

Reference: 23.255r04v01

02 June 2026

ESR Australia
Level 24, 88 Phillip Street
Sydney NSW 2000

Attention: Mr Brendon Lucas, Senior Development Manager

**Re: 49-61 Stephen Road, Banksmeadow
Proposed Industrial Development (SSD-65924461)
RFI Traffic Responses**

Dear Brendon,

We refer to the subject property and proposed industrial development located at 49-62 Stephen Road, Banksmeadow. TRAFFIX has been forwarded comments from the Department of Planning, Housing and Infrastructure as contained in the letter dated 28 May 2026. TRAFFIX has reviewed all relevant traffic comments and has responded to each item below.

Traffic

The Department requires additional traffic modelling, specifically a 10-year growth scenario without the development, to adequately assess the future road network performance. The Department notes that Council has also identified the need for this additional modelling.

TRAFFIX Response

Traffic has undertaken the below traffic modelling scenarios in response to the Department of Planning, Housing and Infrastructure, and council's concerns:

- Base Case
- Base Case plus Development
- Base Case (10 Year Growth)
- Base Case plus Development (10 Year Growth)

Base Case Scenario

Table 1: Base Case Scenario

Intersection	Control Type	Period	Degree of Saturation	Intersection Delay	Level of Service
Foreshore Road, Botany Road and Penrhyn Road	Signalised	AM	0.891	26.3	B
		PM	0.848	21.6	B
Botany Road and Excell Street	Priority	AM	0.441	12.0	A
		PM	0.408	7.8	A
Botany Road and Hills Street	Priority	AM	0.443	14.8	B
		PM	0.296	9.3	A
Botany Road and Stephen Road	Priority	AM	0.442	15.3	B
		PM	0.481	14.0	A
McPherson Street and Coal Pier Road	Priority	AM	0.135	6.7	A
		PM	0.145	6.4	A
Stephen Road and Swinbourne Street	Signalised	AM	0.700	23.6	B
		PM	0.785	29.9	C

It can be seen from **Table 1** that the key intersections in the vicinity of the site currently operate at LoS 'B' or better in the AM and PM peak hour periods, with the exception of Foreshore Road, Botany Road and Penrhyn Road which operates at a LoS 'C' in the AM peak, and Stephen Road and Swinbourne Street which operates at a LoS 'C' in both AM and PM peaks.

Base Case plus Development Scenario

Table 2: Base Case + Development Scenario

Intersection	Control Type	Period	Degree of Saturation	Intersection Delay	Level of Service
Foreshore Road, Botany Road and Penrhyn Road	Signalised	AM	0.909	27.5	B
		PM	0.904	25.2	B
Botany Road and Excell Street	Priority	AM	0.478	12.5	A
		PM	0.465	8.4	A
Botany Road and Hills Street	Priority	AM	0.542	16.8	B
		PM	0.299	10.0	A
Botany Road and Stephen Road	Priority	AM	0.447	15.5	B
		PM	0.521	14.7	B
McPherson Street and Coal Pier Road	Priority	AM	0.167	7.0	A
		PM	0.205	7.2	A
Stephen Road and Swinbourne Street	Signalised	AM	0.709	23.8	B
		PM	0.800	31.4	C

It can be seen from **Table 2** that the key intersections in the vicinity of the site will continue to operate at the same LoS with only minor increases in intersection delay for all intersections. It is noted the exception of Botany Road and Stephen Road which has a reduced LoS 'B' in the PM peak, however it is important to consider that the intersection only sees an increased intersection delay of less than one (1) second.

Base Case (10 Year Growth)

Table 3: Base Case Scenario (10 Year Growth)

Intersection	Control Type	Period	Degree of Saturation	Intersection Delay	Level of Service
Foreshore Road, Botany Road and Penrhyn Road	Signalised	AM	1.139	118.8	F
		PM	1.024	70.0	E
Botany Road and Excell Street	Priority	AM	0.678	18.7	B
		PM	0.564	10.2	A
Botany Road and Hills Street	Priority	AM	0.775	29.3	C
		PM	0.360	11.9	A
Botany Road and Stephen Road	Priority	AM	0.599	29.5	C
		PM	0.667	23.1	B
McPherson Street and Coal Pier Road	Priority	AM	0.164	7.1	A
		PM	0.190	7.4	A
Stephen Road and Swinbourne Street	Signalised	AM	0.903	32.2	C
		PM	0.876	43.7	D

It can be seen from **Table 3** that the 10-year growth scenario with an annual growth rate of 2%, that the majority of key intersections in the vicinity of the site will continue to operate satisfactorily with increases in intersection delay for all intersections. However, it is noted the exception of the intersection Foreshore Road/Botany Road/Penrhyn Road, which has a reduced to a LoS 'F' and 'E' in the AM and PM peak respectively, Botany Road/Hills Street which has a reduced LoS 'C' in the AM peak, and Stephen Road/Swinbourne Street which has a reduced LoS 'C' and 'D' in the AM and PM peak respectively.

Base Case plus Development Scenario (10 Year Growth)

Table 4: Base Case + Development Scenario (10 Year Growth)

Intersection	Control Type	Period	Degree of Saturation	Intersection Delay	Level of Service
Foreshore Road, Botany Road and Penrhyn Road	Signalised	AM	1.162	132.2	F
		PM	1.067	83.6	F
Botany Road and Excell Street	Priority	AM	0.726	20.3	B
		PM	0.630	11.2	A
Botany Road and Hills Street	Priority	AM	0.921	47.4	D
		PM	0.373	13.1	A
Botany Road and Stephen Road	Priority	AM	0.607	30.4	C
		PM	0.716	25.1	B
McPherson Street and Coal Pier Road	Priority	AM	0.197	7.5	A
		PM	0.254	8.1	A
Stephen Road and Swinbourne Street	Signalised	AM	0.912	32.9	C
		PM	0.888	47.4	D

It can be seen from **Table 4** that the majority of key intersections in the vicinity of the site will continue to operate satisfactorily with increases in intersection delay for all intersections. However, it is noted the exception of the intersection Foreshore Road/Botany Road/Penrhyn Road, which has a reduced LoS 'F' in both the AM and PM peak, Botany Road/Hills Street which has a reduced LoS 'D' in the AM peak, and Stephen Road/Swinbourne Street which has a reduced LoS 'C' and 'D' in the AM and PM peak respectively. However it is important to consider the 10 year growth of 2% on the surrounding network is considered extremely conservative for the area, with the additional traffic from the development being a very minor component of the total traffic. A comparison of the LoS changes across all modelled scenarios have been summarised in **Table 5**.

Level of Service Comparison

Table 5: Level of Service Comparison

Intersection	Control Type	Period	Base	Base + Dev	Base (10yr)	Base (10yr) + Dev
Foreshore Road, Botany Road and Penrhyn Road	Signalised	AM	B	B	F	F
		PM	B	B	E	F
Botany Road and Excell Street	Priority	AM	A	A	B	B
		PM	A	A	A	A
Botany Road and Hills Street	Priority	AM	B	B	C	D
		PM	A	A	A	A
Botany Road and Stephen Road	Priority	AM	B	B	C	C
		PM	A	B	B	B
McPherson Street and Coal Pier Road	Priority	AM	A	A	A	A
		PM	A	A	A	A
Stephen Road and Swinbourne Street	Signalised	AM	B	B	C	D
		PM	C	C	D	D

In summary, the modelling confirms that five of the six key intersections will continue to operate within capacity under the future 10-year plus development scenario. The proposed development results in only a minor increase in traffic volumes and does not give rise to any material operational impacts across the surrounding road network.

The only intersection forecast to operate above practical capacity is the intersection of Foreshore Road, Botany Road and Penrhyn Road. Importantly, this intersection is already forecast to experience capacity constraints in the future base scenario, operating at LoS F/E during the AM/PM peak periods respectively prior to the inclusion of development traffic. With the development included, the intersection is forecast to operate at LoS F during both the AM and PM peak periods. Given the development contributes only approximately 2% of total traffic volumes through the intersection during the peak periods, the results demonstrate that the underlying performance issue is a consequence of broader network conditions and background traffic growth, rather than the proposed development itself.

Accordingly, the modelling does not identify any material operational impacts attributable to the proposal, and no infrastructure upgrades or signal timing modifications are considered necessary to accommodate the development traffic.

On the basis of the above, the proposed warehouse and distribution centre development at 49-61 Stephen Road, Banksmeadow (SSD-65924461) in our view is considered supportable on transport planning grounds. We trust the above is of assistance and please contact the undersigned should you have any queries. In the event that any concerns remain, we request an opportunity to discuss these with Council officers prior to any determination being made.

Yours faithfully,

Traffix



Thomas Yang
Executive Engineer

Encl. Attachment 1: SIDRA Movement Summaries

ATTACHMENT 1

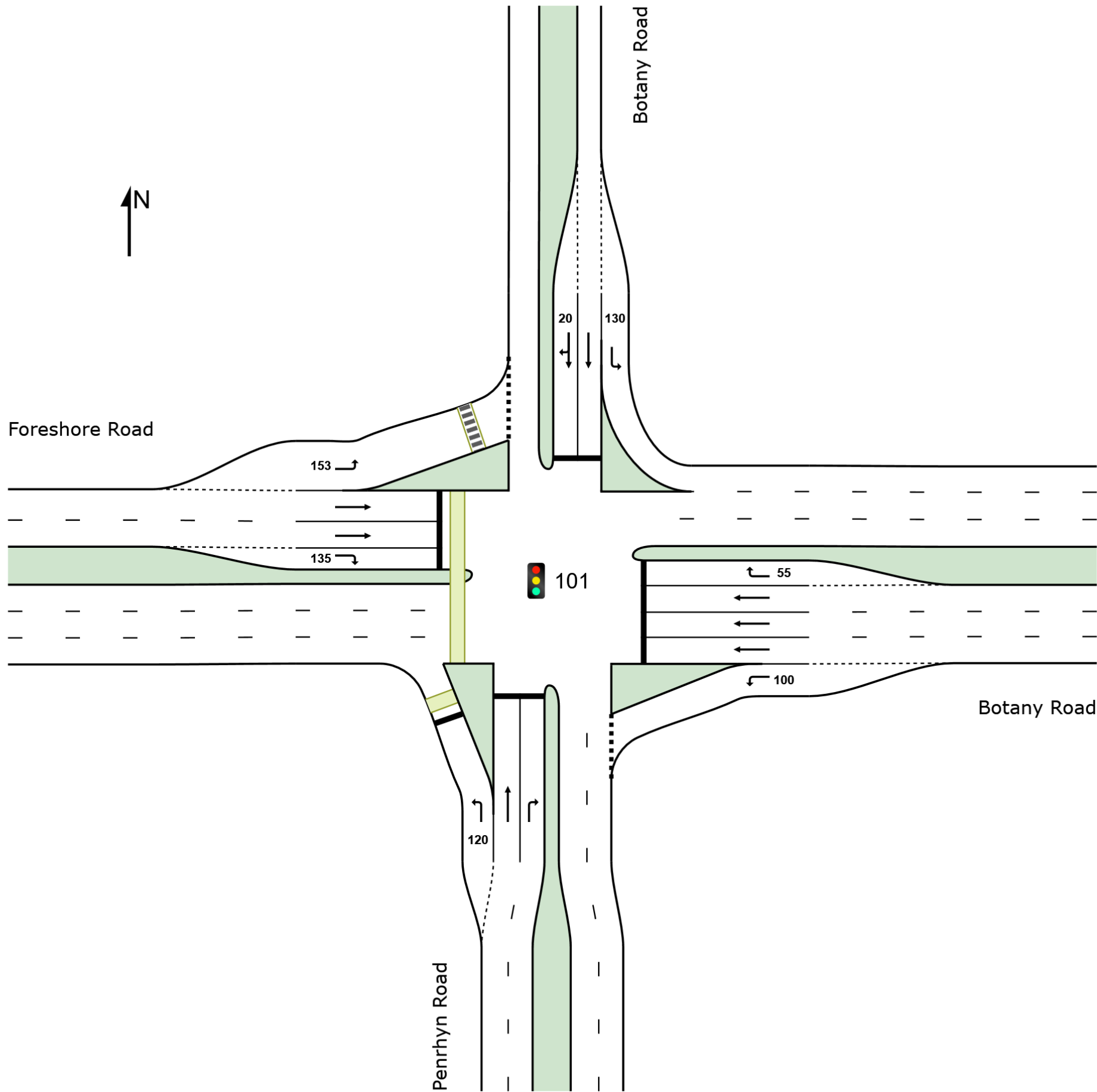
SIDRA Movement Summaries

SITE LAYOUT

Site: 101 [101 Foreshore Rd x Botany Rd x Penrhyn Rd EX AM (Site Folder: Existing)]

Intersection: Foreshore Road x Botany Road x Penrhyn Road
Exisiting AM Peak
7:45am - 8:45am
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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

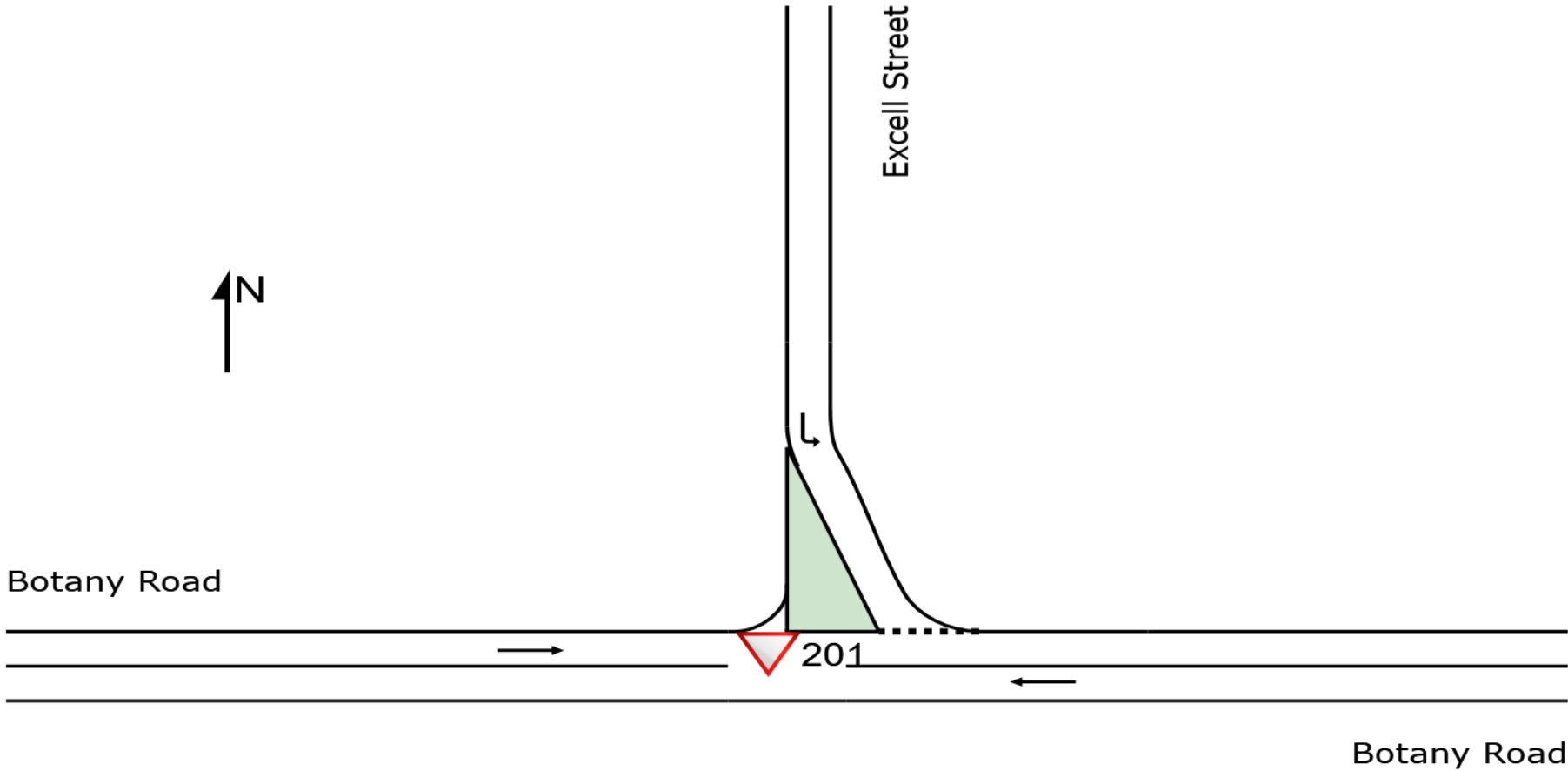


SITE LAYOUT

▽ Site: 201 [201 Botany Rd x Excell St EX AM (Site Folder: Existing)]

