

Issue History

File Name	Prepared	Reviewed	Issued by	Date	Issued to
P6887.001T Flagstone Dr_NBR Intersection Modelling	S. Sachintha	A. Payne / L. Darragh	A. Payne	27/02/2026	Nick Meadows, sent via: Nick.Meadows@rpsconsulting.com

Flagstonian Drive/New Beith Road Intersection Analysis

Revised Intersection Layout Traffic Modelling

1. Introduction

1.1 Background

This technical memo has been prepared to document the assessment undertaken for the revised Flagstonian Drive / New Beith Road four-way intersection layout. The location of the subject intersection is illustrated in Figure 1.1.



Source: Google Maps (adapted by Bitzios)

Figure 1.1: Subject Intersection Location

Logan City Council (Council) transport officers reviewed the ultimate layout of the Flagstonian Drive / New Beith Road intersection as per relevant EDQ approvals. Following this review, a number of issues were identified with the endorsed design based on its ultimate intersection performance that were required to be addressed.

The endorsed design is currently referenced within a number of existing approvals and active applications, including:

- DEV2024/1491: Flagstone Context Area 3 (CA3) South: approval and change application
- DEV2023/1414: Flagstone Context Area 3 (CA3) South: School Reconfiguring a Lot (RAL)
- DEV2012/403: Flagstone Context Area 1 (CA1) Stages 2-5 Reconfiguring a Lot (RAL).

1.2 Purpose of this Technical Memo

The purpose of this technical memo is to present the revised traffic modelling undertaken for the updated intersection configuration which was determined through liaison with Council, EDQ and the applicant, and to address existing relevant approvals and active applications that reference the previously endorsed intersection configuration.

1.3 Scope of Work

Considering the above, the scope of this technical memo included:

- Review of the EDQ endorsed intersection layout and its performance
- Review of changes required to address issues raised by Council
- Undertake updated traffic modelling of the revised intersection form required to address Council issues and evaluation of performance metrics of the revised layout.

1.4 Reference Material

The following documents / material was referenced in preparing this technical memo:

- *P2300.007R Flagstone City Context Area 3 South*, prepared by Bitzios Consulting (10 October 2025) (Bitzios Traffic & Transport Assessment)
- *Cordon Modelling of PEET's Flagstone City, FINAL Report*, prepared by VLC (21 May 2019) ("VLC PEET Report")
- *P2300.005R Flagstone City Movement Network IMP*, prepared by Bitzios Consulting (6 September 2024)
- *South Logan Strategic Transport Model Update: Model Development and Network Apportionments*, prepared by VLC (18 June 2020) ("VLC SLSTM Report").

The latest approved Flagstone City CA3 South report (*ref: DEV2024/1491*) provides an overview and analysis of the traffic and transport related elements of the Flagstone City CA3 South area, which assessed the currently endorsed version of the Flagstone Drive / New Beith Road intersection layout.

2. Micro-simulation Modelling

2.1 Overview

Bitzios Consulting developed a micro-simulation (Aimsun) model of the Flagstone City development area within the Flagstone PDA. This model adopted OD matrices from the VLC Flagstone City strategic modelling (documented in the *VLC PEET Report*) and is used to accurately model vehicle route choice thereby forecasting expected future traffic distribution and intersection turn volumes.

The AM and PM peak hour turn volumes sourced from the micro-simulation model are subsequently used to inform the intersection traffic modelling. Microsimulation modelling methodology and intersection turn volumes sourced from the traffic model are detailed in the endorsed Context Area 3 South Traffic Impact Assessment (*P2300.007R Flagstone City Context Area 3 South*).

3. Intersection Assessment

3.1 Overview

Council's review of the endorsed Flagstonian Drive / New Beith Road intersection layout identified issues with the ultimate layout of the intersection including:

- Intersection performance exceeding typical acceptable thresholds (LoS D and DoS 0.90) at the ultimate (2066) design horizon
- Presence of a left-turn “trap” lane on the eastern approach to the intersection
- Extent of 95th percentile queue lengths beyond the short left-turn lane at the ultimate (2066) design horizon
- Absence of pedestrian crossing on the northern leg of the intersection
- Delays for pedestrians crossing New Beith Road.

Considering the above, a revised ultimate Flagstonian Drive / New Beith Road intersection layout was developed, adopting feedback from Council transport officers.

3.2 Intersection Layout

This revised Flagstonian Drive / New Beith Road signalised intersection layout can be delivered within the bounds of the current road reserve without impacting surrounding lots and/or infrastructure already delivered.

Figure 3.1 shows the SIDRA layouts for the intersection, including the currently endorsed (ultimate 2066) and newly proposed (ultimate 2066) intersection forms.

