L2	26	0.0	26	0.0	0.018	5.7	LOS A	0.0	0.2	0.14	0.54	0.14	51.6
6	R2	1	0.0	1	0.0	0.018	5.8	LOS A	0.0	0.2	0.14	0.54	0.14	44.8
Approach		27	0.0	27	0.0	0.018	5.7	LOS A	0.0	0.2	0.14	0.54	0.14	51.5
North: Cartwright Street (N)														
7	L2	2	0.0	2	0.0	0.034	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
8	T1	63	0.0	63	0.0	0.034	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		65	0.0	65	0.0	0.034	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
All Vehicles		153	0.0	153	0.0	0.034	1.2	NA	0.0	0.2	0.03	0.11	0.03	58.0

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

MOVEMENT SUMMARY

Site: TCS 4534 [Cessnock Road/ Redwood Drive/ Heyes Street - AM (Site Folder: Existing + Dev)]

Network: N101 [AM Peak (Network Folder: Existing + Dev)]

Cessnock Road/ Redwood Drive/ Heyes Street

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 77 seconds (Site User-Given Phase Times)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cessnock Road														
1	L2	1	0.0	1	0.0	0.327	19.4	LOS B	4.2	30.5	0.67	0.57	0.67	27.0
2	T1	732	5.5	732	5.5	*0.506	15.4	LOS B	7.2	52.5	0.72	0.62	0.72	44.2
3	R2	118	2.7	118	2.7	0.158	12.2	LOS A	1.0	6.8	0.59	0.71	0.59	40.1
Approach		851	5.1	851	5.1	0.506	14.9	LOS B	7.2	52.5	0.70	0.63	0.70	43.6
East: Redwood Drive														
4	L2	145	2.9	145	2.9	0.212	20.9	LOS B	2.2	16.0	0.68	0.72	0.68	30.0
5	T1	5	0.0	5	0.0	0.212	15.6	LOS B	2.2	16.0	0.68	0.72	0.68	30.0
6	R2	102	1.0	102	1.0	*0.526	41.3	LOS C	2.4	16.7	0.98	0.78	0.98	32.2
Approach		253	2.1	253	2.1	0.526	29.0	LOS C	2.4	16.7	0.80	0.74	0.80	31.3
North: Cessnock Road														
7	L2	52	0.0	52	0.0	0.405	30.6	LOS C	4.0	30.0	0.86	0.74	0.86	37.9
8	T1	432	10.2	432	10.2	0.504	25.0	LOS B	5.3	40.4	0.87	0.74	0.87	33.0
9	R2	12	0.0	12	0.0	*0.023	12.7	LOS A	0.1	0.6	0.60	0.65	0.60	42.6
Approach		495	8.9	495	8.9	0.504	25.3	LOS B	5.3	40.4	0.86	0.74	0.86	33.9
West: Heyes Street														
10	L2	23	0.0	23	0.0	0.140	35.3	LOS C	0.9	6.1	0.87	0.69	0.87	33.7
11	T1	20	5.3	20	5.3	0.140	29.3	LOS C	0.9	6.1	0.87	0.69	0.87	32.8
12	R2	49	0.0	49	0.0	0.240	39.6	LOS C	1.1	7.6	0.94	0.74	0.94	17.2
Approach		93	1.1	93	1.1	0.240	36.3	LOS C	1.1	7.6	0.91	0.72	0.91	25.8
All Vehicles		1691	5.5	1691	5.5	0.526	21.2	LOS B	7.2	52.5	0.77	0.68	0.77	37.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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 (Geometric Delay is included).

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
					[Ped ped	Dist] m					
South: Cessnock Road											
P1	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	216.0	219.8	1.02
East: Redwood Drive											
P2	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	197.3	213.8	1.08
North: Cessnock Road											
P3	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	202.8	221.0	1.09

West: Heyes Street											
P4 Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	196.7	213.1	1.08	
All Pedestrians	211	32.8	LOS D	0.1	0.1	0.92	0.92	203.2	216.9	1.07	

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.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TTPP - THE TRANSPORT PLANNING PARTNERSHIP | Licence: NETWORK / 1PC | Processed: Monday, 20 June 2022
10:13:27 AM

Project: C:\Users\61425\Documents\21342\21342-220616-Cessnock Road.sip9

MOVEMENT SUMMARY

Site: 101 [Cessnock Road-Russell Street - AM (Site Folder: Existing + Dev)]

Network: N101 [AM Peak (Network Folder: Existing + Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cessnock Road (S)														
1	L2	13	0.0	13	0.0	0.455	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
2	T1	841	5.9	841	5.9	0.455	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
Approach		854	5.8	854	5.8	0.455	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.5
North: Cessnock Road (N)														
8	T1	608	8.0	608	8.0	0.328	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		608	8.0	608	8.0	0.328	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: Russel Street														
10	L2	21	0.0	21	0.0	0.036	10.4	LOS A	0.0	0.3	0.65	0.82	0.65	38.0
Approach		21	0.0	21	0.0	0.036	10.4	LOS A	0.0	0.3	0.65	0.82	0.65	38.0
All Vehicles		1483	6.6	1483	6.6	0.455	0.3	NA	0.0	0.3	0.01	0.02	0.01	59.4

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Heyes Street - AM (Site Folder: Existing + Dev)]

