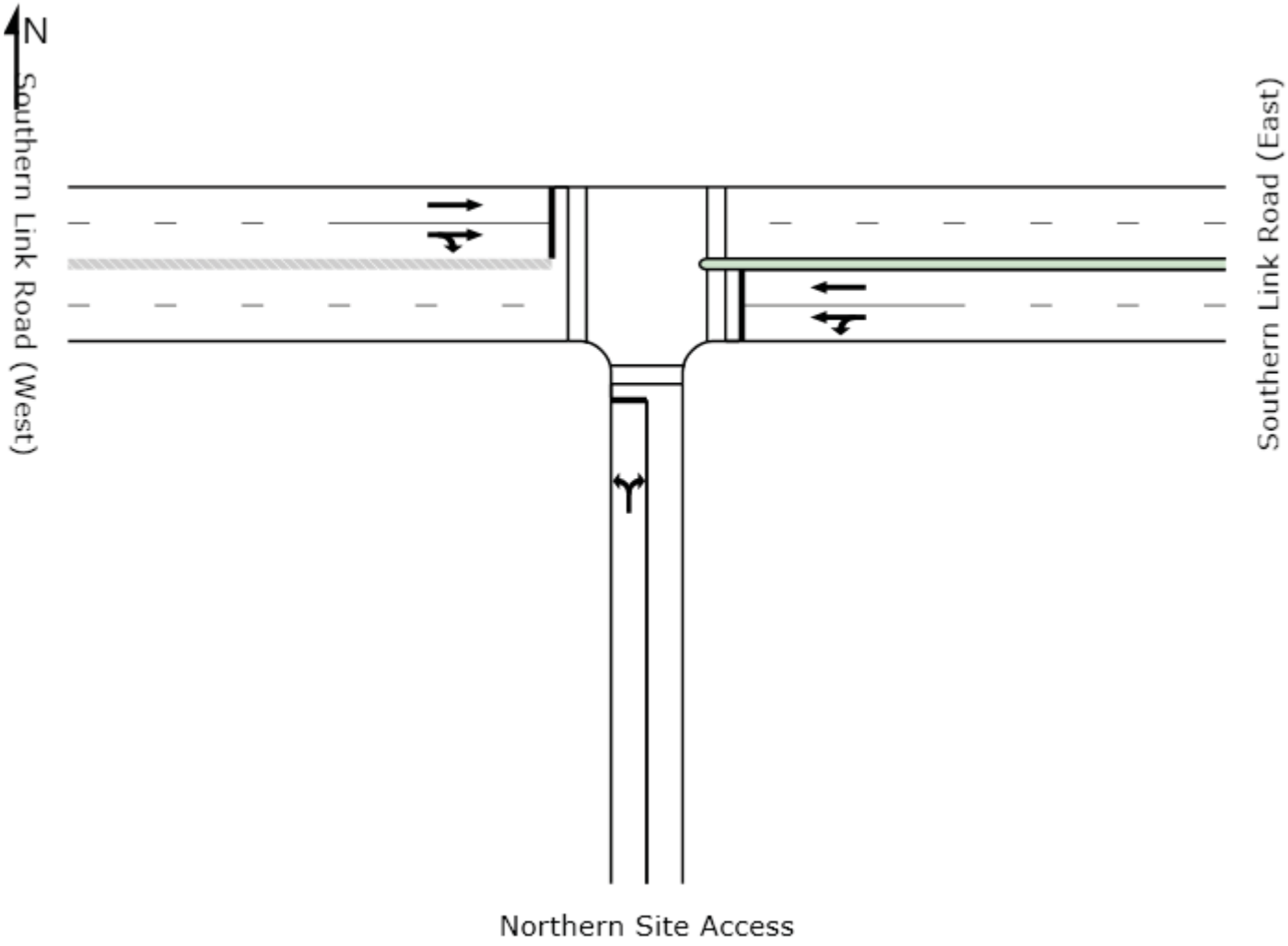
Appendix B – Detailed SIDRA Outputs


N
Southern Link Road (West)
Southern Link Road (East)
Northern Site Access

LANE SUMMARY

Site: 2031 AM - Scenario 1

New Site
Signals - Fixed Time Cycle Time = 150 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Northern Site Access																
Lane 1	24	0	1	25	14.0	309	0.082	100	62.7	LOS E	1.5	11.9	500	–	0.0	0.0
Approach	24	0	1	25	14.0		0.082		62.7	LOS E	1.5	11.9				
East: Southern Link Road (East)																
Lane 1	1	517	0	518	14.0	1299	0.399	100	8.3	LOS A	14.2	111.4	500	–	0.0	0.0
Lane 2	0	518	0	518	14.0	1299	0.399	100	8.3	LOS A	14.2	111.4	500	–	0.0	0.0
Approach	1	1035	0	1036	14.0		0.399		8.3	LOS A	14.2	111.4				
West: Southern Link Road (West)																
Lane 1	0	568	0	568	14.0	1442	0.394	100	4.3	LOS A	11.4	89.7	500	–	0.0	0.0
Lane 2	0	128	77	205	14.0	520	0.394	100	8.7	LOS A	3.5	27.8	500	–	0.0	0.0
Approach	0	696	77	773	14.0		0.394		5.5	LOS A	11.4	89.7				
Intersection				1834	14.0		0.399		7.8	LOS A	14.2	111.4				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

PHASING SUMMARY

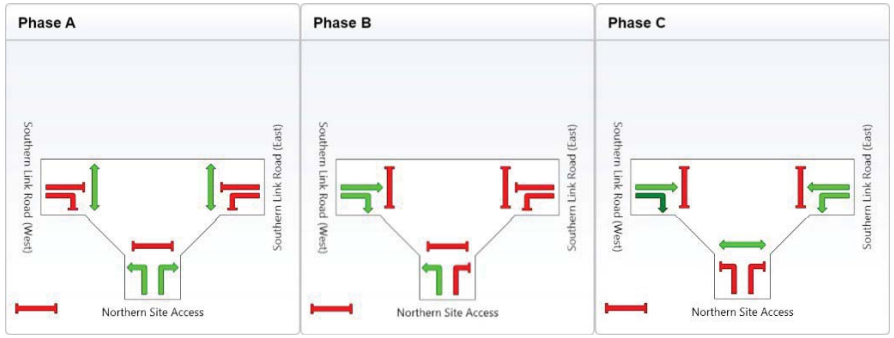
Site: 2031 AM - Scenario 1

New Site
Signals - Fixed Time Cycle Time = 150 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Two-Phase
Input Sequence: A, B, C
Output Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Green Time (sec)	17	6	109
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	23	12	115
Phase Split	15 %	8 %	77 %



LANE SUMMARY

Site: 2031 PM - Scenario 1

New Site
Signals - Fixed Time Cycle Time = 85 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Northern Site Access																
Lane 1	77	0	1	78	14.0	1019	0.076	100	15.7	LOS B	1.3	10.2	500	–	0.0	0.0
Approach	77	0	1	78	14.0		0.076		15.7	LOS B	1.3	10.2				
East: Southern Link Road (East)																
Lane 1	1	216	0	217	14.0	357	0.608	100	34.5	LOS C	8.5	66.5	500	–	0.0	0.0
Lane 2	0	217	0	217	14.0	357	0.608	100	34.4	LOS C	8.5	66.5	500	–	0.0	0.0
Approach	1	434	0	435	14.0		0.608		34.4	LOS C	8.5	66.5				
West: Southern Link Road (West)																
Lane 1	0	749	0	749	14.0	1178	0.636	100	9.1	LOS A	18.1	142.2	500	–	0.0	0.0
Lane 2	0	694	24	718	14.0	1128	0.636	100	9.3	LOS A	17.3	135.3	500	–	0.0	0.0
Approach	0	1443	24	1467	14.0		0.636		9.2	LOS A	18.1	142.2				
Intersection				1980	14.0		0.636		15.0	LOS B	18.1	142.2				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