Intersection: Botany Road x Excell Street
Exisiting AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

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

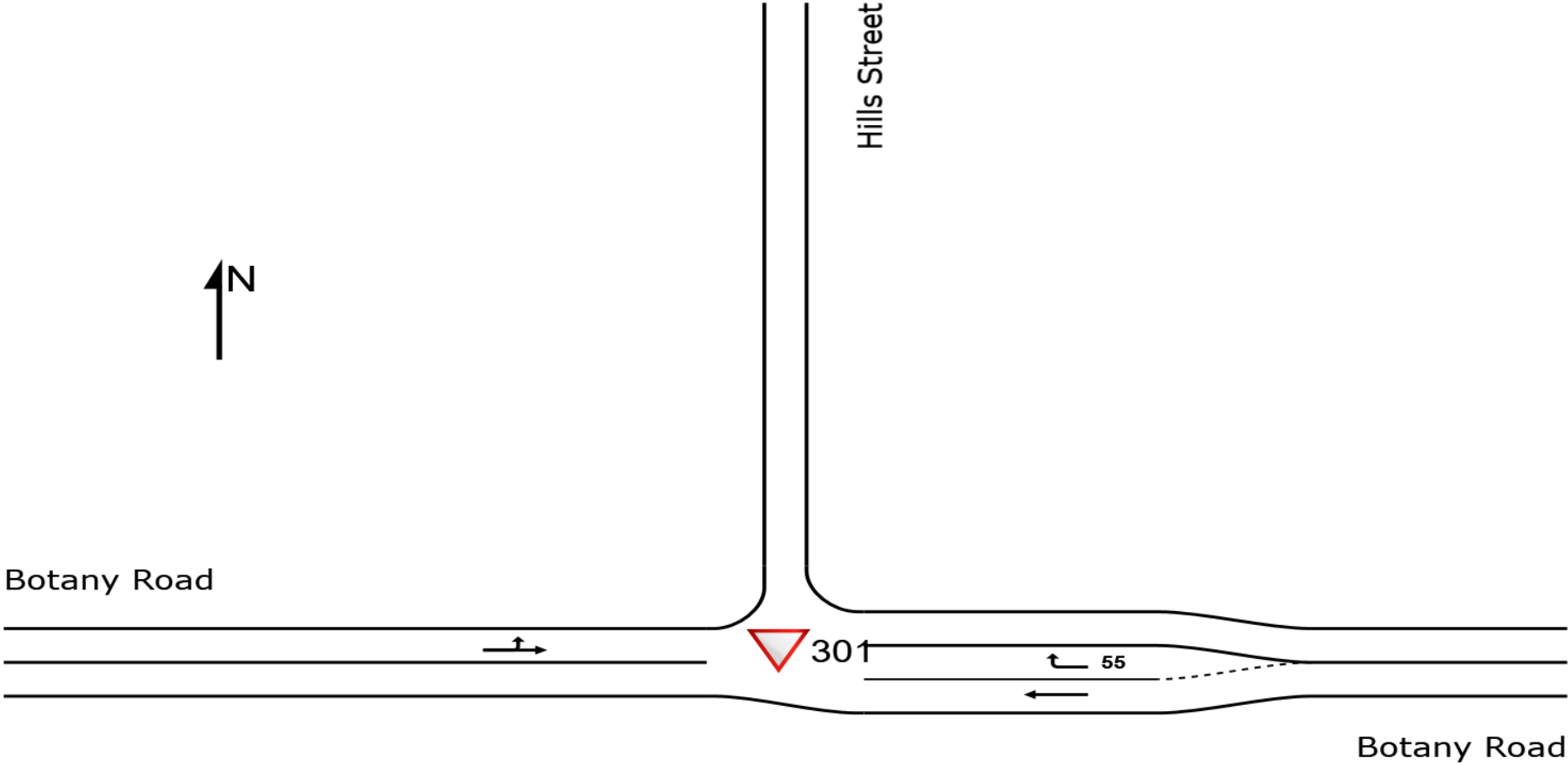


SITE LAYOUT

▽ Site: 301 [301 Botany Rd x Hills St EX AM (Site Folder: Existing)]

Intersection: Botany Road x Hills Street
Existing AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

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

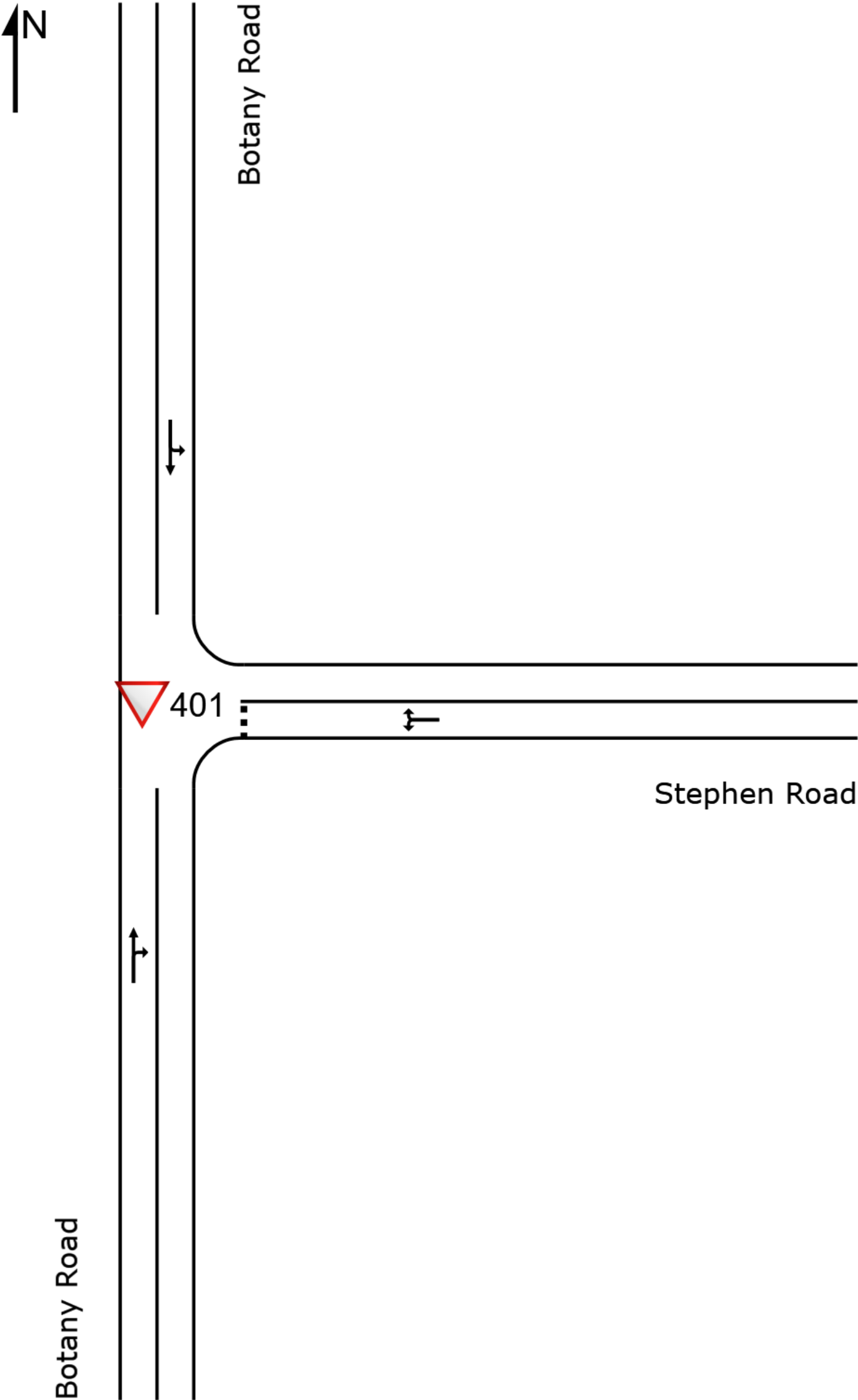


SITE LAYOUT

▽ Site: 401 [401 Botany Rd x Stephen Rd EX AM (Site Folder: Existing)]

Intersection: Botany Road x Stephen Road
Existing AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

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

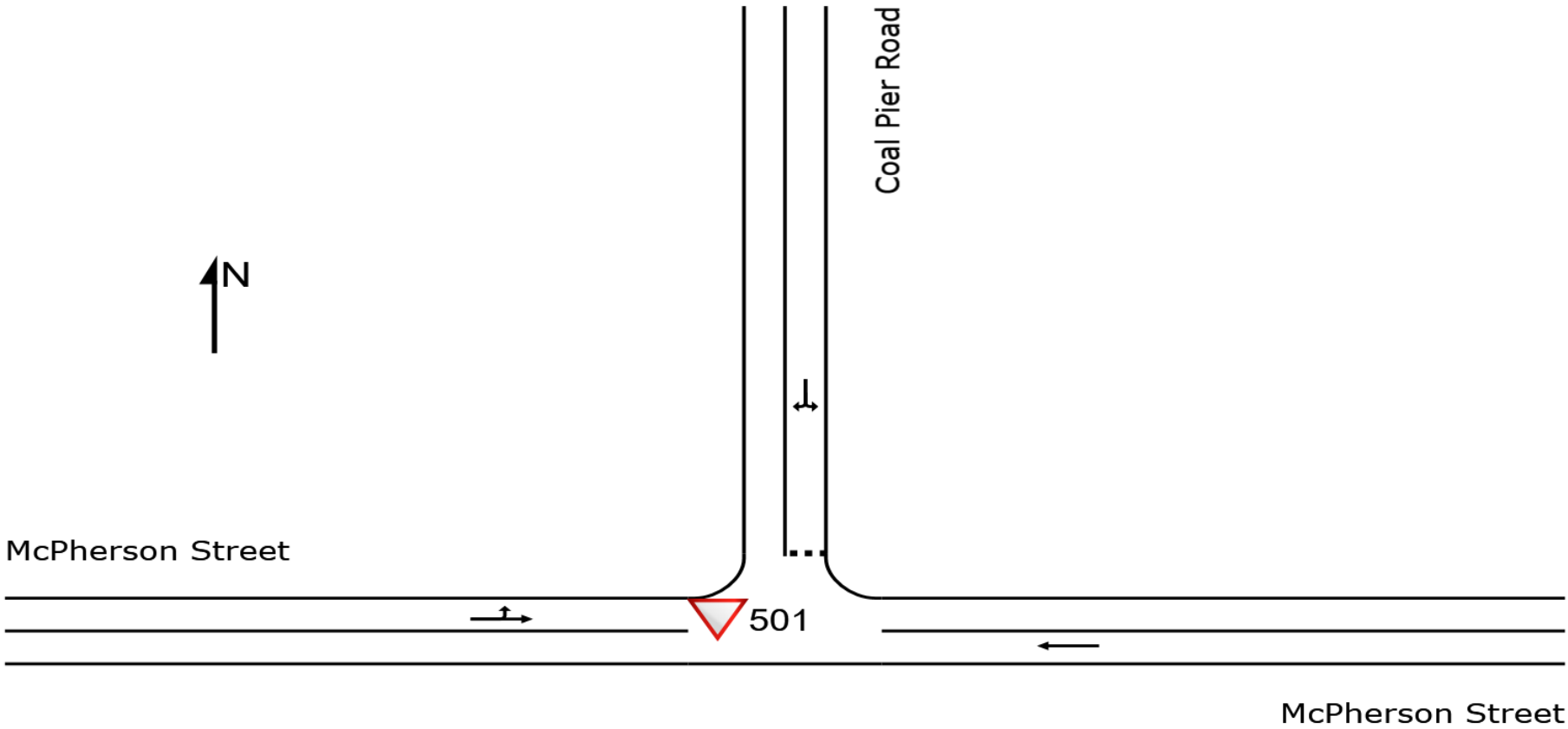


SITE LAYOUT

▽ Site: 501 [501 McPherson St x Coal Pier Rd EX AM (Site Folder: Existing)]

Intersection: McPherson Street x Coal Pier Road
Existing AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