Network: N101 [AM Peak (Network Folder: Existing + Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	44	0.0	44	0.0	0.068	0.1	LOS A	0.1	0.9	0.09	0.37	0.09	56.5
3	R2	77	1.4	77	1.4	0.068	5.5	LOS A	0.1	0.9	0.09	0.37	0.09	53.4
Approach		121	0.9	121	0.9	0.068	3.5	NA	0.1	0.9	0.09	0.37	0.09	55.0
East: Heyes Street														
4	L2	15	0.0	15	0.0	0.015	5.6	LOS A	0.0	0.1	0.05	0.57	0.05	45.0
6	R2	6	0.0	6	0.0	0.015	5.9	LOS A	0.0	0.1	0.05	0.57	0.05	51.2
Approach		21	0.0	21	0.0	0.015	5.7	LOS A	0.0	0.1	0.05	0.57	0.05	48.2
North: Cartwright Street (N)														
7	L2	11	0.0	11	0.0	0.014	5.5	LOS A	0.0	0.0	0.00	0.23	0.00	56.1
8	T1	17	0.0	17	0.0	0.014	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	56.1
Approach		27	0.0	27	0.0	0.014	2.1	NA	0.0	0.0	0.00	0.23	0.00	56.1
All Vehicles		169	0.6	169	0.6	0.068	3.6	NA	0.1	0.9	0.07	0.37	0.07	54.5

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Russel Street - AM (Site Folder: Existing + Dev)]

Network: N101 [AM Peak (Network Folder: Existing + Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	85	1.2	85	1.2	0.050	0.0	LOS A	0.0	0.2	0.04	0.07	0.04	58.5
3	R2	11	0.0	11	0.0	0.050	5.6	LOS A	0.0	0.2	0.04	0.07	0.04	58.5
Approach		96	1.1	96	1.1	0.050	0.6	NA	0.0	0.2	0.04	0.07	0.04	58.5
East: Russel Street														
4	L2	31	0.0	31	0.0	0.021	5.7	LOS A	0.0	0.2	0.15	0.54	0.15	51.6
6	R2	1	0.0	1	0.0	0.021	6.0	LOS A	0.0	0.2	0.15	0.54	0.15	44.8
Approach		32	0.0	32	0.0	0.021	5.7	LOS A	0.0	0.2	0.15	0.54	0.15	51.5
North: Cartwright Street (N)														
7	L2	2	0.0	2	0.0	0.036	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
8	T1	68	0.0	68	0.0	0.036	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		71	0.0	71	0.0	0.036	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
All Vehicles		198	0.5	198	0.5	0.050	1.3	NA	0.0	0.2	0.04	0.12	0.04	57.8

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

MOVEMENT SUMMARY

Site: TCS 4534 [Cessnock Road/ Redwood Drive/ Heyes Street - PM (Site Folder: Existing + Dev)]

Network: N101 [PM Peak (Network Folder: Existing + Dev)]

Cessnock Road/ Redwood Drive/ Heyes Street

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 91 seconds (Site User-Given Phase Times)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h HV %]		ARRIVAL FLOWS [Total HV %]		Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh Dist m]		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Cessnock Road														
1	L2	2	0.0	2	0.0	0.230	15.3	LOS B	3.3	23.7	0.51	0.44	0.51	32.3
2	T1	654	2.1	654	2.1	0.356	10.7	LOS A	5.6	40.2	0.54	0.47	0.54	48.0
3	R2	162	1.9	162	1.9	*0.235	12.5	LOS A	1.4	9.6	0.59	0.72	0.59	39.9
Approach		818	2.1	818	2.1	0.356	11.1	LOS A	5.6	40.2	0.55	0.52	0.55	46.4
East: Redwood Drive														
4	L2	151	0.0	151	0.0	0.382	36.4	LOS C	3.9	27.1	0.87	0.78	0.87	23.1
5	T1	19	0.0	19	0.0	*0.382	30.8	LOS C	3.9	27.1	0.87	0.78	0.87	23.1
6	R2	60	0.0	60	0.0	0.351	48.1	LOS D	1.6	11.3	0.97	0.75	0.97	30.2
Approach		229	0.0	229	0.0	0.382	39.0	LOS C	3.9	27.1	0.90	0.77	0.90	25.8
North: Cessnock Road														
7	L2	93	1.1	93	1.1	0.402	28.2	LOS B	6.0	43.0	0.78	0.71	0.78	38.8
8	T1	592	3.6	592	3.6	*0.499	22.3	LOS B	7.8	56.3	0.79	0.70	0.79	34.6
9	R2	48	2.2	48	2.2	0.102	12.7	LOS A	0.4	2.8	0.56	0.68	0.56	42.5
Approach		733	3.2	733	3.2	0.499	22.4	LOS B	7.8	56.3	0.78	0.70	0.78	35.8
West: Heyes Street														
10	L2	14	0.0	14	0.0	0.096	42.1	LOS C	0.6	4.2	0.89	0.68	0.89	31.1
11	T1	12	0.0	12	0.0	0.096	36.4	LOS C	0.6	4.2	0.89	0.68	0.89	30.0
12	R2	35	3.0	35	3.0	0.207	48.1	LOS D	0.9	6.6	0.96	0.72	0.96	15.1
Approach		60	1.8	60	1.8	0.207	44.5	LOS D	0.9	6.6	0.93	0.70	0.93	22.5
All Vehicles		1840	2.2	1840	2.2	0.499	20.2	LOS B	7.8	56.3	0.70	0.63	0.70	37.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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 (Geometric Delay is included).

