Borg Panel Manufacturing – Oberon

Response to Request for Further Information (RFI) - Response

Technical Note **Date: 21 September 2016**

Background

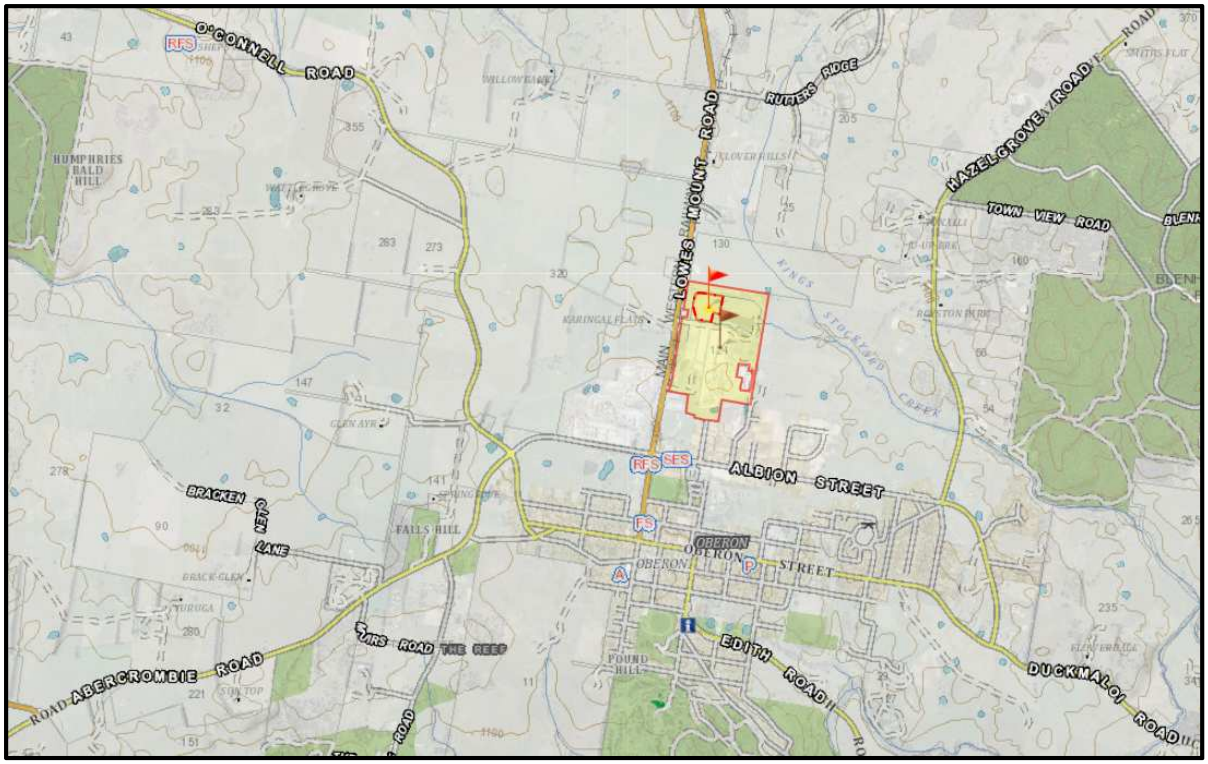
SMEC was commissioned by Borg Panels to carry out a Traffic Impact Assessment (TIA) to support the Environmental Impact Statement (EIS) for the Borg Panels timber panel processing facility expansion in Oberon. A TIA report dated 6 May 2016 was submitted to the Department of Planning as part of the supporting documentation for the DA.

Upon review of the TIA, and following review of public submissions made during the exhibition period, the Department of Planning requested further information to provide clarification in relation to the traffic assessment, stipulating the following:

> *"The Traffic Impact Assessment does not consider the cumulative traffic impacts of nearby industrial developments including Highland Pine Products. A cumulative assessment of traffic impacts should be carried out to include other developments along Lowes Mount Road."*

The site's location is shown in the figure below.

Figure 1: Site Location



Source: Sixmaps

Purpose

The purpose of this Technical Note is to address the Department of Planning's Request for Information (RFI) which was provided in response to a Development Application (DA) submission. This report will provide sufficient information to satisfy the Department of Planning that the cumulative traffic impacts of nearby developments are taken into consideration from a traffic perspective, such that the proposed development will be supported from a traffic perspective.

Comments on Previous Assessment

The previous assessment undertaken involved determining the performance of various intersections within close proximity to the site during peak periods under the following scenarios:

1. Existing Conditions (i.e. 2015 traffic without development);
2. Conditions post development (i.e. 2019 with development); and
3. Future Conditions 10 years post development (i.e. 2029 with development).

In the above scenarios, traffic count data generated for this TIA includes movements of all vehicles moving through the nominated intersections, including traffic generated by Highland Pine Products, Carter Holt Harvey Structaflor and other industry located within the Oberon Industrial precinct. The traffic counts included all existing traffic on the road and was not limited to traffic currently generated by Borg Panel Manufacturing. It was assumed that the background traffic growth in Oberon would be negligible such that there would be no additional traffic in the future with the exception of the proposed development. This is considered a reasonable assumption based on the table below which indicates that there has been practically no population growth over a 10 year period to 2011.

Table 1: Oberon Population Growth

	2001	2006	2011
Resident Population	4,982	5,031	5,012
Increase from previous Census (No.)	-	+49	-19
Increase from previous Census (%)	-	0.98%	-0.38%
Increase over 10 years (No.)	-	-	+30
Increase over 10 years (%)	-	-	**+0.6%**

It is acknowledged that there may be some developments in the future that may result in an increase in population or background traffic growth. However, there are no known significant developments that are currently proposed within close proximity to the site.

The results of the assessment indicate that all significant intersections within close proximity to the site will continue to operate well within their notional capacity during peak periods such that the will continue to operate with a Level of Service (LoS) A. This is ample spare capacity allowing for a substantial traffic growth.

Notwithstanding the above, the new assessment interrogates various traffic increase scenarios, which while conservatively unrealistic, highlight the extent to which traffic would need to grow in order to require upgrades to the surrounding road network.

Methodology

The new assessment interrogates the following 3 scenarios:

Assessment Scenario 1 – 5% annual growth rate to all movements through the intersection to determine the year in which each intersection will fail. The assessment will also provide a comparison of the traffic volumes through the intersection in the year of failure to the current 2015 traffic volumes during each peak period;

This Sidra assessment was undertaken using existing 2015 traffic volumes and applying a 5% annual growth factor to each movement. 2 key performance indicators are used to determine the intersection's capacity, namely the Degree of Saturation (DoS) and the Level of Service (LoS). For the purpose of this assessment, the capacity of an intersection based on the LoS is LoS E. For give-way and roundabouts the LoS for the worst movement is measured while for signalised intersections, the average LoS for all movements is measured. The capacity of an intersection based on the DoS depends on the control type of the intersection as follows:

- Give-Way Intersection: DoS 0.8;
- Roundabout Intersection: DoS 0.85; and
- Signalised Intersection: DoS 0.90.

It should be noted that an intersection can be operating beyond capacity from a LoS perspective while its DoS is within capacity and vice versa. For the purpose of this assessment, each intersection's "failure" point is taken to be whichever is reached first. Given the conservative nature of the assessment, the queuing has not been assessed.

Assessment Scenario 2 - 5% annual growth rate to all movements through the intersection to determine the year in which each intersection's performance transitions from LoS A to LoS B. The assessment will also provide a comparison of the traffic volumes through the intersection in the year where the intersection is performing with LoS B (i.e. an average delay time of 14.5 seconds) to the current 2015 traffic volumes during each peak period; and

Assessment Scenario 3 - 10% annual growth rate to the current 2015 traffic generation for the site to determine the year in which each intersection's performance transitions from LoS A to LoS B. The assessment provides a comparison of the traffic volumes through the intersection in the year where the intersection is performing with LoS B to the current 2015 traffic volumes during each peak period.

The anticipated trip generation distribution has been taken from the previous assessment as detailed in the TIA. The 3 assessments were only undertaken by the intersections in which there is anticipated to be an increase in traffic during peak periods which includes the following intersections:

- The Lowes Mount Road / Albion Street / North Street intersection;
- The O'Connell Road / Albion Street / Abercrombie Road intersection;
- The Albion Street / Horace Street intersection;
- The Albion Street / Endeavour Street intersection; and
- The Albion Street / Duckmaloi Street intersection.

It should be noted that an annual growth rate of 5% is considered to be exceptionally high, noting that a suburban area with significant growth would generally be represented by a 2% annual growth rate. Results for each assessment are provided below.

Assessment Scenario 1 – 5% Annual Growth on All Movements to Capacity

Peak Period	DoS	LoS	Comments
Lowes Mount Rd / Albion St / North St Intersection (Roundabout)			
AM Peak	0.708	B	Capacity not reached in 100 years
PM Peak	**0.847**	**B**	Capacity reached at 78 years
O'Connell Rd / Albion St / Abercrombie Rd Intersection			
AM Peak	0.511	A	Capacity not reached in 100 years
PM Peak	**0.552**	**A**	Capacity not reached in 100 years
Albion St / Horace St Intersection			
AM Peak	0.357	A	Capacity not reached in 100 years
PM Peak	**0.434**	**B**	Capacity not reached in 100 years
Albion St / Endeavour St Intersection			
AM Peak	0.302	B	Capacity not reached in 100 years
PM Peak	**0.436**	**B**	Capacity not reached in 100 years
Albion St / Duckmaloi Rd Intersection			
AM Peak	0.197	A	Capacity not reached in 100 years
PM Peak	**0.231**	**A**	Capacity not reached in 100 years

The results of this assessment indicates that applying a conservatively high annual growth rate of 5% on all movements as observed in the 2015 traffic volumes will not cause any of the intersections assessed to fail for at least 78 years. This demonstrates that all intersections are operating well within their notional capacity with ample spare capacity to accommodate the proposed development with no adverse impact to the road network.

Assessment Scenario 2 – 5% Annual Growth on All Movements to LoS B

Peak Period	DoS	LoS	Comments
Lowes Mount Rd / Albion St / North St Intersection (Roundabout)			
AM Peak	**62.8**	**B**	LoS B reached in 90 years
PM Peak	61.0	B	LoS B reached in 61 years
O'Connell Rd / Albion St / Abercrombie Rd Intersection			
AM Peak	0.511	A	LoS B not reached in 100 years
PM Peak	**0.552**	A	LoS B not reached in 100 years
Albion St / Horace St Intersection			
AM Peak	0.357	A	LoS B not reached in 100 years
PM Peak	**0.383**	**B**	LoS B reached in 86 years
Albion St / Endeavour St Intersection			
AM Peak	0.256	B	LoS B reached in 82 years
PM Peak	**0.342**	**B**	LoS B reached in 74 years
Albion St / Duckmaloi Rd Intersection			
AM Peak	0.197	A	LoS B not reached in 100 years
PM Peak	0.231	A	LoS B not reached in 100 years

The results of Assessment 2 indicate that LoS B will not be reached on any intersection for 61 years, which again indicates the extent of spare capacity on the surrounding road network.

Assessment Scenario 3 – 10% Annual Growth on Trip Generation to LoS B

Peak Period	Year LoS B is Reached	Avg. Delay	DoS	Assumed Trip Gen. through intersection
Lowes Mount Rd / Albion St / North St Intersection				
AM Peak	2051	15.2	0.607	894
PM Peak	2050	15.5	0.626	814
O'Connell Rd / Albion St / Abercrombie Rd Intersection				
AM Peak	2070	13.9	**0.850**	1520
PM Peak	2070	13.8	**0.863**	1520
Albion St / Horace St Intersection				
AM Peak	2055	14.5	0.472	926
PM Peak	2053	14.9	0.414	768
Albion St / Endeavour St Intersection				
AM Peak	**2048**	15.1	0.266	484
PM Peak	2051	15.4	0.357	638
Albion St / Duckmaloi Rd Intersection				
AM Peak	2051	15.6	0.420	638
PM Peak	2052	15.1	0.470	700

Assessment 3 was based on a 10% annual growth rate applied to the anticipated trip generation which is made up solely of heavy vehicles. In this assessment the growth rate was compounded annually.

It is acknowledged that the O'Connell Road / Albion Street / Abercrombie Road intersection does not reach LoS B. However, the intersection is assumed to be at capacity given that it is operating with DoS 0.85.

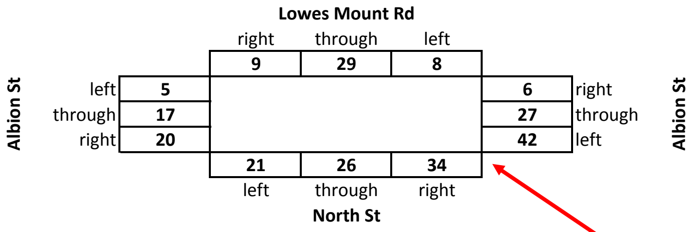
The results of the assessment indicates that based on the conservative trip generation growth rate, the earliest an intersection will reach LoS B (i.e. where one movement at an intersection experiences an average delay of 14.5 seconds) is 2048. This is 33 years after 2015. In addition, the adopted trip generation through each intersection at the point in which LoS B is achieved at each intersection is considered to be extremely high, demonstrating the conservative nature of the intersection as well as the extent to which the traffic generation can grow without any adverse impact on the surrounding road network.

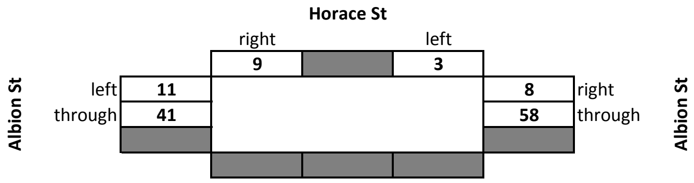
Summary & Recommendation

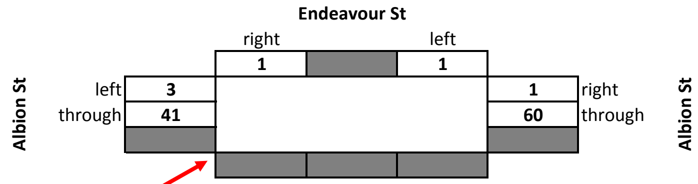
The 3 assessments undertaken all indicate that the key intersections on the surrounding road network consist of ample spare capacity to accommodate a substantial amount of additional traffic. In addition, Assessment 3 indicates that the estimated traffic generation can be exaggeratedly substantially and it will still not result in the need to introduce upgrades to the surrounding road network. As such, it is concluded that the proposed development will not have any significant adverse impact on the surrounding road network.

Attachments – Trip Generation & Distribution Estimates

2015 Morning Peak (Existing Without Development)
(Light Vehicles Only)



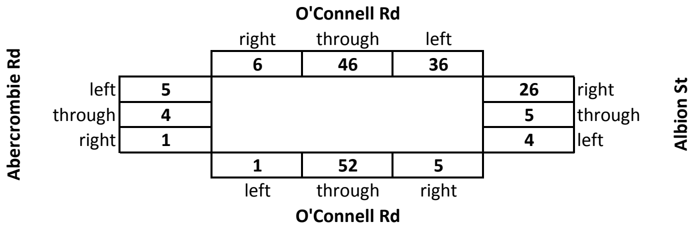


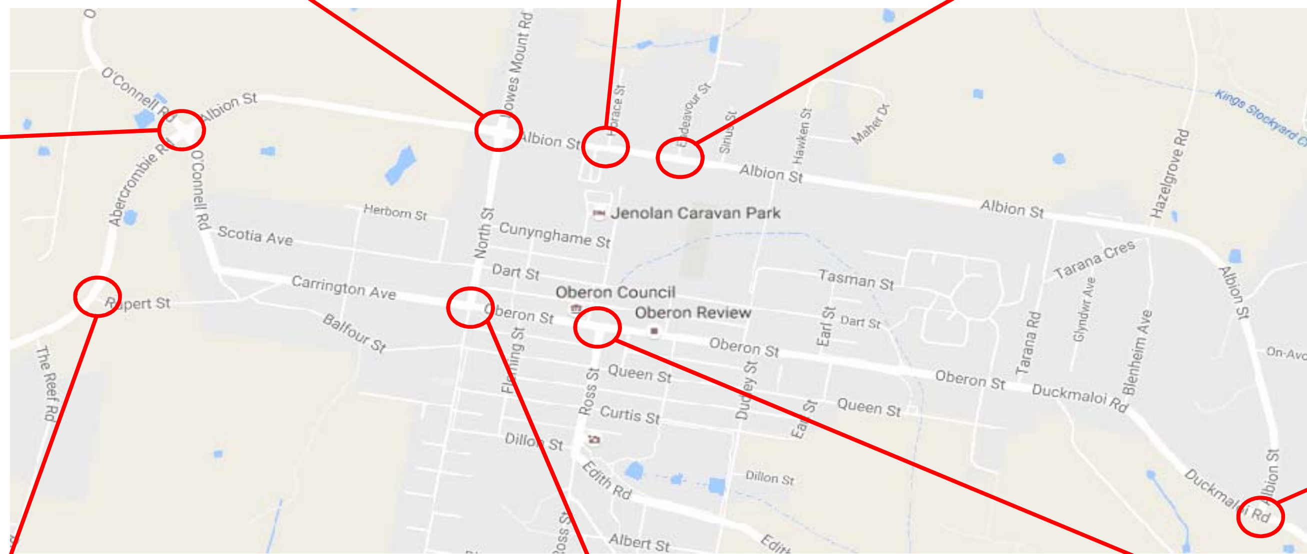


Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			37	46	83
North St south of Albion St			81	91	172
Albion St west of Lowes Mount Rd	42	57			99
Albion St east of Lowes Mount Rd	59	75			134

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			19	12	31
Albion St west of Horace St	52	67			119
Albion St east of Horace St	44	66			110

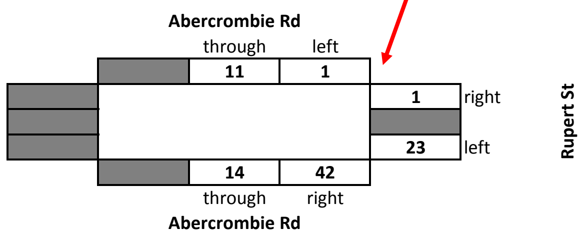
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			4	2	6
Albion St west of Endeavour St	44	61			105
Albion St east of Endeavour St	42	61			103

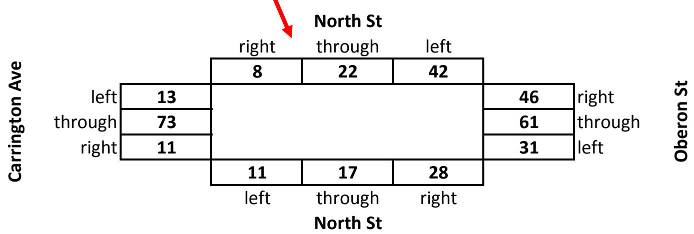


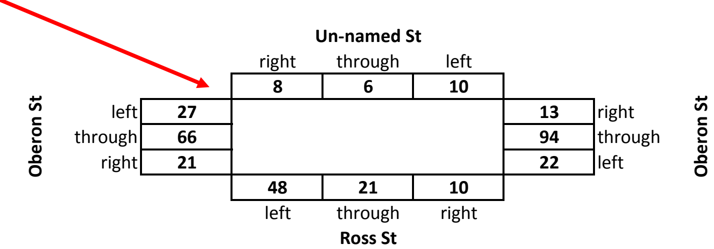


Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			83	88	171
O'Connell Rd south of Abercrombie Rd			58	51	109
Abercrombie Rd west of O'Connell Rd	10	12			22
Albion St east of O'Connell Rd	45	35			80

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			18	11	29
Duckmaloi Rd west of Albion St	25	51			76
Duckmaloi Rd east of Albion St	28	61			89





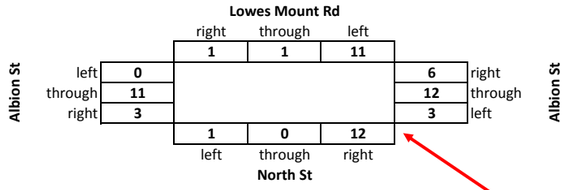


Location	EB	WB	NB	SB	Total
Abercrombie Rd north of Rupert St			15	12	27
Abercrombie Rd south of Rupert St			56	34	90
Rupert St east of Abercrombie Rd	43	24			67

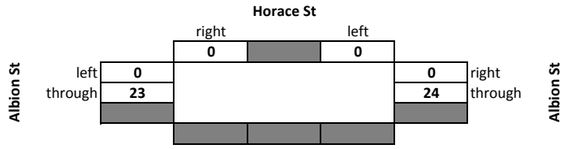
Location	EB	WB	NB	SB	Total
North St north of Carrington Ave			76	72	148
North St south of Carrington Ave			56	64	120
Carrington Ave west of North St	97	80			177
Oberon St east of North St	143	138			281

Location	EB	WB	NB	SB	Total
Un-named St north of Oberon St			61	24	85
Ross St south of Oberon St			79	49	128
Oberon St west of Un-named St	114	150			264
Oberon St east of Un-named St	86	129			215

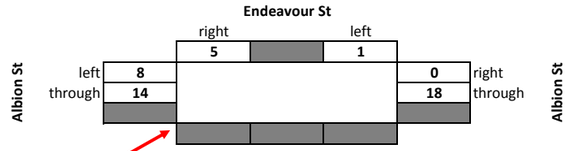
2015 Morning Peak (Existing Without Development)
(Heavy Vehicles Only)



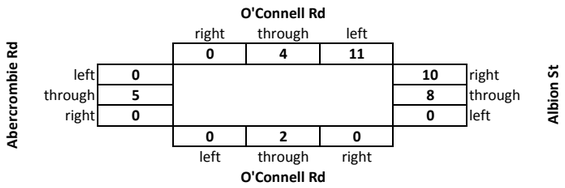
Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			6	13	19
North St south of Albion St			13	7	20
Albion St west of Lowes Mount Rd	14	14			28
Albion St east of Lowes Mount Rd	34	21			55



