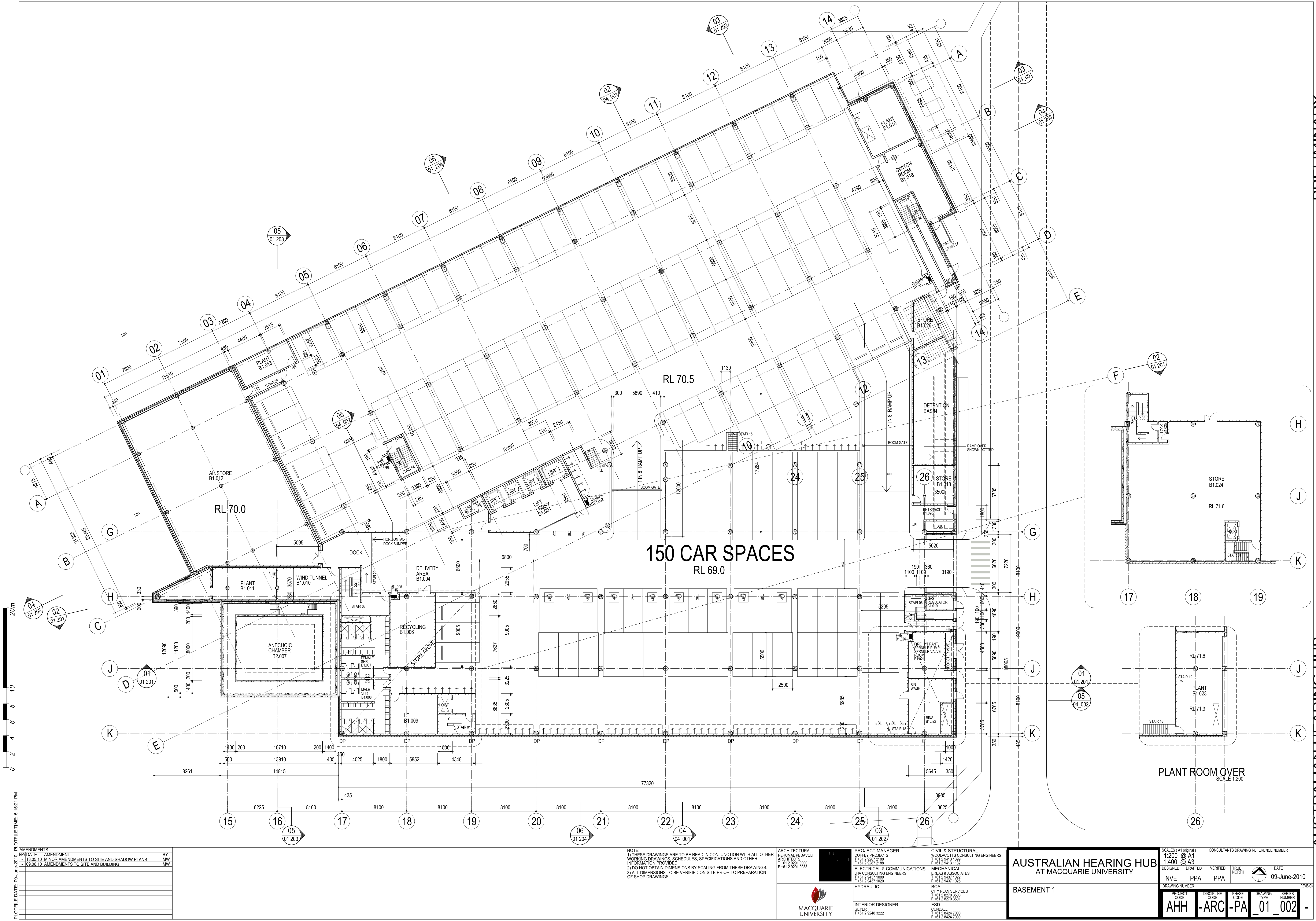


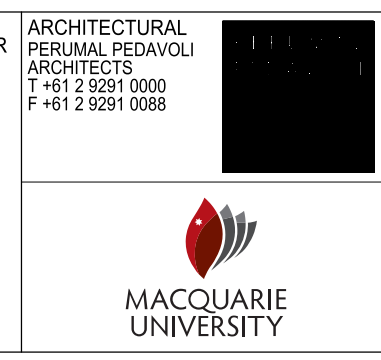


AMENDMENTS	
REV	DATE
1	13.05.10
2	09.06.10

BY	DATE
MMW	13.05.10
MMW	09.06.10

NOTE:
1) THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER WORKING DRAWINGS, SCHEDULES, SPECIFICATIONS AND OTHER INFORMATION PROVIDED.
2) DO NOT OBTAIN DIMENSIONS BY SCALING FROM THESE DRAWINGS.
3) ALL DIMENSIONS TO BE VERIFIED ON SITE PRIOR TO PREPARATION OF SHOP DRAWINGS.

ARCHITECTURAL
PERIMETER RETRACTION
ARCHITECTS
T +61 2 9291 0000
F +61 2 9291 0088



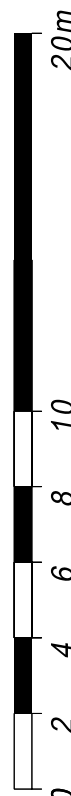
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COFFEY PROJECTS
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JHA CONSULTING ENGINEERS
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F +61 2 9437 1020
HYDRAULIC
INTERIOR DESIGNER
GEYER
T +61 2 9248 3222

CIVIL & STRUCTURAL
WILLACOTT CONSULTING ENGINEERS
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F +61 2 9413 1133
MECHANICAL
ERBAS & ASSOCIATES
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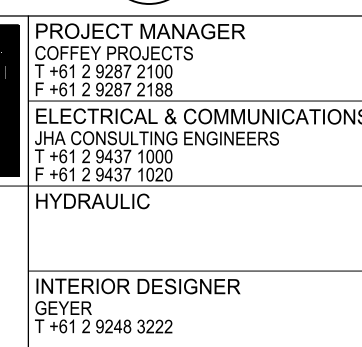
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VERIFIED	PPA	TRUE NORTH	DATE
CONSULTANTS DRAWING REFERENCE NUMBER	09-June-2010	REVISION	
PROJECT CODE	AHH	DISCIPLINE CODE	-ARC
PHASE CODE	-PA	DRAWING TYPE	01_002
SERIES NUMBER			

PRELIMINARY

AUSTRALIAN HEARING HUB



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ARCHITECTS
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F +61 2 9291 0088



S

AUSTRALIAN HEARING HUB
AT MACQUARIE UNIVERSITY

BASEMENT 2

SCALES (A1 original) 1:200 @ A1 1:400 @ A3		CONSULTANTS DRAWING REFERENCE NUMBER				
DESIGNED	DRAFTED	VERIFIED	TRUE NORTH		DATE	
NVE	PPA	PPA			09-June-2010	
DRAWING NUMBER						REVISION
PROJECT CODE CUTL	DISCIPLINE CODE ARC	PHASE CODE PA	DRAWING TYPE _01	SERIES NUMBER _001	-	

Appendix B

**Service Vehicle Swept
Path Diagram**

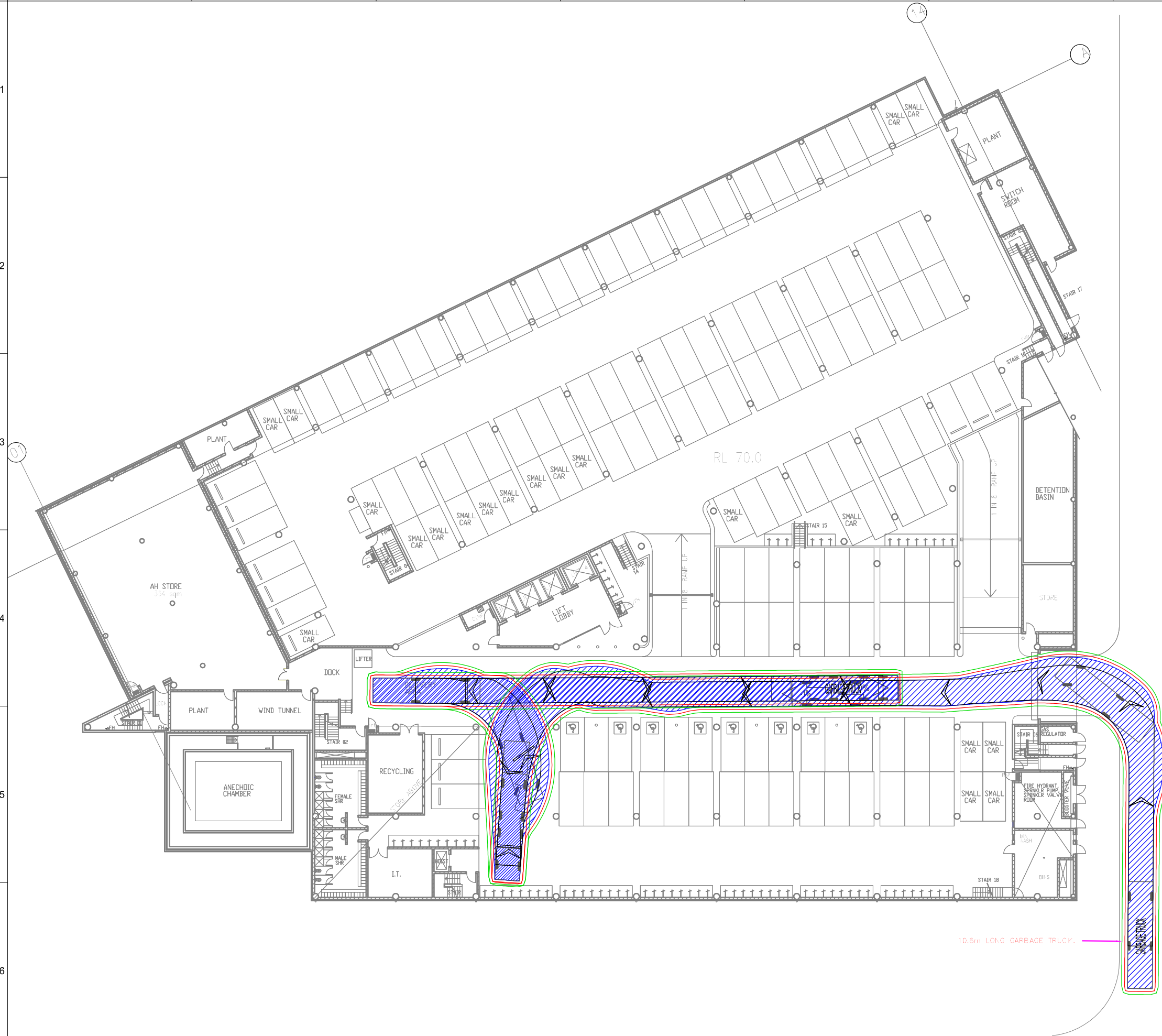
2

3

4

5

6



- Body Envelope
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

A diagram of a truck with a rectangular body. The total length of the truck is labeled as 10.8. The distance between the two wheels (the wheelbase) is labeled as 5. The distance from the front of the truck to the front wheel is labeled as 1.5.