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist m]		Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist m	Aver. Speed m/sec
South: Cessnock Road											
P1	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	223.0	219.8	0.99
East: Redwood Drive											
P2	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	204.2	213.8	1.05
North: Cessnock Road											
P3	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	209.8	221.0	1.05

West: Heyes Street											
P4 Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	203.7	213.1	1.05	
All Pedestrians	211	39.8	LOS D	0.1	0.1	0.94	0.94	210.2	216.9	1.03	

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.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TTPP - THE TRANSPORT PLANNING PARTNERSHIP | Licence: NETWORK / 1PC | Processed: Monday, 20 June 2022
10:13:32 AM

Project: C:\Users\61425\Documents\21342\21342-220616-Cessnock Road.sip9

MOVEMENT SUMMARY

Site: 101 [Cessnock Road-Russell Street - PM (Site Folder: Existing + Dev)]

Network: N101 [PM Peak (Network Folder: Existing + Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cessnock Road (S)														
1	L2	56	0.0	56	0.0	0.421	5.7	LOS A	0.0	0.0	0.00	0.04	0.00	59.0
2	T1	749	2.5	749	2.5	0.421	0.2	LOS A	0.0	0.0	0.00	0.04	0.00	59.0
Approach		805	2.4	805	2.4	0.421	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.0
North: Cessnock Road (N)														
8	T1	772	0.0	772	0.0	0.396	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		772	0.0	772	0.0	0.396	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
West: Russel Street														
10	L2	9	0.0	9	0.0	0.014	9.2	LOS A	0.0	0.1	0.58	0.71	0.58	39.8
Approach		9	0.0	9	0.0	0.014	9.2	LOS A	0.0	0.1	0.58	0.71	0.58	39.8
All Vehicles		1586	1.2	1586	1.2	0.421	0.4	NA	0.0	0.1	0.00	0.03	0.00	59.3

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Heyes Street - PM (Site Folder: Existing + Dev)]

Network: N101 [PM Peak (Network Folder: Existing + Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	24	0.0	24	0.0	0.044	0.1	LOS A	0.1	0.6	0.12	0.39	0.12	56.1
3	R2	54	2.0	54	2.0	0.044	5.6	LOS A	0.1	0.6	0.12	0.39	0.12	52.8
Approach		78	1.4	78	1.4	0.044	3.9	NA	0.1	0.6	0.12	0.39	0.12	54.3
East: Heyes Street														
4	L2	60	1.8	60	1.8	0.040	5.7	LOS A	0.1	0.4	0.09	0.55	0.09	44.6
6	R2	2	0.0	2	0.0	0.040	5.8	LOS A	0.1	0.4	0.09	0.55	0.09	51.0
Approach		62	1.7	62	1.7	0.040	5.7	LOS A	0.1	0.4	0.09	0.55	0.09	45.1
North: Cartwright Street (N)														
7	L2	6	0.0	6	0.0	0.023	5.5	LOS A	0.0	0.0	0.00	0.09	0.00	58.5
8	T1	38	0.0	38	0.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	58.5
Approach		44	0.0	44	0.0	0.023	0.8	NA	0.0	0.0	0.00	0.09	0.00	58.5
All Vehicles		184	1.1	184	1.1	0.044	3.7	NA	0.1	0.6	0.08	0.37	0.08	53.0

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Russel Street - PM (Site Folder: Existing + Dev)]

Network: N101 [PM Peak (Network Folder: Existing + Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	65	0.0	65	0.0	0.037	0.0	LOS A	0.0	0.1	0.03	0.05	0.03	58.9
3	R2	5	0.0	5	0.0	0.037	5.7	LOS A	0.0	0.1	0.03	0.05	0.03	58.9
Approach		71	0.0	71	0.0	0.037	0.4	NA	0.0	0.1	0.03	0.05	0.03	58.9
East: Russel Street														
4	L2	46	0.0	46	0.0	0.031	5.8	LOS A	0.0	0.3	0.17	0.54	0.17	51.5
6	R2	1	0.0	1	0.0	0.031	6.0	LOS A	0.0	0.3	0.17	0.54	0.17	44.6
Approach		47	0.0	47	0.0	0.031	5.8	LOS A	0.0	0.3	0.17	0.54	0.17	51.4
North: Cartwright Street (N)														
7	L2	2	0.0	2	0.0	0.044	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
8	T1	83	0.0	83	0.0	0.044	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		85	0.0	85	0.0	0.044	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
All Vehicles		203	0.0	203	0.0	0.044	1.6	NA	0.0	0.3	0.05	0.15	0.05	57.4

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

MOVEMENT SUMMARY

Site: TCS 4534 [Cessnock Road/ Redwood Drive/ Heyes Street - AM (Site Folder: 2032 BG only)]

Network: N101 [AM Peak (Network Folder: 2032 BG Only)]