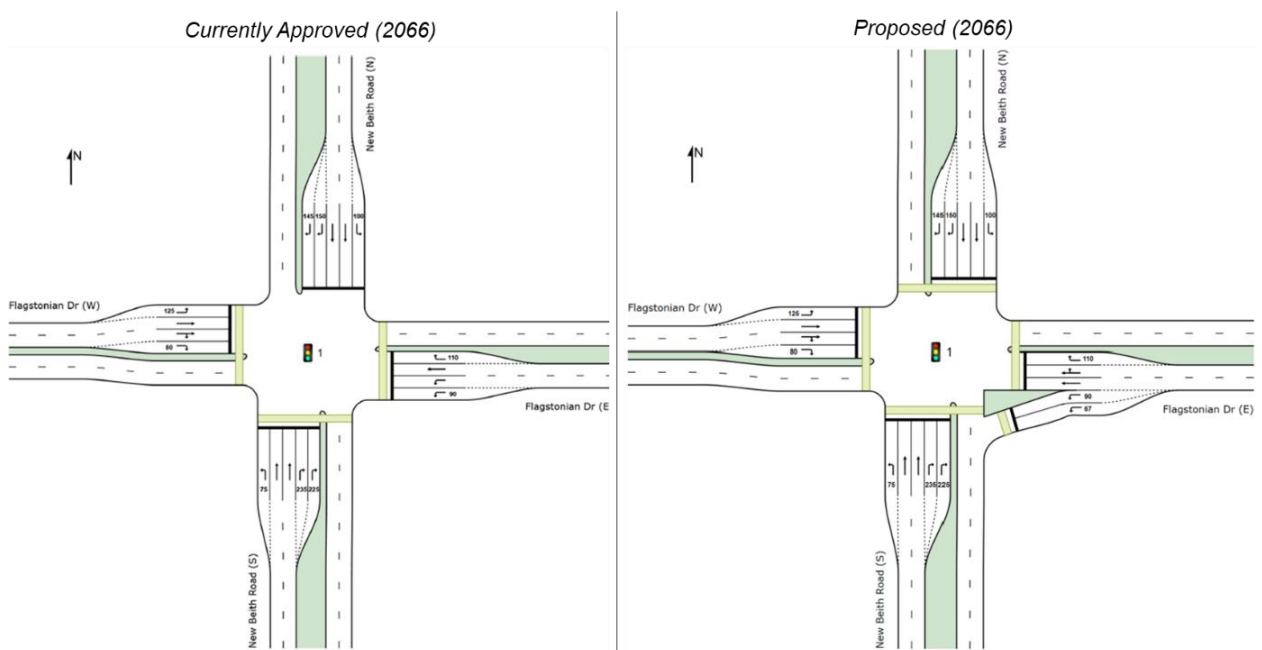


Figure 3.1: Flagstonian Drive / New Beith Road SIDRA Intersection Layout

Key differences to the layout under the proposed (ultimate 2066) form include:

- A separated, channelised dual left turn lane (signalised) from east to south
- Subsequent removal of the westbound “trap” lane on Flagstonian Drive
- A signalised pedestrian crossing on the northern leg across New Beith Road.

The revised intersection layout was subsequently modelled in SIDRA to assess the expected performance of the intersection at the ultimate (2066) design horizon as detailed further below.

3.3 SIDRA Intersection Testing

3.3.1 Assessment Criteria

Assessment criteria for determining the performance of the intersections tested in SIDRA are listed below and further described in the following sections:

- Degree of Saturation (DoS)
- Level of Service (LoS)
- Back of Queue Distance.

This criterion was used in determining the operational performance and suitability of the intersection configuration adopted.

Degree of Saturation

Degree of Saturation (DoS) is generally used to measure the performance of isolated intersections. It identifies whether an intersection is operating below, at, or above its practical operating capacity. The applicable DoS for each intersection type is outlined in Table 3.1.

Table 3.1: Maximum Practical Degree of Saturation by Intersection Type

Intersection Type	Maximum Practical DoS
Signals	0.90
Roundabouts	0.85
Sign-controlled	0.80

SOURCE: TfNSW Traffic Modelling Guidelines (2013) Table 14.2

Queue lengths and delays increase rapidly as DoS approaches theoretical capacity of DoS = 1.0. Throughout this report, the resulting DoS is categorised the following:

- **DoS ≤ Max. Practical DoS** – Intersection is operating below practical operating capacity
- **DoS > Max. Practical DoS** – Intersection is operating above practical operating capacity
- **DoS ≥ 1.0** – Intersection operating at or above theoretical capacity.

Level of Service and Delays

Level of Service (LoS) describes the operational performance at an intersection and is directly related to the delay in seconds experienced at each approach. *TfNSW Traffic Modelling Guidelines (2025) Table 64* outlines LoS criteria adopted for the intersection assessment as reproduced in Table 3.2. For signalised intersections, the overall average intersection delay should not exceed LoS D.

Table 3.2: SIDRA Level of Service Thresholds

Link Colour (LoS)	Control Delay per Agent in Seconds (including geometric delay)
	(All intersection types)
A	Delay ≤ 14.5
B	14.5 < Delay ≤ 28.5
C	28.5 < Delay ≤ 42.5
D	42.5 < Delay ≤ 56.5
E	56.5 < Delay ≤ 70.5
F	Delay > 70.5

Source: TfNSW Traffic Modelling Guidelines (2025) Table 64

Queue Length

The 95th percentile queue lengths were analysed to understand the probabilities of queues on intersection approaches extending back to a nearby intersection. This is the value for which 95% of queue lengths fall. This length also represents the storage length required of a lane to accommodate the queue.

3.3.2 SIDRA Intersection Configurations

The Flagstonian Drive / New Beith Road intersection was assessed using SIDRA intersection analysis software based on the traffic volumes extracted from the Aimsun model.