0.800m
.500m
.633m
.428m
.500m
.00 sec
0.000m

Issue	Date	By	Chkd	Appd
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ARUP

Client
Macquarie University

Drawing Title

Turning Path
10.8m Garbage Truck

Discipline

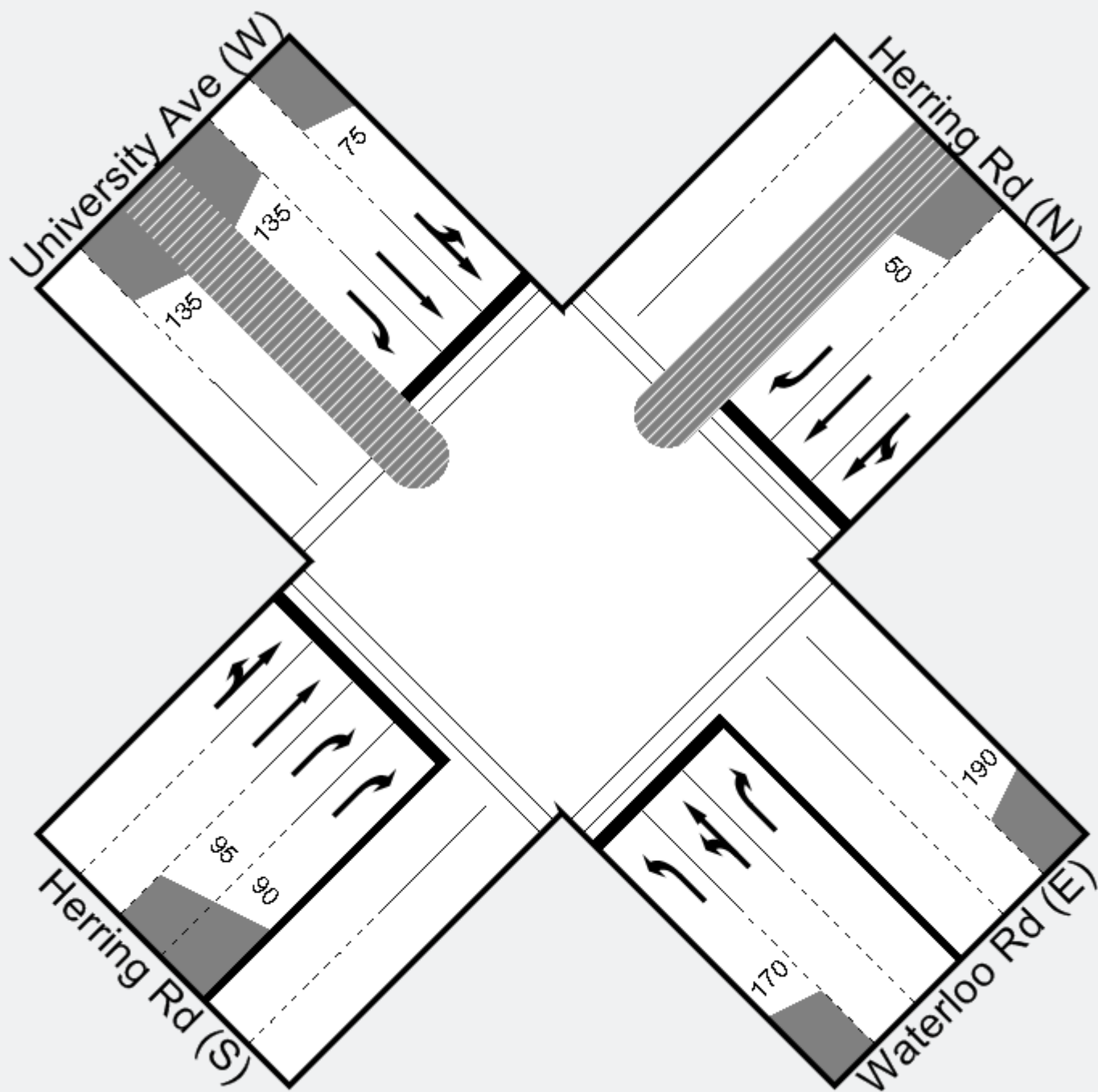
Sketch

Job No 220034-02	Drawing No SKT001	Issue A
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Appendix C

**SIDRA Intersection
Analysis**

Waterloo Road/Herring Road

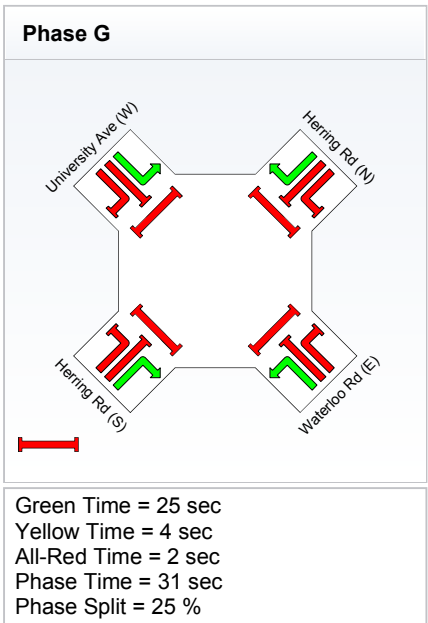
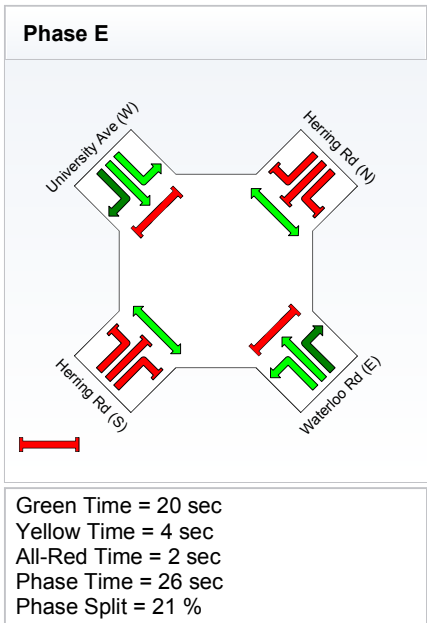
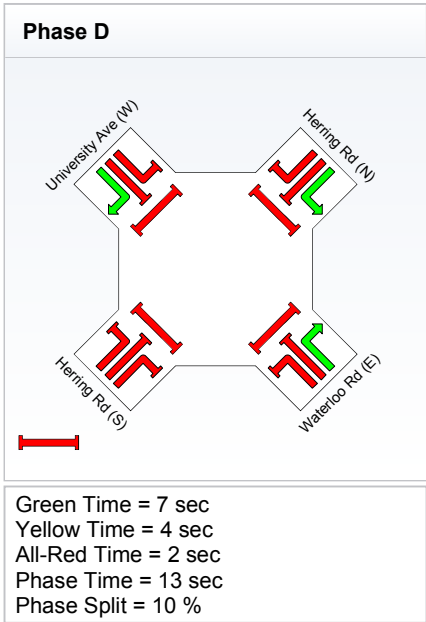
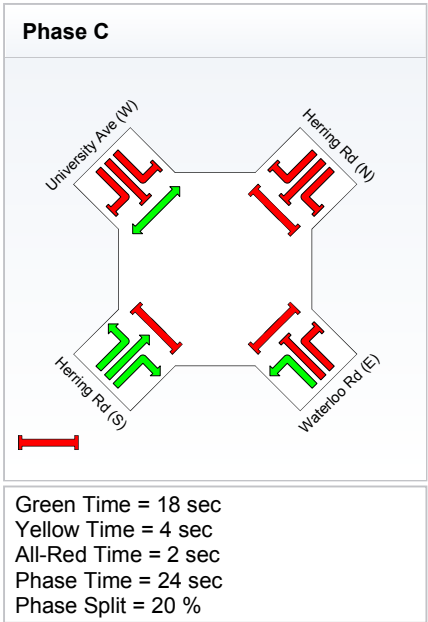
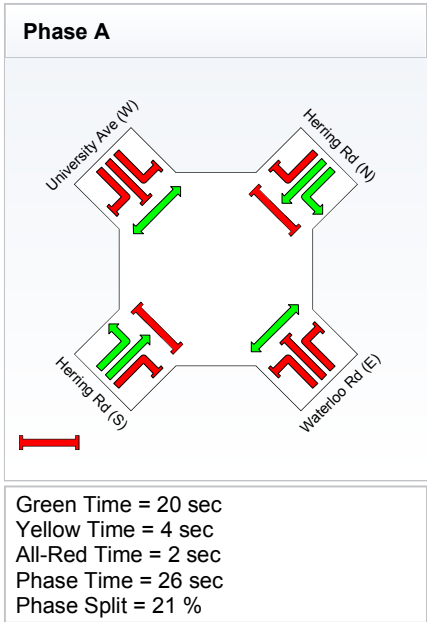


PHASING SUMMARY

Site: Waterloo Rd/ Herring Rd AM
- Existing

Waterloo Rd/ Herring Rd AM
Signals - Fixed Time Cycle Time = 120 seconds

Cycle Time Option: **Optimum Cycle Time (Minimum Delay)**
Phase times determined by the program
Sequence: **Split Phasing**
Input Sequence: **A, C, D, E, G**
Output Sequence: **A, C, D, E, G**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Waterloo Rd/ Herring Rd AM
- Existing