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

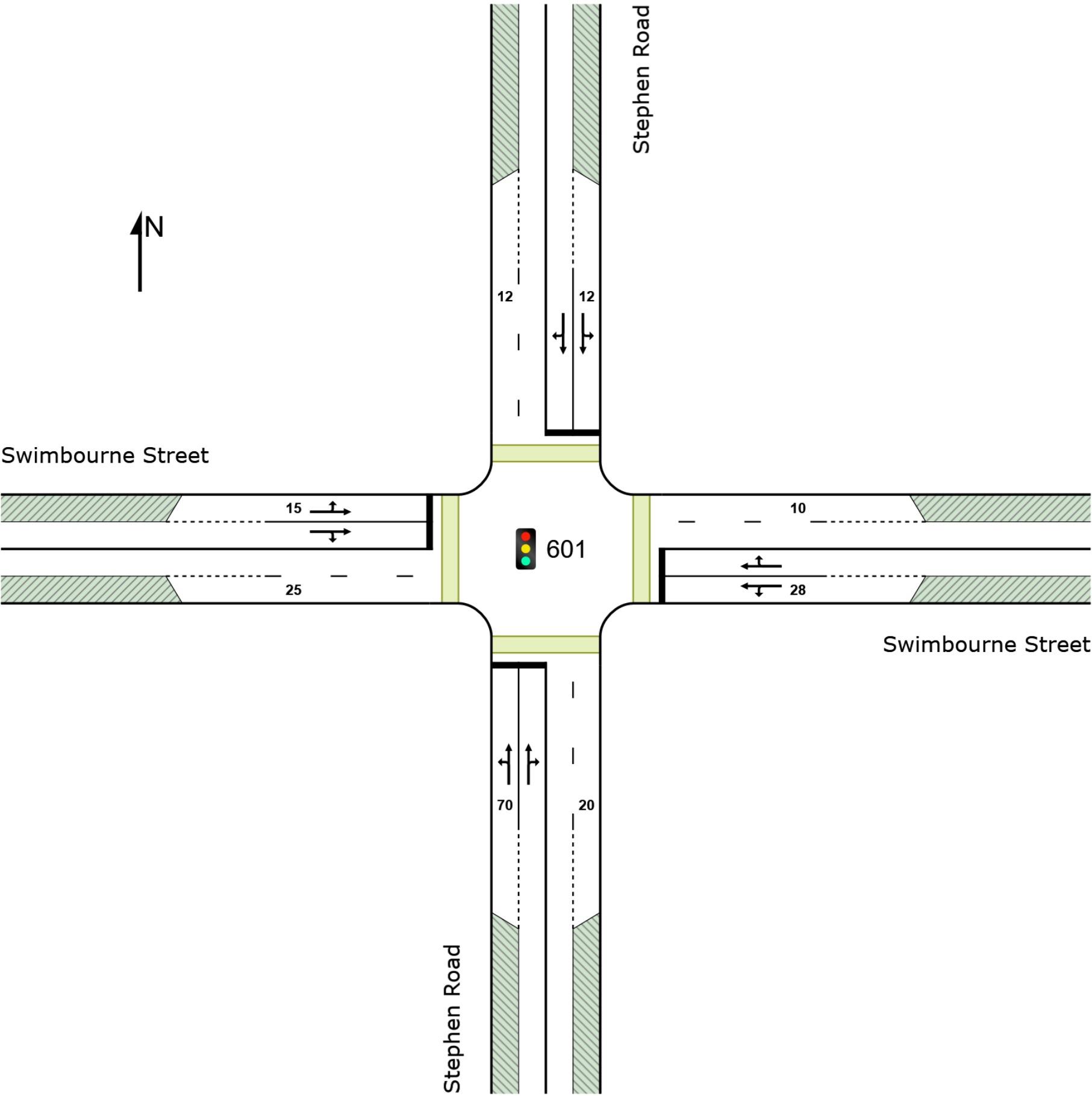


SITE LAYOUT

Site: 601 [601 Stephen Rd x Swimbourne St EX AM (Site Folder: Existing)]

Intersection: Stephen Road x Swimbourne Street
Exisiting AM Peak
7:45am - 8:45am
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



MOVEMENT SUMMARY

 Site: 101 [101 Foreshore Rd x Botany Rd x Penrhyn Rd EX AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Foreshore Road x Botany Road x Penrhyn Road
Exisiting AM Peak
7:45am - 8:45am
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh.	Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Penrhyn Road															
1	L2	All MCs	35	93.9	35	93.9	0.163	32.8	LOS C	1.2	14.6	0.86	0.67	0.86	37.8
2	T1	All MCs	16	46.7	16	46.7	0.085	33.9	LOS C	0.6	5.5	0.90	0.64	0.90	23.1
3	R2	All MCs	27	53.8	27	53.8	0.155	39.2	LOS C	1.0	10.2	0.91	0.71	0.91	25.4
Approach			78	70.3	78	70.3	0.163	35.3	LOS C	1.2	14.6	0.89	0.68	0.89	31.4
East: Botany Road															
4	L2	All MCs	46	52.3	46	52.3	0.045	8.2	LOS A	0.2	2.4	0.22	0.61	0.22	47.2
5	T1	All MCs	756	24.2	756	24.2	0.324	13.5	LOS A	6.0	50.9	0.65	0.55	0.65	58.7
6	R2	All MCs	284	25.6	284	25.6	* 0.858	49.0	LOS D	12.8	109.5	1.00	1.00	1.32	26.5
Approach			1086	25.8	1086	25.8	0.858	22.6	LOS B	12.8	109.5	0.72	0.67	0.81	49.6
North: Botany Road															
7	L2	All MCs	497	18.4	497	18.4	0.312	4.6	LOS A	0.0	0.0	0.00	0.45	0.00	44.3
8	T1	All MCs	15	50.0	15	50.0	0.082	48.4	LOS D	0.5	5.3	0.90	0.66	0.90	21.4
9	R2	All MCs	139	61.4	139	61.4	* 0.842	63.8	LOS E	6.4	67.8	1.00	1.06	1.42	33.1
Approach			651	28.3	651	28.3	0.842	18.2	LOS B	6.4	67.8	0.23	0.59	0.32	39.5
West: Foreshore Road															
10	L2	All MCs	302	22.3	302	22.3	0.369	11.4	LOS A	4.4	37.0	0.48	0.72	0.48	54.0
11	T1	All MCs	1299	14.0	1299	14.0	* 0.891	35.6	LOS C	29.7	232.9	1.00	1.06	1.24	46.5
12	R2	All MCs	59	46.4	59	46.4	0.323	42.0	LOS C	2.2	21.4	0.93	0.76	0.93	37.5
Approach			1660	16.7	1660	16.7	0.891	31.4	LOS C	29.7	232.9	0.90	0.99	1.09	47.1
All Vehicles			3475	22.9	3475	22.9	0.891	26.3	LOS B	29.7	232.9	0.72	0.81	0.85	46.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]			sec	m	m/sec
South: Penrhyn Road												
P1B	Slip/Bypass	1	1	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00
West: Foreshore Road												
P4	Full	1	1	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00
All Pedestrians		2	2	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00

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

MOVEMENT SUMMARY

▼ Site: 201 [201 Botany Rd x Excell St EX AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Excell Street
Exisiting AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back [Veh.	Of Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	577	28.6	577	28.6	0.381	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
Approach			577	28.6	577	28.6	0.381	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.7
North: Excell Street															
7	L2	All MCs	261	58.5	261	58.5	0.441	12.0	LOS A	2.4	25.6	0.67	0.94	0.96	35.9
Approach			261	58.5	261	58.5	0.441	12.0	LOS A	2.4	25.6	0.67	0.94	0.96	35.9
West: Botany Road															
11	T1	All MCs	514	11.1	514	11.1	0.293	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			514	11.1	514	11.1	0.293	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			1352	27.7	1352	27.7	0.441	2.4	NA	2.4	25.6	0.13	0.18	0.18	46.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 301 [301 Botany Rd x Hills St EX AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Hills Street
Existing AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	331	18.8	331	18.8	0.201	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	All MCs	225	46.7	225	46.7	0.443	14.8	LOS B	2.3	22.8	0.75	1.03	1.09	29.7
Approach			556	30.1	556	30.1	0.443	6.0	NA	2.3	22.8	0.30	0.42	0.44	40.5
West: Botany Road															
10	L2	All MCs	141	13.4	141	13.4	0.383	4.7	LOS A	0.0	0.0	0.00	0.11	0.00	44.0
11	T1	All MCs	519	11.2	519	11.2	0.383	0.1	LOS A	0.0	0.0	0.00	0.11	0.00	48.6
Approach			660	11.6	660	11.6	0.383	1.1	NA	0.0	0.0	0.00	0.11	0.00	47.8
All Vehicles			1216	20.1	1216	20.1	0.443	3.3	NA	2.3	22.8	0.14	0.25	0.20	44.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 401 [401 Botany Rd x Stephen Rd EX AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Stephen Road
Existing AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]		Rate		
			veh/h	%	veh/h	%		sec		veh	m				
South: Botany Road															
2	T1	All MCs	131	11.3	131	11.3	0.442	0.2	LOS A	3.2	24.5	0.48	0.57	0.52	47.9
3	R2	All MCs	477	12.8	477	12.8	0.442	6.8	LOS A	3.2	24.5	0.48	0.57	0.52	45.9
Approach			607	12.5	607	12.5	0.442	5.4	NA	3.2	24.5	0.48	0.57	0.52	46.5
East: Stephen Road															
4	L2	All MCs	240	19.3	240	19.3	0.401	6.1	LOS A	2.0	16.3	0.33	0.54	0.33	50.3
6	R2	All MCs	104	14.1	104	14.1	0.401	15.3	LOS B	2.0	16.3	0.33	0.54	0.33	55.3
Approach			344	17.7	344	17.7	0.401	8.9	LOS A	2.0	16.3	0.33	0.54	0.33	52.5
North: Botany Road															
7	L2	All MCs	187	9.6	187	9.6	0.142	5.8	LOS A	0.0	0.0	0.00	0.45	0.00	57.0
8	T1	All MCs	53	14.0	53	14.0	0.142	0.1	LOS A	0.0	0.0	0.00	0.45	0.00	57.5
Approach			240	10.5	240	10.5	0.142	4.5	NA	0.0	0.0	0.00	0.45	0.00	57.1
All Vehicles			1192	13.6	1192	13.6	0.442	6.2	NA	3.2	24.5	0.34	0.54	0.36	50.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 501 [501 McPherson St x Coal Pier Rd EX AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: McPherson Street x Coal Pier Road
Existing AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]		Rate		
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: McPherson Street															
2	T1	All MCs	61	46.6	61	46.6	0.046	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach			61	46.6	61	46.6	0.046	0.0	NA	0.0	0.0	0.00	0.00	0.00	50.0
North: Coal Pier Road															
4	L2	All MCs	5	20.0	5	20.0	0.119	5.0	LOS A	0.4	4.2	0.32	0.60	0.32	46.3
6	R2	All MCs	88	58.3	88	58.3	0.119	6.7	LOS A	0.4	4.2	0.32	0.60	0.32	45.1
Approach			94	56.2	94	56.2	0.119	6.6	LOS A	0.4	4.2	0.32	0.60	0.32	45.2
West: McPherson Street															
7	L2	All MCs	112	46.2	112	46.2	0.135	5.0	LOS A	0.0	0.0	0.00	0.33	0.00	47.1
8	T1	All MCs	67	29.7	67	29.7	0.135	0.0	LOS A	0.0	0.0	0.00	0.33	0.00	48.1
Approach			179	40.0	179	40.0	0.135	3.1	NA	0.0	0.0	0.00	0.33	0.00	47.4
All Vehicles			334	45.7	334	45.7	0.135	3.5	NA	0.4	4.2	0.09	0.34	0.09	47.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 Site: 601 [601 Stephen Rd x Swimbourne St EX AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Stephen Road x Swimbourne Street
Exisiting AM Peak
7:45am - 8:45am
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]		Rate		
			veh/h	%	veh/h	%		sec		veh	m				
South: Stephen Road															
1	L2	All MCs	27	19.2	27	19.2	0.137	30.6	LOS C	0.9	7.0	0.90	0.70	0.90	41.0
2	T1	All MCs	180	8.8	180	8.8	* 0.686	28.8	LOS C	5.5	42.2	0.99	0.87	1.13	42.2
3	R2	All MCs	6	50.0	6	50.0	0.686	33.9	LOS C	5.5	42.2	1.00	0.88	1.13	36.4
Approach			214	11.3	214	11.3	0.686	29.2	LOS C	5.5	42.2	0.98	0.85	1.10	42.0
East: Swimbourne Street															
4	L2	All MCs	8	37.5	8	37.5	0.016	6.7	LOS A	0.1	1.2	0.57	0.59	0.57	42.8
5	T1	All MCs	7	42.9	7	42.9	0.069	30.8	LOS C	0.3	2.4	0.88	0.64	0.88	37.8
6	R2	All MCs	3	0.0	3	0.0	0.069	36.6	LOS C	0.3	2.4	0.93	0.65	0.93	37.9
Approach			19	33.3	19	33.3	0.069	21.1	LOS B	0.3	2.4	0.75	0.62	0.75	39.8
North: Stephen Road															
7	L2	All MCs	25	0.0	25	0.0	0.151	26.7	LOS B	2.1	15.5	0.65	0.57	0.65	43.7
8	T1	All MCs	201	8.9	201	8.9	* 0.700	25.1	LOS B	10.9	81.9	0.78	0.72	0.81	45.1
9	R2	All MCs	313	8.1	313	8.1	0.700	31.8	LOS C	10.9	81.9	0.88	0.84	0.93	43.8
Approach			539	8.0	539	8.0	0.700	29.1	LOS C	10.9	81.9	0.83	0.78	0.87	44.3
West: Swimbourne Street															
10	L2	All MCs	656	2.4	656	2.4	0.615	15.7	LOS B	11.3	80.4	0.63	0.76	0.63	46.2
11	T1	All MCs	35	9.1	35	9.1	* 0.479	31.6	LOS C	2.7	20.2	0.98	0.76	0.98	36.6
12	R2	All MCs	57	5.6	57	5.6	0.479	38.4	LOS C	2.7	20.2	0.98	0.76	0.98	40.4
Approach			747	3.0	747	3.0	0.615	18.2	LOS B	11.3	80.4	0.67	0.76	0.67	45.4
All Vehicles			1519	6.3	1519	6.3	0.700	23.6	LOS B	11.3	81.9	0.77	0.78	0.80	44.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] m		Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Stephen Road												
P1	Full	2	2	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05
East: Swimbourne Street												
P2	Full	1	1	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05
North: Stephen Road												
P3	Full	10	11	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05
West: Swimbourne Street												
P4	Full	5	5	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05
All Pedestrians		18	19	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05