The Flagstonian Drive / New Beith Road intersection is located in relative proximity to the District Centre signalised access intersection to the west. The intersections were therefore modelled as a SIDRA Network as shown in Figure 3.2.

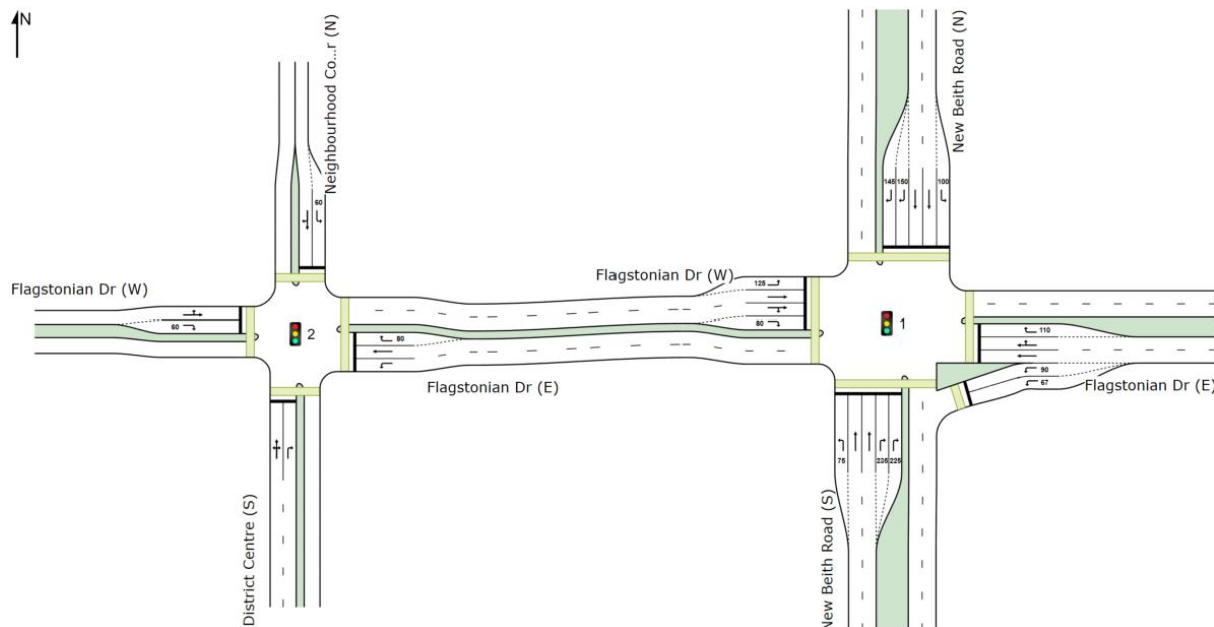


Figure 3.2: Modelled SIDRA Network

SIDRA results for the Flagstonian Drive / New Beith Road intersection are summarised in Table 3.3 for the comparison with the currently approved intersection layout and newly proposed intersection layout for ultimate (2066) model year.

Detailed SIDRA intersection results are provided at **Attachment A**.

Table 3.3: Flagstonian Drive / New Beith Road SIDRA Results Summary

Approach	AM Peak				PM Peak			
	Veh/h	DoS	LoS	Queue (m)	Veh/h	DoS	LoS	Queue (m)
Currently Approved (2066)								
New Beith Road (S)	2,183	0.84	D	136	1,055	0.61	D	87
Flagstonian Drive (E)	763	0.74	D	68	1,594	1.09	F	203
New Beith Road (N)	1,376	0.87	D	106	1,800	1.08	F	296
Flagstonian Drive (W)	813	0.74	E	67	551	1.03	F	53
Overall	5,135	0.87	D	136	5,000	1.09	F	296
Proposed (2066)								
New Beith Road (S)	2,183	0.86	D	185	1,055	0.58	D	99
Flagstonian Drive (E)	763	0.49	D	46	1,594	0.90	E	109
New Beith Road (N)	1,376	0.88	E	136	1,800	0.91	D	210
Flagstonian Drive (W)	813	0.57	E	69	551	0.42	E	43
Overall	5,135	0.88	D	185	5,000	0.91	D	210

Within typical capacity thresholds

Exceeds typical capacity thresholds (>0.9 DOS) yet within theoretical capacity thresholds (DOS<1.0)

Exceeds theoretical capacity thresholds (DOS>1.0)

3.3.3 SIDRA Results Discussion

As shown, intersection performance in the PM peak hour is significantly improved with the proposed changes to the intersection layout. The forecast 95th percentile queue length on the eastern approach to the intersection is also significantly reduced in both peak periods compared to the endorsed layout.

The revised Flagstonian Drive / New Beith Road intersection layout is expected to generally operate within acceptable performance limits at the ultimate model year (2066). The only exception to this is the modelled degree of saturation (DoS) of 0.907 on the northern leg of the intersection in the PM peak hour, exceeding the typical threshold of 0.90. Noting that the above results are from a 40-year design horizon, this minor increase in DOS above typical thresholds is considered acceptable. This is further supported by the fact that the revised intersection layout is shown to:

- Operate with acceptable levels of vehicle delay on all approaches (LoS D or better)
- Contain expected peak vehicle queues within turn lane lengths and without blocking through nearby intersections
- Provide protected active transport crossing movements on all legs of the intersection.