Cessnock Road/ Redwood Drive/ Heyes Street

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 77 seconds (Site User-Given Phase Times)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h HV %]		ARRIVAL FLOWS [Total HV %]		Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh Dist m]		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Cessnock Road														
1	L2	1	0.0	1	0.0	0.354	19.6	LOS B	4.6	33.5	0.68	0.58	0.68	26.8
2	T1	795	5.0	795	5.0	*0.548	15.8	LOS B	8.0	58.4	0.73	0.64	0.73	43.9
3	R2	118	2.7	118	2.7	0.164	12.7	LOS A	1.0	6.8	0.62	0.72	0.62	39.7
Approach		914	4.7	914	4.7	0.548	15.4	LOS B	8.0	58.4	0.72	0.65	0.72	43.4
East: Redwood Drive														
4	L2	145	2.9	145	2.9	0.212	21.0	LOS B	2.2	16.0	0.68	0.72	0.68	30.0
5	T1	5	0.0	5	0.0	0.212	15.6	LOS B	2.2	16.0	0.68	0.72	0.68	30.0
6	R2	102	1.0	102	1.0	*0.523	41.3	LOS C	2.4	16.7	0.98	0.78	0.98	32.2
Approach		253	2.1	253	2.1	0.523	29.1	LOS C	2.4	16.7	0.80	0.74	0.80	31.3
North: Cessnock Road														
7	L2	52	0.0	52	0.0	0.467	31.1	LOS C	4.8	35.7	0.88	0.75	0.88	37.7
8	T1	514	8.6	514	8.6	0.580	25.6	LOS B	6.3	47.7	0.89	0.76	0.89	32.7
9	R2	6	0.0	6	0.0	*0.013	12.9	LOS A	0.0	0.3	0.60	0.64	0.60	42.3
Approach		572	7.7	572	7.7	0.580	26.0	LOS B	6.3	47.7	0.89	0.76	0.89	33.4
West: Heyes Street														
10	L2	14	0.0	14	0.0	0.110	35.3	LOS C	0.7	4.8	0.87	0.67	0.87	34.0
11	T1	20	5.3	20	5.3	0.110	29.1	LOS C	0.7	4.8	0.87	0.67	0.87	33.2
12	R2	32	0.0	32	0.0	0.153	39.0	LOS C	0.7	4.8	0.93	0.71	0.93	17.3
Approach		65	1.6	65	1.6	0.153	35.2	LOS C	0.7	4.8	0.90	0.69	0.90	26.8
All Vehicles		1803	5.2	1803	5.2	0.580	21.4	LOS B	8.0	58.4	0.79	0.70	0.79	37.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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 (Geometric Delay is included).

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped Dist]		Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist m	Aver. Speed m/sec
South: Cessnock Road											
P1	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	216.0	219.8	1.02
East: Redwood Drive											
P2	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	197.3	213.8	1.08
North: Cessnock Road											
P3	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	202.8	221.0	1.09

West: Heyes Street											
P4 Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	196.7	213.1	1.08	
All Pedestrians	211	32.8	LOS D	0.1	0.1	0.92	0.92	203.2	216.9	1.07	

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.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TTPP - THE TRANSPORT PLANNING PARTNERSHIP | Licence: NETWORK / 1PC | Processed: Monday, 20 June 2022
10:13:36 AM

Project: C:\Users\61425\Documents\21342\21342-220616-Cessnock Road.sip9

MOVEMENT SUMMARY

Site: 101 [Cessnock Road-Russell Street - AM (Site Folder: 2032 BG only)]

Network: N101 [AM Peak (Network Folder: 2032 BG Only)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cessnock Road (S)														
1	L2	8	0.0	8	0.0	0.496	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
2	T1	925	5.3	925	5.3	0.496	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
Approach		934	5.3	934	5.3	0.496	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.5
North: Cessnock Road (N)														
8	T1	724	6.7	724	6.7	0.388	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		724	6.7	724	6.7	0.388	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
West: Russel Street														
10	L2	13	0.0	13	0.0	0.026	11.5	LOS A	0.0	0.2	0.70	0.84	0.70	36.6
Approach		13	0.0	13	0.0	0.026	11.5	LOS A	0.0	0.2	0.70	0.84	0.70	36.6
All Vehicles		1671	5.9	1671	5.9	0.496	0.3	NA	0.0	0.2	0.01	0.01	0.01	59.5

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Heyes Street - AM (Site Folder: 2032 BG only)]

Network: N101 [AM Peak (Network Folder: 2032 BG Only)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	44	0.0	44	0.0	0.052	0.1	LOS A	0.1	0.6	0.08	0.31	0.08	57.0
3	R2	49	2.1	49	2.1	0.052	5.5	LOS A	0.1	0.6	0.08	0.31	0.08	54.3
Approach		94	1.1	94	1.1	0.052	3.0	NA	0.1	0.6	0.08	0.31	0.08	56.0
East: Heyes Street														
4	L2	9	0.0	9	0.0	0.011	5.6	LOS A	0.0	0.1	0.05	0.57	0.05	44.9
6	R2	6	0.0	6	0.0	0.011	5.8	LOS A	0.0	0.1	0.05	0.57	0.05	51.2
Approach		16	0.0	16	0.0	0.011	5.7	LOS A	0.0	0.1	0.05	0.57	0.05	48.8
North: Cartwright Street (N)														
7	L2	11	0.0	11	0.0	0.014	5.5	LOS A	0.0	0.0	0.00	0.23	0.00	56.1
8	T1	17	0.0	17	0.0	0.014	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	56.1
Approach		27	0.0	27	0.0	0.014	2.1	NA	0.0	0.0	0.00	0.23	0.00	56.1
All Vehicles		137	0.8	137	0.8	0.052	3.1	NA	0.1	0.6	0.06	0.32	0.06	55.3

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Russel Street - AM (Site Folder: 2032 BG only)]

Network: N101 [AM Peak (Network Folder: 2032 BG Only)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	58	1.8	58	1.8	0.031	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	59.5
3	R2	2	0.0	2	0.0	0.031	5.6	LOS A	0.0	0.0	0.01	0.02	0.01	59.5
Approach		60	1.8	60	1.8	0.031	0.2	NA	0.0	0.0	0.01	0.02	0.01	59.5
East: Russel Street														
4	L2	26	0.0	26	0.0	0.018	5.7	LOS A	0.0	0.2	0.14	0.54	0.14	51.6
6	R2	1	0.0	1	0.0	0.018	5.8	LOS A	0.0	0.2	0.14	0.54	0.14	44.8
Approach		27	0.0	27	0.0	0.018	5.7	LOS A	0.0	0.2	0.14	0.54	0.14	51.5
North: Cartwright Street (N)														
7	L2	2	0.0	2	0.0	0.034	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
8	T1	63	0.0	63	0.0	0.034	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		65	0.0	65	0.0	0.034	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
All Vehicles		153	0.7	153	0.7	0.034	1.2	NA	0.0	0.2	0.03	0.11	0.03	58.0