PHASING SUMMARY

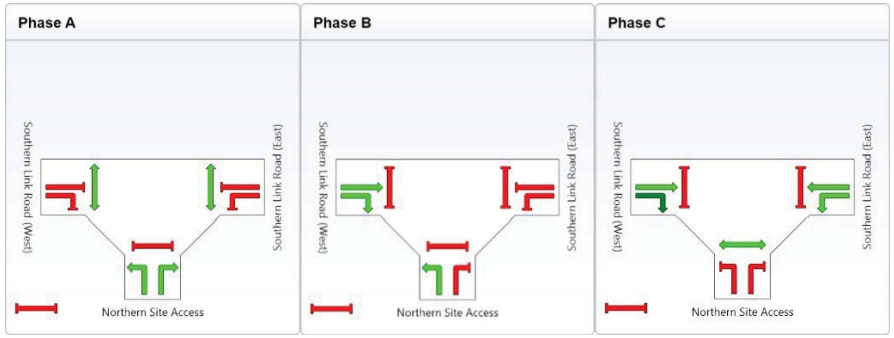
Site: 2031 PM - Scenario 1

New Site
Signals - Fixed Time Cycle Time = 85 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Two-Phase
Input Sequence: A, B, C
Output Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Green Time (sec)	17	33	17
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	23	39	23
Phase Split	27 %	46 %	27 %



LANE SUMMARY

Site: 2031 AM - Scenario 2

New Site
Signals - Fixed Time Cycle Time = 150 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Northern Site Access																
Lane 1	24	0	42	66	14.0	205	0.323	100	74.2	LOS F	4.5	35.4	500	–	0.0	0.0
Approach	24	0	42	66	14.0		0.323		74.2	LOS F	4.5	35.4				
East: Southern Link Road (East)																
Lane 1	273	237	0	509	14.0	1259	0.404	100	12.9	LOS A	14.1	110.3	500	–	0.0	0.0
Lane 2	0	525	0	525	14.0	1299	0.404	100	8.3	LOS A	14.5	113.6	500	–	0.0	0.0
Approach	273	762	0	1035	14.0		0.404		10.6	LOS A	14.5	113.6				
West: Southern Link Road (West)																
Lane 1	0	569	0	569	14.0	1442	0.394	100	4.3	LOS A	11.5	89.9	500	–	0.0	0.0
Lane 2	0	127	77	204	14.0	517	0.394	100	8.9	LOS A	3.5	27.7	500	–	0.0	0.0
Approach	0	696	77	773	14.0		0.394		5.5	LOS A	11.5	89.9				
Intersection				1874	14.0		0.404		10.7	LOS A	14.5	113.6				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

PHASING SUMMARY

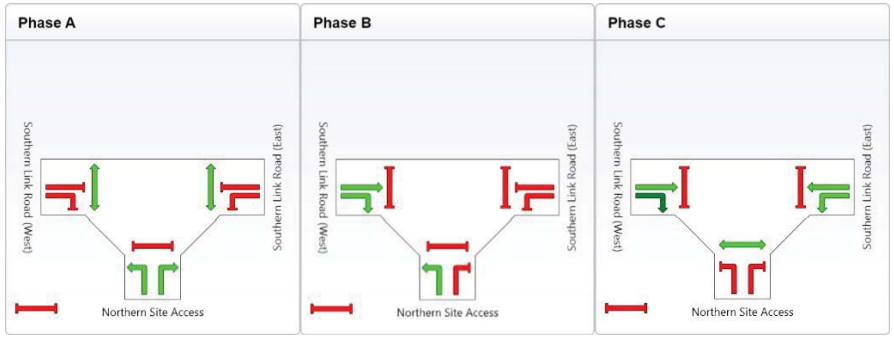
Site: 2031 AM - Scenario 2

New Site
Signals - Fixed Time Cycle Time = 150 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Two-Phase
Input Sequence: A, B, C
Output Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Green Time (sec)	17	6	109
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	23	12	115
Phase Split	15 %	8 %	77 %



MOVEMENT SUMMARY

Site: 2031 PM - Scenario 2

New Site
Signals - Fixed Time Cycle Time = 75 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow 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
South: Northern Site Access											
1	L	77	14.0	0.502	35.2	LOS C	6.7	52.3	0.90	0.81	30.6
3	R	129	14.0	0.502	35.3	LOS C	6.7	52.3	0.90	0.82	30.6
Approach		206	14.0	0.502	35.3	LOS C	6.7	52.3	0.90	0.81	30.6
East: Southern Link Road (East)											
4	L	87	14.0	0.658	41.0	LOS C	7.7	60.5	0.98	0.86	29.2
5	T	346	14.0	0.658	32.4	LOS C	7.9	61.9	0.98	0.84	29.9
Approach		434	14.0	0.658	34.1	LOS C	7.9	61.9	0.98	0.84	29.8
West: Southern Link Road (West)											
11	T	1443	14.0	0.684	10.4	LOS A	18.3	143.4	0.73	0.65	44.1
12	R	24	14.0	0.684	19.0	LOS B	17.3	135.8	0.73	0.96	42.0
Approach		1467	14.0	0.684	10.5	LOS A	18.3	143.4	0.73	0.66	44.1
All Vehicles		2107	14.0	0.684	17.8	LOS B	18.3	143.4	0.80	0.71	38.6

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	29.0	LOS C	0.1	0.1	0.88	0.88
P3	Across E approach	53	31.7	LOS D	0.1	0.1	0.92	0.92
P7	Across W approach	53	30.8	LOS D	0.1	0.1	0.91	0.91
All Pedestrians		159	30.5	LOS D			0.90	0.90

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

PHASING SUMMARY

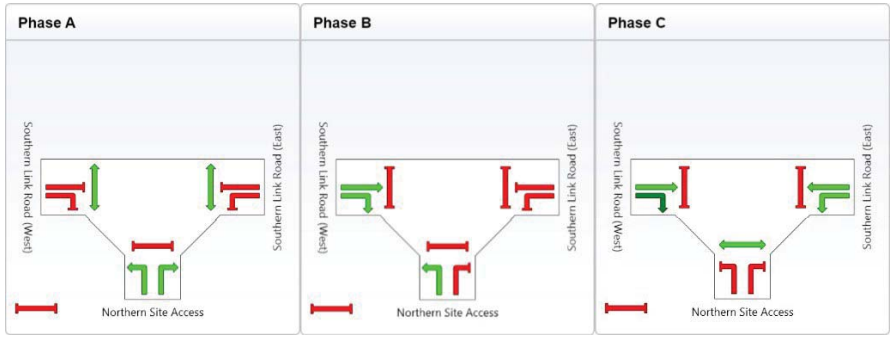
Site: 2031 PM - Scenario 2

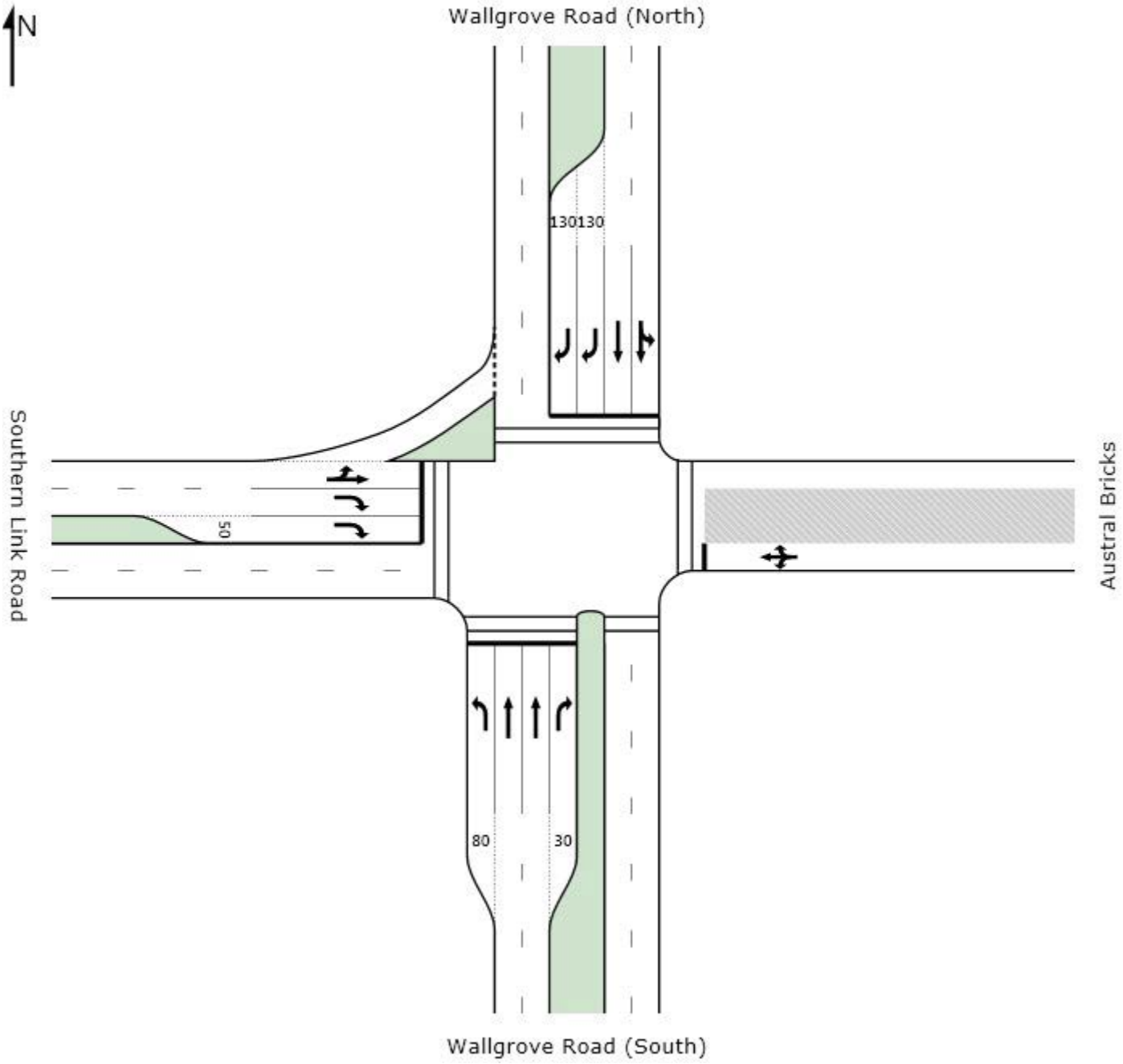
New Site
Signals - Fixed Time Cycle Time = 75 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Two-Phase
Input Sequence: A, B, C
Output Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Green Time (sec)	17	26	14
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	23	32	20
Phase Split	31 %	43 %	27 %