4. Summary and Conclusions

The findings and conclusions from the assessment of the revised Flagstonian Drive / New Beith Road intersection layout are summarised below:

- A revised Flagstonian Drive / New Beith Road intersection is proposed to address concerns raised by Logan City Council with the endorsed ultimate intersection form
- SIDRA modelling indicates that the revised intersection form is expected to have additional capacity and subsequently result in reduced intersection delay when compared to the endorsed intersection layout
- The revised Flagstonian Drive / New Beith Road intersection layout is expected to operate within acceptable performance limits at the ultimate design horizon (2066) for vehicle movements and also provide protected active transport crossing movements on all legs of the intersection.

Based on the findings herein, the proposed Flagstonian Drive / New Beith Road intersection layout is expected to operate within acceptable performance limits at the ultimate model year (2066) when compared to the currently approved intersection layout and is recommended to supersede the previously endorsed layout at this location.

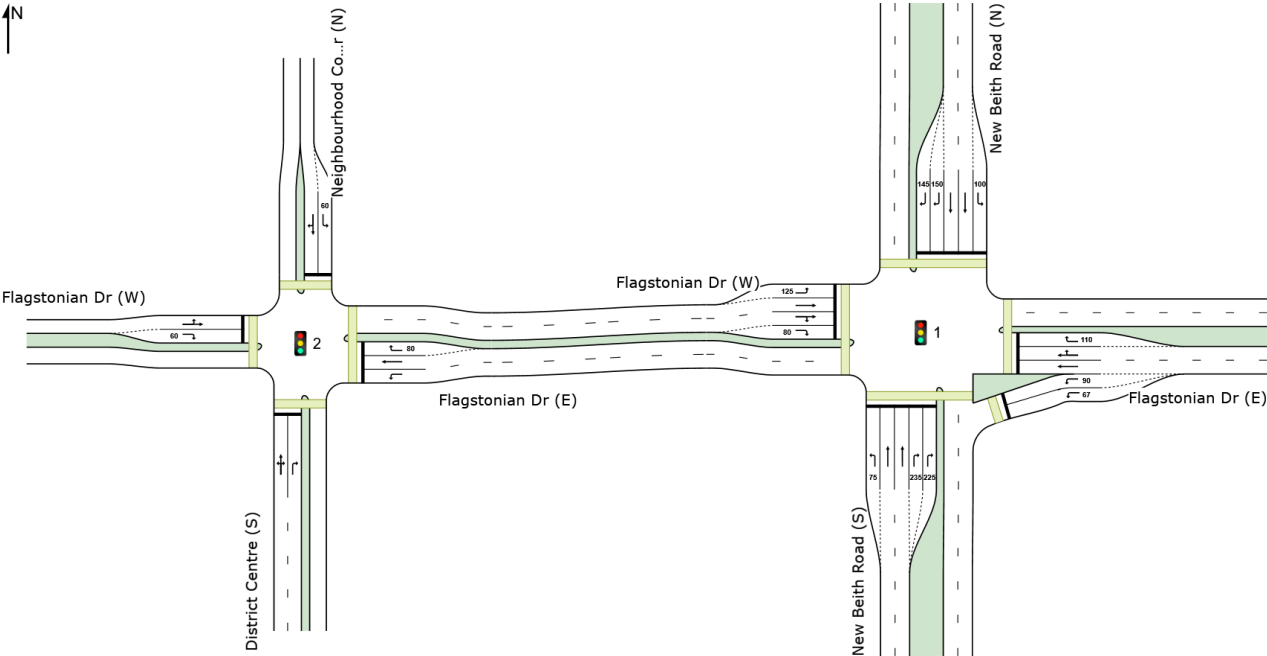
Attachment A: Detailed SIDRA Results

NETWORK LAYOUT

Network: N101 [2066 District Centre AM_LCC_ThruRight
(Network Folder: District Centre Network)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	CCG ID	Site Name
1	NA	1_2066 AM_LCC_ThruRight
2	NA	2_2066 AM_LCC_ThruRight

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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