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

MOVEMENT SUMMARY

Site: TCS 4534 [Cessnock Road/ Redwood Drive/ Heyes Street - PM (Site Folder: 2032 BG only)]

Network: N101 [PM Peak (Network Folder: 2032 BG Only)]

Cessnock Road/ Redwood Drive/ Heyes Street

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 91 seconds (Site User-Given Phase Times)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total HV]		ARRIVAL FLOWS [Total HV]		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Veh. Dist]		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Cessnock Road														
1	L2	2	0.0	2	0.0	0.252	15.4	LOS B	3.7	26.3	0.52	0.45	0.52	32.1
2	T1	716	1.9	716	1.9	0.389	11.0	LOS A	6.3	45.1	0.56	0.49	0.56	47.8
3	R2	162	1.9	162	1.9	*0.250	13.5	LOS A	1.4	10.1	0.64	0.74	0.64	39.1
Approach		880	1.9	880	1.9	0.389	11.5	LOS A	6.3	45.1	0.57	0.53	0.57	46.1
East: Redwood Drive														
4	L2	151	0.0	151	0.0	0.382	36.7	LOS C	3.9	27.1	0.87	0.78	0.87	23.1
5	T1	19	0.0	19	0.0	*0.382	30.8	LOS C	3.9	27.1	0.87	0.78	0.87	23.1
6	R2	60	0.0	60	0.0	0.373	48.4	LOS D	1.6	11.3	0.97	0.75	0.97	30.1
Approach		229	0.0	229	0.0	0.382	39.2	LOS C	3.9	27.1	0.90	0.77	0.90	25.7
North: Cessnock Road														
7	L2	93	1.1	93	1.1	0.464	28.1	LOS B	7.2	51.2	0.80	0.72	0.80	39.0
8	T1	704	3.0	704	3.0	*0.576	23.1	LOS B	9.4	67.6	0.82	0.72	0.82	34.3
9	R2	28	3.7	28	3.7	0.063	12.6	LOS A	0.2	1.7	0.55	0.67	0.55	42.7
Approach		825	2.8	825	2.8	0.576	23.3	LOS B	9.4	67.6	0.81	0.72	0.81	35.3
West: Heyes Street														
10	L2	12	0.0	12	0.0	0.088	43.0	LOS D	0.6	3.9	0.90	0.67	0.90	30.8
11	T1	12	0.0	12	0.0	0.088	37.3	LOS C	0.6	3.9	0.90	0.67	0.90	29.8
12	R2	29	3.6	29	3.6	0.176	48.0	LOS D	0.8	5.6	0.96	0.71	0.96	15.1
Approach		53	2.0	53	2.0	0.176	44.5	LOS D	0.8	5.6	0.93	0.70	0.93	22.7
All Vehicles		1987	2.1	1987	2.1	0.576	20.4	LOS B	9.4	67.6	0.72	0.64	0.72	37.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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 (Geometric Delay is included).

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped Dist]		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		ped	m			sec	m	m/sec
South: Cessnock Road											
P1	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	223.0	219.8	0.99
East: Redwood Drive											
P2	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	204.2	213.8	1.05
North: Cessnock Road											
P3	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	209.8	221.0	1.05

West: Heyes Street											
P4 Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	203.7	213.1	1.05	
All Pedestrians	211	39.8	LOS D	0.1	0.1	0.94	0.94	210.2	216.9	1.03	

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.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TTPP - THE TRANSPORT PLANNING PARTNERSHIP | Licence: NETWORK / 1PC | Processed: Monday, 20 June 2022
10:13:40 AM

Project: C:\Users\61425\Documents\21342\21342-220616-Cessnock Road.sip9

MOVEMENT SUMMARY

Site: 101 [Cessnock Road-Russell Street - PM (Site Folder: 2032 BG only)]

Network: N101 [PM Peak (Network Folder: 2032 BG Only)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cessnock Road (S)														
1	L2	36	0.0	36	0.0	0.448	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	59.2
2	T1	824	2.3	824	2.3	0.448	0.2	LOS A	0.0	0.0	0.00	0.02	0.00	59.2
Approach		860	2.2	860	2.2	0.448	0.4	NA	0.0	0.0	0.00	0.02	0.00	59.2
North: Cessnock Road (N)														
8	T1	918	0.0	918	0.0	0.471	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach		918	0.0	918	0.0	0.471	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.6
West: Russel Street														
10	L2	6	0.0	6	0.0	0.010	9.9	LOS A	0.0	0.1	0.63	0.73	0.63	38.7
Approach		6	0.0	6	0.0	0.010	9.9	LOS A	0.0	0.1	0.63	0.73	0.63	38.7
All Vehicles		1784	1.1	1784	1.1	0.471	0.3	NA	0.0	0.1	0.00	0.01	0.00	59.4

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Heyes Street - PM (Site Folder: 2032 BG only)]

Network: N101 [PM Peak (Network Folder: 2032 BG Only)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	24	0.0	24	0.0	0.040	0.1	LOS A	0.1	0.5	0.12	0.37	0.12	56.3
3	R2	46	2.3	46	2.3	0.040	5.6	LOS A	0.1	0.5	0.12	0.37	0.12	53.0
Approach		71	1.5	71	1.5	0.040	3.7	NA	0.1	0.5	0.12	0.37	0.12	54.6
East: Heyes Street														
4	L2	40	2.6	40	2.6	0.027	5.7	LOS A	0.0	0.3	0.09	0.55	0.09	44.6
6	R2	2	0.0	2	0.0	0.027	5.8	LOS A	0.0	0.3	0.09	0.55	0.09	51.0
Approach		42	2.5	42	2.5	0.027	5.7	LOS A	0.0	0.3	0.09	0.55	0.09	45.4
North: Cartwright Street (N)														
7	L2	6	0.0	6	0.0	0.023	5.5	LOS A	0.0	0.0	0.00	0.09	0.00	58.5
8	T1	38	0.0	38	0.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	58.5
Approach		44	0.0	44	0.0	0.023	0.8	NA	0.0	0.0	0.00	0.09	0.00	58.5
All Vehicles		157	1.3	157	1.3	0.040	3.4	NA	0.1	0.5	0.08	0.34	0.08	53.9