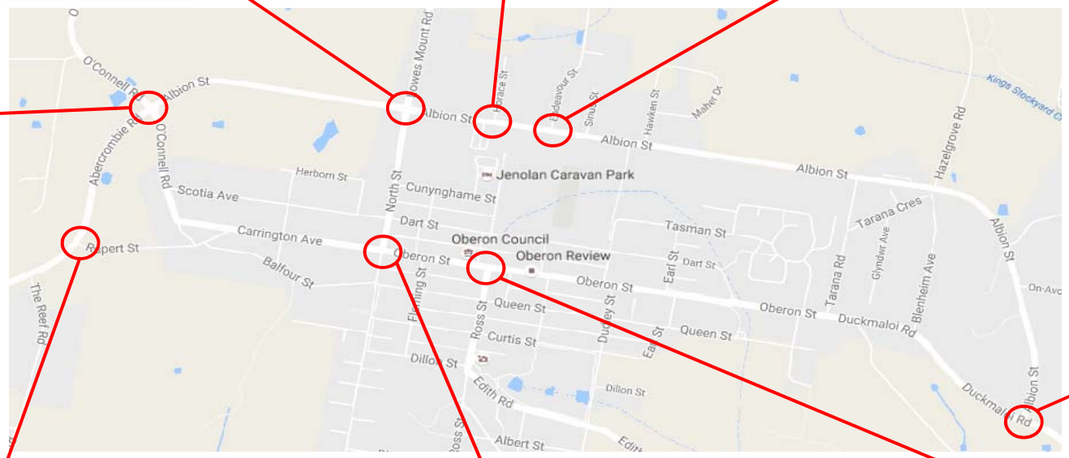
Location	EB	WB	NB	SB	Total
Horace St north of Albion St			0	0	0
Albion St west of Horace St	23	24			47
Albion St east of Horace St	23	24			47



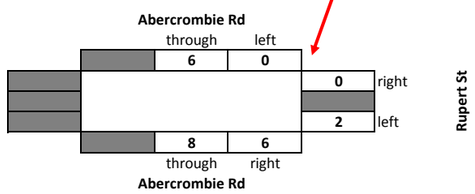
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			8	6	14
Albion St west of Endeavour St	22	23			45
Albion St east of Endeavour St	15	18			33



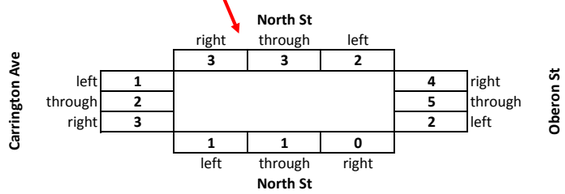
Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			12	15	27
O'Connell Rd south of Abercrombie Rd			2	4	6
Abercrombie Rd west of O'Connell Rd	5	8			13
Albion St east of O'Connell Rd	16	18			34



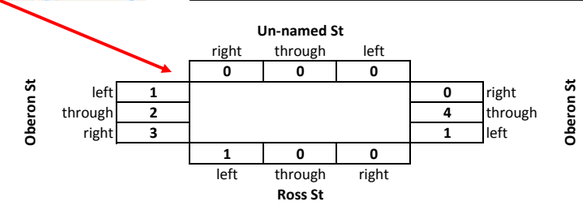
Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			11	10	21
Duckmaloi Rd west of Albion St	0	5			5
Duckmaloi Rd east of Albion St	9	15			24



Location	EB	WB	NB	SB	Total
Abercrombie Rd north of Rupert St			8	6	14
Abercrombie Rd south of Rupert St			14	8	22
Rupert St east of Abercrombie Rd	6	2			8



Location	EB	WB	NB	SB	Total
North St north of Carrington Ave			6	8	14
North St south of Carrington Ave			2	8	10
Carrington Ave west of North St	6	9			15
Oberon St east of North St	4	11			15



Location	EB	WB	NB	SB	Total
Un-named St north of Oberon St			1	0	1
Ross St south of Oberon St			1	4	5
Oberon St west of Un-named St	6	5			11
Oberon St east of Un-named St	2	5			7

2015 Morning Peak (Existing Without Development)
(All Vehicles)

Lowes Mount Rd (north) / **Albion St** (west and east) / **North St** (south)

		right	through	left		
		10	30	19		
left	5				12	right
through	28				39	through
right	23				45	left
		22	26	46		
		left	through	right		

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			43	59	102
North St south of Albion St			94	98	192
Albion St west of Lowes Mount Rd	56	71			127
Albion St east of Lowes Mount Rd	93	96			189

Horace St (north) / **Albion St** (west and east)

		right		left		
		9		3		
left	11				8	right
through	64				82	through

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			19	12	31
Albion St west of Horace St	75	91			166
Albion St east of Horace St	67	90			157

Endeavour St (north) / **Albion St** (west and east)

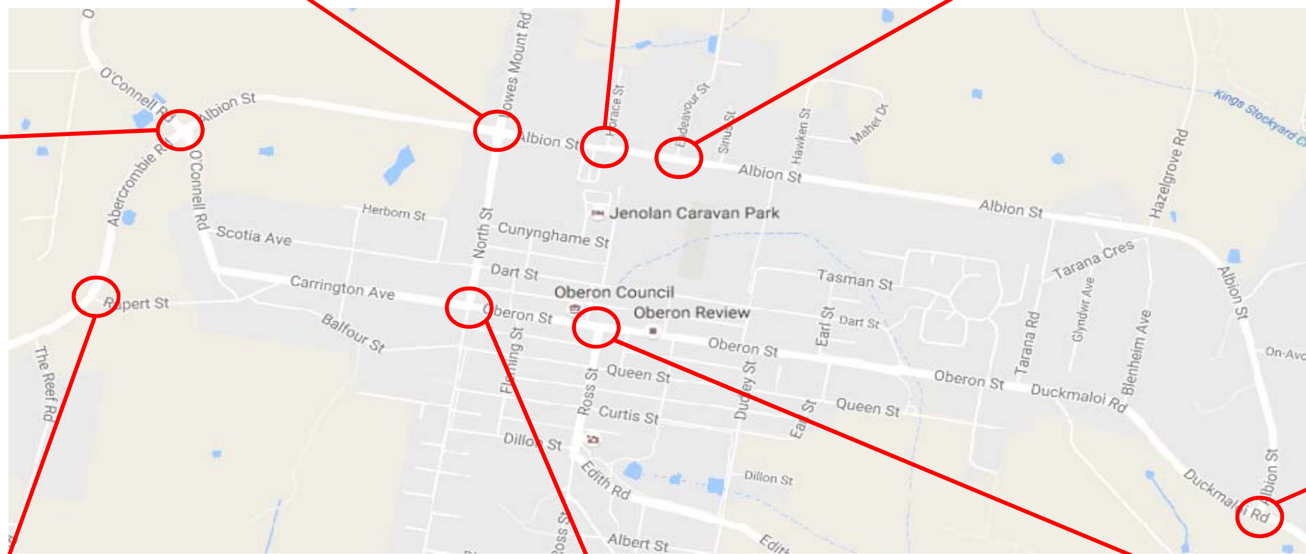
		right		left		
		6		2		
left	11				1	right
through	55				78	through

Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			12	8	20
Albion St west of Endeavour St	66	84			150
Albion St east of Endeavour St	57	79			136

O'Connell Rd (north) / **Abercrombie Rd** (west) / **Albion St** (east) / **O'Connell Rd** (south)

		right	through	left		
		6	50	47		
left	5				36	right
through	9				13	through
right	1				4	left
		1	54	5		
		left	through	right		

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			95	103	198
O'Connell Rd south of Abercrombie Rd			60	55	115
Abercrombie Rd west of O'Connell Rd	15	20			35
Albion St east of O'Connell Rd	61	53			114



Albion St (north) / **Duckmaloi Rd** (west and east)

		right		left		
		6		15		
left	3				26	right
through	22				50	through

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			29	21	50
Duckmaloi Rd west of Albion St	25	56			81
Duckmaloi Rd east of Albion St	37	76			113

Abercrombie Rd (north) / **Rupert St** (east) / **Abercrombie Rd** (south)

			through	left		
			17	1		
					1	right
					25	left
			22	48		
			through	right		

Location	EB	WB	NB	SB	Total
Abercrombie Rd north of Rupert St			23	18	41
Abercrombie Rd south of Rupert St			70	42	112
Rupert St east of Abercrombie Rd	49	26			75

North St (north) / **Carrington Ave** (west) / **Oberon St** (east) / **North St** (south)

		right	through	left		
		11	25	44		
left	14				50	right
through	75				66	through
right	14				33	left
		12	18	28		
		left	through	right		

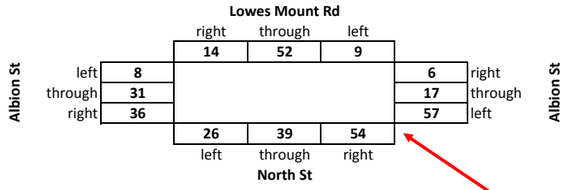
Location	EB	WB	NB	SB	Total
North St north of Carrington Ave			82	80	162
North St south of Carrington Ave			58	72	130
Carrington Ave west of North St	103	89			192
Oberon St east of North St	147	149			296

Un-named St (north) / **Oberon St** (west and east) / **Ross St** (south)

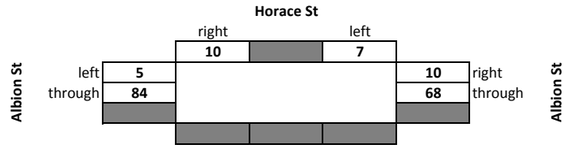
		right	through	left		
		8	6	10		
left	28				13	right
through	68				98	through
right	24				23	left
		49	21	10		
		left	through	right		

Location	EB	WB	NB	SB	Total
Un-named St north of Oberon St			62	24	86
Ross St south of Oberon St			80	53	133
Oberon St west of Un-named St	120	155			275
Oberon St east of Un-named St	88	134			222

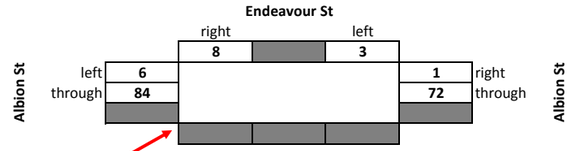
2015 Evening Peak (Existing Without Development)
(Light Vehicles Only)



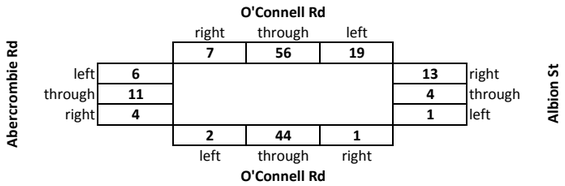
Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			53	75	128
North St south of Albion St			119	145	264
Albion St west of Lowes Mount Rd	75	57			132
Albion St east of Lowes Mount Rd	94	80			174



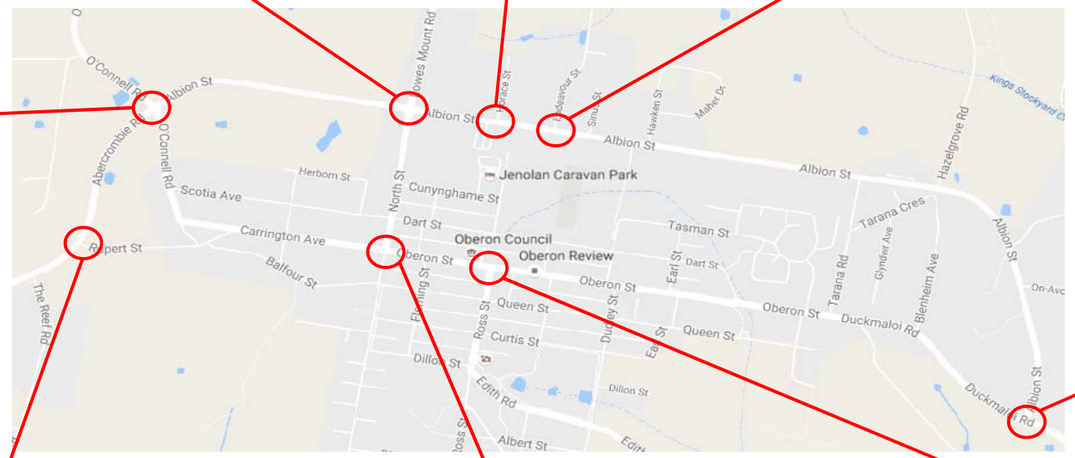
Location	EB	WB	NB	SB	Total
Horace St north of Albion St			15	17	32
Albion St west of Horace St	89	78			167
Albion St east of Horace St	91	78			169



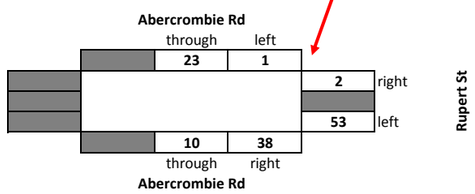
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			7	11	18
Albion St west of Endeavour St	90	80			170
Albion St east of Endeavour St	87	73			160



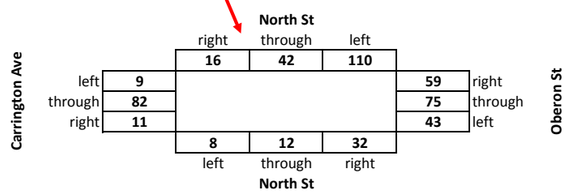
Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			63	82	145
O'Connell Rd south of Abercrombie Rd			47	61	108
Abercrombie Rd west of O'Connell Rd	21	13			34
Albion St east of O'Connell Rd	31	18			49



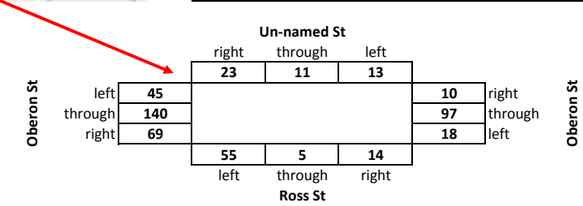
Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			18	22	40
Duckmaloi Rd west of Albion St	49	44			93
Duckmaloi Rd east of Albion St	54	45			99



Location	EB	WB	NB	SB	Total
Abercrombie Rd north of Rupert St			12	24	36
Abercrombie Rd south of Rupert St			48	76	124
Rupert St east of Abercrombie Rd	39	55			94

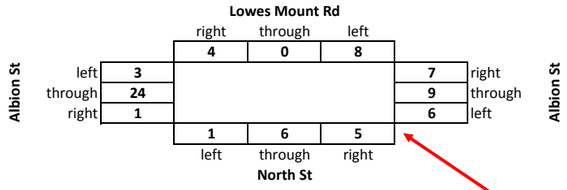


Location	EB	WB	NB	SB	Total
North St north of Carrington Ave			80	168	248
North St south of Carrington Ave			52	96	148
Carrington Ave west of North St	102	99			201
Oberon St east of North St	224	177			401

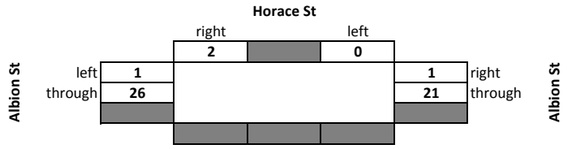


Location	EB	WB	NB	SB	Total
Un-named St north of Oberon St			60	47	107
Ross St south of Oberon St			74	98	172
Oberon St west of Un-named St	254	175			429
Oberon St east of Un-named St	167	125			292

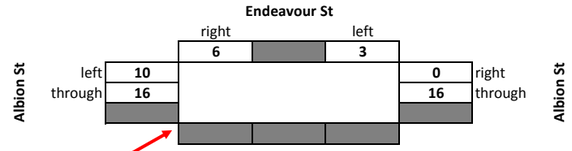
2015 Evening Peak (Existing Without Development)
(Heavy Vehicles Only)



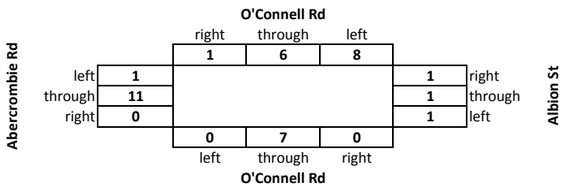
Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			16	12	28
North St south of Albion St			12	7	19
Albion St west of Lowes Mount Rd	28	14			42
Albion St east of Lowes Mount Rd	37	22			59



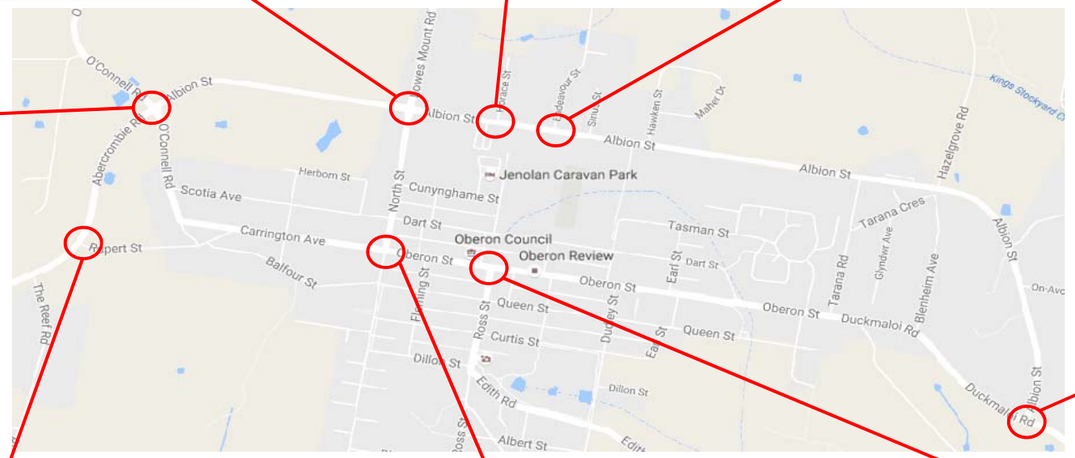
Location	EB	WB	NB	SB	Total
Horace St north of Albion St			2	2	4
Albion St west of Horace St	27	23			50
Albion St east of Horace St	26	22			48

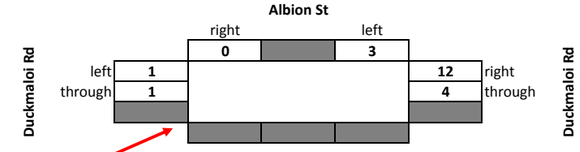


Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			10	9	19
Albion St west of Endeavour St	26	22			48
Albion St east of Endeavour St	19	16			35

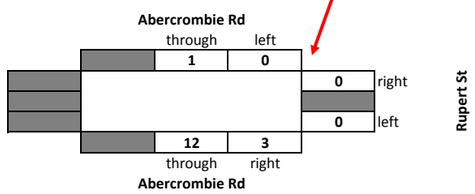


Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			9	15	24
O'Connell Rd south of Abercrombie Rd			7	7	14
Abercrombie Rd west of O'Connell Rd	12	2			14
Albion St east of O'Connell Rd	19	3			22

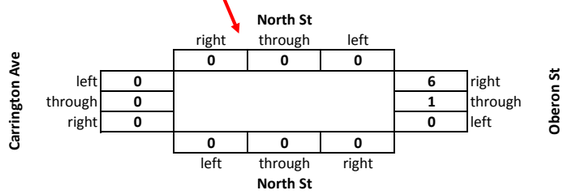




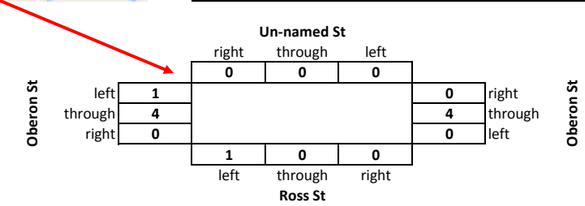
Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			13	3	16
Duckmaloi Rd west of Albion St	2	4			6
Duckmaloi Rd east of Albion St	4	16			20



Location	EB	WB	NB	SB	Total
Abercrombie Rd north of Rupert St			12	1	13
Abercrombie Rd south of Rupert St			15	1	16
Rupert St east of Abercrombie Rd	3	0			3

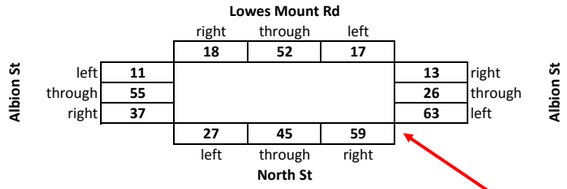


Location	EB	WB	NB	SB	Total
North St north of Carrington Ave			6	0	6
North St south of Carrington Ave			0	0	0
Carrington Ave west of North St	0	1			1
Oberon St east of North St	0	7			7

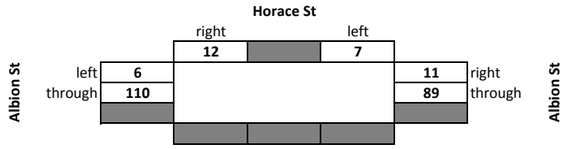


Location	EB	WB	NB	SB	Total
Un-named St north of Oberon St			1	0	1
Ross St south of Oberon St			1	0	1
Oberon St west of Un-named St	5	5			10
Oberon St east of Un-named St	4	4			8

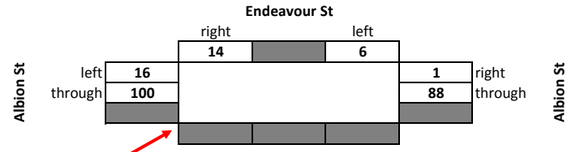
2015 Evening Peak (Existing Without Development)
(All Vehicles)



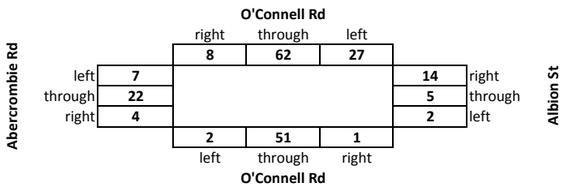
Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			69	87	156
North St south of Albion St			131	152	283
Albion St west of Lowes Mount Rd	103	71			174
Albion St east of Lowes Mount Rd	131	102			233



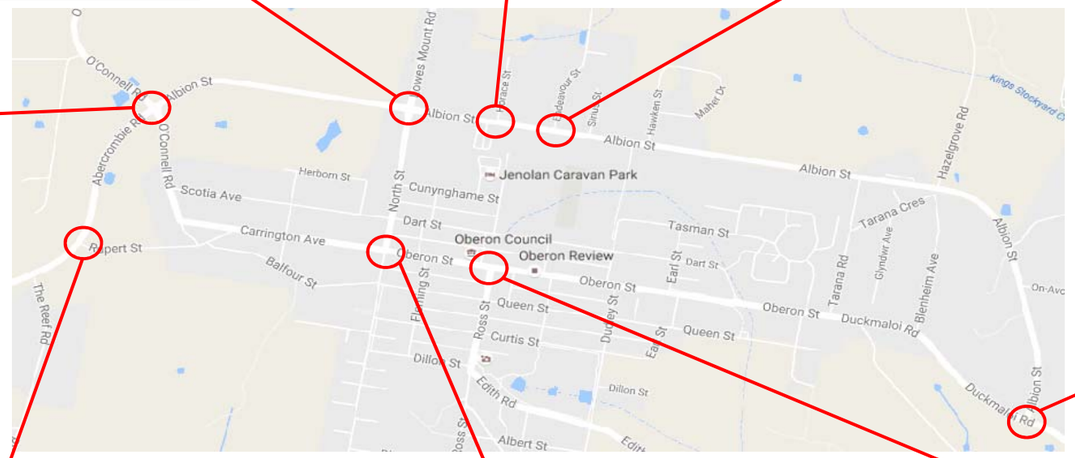
Location	EB	WB	NB	SB	Total
Horace St north of Albion St			17	19	36
Albion St west of Horace St	116	101			217
Albion St east of Horace St	117	100			217