SITE LAYOUT

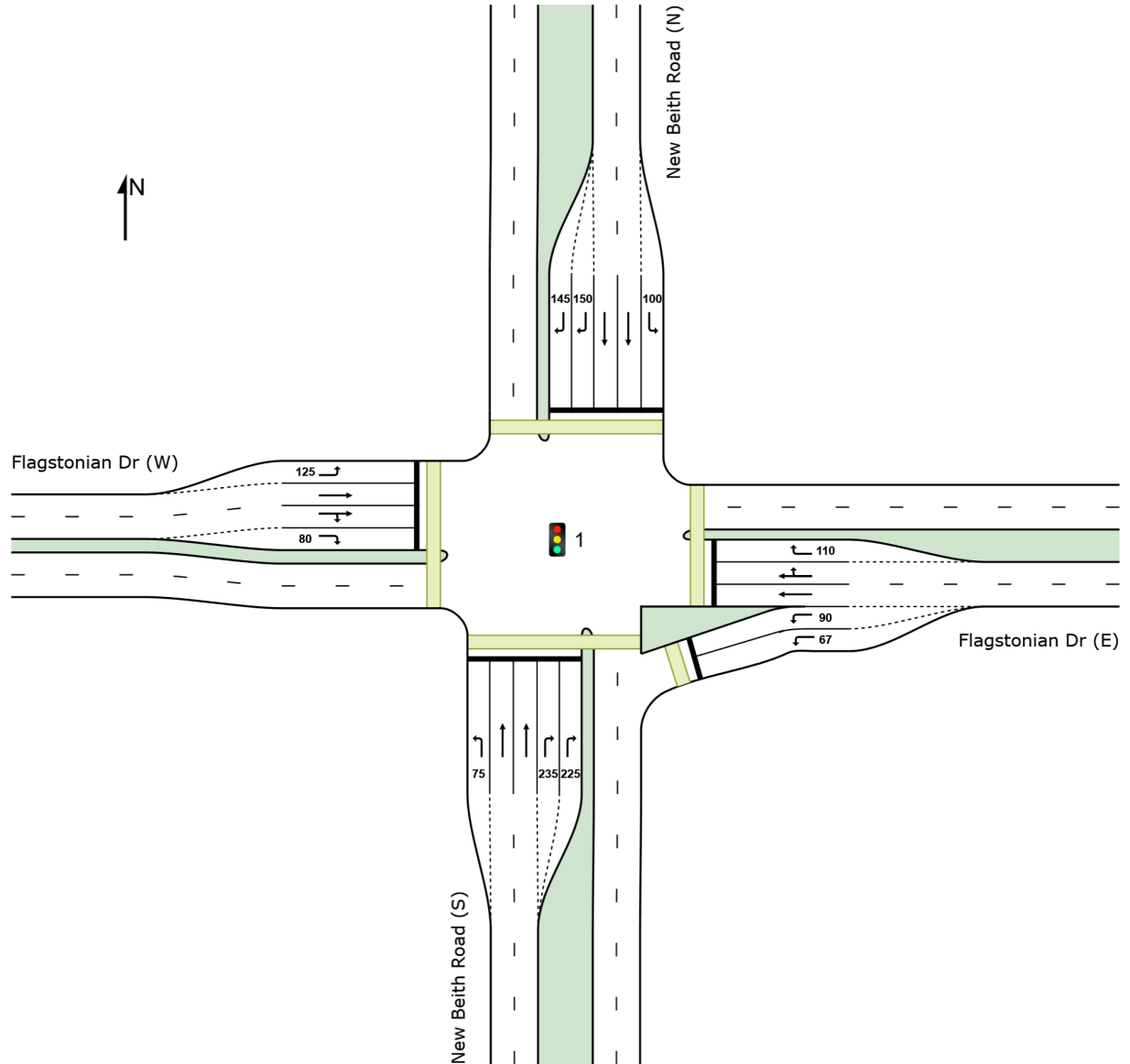
 **Site: 1 [1_2066 AM_LCC_ThruRight (Site Folder: 2066 AM)]**

New Beith Road / Flagstonian Drive

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

 Site: 1 [1_2066 AM_LCC_ThruRight (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 Network: N101 [2066 District Centre AM_LCC_ThruRight (Network Folder: District Centre Network)]

New Beith Road / Flagstonian Drive

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Practical Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh]	[Dist]			km/h
			veh/h	%	veh/h	%	v/c	sec			m			
South: New Beith Road (S)														
1	L2	All MCs	135	0.0	135	0.0	0.179	39.2	LOS C	2.7	18.9	0.67	0.74	39.3
2	T1	All MCs	1326	2.2	1326	2.2	0.863	41.5	LOS C	26.0	185.1	0.91	0.86	49.5
3	R2	All MCs	722	1.5	722	1.5	*0.860	70.5	LOS F	15.9	112.8	1.00	0.95	28.6
Approach			2183	1.8	2183	1.8	0.863	51.0	LOS D	26.0	185.1	0.93	0.88	39.8
East: Flagstonian Dr (E)														
4	L2	All MCs	268	2.6	268	2.6	0.163	30.7	LOS C	3.3	23.3	0.63	0.74	41.9
5	T1	All MCs	224	0.9	224	0.9	0.492	56.2	LOS D	6.5	45.6	0.95	0.78	13.2
6	R2	All MCs	271	1.8	271	1.8	0.492	63.0	LOS E	6.2	44.2	0.95	0.80	32.8
Approach			763	1.8	763	1.8	0.492	49.7	LOS D	6.5	45.6	0.84	0.77	31.2
North: New Beith Road (N)														
7	L2	All MCs	376	1.9	376	1.9	*0.821	55.9	LOS D	10.4	73.7	1.00	0.96	35.2
8	T1	All MCs	814	5.7	814	5.7	*0.877	65.6	LOS E	18.6	136.4	1.00	1.00	39.4
9	R2	All MCs	186	2.2	186	2.2	0.791	82.3	LOS F	4.2	29.8	1.00	0.89	23.4
Approach			1376	4.1	1376	4.1	0.877	65.2	LOS E	18.6	136.4	1.00	0.98	35.8
West: Flagstonian Dr (W)														
10	L2	All MCs	294	0.7	294	0.7	0.571	45.8	LOS D	9.8	69.1	0.85	0.81	33.9
11	T1	All MCs	333	1.5	333	1.5	*0.530	57.4	LOS E	7.3	51.9	0.93	0.78	19.1
12	R2	All MCs	186	0.0	186	0.0	0.530	73.7	LOS F	7.3	51.9	1.00	0.86	25.5
Approach			813	0.9	813	0.9	0.571	56.9	LOS E	9.8	69.1	0.92	0.81	26.6
All Vehicles			5135	2.3	5135	2.3	0.877	55.5	LOS D	26.0	185.1	0.93	0.88	35.7