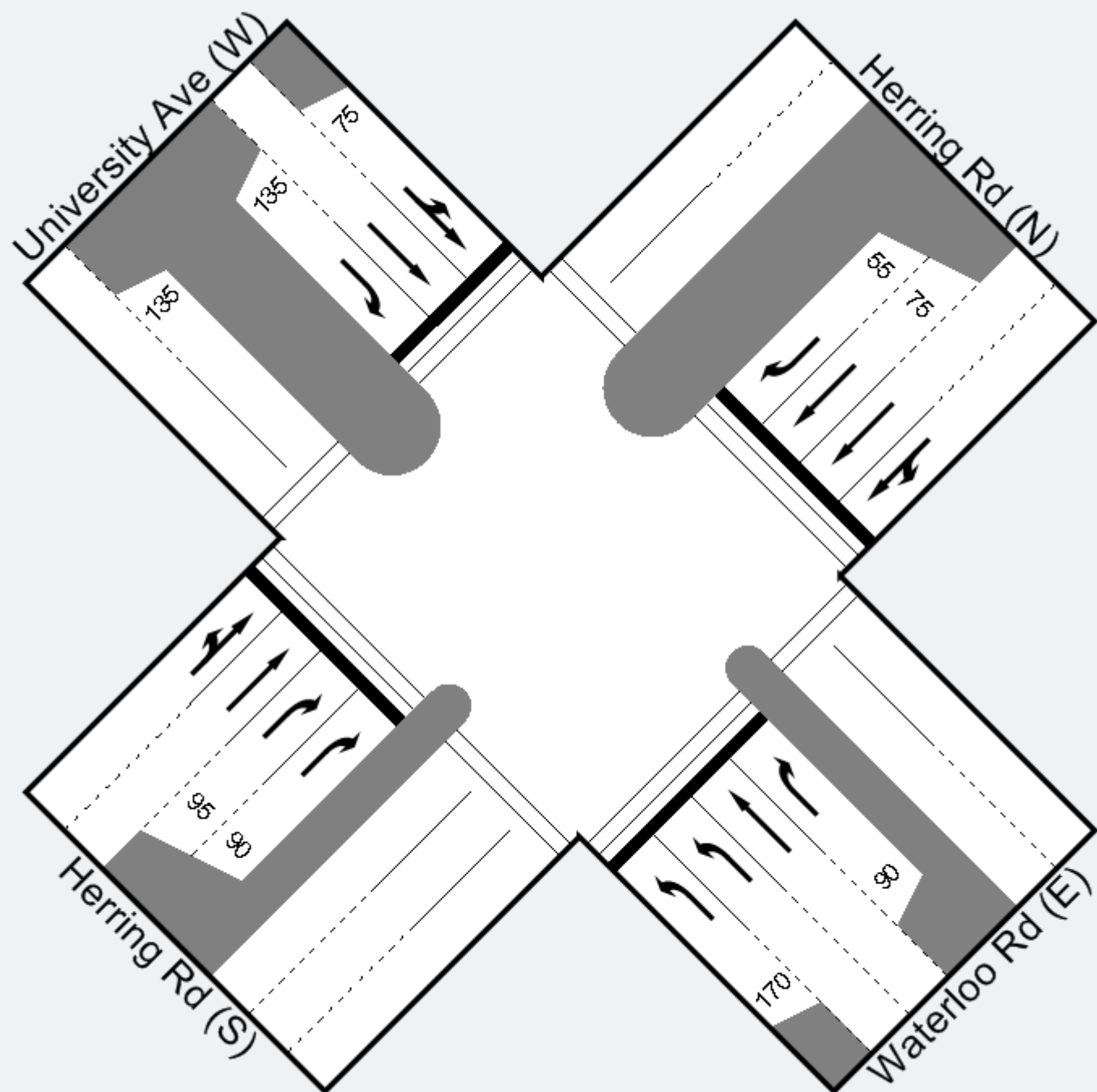
Waterloo Rd/ Herring Rd AM
Signals - Fixed Time Cycle Time = 120 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Waterloo Rd (E)											
21	L	127	5.5	0.127	14.5	LOS B	12.1	87.4	0.48	0.69	42.5
22	T	190	3.6	0.595	50.8	LOS D	12.1	87.4	0.98	0.80	22.9
23	R	150	22.0	0.700	52.8	LOS D	9.4	78.6	0.99	0.90	24.0
Approach		467	10.0	0.700	41.6	LOS C	12.1	87.4	0.85	0.80	26.8
North East Herring Rd (N)											
24	L	88	25.0	0.334	32.2	LOS C	5.3	44.2	0.89	0.75	31.2
25	T	120	18.3	0.334	44.2	LOS D	6.7	54.5	0.92	0.73	24.5
26	R	72	25.0	0.398	49.0	LOS D	4.9	41.6	0.87	0.72	24.9
Approach		280	22.1	0.398	41.6	LOS C	6.7	54.5	0.90	0.73	26.5
North West University Ave (W)											
4	L	81	25.0	0.453	51.3	LOS D	7.9	63.4	0.90	0.77	24.7
5	T	184	2.7	0.453	48.3	LOS D	9.4	67.3	0.94	0.76	23.3
6	R	59	3.3	0.266	46.7	LOS D	3.9	28.4	0.93	0.74	26.2
Approach		324	8.4	0.453	48.7	LOS D	9.4	67.3	0.93	0.76	24.2
South West Herring Rd (S)											
7	L	222	2.3	0.706	44.9	LOS D	25.7	183.1	0.92	0.89	27.9
8	T	774	2.2	0.706	34.8	LOS C	25.7	183.1	0.92	0.81	27.6
9	R	963	0.7	0.742	27.2	LOS B	16.1	113.0	0.93	0.86	34.3
Approach		1959	1.5	0.742	32.2	LOS C	25.7	183.1	0.93	0.84	30.7
All Vehicles		3030	5.4	0.742	36.3	LOS C	25.7	183.1	0.91	0.82	28.8

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS D. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P9	Across SE approach	133	40.8	LOS E	0.4	0.4	0.83	0.83
P11	Across NE approach	106	40.8	LOS E	0.3	0.3	0.83	0.83
P3	Across NW approach	108	23.4	LOS C	0.2	0.2	0.63	0.63
P5	Across SW approach	17	40.8	LOS E	0.0	0.0	0.83	0.83
All Pedestrians		364	35.7				0.77	0.77

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

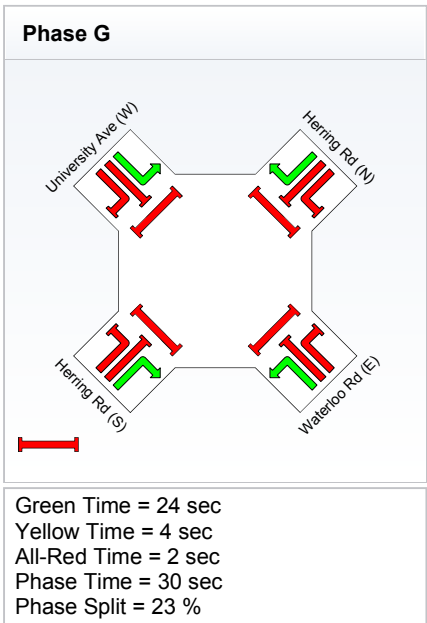
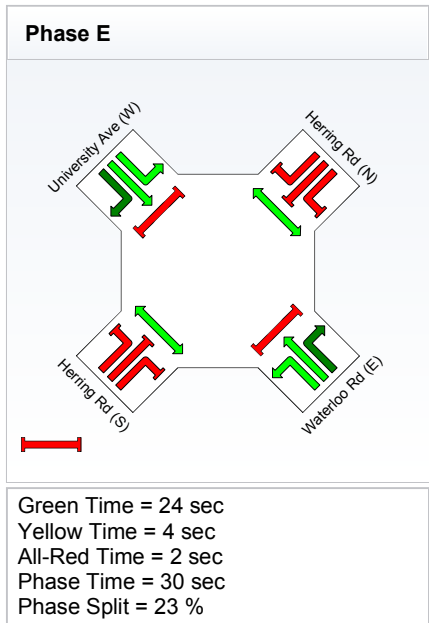
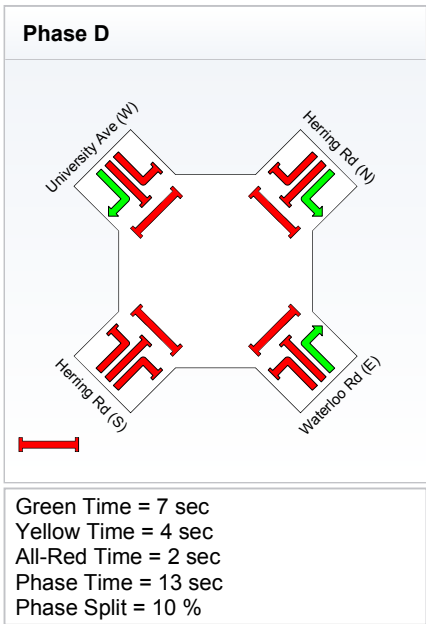
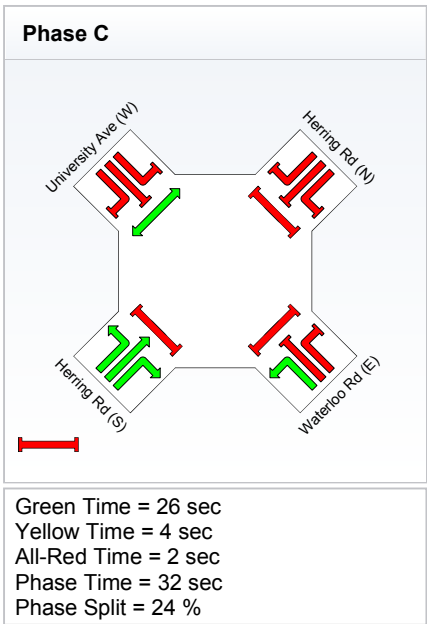
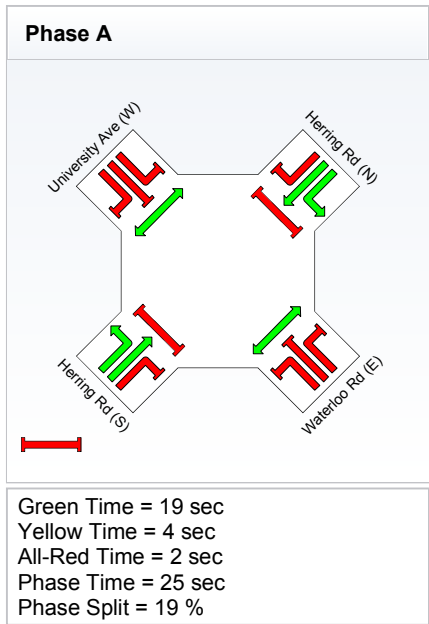


PHASING SUMMARY

Site: Waterloo Rd/ Herring Rd AM
- Base 2012 - future layout

Waterloo Rd/ Herring Rd AM - Base 2012 - future layout
Signals - Fixed Time Cycle Time = 130 seconds

Cycle Time Option: **Optimum Cycle Time (Minimum Delay)**
Phase times determined by the program
Sequence: **Split Phasing**
Input Sequence: **A, C, D, E, G**
Output Sequence: **A, C, D, E, G**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Waterloo Rd/ Herring Rd AM
- Base 2012 - future layout