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Russel Street - PM (Site Folder: 2032 BG only)]

Network: N101 [PM Peak (Network Folder: 2032 BG Only)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	58	0.0	58	0.0	0.031	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	59.5
3	R2	2	0.0	2	0.0	0.031	5.6	LOS A	0.0	0.0	0.01	0.02	0.01	59.5
Approach		60	0.0	60	0.0	0.031	0.2	NA	0.0	0.0	0.01	0.02	0.01	59.5
East: Russel Street														
4	L2	26	0.0	26	0.0	0.018	5.7	LOS A	0.0	0.2	0.14	0.54	0.14	51.6
6	R2	1	0.0	1	0.0	0.018	5.8	LOS A	0.0	0.2	0.14	0.54	0.14	44.8
Approach		27	0.0	27	0.0	0.018	5.7	LOS A	0.0	0.2	0.14	0.54	0.14	51.5
North: Cartwright Street (N)														
7	L2	2	0.0	2	0.0	0.034	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
8	T1	63	0.0	63	0.0	0.034	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		65	0.0	65	0.0	0.034	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
All Vehicles		153	0.0	153	0.0	0.034	1.2	NA	0.0	0.2	0.03	0.11	0.03	58.0

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

MOVEMENT SUMMARY

Site: TCS 4534 [Cessnock Road/ Redwood Drive/ Heyes Street - AM (Site Folder: 2032 BG+Dev)]

Network: N101 [AM Peak (Network Folder: 2032 BG +Dev)]

Cessnock Road/ Redwood Drive/ Heyes Street

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 77 seconds (Site User-Given Phase Times)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Cessnock Road														
1	L2	1	0.0	1	0.0	0.358	19.7	LOS B	4.7	34.0	0.68	0.59	0.68	26.7
2	T1	804	5.0	804	5.0	*0.554	15.9	LOS B	8.1	59.3	0.74	0.64	0.74	43.9
3	R2	118	2.7	118	2.7	0.164	12.7	LOS A	1.0	6.8	0.62	0.72	0.62	39.7
Approach		923	4.7	923	4.7	0.554	15.5	LOS B	8.1	59.3	0.72	0.65	0.72	43.3
East: Redwood Drive														
4	L2	145	2.9	145	2.9	0.212	21.0	LOS B	2.2	16.0	0.68	0.72	0.68	30.0
5	T1	5	0.0	5	0.0	0.212	15.6	LOS B	2.2	16.0	0.68	0.72	0.68	30.0
6	R2	102	1.0	102	1.0	*0.526	41.3	LOS C	2.4	16.7	0.98	0.78	0.98	32.2
Approach		253	2.1	253	2.1	0.526	29.1	LOS C	2.4	16.7	0.80	0.74	0.80	31.3
North: Cessnock Road														
7	L2	52	0.0	52	0.0	0.467	31.1	LOS C	4.8	35.7	0.88	0.75	0.88	37.7
8	T1	514	8.6	514	8.6	0.580	25.7	LOS B	6.3	47.7	0.89	0.76	0.89	32.7
9	R2	12	0.0	12	0.0	*0.024	13.0	LOS A	0.1	0.6	0.61	0.65	0.61	42.3
Approach		577	7.7	577	7.7	0.580	25.9	LOS B	6.3	47.7	0.89	0.76	0.89	33.5
West: Heyes Street														
10	L2	23	0.0	23	0.0	0.140	35.6	LOS C	0.9	6.1	0.87	0.69	0.87	33.7
11	T1	20	5.3	20	5.3	0.140	29.3	LOS C	0.9	6.1	0.87	0.69	0.87	32.8
12	R2	49	0.0	49	0.0	0.240	39.6	LOS C	1.1	7.6	0.94	0.74	0.94	17.2
Approach		93	1.1	93	1.1	0.240	36.4	LOS C	1.1	7.6	0.91	0.72	0.91	25.8
All Vehicles		1845	5.1	1845	5.1	0.580	21.7	LOS B	8.1	59.3	0.79	0.70	0.79	37.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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 (Geometric Delay is included).

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Cessnock Road											
P1	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	216.0	219.8	1.02
East: Redwood Drive											
P2	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	197.3	213.8	1.08
North: Cessnock Road											
P3	Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	202.8	221.0	1.09

West: Heyes Street											
P4 Full	53	32.8	LOS D	0.1	0.1	0.92	0.92	196.7	213.1	1.08	
All Pedestrians	211	32.8	LOS D	0.1	0.1	0.92	0.92	203.2	216.9	1.07	

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.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TTPP - THE TRANSPORT PLANNING PARTNERSHIP | Licence: NETWORK / 1PC | Processed: Monday, 20 June 2022
10:13:44 AM

Project: C:\Users\61425\Documents\21342\21342-220616-Cessnock Road.sip9

MOVEMENT SUMMARY

Site: 101 [Cessnock Road-Russell Street - AM (Site Folder: 2032 BG+Dev)]