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped]	[Dist]			sec	m	m/sec
South: New Beith Road (S)											
P1	Full	50	63.3	LOS F	0.2	0.2	0.95	0.95	78.7	20.0	0.25

East: Flagstonian Dr (E)											
P2 Full	50	63.3	LOS F	0.2	0.2	0.95	0.95	78.7	20.0	0.25	
P2B Slip/ Bypass	50	64.3	LOS F	0.2	0.2	0.96	0.96	79.6	20.0	0.25	
North: New Beith Road (N)											
P3 Full	50	64.3	LOS F	0.2	0.2	0.96	0.96	79.6	20.0	0.25	
West: Flagstonian Dr (W)											
P4 Full	50	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92	
All Pedestrians	250	63.9	LOS F	0.2	0.2	0.96	0.96	107.0	56.0	0.52	

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.

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MOVEMENT SUMMARY

 Site: 1 [1_2066 PM_LCC_ThruRight (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

■ ■ Network: N101 [2066 District Centre PM_LCC_ThruRight (Network Folder: District Centre Network)]

New Beith Road / Flagstonian Drive

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Network Practical Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]			km/h
			veh/h	%	veh/h	%	v/c	sec			m			
South: New Beith Road (S)														
1	L2	All MCs	151	0.0	151	0.0	0.147	27.6	LOS B	3.2	22.4	0.52	0.71	39.7
2	T1	All MCs	732	3.3	732	3.3	0.578	45.7	LOS D	13.8	99.4	0.88	0.76	45.8
3	R2	All MCs	172	1.2	172	1.2	0.500	78.4	LOS F	3.8	26.7	0.99	0.78	26.9
Approach			1055	2.5	1055	2.5	0.578	48.4	LOS D	13.8	99.4	0.85	0.76	41.1
East: Flagstonian Dr (E)														
4	L2	All MCs	885	1.9	885	1.9	* 0.903	52.4	LOS D	15.3	109.0	1.00	0.94	33.6
5	T1	All MCs	353	0.6	353	0.6	0.695	62.8	LOS E	10.3	72.6	0.99	0.84	12.2
6	R2	All MCs	356	1.4	356	1.4	0.695	69.6	LOS E	10.0	70.9	0.99	0.84	31.1
Approach			1594	1.5	1594	1.5	0.903	58.5	LOS E	15.3	109.0	1.00	0.89	29.2
North: New Beith Road (N)														
7	L2	All MCs	193	4.1	193	4.1	0.240	46.0	LOS D	5.3	38.1	0.66	0.76	42.2
8	T1	All MCs	1291	1.4	1291	1.4	* 0.907	53.4	LOS D	29.6	209.9	0.96	0.94	45.3
9	R2	All MCs	316	0.9	316	0.9	0.584	73.4	LOS F	6.7	47.4	0.98	0.81	25.5
Approach			1800	1.6	1800	1.6	0.907	56.1	LOS D	29.6	209.9	0.93	0.90	39.0
West: Flagstonian Dr (W)														
10	L2	All MCs	144	2.1	144	2.1	0.281	35.7	LOS C	3.6	25.5	0.99	0.79	37.2
11	T1	All MCs	234	1.7	234	1.7	* 0.412	69.8	LOS E	6.1	43.0	1.00	0.84	16.6
12	R2	All MCs	173	0.0	173	0.0	0.412	76.5	LOS F	6.1	43.0	1.00	0.84	25.1
Approach			551	1.3	551	1.3	0.412	63.0	LOS E	6.1	43.0	1.00	0.83	24.8
All Vehicles			5000	1.7	5000	1.7	0.907	56.0	LOS D	29.6	209.9	0.94	0.86	35.2

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist]			sec	m	m/sec
						m					
South: New Beith Road (S)											
P1	Full	50	68.3	LOS F	0.2	0.2	0.96	0.96	83.7	20.0	0.24

East: Flagstonian Dr (E)											
P2 Full	50	68.3	LOS F	0.2	0.2	0.96	0.96	83.7	20.0	0.24	
P2B Slip/ Bypass	50	32.5	LOS D	0.1	0.1	0.92	0.92	47.9	20.0	0.42	
North: New Beith Road (N)											
P3 Full	50	69.3	LOS F	0.2	0.2	0.96	0.96	84.6	20.0	0.24	
West: Flagstonian Dr (W)											
P4 Full	50	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90	
All Pedestrians	250	61.5	LOS F	0.2	0.2	0.95	0.95	104.6	56.0	0.54	

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.