Waterloo Rd/ Herring Rd AM - Base 2012 - future layout
Signals - Fixed Time Cycle Time = 130 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Waterloo Rd (E)											
21	L	127	5.5	0.060	14.1	LOS A	1.6	11.5	0.42	0.71	43.4
22	T	259	2.0	0.740	56.2	LOS D	17.3	123.1	1.00	0.88	22.7
23	R	150	22.0	0.719	60.1	LOS E	10.0	83.2	0.99	0.93	22.9
Approach		536	8.4	0.740	47.3	LOS D	17.3	123.1	0.86	0.85	25.7
North East Herring Rd (N)											
24	L	88	25.0	0.284	35.8	LOS C	4.3	36.8	0.89	0.77	30.7
25	T	120	18.3	0.239	53.8	LOS D	4.8	38.5	0.92	0.71	23.4
26	R	95	18.0	0.507	58.9	LOS E	6.9	55.8	0.91	0.78	23.1
Approach		303	20.2	0.507	50.2	LOS D	6.9	55.8	0.91	0.75	25.0
North West University Ave (W)											
4	L	87	20.0	0.469	54.2	LOS D	8.3	65.3	0.88	0.80	24.6
5	T	202	2.0	0.469	50.3	LOS D	11.1	79.1	0.93	0.76	24.1
6	R	65	3.0	0.344	50.1	LOS D	4.6	32.8	0.96	0.75	25.3
Approach		354	6.6	0.469	51.2	LOS D	11.1	79.1	0.92	0.77	24.4
South West Herring Rd (S)											
7	L	314	2.0	0.722	44.0	LOS D	29.7	211.3	0.91	0.88	27.7
8	T	774	2.2	0.722	35.8	LOS C	29.7	211.3	0.91	0.81	28.7
9	R	963	0.7	0.726	27.3	LOS B	18.3	128.6	0.90	0.85	34.4
Approach		2051	1.5	0.726	33.0	LOS C	29.7	211.3	0.91	0.84	30.9
All Vehicles		3244	4.9	0.740	39.0	LOS C	29.7	211.3	0.90	0.83	28.5

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS E. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P9	Across SE approach	133	46.5	LOS E	0.4	0.4	0.85	0.85
P11	Across NE approach	106	42.4	LOS E	0.3	0.3	0.81	0.81
P3	Across NW approach	108	23.4	LOS C	0.2	0.2	0.60	0.60
P5	Across SW approach	17	42.4	LOS E	0.1	0.1	0.81	0.81
All Pedestrians		364	38.3				0.76	0.76

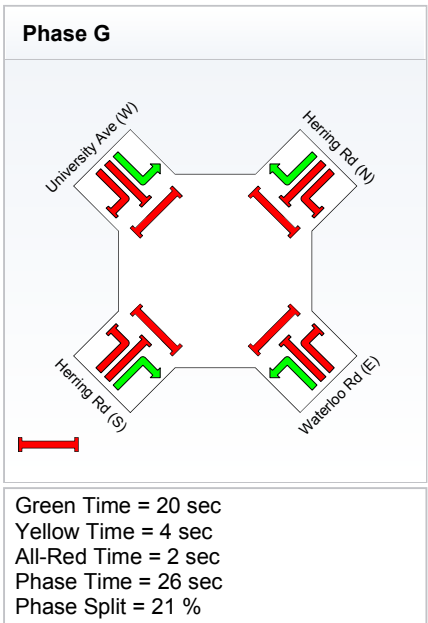
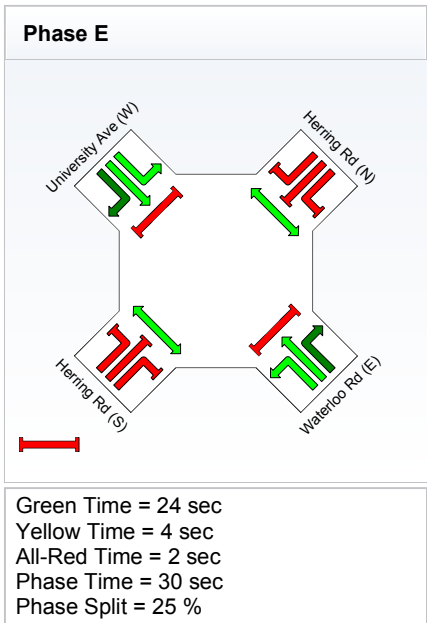
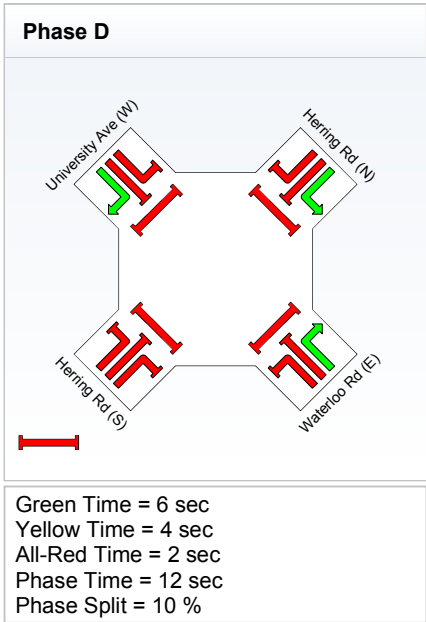
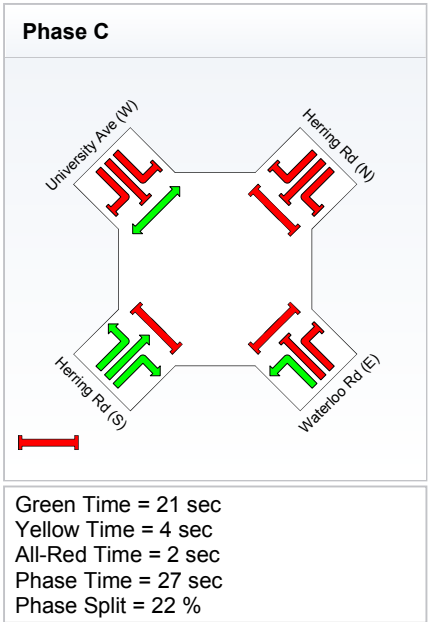
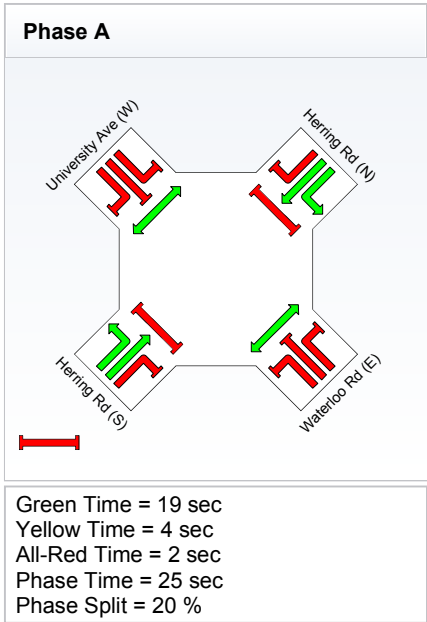
Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

PHASING SUMMARY

Site: Waterloo Rd/ Herring Rd AM
- Project 2012 - future layout

Waterloo Rd/ Herring Rd AM - Project 2012 - future layout
Signals - Fixed Time Cycle Time = 120 seconds

Cycle Time Option: **Optimum Cycle Time (Minimum Delay)**
Phase times determined by the program
Sequence: **Split Phasing**
Input Sequence: **A, C, D, E, G**
Output Sequence: **A, C, D, E, G**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Waterloo Rd/ Herring Rd AM
- Project 2012 - future layout

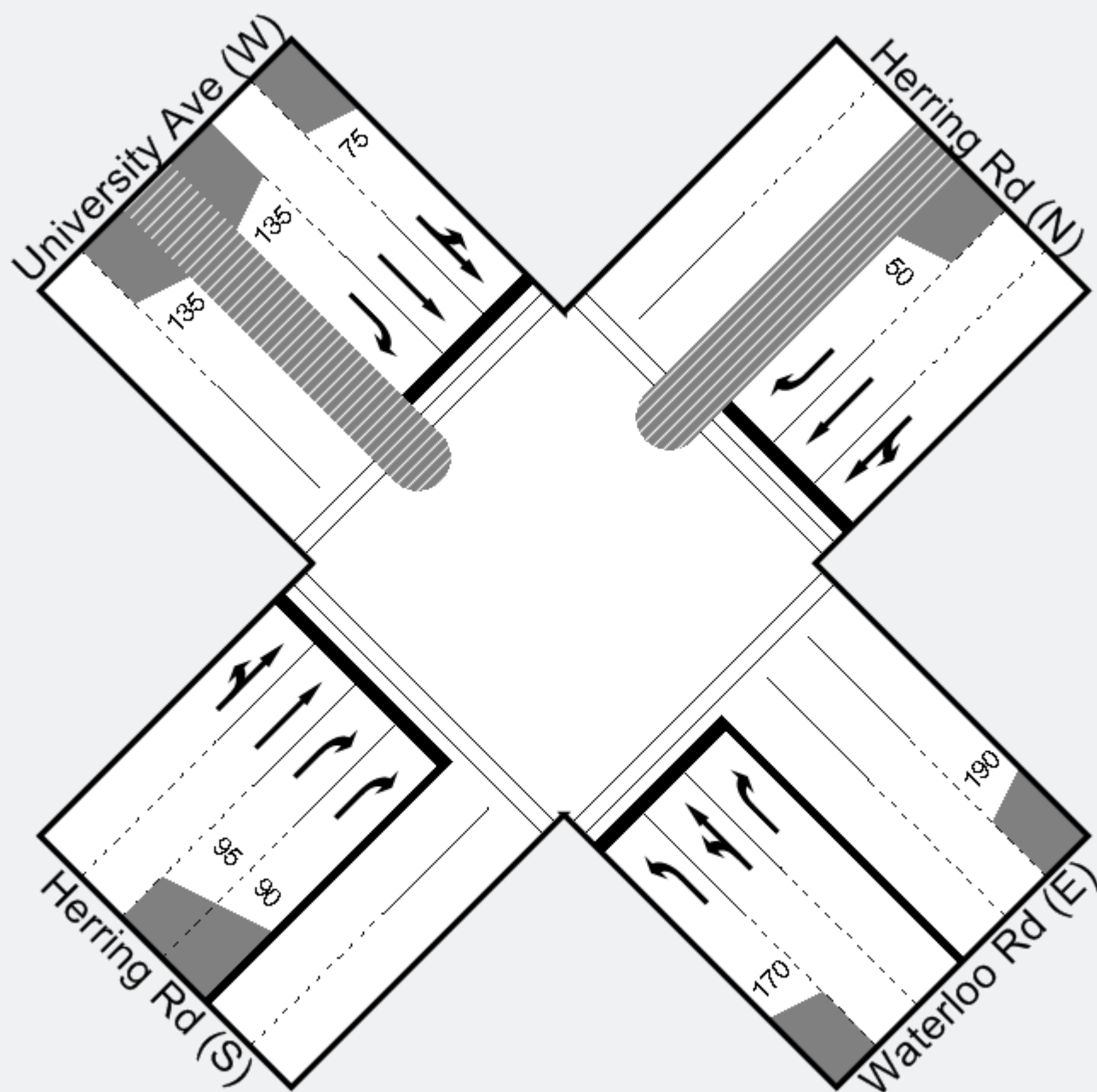
Waterloo Rd/ Herring Rd AM - Project 2012 - future layout
Signals - Fixed Time Cycle Time = 120 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Waterloo Rd (E)											
21	L	127	5.5	0.062	14.4	LOS A	1.6	11.5	0.44	0.72	43.1
22	T	287	2.0	0.757	51.5	LOS D	17.7	126.4	1.00	0.89	23.9
23	R	150	22.0	0.691	55.1	LOS D	9.2	76.7	0.98	0.92	24.1
Approach		564	8.1	0.757	44.1	LOS D	17.7	126.4	0.87	0.86	26.6
North East Herring Rd (N)											
24	L	88	25.0	0.272	33.8	LOS C	4.1	34.8	0.88	0.77	31.6
25	T	120	18.3	0.221	48.2	LOS D	4.4	35.4	0.91	0.70	24.9
26	R	104	12.0	0.507	57.4	LOS E	7.1	55.2	0.93	0.78	23.4
Approach		312	18.1	0.507	47.2	LOS D	7.1	55.2	0.91	0.75	25.9
North West University Ave (W)											
4	L	89	18.0	0.443	49.5	LOS D	7.9	61.7	0.87	0.80	25.9
5	T	209	2.0	0.444	44.8	LOS D	10.5	74.6	0.92	0.75	25.7
6	R	67	3.0	0.360	46.3	LOS D	4.3	31.2	0.96	0.75	26.5
Approach		365	6.1	0.443	46.2	LOS D	10.5	74.6	0.91	0.76	25.9
South West Herring Rd (S)											
7	L	351	1.5	0.764	43.0	LOS D	29.3	208.5	0.94	0.89	28.0
8	T	774	2.2	0.765	34.8	LOS C	29.3	208.5	0.94	0.84	29.0
9	R	963	0.7	0.779	30.1	LOS C	17.8	125.0	0.96	0.88	32.9
Approach		2088	1.4	0.779	34.0	LOS C	29.3	208.5	0.95	0.86	30.5
All Vehicles		3329	4.6	0.779	38.3	LOS C	29.3	208.5	0.93	0.84	28.8