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

MOVEMENT SUMMARY

 Site: 102 [102 Foreshore Rd x Botany Rd x Penrhyn Rd EX PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Foreshore Road x Botany Road x Penrhyn Road
Exisiting PM Peak
3:00pm - 4:00pm
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	Flows HV]	[Total	Flows HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Penrhyn Road															
1	L2	All MCs	58	63.6	58	63.6	0.267	26.3	LOS B	1.5	16.0	0.91	0.71	0.91	41.4
2	T1	All MCs	11	30.0	11	30.0	0.038	22.4	LOS B	0.3	2.3	0.85	0.58	0.85	28.3
3	R2	All MCs	37	77.1	37	77.1	0.165	28.4	LOS B	1.0	11.2	0.88	0.71	0.88	26.8
Approach			105	65.0	105	65.0	0.267	26.7	LOS B	1.5	16.0	0.89	0.70	0.89	35.5
East: Botany Road															
4	L2	All MCs	54	90.2	54	90.2	0.066	8.7	LOS A	0.2	2.8	0.26	0.62	0.26	46.8
5	T1	All MCs	1348	10.1	1348	10.1	0.599	14.9	LOS B	10.5	79.7	0.83	0.72	0.83	57.7
6	R2	All MCs	331	15.9	331	15.9	* 0.825	36.4	LOS C	10.9	86.9	1.00	0.98	1.29	31.0
Approach			1733	13.7	1733	13.7	0.825	18.8	LOS B	10.9	86.9	0.84	0.77	0.90	52.9
North: Botany Road															
7	L2	All MCs	422	8.7	422	8.7	0.242	4.5	LOS A	0.0	0.0	0.00	0.46	0.00	44.4
8	T1	All MCs	13	58.3	13	58.3	0.056	32.7	LOS C	0.3	3.4	0.85	0.63	0.85	25.5
9	R2	All MCs	224	23.9	224	23.9	* 0.837	46.0	LOS D	7.7	64.9	1.00	1.06	1.40	38.3
Approach			659	14.9	659	14.9	0.837	19.1	LOS B	7.7	64.9	0.36	0.67	0.49	41.0
West: Foreshore Road															
10	L2	All MCs	143	32.4	143	32.4	0.183	10.8	LOS A	1.5	13.3	0.48	0.69	0.48	54.4
11	T1	All MCs	765	19.1	765	19.1	* 0.848	30.3	LOS C	13.1	106.8	1.00	1.03	1.32	48.9
12	R2	All MCs	38	88.9	38	88.9	0.407	38.9	LOS C	1.2	14.7	0.97	0.74	0.97	38.7
Approach			946	23.9	946	23.9	0.848	27.7	LOS B	13.1	106.8	0.92	0.96	1.18	49.1
All Vehicles			3443	18.3	3443	18.3	0.848	21.6	LOS B	13.1	106.8	0.77	0.80	0.90	49.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]			sec	m	m/sec
South: Penrhyn Road												
P1B	Slip/Bypass	1	1	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05
West: Foreshore Road												
P4	Full	1	1	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05
All Pedestrians		2	2	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05

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

MOVEMENT SUMMARY

▼ Site: 202 [202 Botany Rd x Excell St EX PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Excell Street
Exisiting PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back [Veh.	Of Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	631	17.7	631	17.7	0.381	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			631	17.7	631	17.7	0.381	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.8
North: Excell Street															
7	L2	All MCs	392	17.7	392	17.7	0.408	7.8	LOS A	2.4	19.5	0.56	0.76	0.70	39.6
Approach			392	17.7	392	17.7	0.408	7.8	LOS A	2.4	19.5	0.56	0.76	0.70	39.6
West: Botany Road															
11	T1	All MCs	395	9.6	395	9.6	0.222	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			395	9.6	395	9.6	0.222	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			1417	15.5	1417	15.5	0.408	2.2	NA	2.4	19.5	0.16	0.21	0.19	46.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 302 [302 Botany Rd x Hills St EX PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Hills Street
Existing PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Queue Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	482	10.3	482	10.3	0.273	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	All MCs	148	39.0	148	39.0	0.204	9.3	LOS A	0.8	7.9	0.60	0.78	0.60	33.8
Approach			631	17.0	631	17.0	0.273	2.2	NA	0.8	7.9	0.14	0.18	0.14	45.7
West: Botany Road															
10	L2	All MCs	126	10.8	126	10.8	0.296	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	44.1
11	T1	All MCs	391	9.7	391	9.7	0.296	0.1	LOS A	0.0	0.0	0.00	0.13	0.00	48.5
Approach			517	10.0	517	10.0	0.296	1.2	NA	0.0	0.0	0.00	0.13	0.00	47.6
All Vehicles			1147	13.9	1147	13.9	0.296	1.8	NA	0.8	7.9	0.08	0.16	0.08	46.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 402 [402 Botany Rd x Stephen Rd EX PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Stephen Road
Existing PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%		v/c		sec					
South: Botany Road															
2	T1	All MCs	106	6.9	106	6.9	0.367	0.0	LOS A	2.1	16.0	0.49	0.57	0.49	47.9
3	R2	All MCs	386	10.4	386	10.4	0.367	6.7	LOS A	2.1	16.0	0.49	0.57	0.49	46.0
Approach			493	9.6	493	9.6	0.367	5.2	NA	2.1	16.0	0.49	0.57	0.49	46.5
East: Stephen Road															
4	L2	All MCs	378	11.1	378	11.1	0.481	7.2	LOS A	3.6	27.4	0.47	0.63	0.55	51.1
6	R2	All MCs	109	7.7	109	7.7	0.481	14.0	LOS A	3.6	27.4	0.47	0.63	0.55	55.4
Approach			487	10.4	487	10.4	0.481	8.7	LOS A	3.6	27.4	0.47	0.63	0.55	52.6
North: Botany Road															
7	L2	All MCs	142	6.7	142	6.7	0.160	5.7	LOS A	0.0	0.0	0.00	0.29	0.00	57.7
8	T1	All MCs	148	2.1	148	2.1	0.160	0.1	LOS A	0.0	0.0	0.00	0.29	0.00	58.4
Approach			291	4.3	291	4.3	0.160	2.9	NA	0.0	0.0	0.00	0.29	0.00	58.0
All Vehicles			1271	8.7	1271	8.7	0.481	6.0	NA	3.6	27.4	0.37	0.53	0.40	51.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 502 [502 McPherson St x Coal Pier Rd EX PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: McPherson Street x Coal Pier Road
Existing PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
East: McPherson Street															
2	T1	All MCs	117	10.8	117	10.8	0.070	0.0	LOS A	0.0	0.3	0.03	0.03	0.03	49.8
3	R2	All MCs	4	25.0	4	25.0	0.070	6.4	LOS A	0.0	0.3	0.03	0.03	0.03	48.5
Approach			121	11.3	121	11.3	0.070	0.2	NA	0.0	0.3	0.03	0.03	0.03	49.7
North: Coal Pier Road															
4	L2	All MCs	5	20.0	5	20.0	0.145	5.1	LOS A	0.5	4.2	0.35	0.61	0.35	46.3
6	R2	All MCs	124	22.0	124	22.0	0.145	6.2	LOS A	0.5	4.2	0.35	0.61	0.35	45.6
Approach			129	22.0	129	22.0	0.145	6.2	LOS A	0.5	4.2	0.35	0.61	0.35	45.6
West: McPherson Street															
7	L2	All MCs	94	31.5	94	31.5	0.118	4.9	LOS A	0.0	0.0	0.00	0.27	0.00	47.5
8	T1	All MCs	87	12.0	87	12.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.27	0.00	48.4
Approach			181	22.1	181	22.1	0.118	2.5	NA	0.0	0.0	0.00	0.27	0.00	47.9
All Vehicles			432	19.0	432	19.0	0.145	3.0	NA	0.5	4.2	0.11	0.31	0.11	47.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 Site: 602 [602 Stephen Rd x Swimbourne St EX PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Stephen Road x Swimbourne Street
Exisiting PM Peak
3:00pm - 4:00pm
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]		Rate		
			veh/h	%	veh/h	%		sec		veh	m				
South: Stephen Road															
1	L2	All MCs	37	8.6	37	8.6	0.155	38.9	LOS C	1.4	10.5	0.90	0.72	0.90	39.2
2	T1	All MCs	216	2.0	216	2.0	* 0.776	39.6	LOS C	9.1	65.5	1.00	0.94	1.19	39.9
3	R2	All MCs	6	50.0	6	50.0	0.776	44.7	LOS D	9.1	65.5	1.00	0.94	1.19	33.3
Approach			259	4.1	259	4.1	0.776	39.7	LOS C	9.1	65.5	0.99	0.91	1.15	39.7
East: Swimbourne Street															
4	L2	All MCs	3	33.3	3	33.3	0.094	5.5	LOS A	0.6	4.8	0.92	0.65	0.92	36.2
5	T1	All MCs	33	3.2	33	3.2	* 0.407	37.9	LOS C	1.5	10.5	0.96	0.69	0.96	34.7
6	R2	All MCs	19	0.0	19	0.0	0.407	52.4	LOS D	1.5	10.5	1.00	0.72	1.00	33.9
Approach			55	3.8	55	3.8	0.407	41.1	LOS C	1.5	10.5	0.97	0.70	0.97	34.5
North: Stephen Road															
7	L2	All MCs	6	16.7	6	16.7	0.170	29.1	LOS C	3.0	21.7	0.56	0.47	0.56	44.1
8	T1	All MCs	189	2.8	189	2.8	0.785	26.9	LOS B	20.7	151.9	0.65	0.58	0.67	45.7
9	R2	All MCs	545	6.2	545	6.2	* 0.785	38.3	LOS C	20.7	151.9	0.88	0.88	0.95	42.8
Approach			741	5.4	741	5.4	0.785	35.3	LOS C	20.7	151.9	0.82	0.80	0.88	43.5
West: Swimbourne Street															
10	L2	All MCs	440	1.7	440	1.7	0.357	12.4	LOS A	6.8	48.2	0.43	0.68	0.43	46.6
11	T1	All MCs	1	100.0	1	100.0	0.286	39.2	LOS C	1.2	8.4	0.99	0.72	0.99	32.5
12	R2	All MCs	27	0.0	27	0.0	0.286	49.2	LOS D	1.2	8.4	0.99	0.72	0.99	37.3
Approach			468	1.8	468	1.8	0.357	14.6	LOS B	6.8	48.2	0.46	0.68	0.46	46.0
All Vehicles			1523	4.0	1523	4.0	0.785	29.9	LOS C	20.7	151.9	0.74	0.78	0.80	43.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped Dist] ped m		Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Stephen Road												
P1	Full	8	8	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00
East: Swimbourne Street												
P2	Full	1	1	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00
North: Stephen Road												
P3	Full	8	8	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00
West: Swimbourne Street												
P4	Full	6	6	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00
All Pedestrians		23	24	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00

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

MOVEMENT SUMMARY

 Site: 103 [103 Foreshore Rd x Botany Rd x Penrhyn Rd EX+DEV AM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Foreshore Road x Botany Road x Penrhyn Road
Exisiting + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Penrhyn Road															
1	L2	All MCs	35	93.9	35	93.9	0.167	33.1	LOS C	1.2	14.8	0.86	0.67	0.86	37.7
2	T1	All MCs	18	52.9	18	52.9	0.093	33.0	LOS C	0.6	6.4	0.89	0.64	0.89	23.5
3	R2	All MCs	27	53.8	27	53.8	0.146	38.2	LOS C	1.0	10.0	0.90	0.71	0.90	25.7
Approach			80	71.1	80	71.1	0.167	34.8	LOS C	1.2	14.8	0.88	0.68	0.88	31.4
East: Botany Road															
4	L2	All MCs	46	52.3	46	52.3	0.045	8.2	LOS A	0.2	2.4	0.22	0.61	0.22	47.2
5	T1	All MCs	756	24.2	756	24.2	0.332	14.2	LOS A	6.2	52.2	0.66	0.57	0.66	58.2
6	R2	All MCs	284	25.6	284	25.6	* 0.909	56.4	LOS D	14.0	119.5	1.00	1.08	1.47	24.5
Approach			1086	25.8	1086	25.8	0.909	24.9	LOS B	14.0	119.5	0.73	0.70	0.86	48.2
North: Botany Road															
7	L2	All MCs	497	18.4	497	18.4	0.312	4.6	LOS A	0.0	0.0	0.00	0.45	0.00	44.3
8	T1	All MCs	17	56.3	17	56.3	0.090	49.9	LOS D	0.6	6.2	0.89	0.66	0.89	21.7
9	R2	All MCs	158	60.7	158	60.7	* 0.906	73.1	LOS F	7.9	83.7	1.00	1.19	1.60	31.3
Approach			672	29.3	672	29.3	0.906	21.8	LOS B	7.9	83.7	0.26	0.63	0.40	38.2
West: Foreshore Road															
10	L2	All MCs	347	23.3	347	23.3	0.426	12.1	LOS A	5.6	46.7	0.52	0.73	0.52	53.5
11	T1	All MCs	1299	14.0	1299	14.0	* 0.891	35.6	LOS C	29.7	232.9	1.00	1.06	1.24	46.5
12	R2	All MCs	59	46.4	59	46.4	0.323	42.0	LOS C	2.2	21.4	0.93	0.76	0.93	37.5
Approach			1705	17.0	1705	17.0	0.891	31.0	LOS C	29.7	232.9	0.90	0.98	1.08	47.2
All Vehicles			3543	23.3	3543	23.3	0.909	27.5	LOS B	29.7	232.9	0.73	0.82	0.88	45.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] 						