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SITE LAYOUT

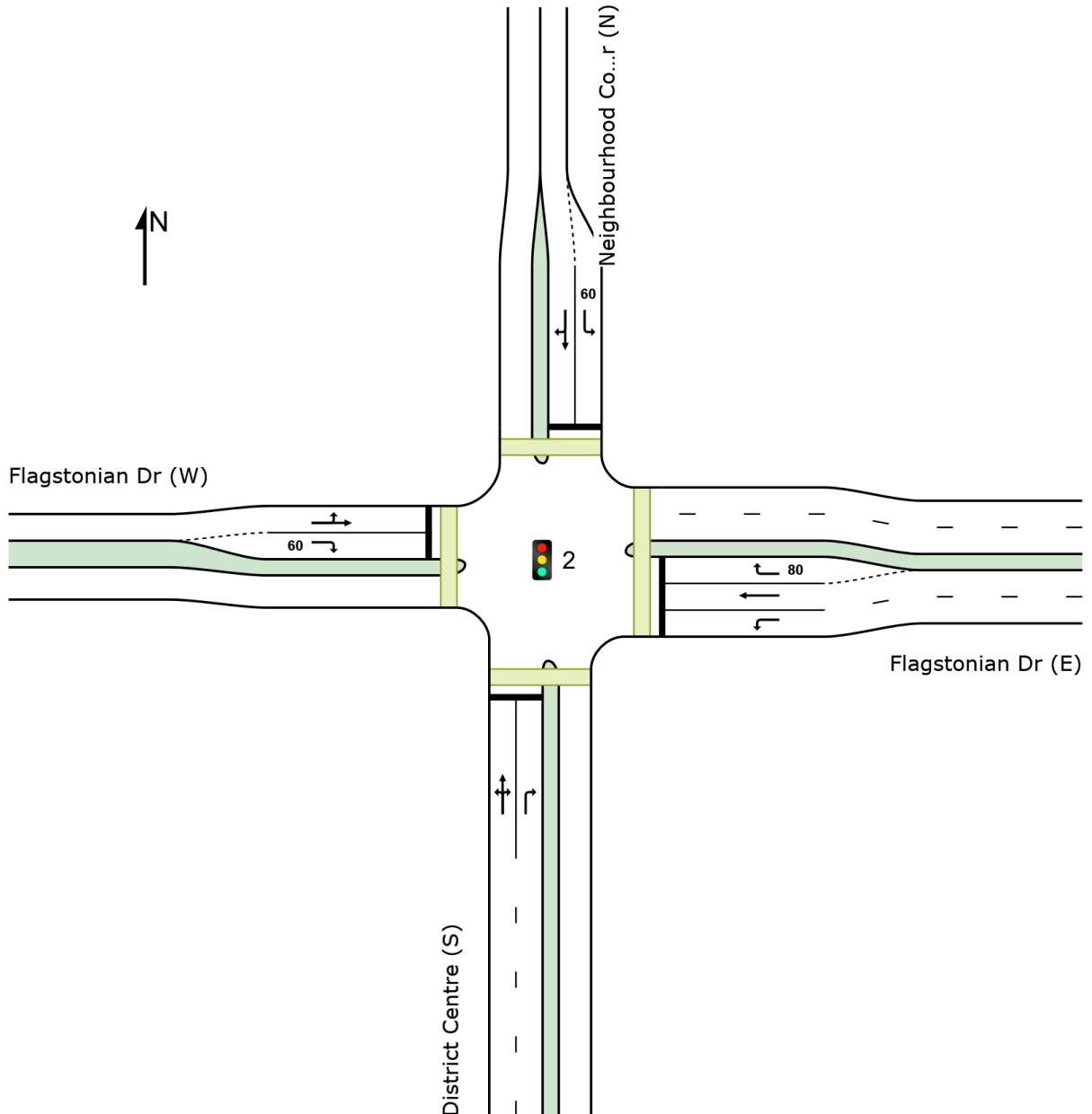
 Site: 2 [2_2066 AM_LCC_ThruRight (Site Folder: 2066 AM)]

District Centre Access

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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MOVEMENT SUMMARY

 Site: 2 [2_2066 AM_LCC_ThruRight (Site Folder: 2066 AM)]

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■ ■ Network: N101 [2066 District Centre AM_LCC_ThruRight (Network Folder: District Centre Network)]