N
Wallgrove Road (North)
130
130
Southern Link Road
50
Austral Bricks
80
30
Wallgrove Road (South)

LANE SUMMARY

New Site
Signals - Fixed Time Cycle Time = 130 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Wallgrove Road (South)																
Lane 1	279	0	0	279	14.0	365[1]	0.764	100	40.3	LOS C	13.1	102.7	80	Turn Bay	0.0	27.7
Lane 2	0	351	0	351	14.0	440	0.798	100	53.4	LOS D	22.1	173.3	500	–	0.0	0.0
Lane 3	0	351	0	351	14.0	440	0.798	100	53.4	LOS D	22.1	173.3	500	–	0.0	0.0
Lane 4	0	0	25	25	58.0	106	0.239	100	67.8	LOS E	1.6	16.6	30	Turn Bay	0.0	0.0
Approach	279	702	25	1006	15.1		0.798		50.1	LOS D	22.1	173.3				
East: Austral Bricks																
Lane 1	9	1	13	23	72.5	296	0.078	100	35.9	LOS C	0.9	9.7	500	–	0.0	0.0
Approach	9	1	13	23	72.5		0.078		35.9	LOS C	0.9	9.7				
North: Wallgrove Road (North)																
Lane 1	26	474	0	500	14.9	735	0.680	100	22.0	LOS B	20.0	157.6	500	–	0.0	0.0
Lane 2	0	505	0	505	14.0	742	0.680	100	21.6	LOS B	20.1	157.9	500	–	0.0	0.0
Lane 3	0	0	378	378	14.0	442	0.856	100	66.4	LOS E	25.5	199.7	130	Turn Bay	0.0	44.3
Lane 4	0	0	378	378	14.0	442	0.856	100	66.4	LOS E	25.5	199.7	130	Turn Bay	0.0	44.3
Approach	26	979	756	1761	14.3		0.856		40.9	LOS C	25.5	199.7				
West: Southern Link Road																
Lane 1	262	1	0	263	13.9	1106	0.238	100	12.8	LOS A	4.4	34.7	500	–	0.0	0.0
Lane 2	0	0	300	300	14.0	469	0.639	100	47.3	LOS D	16.1	126.3	500	–	0.0	0.0
Lane 3	0	0	134	134	14.0	209[1]	0.639	100	42.6	LOS D	6.4	49.9	50	Turn Bay	0.0	4.9
Approach	262	1	434	697	14.0		0.639		33.4	LOS C	16.1	126.3				
Intersection				3487	14.8		0.856		42.0	LOS C	25.5	199.7				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

1 Reduced capacity due to a short lane effect

PHASING SUMMARY

New Site
Signals - Fixed Time Cycle Time = 130 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Diamond
Input Sequence: A, B, C, D, E, F
Output Sequence: A, B, C, D, E, F

Phase Timing Results

Phase	A	B	C	D	E	F
Green Time (sec)	32	6	22	22	6	6
Yellow Time (sec)	4	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2	2
Phase Time (sec)	38	12	28	28	12	12
Phase Split	29 %	9 %	22 %	22 %	9 %	9 %

LANE SUMMARY

New Site
Signals - Fixed Time Cycle Time = 145 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Wallgrove Road (South)																
Lane 1	171	0	0	171	14.0	444[1]	0.384	100	22.1	LOS B	5.2	41.0	80	Turn Bay	0.0	0.0
Lane 2	0	637	0	637	14.0	678	0.939	100	69.9	LOS E	53.6	420.4	500	–	0.0	0.0
Lane 3	0	637	0	637	14.0	678	0.939	100	69.9	LOS E	53.6	420.4	500	–	0.0	0.0
Lane 4	0	0	2	2	50.0	82[1]	0.026	100	43.3	LOS D	0.1	1.0	30	Turn Bay	0.0	0.0
Approach	171	1274	2	1446	14.1		0.939		64.2	LOS E	53.6	420.4				
East: Austral Bricks																
Lane 1	6	1	32	39	8.1	384[1]	0.101	100	48.5	LOS D	2.0	15.2	500	–	0.0	0.0
Approach	6	1	32	39	8.1		0.101		48.5	LOS D	2.0	15.2				
North: Wallgrove Road (North)																
Lane 1	7	338	0	346	14.0	751	0.460	100	21.7	LOS B	13.7	107.1	500	–	0.0	0.0
Lane 2	0	346	0	346	14.0	752	0.460	100	21.5	LOS B	13.7	107.2	500	–	0.0	0.0
Lane 3	0	0	132	132	14.0	210	0.628	100	75.3	LOS F	9.1	71.4	130	Turn Bay	0.0	0.0
Lane 4	0	0	132	132	14.0	210	0.628	100	75.3	LOS F	9.1	71.4	130	Turn Bay	0.0	0.0
Approach	7	684	263	955	14.0		0.628		36.4	LOS C	13.7	107.2				
West: Southern Link Road																
Lane 1	765	1	0	766	14.0	923	0.831	100	31.3	LOS C	40.4	317.1	500	–	0.0	0.0
Lane 2	0	0	492	492	14.0	518	0.949	100	89.5	LOS F	37.9	297.5	500	–	0.0	0.0
Lane 3	0	0	186	186	14.0	196[1]	0.949	100	50.3[8]	LOS D[8]	10.4[8]	81.6[8]	50	Turn Bay	0.0	50.0
Approach	765	1	678	1444	14.0		0.949		53.6	LOS D	40.4	317.1				
Intersection				3884	14.0		0.949		53.3	LOS D	53.6	420.4				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

1 Reduced capacity due to a short lane effect
8 Delay, queue length and stops for the short lane have been cut down to fit in the queuing space. You may wish to change the short lane to a full lane to investigate the effect on the adjacent lane performance.