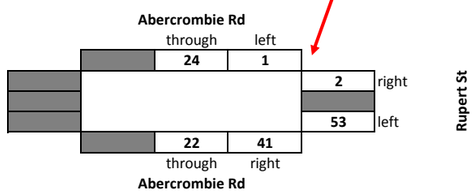
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			17	20	37
Albion St west of Endeavour St	116	102			218
Albion St east of Endeavour St	106	89			195



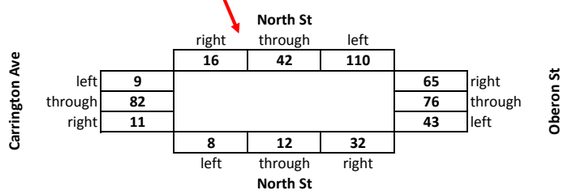
Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			72	97	169
O'Connell Rd south of Abercrombie Rd			54	68	122
Abercrombie Rd west of O'Connell Rd	33	15			48
Albion St east of O'Connell Rd	50	21			71



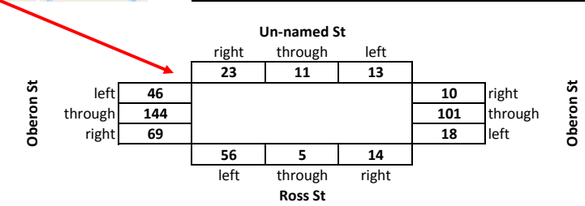
Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			31	25	56
Duckmaloi Rd west of Albion St	51	48			99
Duckmaloi Rd east of Albion St	58	61			119



Location	EB	WB	NB	SB	Total
Abercrombie Rd north of Rupert St			24	25	49
Abercrombie Rd south of Rupert St			63	77	140
Rupert St east of Abercrombie Rd	42	55			97



Location	EB	WB	NB	SB	Total
North St north of Carrington Ave			86	168	254
North St south of Carrington Ave			52	96	148
Carrington Ave west of North St	102	100			202
Oberon St east of North St	224	184			408



Location	EB	WB	NB	SB	Total
Un-named St north of Oberon St			61	47	108
Ross St south of Oberon St			75	98	173
Oberon St west of Un-named St	259	180			439
Oberon St east of Un-named St	171	129			300

2019 AM Peak Anticipated Trip Generation
(Only Heavy Vehicle Trips Generated during peak periods)

Lowes Mount Rd

Albion St	right	through	left	Albion St
	3	0	7	
left	3		7	right
through	0		0	through
right	0		0	left
	0	0	0	
	left	through	right	

North St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			10	10	20
North St south of Albion St			0	0	0
Albion St west of Lowes Mount Rd	3	3			6
Albion St east of Lowes Mount Rd	7	7			14

Horace St

Albion St	right		left	Albion St
	0		0	
left	0		0	right
through	7		7	through

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			0	0	0
Albion St west of Horace St	7	7			14
Albion St east of Horace St	7	7			14

Endeavour St

Albion St	right		left	Albion St
	0		0	
left	0		0	right
through	7		7	through

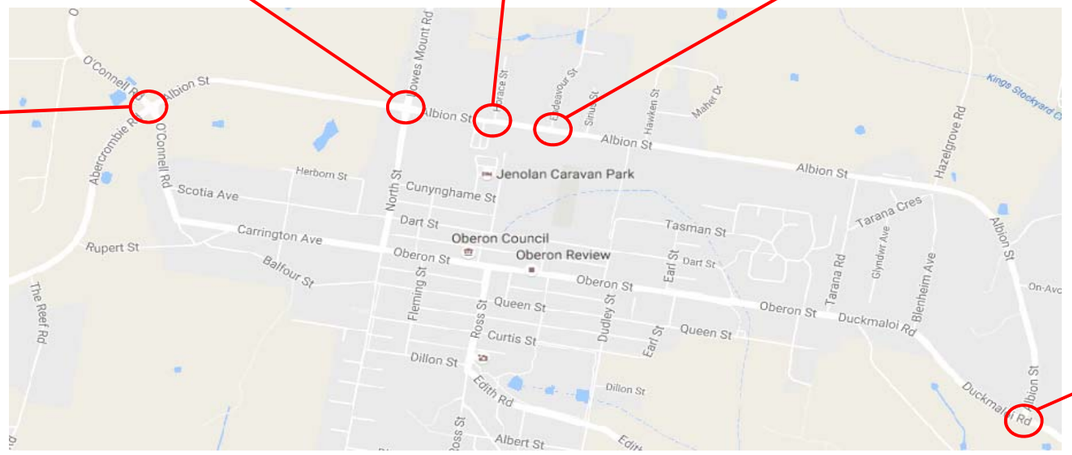
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			0	0	0
Albion St west of Endeavour St	7	7			14
Albion St east of Endeavour St	7	7			14

O'Connell Rd

Abercrombie Rd	right	through	left	Albion St
	0	0	3	
left	0		3	right
through	0		0	through
right	0		0	left
	0	0	0	
	left	through	right	

O'Connell Rd

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			3	3	6
O'Connell Rd south of Abercrombie Rd			0	0	0
Abercrombie Rd west of O'Connell Rd	0	0			0
Albion St east of O'Connell Rd	3	3			6



Albion St

Duckmaloi Rd	right		left	Duckmaloi Rd
	0		7	
left	0		7	right
through	0		0	through

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			7	7	14
Duckmaloi Rd west of Albion St	0	0			0
Duckmaloi Rd east of Albion St	7	7			14

2019 AM Peak Operational (2015 traffic + trip generation)
(All Vehicles)

Lowes Mount Rd

	right	through	left	
	13	30	26	
left	8			19 right
through	28			39 through
right	23			45 left
	22	26	46	
	left	through	right	

Albion St (left) — Albion St (right) — North St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			53	69	122
North St south of Albion St			94	98	192
Albion St west of Lowes Mount Rd	59	74			133
Albion St east of Lowes Mount Rd	100	103			203

Horace St

	right		left
	9		3
left	11		
through	71		
			8 right
			89 through

Albion St (left) — Albion St (right)

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			19	12	31
Albion St west of Horace St	82	98			180
Albion St east of Horace St	74	97			171

Endeavour St

	right		left
	6		2
left	11		
through	62		
			1 right
			85 through

Albion St (left) — Albion St (right)

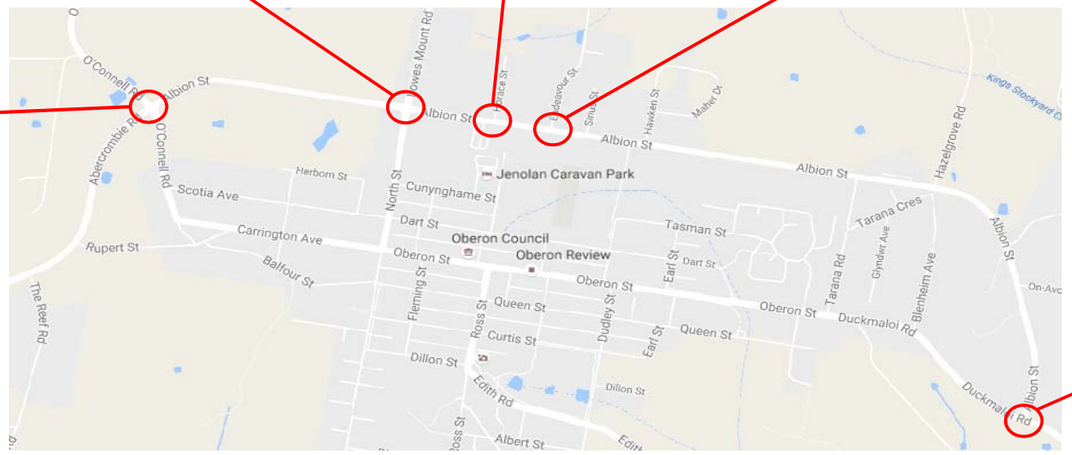
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			12	8	20
Albion St west of Endeavour St	73	91			164
Albion St east of Endeavour St	64	86			150

O'Connell Rd

	right	through	left	
	6	50	50	
left	5			39 right
through	9			13 through
right	1			4 left
	1	54	5	
	left	through	right	

Abercrombie Rd — Albion St — O'Connell Rd

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			98	106	204
O'Connell Rd south of Abercrombie Rd			60	55	115
Abercrombie Rd west of O'Connell Rd	15	20			35
Albion St east of O'Connell Rd	64	56			120



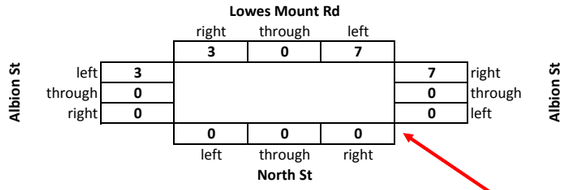
Albion St

	right		left
	6		22
left	3		
through	22		
			33 right
			50 through

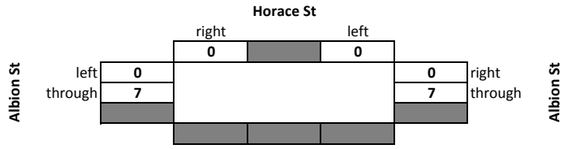
Duckmaloi Rd — Albion St — Duckmaloi Rd

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			36	28	64
Duckmaloi Rd west of Albion St	25	56			81
Duckmaloi Rd east of Albion St	44	83			127

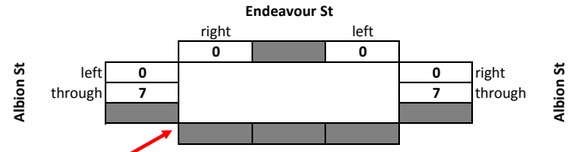
2019 PM Peak Anticipated Trip Generation
(Only Heavy Vehicle Trips Generated during peak periods)



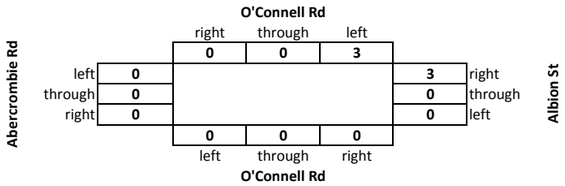
Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			10	10	20
North St south of Albion St			0	0	0
Albion St west of Lowes Mount Rd	3	3			6
Albion St east of Lowes Mount Rd	7	7			14



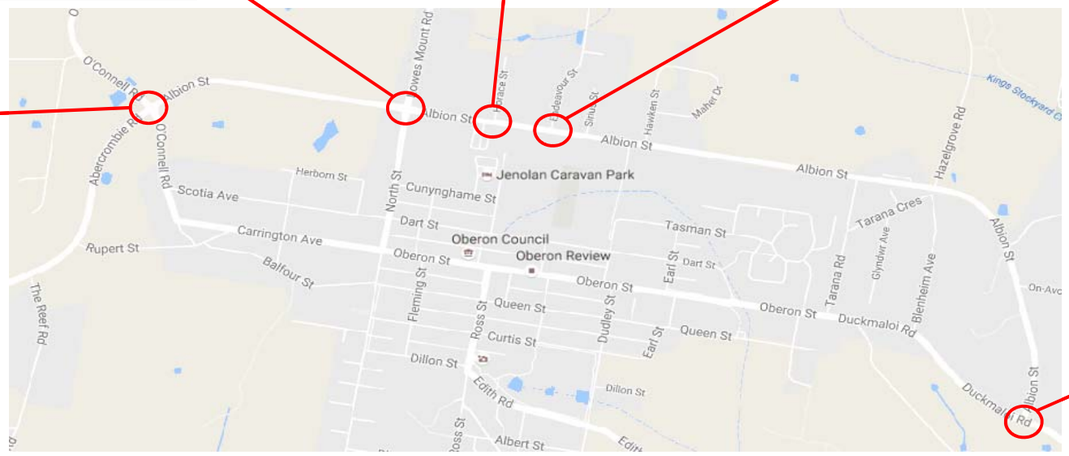
Location	EB	WB	NB	SB	Total
Horace St north of Albion St			0	0	0
Albion St west of Horace St	7	7			14
Albion St east of Horace St	7	7			14



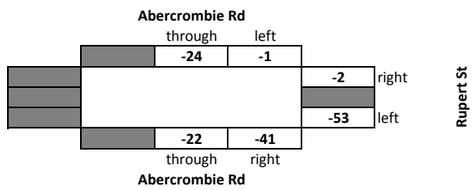
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			0	0	0
Albion St west of Endeavour St	7	7			14
Albion St east of Endeavour St	7	7			14



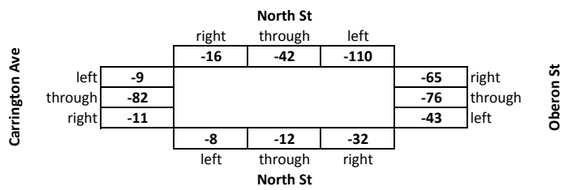
Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			3	3	6
O'Connell Rd south of Abercrombie Rd			0	0	0
Abercrombie Rd west of O'Connell Rd	0	0			0
Albion St east of O'Connell Rd	3	3			6



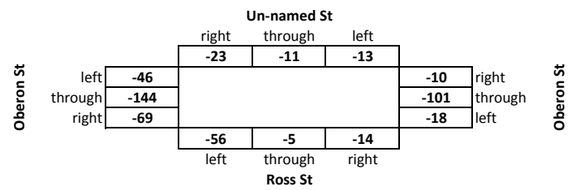
Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			7	7	14
Duckmaloi Rd west of Albion St	0	0			0
Duckmaloi Rd east of Albion St	7	7			14



Location	EB	WB	NB	SB	Total
Abercrombie Rd north of Rupert St			-24	-25	-49
Abercrombie Rd south of Rupert St			-63	-77	-140
Rupert St east of Abercrombie Rd	-42	-55			-97



Location	EB	WB	NB	SB	Total
North St north of Carrington Ave			-86	-168	-254
North St south of Carrington Ave			-52	-96	-148
Carrington Ave west of North St	-102	-100			-202
Oberon St east of North St	-224	-184			-408



Location	EB	WB	NB	SB	Total
Un-named St north of Oberon St			-61	-47	-108
Ross St south of Oberon St			-75	-98	-173
Oberon St west of Un-named St	-259	-180			-439
Oberon St east of Un-named St	-171	-129			-300

2019 PM Peak Operational (2015 traffic + trip generation)
(All Vehicles)

Lowes Mount Rd

Approach	right	through	left
Lowes Mount Rd (north)	21	52	24
North St (south)	59	45	27

Approach	left	through	right
Albion St (west)	14	55	37
Albion St (east)	63	26	20

North St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			79	97	176
North St south of Albion St			131	152	283
Albion St west of Lowes Mount Rd	106	74			180
Albion St east of Lowes Mount Rd	138	109			247

Horace St

Approach	right	left
Horace St (north)	12	7

Approach	left	through	right
Albion St (west)	6	117	
Albion St (east)		96	11

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			17	19	36
Albion St west of Horace St	123	108			231
Albion St east of Horace St	124	107			231

Endeavour St

Approach	right	left
Endeavour St (north)	14	6

Approach	left	through	right
Albion St (west)	16	107	
Albion St (east)		95	1

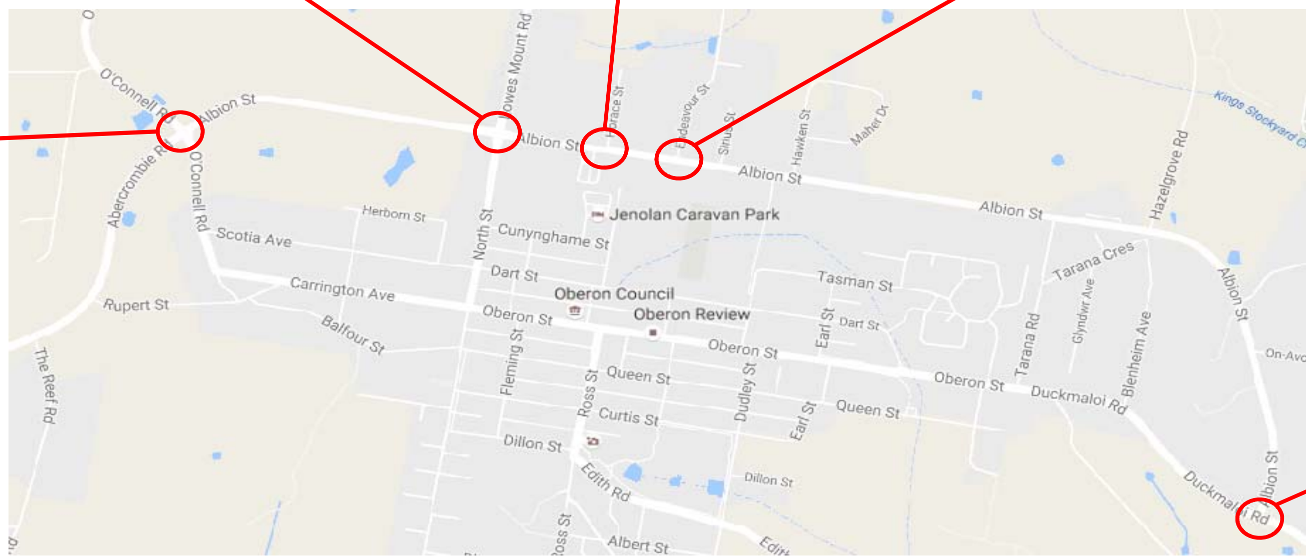
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			17	20	37
Albion St west of Endeavour St	123	109			232
Albion St east of Endeavour St	113	96			209

O'Connell Rd

Approach	right	through	left
O'Connell Rd (north)	8	62	30
O'Connell Rd (south)	1	51	2

Approach	left	through	right
Abercrombie Rd (west)	7	22	4
Albion St (east)	2	5	17

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			75	100	175
O'Connell Rd south of Abercrombie Rd			54	68	122
Abercrombie Rd west of O'Connell Rd	33	15			48
Albion St east of O'Connell Rd	53	24			77



Albion St

Approach	right	left
Albion St (north)	9	23

Approach	left	through	right
Duckmaloi Rd (west)	9	42	
Duckmaloi Rd (east)		39	29

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			38	32	70
Duckmaloi Rd west of Albion St	51	48			99
Duckmaloi Rd east of Albion St	65	68			133

2029 AM Peak Anticipated Trip Generation
(Only Heavy Vehicle Trips Generated during peak periods)

Lowes Mount Rd

	right	through	left	
	4	0	10	
left	4			10 right
through	0			0 through
right	0			0 left
	0	0	0	
	left	through	right	

Albion St (left) — Albion St (right) — North St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			14	14	28
North St south of Albion St			0	0	0
Albion St west of Lowes Mount Rd	4	4			8
Albion St east of Lowes Mount Rd	10	10			20

Horace St

	right		left
	0	0	0
left	0		0 right
through	10		10 through

Albion St (left) — Albion St (right)

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			0	0	0
Albion St west of Horace St	10	10			20
Albion St east of Horace St	10	10			20

Endeavour St

	right		left
	0	0	0
left	0		0 right
through	10		10 through

Albion St (left) — Albion St (right)

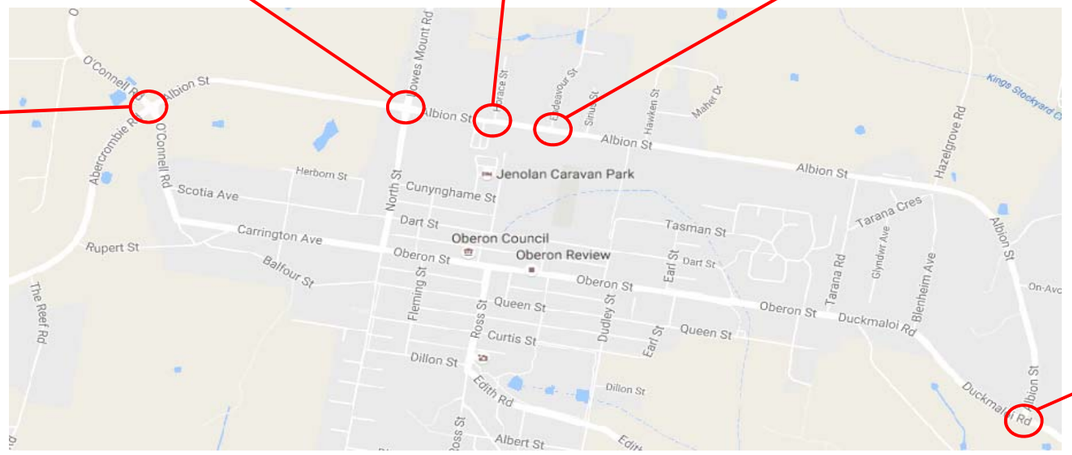
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			0	0	0
Albion St west of Endeavour St	10	10			20
Albion St east of Endeavour St	10	10			20

O'Connell Rd

	right	through	left	
	0	0	4	
left	0			4 right
through	0			0 through
right	0			0 left
	0	0	0	
	left	through	right	

Abercrombie Rd (left) — Albion St (right) — O'Connell Rd

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			4	4	8
O'Connell Rd south of Abercrombie Rd			0	0	0
Abercrombie Rd west of O'Connell Rd	0	0			0
Albion St east of O'Connell Rd	4	4			8



Albion St

	right		left
	0	0	10
left	0		10 right
through	0		0 through

Duckmaloi Rd (left) — Duckmaloi Rd (right)

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			10	10	20
Duckmaloi Rd west of Albion St	0	0			0
Duckmaloi Rd east of Albion St	10	10			20

2029 AM Peak Operational (2015 traffic + trip generation)
(All Vehicles)

Lowes Mount Rd

	right	through	left	
	14	30	29	
left	9			22 right
through	28			39 through
right	23			45 left
	22	26	46	
	left	through	right	

Albion St (left) — Albion St (right) — North St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			57	73	130
North St south of Albion St			94	98	192
Albion St west of Lowes Mount Rd	60	75			135
Albion St east of Lowes Mount Rd	103	106			209

Horace St

	right		left
	9		3
left	11		8 right
through	74		92 through

Albion St (left) — Albion St (right)

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			19	12	31
Albion St west of Horace St	85	101			186
Albion St east of Horace St	77	100			177