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

MOVEMENT SUMMARY

▼ Site: 201 [203 Botany Rd x Excell St EX+DEV AM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Excell Street
Exisiting + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of [Veh.	Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	624	29.0	624	29.0	0.413	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
Approach			624	29.0	624	29.0	0.413	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.7
North: Excell Street															
7	L2	All MCs	281	58.8	281	58.8	0.478	12.5	LOS A	2.8	29.3	0.68	0.98	1.03	35.6
Approach			281	58.8	281	58.8	0.478	12.5	LOS A	2.8	29.3	0.68	0.98	1.03	35.6
West: Botany Road															
11	T1	All MCs	516	11.0	516	11.0	0.294	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			516	11.0	516	11.0	0.294	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.8
All Vehicles			1421	28.4	1421	28.4	0.478	2.5	NA	2.8	29.3	0.14	0.19	0.20	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 303 [303 Botany Rd x Hills St EX+DEV AM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Hills Street
Existing + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV]		Arrival Flows [Total HV]		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh. Dist]		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%				v/c	sec				
East: Botany Road															
5	T1	All MCs	336	18.5	336	18.5	0.204	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	All MCs	268	49.4	268	49.4	0.542	16.8	LOS B	3.2	32.1	0.79	1.11	1.31	28.9
Approach			604	32.2	604	32.2	0.542	7.5	NA	3.2	32.1	0.35	0.49	0.58	39.2
West: Botany Road															
10	L2	All MCs	141	13.4	141	13.4	0.384	4.7	LOS A	0.0	0.0	0.00	0.11	0.00	44.0
11	T1	All MCs	521	11.1	521	11.1	0.384	0.1	LOS A	0.0	0.0	0.00	0.11	0.00	48.6
Approach			662	11.6	662	11.6	0.384	1.1	NA	0.0	0.0	0.00	0.11	0.00	47.8
All Vehicles			1266	21.4	1266	21.4	0.542	4.1	NA	3.2	32.1	0.17	0.29	0.28	43.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 403 [403 Botany Rd x Stephen Rd EX+DEV AM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Stephen Road
Existing + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%		v/c							
South: Botany Road															
2	T1	All MCs	131	11.3	131	11.3	0.447	0.2	LOS A	3.3	25.3	0.49	0.58	0.53	47.9
3	R2	All MCs	481	12.7	481	12.7	0.447	6.9	LOS A	3.3	25.3	0.49	0.58	0.53	45.9
Approach			612	12.4	612	12.4	0.447	5.4	NA	3.3	25.3	0.49	0.58	0.53	46.4
East: Stephen Road															
4	L2	All MCs	241	19.2	241	19.2	0.407	6.1	LOS A	2.1	16.5	0.33	0.53	0.33	50.3
6	R2	All MCs	105	14.0	105	14.0	0.407	15.5	LOS B	2.1	16.5	0.33	0.53	0.33	55.3
Approach			346	17.6	346	17.6	0.407	8.9	LOS A	2.1	16.5	0.33	0.53	0.33	52.5
North: Botany Road															
7	L2	All MCs	192	9.3	192	9.3	0.144	5.8	LOS A	0.0	0.0	0.00	0.46	0.00	57.0
8	T1	All MCs	53	14.0	53	14.0	0.144	0.1	LOS A	0.0	0.0	0.00	0.46	0.00	57.5
Approach			244	10.3	244	10.3	0.144	4.5	NA	0.0	0.0	0.00	0.46	0.00	57.1
All Vehicles			1202	13.5	1202	13.5	0.447	6.3	NA	3.3	25.3	0.34	0.54	0.37	50.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 503 [503 McPherson St x Coal Pier Rd EX+DEV AM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: McPherson Street x Coal Pier Road
Existing + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance																
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total	HV]	[Total	HV]				[Veh.	Dist]					veh
East: McPherson Street																
2	T1	All MCs	61	46.6	61	46.6	0.046	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0	
Approach			61	46.6	61	46.6	0.046	0.0	NA	0.0	0.0	0.00	0.00	0.00	50.0	
North: Coal Pier Road																
4	L2	All MCs	5	20.0	5	20.0	0.150	5.0	LOS A	0.5	5.5	0.35	0.62	0.35	46.1	
6	R2	All MCs	108	59.2	108	59.2	0.150	7.0	LOS A	0.5	5.5	0.35	0.62	0.35	45.0	
Approach			114	57.4	114	57.4	0.150	6.9	LOS A	0.5	5.5	0.35	0.62	0.35	45.0	
West: McPherson Street																
7	L2	All MCs	155	43.5	155	43.5	0.167	5.0	LOS A	0.0	0.0	0.00	0.36	0.00	46.9	
8	T1	All MCs	67	29.7	67	29.7	0.167	0.1	LOS A	0.0	0.0	0.00	0.36	0.00	47.8	
Approach			222	39.3	222	39.3	0.167	3.5	NA	0.0	0.0	0.00	0.36	0.00	47.1	
All Vehicles			397	45.6	397	45.6	0.167	3.9	NA	0.5	5.5	0.10	0.38	0.10	46.8	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 Site: 603 [603 Stephen Rd x Swimbourne St EX+DEV AM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Stephen Road x Swimbourne Street
Exisiting + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh.	Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Stephen Road															
1	L2	All MCs	27	19.2	27	19.2	0.138	30.6	LOS C	0.9	7.1	0.90	0.70	0.90	41.0
2	T1	All MCs	182	8.7	182	8.7	* 0.692	28.9	LOS C	5.6	42.7	0.99	0.88	1.13	42.3
3	R2	All MCs	6	50.0	6	50.0	0.692	34.0	LOS C	5.6	42.7	1.00	0.88	1.14	36.4
Approach			216	11.2	216	11.2	0.692	29.3	LOS C	5.6	42.7	0.98	0.85	1.10	42.0
East: Swimbourne Street															
4	L2	All MCs	8	37.5	8	37.5	0.016	6.8	LOS A	0.1	1.2	0.57	0.59	0.57	42.8
5	T1	All MCs	7	42.9	7	42.9	0.069	30.8	LOS C	0.3	2.4	0.88	0.64	0.88	37.8
6	R2	All MCs	3	0.0	3	0.0	0.069	36.6	LOS C	0.3	2.4	0.93	0.65	0.93	37.9
Approach			19	33.3	19	33.3	0.069	21.1	LOS B	0.3	2.4	0.75	0.62	0.75	39.8
North: Stephen Road															
7	L2	All MCs	25	0.0	25	0.0	0.153	26.8	LOS B	2.1	15.7	0.66	0.57	0.66	43.9
8	T1	All MCs	208	8.6	208	8.6	* 0.709	25.4	LOS B	11.2	83.9	0.79	0.73	0.82	45.3
9	R2	All MCs	313	8.1	313	8.1	0.709	32.3	LOS C	11.2	83.9	0.88	0.85	0.95	43.8
Approach			546	7.9	546	7.9	0.709	29.4	LOS C	11.2	83.9	0.84	0.79	0.89	44.4
West: Swimbourne Street															
10	L2	All MCs	656	2.4	656	2.4	0.615	15.7	LOS B	11.3	80.4	0.63	0.76	0.63	46.2
11	T1	All MCs	35	9.1	35	9.1	* 0.479	31.6	LOS C	2.7	20.2	0.98	0.76	0.98	36.6
12	R2	All MCs	57	5.6	57	5.6	0.479	38.4	LOS C	2.7	20.2	0.98	0.76	0.98	40.4
Approach			747	3.0	747	3.0	0.615	18.2	LOS B	11.3	80.4	0.67	0.76	0.67	45.4
All Vehicles			1528	6.3	1528	6.3	0.709	23.8	LOS B	11.3	83.9	0.77	0.78	0.81	44.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] m		Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Stephen Road												
P1	Full	2	2	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05
East: Swimbourne Street												
P2	Full	1	1	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05
North: Stephen Road												
P3	Full	10	11	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05
West: Swimbourne Street												
P4	Full	5	5	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05
All Pedestrians		18	19	24.3	LOS C	0.0	0.0	0.90	0.90	191.0	200.0	1.05

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

MOVEMENT SUMMARY

 Site: 104 [104 Foreshore Rd x Botany Rd x Penrhyn Rd EX+DEV PM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Foreshore Road x Botany Road x Penrhyn Road
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Penrhyn Road															
1	L2	All MCs	58	63.6	58	63.6	0.274	27.1	LOS B	1.5	16.2	0.92	0.70	0.92	41.0
2	T1	All MCs	13	41.7	13	41.7	0.042	20.6	LOS B	0.3	2.9	0.82	0.57	0.82	29.3
3	R2	All MCs	37	77.1	37	77.1	0.145	26.4	LOS B	0.9	10.7	0.84	0.70	0.84	27.4
Approach			107	65.7	107	65.7	0.274	26.1	LOS B	1.5	16.2	0.88	0.69	0.88	35.7
East: Botany Road															
4	L2	All MCs	54	90.2	54	90.2	0.066	8.7	LOS A	0.2	2.8	0.26	0.62	0.26	46.8
5	T1	All MCs	1348	10.1	1348	10.1	0.651	16.8	LOS B	11.1	84.6	0.88	0.76	0.88	56.5
6	R2	All MCs	331	15.9	331	15.9	* 0.884	42.1	LOS C	12.0	95.8	1.00	1.07	1.47	28.8
Approach			1733	13.7	1733	13.7	0.884	21.4	LOS B	12.0	95.8	0.88	0.82	0.97	51.3
North: Botany Road															
7	L2	All MCs	422	8.7	422	8.7	0.242	4.5	LOS A	0.0	0.0	0.00	0.46	0.00	44.4
8	T1	All MCs	15	64.3	15	64.3	0.057	33.4	LOS C	0.4	3.9	0.82	0.62	0.82	26.4
9	R2	All MCs	274	23.8	274	23.8	* 0.903	54.4	LOS D	10.5	88.5	1.00	1.21	1.59	36.3
Approach			711	15.7	711	15.7	0.903	24.3	LOS B	10.5	88.5	0.40	0.75	0.63	39.5
West: Foreshore Road															
10	L2	All MCs	171	36.4	171	36.4	0.222	10.9	LOS A	1.8	16.7	0.49	0.70	0.49	54.3
11	T1	All MCs	765	19.1	765	19.1	* 0.904	37.1	LOS C	14.7	119.4	1.00	1.13	1.51	45.8
12	R2	All MCs	38	88.9	38	88.9	0.407	38.9	LOS C	1.2	14.7	0.97	0.74	0.97	38.7
Approach			974	24.9	974	24.9	0.904	32.6	LOS C	14.7	119.4	0.91	1.04	1.31	46.6
All Vehicles			3524	18.8	3524	18.8	0.904	25.2	LOS B	14.7	119.4	0.79	0.86	0.99	47.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] 						

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

MOVEMENT SUMMARY

▼ Site: 204 [204 Botany Rd x Excell St EX+DEV PM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Excell Street
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back [Veh.	Of Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	660	19.6	660	19.6	0.405	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
Approach			660	19.6	660	19.6	0.405	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.7
North: Excell Street															
7	L2	All MCs	438	19.0	438	19.0	0.465	8.4	LOS A	3.1	25.1	0.59	0.81	0.80	39.1
Approach			438	19.0	438	19.0	0.465	8.4	LOS A	3.1	25.1	0.59	0.81	0.80	39.1
West: Botany Road															
11	T1	All MCs	401	9.4	401	9.4	0.225	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			401	9.4	401	9.4	0.225	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			1499	16.7	1499	16.7	0.465	2.5	NA	3.1	25.1	0.17	0.24	0.24	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 304 [304 Botany Rd x Hills St EX+DEV PM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Hills Street
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Queue Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	483	10.2	483	10.2	0.273	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
6	R2	All MCs	177	42.9	177	42.9	0.252	10.0	LOS A	1.1	10.6	0.62	0.81	0.65	33.6
Approach			660	19.0	660	19.0	0.273	2.7	NA	1.1	10.6	0.17	0.22	0.18	45.1
West: Botany Road															
10	L2	All MCs	126	10.8	126	10.8	0.299	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	44.2
11	T1	All MCs	397	9.5	397	9.5	0.299	0.1	LOS A	0.0	0.0	0.00	0.13	0.00	48.6
Approach			523	9.9	523	9.9	0.299	1.2	NA	0.0	0.0	0.00	0.13	0.00	47.7
All Vehicles			1183	14.9	1183	14.9	0.299	2.0	NA	1.1	10.6	0.09	0.18	0.10	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 404 [404 Botany Rd x Stephen Rd EX+DEV PM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Stephen Road
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%		v/c							
South: Botany Road															
2	T1	All MCs	106	6.9	106	6.9	0.371	0.0	LOS A	2.2	16.4	0.49	0.58	0.50	47.9
3	R2	All MCs	388	10.3	388	10.3	0.371	6.7	LOS A	2.2	16.4	0.49	0.58	0.50	46.0
Approach			495	9.6	495	9.6	0.371	5.3	NA	2.2	16.4	0.49	0.58	0.50	46.5
East: Stephen Road															
4	L2	All MCs	384	11.0	384	11.0	0.521	7.6	LOS A	4.6	34.8	0.50	0.66	0.65	50.7
6	R2	All MCs	129	6.5	129	6.5	0.521	14.7	LOS B	4.6	34.8	0.50	0.66	0.65	55.2
Approach			514	9.8	514	9.8	0.521	9.4	LOS A	4.6	34.8	0.50	0.66	0.65	52.4
North: Botany Road															
7	L2	All MCs	148	6.4	148	6.4	0.163	5.7	LOS A	0.0	0.0	0.00	0.29	0.00	57.7
8	T1	All MCs	148	2.1	148	2.1	0.163	0.1	LOS A	0.0	0.0	0.00	0.29	0.00	58.4
Approach			297	4.3	297	4.3	0.163	2.9	NA	0.0	0.0	0.00	0.29	0.00	58.0
All Vehicles			1305	8.5	1305	8.5	0.521	6.4	NA	4.6	34.8	0.38	0.55	0.44	51.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 504 [504 McPherson St x Coal Pier Rd EX+DEV PM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: McPherson Street x Coal Pier Road
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%				veh	m				km/h
East: McPherson Street															
2	T1	All MCs	117	10.8	117	10.8	0.070	0.0	LOS A	0.0	0.3	0.03	0.04	0.03	49.8
3	R2	All MCs	4	25.0	4	25.0	0.070	7.2	LOS A	0.0	0.3	0.03	0.04	0.03	48.5
Approach			121	11.3	121	11.3	0.070	0.3	NA	0.0	0.3	0.03	0.04	0.03	49.7
North: Coal Pier Road															
4	L2	All MCs	5	20.0	5	20.0	0.205	5.1	LOS A	0.7	6.2	0.38	0.63	0.38	46.2
6	R2	All MCs	171	24.1	171	24.1	0.205	6.5	LOS A	0.7	6.2	0.38	0.63	0.38	45.4
Approach			176	24.0	176	24.0	0.205	6.5	LOS A	0.7	6.2	0.38	0.63	0.38	45.5
West: McPherson Street															
7	L2	All MCs	122	38.8	122	38.8	0.143	4.9	LOS A	0.0	0.0	0.00	0.31	0.00	47.3
8	T1	All MCs	87	12.0	87	12.0	0.143	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	48.3
Approach			209	27.6	209	27.6	0.143	2.9	NA	0.0	0.0	0.00	0.31	0.00	47.6
All Vehicles			506	22.5	506	22.5	0.205	3.5	NA	0.7	6.2	0.14	0.35	0.14	47.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 Site: 604 [604 Stephen Rd x Swimbourne St EX+DEV PM (Site Folder: Existing + Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Stephen Road x Swimbourne Street
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec							km/h
South: Stephen Road															
1	L2	All MCs	37	8.6	37	8.6	0.159	38.0	LOS C	1.6	11.5	0.89	0.72	0.89	39.6
2	T1	All MCs	245	1.7	245	1.7	* 0.794	39.4	LOS C	10.2	73.1	1.00	0.95	1.19	40.7
3	R2	All MCs	6	50.0	6	50.0	0.794	44.6	LOS D	10.2	73.1	1.00	0.96	1.20	33.8
Approach			288	3.6	288	3.6	0.794	39.3	LOS C	10.2	73.1	0.98	0.92	1.16	40.5
East: Swimbourne Street															
4	L2	All MCs	3	33.3	3	33.3	0.079	5.5	LOS A	0.5	4.1	0.91	0.65	0.91	36.2
5	T1	All MCs	33	3.2	33	3.2	* 0.342	38.2	LOS C	1.6	11.1	0.96	0.69	0.96	34.6
6	R2	All MCs	19	0.0	19	0.0	0.342	50.1	LOS D	1.6	11.1	0.99	0.72	0.99	34.4
Approach			55	3.8	55	3.8	0.342	40.4	LOS C	1.6	11.1	0.97	0.70	0.97	34.6
North: Stephen Road															
7	L2	All MCs	6	16.7	6	16.7	0.173	30.7	LOS C	3.3	23.4	0.58	0.48	0.58	44.2
8	T1	All MCs	199	2.6	199	2.6	0.800	28.7	LOS C	21.4	157.6	0.66	0.59	0.68	45.9
9	R2	All MCs	545	6.2	545	6.2	* 0.800	41.0	LOS C	21.4	157.6	0.89	0.90	0.99	42.5
Approach			751	5.3	751	5.3	0.800	37.6	LOS C	21.4	157.6	0.83	0.81	0.90	43.3
West: Swimbourne Street															
10	L2	All MCs	440	1.7	440	1.7	0.364	13.2	LOS A	7.1	50.3	0.45	0.69	0.45	46.5
11	T1	All MCs	1	100.0	1	100.0	0.248	39.1	LOS C	1.1	8.2	0.98	0.72	0.98	32.9
12	R2	All MCs	27	0.0	27	0.0	0.248	47.9	LOS D	1.1	8.2	0.98	0.72	0.98	37.6
Approach			468	1.8	468	1.8	0.364	15.3	LOS B	7.1	50.3	0.48	0.69	0.48	45.9
All Vehicles			1562	3.9	1562	3.9	0.800	31.4	LOS C	21.4	157.6	0.76	0.79	0.82	43.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] m		Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Stephen Road												
P1	Full	8	8	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00
East: Swimbourne Street												
P2	Full	1	1	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00
North: Stephen Road												
P3	Full	8	8	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00
West: Swimbourne Street												
P4	Full	6	6	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00
All Pedestrians		23	24	34.2	LOS D	0.0	0.0	0.93	0.93	200.9	200.0	1.00