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS E. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P9	Across SE approach	133	41.7	LOS E	0.4	0.4	0.83	0.83
P11	Across NE approach	106	37.6	LOS D	0.3	0.3	0.79	0.79
P3	Across NW approach	108	22.2	LOS C	0.2	0.2	0.61	0.61
P5	Across SW approach	17	37.6	LOS D	0.0	0.0	0.79	0.79
All Pedestrians		364	34.5				0.75	0.75

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

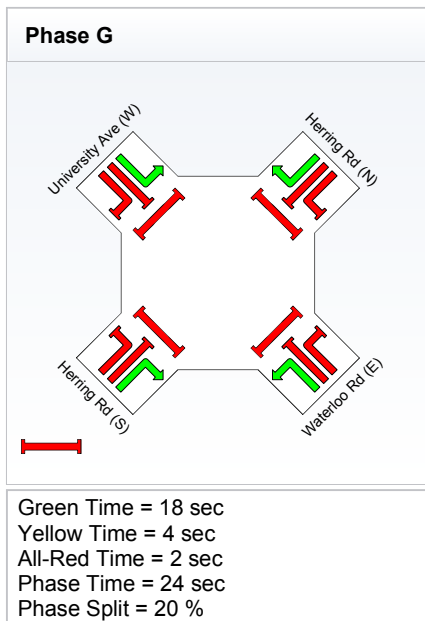
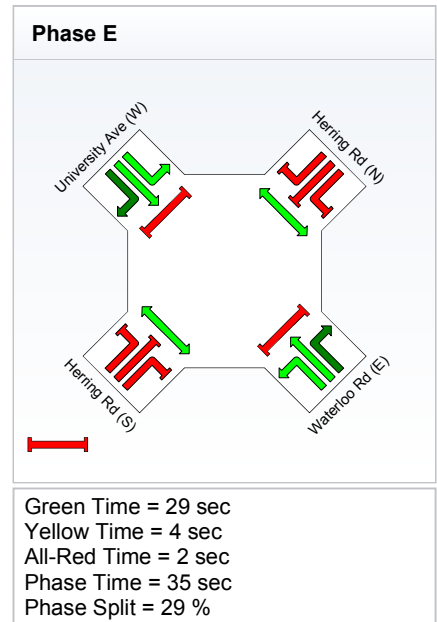
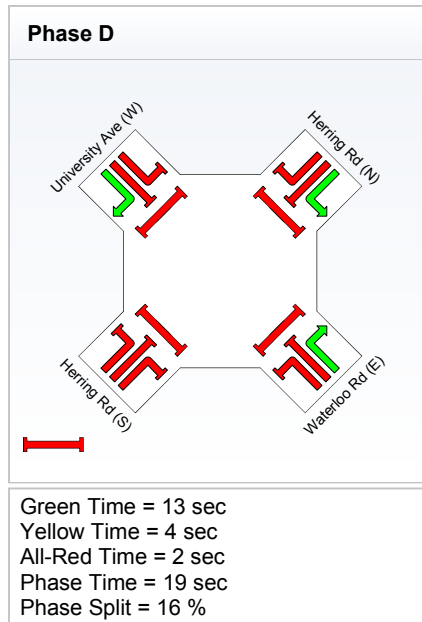
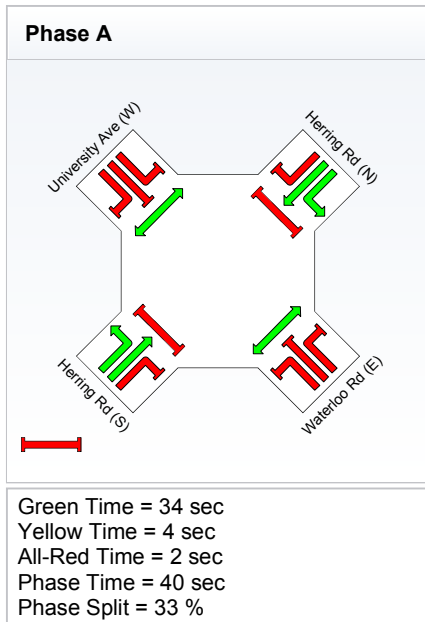


PHASING SUMMARY

Site: Waterloo Rd/ Herring Rd PM
- Existing

Waterloo Rd/ Herring Rd PM
Signals - Fixed Time Cycle Time = 118 seconds

Cycle Time Option: **Optimum Cycle Time (Minimum Delay)**
Phase times determined by the program
Sequence: **Split Phasing**
Input Sequence: **A, D, E, G**
Output Sequence: **A, D, E, G**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Waterloo Rd/ Herring Rd PM
- Existing

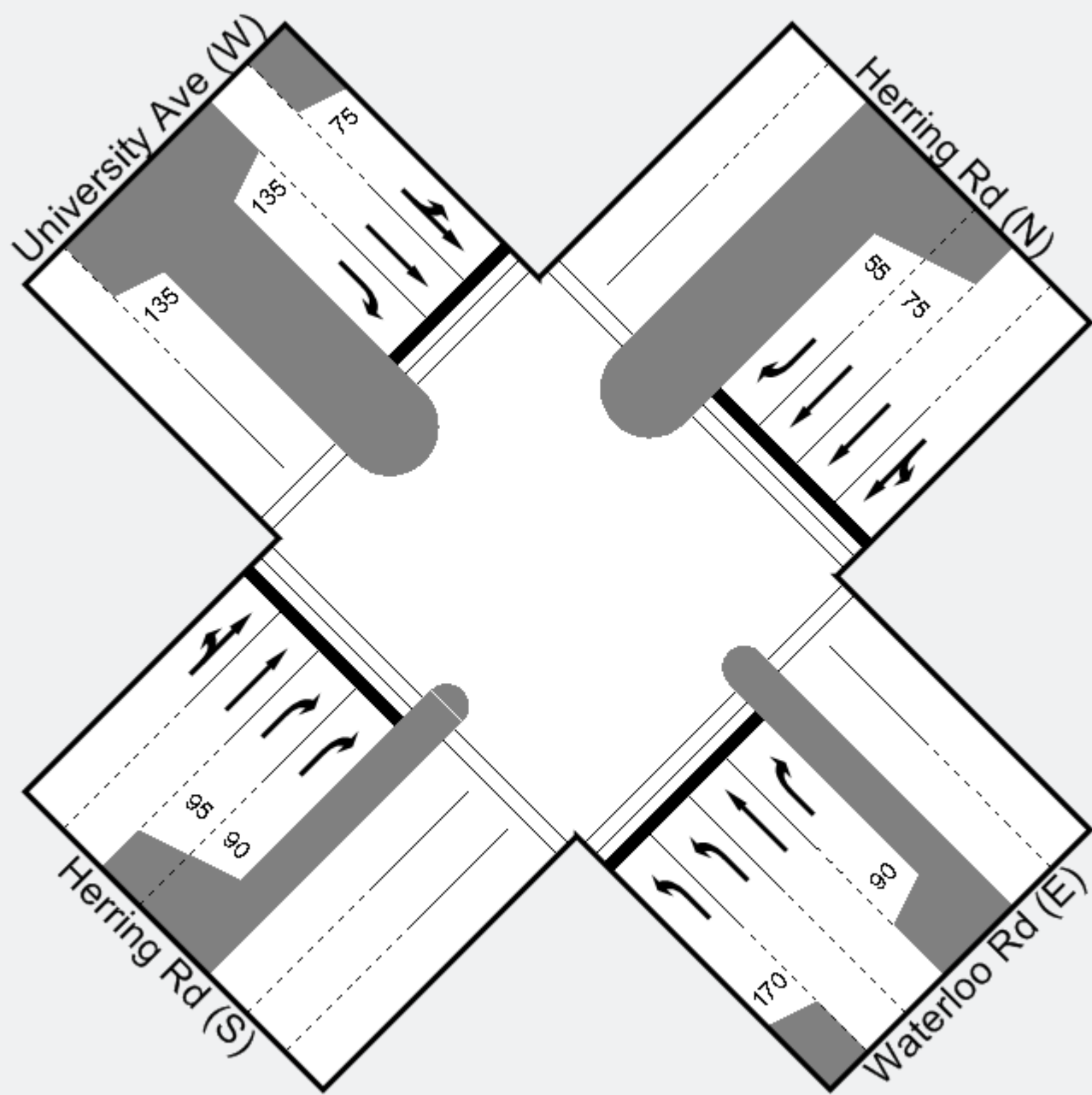
Waterloo Rd/ Herring Rd PM
Signals - Fixed Time Cycle Time = 118 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Waterloo Rd (E)											
21	L	800	0.1	0.769	41.4	LOS C	27.1	189.8	0.89	0.87	28.3
22	T	166	3.6	0.769	44.9	LOS D	22.2	157.5	0.98	0.88	23.0
23	R	274	9.1	0.765	40.4	LOS C	13.9	104.9	0.96	0.87	28.2
Approach		1240	2.6	0.769	41.6	LOS C	27.1	189.8	0.92	0.87	27.5
North East Herring Rd (N)											
24	L	130	19.2	0.518	44.8	LOS D	14.8	113.1	0.88	0.82	27.3
25	T	435	4.1	0.518	37.4	LOS C	15.1	113.1	0.89	0.75	26.7
26	R	98	25.0	0.576	56.3	LOS D	6.9	58.4	0.95	0.77	23.0
Approach		663	10.2	0.576	41.7	LOS C	15.1	113.1	0.89	0.77	26.1
North West University Ave (W)											
4	L	160	20.0	0.494	32.1	LOS C	8.2	66.8	0.71	0.71	31.1
5	T	243	0.4	0.494	40.7	LOS C	13.2	92.4	0.90	0.76	25.9
6	R	152	0.0	0.564	38.9	LOS C	7.5	52.8	0.98	0.79	29.0
Approach		555	5.9	0.564	37.7	LOS C	13.2	92.4	0.87	0.75	28.2
South West Herring Rd (S)											
7	L	121	0.8	0.785	55.2	LOS D	25.2	178.5	0.98	0.91	25.2
8	T	757	1.7	0.785	44.0	LOS D	25.2	178.5	0.98	0.90	24.5
9	R	412	0.7	0.746	63.0	LOS E	13.5	95.4	1.00	0.87	22.0
Approach		1290	1.3	0.785	51.1	LOS D	25.2	178.5	0.99	0.89	23.6
All Vehicles		3748	4.0	0.785	44.3	LOS D	27.1	189.8	0.93	0.84	25.9