Endeavour St

	right		left
	6		2
left	11		1 right
through	65		88 through

Albion St (left) — Albion St (right)

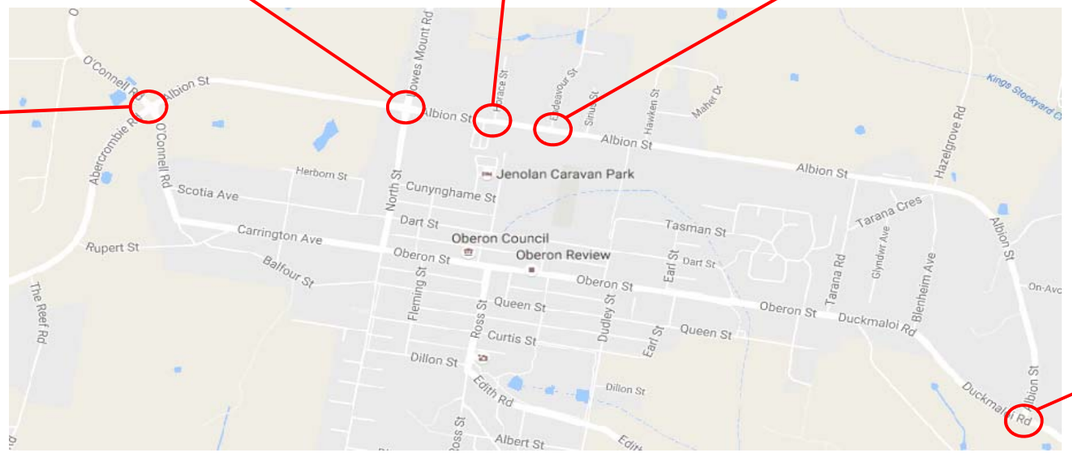
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			12	8	20
Albion St west of Endeavour St	76	94			170
Albion St east of Endeavour St	67	89			156

O'Connell Rd

	right	through	left	
	6	50	51	
left	5			40 right
through	9			13 through
right	1			4 left
	1	54	5	
	left	through	right	

Abercrombie Rd — Albion St — O'Connell Rd

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			99	107	206
O'Connell Rd south of Abercrombie Rd			60	55	115
Abercrombie Rd west of O'Connell Rd	15	20			35
Albion St east of O'Connell Rd	65	57			122



Albion St

	right		left
	6		25
left	3		36 right
through	22		50 through

Duckmaloi Rd (left) — Duckmaloi Rd (right)

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			39	31	70
Duckmaloi Rd west of Albion St	25	56			81
Duckmaloi Rd east of Albion St	47	86			133

2029 PM Peak Anticipated Trip Generation
(Only Heavy Vehicle Trips Generated during peak periods)

Lowes Mount Rd

	right	through	left	
	4	0	10	
left	4			10 right
through	0			0 through
right	0			0 left
	0	0	0	
	left	through	right	

Albion St (left) — Albion St (right) — North St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			14	14	28
North St south of Albion St			0	0	0
Albion St west of Lowes Mount Rd	4	4			8
Albion St east of Lowes Mount Rd	10	10			20

Horace St

	right		left
	0	0	0
left	0		0 right
through	10		10 through

Albion St (left) — Albion St (right)

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			0	0	0
Albion St west of Horace St	10	10			20
Albion St east of Horace St	10	10			20

Endeavour St

	right		left
	0	0	0
left	0		0 right
through	10		10 through

Albion St (left) — Albion St (right)

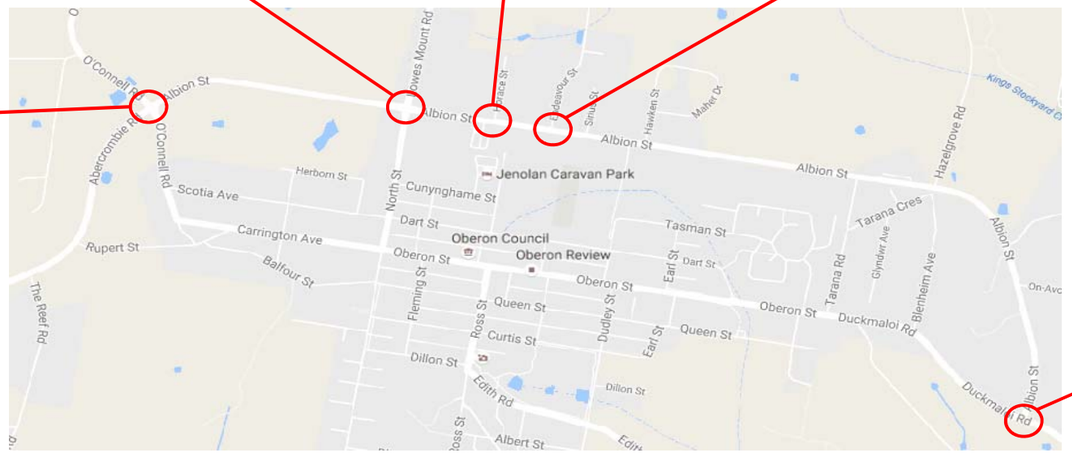
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			0	0	0
Albion St west of Endeavour St	10	10			20
Albion St east of Endeavour St	10	10			20

O'Connell Rd

	right	through	left	
	0	0	4	
left	0			4 right
through	0			0 through
right	0			0 left
	0	0	0	
	left	through	right	

Abercrombie Rd (left) — Albion St (right) — O'Connell Rd

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			4	4	8
O'Connell Rd south of Abercrombie Rd			0	0	0
Abercrombie Rd west of O'Connell Rd	0	0			0
Albion St east of O'Connell Rd	4	4			8



Albion St

	right		left
	0	0	10
left	0		10 right
through	0		0 through

Duckmaloi Rd (left) — Duckmaloi Rd (right)

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			10	10	20
Duckmaloi Rd west of Albion St	0	0			0
Duckmaloi Rd east of Albion St	10	10			20

2029 PM Peak Operational (2015 traffic + trip generation)
(All Vehicles)

Lowes Mount Rd

Albion St		right	through	left	
		22	52	27	
left	15				23 right
through	55				26 through
right	37				63 left
		27	45	59	
		left	through	right	

North St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			83	101	184
North St south of Albion St			131	152	283
Albion St west of Lowes Mount Rd	107	75			182
Albion St east of Lowes Mount Rd	141	112			253

Horace St

Albion St		right		left	
		12		7	
left	6				11 right
through	120				99 through

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			17	19	36
Albion St west of Horace St	126	111			237
Albion St east of Horace St	127	110			237

Endeavour St

Albion St		right		left	
		14		6	
left	16				1 right
through	110				98 through

Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			17	20	37
Albion St west of Endeavour St	126	112			238
Albion St east of Endeavour St	116	99			215

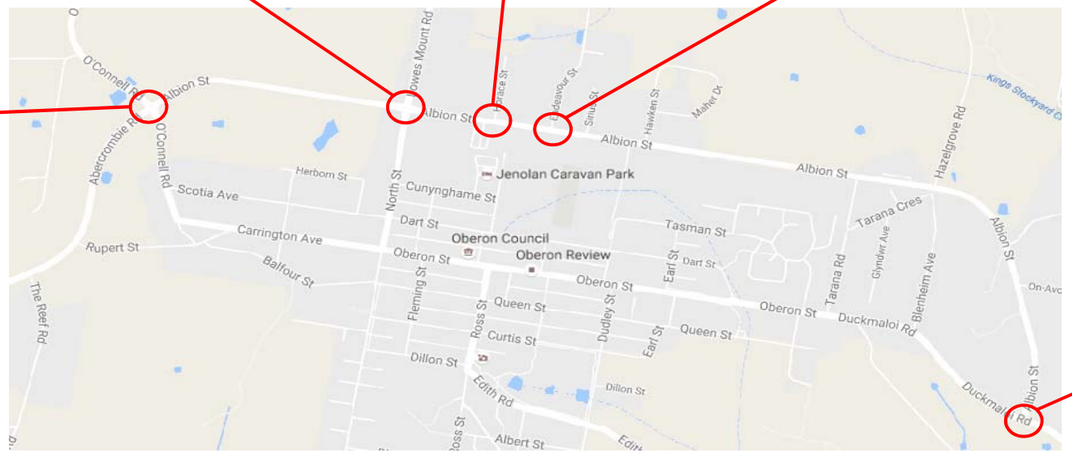
O'Connell Rd

Abercrombie Rd		right	through	left	
		8	62	31	
left	7				18 right
through	22				5 through
right	4				2 left
		2	51	1	
		left	through	right	

O'Connell Rd

Albion St

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			76	101	177
O'Connell Rd south of Abercrombie Rd			54	68	122
Abercrombie Rd west of O'Connell Rd	33	15			48
Albion St east of O'Connell Rd	54	25			79



Albion St

Duckmaloi Rd		right		left	
		9		26	
left	9				32 right
through	42				39 through

Duckmaloi Rd

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			41	35	76
Duckmaloi Rd west of Albion St	51	48			99
Duckmaloi Rd east of Albion St	68	71			139

Assessment 1 (AM Peak)

Year and traffic volumes in which each intersection reaches its limit based on Level of Service (LoS) or Degree of Saturation (DoS) (whichever reached first) assuming an annual growth rate of 5% on all movements applied to 2015 traffic volumes.

Lowes Mount Rd

		right	through	left		
		63	189	120		
left	32	Year:		2115	76	right
through	177	Avg. Delay:		16.2	246	through
right	145	DoS:		0.708	284	left
		139	164	291		
		left	through	right		

Albion St (left) — Albion St (right) — North St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			272	372	644
North St south of Albion St			594	618	1212
Albion St west of Lowes Mount Rd	354	448			802
Albion St east of Lowes Mount Rd	588	606			1194

Horace St

		right		left		
		57		19		
left	69	Year:		2115	51	right
through	404	Avg. Delay:		10.9	518	through
		DoS:		0.357		

Albion St (left) — Albion St (right)

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			120	76	196
Albion St west of Horace St	473	575			1048
Albion St east of Horace St	423	569			992

Endeavour St

		right		left		
		38		13		
left	69	Year:		2115	6	right
through	347	Avg. Delay:		17.1	493	through
		DoS:		0.302		

Albion St (left) — Albion St (right)

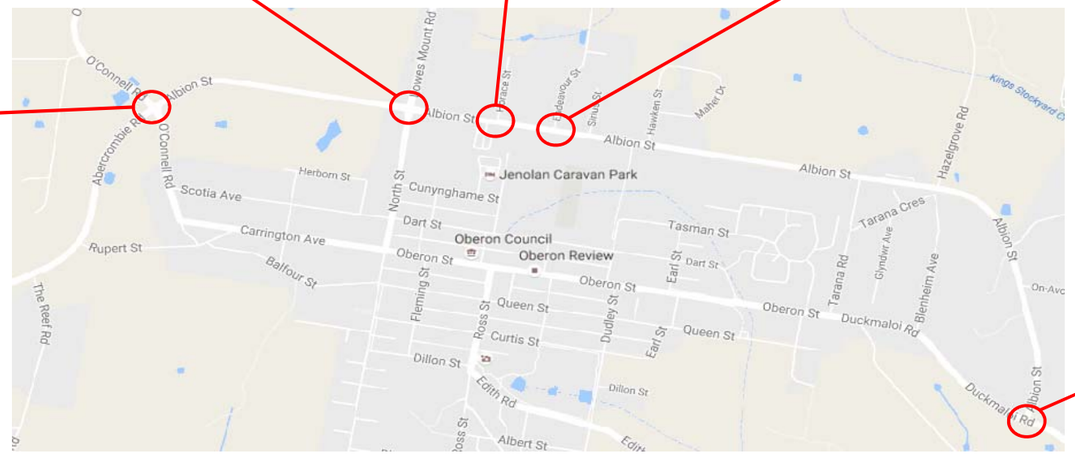
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			75	51	126
Albion St west of Endeavour St	416	531			947
Albion St east of Endeavour St	360	499			859

O'Connell Rd

		right	through	left		
		38	316	297		
left	32	Year:		2115	227	right
through	57	Avg. Delay:		11.6	82	through
right	6	DoS:		0.511	25	left
		6	341	32		
		left	through	right		

Abercrombie Rd (left) — Albion St (right) — O'Connell Rd

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			600	651	1251
O'Connell Rd south of Abercrombie Rd			379	347	726
Abercrombie Rd west of O'Connell Rd	95	126			221
Albion St east of O'Connell Rd	386	334			720



Albion St

		right		left		
		38		95		
left	19	Year:		2115	164	right
through	139	Avg. Delay:		12.9	316	through
		DoS:		0.197		

Duckmaloi Rd (left) — Duckmaloi Rd (right)

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			183	133	316
Duckmaloi Rd west of Albion St	158	354			512
Duckmaloi Rd east of Albion St	234	480			714

Assessment 1 (PM Peak)

Year and traffic volumes in which each intersection reaches its limit based on Level of Service (LoS) or Degree of Saturation (DoS) (whichever reached first) assuming an annual growth rate of 5% on all movements applied to 2015 traffic volumes.

Lowes Mount Rd

		right	through	left		
		93	268	88		
Albion St	left	57	Year:	2093	67	right
	through	284	Avg. Delay:	20.7	134	through
	right	191	DoS:	0.847	325	left
		139	232	304		
		left	through	right		

North St — Albion St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			356	449	805
North St south of Albion St			675	784	1459
Albion St west of Lowes Mount Rd	532	366			898
Albion St east of Lowes Mount Rd	676	526			1202

Horace St

		right		left		
		76		44		
Albion St	left	38	Year:	2115	69	right
	through	695	Avg. Delay:	17.5	562	through
			DoS:	0.434		

Albion St

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			107	120	227
Albion St west of Horace St	733	638			1371
Albion St east of Horace St	739	631			1370

Endeavour St

		right		left		
		88		38		
Albion St	left	101	Year:	2115	6	right
	through	632	Avg. Delay:	21.1	556	through
			DoS:	0.436		

Albion St

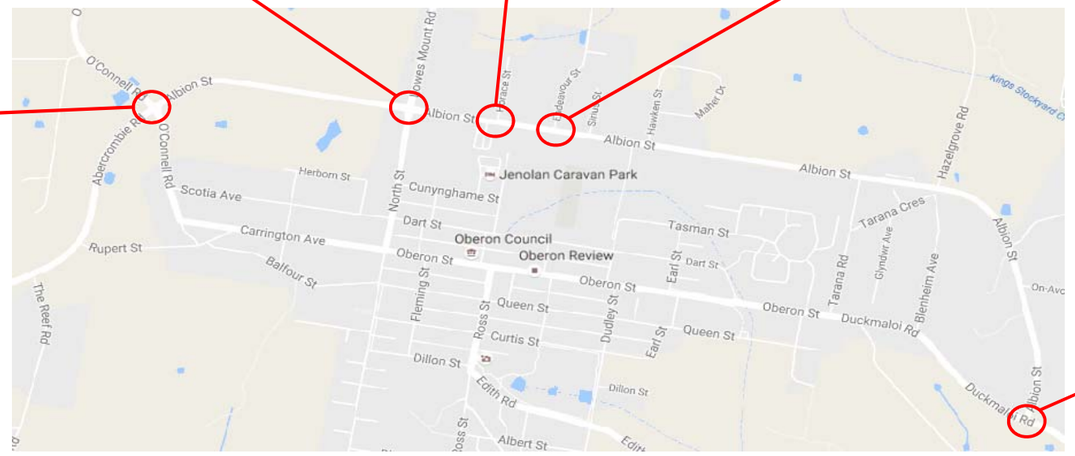
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			107	126	233
Albion St west of Endeavour St	733	644			1377
Albion St east of Endeavour St	670	562			1232

O'Connell Rd

		right	through	left		
		51	392	171		
Abercrombie Rd	left	44	Year:	2115	88	right
	through	139	Avg. Delay:	10.8	32	through
	right	25	DoS:	0.552	13	left
		13	322	6		
		left	through	right		

O'Connell Rd — Albion St

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			454	614	1068
O'Connell Rd south of Abercrombie Rd			341	430	771
Abercrombie Rd west of O'Connell Rd	208	96			304
Albion St east of O'Connell Rd	316	133			449



Albion St

		right		left		
Duckmaloi Rd	left		Year:	N/A		right
	through		Avg. Delay:	N/A		through
			DoS:	N/A		

Duckmaloi Rd

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			0	0	0
Duckmaloi Rd west of Albion St	0	0			0
Duckmaloi Rd east of Albion St	0	0			0

Assessment 2 (AM Peak)

Year and traffic volumes in which each intersection reaches Level of Service (LoS) B assuming an annual growth rate of 5% on all movements.

Lowes Mount Rd

Albion St		right	through	left	
		58	174	110	
left	29	Year:	2105	69	right
through	162	Avg. Delay:	14.5	226	through
right	133	DoS:	0.628	261	left
		127	151	266	
		left	through	right	

North St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			249	342	591
North St south of Albion St			544	568	1112
Albion St west of Lowes Mount Rd	324	411			735
Albion St east of Lowes Mount Rd	538	556			1094

Horace St

Albion St		right		left	
left		Year:	N/A		right
through		Avg. Delay:	N/A		through
		DoS:	N/A		

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			0	0	0
Albion St west of Horace St	0	0			0
Albion St east of Horace St	0	0			0

Endeavour St

Albion St		right		left	
		32		11	
left	59	Year:	2097	5	right
through	295	Avg. Delay:	14.5	419	through
		DoS:	0.256		

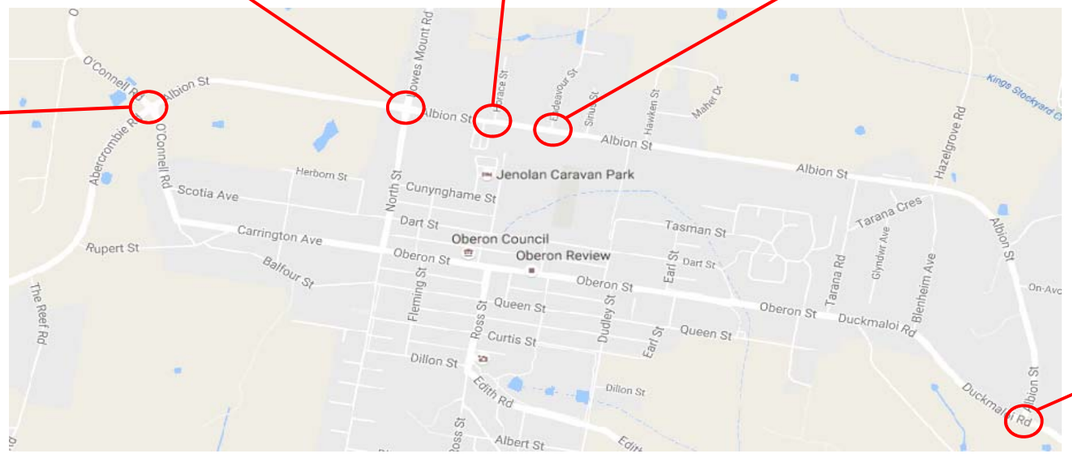
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			64	43	107
Albion St west of Endeavour St	354	451			805
Albion St east of Endeavour St	306	424			730

O'Connell Rd

Abercrombie Rd		right	through	left	
		38	316	297	
left	32	Year:	2115	227	right
through	57	Avg. Delay:	11.6	82	through
right	6	DoS:	0.511	25	left
		6	341	32	
		left	through	right	

O'Connell Rd

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			600	651	1251
O'Connell Rd south of Abercrombie Rd			379	347	726
Abercrombie Rd west of O'Connell Rd	95	126			221
Albion St east of O'Connell Rd	386	334			720



Albion St

Duckmaloi Rd		right		left	
left					right
through		Year:	N/A		through
		Avg. Delay:	N/A		
		DoS:	N/A		

Duckmaloi Rd

Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			0	0	0
Duckmaloi Rd west of Albion St	0	0			0
Duckmaloi Rd east of Albion St	0	0			0

Assessment 2 (PM Peak)

Year and traffic volumes in which each intersection reaches Level of Service (LoS) B assuming an annual growth rate of 5% on all movements.

Lowes Mount Rd

Albion St		right	through	left		Albion St
		158	234	72		
left	47	Year:	2076	55	right	
through	234	Avg. Delay:	14.6	111	through	
right	158	DoS:	0.61	269	left	
		115	192	252		
		left	through	right		

North St

Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			294	464	758
North St south of Albion St			559	661	1220
Albion St west of Lowes Mount Rd	439	384			823
Albion St east of Lowes Mount Rd	558	435			993

Horace St

Albion St		right		left		Albion St
		67		39		
left	33	Year:	2101	61	right	
through	614	Avg. Delay:	14.6	497	through	
		DoS:	0.383			

Location	EB	WB	NB	SB	Total
Horace St north of Albion St			94	106	200
Albion St west of Horace St	647	564			1211
Albion St east of Horace St	653	558			1211

Endeavour St

Albion St		right		left		Albion St
		69		30		
left	79	Year:	2089	5	right	
through	495	Avg. Delay:	14.6	435	through	
		DoS:	0.342			

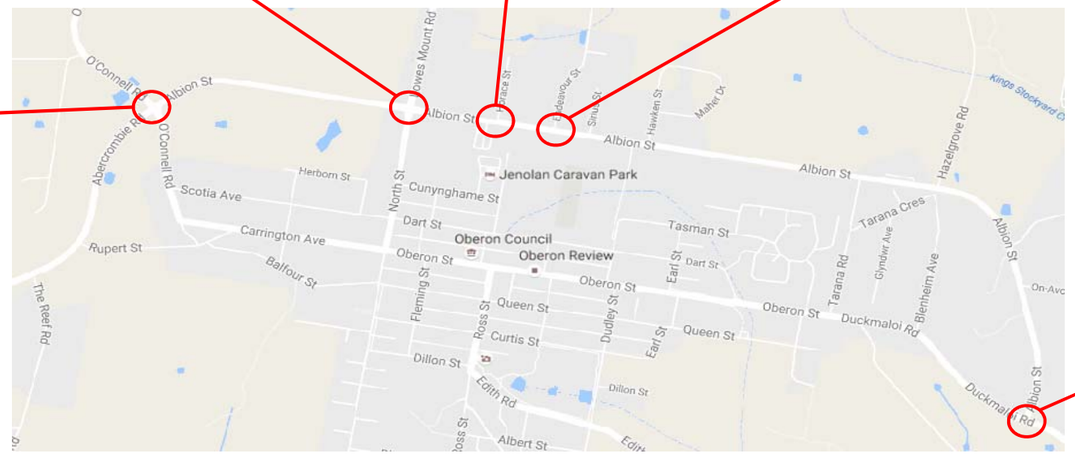
Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			84	99	183
Albion St west of Endeavour St	574	504			1078
Albion St east of Endeavour St	525	440			965

O'Connell Rd

Abercrombie Rd		right	through	left		Albion St
left		Year:		N/A	right	
through		Avg. Delay:		N/A	through	
right		DoS:		N/A	left	
		left	through	right		

O'Connell Rd

Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			0	0	0
O'Connell Rd south of Abercrombie Rd			0	0	0
Abercrombie Rd west of O'Connell Rd	0	0			0
Albion St east of O'Connell Rd	0	0			0



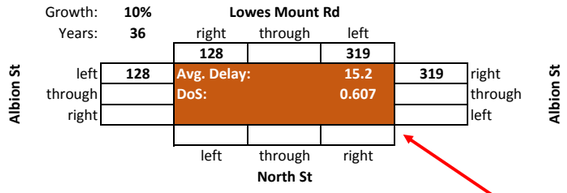
Albion St

Duckmaloi Rd		right		left		Duckmaloi Rd
		57		101		
left	57	Year:	2115	139	right	
through	265	Avg. Delay:	12.3	246	through	
		DoS:	0.231			

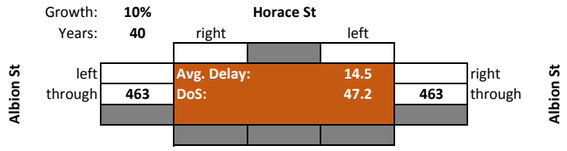
Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			196	158	354
Duckmaloi Rd west of Albion St	322	303			625
Duckmaloi Rd east of Albion St	366	385			751

Assessment 3 (AM Peak)

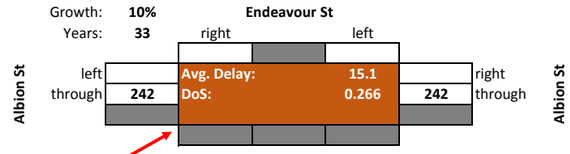
Year and trip generation in which each intersection reaches Level of Service (LoS) B assuming an annual growth rate of 10% applied only to the existing 2015 traffic generation.