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

MOVEMENT SUMMARY

Site: 103 [103 Foreshore Rd x Botany Rd x Penrhyn Rd EX+10YR AM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Foreshore Road x Botany Road x Penrhyn Road
Exisiting AM Peak
7:45am - 8:45am
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV]		Arrival Flows [Total HV]		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh.	Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Penrhyn Road															
1	L2	All MCs	42	93.9	42	93.9	0.209	60.2	LOS E ¹¹	2.7	34.5	0.86	0.69	0.86	30.1
2	T1	All MCs	19	46.7	19	46.7	0.098	60.5	LOS E ¹¹	1.2	12.1	0.90	0.65	0.90	16.3
3	R2	All MCs	33	53.8	33	53.8	0.203	67.9	LOS E ¹¹	2.2	22.7	0.92	0.73	0.92	19.5
Approach			95	70.3	95	70.3	0.209	62.9	LOS E ¹¹	2.7	34.5	0.89	0.69	0.89	24.2
East: Botany Road															
4	L2	All MCs	56	52.3	56	52.3	0.052	8.2	LOS A	0.4	4.4	0.15	0.60	0.15	47.2
5	T1	All MCs	921	24.2	921	24.2	0.346	27.5	LOS B	12.2	102.8	0.58	0.51	0.58	55.4
6	R2	All MCs	346	25.6	346	25.6	* 1.139	243.7	LOS F ¹¹	44.4	378.7	1.00	1.36	1.97	9.1
Approach			1324	25.8	1324	25.8	1.139	83.2	LOS F ¹¹	44.4	378.7	0.67	0.74	0.93	31.6
North: Botany Road															
7	L2	All MCs	606	18.4	606	18.4	0.381	4.6	LOS A	0.0	0.0	0.00	0.45	0.00	44.2
8	T1	All MCs	18	50.0	18	50.0	0.094	109.8	LOS F ¹¹	1.2	11.5	0.90	0.67	0.90	15.4
9	R2	All MCs	169	61.4	169	61.4	* 1.130	264.0	LOS F ¹¹	21.3	227.2	1.00	1.46	2.02	13.9
Approach			793	28.3	793	28.3	1.130	62.4	LOS E ¹¹	21.3	227.2	0.23	0.67	0.45	25.7
West: Foreshore Road															
10	L2	All MCs	368	22.3	368	22.3	0.450	49.3	LOS D ¹¹	13.4	111.4	0.57	0.75	0.57	48.2
11	T1	All MCs	1583	14.0	1583	14.0	* 1.125	197.5	LOS F ¹¹	101.6	796.4	1.00	1.64	1.81	19.7
12	R2	All MCs	72	46.4	72	46.4	0.355	90.2	LOS F ¹¹	4.8	46.7	0.93	0.78	0.93	30.1
Approach			2024	16.7	2024	16.7	1.125	166.7	LOS F ¹¹	101.6	796.4	0.92	1.45	1.56	21.9
All Vehicles			4236	22.9	4236	22.9	1.139	118.8	LOS F ¹¹	101.6	796.4	0.71	1.06	1.14	24.8

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

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] 						

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.

¹² Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

▽ Site: 201 [203 Botany Rd x Excell St EX+10YR AM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Excell Street
Exisiting + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of [Veh.	Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	703	28.6	703	28.6	0.464	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.6
Approach			703	28.6	703	28.6	0.464	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.6
North: Excell Street															
7	L2	All MCs	318	58.5	318	58.5	0.678	18.7	LOS B	4.7	49.3	0.83	1.26	1.68	31.7
Approach			318	58.5	318	58.5	0.678	18.7	LOS B	4.7	49.3	0.83	1.26	1.68	31.7
West: Botany Road															
11	T1	All MCs	626	11.1	626	11.1	0.357	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			626	11.1	626	11.1	0.357	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.8
All Vehicles			1648	27.7	1648	27.7	0.678	3.7	NA	4.7	49.3	0.16	0.24	0.32	44.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▽ Site: 303 [303 Botany Rd x Hills St EX+10YR AM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Hills Street
Existing + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	403	18.8	403	18.8	0.519	3.0	LOS A	3.5	28.3	0.80	0.70	0.83	46.0
6	R2	All MCs	275	46.7	275	46.7	0.775	29.3	LOS C	5.4	52.8	0.92	1.46	2.24	23.1
Approach			678	30.1	678	30.1	0.775	13.7	NA	5.4	52.8	0.85	1.01	1.40	34.3
West: Botany Road															
10	L2	All MCs	172	13.4	172	13.4	0.467	4.8	LOS A	0.0	0.0	0.00	0.11	0.00	44.0
11	T1	All MCs	633	11.2	633	11.2	0.467	0.1	LOS A	0.0	0.0	0.00	0.11	0.00	48.5
Approach			805	11.6	805	11.6	0.467	1.1	NA	0.0	0.0	0.00	0.11	0.00	47.7
All Vehicles			1482	20.1	1482	20.1	0.775	6.8	NA	5.4	52.8	0.39	0.52	0.64	40.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▽ Site: 403 [403 Botany Rd x Stephen Rd EX+10YR AM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Stephen Road
Existing + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Botany Road															
2	T1	All MCs	159	11.3	159	11.3	0.568	1.1	LOS A	6.1	47.6	0.59	0.72	0.82	47.4
3	R2	All MCs	581	12.8	581	12.8	0.568	8.6	LOS A	6.1	47.6	0.59	0.72	0.82	45.2
Approach			740	12.5	740	12.5	0.568	7.0	NA	6.1	47.6	0.59	0.72	0.82	45.8
East: Stephen Road															
4	L2	All MCs	293	19.3	293	19.3	0.599	9.9	LOS A	8.7	70.1	0.55	0.62	0.81	46.7
6	R2	All MCs	127	14.1	127	14.1	0.599	29.5	LOS C	8.7	70.1	0.55	0.62	0.81	53.0
Approach			420	17.7	420	17.7	0.599	15.9	LOS B	8.7	70.1	0.55	0.62	0.81	49.4
North: Botany Road															
7	L2	All MCs	228	9.6	228	9.6	0.173	5.8	LOS A	0.0	0.0	0.00	0.45	0.00	57.0
8	T1	All MCs	64	14.0	64	14.0	0.173	0.1	LOS A	0.0	0.0	0.00	0.45	0.00	57.5
Approach			293	10.5	293	10.5	0.173	4.5	NA	0.0	0.0	0.00	0.45	0.00	57.1
All Vehicles			1453	13.6	1453	13.6	0.599	9.1	NA	8.7	70.1	0.46	0.64	0.65	49.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▽ Site: 503 [503 McPherson St x Coal Pier Rd EX+10YR AM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: McPherson Street x Coal Pier Road
Existing + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of [Veh.	Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: McPherson Street															
2	T1	All MCs	74	46.6	74	46.6	0.056	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach			74	46.6	74	46.6	0.056	0.0	NA	0.0	0.0	0.00	0.00	0.00	50.0
North: Coal Pier Road															
4	L2	All MCs	6	20.0	6	20.0	0.154	5.1	LOS A	0.5	5.6	0.37	0.63	0.37	46.1
6	R2	All MCs	108	58.3	108	58.3	0.154	7.1	LOS A	0.5	5.6	0.37	0.63	0.37	44.9
Approach			114	56.2	114	56.2	0.154	7.0	LOS A	0.5	5.6	0.37	0.63	0.37	45.0
West: McPherson Street															
7	L2	All MCs	136	46.2	136	46.2	0.164	5.0	LOS A	0.0	0.0	0.00	0.33	0.00	47.1
8	T1	All MCs	82	29.7	82	29.7	0.164	0.1	LOS A	0.0	0.0	0.00	0.33	0.00	48.1
Approach			218	40.0	218	40.0	0.164	3.1	NA	0.0	0.0	0.00	0.33	0.00	47.4
All Vehicles			407	45.7	407	45.7	0.164	3.7	NA	0.5	5.6	0.10	0.35	0.10	46.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 Site: 603 [603 Stephen Rd x Swimbourne St EX+10YR AM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Stephen Road x Swimbourne Street
Exisiting + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Stephen Road															
1	L2	All MCs	33	19.2	33	19.2	0.167	31.0	LOS C	1.1	8.6	0.91	0.71	0.91	41.0
2	T1	All MCs	219	8.8	219	8.8	* 0.836	33.3	LOS C	7.5	56.9	1.00	1.03	1.38	41.2
3	R2	All MCs	8	50.0	8	50.0	0.836	38.5	LOS C	7.5	56.9	1.00	1.04	1.39	35.0
Approach			260	11.3	260	11.3	0.836	33.2	LOS C	7.5	56.9	0.99	0.99	1.32	41.1
East: Swimbourne Street															
4	L2	All MCs	10	37.5	10	37.5	0.019	6.7	LOS A	0.1	1.4	0.54	0.59	0.54	43.3
5	T1	All MCs	9	42.9	9	42.9	0.080	28.6	LOS C	0.3	2.9	0.87	0.64	0.87	38.1
6	R2	All MCs	4	0.0	4	0.0	0.080	36.2	LOS C	0.3	2.9	0.92	0.65	0.92	38.2
Approach			23	33.3	23	33.3	0.080	20.1	LOS B	0.3	2.9	0.73	0.62	0.73	40.2
North: Stephen Road															
7	L2	All MCs	31	0.0	31	0.0	0.195	30.6	LOS C	2.7	20.1	0.69	0.59	0.69	43.3
8	T1	All MCs	245	8.9	245	8.9	* 0.903	37.9	LOS C	19.8	148.2	0.86	0.89	1.10	42.7
9	R2	All MCs	381	8.1	381	8.1	0.903	51.8	LOS D ¹¹	19.8	148.2	1.00	1.13	1.44	40.1
Approach			657	8.0	657	8.0	0.903	45.6	LOS D ¹¹	19.8	148.2	0.93	1.01	1.28	41.1
West: Swimbourne Street															
10	L2	All MCs	799	2.4	799	2.4	0.762	20.6	LOS B	17.5	125.4	0.75	0.84	0.79	45.4
11	T1	All MCs	42	9.1	42	9.1	* 0.520	32.3	LOS C	3.3	24.4	0.97	0.78	0.98	36.8
12	R2	All MCs	69	5.6	69	5.6	0.520	39.0	LOS C	3.3	24.4	0.97	0.78	0.98	40.6
Approach			911	3.0	911	3.0	0.762	22.5	LOS B	17.5	125.4	0.78	0.83	0.82	44.8
All Vehicles			1852	6.3	1852	6.3	0.903	32.2	LOS C	19.8	148.2	0.86	0.91	1.05	42.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay; Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik 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.

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] 						

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

MOVEMENT SUMMARY

Site: 104 [104 Foreshore Rd x Botany Rd x Penrhyn Rd EX+10YR PM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Foreshore Road x Botany Road x Penrhyn Road
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV]		Arrival Flows [Total HV]		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh.	Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Penrhyn Road															
1	L2	All MCs	71	63.6	71	63.6	0.485	74.6	LOS F ¹¹	5.0	54.6	0.97	0.84	0.97	27.7
2	T1	All MCs	13	30.0	13	30.0	0.038	49.1	LOS D ¹¹	0.7	6.4	0.81	0.58	0.81	18.6
3	R2	All MCs	45	77.1	45	77.1	0.199	57.9	LOS E ¹¹	2.7	32.0	0.86	0.73	0.86	20.1
Approach			128	65.0	128	65.0	0.485	66.2	LOS E ¹¹	5.0	54.6	0.91	0.77	0.91	24.7
East: Botany Road															
4	L2	All MCs	65	90.2	65	90.2	0.074	15.3	LOS B	0.5	5.9	0.15	0.60	0.15	47.0
5	T1	All MCs	1644	10.1	1644	10.1	0.589	29.2	LOS C	27.9	212.7	0.70	0.64	0.70	53.4
6	R2	All MCs	403	15.9	403	15.9	* 1.021	148.5	LOS F ¹¹	43.2	344.0	1.00	1.23	1.53	14.1
Approach			2112	13.7	2112	13.7	1.021	51.5	LOS D ¹¹	43.2	344.0	0.74	0.75	0.84	41.6
North: Botany Road															
7	L2	All MCs	515	8.7	515	8.7	0.295	4.5	LOS A	0.0	0.0	0.00	0.46	0.00	44.4
8	T1	All MCs	15	58.3	15	58.3	0.057	97.8	LOS F ¹¹	0.9	9.4	0.82	0.63	0.82	17.4
9	R2	All MCs	273	23.9	273	23.9	* 1.011	172.4	LOS F ¹¹	28.3	239.2	1.00	1.24	1.55	20.7
Approach			803	14.9	803	14.9	1.011	63.4	LOS E ¹¹	28.3	239.2	0.36	0.73	0.54	28.6
West: Foreshore Road															
10	L2	All MCs	175	32.4	175	32.4	0.223	30.2	LOS C	6.3	56.2	0.57	0.72	0.57	46.1
11	T1	All MCs	933	19.1	933	19.1	* 1.024	124.5	LOS F ¹¹	48.9	398.3	1.00	1.32	1.50	25.9
12	R2	All MCs	46	88.9	46	88.9	0.572	91.8	LOS F ¹¹	3.5	43.5	1.00	0.79	1.05	26.9
Approach			1154	23.9	1154	23.9	1.024	108.9	LOS F ¹¹	48.9	398.3	0.93	1.21	1.34	27.5
All Vehicles			4197	18.3	4197	18.3	1.024	70.0	LOS E ¹¹	48.9	398.3	0.72	0.87	0.92	33.6

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

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] m		Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Penrhyn Road												
P1B	Slip/Bypass	1	1	69.1	LOS F ¹²	0.0	0.0	0.96	0.96	235.8	200.0	0.85
West: Foreshore Road												
P4	Full	1	1	69.1	LOS F ¹²	0.0	0.0	0.96	0.96	235.8	200.0	0.85
All Pedestrians		2	3	69.1	LOS F ¹²	0.0	0.0	0.96	0.96	235.8	200.0	0.85

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.