Network: N101 [AM Peak (Network Folder: 2032 BG +Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cessnock Road (S)														
1	L2	13	0.0	13	0.0	0.498	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	59.4
2	T1	925	5.3	925	5.3	0.498	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	59.4
Approach		938	5.3	938	5.3	0.498	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.4
North: Cessnock Road (N)														
8	T1	724	6.7	724	6.7	0.388	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		724	6.7	724	6.7	0.388	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
West: Russel Street														
10	L2	21	0.0	21	0.0	0.043	11.6	LOS A	0.1	0.4	0.71	0.88	0.71	36.5
Approach		21	0.0	21	0.0	0.043	11.6	LOS A	0.1	0.4	0.71	0.88	0.71	36.5
All Vehicles		1683	5.8	1683	5.8	0.498	0.3	NA	0.1	0.4	0.01	0.02	0.01	59.3

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Heyes Street - AM (Site Folder: 2032 BG+Dev)]

Network: N101 [AM Peak (Network Folder: 2032 BG +Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	44	0.0	44	0.0	0.068	0.1	LOS A	0.1	0.9	0.09	0.37	0.09	56.5
3	R2	77	1.4	77	1.4	0.068	5.5	LOS A	0.1	0.9	0.09	0.37	0.09	53.4
Approach		121	0.9	121	0.9	0.068	3.5	NA	0.1	0.9	0.09	0.37	0.09	55.0
East: Heyes Street														
4	L2	15	0.0	15	0.0	0.015	5.6	LOS A	0.0	0.1	0.05	0.57	0.05	45.0
6	R2	6	0.0	6	0.0	0.015	5.9	LOS A	0.0	0.1	0.05	0.57	0.05	51.2
Approach		21	0.0	21	0.0	0.015	5.7	LOS A	0.0	0.1	0.05	0.57	0.05	48.2
North: Cartwright Street (N)														
7	L2	11	0.0	11	0.0	0.014	5.5	LOS A	0.0	0.0	0.00	0.23	0.00	56.1
8	T1	17	0.0	17	0.0	0.014	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	56.1
Approach		27	0.0	27	0.0	0.014	2.1	NA	0.0	0.0	0.00	0.23	0.00	56.1
All Vehicles		169	0.6	169	0.6	0.068	3.6	NA	0.1	0.9	0.07	0.37	0.07	54.5

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Russel Street - AM (Site Folder: 2032 BG+Dev)]

Network: N101 [AM Peak (Network Folder: 2032 BG +Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	85	1.2	85	1.2	0.050	0.0	LOS A	0.0	0.2	0.04	0.07	0.04	58.5
3	R2	11	0.0	11	0.0	0.050	5.6	LOS A	0.0	0.2	0.04	0.07	0.04	58.5
Approach		96	1.1	96	1.1	0.050	0.6	NA	0.0	0.2	0.04	0.07	0.04	58.5
East: Russel Street														
4	L2	31	0.0	31	0.0	0.021	5.7	LOS A	0.0	0.2	0.15	0.54	0.15	51.6
6	R2	1	0.0	1	0.0	0.021	6.0	LOS A	0.0	0.2	0.15	0.54	0.15	44.8
Approach		32	0.0	32	0.0	0.021	5.7	LOS A	0.0	0.2	0.15	0.54	0.15	51.5
North: Cartwright Street (N)														
7	L2	2	0.0	2	0.0	0.036	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
8	T1	68	0.0	68	0.0	0.036	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		71	0.0	71	0.0	0.036	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
All Vehicles		198	0.5	198	0.5	0.050	1.3	NA	0.0	0.2	0.04	0.12	0.04	57.8

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

MOVEMENT SUMMARY

Site: TCS 4534 [Cessnock Road/ Redwood Drive/ Heyes Street - PM (Site Folder: 2032 BG+Dev)]

Network: N101 [PM Peak (Network Folder: 2032 BG +Dev)]

Cessnock Road/ Redwood Drive/ Heyes Street

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 91 seconds (Site User-Given Phase Times)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cessnock Road														
1	L2	2	0.0	2	0.0	0.253	15.4	LOS B	3.7	26.4	0.52	0.45	0.52	32.0
2	T1	719	1.9	719	1.9	0.391	11.0	LOS A	6.4	45.4	0.56	0.49	0.56	47.8
3	R2	162	1.9	162	1.9	*0.250	13.5	LOS A	1.4	10.1	0.64	0.74	0.64	39.1
Approach		883	1.9	883	1.9	0.391	11.5	LOS A	6.4	45.4	0.57	0.53	0.57	46.1
East: Redwood Drive														
4	L2	151	0.0	151	0.0	0.382	36.7	LOS C	3.9	27.1	0.87	0.78	0.87	23.1
5	T1	19	0.0	19	0.0	*0.382	30.8	LOS C	3.9	27.1	0.87	0.78	0.87	23.1
6	R2	60	0.0	60	0.0	0.351	48.1	LOS D	1.6	11.3	0.97	0.75	0.97	30.2
Approach		229	0.0	229	0.0	0.382	39.2	LOS C	3.9	27.1	0.90	0.77	0.90	25.8
North: Cessnock Road														
7	L2	93	1.1	93	1.1	0.464	28.1	LOS B	7.2	51.2	0.80	0.72	0.80	39.0
8	T1	704	3.0	704	3.0	*0.576	23.1	LOS B	9.4	67.6	0.82	0.72	0.82	34.3
9	R2	48	2.2	48	2.2	0.107	12.8	LOS A	0.4	2.8	0.56	0.68	0.56	42.5
Approach		845	2.7	845	2.7	0.576	23.0	LOS B	9.4	67.6	0.80	0.72	0.80	35.4
West: Heyes Street														
10	L2	14	0.0	14	0.0	0.096	42.2	LOS C	0.6	4.2	0.89	0.68	0.89	31.1
11	T1	12	0.0	12	0.0	0.096	36.4	LOS C	0.6	4.2	0.89	0.68	0.89	30.0
12	R2	35	3.0	35	3.0	0.207	48.1	LOS D	0.9	6.6	0.96	0.72	0.96	15.1
Approach		60	1.8	60	1.8	0.207	44.5	LOS D	0.9	6.6	0.93	0.70	0.93	22.5
All Vehicles		2018	2.0	2018	2.0	0.576	20.4	LOS B	9.4	67.6	0.72	0.64	0.72	37.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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 (Geometric Delay is included).