PHASING SUMMARY

New Site
Signals - Fixed Time Cycle Time = 145 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Diamond
Input Sequence: A, B, C, D, E, F
Output Sequence: A, B, C, D, E, F

Phase Timing Results

Phase	A	B	C	D	E	F
Green Time (sec)	55	6	6	22	6	14
Yellow Time (sec)	4	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2	2
Phase Time (sec)	61	12	12	28	12	20
Phase Split	42 %	8 %	8 %	19 %	8 %	14 %

LANE SUMMARY

New Site
Signals - Fixed Time Cycle Time = 130 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Wallgrove Road (South)																
Lane 1	279	0	0	279	14.0	342[1]	0.815	100	49.5	LOS D	15.0	117.8	80	Turn Bay	0.0	40.4
Lane 2	0	351	0	351	14.0	357	0.982	100	95.1	LOS F	30.3	237.8	500	–	0.0	0.0
Lane 3	0	351	0	351	14.0	357	0.982	100	95.1	LOS F	30.3	237.8	500	–	0.0	0.0
Lane 4	0	0	25	25	58.0	92[1]	0.275	100	62.5	LOS E	1.5	15.7	30	Turn Bay	0.0	0.0
Approach	279	702	25	1006	15.1		0.982		81.6	LOS F	30.3	237.8				
East: Austral Bricks																
Lane 1	9	1	13	23	72.5	343	0.067	100	32.0	LOS C	0.8	8.5	500	–	0.0	0.0
Approach	9	1	13	23	72.5		0.067		32.0	LOS C	0.8	8.5				
North: Wallgrove Road (North)																
Lane 1	26	406	0	432	15.1	653	0.662	100	22.6	LOS B	16.5	130.3	500	–	0.0	0.0
Lane 2	0	301	128[0]	429	14.0	649	0.662	100	22.0	LOS B	16.4	128.5	500	–	0.0	0.0
Lane 3	0	0	450	450	14.0	450[1]	1.000[3]	100	54.4[8]	LOS D[8]	27.1[8]	212.2[8]	130	Turn Bay	0.0	50.0
Lane 4	0	0	450	450	14.0	450[1]	1.000[3]	100	54.4[8]	LOS D[8]	27.1[8]	212.2[8]	130	Turn Bay	0.0	50.0
Approach	26	706	1028	1761	14.3		1.000		38.7	LOS C	27.1	212.2				
West: Southern Link Road																
Lane 1	262	1	0	263	13.9	1085	0.242	100	13.1	LOS A	4.6	35.9	500	–	0.0	0.0
Lane 2	0	0	300	300	14.0	469	0.639	100	47.3	LOS D	16.1	126.3	500	–	0.0	0.0
Lane 3	0	0	134	134	14.0	209[1]	0.639	100	42.6	LOS D	6.4	49.9	50	Turn Bay	0.0	4.9
Approach	262	1	434	697	14.0		0.639		33.5	LOS C	16.1	126.3				
Intersection				3487	14.8		1.000		50.0	LOS D	30.3	237.8				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

0 Excess flow from back of an adjacent short lane
1 Reduced capacity due to a short lane effect
3 x = 1.00 due to short lane.
8 Delay, queue length and stops for the short lane have been cut down to fit in the queuing space. You may wish to change the short lane to a full lane to investigate the effect on the adjacent lane performance.

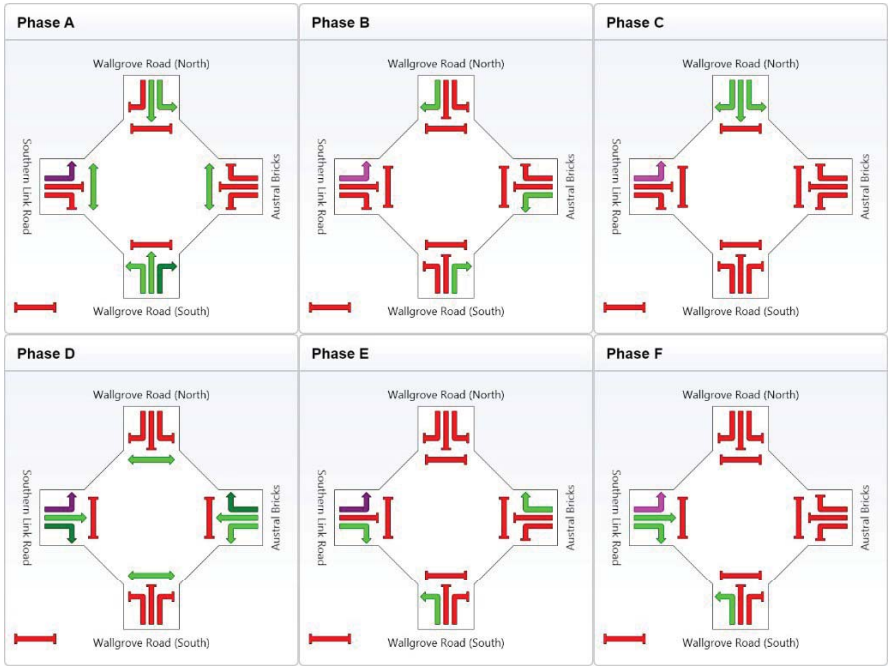
PHASING SUMMARY

New Site
Signals - Fixed Time Cycle Time = 130 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Diamond
Input Sequence: A, B, C, D, E, F
Output Sequence: A, B, C, D, E, F

Phase Timing Results

Phase	A	B	C	D	E	F
Green Time (sec)	26	12	22	22	6	6
Yellow Time (sec)	4	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2	2
Phase Time (sec)	32	18	28	28	12	12
Phase Split	25 %	14 %	22 %	22 %	9 %	9 %



LANE SUMMARY

New Site
Signals - Fixed Time Cycle Time = 145 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Wallgrove Road (South)																
Lane 1	171	0	0	171	14.0	444[1]	0.384	100	22.1	LOS B	5.2	41.0	80	Turn Bay	0.0	0.0
Lane 2	0	637	0	637	14.0	678	0.939	100	69.9	LOS E	53.6	420.4	500	–	0.0	0.0
Lane 3	0	637	0	637	14.0	678	0.939	100	69.9	LOS E	53.6	420.4	500	–	0.0	0.0
Lane 4	0	0	2	2	50.0	87[1]	0.024	100	41.5	LOS C	0.1	1.0	30	Turn Bay	0.0	0.0
Approach	171	1274	2	1446	14.1		0.939		64.2	LOS E	53.6	420.4				
East: Austral Bricks																
Lane 1	6	1	32	39	8.1	384[1]	0.101	100	48.5	LOS D	2.0	15.2	500	–	0.0	0.0
Approach	6	1	32	39	8.1		0.101		48.5	LOS D	2.0	15.2				
North: Wallgrove Road (North)																
Lane 1	7	295	0	302	14.0	751	0.402	100	21.1	LOS B	11.6	90.7	500	–	0.0	0.0
Lane 2	0	302	0	302	14.0	752	0.402	100	20.8	LOS B	11.6	90.8	500	–	0.0	0.0
Lane 3	0	0	175	175	14.0	210	0.836	100	83.7	LOS F	13.3	104.4	130	Turn Bay	0.0	0.0
Lane 4	0	0	175	175	14.0	210	0.836	100	83.7	LOS F	13.3	104.4	130	Turn Bay	0.0	0.0
Approach	7	597	351	955	14.0		0.836		44.0	LOS D	13.3	104.4				
West: Southern Link Road																
Lane 1	765	1	0	766	14.0	923	0.831	100	31.3	LOS C	40.4	317.1	500	–	0.0	0.0
Lane 2	0	0	492	492	14.0	518	0.949	100	89.5	LOS F	37.9	297.5	500	–	0.0	0.0
Lane 3	0	0	186	186	14.0	196[1]	0.949	100	50.3[8]	LOS D[8]	10.4[8]	81.6[8]	50	Turn Bay	0.0	50.0
Approach	765	1	678	1444	14.0		0.949		53.6	LOS D	40.4	317.1				
Intersection				3884	14.0		0.949		55.1	LOS D	53.6	420.4				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

1 Reduced capacity due to a short lane effect
8 Delay, queue length and stops for the short lane have been cut down to fit in the queuing space. You may wish to change the short lane to a full lane to investigate the effect on the adjacent lane performance.

PHASING SUMMARY

New Site
Signals - Fixed Time Cycle Time = 145 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Diamond
Input Sequence: A, B, C, D, E, F
Output Sequence: A, B, C, D, E, F

Phase Timing Results

Phase	A	B	C	D	E	F
Green Time (sec)	55	6	6	22	6	14
Yellow Time (sec)	4	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2	2
Phase Time (sec)	61	12	12	28	12	20
Phase Split	42 %	8 %	8 %	19 %	8 %	14 %