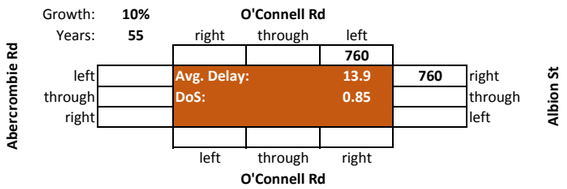
Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			447	447	894
North St south of Albion St			0	0	0
Albion St west of Lowes Mount Rd	128	128			256
Albion St east of Lowes Mount Rd	319	319			638



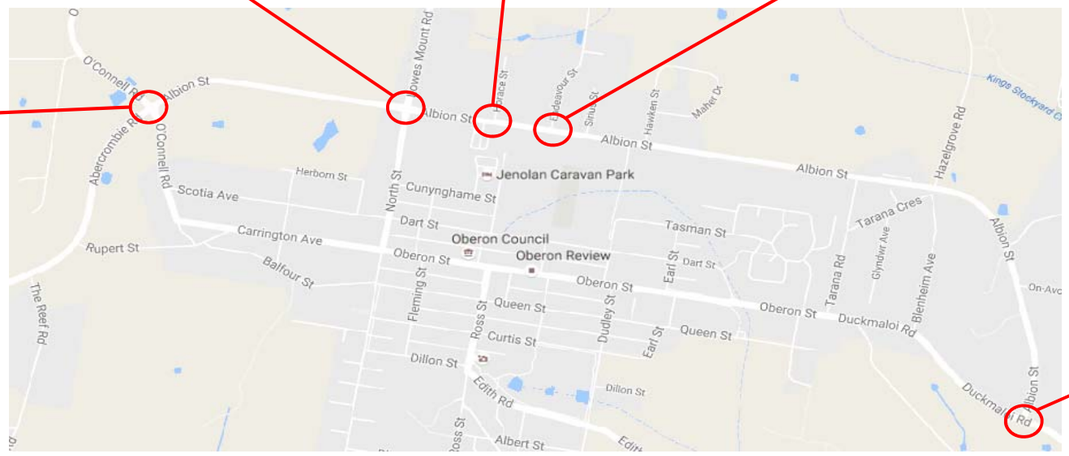
Location	EB	WB	NB	SB	Total
Horace St north of Albion St			0	0	0
Albion St west of Horace St	463	463			926
Albion St east of Horace St	463	463			926

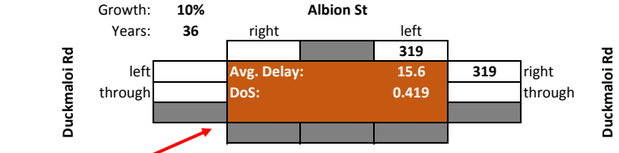


Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			0	0	0
Albion St west of Endeavour St	242	242			484
Albion St east of Endeavour St	242	242			484



Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			760	760	1520
O'Connell Rd south of Abercrombie Rd			0	0	0
Abercrombie Rd west of O'Connell Rd	0	0			0
Albion St east of O'Connell Rd	760	760			1520

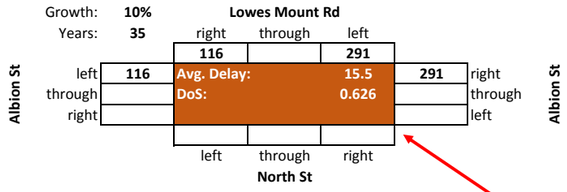




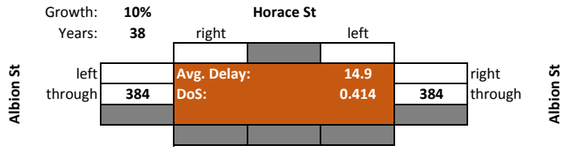
Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			319	319	638
Duckmaloi Rd west of Albion St	0	0			0
Duckmaloi Rd east of Albion St	319	319			638

Assessment 3 (PM Peak)

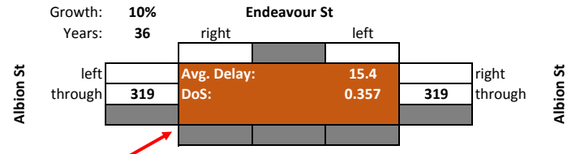
Year and trip generation in which each intersection reaches Level of Service (LoS) B assuming an annual growth rate of 10% applied only to the existing 2015 traffic generation.



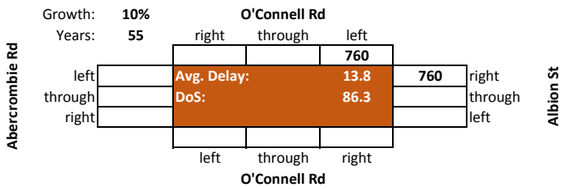
Location	EB	WB	NB	SB	Total
Lowes Mount Rd north of Albion St			407	407	814
North St south of Albion St			0	0	0
Albion St west of Lowes Mount Rd	116	116			232
Albion St east of Lowes Mount Rd	291	291			582



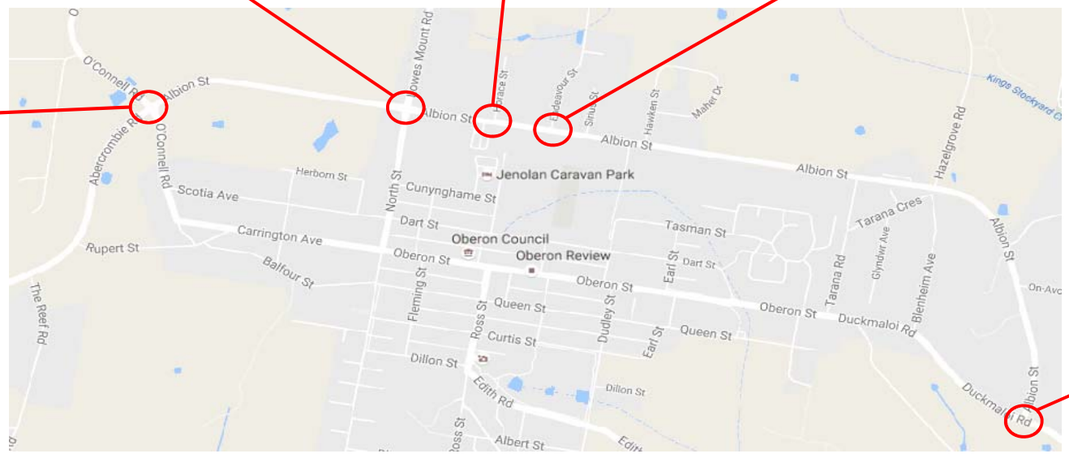
Location	EB	WB	NB	SB	Total
Horace St north of Albion St			0	0	0
Albion St west of Horace St	384	384			768
Albion St east of Horace St	384	384			768

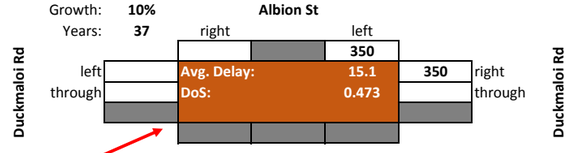


Location	EB	WB	NB	SB	Total
Endeavour St north of Albion St			0	0	0
Albion St west of Endeavour St	319	319			638
Albion St east of Endeavour St	319	319			638



Location	EB	WB	NB	SB	Total
O'Connell Rd north of Abercrombie Rd			760	760	1520
O'Connell Rd south of Abercrombie Rd			0	0	0
Abercrombie Rd west of O'Connell Rd	0	0			0
Albion St east of O'Connell Rd	760	760			1520



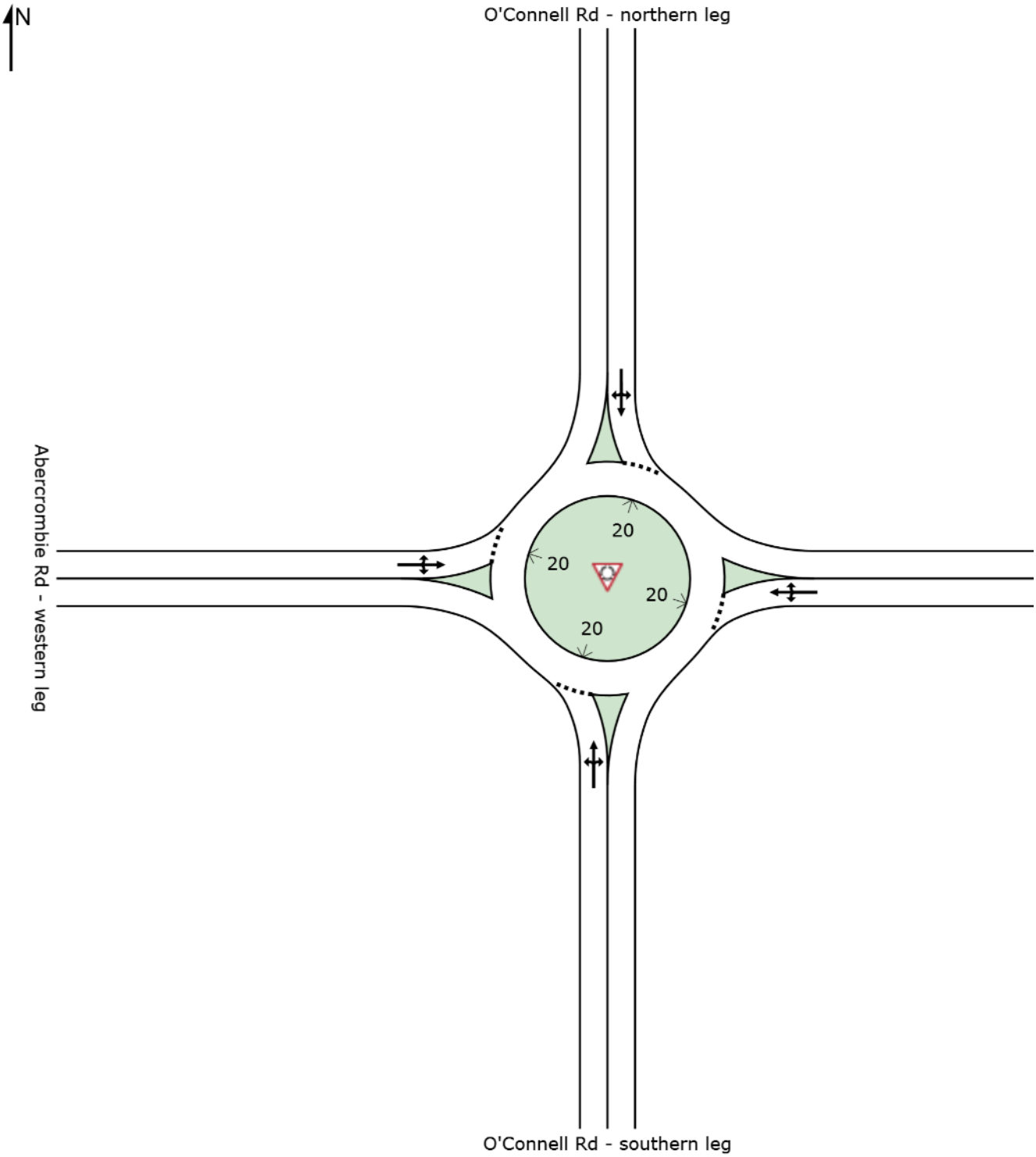


Location	EB	WB	NB	SB	Total
Albion St north of Duckmaloi Rd			350	350	700
Duckmaloi Rd west of Albion St	0	0			0
Duckmaloi Rd east of Albion St	350	350			700

SITE LAYOUT

Site: 1 [Site 2: O'Connell Rd - Abercrombie Rd - Albion St (AM) Peak - Existing]

Site 2: O'Connell Rd - Abercrombie Rd - Albion St (AM) Peak - Existing
Roundabout



Project: \\AUSYFP01\Group\projects\30011699 – Borg Panel Oberon TIA\SIDRA\Models\20160416\160905 FR\Site 2 - O'Connell Rd - Abercrombie Rd - Albion St FR.sip7

MOVEMENT SUMMARY

Site: 1 [Site 2: O'Connell Rd - Abercrombie Rd - Albion St (AM) Peak - Existing]

Site 2: O'Connell Rd - Abercrombie Rd - Albion St (AM) Peak - Existing
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: O'Connell Rd - southern leg											
1	L2	1	0.0	0.049	4.1	LOS A	0.2	1.6	0.20	0.43	54.3
2	T1	57	3.7	0.049	4.4	LOS A	0.2	1.6	0.20	0.43	55.6
3	R2	5	0.0	0.049	9.0	LOS A	0.2	1.6	0.20	0.43	55.6
Approach		63	3.3	0.049	4.8	LOS A	0.2	1.6	0.20	0.43	55.6
East: Albion St - eastern leg											
4	L2	4	0.0	0.050	4.1	LOS A	0.2	2.1	0.20	0.55	52.3
5	T1	14	61.5	0.050	5.0	LOS A	0.2	2.1	0.20	0.55	52.2
6	R2	38	27.8	0.050	9.4	LOS A	0.2	2.1	0.20	0.55	52.5
Approach		56	34.0	0.050	7.9	LOS A	0.2	2.1	0.20	0.55	52.4
North: O'Connell Rd - northern leg											
7	L2	49	23.4	0.077	4.2	LOS A	0.4	3.0	0.10	0.44	54.2
8	T1	53	8.0	0.077	4.2	LOS A	0.4	3.0	0.10	0.44	56.1
9	R2	6	0.0	0.077	8.8	LOS A	0.4	3.0	0.10	0.44	56.3
Approach		108	14.6	0.077	4.5	LOS A	0.4	3.0	0.10	0.44	55.2
West: Abercrombie Rd - western leg											
10	L2	5	0.0	0.015	4.3	LOS A	0.1	0.6	0.26	0.44	54.2
11	T1	9	55.6	0.015	5.2	LOS A	0.1	0.6	0.26	0.44	54.2
12	R2	1	0.0	0.015	9.1	LOS A	0.1	0.6	0.26	0.44	55.5
Approach		16	33.3	0.015	5.1	LOS A	0.1	0.6	0.26	0.44	54.3
All Vehicles		243	17.3	0.077	5.4	LOS A	0.4	3.0	0.16	0.46	54.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 2: O'Connell Rd - Abercrombie Rd - Albion St (AM) Peak - Existing A1]

Site 2: O'Connell Rd - Abercrombie Rd - Albion St (AM) Peak - Assessment 1
Roundabout
Design Life Analysis (Practical Capacity): Results for 100 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: O'Connell Rd - southern leg											
1	L2	6	0.0	0.398	5.9	LOS A	2.3	16.7	0.65	0.64	52.4
2	T1	341	3.7	0.398	6.2	LOS A	2.3	16.7	0.65	0.64	53.5
3	R2	32	0.0	0.398	10.7	LOS A	2.3	16.7	0.65	0.64	53.6
Approach		379	3.3	0.398	6.6	LOS A	2.3	16.7	0.65	0.64	53.5
East: Albion St - eastern leg											
4	L2	25	0.0	0.411	5.8	LOS A	2.3	21.0	0.65	0.79	50.9
5	T1	82	61.5	0.411	8.0	LOS A	2.3	21.0	0.65	0.79	50.7
6	R2	227	27.8	0.411	11.6	LOS A	2.3	21.0	0.65	0.79	51.0
Approach		335	34.0	0.411	10.2	LOS A	2.3	21.0	0.65	0.79	50.9
North: O'Connell Rd - northern leg											
7	L2	297	23.4	0.511	5.0	LOS A	4.4	34.4	0.47	0.51	52.8
8	T1	316	8.0	0.511	4.9	LOS A	4.4	34.4	0.47	0.51	54.6
9	R2	38	0.0	0.511	9.4	LOS A	4.4	34.4	0.47	0.51	54.7
Approach		651	14.6	0.511	5.2	LOS A	4.4	34.4	0.47	0.51	53.7
West: Abercrombie Rd - western leg											
10	L2	32	0.0	0.145	6.1	LOS A	0.6	5.4	0.62	0.75	52.5
11	T1	57	55.6	0.145	8.5	LOS A	0.6	5.4	0.62	0.75	52.5
12	R2	6	0.0	0.145	11.0	LOS A	0.6	5.4	0.62	0.75	53.7
Approach		95	33.3	0.145	7.9	LOS A	0.6	5.4	0.62	0.75	52.6
All Vehicles		1459	17.3	0.511	6.9	LOS A	4.4	34.4	0.57	0.62	52.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 2: O'Connell Rd - Abercrombie Rd - Albion St (AM) Peak - Existing A2]

Site 2: O'Connell Rd - Abercrombie Rd - Albion St (AM) Peak - Assessment 2
Roundabout
Design Life Analysis (Level of Service Target (Worst Lane)): Results for 100 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: O'Connell Rd - southern leg											
1	L2	6	0.0	0.398	5.9	LOS A	2.3	16.7	0.65	0.64	52.4
2	T1	341	3.7	0.398	6.2	LOS A	2.3	16.7	0.65	0.64	53.5
3	R2	32	0.0	0.398	10.7	LOS A	2.3	16.7	0.65	0.64	53.6
Approach		379	3.3	0.398	6.6	LOS A	2.3	16.7	0.65	0.64	53.5
East: Albion St - eastern leg											
4	L2	25	0.0	0.411	5.8	LOS A	2.3	21.0	0.65	0.79	50.9
5	T1	82	61.5	0.411	8.0	LOS A	2.3	21.0	0.65	0.79	50.7
6	R2	227	27.8	0.411	11.6	LOS A	2.3	21.0	0.65	0.79	51.0
Approach		335	34.0	0.411	10.2	LOS A	2.3	21.0	0.65	0.79	50.9
North: O'Connell Rd - northern leg											
7	L2	297	23.4	0.511	5.0	LOS A	4.4	34.4	0.47	0.51	52.8
8	T1	316	8.0	0.511	4.9	LOS A	4.4	34.4	0.47	0.51	54.6
9	R2	38	0.0	0.511	9.4	LOS A	4.4	34.4	0.47	0.51	54.7
Approach		651	14.6	0.511	5.2	LOS A	4.4	34.4	0.47	0.51	53.7
West: Abercrombie Rd - western leg											
10	L2	32	0.0	0.145	6.1	LOS A	0.6	5.4	0.62	0.75	52.5
11	T1	57	55.6	0.145	8.5	LOS A	0.6	5.4	0.62	0.75	52.5
12	R2	6	0.0	0.145	11.0	LOS A	0.6	5.4	0.62	0.75	53.7
Approach		95	33.3	0.145	7.9	LOS A	0.6	5.4	0.62	0.75	52.6
All Vehicles		1459	17.3	0.511	6.9	LOS A	4.4	34.4	0.57	0.62	52.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 2: O'Connell Rd - Abercrombie Rd - Albion St (AM) Peak - Existing A3]

Site 2: O'Connell Rd - Abercrombie Rd - Albion St (AM) Peak - Assessment 3
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: O'Connell Rd - southern leg											
1	L2	1	0.0	0.165	9.0	LOS A	0.7	5.2	0.80	0.89	51.2
2	T1	57	3.7	0.165	9.5	LOS A	0.7	5.2	0.80	0.89	52.3
3	R2	5	0.0	0.165	13.9	LOS A	0.7	5.2	0.80	0.89	52.3
Approach		63	3.3	0.165	9.9	LOS A	0.7	5.2	0.80	0.89	52.2
East: Albion St - eastern leg											
4	L2	4	0.0	0.850	4.8	LOS A	17.9	227.7	0.96	0.52	49.8
5	T1	14	61.5	0.850	6.1	LOS A	17.9	227.7	0.96	0.52	49.7
6	R2	838	96.7	0.850	11.8	LOS A	17.9	227.7	0.96	0.52	47.7
Approach		856	95.7	0.850	11.6	LOS A	17.9	227.7	0.96	0.52	47.7
North: O'Connell Rd - northern leg											
7	L2	849	95.5	0.792	5.3	LOS A	17.5	216.4	0.47	0.39	50.7
8	T1	53	8.0	0.792	4.4	LOS A	17.5	216.4	0.47	0.39	54.5
9	R2	6	0.0	0.792	9.0	LOS A	17.5	216.4	0.47	0.39	54.7
Approach		908	89.8	0.792	5.3	LOS A	17.5	216.4	0.47	0.39	50.9
West: Abercrombie Rd - western leg											
10	L2	5	0.0	0.055	8.2	LOS A	0.2	1.9	0.81	0.90	50.2
11	T1	9	55.6	0.055	12.7	LOS A	0.2	1.9	0.81	0.90	50.2
12	R2	1	0.0	0.055	13.1	LOS A	0.2	1.9	0.81	0.90	51.4
Approach		16	33.3	0.055	11.2	LOS A	0.2	1.9	0.81	0.90	50.3
All Vehicles		1843	89.1	0.850	8.4	LOS A	17.9	227.7	0.72	0.47	49.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 2: O'Connell Rd - Abercrombie Rd - Albion St (PM) Peak - Existing]