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
					[Ped ped	Dist] m					
South: Cessnock Road											
P1	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	223.0	219.8	0.99
East: Redwood Drive											
P2	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	204.2	213.8	1.05
North: Cessnock Road											
P3	Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	209.8	221.0	1.05

West: Heyes Street											
P4 Full	53	39.8	LOS D	0.1	0.1	0.94	0.94	203.7	213.1	1.05	
All Pedestrians	211	39.8	LOS D	0.1	0.1	0.94	0.94	210.2	216.9	1.03	

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.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TTPP - THE TRANSPORT PLANNING PARTNERSHIP | Licence: NETWORK / 1PC | Processed: Monday, 20 June 2022
10:13:49 AM

Project: C:\Users\61425\Documents\21342\21342-220616-Cessnock Road.sip9

MOVEMENT SUMMARY

Site: 101 [Cessnock Road-Russell Street - PM (Site Folder: 2032 BG+Dev)]

Network: N101 [PM Peak (Network Folder: 2032 BG +Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cessnock Road (S)														
1	L2	56	0.0	56	0.0	0.459	5.7	LOS A	0.0	0.0	0.00	0.04	0.00	59.0
2	T1	824	2.3	824	2.3	0.459	0.2	LOS A	0.0	0.0	0.00	0.04	0.00	59.0
Approach		880	2.2	880	2.2	0.459	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.0
North: Cessnock Road (N)														
8	T1	918	0.0	918	0.0	0.471	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach		918	0.0	918	0.0	0.471	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.6
West: Russel Street														
10	L2	9	0.0	9	0.0	0.015	9.9	LOS A	0.0	0.1	0.63	0.75	0.63	38.7
Approach		9	0.0	9	0.0	0.015	9.9	LOS A	0.0	0.1	0.63	0.75	0.63	38.7
All Vehicles		1807	1.0	1807	1.0	0.471	0.3	NA	0.0	0.1	0.00	0.02	0.00	59.3

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Heyes Street - PM (Site Folder: 2032 BG+Dev)]

Network: N101 [PM Peak (Network Folder: 2032 BG +Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	24	0.0	24	0.0	0.044	0.1	LOS A	0.1	0.6	0.12	0.39	0.12	56.1
3	R2	54	2.0	54	2.0	0.044	5.6	LOS A	0.1	0.6	0.12	0.39	0.12	52.8
Approach		78	1.4	78	1.4	0.044	3.9	NA	0.1	0.6	0.12	0.39	0.12	54.3
East: Heyes Street														
4	L2	60	1.8	60	1.8	0.040	5.7	LOS A	0.1	0.4	0.09	0.55	0.09	44.6
6	R2	2	0.0	2	0.0	0.040	5.8	LOS A	0.1	0.4	0.09	0.55	0.09	51.0
Approach		62	1.7	62	1.7	0.040	5.7	LOS A	0.1	0.4	0.09	0.55	0.09	45.1
North: Cartwright Street (N)														
7	L2	6	0.0	6	0.0	0.023	5.5	LOS A	0.0	0.0	0.00	0.09	0.00	58.5
8	T1	38	0.0	38	0.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	58.5
Approach		44	0.0	44	0.0	0.023	0.8	NA	0.0	0.0	0.00	0.09	0.00	58.5
All Vehicles		184	1.1	184	1.1	0.044	3.7	NA	0.1	0.6	0.08	0.37	0.08	53.0

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

MOVEMENT SUMMARY

Site: 101 [Cartwright Street-Russel Street - PM (Site Folder: 2032 BG+Dev)]

Network: N101 [PM Peak (Network Folder: 2032 BG +Dev)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Cartwright Street (S)														
2	T1	65	0.0	65	0.0	0.037	0.0	LOS A	0.0	0.1	0.03	0.05	0.03	58.9
3	R2	5	0.0	5	0.0	0.037	5.7	LOS A	0.0	0.1	0.03	0.05	0.03	58.9
Approach		71	0.0	71	0.0	0.037	0.4	NA	0.0	0.1	0.03	0.05	0.03	58.9
East: Russel Street														
4	L2	46	0.0	46	0.0	0.031	5.8	LOS A	0.0	0.3	0.17	0.54	0.17	51.5
6	R2	1	0.0	1	0.0	0.031	6.0	LOS A	0.0	0.3	0.17	0.54	0.17	44.6
Approach		47	0.0	47	0.0	0.031	5.8	LOS A	0.0	0.3	0.17	0.54	0.17	51.4
North: Cartwright Street (N)														
7	L2	2	0.0	2	0.0	0.044	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
8	T1	83	0.0	83	0.0	0.044	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		85	0.0	85	0.0	0.044	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
All Vehicles		203	0.0	203	0.0	0.044	1.6	NA	0.0	0.3	0.05	0.15	0.05	57.4

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

The Transport Planning Partnership
Suite 402 Level 4, 22 Atchison Street
St Leonards NSW 2065

P.O. Box 237
St Leonards NSW 1590

02 8437 7800

info@tpp.net.au

www.tpp.net.au