LANE SUMMARY

New Site
Signals - Fixed Time Cycle Time = 130 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Wallgrove Road (South)																
Lane 1	279	0	0	279	14.0	365[1]	0.764	100	40.3	LOS C	13.1	102.7	80	Turn Bay	0.0	27.7
Lane 2	0	351	0	351	14.0	440	0.798	100	53.4	LOS D	22.1	173.3	500	–	0.0	0.0
Lane 3	0	351	0	351	14.0	440	0.798	100	53.4	LOS D	22.1	173.3	500	–	0.0	0.0
Lane 4	0	0	25	25	58.0	106	0.239	100	67.8	LOS E	1.6	16.6	30	Turn Bay	0.0	0.0
Approach	279	702	25	1006	15.1		0.798		50.1	LOS D	22.1	173.3				
East: Austral Bricks																
Lane 1	9	1	13	23	72.5	296	0.078	100	35.9	LOS C	0.9	9.7	500	–	0.0	0.0
Approach	9	1	13	23	72.5		0.078		35.9	LOS C	0.9	9.7				
North: Wallgrove Road (North)																
Lane 1	26	474	0	500	14.9	735	0.680	100	22.0	LOS B	20.0	157.6	500	–	0.0	0.0
Lane 2	0	505	0	505	14.0	742	0.680	100	21.6	LOS B	20.1	157.9	500	–	0.0	0.0
Lane 3	0	0	378	378	14.0	442	0.856	100	66.4	LOS E	25.5	199.7	130	Turn Bay	0.0	44.3
Lane 4	0	0	378	378	14.0	442	0.856	100	66.4	LOS E	25.5	199.7	130	Turn Bay	0.0	44.3
Approach	26	979	756	1761	14.3		0.856		40.9	LOS C	25.5	199.7				
West: Southern Link Road																
Lane 1	262	1	0	263	13.9	1106	0.238	100	12.8	LOS A	4.4	34.7	500	–	0.0	0.0
Lane 2	0	0	300	300	14.0	469	0.639	100	47.3	LOS D	16.1	126.3	500	–	0.0	0.0
Lane 3	0	0	134	134	14.0	209[1]	0.639	100	42.6	LOS D	6.4	49.9	50	Turn Bay	0.0	4.9
Approach	262	1	434	697	14.0		0.639		33.4	LOS C	16.1	126.3				
Intersection				3487	14.8		0.856		42.0	LOS C	25.5	199.7				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

1 Reduced capacity due to a short lane effect

PHASING SUMMARY

New Site
Signals - Fixed Time Cycle Time = 130 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Diamond
Input Sequence: A, B, C, D, E, F
Output Sequence: A, B, C, D, E, F

Phase Timing Results

Phase	A	B	C	D	E	F
Green Time (sec)	32	6	22	22	6	6
Yellow Time (sec)	4	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2	2
Phase Time (sec)	38	12	28	28	12	12
Phase Split	29 %	9 %	22 %	22 %	9 %	9 %

LANE SUMMARY

New Site
Signals - Fixed Time Cycle Time = 145 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Wallgrove Road (South)																
Lane 1	171	0	0	171	14.0	444[1]	0.384	100	22.1	LOS B	5.2	41.0	80	Turn Bay	0.0	0.0
Lane 2	0	637	0	637	14.0	678	0.939	100	69.9	LOS E	53.6	420.4	500	–	0.0	0.0
Lane 3	0	637	0	637	14.0	678	0.939	100	69.9	LOS E	53.6	420.4	500	–	0.0	0.0
Lane 4	0	0	2	2	50.0	128	0.016	100	49.6	LOS D	0.1	1.1	30	Turn Bay	0.0	0.0
Approach	171	1274	2	1446	14.1		0.939		64.3	LOS E	53.6	420.4				
East: Austral Bricks																
Lane 1	6	1	32	39	8.1	384[1]	0.101	100	48.5	LOS D	2.0	15.2	500	–	0.0	0.0
Approach	6	1	32	39	8.1		0.101		48.5	LOS D	2.0	15.2				
North: Wallgrove Road (North)																
Lane 1	7	450	0	457	14.0	751	0.609	100	23.9	LOS B	19.8	155.1	500	–	0.0	0.0
Lane 2	0	458	0	458	14.0	752	0.609	100	23.7	LOS B	19.8	155.2	500	–	0.0	0.0
Lane 3	0	0	76	76	14.0	210	0.362	100	72.6	LOS F	5.0	39.4	130	Turn Bay	0.0	0.0
Lane 4	0	0	76	76	14.0	210	0.362	100	72.6	LOS F	5.0	39.4	130	Turn Bay	0.0	0.0
Approach	7	907	152	1066	14.0		0.609		30.7	LOS C	19.8	155.2				
West: Southern Link Road																
Lane 1	765	1	0	766	14.0	923	0.831	100	31.3	LOS C	40.4	317.1	500	–	0.0	0.0
Lane 2	0	0	492	492	14.0	518	0.949	100	89.5	LOS F	37.9	297.5	500	–	0.0	0.0
Lane 3	0	0	186	186	14.0	196[1]	0.949	100	50.3[8]	LOS D[8]	10.4[8]	81.6[8]	50	Turn Bay	0.0	50.0
Approach	765	1	678	1444	14.0		0.949		53.6	LOS D	40.4	317.1				
Intersection				3996	14.0		0.949		51.3	LOS D	53.6	420.4				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

1 Reduced capacity due to a short lane effect
8 Delay, queue length and stops for the short lane have been cut down to fit in the queuing space. You may wish to change the short lane to a full lane to investigate the effect on the adjacent lane performance.

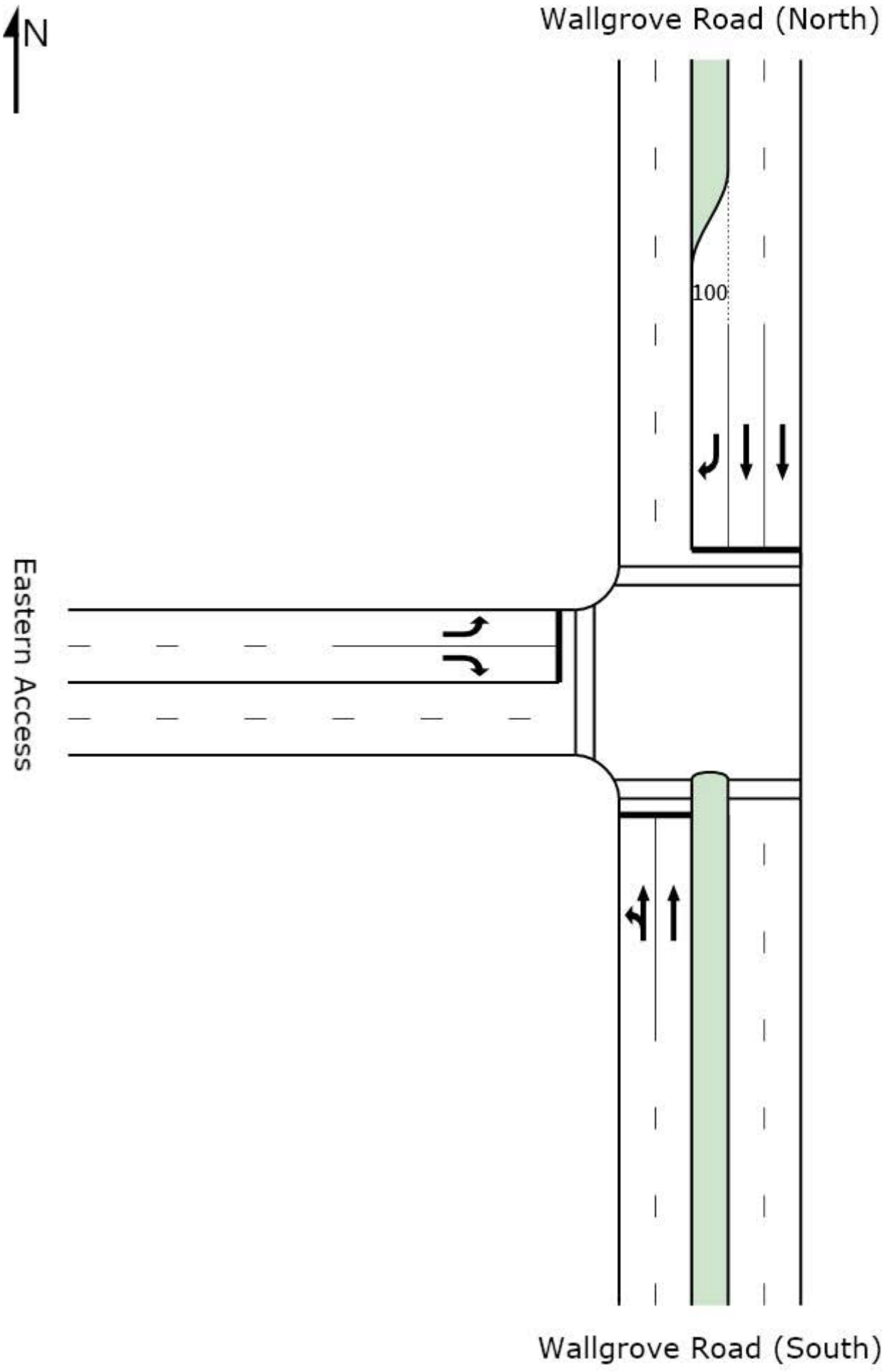
PHASING SUMMARY

New Site
Signals - Fixed Time Cycle Time = 145 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Diamond
Input Sequence: A, B, C, D, E, F
Output Sequence: A, B, C, D, E, F