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS E. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P9	Across SE approach	173	29.2	LOS C	0.4	0.4	0.70	0.70
P11	Across NE approach	117	32.8	LOS D	0.3	0.3	0.75	0.75
P3	Across NW approach	157	29.2	LOS C	0.4	0.4	0.70	0.70
P5	Across SW approach	37	32.8	LOS D	0.1	0.1	0.75	0.75
All Pedestrians		484	30.3				0.72	0.72

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS D. LOS Method for individual pedestrian movements: Delay (HCM).



PHASING SUMMARY

Site: Waterloo Rd/ Herring Rd PM
- Base 2012 - future layout

Waterloo Rd/ Herring Rd PM - Base 2012 - future layout
Signals - Fixed Time Cycle Time = 100 seconds

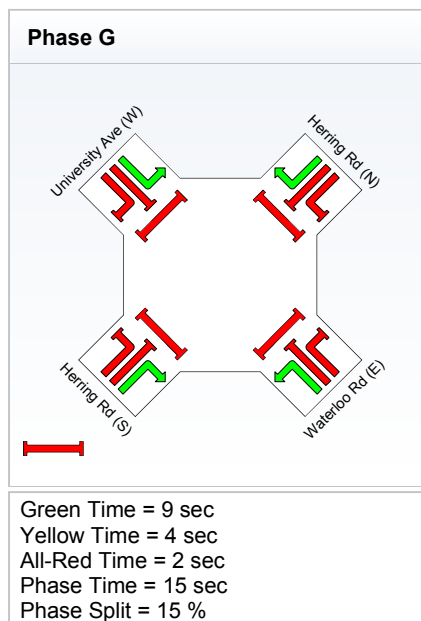
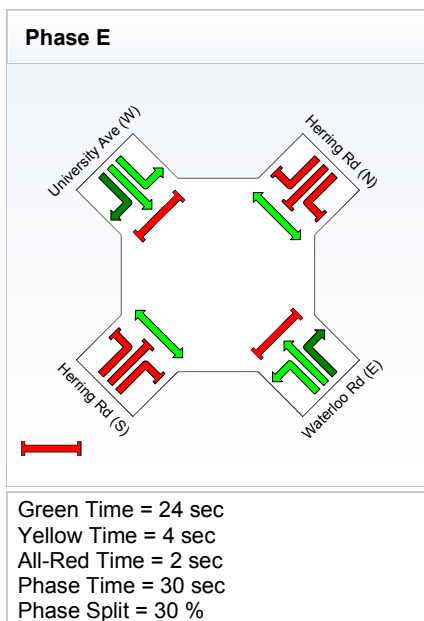
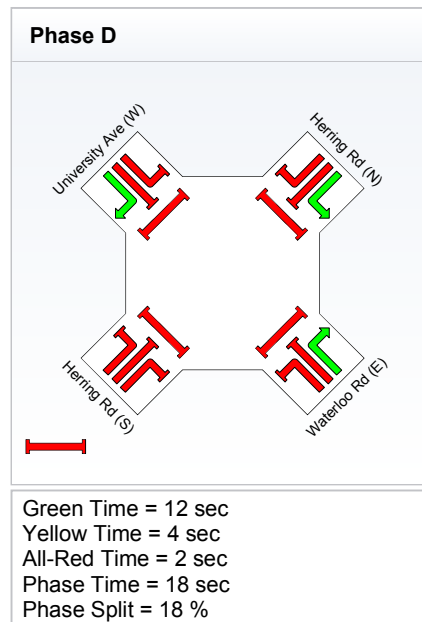
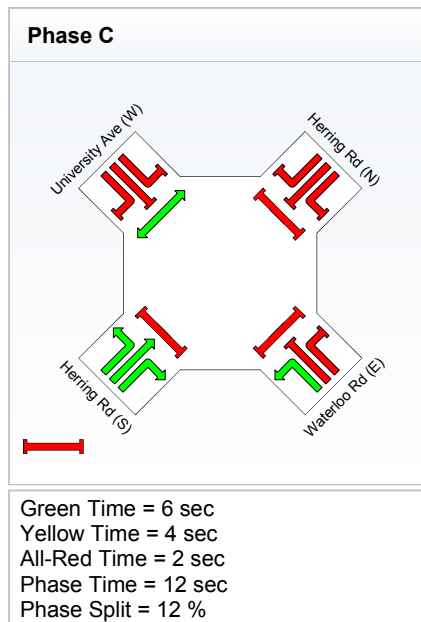
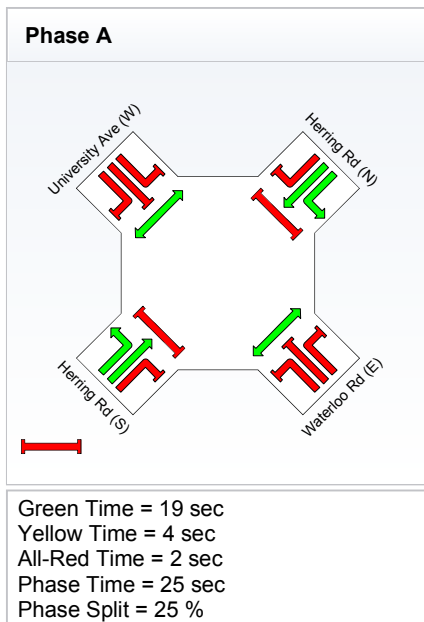
Cycle Time Option: **Optimum Cycle Time (Minimum Delay)**

Phase times determined by the program

Sequence: **Split Phasing**

Input Sequence: **A, C, D, E, G**

Output Sequence: **A, C, D, E, G**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Waterloo Rd/ Herring Rd PM
- Base 2012 - future layout

Waterloo Rd/ Herring Rd PM - Base 2012 - future layout
Signals - Fixed Time Cycle Time = 100 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Waterloo Rd (E)											
21	L	800	0.1	0.487	22.7	LOS B	10.1	70.8	0.75	0.85	36.9
22	T	186	3.0	0.412	34.9	LOS C	9.5	67.9	0.89	0.73	29.3
23	R	274	9.0	0.793	38.2	LOS C	12.4	93.3	0.98	0.91	29.4
Approach		1260	2.5	0.793	27.9	LOS B	12.4	93.3	0.82	0.84	33.7
North East Herring Rd (N)											
24	L	130	19.2	0.517	33.2	LOS C	8.3	65.3	0.92	0.82	32.3
25	T	435	4.1	0.517	37.6	LOS C	9.9	72.0	0.94	0.77	28.1
26	R	105	20.0	0.729	61.9	LOS E	7.1	58.4	1.00	0.87	22.4
Approach		670	9.5	0.729	40.5	LOS C	9.9	72.0	0.95	0.80	27.7
North West University Ave (W)											
4	L	185	15.0	0.604	37.8	LOS C	10.3	79.7	0.83	0.82	29.9
5	T	317	0.3	0.604	35.9	LOS C	13.8	96.8	0.93	0.78	28.7
6	R	177	0.0	0.497	30.5	LOS C	7.5	52.2	0.87	0.79	32.7
Approach		679	4.2	0.604	35.0	LOS C	13.8	96.8	0.89	0.80	30.0
South West Herring Rd (S)											
7	L	147	0.7	0.751	43.0	LOS D	21.6	153.3	0.96	0.90	28.4
8	T	757	1.7	0.752	34.9	LOS C	21.6	153.3	0.96	0.87	29.0
9	R	412	0.7	0.759	35.7	LOS C	8.7	61.0	1.00	0.87	30.4
Approach		1316	1.3	0.759	36.1	LOS C	21.6	153.3	0.97	0.87	29.3
All Vehicles		3925	3.6	0.793	34.0	LOS C	21.6	153.3	0.91	0.84	30.4

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS E. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P9	Across SE approach	133	32.0	LOS D	0.3	0.3	0.80	0.80
P11	Across NE approach	106	28.1	LOS C	0.2	0.2	0.75	0.75
P3	Across NW approach	108	23.1	LOS C	0.2	0.2	0.68	0.68
P5	Across SW approach	17	28.1	LOS C	0.0	0.0	0.75	0.75
All Pedestrians		364	28.1				0.75	0.75

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS D. LOS Method for individual pedestrian movements: Delay (HCM).