Site 2: O'Connell Rd - Abercrombie Rd - Albion St (PM) Peak - Existing
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: O'Connell Rd - southern leg											
1	L2	2	0.0	0.043	4.0	LOS A	0.2	1.6	0.12	0.40	54.9
2	T1	54	13.7	0.043	4.3	LOS A	0.2	1.6	0.12	0.40	55.9
3	R2	1	0.0	0.043	8.8	LOS A	0.2	1.6	0.12	0.40	56.2
Approach		57	13.0	0.043	4.4	LOS A	0.2	1.6	0.12	0.40	55.9
East: Albion St - eastern leg											
4	L2	2	50.0	0.018	4.8	LOS A	0.1	0.6	0.21	0.56	50.9
5	T1	5	20.0	0.018	4.6	LOS A	0.1	0.6	0.21	0.56	53.1
6	R2	15	7.1	0.018	9.1	LOS A	0.1	0.6	0.21	0.56	53.2
Approach		22	14.3	0.018	7.7	LOS A	0.1	0.6	0.21	0.56	53.0
North: O'Connell Rd - northern leg											
7	L2	28	29.6	0.077	4.3	LOS A	0.4	3.0	0.14	0.43	53.7
8	T1	65	9.7	0.077	4.3	LOS A	0.4	3.0	0.14	0.43	55.8
9	R2	8	12.5	0.077	9.0	LOS A	0.4	3.0	0.14	0.43	55.4
Approach		102	15.5	0.077	4.7	LOS A	0.4	3.0	0.14	0.43	55.2
West: Abercrombie Rd - western leg											
10	L2	7	14.3	0.032	4.3	LOS A	0.1	1.3	0.21	0.45	53.6
11	T1	23	50.0	0.032	5.0	LOS A	0.1	1.3	0.21	0.45	54.2
12	R2	4	0.0	0.032	9.0	LOS A	0.1	1.3	0.21	0.45	55.3
Approach		35	36.4	0.032	5.3	LOS A	0.1	1.3	0.21	0.45	54.2
All Vehicles		216	18.0	0.077	5.0	LOS A	0.4	3.0	0.16	0.44	54.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 2: O'Connell Rd - Abercrombie Rd - Albion St (PM) Peak - Existing A1]

Site 2: O'Connell Rd - Abercrombie Rd - Albion St (PM) Peak - Assessment 1
Roundabout
Design Life Analysis (Practical Capacity): Results for 100 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: O'Connell Rd - southern leg											
1	L2	13	0.0	0.301	4.8	LOS A	1.8	13.9	0.44	0.51	53.4
2	T1	322	13.7	0.301	5.2	LOS A	1.8	13.9	0.44	0.51	54.4
3	R2	6	0.0	0.301	9.6	LOS A	1.8	13.9	0.44	0.51	54.7
Approach		341	13.0	0.301	5.3	LOS A	1.8	13.9	0.44	0.51	54.4
East: Albion St - eastern leg											
4	L2	13	50.0	0.162	7.4	LOS A	0.8	5.9	0.59	0.75	49.9
5	T1	32	20.0	0.162	6.6	LOS A	0.8	5.9	0.59	0.75	51.9
6	R2	88	7.1	0.162	10.8	LOS A	0.8	5.9	0.59	0.75	52.1
Approach		133	14.3	0.162	9.5	LOS A	0.8	5.9	0.59	0.75	51.8
North: O'Connell Rd - northern leg											
7	L2	171	29.6	0.552	5.9	LOS A	4.5	35.6	0.64	0.60	51.7
8	T1	392	9.7	0.552	5.6	LOS A	4.5	35.6	0.64	0.60	53.6
9	R2	51	12.5	0.552	10.4	LOS A	4.5	35.6	0.64	0.60	53.3
Approach		613	15.5	0.552	6.1	LOS A	4.5	35.6	0.64	0.60	53.1
West: Abercrombie Rd - western leg											
10	L2	44	14.3	0.273	6.2	LOS A	1.3	11.9	0.60	0.71	52.0
11	T1	139	50.0	0.273	7.6	LOS A	1.3	11.9	0.60	0.71	52.5
12	R2	25	0.0	0.273	10.6	LOS A	1.3	11.9	0.60	0.71	53.6
Approach		208	36.4	0.273	7.7	LOS A	1.3	11.9	0.60	0.71	52.5
All Vehicles		1295	18.0	0.552	6.5	LOS A	4.5	35.6	0.58	0.61	53.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 2: O'Connell Rd - Abercrombie Rd - Albion St (PM) Peak - Existing A3]

Site 2: O'Connell Rd - Abercrombie Rd - Albion St (PM) Peak - Assessment 3
Roundabout

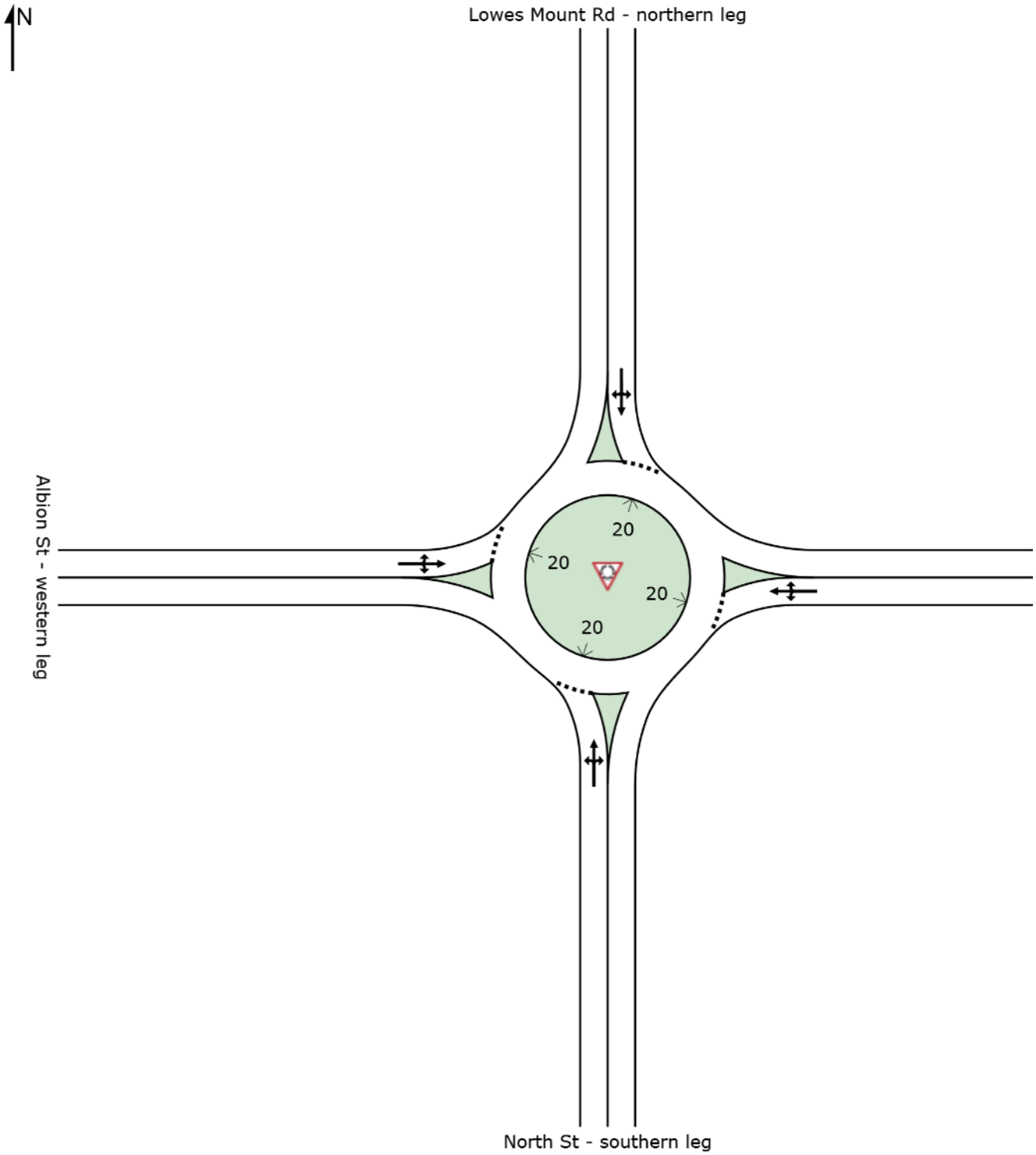
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: O'Connell Rd - southern leg											
1	L2	2	0.0	0.163	8.9	LOS A	0.7	5.5	0.81	0.89	51.0
2	T1	54	13.7	0.163	10.2	LOS A	0.7	5.5	0.81	0.89	51.9
3	R2	1	0.0	0.163	13.8	LOS A	0.7	5.5	0.81	0.89	52.1
Approach		57	13.0	0.163	10.2	LOS A	0.7	5.5	0.81	0.89	51.8
East: Albion St - eastern leg											
4	L2	2	50.0	0.863	6.1	LOS A	17.6	226.1	1.00	0.58	48.4
5	T1	5	20.0	0.863	5.6	LOS A	17.6	226.1	1.00	0.58	50.4
6	R2	815	98.3	0.863	12.3	LOS A	17.6	226.1	1.00	0.58	47.5
Approach		822	97.7	0.863	12.3	LOS A	17.6	226.1	1.00	0.58	47.5
North: O'Connell Rd - northern leg											
7	L2	828	97.6	0.826	5.9	LOS A	19.9	246.9	0.76	0.40	49.5
8	T1	65	9.7	0.826	4.7	LOS A	19.9	246.9	0.76	0.40	53.1
9	R2	8	12.5	0.826	9.4	LOS A	19.9	246.9	0.76	0.40	52.8
Approach		902	90.4	0.826	5.8	LOS A	19.9	246.9	0.76	0.40	49.8
West: Abercrombie Rd - western leg											
10	L2	7	14.3	0.124	9.4	LOS A	0.5	4.6	0.83	0.91	49.4
11	T1	23	50.0	0.124	12.5	LOS A	0.5	4.6	0.83	0.91	49.8
12	R2	4	0.0	0.124	13.3	LOS A	0.5	4.6	0.83	0.91	50.8
Approach		35	36.4	0.124	11.9	LOS A	0.5	4.6	0.83	0.91	49.8
All Vehicles		1816	90.3	0.863	9.0	LOS A	19.9	246.9	0.87	0.51	48.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 1 [Site 3: Lowes Mount Rd - Albion St - North St (AM) Peak - Existing]

Site 3: Lowes Mount Rd - Albion St - North St (AM) Peak - Existing
Roundabout



MOVEMENT SUMMARY

Site: 1 [Site 3: Lowes Mount Rd - Albion St - North St (AM) Peak - Existing]

Site 3: Lowes Mount Rd - Albion St - North St (AM) Peak - Existing
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: North St - southern leg											
1	L2	23	4.5	0.080	4.2	LOS A	0.4	3.0	0.22	0.53	53.2
2	T1	27	0.0	0.080	4.4	LOS A	0.4	3.0	0.22	0.53	54.6
3	R2	48	26.1	0.080	9.4	LOS A	0.4	3.0	0.22	0.53	53.5
Approach		99	13.8	0.080	6.8	LOS A	0.4	3.0	0.22	0.53	53.7
East: Albion St - eastern leg											
4	L2	47	6.7	0.084	4.2	LOS A	0.4	3.4	0.21	0.46	54.3
5	T1	41	30.8	0.084	4.7	LOS A	0.4	3.4	0.21	0.46	55.1
6	R2	13	50.0	0.084	9.7	LOS A	0.4	3.4	0.21	0.46	53.7
Approach		101	21.9	0.084	5.1	LOS A	0.4	3.4	0.21	0.46	54.5
North: Lowes Mount Rd - northern leg											
7	L2	20	57.9	0.055	5.2	LOS A	0.2	2.1	0.27	0.48	52.1
8	T1	32	3.3	0.055	4.6	LOS A	0.2	2.1	0.27	0.48	55.0
9	R2	11	10.0	0.055	9.3	LOS A	0.2	2.1	0.27	0.48	54.6
Approach		62	22.0	0.055	5.6	LOS A	0.2	2.1	0.27	0.48	53.9
West: Albion St - western leg											
10	L2	5	0.0	0.052	4.3	LOS A	0.2	2.0	0.25	0.52	53.0
11	T1	29	39.3	0.052	5.0	LOS A	0.2	2.0	0.25	0.52	53.3
12	R2	24	13.0	0.052	9.3	LOS A	0.2	2.0	0.25	0.52	53.7
Approach		59	25.0	0.052	6.7	LOS A	0.2	2.0	0.25	0.52	53.5
All Vehicles		321	20.0	0.084	6.0	LOS A	0.4	3.4	0.23	0.50	54.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 3: Lowes Mount Rd - Albion St - North St (AM) Peak - A1 Existing to Final year]

Site 3: Lowes Mount Rd - Albion St - North St (AM) Peak - Assessment 1
Roundabout
Design Life Analysis (Final Year): Results for 100 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: North St - southern leg											
1	L2	139	4.5	0.702	9.3	LOS A	6.9	53.9	0.91	1.05	49.8
2	T1	164	0.0	0.702	9.3	LOS A	6.9	53.9	0.91	1.05	51.1
3	R2	291	26.1	0.702	15.1	LOS B	6.9	53.9	0.91	1.05	50.1
Approach		594	13.8	0.702	12.1	LOS A	6.9	53.9	0.91	1.05	50.3
East: Albion St - eastern leg											
4	L2	284	6.7	0.708	9.4	LOS A	7.1	58.8	0.89	1.03	50.6
5	T1	246	30.8	0.708	10.6	LOS A	7.1	58.8	0.89	1.03	51.3
6	R2	76	50.0	0.708	16.2	LOS B	7.1	58.8	0.89	1.03	50.1
Approach		606	21.9	0.708	10.7	LOS A	7.1	58.8	0.89	1.03	50.8
North: Lowes Mount Rd - northern leg											
7	L2	120	57.9	0.554	11.7	LOS A	3.5	28.8	0.80	0.97	49.1
8	T1	189	3.3	0.554	9.0	LOS A	3.5	28.8	0.80	0.97	51.7
9	R2	63	10.0	0.554	13.9	LOS A	3.5	28.8	0.80	0.97	51.4
Approach		373	22.0	0.554	10.7	LOS A	3.5	28.8	0.80	0.97	50.8
West: Albion St - western leg											
10	L2	32	0.0	0.522	7.8	LOS A	3.4	28.7	0.80	0.96	50.4
11	T1	177	39.3	0.522	9.7	LOS A	3.4	28.7	0.80	0.96	50.7
12	R2	145	13.0	0.522	13.2	LOS A	3.4	28.7	0.80	0.96	51.0
Approach		354	25.0	0.522	11.0	LOS A	3.4	28.7	0.80	0.96	50.8
All Vehicles		1926	20.0	0.708	11.2	LOS A	7.1	58.8	0.86	1.01	50.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 3: Lowes Mount Rd - Albion St - North St (AM) Peak - A2 Existing to LoS B]

Site 3: Lowes Mount Rd - Albion St - North St (AM) Peak - Assessment 2
Roundabout
Design Life Analysis (Practical Capacity): Results for 90 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: North St - southern leg											
1	L2	127	4.5	0.617	7.8	LOS A	5.2	41.0	0.82	0.94	50.7
2	T1	151	0.0	0.617	7.9	LOS A	5.2	41.0	0.82	0.94	52.0
3	R2	266	26.1	0.617	13.5	LOS A	5.2	41.0	0.82	0.94	51.0
Approach		544	13.8	0.617	10.6	LOS A	5.2	41.0	0.82	0.94	51.2
East: Albion St - eastern leg											
4	L2	261	6.7	0.628	7.9	LOS A	5.4	45.0	0.80	0.91	51.6
5	T1	226	30.8	0.628	9.0	LOS A	5.4	45.0	0.80	0.91	52.3
6	R2	69	50.0	0.628	14.5	LOS B	5.4	45.0	0.80	0.91	51.1
Approach		556	21.9	0.628	9.2	LOS A	5.4	45.0	0.80	0.91	51.8
North: Lowes Mount Rd - northern leg											
7	L2	110	57.9	0.482	10.5	LOS A	2.8	23.2	0.75	0.92	49.8
8	T1	174	3.3	0.482	8.0	LOS A	2.8	23.2	0.75	0.92	52.5
9	R2	58	10.0	0.482	13.0	LOS A	2.8	23.2	0.75	0.92	52.1
Approach		342	22.0	0.482	9.7	LOS A	2.8	23.2	0.75	0.92	51.5
West: Albion St - western leg											
10	L2	29	0.0	0.451	6.9	LOS A	2.7	22.8	0.74	0.89	50.9
11	T1	162	39.3	0.451	8.7	LOS A	2.7	22.8	0.74	0.89	51.2
12	R2	133	13.0	0.451	12.3	LOS A	2.7	22.8	0.74	0.89	51.5
Approach		324	25.0	0.451	10.0	LOS A	2.7	22.8	0.74	0.89	51.3
All Vehicles		1766	20.0	0.628	9.9	LOS A	5.4	45.0	0.78	0.92	51.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 3: Lowes Mount Rd - Albion St - North St (AM) Peak - A3]

Site 3: Lowes Mount Rd - Albion St - North St (AM) Peak - Assessment 3
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: North St - southern leg											
1	L2	23	4.5	0.152	6.7	LOS A	0.7	5.1	0.66	0.82	51.4
2	T1	27	0.0	0.152	6.7	LOS A	0.7	5.1	0.66	0.82	52.7
3	R2	48	26.1	0.152	12.5	LOS A	0.7	5.1	0.66	0.82	51.7
Approach		99	13.8	0.152	9.6	LOS A	0.7	5.1	0.66	0.82	51.9
East: Albion St - eastern leg											
4	L2	47	6.7	0.607	7.2	LOS A	5.2	61.6	0.77	0.83	51.3
5	T1	41	30.8	0.607	8.1	LOS A	5.2	61.6	0.77	0.83	52.0
6	R2	348	98.2	0.607	15.2	LOS B	5.2	61.6	0.77	0.83	49.1
Approach		437	81.9	0.607	13.7	LOS A	5.2	61.6	0.77	0.83	49.6
North: Lowes Mount Rd - northern leg											
7	L2	356	97.6	0.592	6.6	LOS A	5.3	65.9	0.60	0.57	49.8
8	T1	32	3.3	0.592	5.0	LOS A	5.3	65.9	0.60	0.57	53.6
9	R2	145	93.5	0.592	11.5	LOS A	5.3	65.9	0.60	0.57	50.2
Approach		533	90.9	0.592	7.9	LOS A	5.3	65.9	0.60	0.57	50.1
West: Albion St - western leg											
10	L2	141	96.3	0.407	11.8	LOS A	2.1	24.2	0.75	0.92	47.1
11	T1	29	39.3	0.407	9.0	LOS A	2.1	24.2	0.75	0.92	49.7
12	R2	24	13.0	0.407	12.6	LOS A	2.1	24.2	0.75	0.92	50.0
Approach		195	77.3	0.407	11.5	LOS A	2.1	24.2	0.75	0.92	47.8
All Vehicles		1263	79.7	0.607	10.5	LOS A	5.3	65.9	0.69	0.73	49.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 3: Lowes Mount Rd - Albion St - North St (PM) Peak - Existing]

Site 3: Lowes Mount Rd - Albion St -North St (PM) Peak - Existing
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: North St - southern leg											
1	L2	28	3.7	0.107	4.2	LOS A	0.5	4.0	0.21	0.53	53.1
2	T1	47	13.3	0.107	4.5	LOS A	0.5	4.0	0.21	0.53	54.2
3	R2	62	8.5	0.107	9.1	LOS A	0.5	4.0	0.21	0.53	54.1
Approach		138	9.2	0.107	6.5	LOS A	0.5	4.0	0.21	0.53	53.9
East: Albion St - eastern leg											
4	L2	66	9.5	0.096	4.5	LOS A	0.5	3.8	0.29	0.49	54.0
5	T1	27	34.6	0.096	5.0	LOS A	0.5	3.8	0.29	0.49	54.8
6	R2	14	53.8	0.096	10.1	LOS A	0.5	3.8	0.29	0.49	53.4
Approach		107	21.6	0.096	5.4	LOS A	0.5	3.8	0.29	0.49	54.1
North: Lowes Mount Rd - northern leg											
7	L2	18	47.1	0.083	5.4	LOS A	0.4	3.0	0.34	0.52	52.1
8	T1	55	0.0	0.083	4.8	LOS A	0.4	3.0	0.34	0.52	54.8
9	R2	19	22.2	0.083	9.8	LOS A	0.4	3.0	0.34	0.52	53.8
Approach		92	13.8	0.083	6.0	LOS A	0.4	3.0	0.34	0.52	54.0
West: Albion St - western leg											
10	L2	12	27.3	0.101	4.9	LOS A	0.5	4.1	0.31	0.53	52.0
11	T1	58	43.6	0.101	5.3	LOS A	0.5	4.1	0.31	0.53	53.0
12	R2	39	2.7	0.101	9.3	LOS A	0.5	4.1	0.31	0.53	53.9
Approach		108	27.2	0.101	6.7	LOS A	0.5	4.1	0.31	0.53	53.2
All Vehicles		445	17.5	0.107	6.2	LOS A	0.5	4.1	0.28	0.52	53.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 3: Lowes Mount Rd - Albion St - North St (PM) Peak - A1 Existing to Final year]

Site 3: Lowes Mount Rd - Albion St -North St (PM) Peak - Assessment 1
Roundabout
Design Life Analysis (Practical Capacity): Results for 78 years