Phase Timing Results

Phase	A	B	C	D	E	F
Green Time (sec)	55	6	6	22	6	14
Yellow Time (sec)	4	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2	2
Phase Time (sec)	61	12	12	28	12	20
Phase Split	42 %	8 %	8 %	19 %	8 %	14 %


N
Wallgrove Road (North)
100
Eastern Access
Wallgrove Road (South)

LANE SUMMARY

Site: 2031 AM - Scenario 1

New Site
Signals - Fixed Time Cycle Time = 110 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Wallgrove Road (South)																
Lane 1	129	378	0	508	14.0	688	0.738	100	33.1	LOS C	23.4	183.2	500	–	0.0	0.0
Lane 2	0	515	0	515	14.0	699	0.738	100	30.9	LOS C	23.7	185.6	500	–	0.0	0.0
Approach	129	894	0	1023	14.0		0.738		32.0	LOS C	23.7	185.6				
North: Wallgrove Road (North)																
Lane 1	0	570	0	570	14.0	1284	0.444	100	6.8	LOS A	12.4	97.5	500	–	0.0	0.0
Lane 2	0	570	0	570	14.0	1284	0.444	100	6.8	LOS A	12.4	97.5	500	–	0.0	0.0
Lane 3	0	0	273	273	14.0	368	0.740	100	35.0	LOS C	9.6	75.0	100	Turn Bay	0.0	0.0
Approach	0	1140	273	1413	14.0		0.740		12.2	LOS A	12.4	97.5				
West: Eastern Access																
Lane 1	87	0	0	87	14.0	844	0.103	100	23.9	LOS B	2.4	19.1	500	–	0.0	0.0
Lane 2	0	0	42	42	14.0	292	0.144	100	50.7	LOS D	1.9	15.3	500	–	0.0	0.0
Approach	87	0	42	129	14.0		0.144		32.6	LOS C	2.4	19.1				
Intersection				2565	14.0		0.740		21.1	LOS B	23.7	185.6				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

PHASING SUMMARY

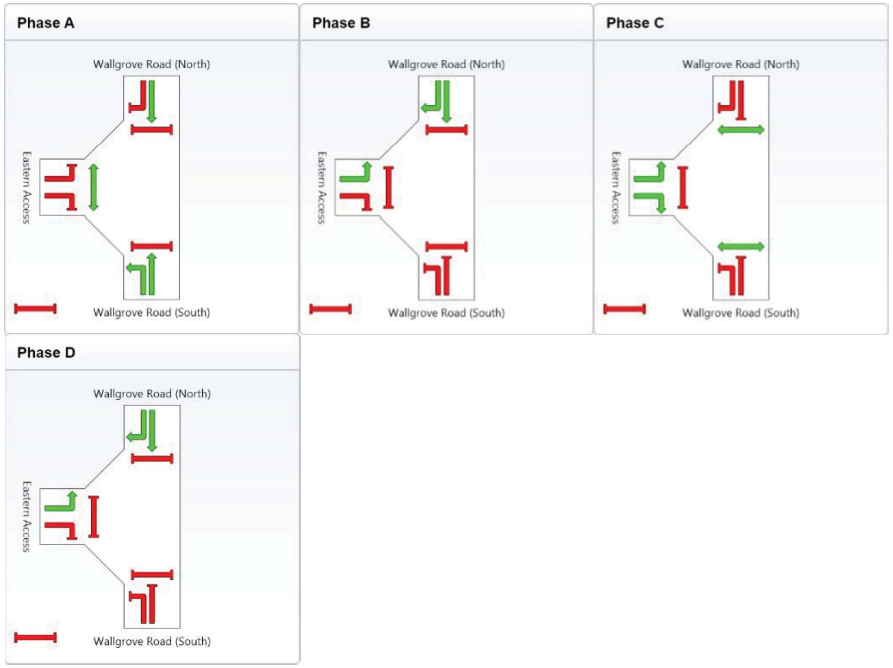
Site: 2031 AM - Scenario 1

New Site
Signals - Fixed Time Cycle Time = 110 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Two-Phase
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Green Time (sec)	43	15	19	9
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	49	21	25	15
Phase Split	45 %	19 %	23 %	14 %



LANE SUMMARY

New Site
Signals - Fixed Time Cycle Time = 115 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Wallgrove Road (South)																
Lane 1	42	564	0	606	14.0	929	0.652	100	21.8	LOS B	24.4	191.2	500	–	0.0	0.0
Lane 2	0	608	0	608	14.0	933	0.652	100	21.2	LOS B	24.5	192.0	500	–	0.0	0.0
Approach	42	1172	0	1214	14.0		0.652		21.5	LOS B	24.5	192.0				
North: Wallgrove Road (North)																
Lane 1	0	637	0	637	14.0	1306	0.488	100	6.9	LOS A	14.7	115.2	500	–	0.0	0.0
Lane 2	0	637	0	637	14.0	1306	0.488	100	6.9	LOS A	14.7	115.2	500	–	0.0	0.0
Lane 3	0	0	87	87	14.0	176	0.496	100	41.8	LOS C	3.5	27.8	100	Turn Bay	0.0	0.0
Approach	0	1275	87	1362	14.0		0.496		9.1	LOS A	14.7	115.2				
West: Eastern Access																
Lane 1	273	0	0	273	14.0	631	0.432	100	37.5	LOS C	11.4	89.4	500	–	0.0	0.0
Lane 2	0	0	129	129	14.0	279	0.464	100	56.4	LOS D	6.7	52.8	500	–	0.0	0.0
Approach	273	0	129	402	14.0		0.464		43.6	LOS D	11.4	89.4				
Intersection				2978	14.0		0.652		18.8	LOS B	24.5	192.0				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