PHASING SUMMARY

Site: Waterloo Rd/ Herring Rd PM
- Project 2012 - future layout

Waterloo Rd/ Herring Rd PM - Project 2012 - future layout
Signals - Fixed Time Cycle Time = 100 seconds

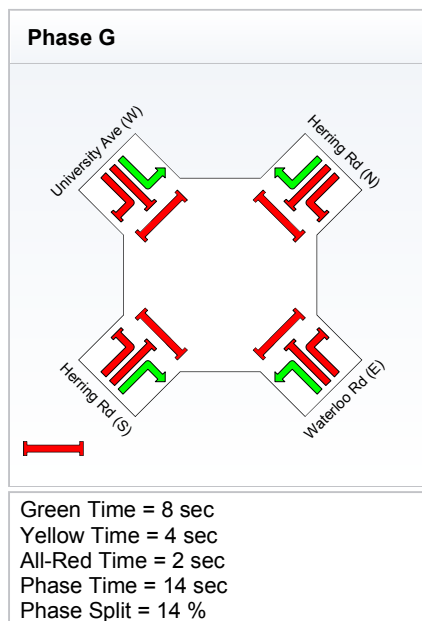
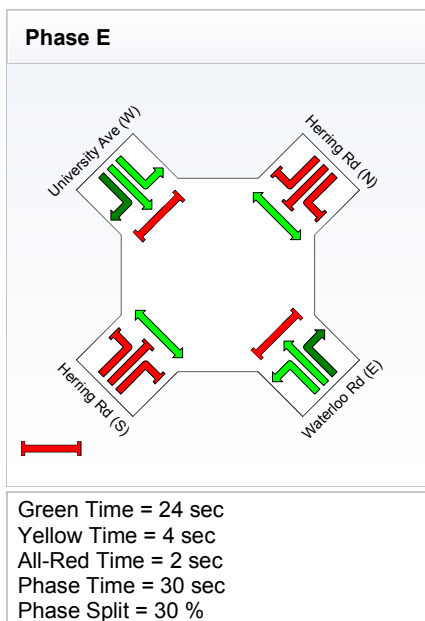
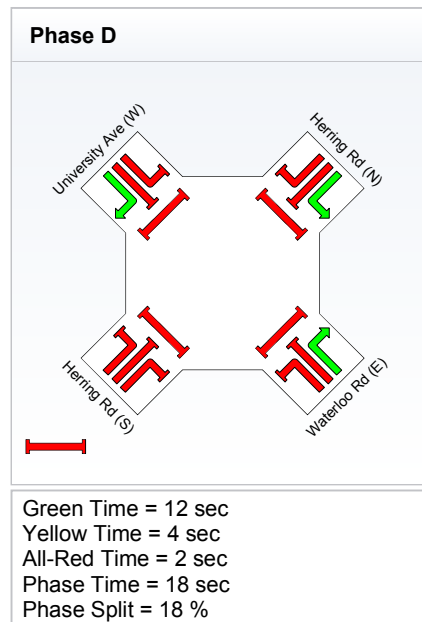
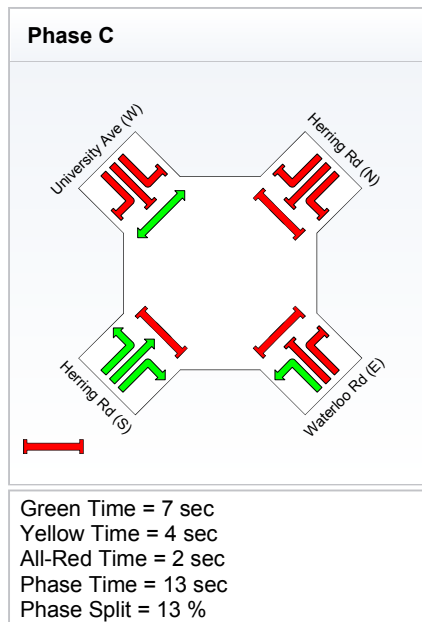
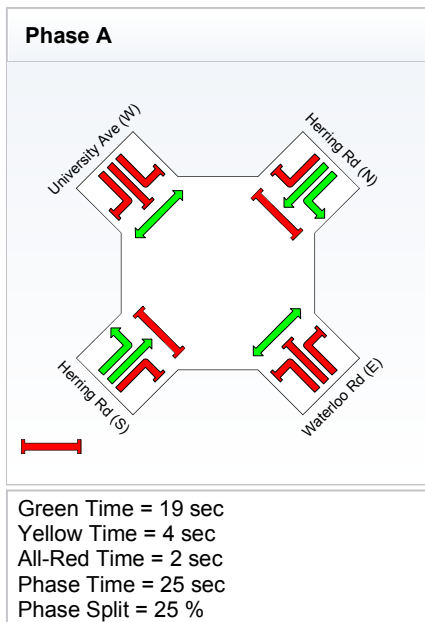
Cycle Time Option: **Optimum Cycle Time (Minimum Delay)**

Phase times determined by the program

Sequence: **Split Phasing**

Input Sequence: **A, C, D, E, G**

Output Sequence: **A, C, D, E, G**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Waterloo Rd/ Herring Rd PM
- Project 2012 - future layout

Waterloo Rd/ Herring Rd PM - Project 2012 - future layout
Signals - Fixed Time Cycle Time = 100 seconds

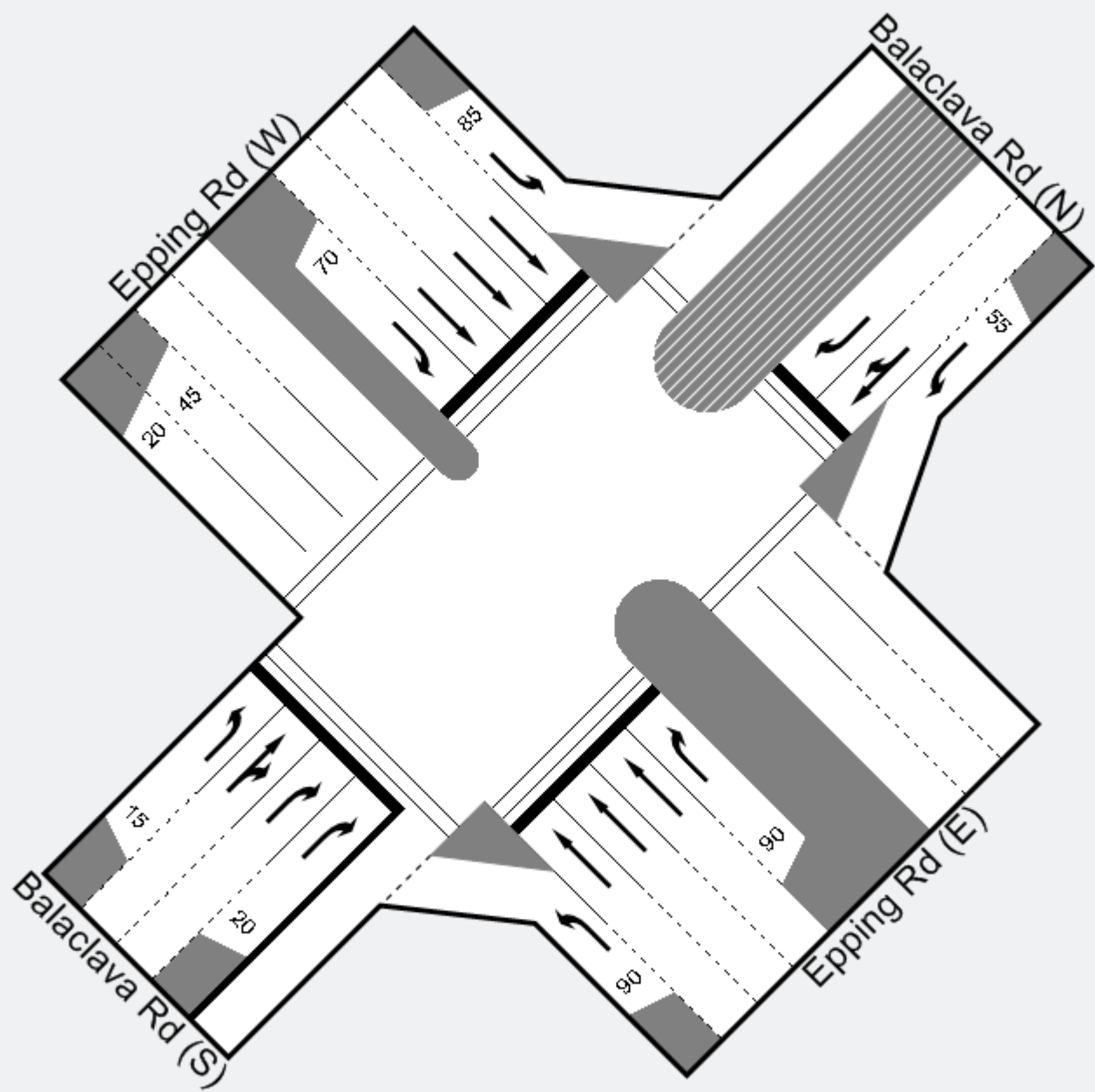
Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Waterloo Rd (E)											
21	L	800	0.1	0.487	21.4	LOS B	9.9	69.0	0.75	0.83	37.7
22	T	192	3.0	0.425	35.0	LOS C	9.7	69.9	0.89	0.74	29.3
23	R	274	9.0	0.819	40.0	LOS C	12.6	94.9	1.00	0.93	28.7
Approach		1266	2.5	0.820	27.5	LOS B	12.6	94.9	0.83	0.84	33.9
North East Herring Rd (N)											
24	L	130	19.2	0.517	32.7	LOS C	8.2	64.4	0.92	0.82	32.5
25	T	435	4.1	0.517	37.5	LOS C	9.9	72.0	0.94	0.77	28.1
26	R	107	20.0	0.836	66.7	LOS E	7.6	62.0	1.00	0.95	21.4
Approach		672	9.6	0.836	41.2	LOS C	9.9	72.0	0.95	0.81	27.4
North West University Ave (W)											
4	L	194	13.0	0.650	39.1	LOS C	11.2	85.5	0.85	0.83	29.4
5	T	346	0.3	0.649	36.4	LOS C	14.8	103.8	0.94	0.80	28.5
6	R	186	0.0	0.518	30.5	LOS C	7.8	54.7	0.87	0.80	32.7
Approach		726	3.6	0.649	35.6	LOS C	14.8	103.8	0.90	0.80	29.7
South West Herring Rd (S)											
7	L	156	0.7	0.735	41.6	LOS C	21.4	151.4	0.95	0.89	28.9
8	T	757	1.7	0.736	33.5	LOS C	21.4	151.4	0.95	0.85	29.6
9	R	412	0.7	0.759	35.8	LOS C	8.7	61.4	1.00	0.87	30.4
Approach		1325	1.3	0.759	35.1	LOS C	21.4	151.4	0.97	0.86	29.7
All Vehicles		3989	3.5	0.836	33.8	LOS C	21.4	151.4	0.91	0.83	30.5

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS E. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P9	Across SE approach	133	32.0	LOS D	0.3	0.3	0.80	0.80
P11	Across NE approach	106	28.1	LOS C	0.2	0.2	0.75	0.75
P3	Across NW approach	108	22.4	LOS C	0.2	0.2	0.67	0.67
P5	Across SW approach	17	28.1	LOS C	0.0	0.0	0.75	0.75
All Pedestrians		364	27.9				0.74	0.74

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS D. LOS Method for individual pedestrian movements: Delay (HCM).