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: North St - southern leg											
1	L2	139	3.7	0.685	8.0	LOS A	7.1	53.5	0.86	0.92	50.5
2	T1	232	13.3	0.685	8.6	LOS A	7.1	53.5	0.86	0.92	51.5
3	R2	304	8.5	0.685	13.0	LOS A	7.1	53.5	0.86	0.92	51.4
Approach		676	9.2	0.685	10.5	LOS A	7.1	53.5	0.86	0.92	51.2
East: Albion St - eastern leg											
4	L2	325	9.5	0.723	10.9	LOS A	6.5	54.2	0.91	1.10	49.5
5	T1	134	34.6	0.723	12.4	LOS A	6.5	54.2	0.91	1.10	50.2
6	R2	67	53.8	0.723	18.2	LOS B	6.5	54.2	0.91	1.10	49.0
Approach		526	21.6	0.723	12.2	LOS A	6.5	54.2	0.91	1.10	49.6
North: Lowes Mount Rd - northern leg											
7	L2	88	47.1	0.757	15.5	LOS B	5.9	46.4	0.93	1.13	47.1
8	T1	268	0.0	0.757	12.7	LOS A	5.9	46.4	0.93	1.13	49.3
9	R2	93	22.2	0.757	18.7	LOS B	5.9	46.4	0.93	1.13	48.5
Approach		449	13.8	0.757	14.5	LOS A	5.9	46.4	0.93	1.13	48.7
West: Albion St - western leg											
10	L2	57	27.3	0.847	17.2	LOS B	9.4	81.1	1.00	1.29	44.7
11	T1	284	43.6	0.847	18.4	LOS B	9.4	81.1	1.00	1.29	45.5
12	R2	191	2.7	0.847	20.7	LOS B	9.4	81.1	1.00	1.29	46.1
Approach		531	27.2	0.847	19.1	LOS B	9.4	81.1	1.00	1.29	45.6
All Vehicles		2182	17.5	0.847	13.8	LOS A	9.4	81.1	0.92	1.10	48.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 3: Lowes Mount Rd - Albion St - North St (PM) Peak - A2 Existing to LoS B]

Site 3: Lowes Mount Rd - Albion St -North St (PM) Peak - Assessment 2
Roundabout
Design Life Analysis (Practical Capacity): Results for 61 years

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: North St - southern leg											
1	L2	115	3.7	0.533	5.9	LOS A	4.0	30.1	0.68	0.72	51.6
2	T1	192	13.3	0.533	6.4	LOS A	4.0	30.1	0.68	0.72	52.6
3	R2	252	8.5	0.533	10.9	LOS A	4.0	30.1	0.68	0.72	52.6
Approach		558	9.2	0.533	8.3	LOS A	4.0	30.1	0.68	0.72	52.4
East: Albion St - eastern leg											
4	L2	269	9.5	0.541	7.7	LOS A	3.8	31.3	0.76	0.91	51.8
5	T1	111	34.6	0.541	8.9	LOS A	3.8	31.3	0.76	0.91	52.5
6	R2	55	53.8	0.541	14.6	LOS B	3.8	31.3	0.76	0.91	51.2
Approach		435	21.6	0.541	8.9	LOS A	3.8	31.3	0.76	0.91	51.9
North: Lowes Mount Rd - northern leg											
7	L2	72	47.1	0.534	10.8	LOS A	3.3	25.8	0.80	0.96	49.8
8	T1	222	0.0	0.534	8.6	LOS A	3.3	25.8	0.80	0.96	52.3
9	R2	77	22.2	0.534	14.3	LOS A	3.3	25.8	0.80	0.96	51.4
Approach		371	13.8	0.534	10.2	LOS A	3.3	25.8	0.80	0.96	51.6
West: Albion St - western leg											
10	L2	47	27.3	0.610	9.8	LOS A	4.5	39.2	0.83	1.01	49.1
11	T1	234	43.6	0.610	10.7	LOS A	4.5	39.2	0.83	1.01	50.0
12	R2	158	2.7	0.610	13.5	LOS A	4.5	39.2	0.83	1.01	50.8
Approach		439	27.2	0.610	11.6	LOS A	4.5	39.2	0.83	1.01	50.2
All Vehicles		1803	17.5	0.610	9.6	LOS A	4.5	39.2	0.76	0.88	51.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 3: Lowes Mount Rd - Albion St - North St (PM) Peak - A3]

Site 3: Lowes Mount Rd - Albion St -North St (PM) Peak - Assessment 3
Roundabout

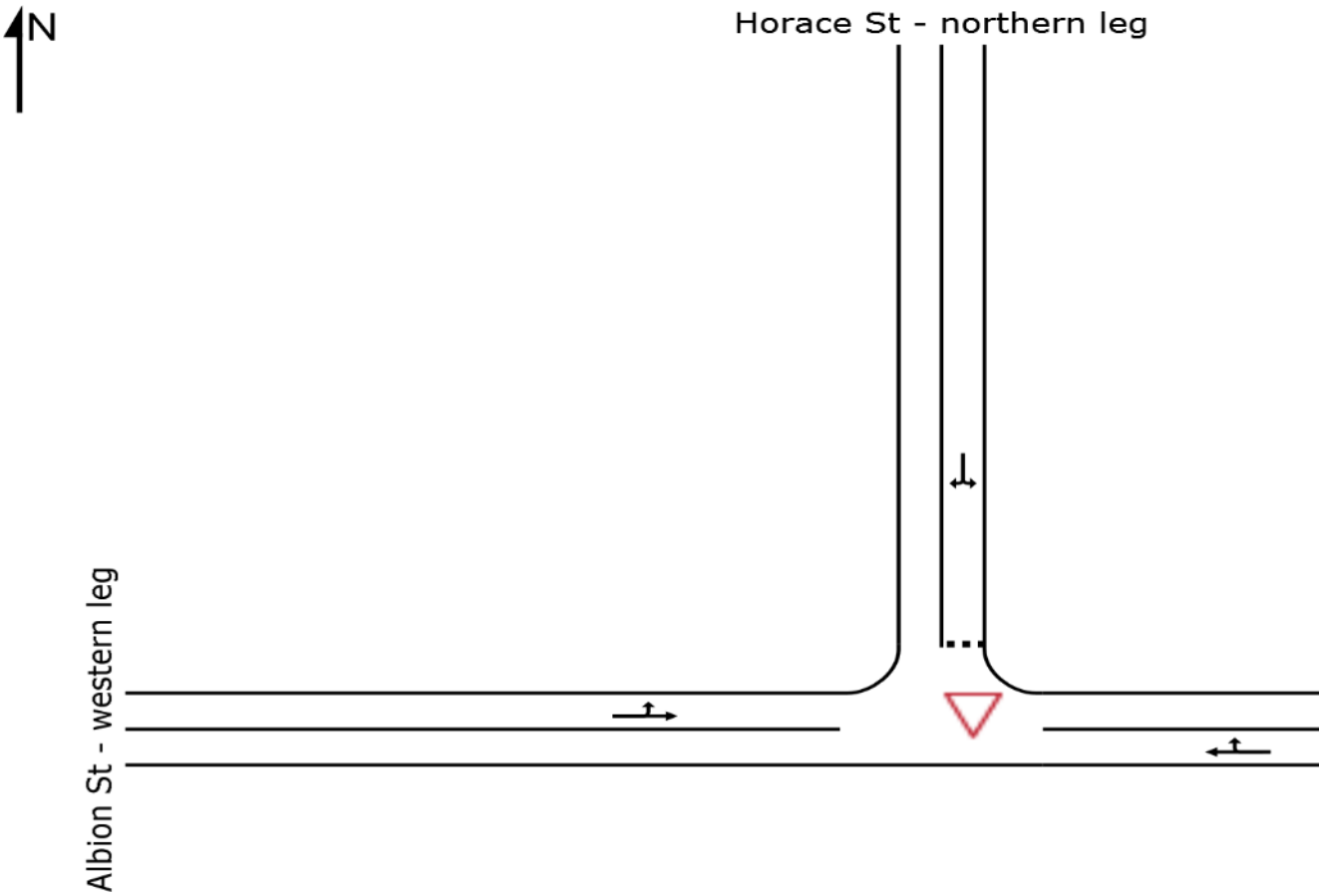
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: North St - southern leg											
1	L2	28	3.7	0.193	6.6	LOS A	0.9	6.5	0.66	0.81	51.4
2	T1	47	13.3	0.193	7.2	LOS A	0.9	6.5	0.66	0.81	52.4
3	R2	62	8.5	0.193	11.6	LOS A	0.9	6.5	0.66	0.81	52.4
Approach		138	9.2	0.193	9.0	LOS A	0.9	6.5	0.66	0.81	52.2
East: Albion St - eastern leg											
4	L2	66	9.5	0.597	7.4	LOS A	4.9	57.7	0.78	0.86	51.0
5	T1	27	34.6	0.597	8.4	LOS A	4.9	57.7	0.78	0.86	51.7
6	R2	320	98.0	0.597	15.5	LOS B	4.9	57.7	0.78	0.86	48.9
Approach		414	79.6	0.597	13.8	LOS A	4.9	57.7	0.78	0.86	49.4
North: Lowes Mount Rd - northern leg											
7	L2	324	97.1	0.626	8.1	LOS A	5.8	70.0	0.72	0.67	49.2
8	T1	55	0.0	0.626	5.9	LOS A	5.8	70.0	0.72	0.67	53.1
9	R2	141	89.6	0.626	12.9	LOS A	5.8	70.0	0.72	0.67	49.8
Approach		520	84.8	0.626	9.2	LOS A	5.8	70.0	0.72	0.67	49.8
West: Albion St - western leg											
10	L2	134	93.7	0.442	11.9	LOS A	2.4	26.1	0.76	0.93	47.3
11	T1	58	43.6	0.442	9.4	LOS A	2.4	26.1	0.76	0.93	49.8
12	R2	39	2.7	0.442	12.4	LOS A	2.4	26.1	0.76	0.93	50.5
Approach		231	65.8	0.442	11.4	LOS A	2.4	26.1	0.76	0.93	48.4
All Vehicles		1302	71.8	0.626	11.0	LOS A	5.8	70.0	0.74	0.79	49.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 1 [Site 4: Horace St - Albion St (AM) Peak - Existing]

Site 4: Horace St - Albion St (AM) Peak - Existing
Giveway / Yield (Two-Way)



Organisation: SMEC AUSTRALIA PTY LTD (SYDNEY) | Created: Thursday, 15 September 2016 10:15:04 AM
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MOVEMENT SUMMARY

Site: 1 [Site 4: Horace St - Albion St (AM) Peak - Existing]

Site 4: Horace St - Albion St (AM) Peak - Existing
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - western leg											
5	T1	86	29.3	0.057	0.0	LOS A	0.1	0.4	0.04	0.05	59.2
6	R2	8	0.0	0.057	5.7	LOS A	0.1	0.4	0.04	0.05	57.0
Approach		95	26.7	0.057	0.5	NA	0.1	0.4	0.04	0.05	59.0
North: Horace St - northern leg											
7	L2	3	0.0	0.011	5.7	LOS A	0.0	0.2	0.20	0.56	53.1
9	R2	9	0.0	0.011	6.0	LOS A	0.0	0.2	0.20	0.56	52.6
Approach		13	0.0	0.011	5.9	LOS A	0.0	0.2	0.20	0.56	52.7
West: Albion St - western leg											
10	L2	12	0.0	0.049	5.5	LOS A	0.0	0.0	0.00	0.09	57.3
11	T1	67	35.9	0.049	0.0	LOS A	0.0	0.0	0.00	0.09	58.9
Approach		79	30.7	0.049	0.8	NA	0.0	0.0	0.00	0.09	58.6
All Vehicles		186	26.6	0.057	1.0	NA	0.1	0.4	0.03	0.10	58.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 4: Horace St - Albion St (AM) Peak - Existing A1]

Site 4: Horace St - Albion St (AM) Peak - Assessment 1
Giveway / Yield (Two-Way)
Design Life Analysis (Practical Capacity): Results for 100 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - western leg											
5	T1	518	29.3	0.357	0.4	LOS A	0.8	6.6	0.15	0.06	58.7
6	R2	51	0.0	0.357	8.2	LOS A	0.8	6.6	0.15	0.06	56.5
Approach		568	26.7	0.357	1.1	NA	0.8	6.6	0.15	0.06	58.5
North: Horace St - northern leg											
7	L2	19	0.0	0.133	7.0	LOS A	0.4	3.0	0.57	0.80	50.3
9	R2	57	0.0	0.133	10.9	LOS A	0.4	3.0	0.57	0.80	49.9
Approach		76	0.0	0.133	10.0	LOS A	0.4	3.0	0.57	0.80	50.0
West: Albion St - western leg											
10	L2	69	0.0	0.293	5.6	LOS A	0.0	0.0	0.00	0.09	57.2
11	T1	404	35.9	0.293	0.0	LOS A	0.0	0.0	0.00	0.09	58.8
Approach		474	30.7	0.293	0.9	NA	0.0	0.0	0.00	0.09	58.6
All Vehicles		1118	26.6	0.357	1.6	NA	0.8	6.6	0.12	0.12	57.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 4: Horace St - Albion St (AM) Peak - Existing A3]

Site 4: Horace St - Albion St (AM) Peak - Assessment 3
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - western leg											
5	T1	574	89.4	0.472	0.2	LOS A	0.2	2.8	0.04	0.01	59.1
6	R2	8	0.0	0.472	11.1	LOS A	0.2	2.8	0.04	0.01	56.9
Approach		582	88.1	0.472	0.3	NA	0.2	2.8	0.04	0.01	59.1
North: Horace St - northern leg											
7	L2	3	0.0	0.034	8.2	LOS A	0.1	0.7	0.71	0.85	48.4
9	R2	9	0.0	0.034	14.5	LOS B	0.1	0.7	0.71	0.85	47.9
Approach		13	0.0	0.034	12.9	LOS A	0.1	0.7	0.71	0.85	48.0
West: Albion St - western leg											
10	L2	12	0.0	0.461	5.6	LOS A	0.0	0.0	0.00	0.01	57.1
11	T1	555	92.2	0.461	0.1	LOS A	0.0	0.0	0.00	0.01	58.7
Approach		566	90.3	0.461	0.2	NA	0.0	0.0	0.00	0.01	58.6
All Vehicles		1161	88.2	0.472	0.4	NA	0.2	2.8	0.03	0.02	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 4: Horace St - Albion St (PM) Peak - Existing]

Site 4: Horace St - Albion St (PM) Peak - Existing
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - western leg											
5	T1	94	23.6	0.063	0.1	LOS A	0.1	0.7	0.06	0.07	59.1
6	R2	12	9.1	0.063	6.0	LOS A	0.1	0.7	0.06	0.07	56.4
Approach		105	22.0	0.063	0.7	NA	0.1	0.7	0.06	0.07	58.8
North: Horace St - northern leg											
7	L2	7	0.0	0.018	5.9	LOS A	0.1	0.5	0.24	0.57	52.9
9	R2	13	16.7	0.018	6.5	LOS A	0.1	0.5	0.24	0.57	51.7
Approach		20	10.5	0.018	6.3	LOS A	0.1	0.5	0.24	0.57	52.1
West: Albion St - western leg											
10	L2	6	16.7	0.072	5.7	LOS A	0.0	0.0	0.00	0.03	57.2
11	T1	116	23.6	0.072	0.0	LOS A	0.0	0.0	0.00	0.03	59.7
Approach		122	23.3	0.072	0.3	NA	0.0	0.0	0.00	0.03	59.5
All Vehicles		247	21.7	0.072	1.0	NA	0.1	0.7	0.05	0.09	58.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 4: Horace St - Albion St (PM) Peak - Existing A1]

Site 4: Horace St - Albion St (PM) Peak - Assessment 1
Giveway / Yield (Two-Way)
Design Life Analysis (Practical Capacity): Results for 100 years

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - western leg											
5	T1	562	23.6	0.414	1.3	LOS A	1.8	14.9	0.26	0.09	57.7
6	R2	69	9.1	0.414	11.0	LOS A	1.8	14.9	0.26	0.09	55.1
Approach		632	22.0	0.414	2.4	NA	1.8	14.9	0.26	0.09	57.4
North: Horace St - northern leg											
7	L2	44	0.0	0.303	9.3	LOS A	1.1	8.5	0.73	0.93	47.4
9	R2	76	16.7	0.303	17.5	LOS B	1.1	8.5	0.73	0.93	46.4
Approach		120	10.5	0.303	14.5	LOS B	1.1	8.5	0.73	0.93	46.8
West: Albion St - western leg											
10	L2	38	16.7	0.434	5.8	LOS A	0.0	0.0	0.00	0.03	57.1
11	T1	695	23.6	0.434	0.1	LOS A	0.0	0.0	0.00	0.03	59.6
Approach		733	23.3	0.434	0.4	NA	0.0	0.0	0.00	0.03	59.4
All Vehicles		1484	21.7	0.434	2.4	NA	1.8	14.9	0.17	0.13	57.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 4: Horace St - Albion St (PM) Peak - Existing A2]

Site 4: Horace St - Albion St (PM) Peak - Assessment 2
Giveway / Yield (Two-Way)
Design Life Analysis (Practical Capacity): Results for 86 years

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - western leg											
5	T1	497	23.6	0.360	0.9	LOS A	1.3	10.5	0.23	0.08	58.1
6	R2	61	9.1	0.360	9.8	LOS A	1.3	10.5	0.23	0.08	55.5
Approach		558	22.0	0.360	1.9	NA	1.3	10.5	0.23	0.08	57.8
North: Horace St - northern leg											
7	L2	39	0.0	0.230	8.2	LOS A	0.8	6.1	0.67	0.86	48.9
9	R2	67	16.7	0.230	14.6	LOS B	0.8	6.1	0.67	0.86	47.8
Approach		106	10.5	0.230	12.3	LOS A	0.8	6.1	0.67	0.86	48.2
West: Albion St - western leg											
10	L2	33	16.7	0.383	5.8	LOS A	0.0	0.0	0.00	0.03	57.2
11	T1	614	23.6	0.383	0.1	LOS A	0.0	0.0	0.00	0.03	59.6
Approach		647	23.3	0.383	0.4	NA	0.0	0.0	0.00	0.03	59.4
All Vehicles		1311	21.7	0.383	2.0	NA	1.3	10.5	0.15	0.12	57.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 4: Horace St - Albion St (PM) Peak - Existing A3]

Site 4: Horace St - Albion St (PM) Peak - Assessment 3
Giveway / Yield (Two-Way)

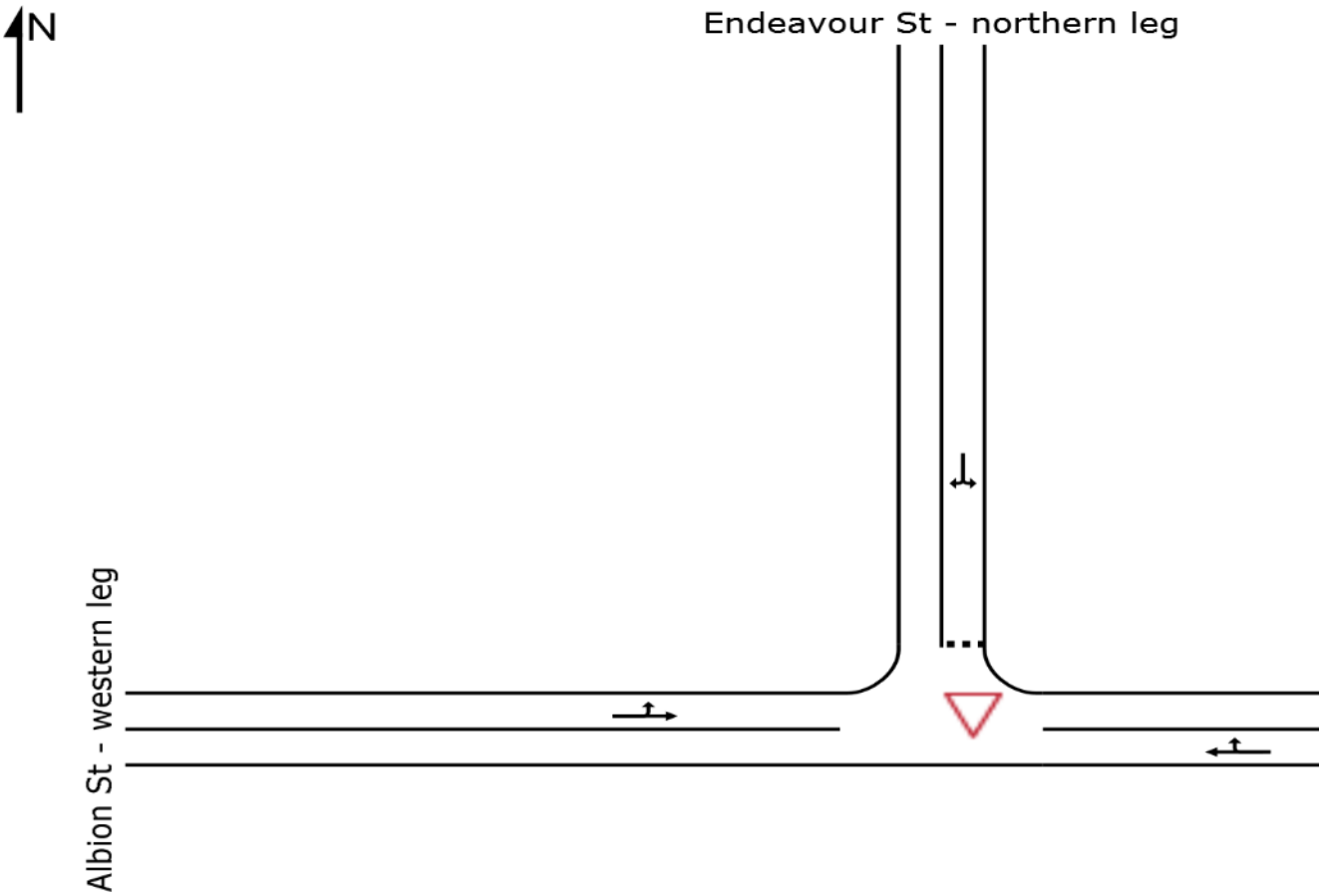
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - western leg											
5	T1	498	85.6	0.408	0.2	LOS A	0.3	3.2	0.05	0.02	59.0
6	R2	12	9.1	0.408	10.4	LOS A	0.3	3.2	0.05	0.02	56.4
Approach		509	83.9	0.408	0.4	NA	0.3	3.2	0.05	0.02	59.0
North: Horace St - northern leg											
7	L2	7	0.0	0.049	7.9	LOS A	0.1	1.1	0.66	0.81	48.8
9	R2	13	16.7	0.049	14.9	LOS B	0.1	1.1	0.66	0.81	47.8
Approach		20	10.5	0.049	12.3	LOS A	0.1	1.1	0.66	0.81	48.2
West: Albion St - western leg											
10	L2	6	16.7	0.414	5.8	LOS A	0.0	0.0	0.00	0.01	57.1
11	T1	520	83.0	0.414	0.1	LOS A	0.0	0.0	0.00	0.01	59.5
Approach		526	82.2	0.414	0.2	NA	0.0	0.0	0.00	0.01	59.5
All Vehicles		1056	81.7	0.414	0.5	NA	0.3	3.2	0.04	0.03	59.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 1 [Site 5: Endeavour St - Albion St (AM) Peak - Existing]

Site 5: Endeavour St - Albion St (AM) Peak - Existing
Giveway / Yield (Two-Way)