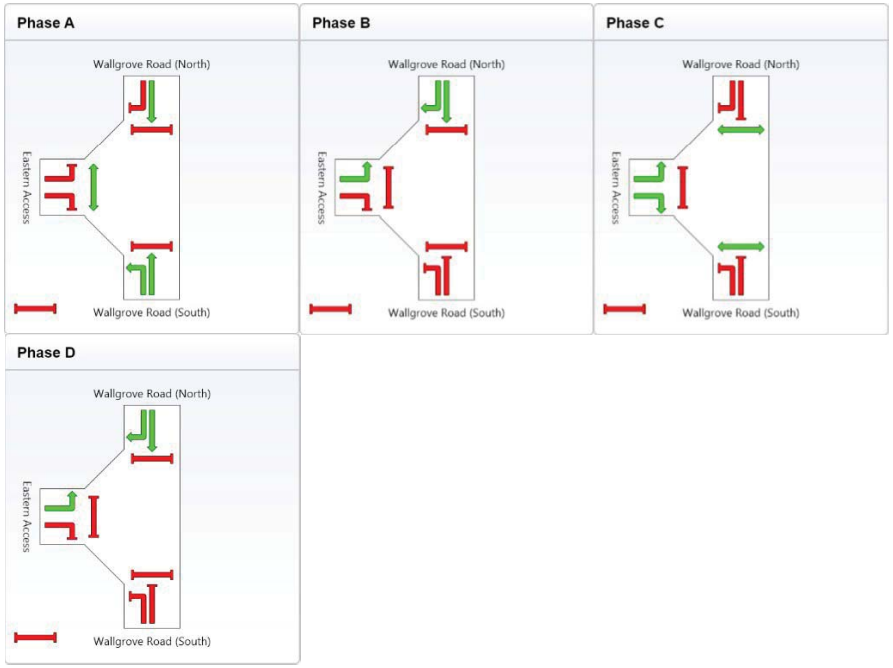
PHASING SUMMARY

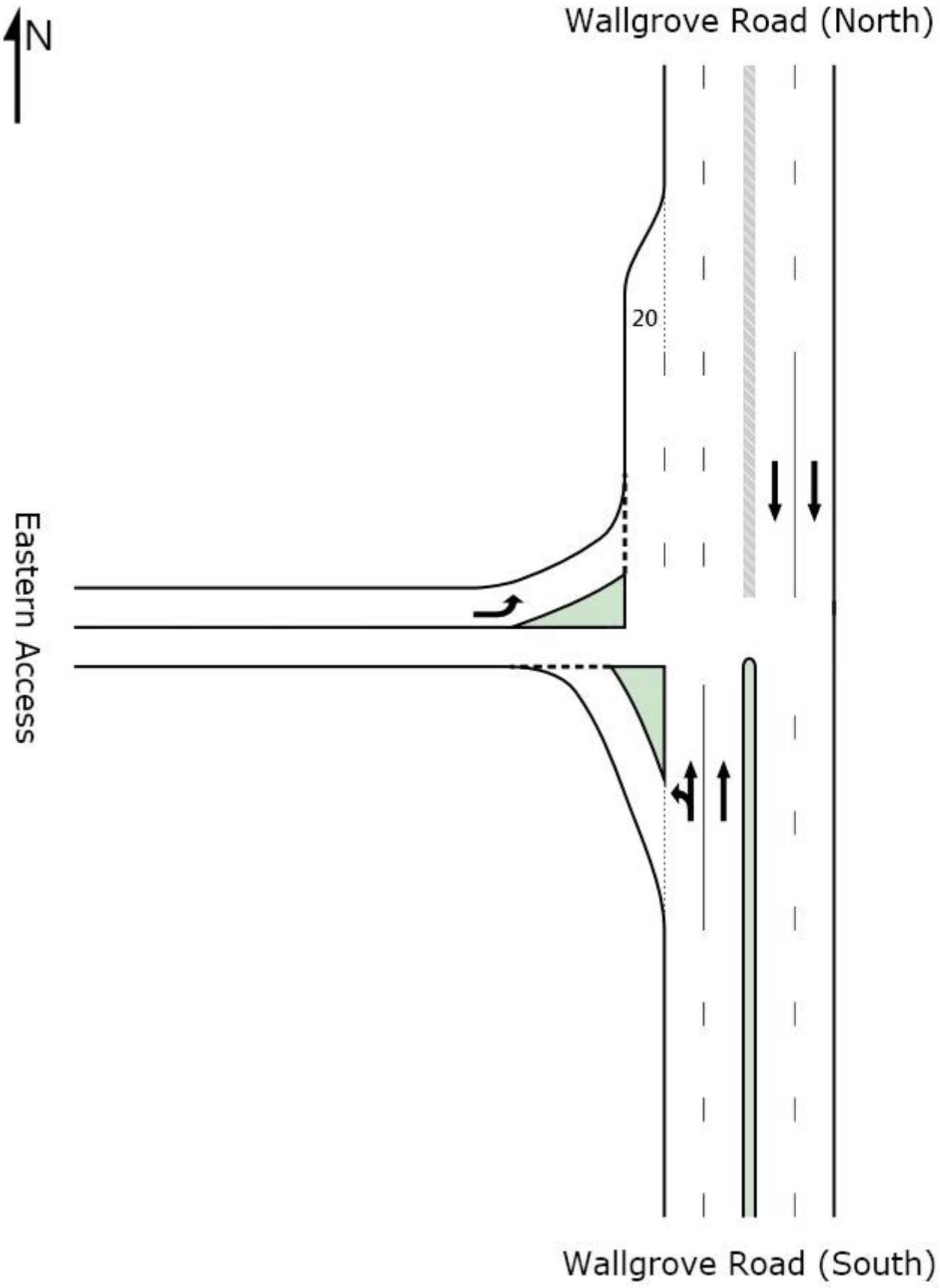
New Site
Signals - Fixed Time Cycle Time = 115 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Two-Phase
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Green Time (sec)	60	6	19	6
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	66	12	25	12
Phase Split	57 %	10 %	22 %	10 %




N
Wallgrove Road (North)
20
Eastern Access
Wallgrove Road (South)

MOVEMENT SUMMARY

Site: 2031 AM - Scenario 2

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow 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
South: Wallgrove Road (South)											
1	L	129	14.0	0.288	8.2	LOS A	0.0	0.0	0.00	1.20	49.4
2	T	894	14.0	0.288	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		1023	14.0	0.288	1.0	NA	0.0	0.0	0.00	0.15	58.4
North: Wallgrove Road (North)											
8	T	1140	14.0	0.319	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		1140	14.0	0.319	0.0	NA	0.0	0.0	0.00	0.00	60.0
West: Eastern Access											
10	L	87	14.0	0.357	25.0	LOS B	1.3	10.5	0.84	0.99	35.9
Approach		87	14.0	0.357	25.0	LOS B	1.3	10.5	0.84	0.99	35.9
All Vehicles		2251	14.0	0.357	1.4	NA	1.3	10.5	0.03	0.11	57.8

Level of Service (LOS) Method: Delay (RTA NSW).
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 used.

MOVEMENT SUMMARY

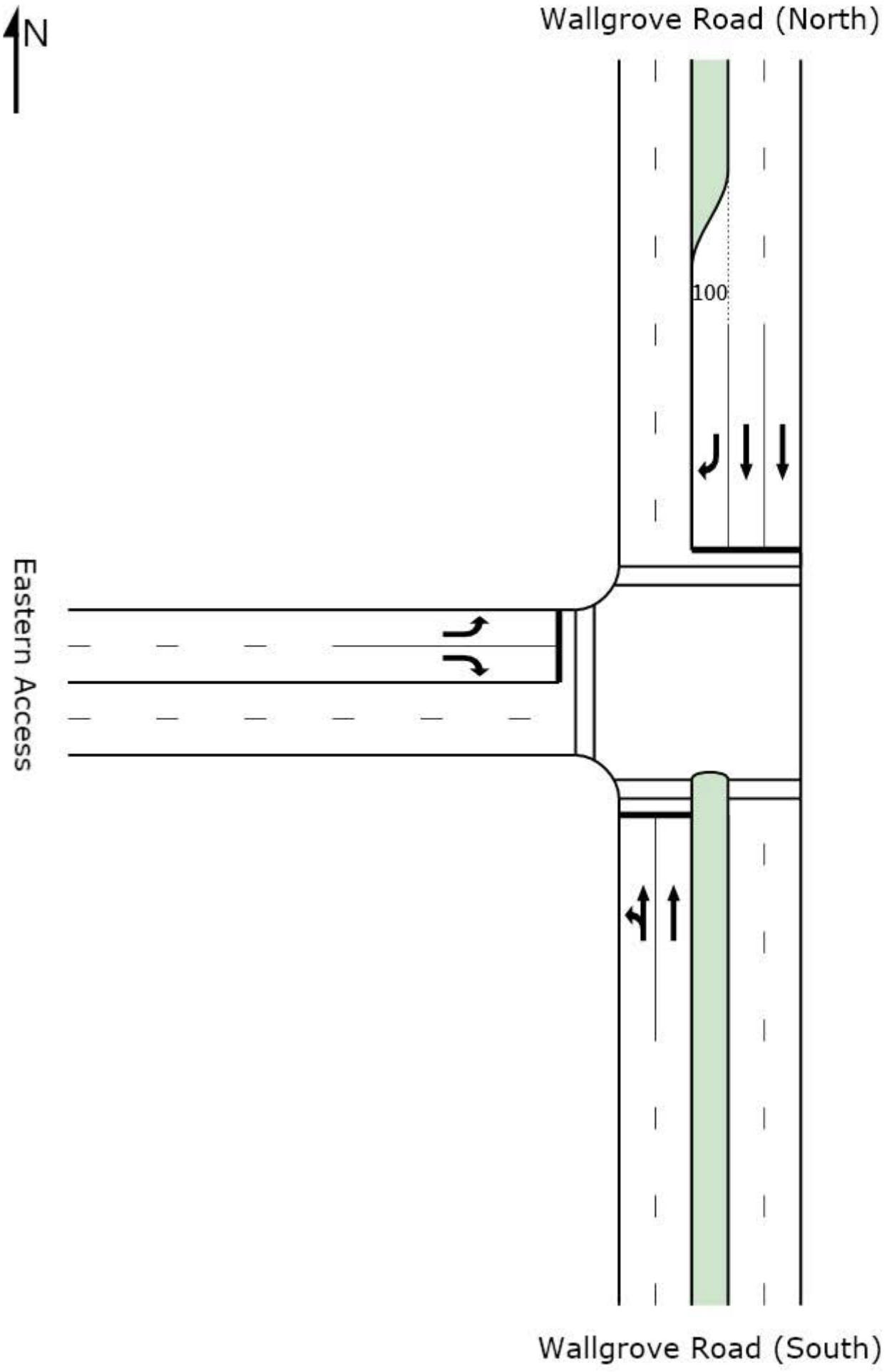
Site: 2031 PM - Scenario 2

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow 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
South: Wallgrove Road (South)											
1	L	42	14.0	0.340	8.2	LOS A	0.0	0.0	0.00	1.65	49.4
2	T	1172	14.0	0.340	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		1214	14.0	0.340	0.3	NA	0.0	0.0	0.00	0.06	59.6
North: Wallgrove Road (North)											
8	T	1275	14.0	0.357	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		1275	14.0	0.357	0.0	NA	0.0	0.0	0.00	0.00	60.0
West: Eastern Access											
10	L	273	14.0	1.883	844.9	LOS F	86.9	681.5	1.00	4.90	2.5
Approach		273	14.0	1.883	844.9	LOS F	86.9	681.5	1.00	4.90	2.5
All Vehicles		2761	14.0	1.883	83.6	NA	86.9	681.5	0.10	0.51	18.2

Level of Service (LOS) Method: Delay (RTA NSW).
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 used.