¹² Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

▼ Site: 204 [204 Botany Rd x Excell St EX+10YR PM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Excell Street
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of [Veh.	Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	769	17.7	769	17.7	0.464	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
Approach			769	17.7	769	17.7	0.464	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.7
North: Excell Street															
7	L2	All MCs	477	17.7	477	17.7	0.564	10.2	LOS A	4.2	33.9	0.67	0.97	1.09	37.7
Approach			477	17.7	477	17.7	0.564	10.2	LOS A	4.2	33.9	0.67	0.97	1.09	37.7
West: Botany Road															
11	T1	All MCs	481	9.6	481	9.6	0.270	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			481	9.6	481	9.6	0.270	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			1727	15.5	1727	15.5	0.564	2.9	NA	4.2	33.9	0.19	0.27	0.30	45.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▽ Site: 304 [304 Botany Rd x Hills St EX+10YR PM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Hills Street
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV]		Arrival Flows [Total HV]		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh. Dist]		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	588	10.3	588	10.3	0.332	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
6	R2	All MCs	181	39.0	181	39.0	0.310	11.9	LOS A	1.4	13.3	0.68	0.92	0.82	32.0
Approach			769	17.0	769	17.0	0.332	2.9	NA	1.4	13.3	0.16	0.22	0.19	45.0
West: Botany Road															
10	L2	All MCs	154	10.8	154	10.8	0.360	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	44.1
11	T1	All MCs	476	9.7	476	9.7	0.360	0.1	LOS A	0.0	0.0	0.00	0.13	0.00	48.4
Approach			630	10.0	630	10.0	0.360	1.2	NA	0.0	0.0	0.00	0.13	0.00	47.5
All Vehicles			1399	13.9	1399	13.9	0.360	2.1	NA	1.4	13.3	0.09	0.18	0.11	46.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▽ Site: 404 [404 Botany Rd x Stephen Rd EX+10YR PM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Stephen Road
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Botany Road															
2	T1	All MCs	130	6.9	130	6.9	0.477	0.7	LOS A	4.0	30.5	0.58	0.71	0.74	47.5
3	R2	All MCs	471	10.4	471	10.4	0.477	8.2	LOS A	4.0	30.5	0.58	0.71	0.74	45.4
Approach			601	9.6	601	9.6	0.477	6.6	NA	4.0	30.5	0.58	0.71	0.74	46.0
East: Stephen Road															
4	L2	All MCs	461	11.1	461	11.1	0.667	10.2	LOS A	9.2	69.9	0.68	0.83	1.17	48.7
6	R2	All MCs	133	7.7	133	7.7	0.667	23.1	LOS B	9.2	69.9	0.68	0.83	1.17	53.9
Approach			594	10.4	594	10.4	0.667	13.1	LOS A	9.2	69.9	0.68	0.83	1.17	50.5
North: Botany Road															
7	L2	All MCs	173	6.7	173	6.7	0.195	5.8	LOS A	0.0	0.0	0.00	0.29	0.00	57.7
8	T1	All MCs	181	2.1	181	2.1	0.195	0.2	LOS A	0.0	0.0	0.00	0.29	0.00	58.4
Approach			354	4.3	354	4.3	0.195	2.9	NA	0.0	0.0	0.00	0.29	0.00	58.0
All Vehicles			1549	8.7	1549	8.7	0.667	8.2	NA	9.2	69.9	0.48	0.66	0.73	50.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 504 [504 McPherson St x Coal Pier Rd EX+10YR PM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: McPherson Street x Coal Pier Road
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]		Rate		
			veh/h	%	veh/h	%		sec		veh	m				
East: McPherson Street															
2	T1	All MCs	142	10.8	142	10.8	0.086	0.0	LOS A	0.0	0.4	0.03	0.04	0.03	49.8
3	R2	All MCs	5	25.0	5	25.0	0.086	7.4	LOS A	0.0	0.4	0.03	0.04	0.03	48.5
Approach			148	11.3	148	11.3	0.086	0.3	NA	0.0	0.4	0.03	0.04	0.03	49.7
North: Coal Pier Road															
4	L2	All MCs	6	20.0	6	20.0	0.190	5.2	LOS A	0.7	5.6	0.40	0.65	0.40	46.1
6	R2	All MCs	151	22.0	151	22.0	0.190	6.7	LOS A	0.7	5.6	0.40	0.65	0.40	45.4
Approach			158	22.0	158	22.0	0.190	6.7	LOS A	0.7	5.6	0.40	0.65	0.40	45.4
West: McPherson Street															
7	L2	All MCs	114	31.5	114	31.5	0.144	4.9	LOS A	0.0	0.0	0.00	0.27	0.00	47.5
8	T1	All MCs	107	12.0	107	12.0	0.144	0.0	LOS A	0.0	0.0	0.00	0.27	0.00	48.4
Approach			221	22.1	221	22.1	0.144	2.5	NA	0.0	0.0	0.00	0.27	0.00	47.9
All Vehicles			526	19.0	526	19.0	0.190	3.1	NA	0.7	5.6	0.13	0.32	0.13	47.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 604 [604 Stephen Rd x Swimbourne St EX+10YR PM (Site Folder: Existing + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Stephen Road x Swimbourne Street
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh.	Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Stephen Road															
1	L2	All MCs	45	8.6	45	8.6	0.175	63.7	LOS E ¹¹	2.8	21.0	0.90	0.74	0.90	35.0
2	T1	All MCs	263	2.0	263	2.0	* 0.876	74.2	LOS F ¹¹	20.0	144.0	1.00	1.03	1.21	34.4
3	R2	All MCs	8	50.0	8	50.0	0.876	79.4	LOS F ¹¹	20.0	144.0	1.00	1.04	1.22	26.7
Approach			316	4.1	316	4.1	0.876	72.9	LOS F ¹¹	20.0	144.0	0.98	0.99	1.17	34.3
East: Swimbourne Street															
4	L2	All MCs	4	33.3	4	33.3	0.157	5.5	LOS A	1.5	11.3	0.95	0.69	0.95	29.0
5	T1	All MCs	40	3.2	40	3.2	* 0.676	72.6	LOS F ¹¹	3.1	22.3	0.98	0.75	1.05	27.6
6	R2	All MCs	23	0.0	23	0.0	0.676	88.8	LOS F ¹¹	3.1	22.3	1.00	0.81	1.16	27.4
Approach			67	3.8	67	3.8	0.676	74.3	LOS F ¹¹	3.1	22.3	0.98	0.77	1.08	27.6
North: Stephen Road															
7	L2	All MCs	8	16.7	8	16.7	0.183	35.5	LOS C	2.7	19.7	0.47	0.40	0.47	43.7
8	T1	All MCs	231	2.8	231	2.8	* 0.847	38.6	LOS C	44.8	328.6	0.72	0.69	0.73	43.8
9	R2	All MCs	665	6.2	665	6.2	0.847	47.7	LOS D ¹¹	44.8	328.6	0.87	0.87	0.89	42.0
Approach			903	5.4	903	5.4	0.847	45.2	LOS D ¹¹	44.8	328.6	0.83	0.82	0.84	42.5
West: Swimbourne Street															
10	L2	All MCs	536	1.7	536	1.7	0.417	17.2	LOS B	13.3	94.4	0.40	0.68	0.40	46.1
11	T1	All MCs	1	100.0	1	100.0	0.590	75.0	LOS F ¹¹	2.6	18.5	1.00	0.77	1.09	25.5
12	R2	All MCs	33	0.0	33	0.0	0.590	88.6	LOS F ¹¹	2.6	18.5	1.00	0.77	1.09	31.3
Approach			571	1.8	571	1.8	0.590	21.5	LOS B	13.3	94.4	0.44	0.69	0.44	44.9
All Vehicles			1857	4.0	1857	4.0	0.876	43.7	LOS D ¹¹	44.8	328.6	0.74	0.80	0.78	41.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay; Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik 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.

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] 						

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.

¹² Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

Site: 103 [103 Foreshore Rd x Botany Rd x Penrhyn Rd EX+DEV+10YR AM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Foreshore Road x Botany Road x Penrhyn Road
Exisiting + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV]		Arrival Flows [Total HV]		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh.	Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Penrhyn Road															
1	L2	All MCs	42	93.9	42	93.9	0.223	62.5	LOS E ¹¹	2.8	35.4	0.87	0.68	0.87	29.6
2	T1	All MCs	21	51.9	21	51.9	0.099	57.6	LOS E ¹¹	1.3	13.5	0.88	0.65	0.88	16.8
3	R2	All MCs	33	53.8	33	53.8	0.182	65.5	LOS E ¹¹	2.2	22.3	0.91	0.73	0.91	19.8
Approach			97	70.9	97	70.9	0.223	62.5	LOS E ¹¹	2.8	35.4	0.88	0.69	0.88	24.2
East: Botany Road															
4	L2	All MCs	56	52.3	56	52.3	0.053	8.2	LOS A	0.4	4.4	0.15	0.60	0.15	47.2
5	T1	All MCs	921	24.2	921	24.2	0.358	28.7	LOS C	12.7	107.3	0.60	0.52	0.60	54.6
6	R2	All MCs	346	25.6	346	25.6	* 1.157	258.9	LOS F ¹¹	45.6	388.9	1.00	1.39	2.04	8.6
Approach			1324	25.8	1324	25.8	1.157	88.0	LOS F ¹¹	45.6	388.9	0.68	0.75	0.96	30.5
North: Botany Road															
7	L2	All MCs	606	18.4	606	18.4	0.381	4.6	LOS A	0.0	0.0	0.00	0.45	0.00	44.2
8	T1	All MCs	20	55.2	20	55.2	0.096	107.9	LOS F ¹¹	1.3	13.0	0.88	0.67	0.88	15.9
9	R2	All MCs	188	60.8	188	60.8	* 1.131	264.6	LOS F ¹¹	23.7	252.2	1.00	1.47	2.01	13.9
Approach			814	29.1	814	29.1	1.131	67.3	LOS E ¹¹	23.7	252.2	0.25	0.69	0.49	25.0
West: Foreshore Road															
10	L2	All MCs	414	23.2	414	23.2	0.507	51.5	LOS D ¹¹	15.7	131.9	0.60	0.76	0.60	47.8
11	T1	All MCs	1583	14.0	1583	14.0	* 1.162	229.6	LOS F ¹¹	108.3	849.0	1.00	1.76	1.96	17.5
12	R2	All MCs	72	46.4	72	46.4	0.369	92.5	LOS F ¹¹	4.8	47.2	0.94	0.78	0.94	29.9
Approach			2069	17.0	2069	17.0	1.162	189.2	LOS F ¹¹	108.3	849.0	0.92	1.52	1.65	19.9
All Vehicles			4304	23.2	4304	23.2	1.162	132.2	LOS F ¹¹	108.3	849.0	0.72	1.11	1.20	23.0

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

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] 						

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.

¹² Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

▼ Site: 201 [203 Botany Rd x Excell St EX+DEV+10YR AM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Excell Street
Exisiting + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of [Veh.	Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	751	28.9	751	28.9	0.496	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.6
Approach			751	28.9	751	28.9	0.496	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.6
North: Excell Street															
7	L2	All MCs	338	58.7	338	58.7	0.726	20.3	LOS B	5.5	57.6	0.85	1.35	1.88	30.9
Approach			338	58.7	338	58.7	0.726	20.3	LOS B	5.5	57.6	0.85	1.35	1.88	30.9
West: Botany Road															
11	T1	All MCs	628	11.0	628	11.0	0.358	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			628	11.0	628	11.0	0.358	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.8
All Vehicles			1717	28.3	1717	28.3	0.726	4.1	NA	5.5	57.6	0.17	0.27	0.37	44.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 303 [303 Botany Rd x Hills St EX+DEV+10YR AM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Hills Street
Existing + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Queue Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	408	18.5	408	18.5	0.559	4.9	LOS A	4.7	38.2	0.83	0.74	1.09	44.6
6	R2	All MCs	318	49.0	318	49.0	0.921	47.4	LOS D ¹¹	10.2	101.4	0.97	2.03	3.80	18.2
Approach			726	31.9	726	31.9	0.921	23.5	NA	10.2	101.4	0.89	1.31	2.27	28.9
West: Botany Road															
10	L2	All MCs	172	13.4	172	13.4	0.468	4.8	LOS A	0.0	0.0	0.00	0.11	0.00	44.0
11	T1	All MCs	635	11.1	635	11.1	0.468	0.1	LOS A	0.0	0.0	0.00	0.11	0.00	48.5
Approach			807	11.6	807	11.6	0.468	1.1	NA	0.0	0.0	0.00	0.11	0.00	47.7
All Vehicles			1533	21.2	1533	21.2	0.921	11.7	NA	10.2	101.4	0.42	0.68	1.08	36.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