District Centre Access

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total HV]		[Total HV]					[Veh. veh	Dist]				
			veh/h	%	veh/h	%	v/c	sec			m			km/h	
South: District Centre (S)															
1	L2	All MCs	1	0.0	1	0.0	0.238	72.5	LOS F	1.8	12.9	0.95	0.74	0.95	11.3
2	T1	All MCs	2	0.0	2	0.0	0.238	62.9	LOS E	1.8	12.9	0.95	0.74	0.95	19.7
3	R2	All MCs	89	2.4	89	2.4	0.238	66.3	LOS E	1.8	13.1	0.95	0.74	0.95	5.6
Approach			93	2.3	93	2.3	0.238	66.3	LOS E	1.8	13.1	0.95	0.74	0.95	6.2
East: Flagstonian Dr (E)															
4	L2	All MCs	201	1.0	201	1.0	* 0.392	39.1	LOS C	5.7	40.5	1.00	0.80	1.00	17.5
5	T1	All MCs	324	1.0	324	1.0	0.589	58.0	LOS E	12.7	89.4	1.00	0.86	1.00	16.7
6	R2	All MCs	46	0.0	46	0.0	* 0.582	86.4	LOS F	2.1	14.5	1.00	0.77	1.03	18.9
Approach			572	0.9	572	0.9	0.589	53.6	LOS D	12.7	89.4	1.00	0.83	1.00	16.9
North: Neighbourhood Connector (N)															
7	L2	All MCs	172	0.0	172	0.0	0.431	56.0	LOS D	6.2	43.7	0.92	0.80	0.92	19.9
8	T1	All MCs	19	0.0	19	0.0	* 0.109	58.8	LOS E	1.0	7.3	0.91	0.70	0.91	21.0
9	R2	All MCs	9	0.0	9	0.0	0.109	62.0	LOS E	1.0	7.3	0.91	0.70	0.91	22.4
Approach			200	0.0	200	0.0	0.431	56.5	LOS E	6.2	43.7	0.91	0.78	0.91	20.2
West: Flagstonian Dr (W)															
10	L2	All MCs	14	0.0	14	0.0	0.597	37.4	LOS C	16.8	118.6	0.72	0.66	0.72	34.4
11	T1	All MCs	598	0.9	598	0.9	* 0.597	31.9	LOS C	16.8	118.6	0.72	0.66	0.72	19.2
12	R2	All MCs	51	0.0	51	0.0	0.087	51.0	LOS D	1.5	10.3	0.74	0.72	0.74	16.1
Approach			662	0.8	662	0.8	0.597	33.5	LOS C	16.8	118.6	0.73	0.66	0.73	15.3
All Vehicles			1526	0.8	1526	0.8	0.597	46.0	LOS D	16.8	118.6	0.87	0.75	0.87	16.3

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Aver. Speed
		ped/h	sec		[Ped ped	Dist]			sec	m/sec
						m				
South: District Centre (S)										
P1	Full	50	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0

East: Flagstonian Dr (E)											
P2	Full	50	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
North: Neighbourhood Connector (N)											
P3	Full	50	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
West: Flagstonian Dr (W)											
P4	Full	50	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92
All Pedestrians		200	64.3	LOS F	0.2	0.2	0.96	0.96	218.1	200.0	0.92

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 Site: 2 [2_2066 PM_LCC_ThruRight (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

■ ■ Network: N101 [2066 District Centre PM_LCC_ThruRight (Network Folder: District Centre Network)]

District Centre Access

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Network Practical Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]			km/h
			veh/h	%	veh/h	%	v/c	sec			m			
South: District Centre (S)														
1	L2	All MCs	25	0.0	25	0.0	0.531	75.8	LOS F	5.3	37.6	0.98	0.79	10.8
2	T1	All MCs	22	4.8	22	4.8	* 0.531	66.1	LOS E	5.3	37.6	0.98	0.79	19.0
3	R2	All MCs	213	1.5	213	1.5	0.531	69.0	LOS E	5.8	41.0	0.98	0.80	5.4
Approach			260	1.6	260	1.6	0.531	69.4	LOS E	5.8	41.0	0.98	0.80	7.6
East: Flagstonian Dr (E)														
4	L2	All MCs	135	0.8	135	0.8	0.118	12.4	LOS A	1.4	10.1	0.47	0.69	31.1
5	T1	All MCs	581	0.7	581	0.7	* 0.526	18.0	LOS B	13.7	96.2	0.58	0.52	34.1
6	R2	All MCs	141	0.0	141	0.0	0.265	32.5	LOS C	3.1	21.7	0.52	0.70	31.4
Approach			857	0.6	857	0.6	0.526	19.5	LOS B	13.7	96.2	0.55	0.58	31.8
North: Neighbourhood Connector (N)														
7	L2	All MCs	76	1.4	76	1.4	0.091	29.1	LOS C	1.9	13.4	0.60	0.69	28.0
8	T1	All MCs	9	0.0	9	0.0	* 0.047	63.2	LOS E	0.5	3.2	0.91	0.65	20.3
9	R2	All MCs	2	0.0	2	0.0	0.047	66.4	LOS E	0.5	3.2	0.91	0.65	21.6
Approach			87	1.2	87	1.2	0.091	33.7	LOS C	1.9	13.4	0.64	0.69	26.5
West: Flagstonian Dr (W)														
10	L2	All MCs	8	12.5	8	12.5	0.525	60.7	LOS E	11.0	77.6	0.89	0.76	25.3
11	T1	All MCs	286	1.1	286	1.1	0.525	55.0	LOS D	11.0	77.6	0.89	0.76	10.9
12	R2	All MCs	13	0.0	13	0.0	* 0.340	99.9	LOS F	0.6	4.3	1.00	0.68	8.9
Approach			307	1.4	307	1.4	0.525	57.0	LOS E	11.0	77.6	0.89	0.76	10.1
All Vehicles			1512	1.0	1512	1.0	0.531	36.5	LOS C	13.7	96.2	0.70	0.66	20.2

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

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist]			sec	m	m/sec
						m					
South: District Centre (S)											
P1	Full	50	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

East: Flagstonian Dr (E)											
P2	Full	50	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
North: Neighbourhood Connector (N)											
P3	Full	50	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
West: Flagstonian Dr (W)											
P4	Full	50	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90
All Pedestrians		200	69.3	LOS F	0.2	0.2	0.96	0.96	223.1	200.0	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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