Organisation: SMEC AUSTRALIA PTY LTD (SYDNEY) | Created: Thursday, 15 September 2016 10:21:37 AM
Project: I:\projects\30011699 – Borg Panel Oberon TIA\SIDRA\Models\20160416\160905 FR\Site 5 - Endeavour St - Albion St FR.sip7

MOVEMENT SUMMARY

Site: 1 [Site 5: Endeavour St - Albion St (AM) Peak - Existing]

Site 5: Endeavour St - Albion St (AM) Peak - Existing
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - eastern leg											
5	T1	82	23.1	0.050	0.0	LOS A	0.0	0.1	0.01	0.02	59.9
6	R2	1	100.0	0.050	6.6	LOS A	0.0	0.1	0.01	0.02	55.0
Approach		83	24.1	0.050	0.2	NA	0.0	0.1	0.01	0.02	59.8
North: Endeavour St - northern leg											
7	L2	2	50.0	0.010	6.4	LOS A	0.0	0.4	0.21	0.56	51.0
9	R2	6	83.3	0.010	7.4	LOS A	0.0	0.4	0.21	0.56	49.0
Approach		8	75.0	0.010	7.2	LOS A	0.0	0.4	0.21	0.56	49.5
West: Albion St - western leg											
10	L2	12	72.7	0.044	6.4	LOS A	0.0	0.0	0.00	0.10	54.5
11	T1	58	25.5	0.044	0.0	LOS A	0.0	0.0	0.00	0.10	59.6
Approach		69	33.3	0.044	1.1	NA	0.0	0.0	0.00	0.10	58.7
All Vehicles		161	30.7	0.050	0.9	NA	0.0	0.4	0.02	0.08	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 5: Endeavour St - Albion St (AM) Peak - Existing A1]

Site 5: Endeavour St - Albion St (AM) Peak - Assessment 1
Giveway / Yield (Two-Way)
Design Life Analysis (Practical Capacity): Results for 100 years

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - eastern leg											
5	T1	493	23.1	0.302	0.2	LOS A	0.2	1.7	0.03	0.02	59.7
6	R2	6	100.0	0.302	11.4	LOS A	0.2	1.7	0.03	0.02	54.9
Approach		499	24.1	0.302	0.4	NA	0.2	1.7	0.03	0.02	59.6
North: Endeavour St - northern leg											
7	L2	13	50.0	0.151	8.0	LOS A	0.5	5.5	0.65	0.79	46.1
9	R2	38	83.3	0.151	17.1	LOS B	0.5	5.5	0.65	0.79	44.5
Approach		51	75.0	0.151	14.8	LOS B	0.5	5.5	0.65	0.79	44.9
West: Albion St - western leg											
10	L2	69	72.7	0.264	6.4	LOS A	0.0	0.0	0.00	0.10	54.5
11	T1	347	25.5	0.264	0.0	LOS A	0.0	0.0	0.00	0.10	59.6
Approach		417	33.3	0.264	1.1	NA	0.0	0.0	0.00	0.10	58.7
All Vehicles		966	30.7	0.302	1.4	NA	0.5	5.5	0.05	0.09	58.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 5: Endeavour St - Albion St (AM) Peak - Existing A2]

Site 5: Endeavour St - Albion St (AM) Peak - Assessment 2
Giveway / Yield (Two-Way)
Design Life Analysis (Practical Capacity): Results for 82 years

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - eastern leg											
5	T1	419	23.1	0.256	0.1	LOS A	0.1	1.1	0.03	0.02	59.8
6	R2	5	100.0	0.256	10.1	LOS A	0.1	1.1	0.03	0.02	54.9
Approach		424	24.1	0.256	0.3	NA	0.1	1.1	0.03	0.02	59.7
North: Endeavour St - northern leg											
7	L2	11	50.0	0.108	7.7	LOS A	0.3	4.0	0.57	0.75	47.3
9	R2	32	83.3	0.108	14.5	LOS B	0.3	4.0	0.57	0.75	45.6
Approach		43	75.0	0.108	12.8	LOS A	0.3	4.0	0.57	0.75	46.0
West: Albion St - western leg											
10	L2	59	72.7	0.225	6.4	LOS A	0.0	0.0	0.00	0.10	54.5
11	T1	295	25.5	0.225	0.0	LOS A	0.0	0.0	0.00	0.10	59.6
Approach		354	33.3	0.225	1.1	NA	0.0	0.0	0.00	0.10	58.7
All Vehicles		821	30.7	0.256	1.3	NA	0.3	4.0	0.04	0.09	58.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 5: Endeavour St - Albion St (AM) Peak - Existing A3]

Site 5: Endeavour St - Albion St (AM) Peak - Assessment 3
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - eastern leg											
5	T1	337	81.3	0.266	0.0	LOS A	0.0	0.3	0.01	0.00	59.9
6	R2	1	100.0	0.266	10.9	LOS A	0.0	0.3	0.01	0.00	55.0
Approach		338	81.3	0.266	0.1	NA	0.0	0.3	0.01	0.00	59.9
North: Endeavour St - northern leg											
7	L2	2	50.0	0.024	8.2	LOS A	0.1	0.8	0.61	0.74	46.9
9	R2	6	83.3	0.024	15.1	LOS B	0.1	0.8	0.61	0.74	45.2
Approach		8	75.0	0.024	13.4	LOS A	0.1	0.8	0.61	0.74	45.7
West: Albion St - western leg											
10	L2	12	72.7	0.260	6.4	LOS A	0.0	0.0	0.00	0.02	54.5
11	T1	313	86.2	0.260	0.0	LOS A	0.0	0.0	0.00	0.02	59.5
Approach		324	85.7	0.260	0.3	NA	0.0	0.0	0.00	0.02	59.3
All Vehicles		671	83.4	0.266	0.3	NA	0.1	0.8	0.01	0.02	59.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 5: Endeavour St - Albion St (PM) Peak - Existing]

Site 5: Endeavour St - Albion St (PM) Peak - Existing
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - eastern leg											
5	T1	93	18.2	0.054	0.0	LOS A	0.0	0.1	0.01	0.01	59.9
6	R2	1	0.0	0.054	5.8	LOS A	0.0	0.1	0.01	0.01	57.6
Approach		94	18.0	0.054	0.1	NA	0.0	0.1	0.01	0.01	59.9
North: Endeavour St - northern leg											
7	L2	6	50.0	0.023	6.6	LOS A	0.1	0.7	0.26	0.58	50.9
9	R2	15	42.9	0.023	7.0	LOS A	0.1	0.7	0.26	0.58	50.6
Approach		21	45.0	0.023	6.9	LOS A	0.1	0.7	0.26	0.58	50.7
West: Albion St - western leg											
10	L2	17	62.5	0.073	6.3	LOS A	0.0	0.0	0.00	0.08	55.0
11	T1	105	16.0	0.073	0.0	LOS A	0.0	0.0	0.00	0.08	59.6
Approach		122	22.4	0.073	0.9	NA	0.0	0.0	0.00	0.08	58.9
All Vehicles		237	22.7	0.073	1.1	NA	0.1	0.7	0.03	0.10	58.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 5: Endeavour St - Albion St (PM) Peak - Existing A1]

Site 5: Endeavour St - Albion St (PM) Peak - Assessment 1
Giveway / Yield (Two-Way)
Design Life Analysis (Practical Capacity): Results for 100 years

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - eastern leg											
5	T1	556	18.2	0.325	0.1	LOS A	0.1	1.1	0.03	0.01	59.8
6	R2	6	0.0	0.325	9.8	LOS A	0.1	1.1	0.03	0.01	57.5
Approach		562	18.0	0.325	0.2	NA	0.1	1.1	0.03	0.01	59.8
North: Endeavour St - northern leg											
7	L2	38	50.0	0.397	12.3	LOS A	1.6	15.2	0.78	0.99	43.9
9	R2	88	42.9	0.397	21.1	LOS B	1.6	15.2	0.78	0.99	43.6
Approach		126	45.0	0.397	18.5	LOS B	1.6	15.2	0.78	0.99	43.7
West: Albion St - western leg											
10	L2	101	62.5	0.436	6.3	LOS A	0.0	0.0	0.00	0.08	54.9
11	T1	632	16.0	0.436	0.1	LOS A	0.0	0.0	0.00	0.08	59.5
Approach		733	22.4	0.436	0.9	NA	0.0	0.0	0.00	0.08	58.8
All Vehicles		1421	22.7	0.436	2.2	NA	1.6	15.2	0.08	0.13	57.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 5: Endeavour St - Albion St (PM) Peak - Existing A2]

Site 5: Endeavour St - Albion St (PM) Peak - Assessment 2
Giveway / Yield (Two-Way)
Design Life Analysis (Practical Capacity): Results for 74 years

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - eastern leg											
5	T1	435	18.2	0.254	0.1	LOS A	0.1	0.5	0.02	0.01	59.8
6	R2	5	0.0	0.254	8.3	LOS A	0.1	0.5	0.02	0.01	57.6
Approach		440	18.0	0.254	0.1	NA	0.1	0.5	0.02	0.01	59.8
North: Endeavour St - northern leg											
7	L2	30	50.0	0.233	9.3	LOS A	0.8	8.0	0.65	0.86	46.9
9	R2	69	42.9	0.233	14.6	LOS B	0.8	8.0	0.65	0.86	46.6
Approach		99	45.0	0.233	13.0	LOS A	0.8	8.0	0.65	0.86	46.7
West: Albion St - western leg											
10	L2	79	62.5	0.342	6.3	LOS A	0.0	0.0	0.00	0.08	55.0
11	T1	495	16.0	0.342	0.0	LOS A	0.0	0.0	0.00	0.08	59.5
Approach		574	22.4	0.342	0.9	NA	0.0	0.0	0.00	0.08	58.9
All Vehicles		1113	22.7	0.342	1.7	NA	0.8	8.0	0.07	0.12	57.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 5: Endeavour St - Albion St (PM) Peak - Existing A3]

Site 5: Endeavour St - Albion St (PM) Peak - Assessment 3
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

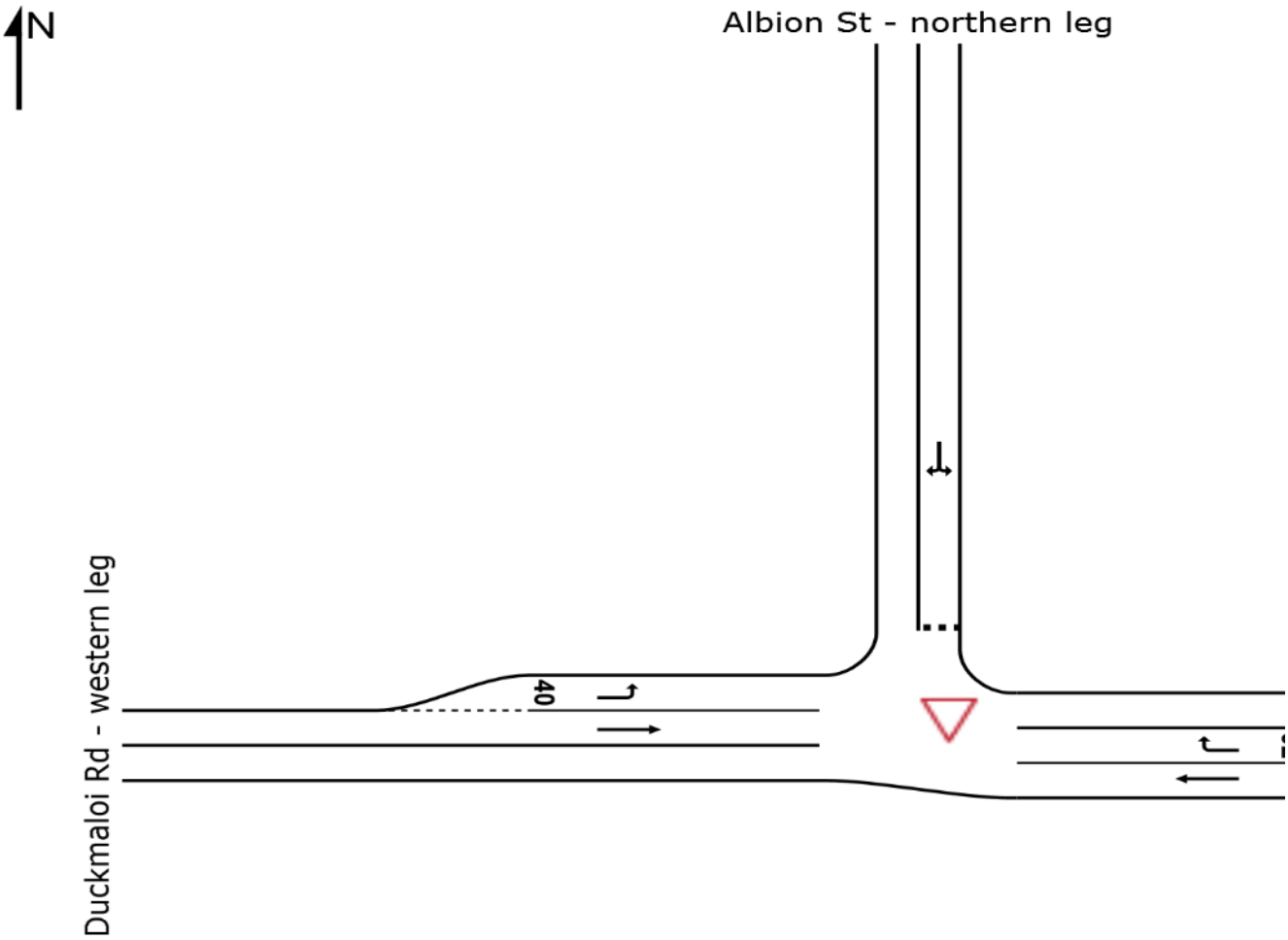
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Albion St - eastern leg											
5	T1	428	82.3	0.338	0.0	LOS A	0.0	0.2	0.00	0.00	59.9
6	R2	1	0.0	0.338	8.7	LOS A	0.0	0.2	0.00	0.00	57.6
Approach		429	82.1	0.338	0.0	NA	0.0	0.2	0.00	0.00	59.9
North: Endeavour St - northern leg											
7	L2	6	50.0	0.058	9.3	LOS A	0.2	1.7	0.66	0.84	46.6
9	R2	15	42.9	0.058	15.4	LOS B	0.2	1.7	0.66	0.84	46.3
Approach		21	45.0	0.058	13.6	LOS A	0.2	1.7	0.66	0.84	46.4
West: Albion St - western leg											
10	L2	17	62.5	0.357	6.3	LOS A	0.0	0.0	0.00	0.02	54.9
11	T1	441	80.0	0.357	0.1	LOS A	0.0	0.0	0.00	0.02	59.5
Approach		458	79.3	0.357	0.3	NA	0.0	0.0	0.00	0.02	59.3
All Vehicles		908	79.8	0.357	0.5	NA	0.2	1.7	0.02	0.03	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 1 [Site 8: Albion St - Duckmaloi Rd (AM) Peak - Existing]

Site 8: Albion St - Duckmaloi Rd (AM) Peak - Existing
Giveway / Yield (Two-Way)



Organisation: SMEC AUSTRALIA PTY LTD (SYDNEY) | Created: Thursday, 15 September 2016 10:50:32 AM
Project: I:\projects\30011699 – Borg Panel Oberon TIA\SIDRA\Models\20160416\160905 FR\Site 8 - Albion St - Duckmaloi Rd FR.sip7

MOVEMENT SUMMARY

Site: 1 [Site 8: Albion St - Duckmaloi Rd (AM) Peak - Existing]

Site 8: Albion St - Duckmaloi Rd (AM) Peak - Existing
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Duckmaloi Rd - eastern leg											
5	T1	53	8.0	0.028	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
6	R2	27	42.3	0.024	6.1	LOS A	0.1	0.9	0.10	0.57	51.0
Approach		80	19.7	0.028	2.1	NA	0.1	0.9	0.03	0.19	56.6
North: Albion St - northern leg											
7	L2	16	60.0	0.023	6.4	LOS A	0.1	0.8	0.09	0.55	50.9
9	R2	6	16.7	0.023	6.4	LOS A	0.1	0.8	0.09	0.55	52.4
Approach		22	47.6	0.023	6.4	LOS A	0.1	0.8	0.09	0.55	51.3
West: Duckmaloi Rd - western leg											
10	L2	3	0.0	0.002	5.5	LOS A	0.0	0.0	0.00	0.58	53.6
11	T1	23	0.0	0.012	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		26	0.0	0.012	0.7	NA	0.0	0.0	0.00	0.07	59.2
All Vehicles		128	20.5	0.028	2.5	NA	0.1	0.9	0.04	0.23	56.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 8: Albion St - Duckmaloi Rd (AM) Peak - Existing A1]

Site 8: Albion St - Duckmaloi Rd (AM) Peak - Assessment 1
Giveway / Yield (Two-Way)
Design Life Analysis (Practical Capacity): Results for 100 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Duckmaloi Rd - eastern leg											
5	T1	316	8.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
6	R2	164	42.3	0.164	6.9	LOS A	0.7	6.9	0.32	0.60	50.5
Approach		480	19.7	0.170	2.4	NA	0.7	6.9	0.11	0.21	56.3
North: Albion St - northern leg											
7	L2	95	60.0	0.197	7.2	LOS A	0.8	7.7	0.34	0.65	49.3
9	R2	38	16.7	0.197	12.9	LOS A	0.8	7.7	0.34	0.65	50.7
Approach		133	47.6	0.197	8.8	LOS A	0.8	7.7	0.34	0.65	49.7
West: Duckmaloi Rd - western leg											
10	L2	19	0.0	0.010	5.5	LOS A	0.0	0.0	0.00	0.58	53.6
11	T1	139	0.0	0.071	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		158	0.0	0.071	0.7	NA	0.0	0.0	0.00	0.07	59.1
All Vehicles		771	20.5	0.197	3.1	NA	0.8	7.7	0.13	0.25	55.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 8: Albion St - Duckmaloi Rd (AM) Peak - Existing A3]

Site 8: Albion St - Duckmaloi Rd (AM) Peak - Assessment 3
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Duckmaloi Rd - eastern leg											
5	T1	53	8.0	0.028	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
6	R2	374	95.8	0.398	6.9	LOS A	2.5	31.8	0.18	0.56	48.7
Approach		426	84.9	0.398	6.1	NA	2.5	31.8	0.16	0.49	49.8
North: Albion St - northern leg											
7	L2	352	98.2	0.419	7.0	LOS A	2.4	31.1	0.15	0.57	49.3
9	R2	6	16.7	0.419	15.6	LOS B	2.4	31.1	0.15	0.57	52.2
Approach		358	96.8	0.419	7.1	LOS A	2.4	31.1	0.15	0.57	49.4
West: Duckmaloi Rd - western leg											
10	L2	3	0.0	0.002	5.5	LOS A	0.0	0.0	0.00	0.58	53.6
11	T1	23	0.0	0.012	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		26	0.0	0.012	0.7	NA	0.0	0.0	0.00	0.07	59.2
All Vehicles		811	87.4	0.419	6.4	NA	2.5	31.8	0.15	0.51	49.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 8: Albion St - Duckmaloi Rd (PM) Peak - Existing]

Site 8: Albion St - Duckmaloi Rd (PM) Peak - Existing
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Duckmaloi Rd - eastern leg											
5	T1	41	10.3	0.022	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
6	R2	23	54.5	0.022	6.4	LOS A	0.1	0.9	0.16	0.56	50.4
Approach		64	26.2	0.022	2.3	NA	0.1	0.9	0.06	0.20	56.1
North: Albion St - northern leg											
7	L2	17	18.8	0.024	5.9	LOS A	0.1	0.7	0.14	0.55	52.4
9	R2	9	0.0	0.024	6.2	LOS A	0.1	0.7	0.14	0.55	53.0
Approach		26	12.0	0.024	6.0	LOS A	0.1	0.7	0.14	0.55	52.6
West: Duckmaloi Rd - western leg											
10	L2	9	11.1	0.006	5.7	LOS A	0.0	0.0	0.00	0.57	53.2
11	T1	44	2.4	0.023	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		54	3.9	0.023	1.0	NA	0.0	0.0	0.00	0.10	58.7
All Vehicles		144	15.3	0.024	2.5	NA	0.1	0.9	0.05	0.23	56.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 8: Albion St - Duckmaloi Rd (PM) Peak - Existing A2]

Site 8: Albion St - Duckmaloi Rd (PM) Peak - Assessment 2
Giveway / Yield (Two-Way)
Design Life Analysis (Practical Capacity): Results for 100 years

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Duckmaloi Rd - eastern leg											
5	T1	246	10.3	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
6	R2	139	54.5	0.180	8.4	LOS A	0.8	7.8	0.47	0.70	49.2
Approach		385	26.2	0.180	3.0	NA	0.8	7.8	0.17	0.25	55.6
North: Albion St - northern leg											
7	L2	101	18.8	0.231	7.1	LOS A	0.9	7.1	0.47	0.71	50.4
9	R2	57	0.0	0.231	12.3	LOS A	0.9	7.1	0.47	0.71	51.0
Approach		158	12.0	0.231	8.9	LOS A	0.9	7.1	0.47	0.71	50.6
West: Duckmaloi Rd - western leg											
10	L2	57	11.1	0.033	5.7	LOS A	0.0	0.0	0.00	0.57	53.1
11	T1	265	2.4	0.138	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		322	3.9	0.138	1.0	NA	0.0	0.0	0.00	0.10	58.6
All Vehicles		865	15.3	0.231	3.4	NA	0.9	7.8	0.16	0.28	55.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Site 8: Albion St - Duckmaloi Rd (PM) Peak - Existing A3]

Site 8: Albion St - Duckmaloi Rd (PM) Peak - Assessment 3
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Duckmaloi Rd - eastern leg											
5	T1	41	10.3	0.022	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
6	R2	392	97.3	0.435	7.3	LOS A	2.8	36.1	0.29	0.57	48.4
Approach		433	89.1	0.435	6.6	NA	2.8	36.1	0.26	0.52	49.3
North: Albion St - northern leg											
7	L2	385	96.4	0.473	7.2	LOS A	2.9	36.9	0.24	0.59	49.1
9	R2	9	0.0	0.473	15.1	LOS B	2.9	36.9	0.24	0.59	52.7
Approach		395	94.1	0.473	7.4	LOS A	2.9	36.9	0.24	0.59	49.2
West: Duckmaloi Rd - western leg											
10	L2	9	11.1	0.006	5.7	LOS A	0.0	0.0	0.00	0.57	53.2
11	T1	44	2.4	0.023	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		54	3.9	0.023	1.0	NA	0.0	0.0	0.00	0.10	58.7
All Vehicles		881	86.1	0.473	6.6	NA	2.9	36.9	0.24	0.52	49.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.