▼ Site: 403 [403 Botany Rd x Stephen Rd EX+DEV+10YR AM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Stephen Road
Existing + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of [Veh.	Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Botany Road															
2	T1	All MCs	159	11.3	159	11.3	0.574	1.2	LOS A	6.3	48.7	0.60	0.73	0.84	47.3
3	R2	All MCs	585	12.7	585	12.7	0.574	8.7	LOS A	6.3	48.7	0.60	0.73	0.84	45.2
Approach			745	12.4	745	12.4	0.574	7.1	NA	6.3	48.7	0.60	0.73	0.84	45.8
East: Stephen Road															
4	L2	All MCs	294	19.2	294	19.2	0.607	10.3	LOS A	9.2	74.1	0.56	0.63	0.84	46.5
6	R2	All MCs	128	14.0	128	14.0	0.607	30.4	LOS C	9.2	74.1	0.56	0.63	0.84	52.8
Approach			422	17.6	422	17.6	0.607	16.4	LOS B	9.2	74.1	0.56	0.63	0.84	49.2
North: Botany Road															
7	L2	All MCs	233	9.4	233	9.4	0.175	5.8	LOS A	0.0	0.0	0.00	0.46	0.00	57.0
8	T1	All MCs	64	14.0	64	14.0	0.175	0.1	LOS A	0.0	0.0	0.00	0.46	0.00	57.5
Approach			297	10.4	297	10.4	0.175	4.6	NA	0.0	0.0	0.00	0.46	0.00	57.1
All Vehicles			1463	13.5	1463	13.5	0.607	9.2	NA	9.2	74.1	0.46	0.65	0.67	49.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 503 [503 McPherson St x Coal Pier Rd EX+DEV+10YR AM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: McPherson Street x Coal Pier Road
Existing + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of [Veh.	Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: McPherson Street															
2	T1	All MCs	74	46.6	74	46.6	0.056	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Approach			74	46.6	74	46.6	0.056	0.0	NA	0.0	0.0	0.00	0.00	0.00	50.0
North: Coal Pier Road															
4	L2	All MCs	6	20.0	6	20.0	0.189	5.1	LOS A	0.7	7.0	0.40	0.65	0.40	45.9
6	R2	All MCs	128	59.1	128	59.1	0.189	7.5	LOS A	0.7	7.0	0.40	0.65	0.40	44.8
Approach			134	57.2	134	57.2	0.189	7.4	LOS A	0.7	7.0	0.40	0.65	0.40	44.8
West: McPherson Street															
7	L2	All MCs	179	43.9	179	43.9	0.197	5.0	LOS A	0.0	0.0	0.00	0.36	0.00	46.9
8	T1	All MCs	82	29.7	82	29.7	0.197	0.1	LOS A	0.0	0.0	0.00	0.36	0.00	47.8
Approach			261	39.4	261	39.4	0.197	3.5	NA	0.0	0.0	0.00	0.36	0.00	47.1
All Vehicles			470	45.6	470	45.6	0.197	4.0	NA	0.7	7.0	0.11	0.38	0.11	46.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: 603 [603 Stephen Rd x Swimbourne St EX+DEV+10YR AM (Site Folder: Existing + Development + 10 Year Growth)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Stephen Road x Swimbourne Street
Exisiting + Development AM Peak
7:45am - 8:45am
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Stephen Road															
1	L2	All MCs	33	19.2	33	19.2	0.168	31.0	LOS C	1.1	8.7	0.91	0.71	0.91	41.0
2	T1	All MCs	222	8.7	222	8.7	* 0.842	33.7	LOS C	7.6	57.7	1.00	1.04	1.39	41.2
3	R2	All MCs	8	50.0	8	50.0	0.842	38.9	LOS C	7.6	57.7	1.00	1.05	1.40	35.0
Approach			263	11.2	263	11.2	0.842	33.5	LOS C	7.6	57.7	0.99	1.00	1.33	41.1
East: Swimbourne Street															
4	L2	All MCs	10	37.5	10	37.5	0.019	6.7	LOS A	0.1	1.4	0.54	0.59	0.54	43.3
5	T1	All MCs	9	42.9	9	42.9	0.080	28.6	LOS C	0.3	2.9	0.87	0.64	0.87	38.1
6	R2	All MCs	4	0.0	4	0.0	0.080	36.2	LOS C	0.3	2.9	0.92	0.65	0.92	38.2
Approach			23	33.3	23	33.3	0.080	20.2	LOS B	0.3	2.9	0.73	0.62	0.73	40.2
North: Stephen Road															
7	L2	All MCs	31	0.0	31	0.0	0.197	30.8	LOS C	2.7	20.4	0.69	0.59	0.69	43.5
8	T1	All MCs	252	8.6	252	8.6	* 0.912	39.2	LOS C	20.6	154.2	0.86	0.91	1.13	42.6
9	R2	All MCs	381	8.1	381	8.1	0.912	53.8	LOS D ¹¹	20.6	154.2	1.00	1.16	1.48	39.7
Approach			664	7.9	664	7.9	0.912	47.2	LOS D ¹¹	20.6	154.2	0.93	1.04	1.31	40.9
West: Swimbourne Street															
10	L2	All MCs	799	2.4	799	2.4	0.762	20.6	LOS B	17.5	125.4	0.75	0.84	0.79	45.4
11	T1	All MCs	42	9.1	42	9.1	* 0.520	32.3	LOS C	3.3	24.4	0.97	0.78	0.98	36.8
12	R2	All MCs	69	5.6	69	5.6	0.520	39.0	LOS C	3.3	24.4	0.97	0.78	0.98	40.6
Approach			911	3.0	911	3.0	0.762	22.6	LOS B	17.5	125.4	0.78	0.83	0.82	44.8
All Vehicles			1861	6.3	1861	6.3	0.912	32.9	LOS C	20.6	154.2	0.86	0.92	1.06	42.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay; Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik 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.

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] 						

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

MOVEMENT SUMMARY

Site: 104 [104 Foreshore Rd x Botany Rd x Penrhyn Rd EX+DEV+10YR PM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Foreshore Road x Botany Road x Penrhyn Road
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV]		Arrival Flows [Total HV]		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh.	Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Penrhyn Road															
1	L2	All MCs	71	63.6	71	63.6	0.512	75.7	LOS F ¹¹	5.1	55.0	0.97	0.84	0.97	27.5
2	T1	All MCs	15	39.9	15	39.9	0.042	45.0	LOS D ¹¹	0.8	7.7	0.78	0.57	0.78	19.7
3	R2	All MCs	45	77.1	45	77.1	0.175	53.2	LOS D ¹¹	2.6	30.5	0.82	0.72	0.82	21.0
Approach			130	65.6	130	65.6	0.512	64.5	LOS E ¹¹	5.1	55.0	0.90	0.77	0.90	24.9
East: Botany Road															
4	L2	All MCs	65	90.2	65	90.2	0.074	18.6	LOS B	0.5	5.9	0.15	0.60	0.15	47.0
5	T1	All MCs	1644	10.1	1644	10.1	0.625	33.0	LOS C	30.3	230.2	0.74	0.68	0.74	51.8
6	R2	All MCs	403	15.9	403	15.9	* 1.059	175.6	LOS F ¹¹	45.8	364.1	1.00	1.28	1.66	12.2
Approach			2112	13.7	2112	13.7	1.059	59.8	LOS E ¹¹	45.8	364.1	0.77	0.80	0.90	38.9
North: Botany Road															
7	L2	All MCs	515	8.7	515	8.7	0.295	4.5	LOS A	0.0	0.0	0.00	0.46	0.00	44.4
8	T1	All MCs	18	63.3	18	63.3	0.058	94.0	LOS F ¹¹	1.0	10.5	0.79	0.62	0.79	18.3
9	R2	All MCs	323	23.9	323	23.9	* 1.054	197.2	LOS F ¹¹	35.8	302.0	1.00	1.31	1.67	18.4
Approach			855	15.6	855	15.6	1.054	79.1	LOS F ¹¹	35.8	302.0	0.39	0.79	0.65	25.5
West: Foreshore Road															
10	L2	All MCs	202	35.8	202	35.8	0.262	32.7	LOS C	7.2	66.2	0.57	0.73	0.57	46.4
11	T1	All MCs	933	19.1	933	19.1	* 1.067	154.8	LOS F ¹¹	52.6	428.8	1.00	1.42	1.65	22.5
12	R2	All MCs	46	88.9	46	88.9	0.620	94.7	LOS F ¹¹	3.6	44.3	1.00	0.82	1.09	26.5
Approach			1181	24.7	1181	24.7	1.067	131.6	LOS F ¹¹	52.6	428.8	0.93	1.28	1.44	24.4
All Vehicles			4278	18.7	4278	18.7	1.067	83.6	LOS F ¹¹	52.6	428.8	0.74	0.93	1.00	30.5

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

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] m		Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Penrhyn Road												
P1B	Slip/Bypass	1	1	69.1	LOS F ¹²	0.0	0.0	0.96	0.96	235.8	200.0	0.85
West: Foreshore Road												
P4	Full	1	1	69.1	LOS F ¹²	0.0	0.0	0.96	0.96	235.8	200.0	0.85
All Pedestrians		2	3	69.1	LOS F ¹²	0.0	0.0	0.96	0.96	235.8	200.0	0.85

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.

¹² Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

▼ Site: 204 [204 Botany Rd x Excell St EX+DEV+10YR PM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Excell Street
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back Of [Veh.	Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	798	19.3	798	19.3	0.488	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.6
Approach			798	19.3	798	19.3	0.488	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.6
North: Excell Street															
7	L2	All MCs	524	18.8	524	18.8	0.630	11.2	LOS A	5.3	43.0	0.71	1.06	1.27	36.9
Approach			524	18.8	524	18.8	0.630	11.2	LOS A	5.3	43.0	0.71	1.06	1.27	36.9
West: Botany Road															
11	T1	All MCs	487	9.5	487	9.5	0.274	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			487	9.5	487	9.5	0.274	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			1809	16.5	1809	16.5	0.630	3.3	NA	5.3	43.0	0.21	0.31	0.37	45.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▽ Site: 304 [304 Botany Rd x Hills St EX+DEV+10YR PM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Hills Street
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Botany Road															
5	T1	All MCs	589	10.2	589	10.2	0.333	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
6	R2	All MCs	209	42.3	209	42.3	0.373	13.1	LOS A	1.9	17.7	0.70	0.96	0.93	31.4
Approach			798	18.6	798	18.6	0.373	3.5	NA	1.9	17.7	0.18	0.25	0.24	44.3
West: Botany Road															
10	L2	All MCs	154	10.8	154	10.8	0.364	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	44.2
11	T1	All MCs	482	9.6	482	9.6	0.364	0.1	LOS A	0.0	0.0	0.00	0.13	0.00	48.5
Approach			636	9.9	636	9.9	0.364	1.2	NA	0.0	0.0	0.00	0.13	0.00	47.6
All Vehicles			1434	14.8	1434	14.8	0.373	2.5	NA	1.9	17.7	0.10	0.20	0.14	45.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▽ Site: 404 [404 Botany Rd x Stephen Rd EX+DEV+10YR PM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Botany Road x Stephen Road
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]		Rate		
			veh/h	%	veh/h	%		sec		veh	m				
South: Botany Road															
2	T1	All MCs	130	6.9	130	6.9	0.482	0.8	LOS A	4.1	31.1	0.58	0.72	0.76	47.5
3	R2	All MCs	473	10.3	473	10.3	0.482	8.3	LOS A	4.1	31.1	0.58	0.72	0.76	45.4
Approach			603	9.6	603	9.6	0.482	6.7	NA	4.1	31.1	0.58	0.72	0.76	46.0
East: Stephen Road															
4	L2	All MCs	467	11.0	467	11.0	0.716	11.3	LOS A	11.4	86.4	0.74	0.90	1.39	47.9
6	R2	All MCs	153	6.7	153	6.7	0.716	25.1	LOS B	11.4	86.4	0.74	0.90	1.39	53.4
Approach			620	9.9	620	9.9	0.716	14.8	LOS B	11.4	86.4	0.74	0.90	1.39	49.9
North: Botany Road															
7	L2	All MCs	180	6.4	180	6.4	0.198	5.8	LOS A	0.0	0.0	0.00	0.29	0.00	57.7
8	T1	All MCs	181	2.1	181	2.1	0.198	0.2	LOS A	0.0	0.0	0.00	0.29	0.00	58.4
Approach			360	4.3	360	4.3	0.198	2.9	NA	0.0	0.0	0.00	0.29	0.00	58.0
All Vehicles			1584	8.5	1584	8.5	0.716	9.0	NA	11.4	86.4	0.51	0.69	0.83	50.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 504 [504 McPherson St x Coal Pier Rd EX+DEV+10YR PM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: McPherson Street x Coal Pier Road
Existing + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand	Flows	Arrival	Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]		Rate		
			veh/h	%	veh/h	%		sec		veh	m				
East: McPherson Street															
2	T1	All MCs	142	10.8	142	10.8	0.086	0.0	LOS A	0.0	0.4	0.04	0.04	0.04	49.8
3	R2	All MCs	5	25.0	5	25.0	0.086	8.1	LOS A	0.0	0.4	0.04	0.04	0.04	48.5
Approach			148	11.3	148	11.3	0.086	0.3	NA	0.0	0.4	0.04	0.04	0.04	49.7
North: Coal Pier Road															
4	L2	All MCs	6	20.0	6	20.0	0.254	5.2	LOS A	0.9	7.9	0.43	0.67	0.43	45.9
6	R2	All MCs	198	23.8	198	23.8	0.254	7.1	LOS A	0.9	7.9	0.43	0.67	0.43	45.2
Approach			204	23.7	204	23.7	0.254	7.0	LOS A	0.9	7.9	0.43	0.67	0.43	45.2
West: McPherson Street															
7	L2	All MCs	143	37.7	143	37.7	0.169	4.9	LOS A	0.0	0.0	0.00	0.30	0.00	47.3
8	T1	All MCs	107	12.0	107	12.0	0.169	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	48.3
Approach			249	26.8	249	26.8	0.169	2.8	NA	0.0	0.0	0.00	0.30	0.00	47.7
All Vehicles			601	21.9	601	21.9	0.254	3.6	NA	0.9	7.9	0.16	0.36	0.16	47.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

📍 Site: 604 [604 Stephen Rd x Swimbourne St EX+DEV+10YR PM (Site Folder: Existing + Development + 10 Year Growth)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Stephen Road x Swimbourne Street
Exisiting + Development PM Peak
3:00pm - 4:00pm
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Queue Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Stephen Road															
1	L2	All MCs	45	8.6	45	8.6	0.178	65.9	LOS E ¹¹	3.1	23.1	0.89	0.73	0.89	35.5
2	T1	All MCs	293	1.8	293	1.8	* 0.888	78.1	LOS F ¹¹	22.0	157.9	1.00	1.04	1.21	34.8
3	R2	All MCs	8	50.0	8	50.0	0.888	83.7	LOS F ¹¹	22.0	157.9	1.00	1.05	1.22	26.9
Approach			345	3.7	345	3.7	0.888	76.7	LOS F ¹¹	22.0	157.9	0.98	1.00	1.17	34.8
East: Swimbourne Street															
4	L2	All MCs	4	33.3	4	33.3	0.157	5.5	LOS A	1.5	11.3	0.95	0.69	0.95	29.0
5	T1	All MCs	40	3.2	40	3.2	* 0.676	72.6	LOS F ¹¹	3.1	22.3	0.98	0.75	1.05	27.6
6	R2	All MCs	23	0.0	23	0.0	0.676	88.8	LOS F ¹¹	3.1	22.3	1.00	0.81	1.16	27.4
Approach			67	3.8	67	3.8	0.676	74.3	LOS F ¹¹	3.1	22.3	0.98	0.77	1.08	27.6
North: Stephen Road															
7	L2	All MCs	8	16.7	8	16.7	0.186	38.0	LOS C	3.0	21.5	0.47	0.41	0.47	43.7
8	T1	All MCs	240	2.7	240	2.7	* 0.859	42.3	LOS C	46.8	343.4	0.73	0.70	0.75	43.6
9	R2	All MCs	665	6.2	665	6.2	0.859	52.3	LOS D ¹¹	46.8	343.4	0.88	0.88	0.92	41.4
Approach			913	5.3	913	5.3	0.859	49.6	LOS D ¹¹	46.8	343.4	0.84	0.83	0.87	42.0
West: Swimbourne Street															
10	L2	All MCs	536	1.7	536	1.7	0.426	18.8	LOS B	14.0	99.8	0.43	0.69	0.43	45.9
11	T1	All MCs	1	100.0	1	100.0	0.590	75.7	LOS F ¹¹	2.6	18.5	1.00	0.77	1.09	25.5
12	R2	All MCs	33	0.0	33	0.0	0.590	89.2	LOS F ¹¹	2.6	18.5	1.00	0.77	1.09	31.3
Approach			571	1.8	571	1.8	0.590	23.0	LOS B	14.0	99.8	0.46	0.69	0.47	44.7
All Vehicles			1896	3.9	1896	3.9	0.888	47.4	LOS D ¹¹	46.8	343.4	0.76	0.82	0.81	40.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay; Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik 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.

¹¹ Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped Dist] 						

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.

¹² Level of Service is worse than the Pedestrian Level of Service Target specified in the Parameter Settings dialog.