N
Wallgrove Road (North)
100
Eastern Access
Wallgrove Road (South)

LANE SUMMARY

Site: 2031 AM - Scenario 3

New Site
Signals - Fixed Time Cycle Time = 125 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Wallgrove Road (South)																
Lane 1	129	366	0	496	14.0	662	0.749	100	38.6	LOS C	26.2	205.3	500	–	0.0	0.0
Lane 2	0	503	0	503	14.0	672	0.749	100	36.3	LOS C	26.6	208.4	500	–	0.0	0.0
Approach	129	869	0	999	14.0		0.749		37.5	LOS C	26.6	208.4				
North: Wallgrove Road (North)																
Lane 1	0	881	0	881	14.0	1344	0.656	100	8.0	LOS A	25.8	201.9	500	–	0.0	0.0
Lane 2	0	881	0	881	14.0	1344	0.656	100	8.0	LOS A	25.8	201.9	500	–	0.0	0.0
Lane 3	0	0	349	349	14.0	473	0.739	100	34.6	LOS C	13.4	104.7	100	Turn Bay	0.0	9.2
Approach	0	1762	349	2112	14.0		0.739		12.4	LOS A	25.8	201.9				
West: Eastern Access																
Lane 1	112	0	0	112	14.0	891	0.125	100	24.3	LOS B	3.4	26.4	500	–	0.0	0.0
Lane 2	0	0	42	42	14.0	257	0.164	100	58.9	LOS E	2.3	17.8	500	–	0.0	0.0
Approach	112	0	42	154	14.0		0.164		33.8	LOS C	3.4	26.4				
Intersection				3264	14.0		0.749		21.1	LOS B	26.6	208.4				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

PHASING SUMMARY

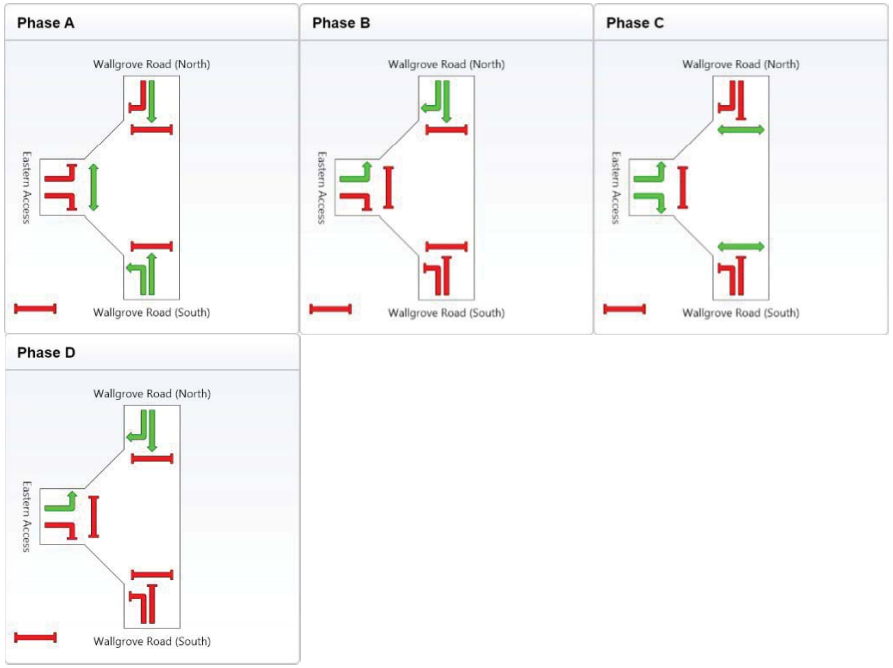
Site: 2031 AM - Scenario 3

New Site
Signals - Fixed Time Cycle Time = 125 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Two-Phase
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Green Time (sec)	47	23	19	12
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	53	29	25	18
Phase Split	42 %	23 %	20 %	14 %



LANE SUMMARY

Site: 2031 PM - Scenario 3

New Site
Signals - Fixed Time Cycle Time = 105 seconds (Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows L veh/h	T veh/h	R veh/h	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Lane Length m	SL Type	Cap. Adj. %	Prob. Block. %
South: Wallgrove Road (South)																
Lane 1	42	525	0	567	14.0	847	0.669	100	23.3	LOS B	22.2	174.4	500	–	0.0	0.0
Lane 2	0	570	0	570	14.0	851	0.669	100	22.7	LOS B	22.3	175.1	500	–	0.0	0.0
Approach	42	1095	0	1137	14.0		0.669		23.0	LOS B	22.3	175.1				
North: Wallgrove Road (North)																
Lane 1	0	737	0	737	14.0	1260	0.585	100	8.3	LOS A	18.7	146.5	500	–	0.0	0.0
Lane 2	0	737	0	737	14.0	1260	0.585	100	8.3	LOS A	18.7	146.5	500	–	0.0	0.0
Lane 3	0	0	112	112	14.0	193	0.578	100	37.6	LOS C	4.0	31.2	100	Turn Bay	0.0	0.0
Approach	0	1474	112	1585	14.0		0.585		10.3	LOS A	18.7	146.5				
West: Eastern Access																
Lane 1	349	0	0	349	14.0	691	0.505	100	33.4	LOS C	13.3	104.5	500	–	0.0	0.0
Lane 2	0	0	129	129	14.0	306	0.424	100	50.6	LOS D	6.0	47.3	500	–	0.0	0.0
Approach	349	0	129	479	14.0		0.505		38.1	LOS C	13.3	104.5				
Intersection				3201	14.0		0.669		19.0	LOS B	22.3	175.1				

Level of Service (LOS) Method: Delay (RTA NSW).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model used.

PHASING SUMMARY

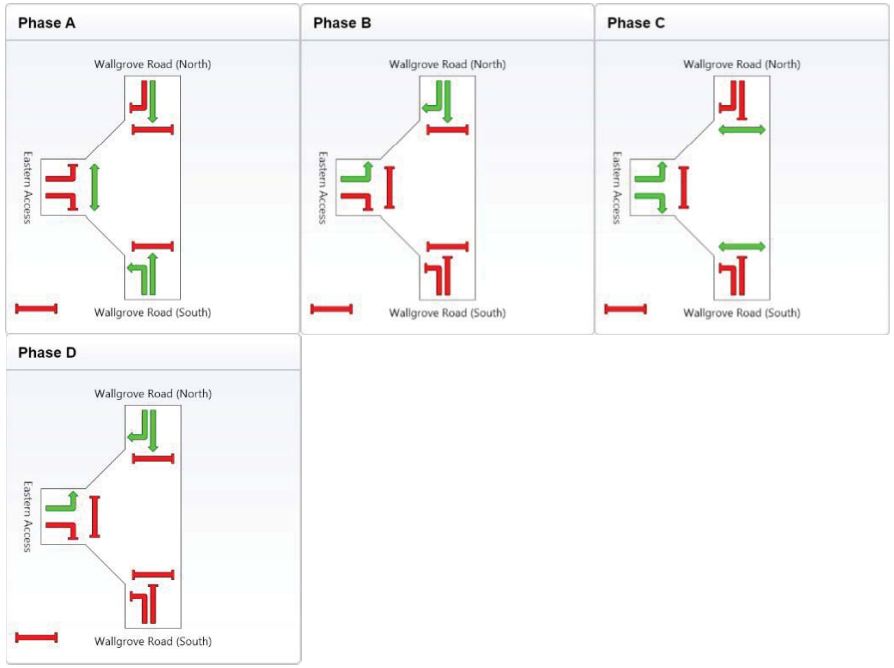
Site: 2031 PM - Scenario 3

New Site
Signals - Fixed Time Cycle Time = 105 seconds (Optimum Cycle Time - Minimum Delay)

Phase times determined by the program
Sequence: Two-Phase
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Green Time (sec)	50	6	19	6
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	56	12	25	12
Phase Split	53 %	11 %	24 %	11 %



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