Epping Road/Balacclava Road

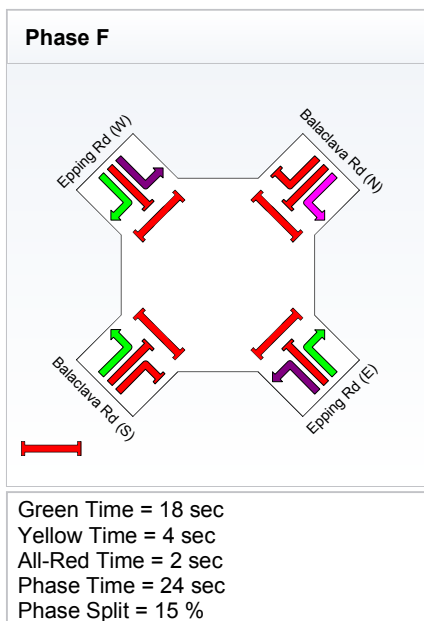
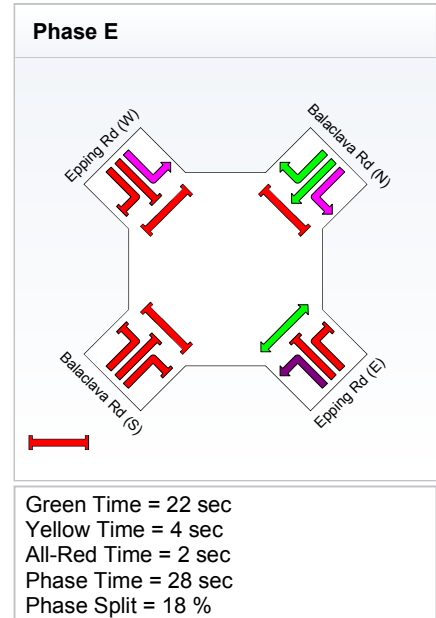
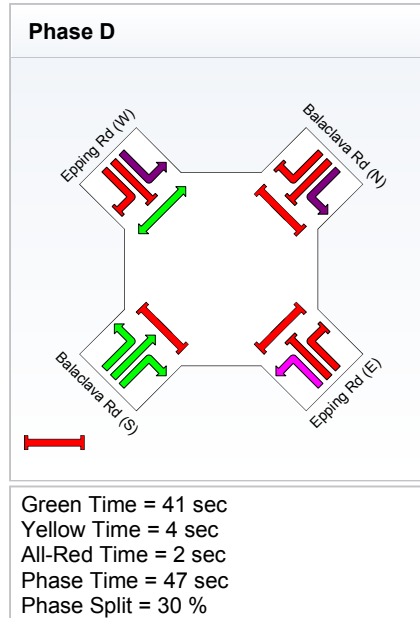
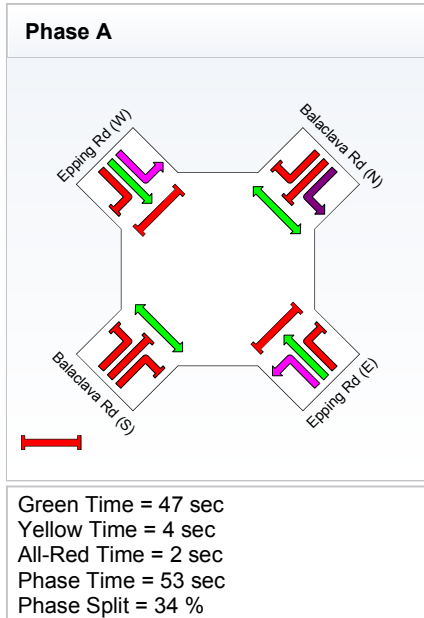


PHASING SUMMARY

Site: Epping Rd/ Balaclava Rd AM
- Existing

Epping Rd/ Balaclava Rd AM 25.3.2010
Signals - Fixed Time Cycle Time = 152 seconds

Cycle Time Option: **Optimum Cycle Time (Minimum Delay)**
Phase times determined by the program
Sequence: **Split Phasing**
Input Sequence: **A, D, E, F**
Output Sequence: **A, D, E, F**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Epping Rd/ Balaclava Rd AM
- Existing

Epping Rd/ Balaclava Rd AM 25.3.2010
Signals - Fixed Time Cycle Time = 152 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Epping Rd (E)											
4	L	283	3.0	0.289	8.9	LOS A	3.9	27.8	0.19	0.65	48.3
5	T	615	7.0	0.488	45.0	LOS D	17.7	131.5	0.86	0.73	25.9
6	R	194	0.0	0.896	93.0	LOS F	17.3	121.3	1.00	0.96	16.9
Approach		1092	4.7	0.896	44.2	LOS D	17.7	131.5	0.71	0.75	26.6
North East Balaclava Rd (N)											
7	L	11	25.0	0.047	30.6	LOS C	0.7	5.8	0.57	0.66	33.2
8	T	71	10.0	0.272	62.9	LOS E	6.3	47.7	0.93	0.72	21.3
9	R	33	25.0	0.147	70.7	LOS F	6.3	47.7	0.91	0.74	20.6
Approach		115	15.7	0.272	62.1	LOS E	6.3	47.7	0.89	0.72	21.8
North West Epping Rd (W)											
10	L	285	0.5	0.258	8.7	LOS A	1.8	12.5	0.07	0.62	48.6
11	T	1561	1.0	0.882	42.5	LOS C	36.4	257.1	0.95	0.90	26.5
12	R	74	1.0	0.344	69.3	LOS E	6.4	45.0	0.90	0.76	20.7
Approach		1920	0.9	0.882	38.5	LOS C	36.4	257.1	0.82	0.86	28.2
South West Balaclava Rd (S)											
1	L	23	22.0	0.237	25.7	LOS B	1.0	8.6	0.65	0.69	35.7
2	T	224	4.0	0.896	70.3	LOS E	36.2	259.5	1.00	0.99	19.4
3	R	731	1.5	0.896	77.5	LOS F	36.2	259.5	0.99	0.96	19.3
Approach		978	2.6	0.896	74.6	LOS F	36.2	259.5	0.98	0.96	19.6
All Vehicles		4105	2.7	0.896	49.3	LOS D	36.4	259.5	0.83	0.85	25.0

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	Across SE approach	156	54.7	LOS E	0.6	0.6	0.85	0.85
P5	Across NE approach	3	35.6	LOS D	0.0	0.0	0.68	0.68
P7	Across NW approach	84	39.8	LOS D	0.3	0.3	0.72	0.72
P1	Across SW approach	7	35.6	LOS D	0.0	0.0	0.68	0.68
All Pedestrians		250	49.0				0.80	0.80

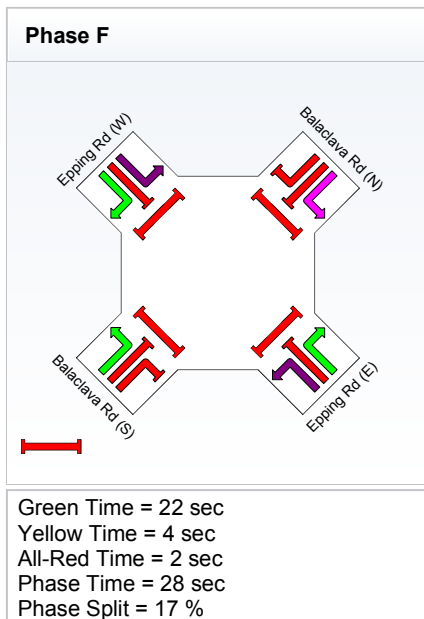
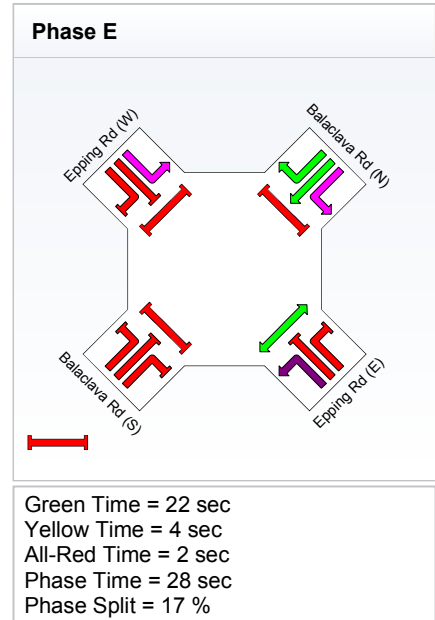
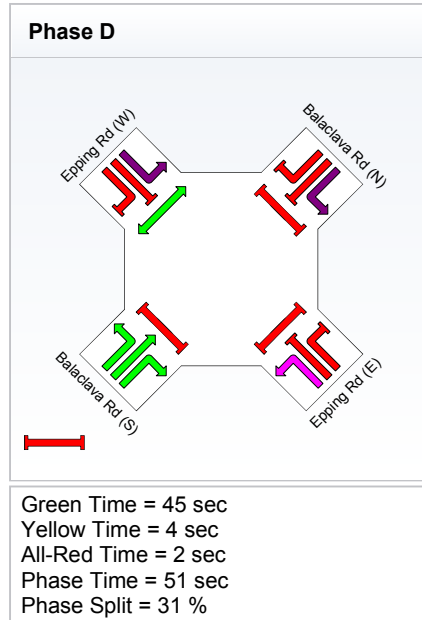
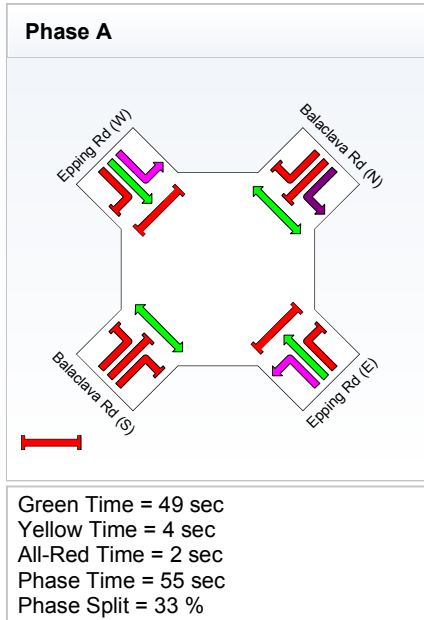
Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

PHASING SUMMARY

Site: Epping Rd/ Balaclava Rd AM
- Base 2012

Epping Rd/ Balaclava Rd AM - Base 2012
Signals - Fixed Time Cycle Time = 162 seconds

Cycle Time Option: **Optimum Cycle Time (Minimum Delay)**
Phase times determined by the program
Sequence: **Split Phasing**
Input Sequence: **A, D, E, F**
Output Sequence: **A, D, E, F**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Epping Rd/ Balaclava Rd AM
- Base 2012

Epping Rd/ Balaclava Rd AM - Base 2012
Signals - Fixed Time Cycle Time = 162 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Epping Rd (E)											
4	L	283	3.0	0.300	9.0	LOS A	4.1	29.4	0.18	0.65	48.2
5	T	615	7.0	0.498	48.8	LOS D	18.9	140.0	0.86	0.73	24.7
6	R	226	0.0	0.910	98.6	LOS F	21.1	147.7	1.00	0.97	16.2
Approach		1124	4.6	0.910	48.8	LOS D	21.1	147.7	0.72	0.76	25.2
North East Balaclava Rd (N)											
7	L	38	10.0	0.155	34.0	LOS C	2.5	19.2	0.61	0.70	31.4
8	T	81	8.0	0.327	68.9	LOS E	7.5	56.1	0.95	0.74	20.1
9	R	63	10.0	0.272	76.7	LOS F	7.5	56.1	0.94	0.77	19.4
Approach		182	9.1	0.327	64.3	LOS E	7.5	56.1	0.87	0.74	21.5
North West Epping Rd (W)											
10	L	400	0.4	0.390	9.1	LOS A	3.1	21.5	0.08	0.62	48.2
11	T	1561	1.0	0.902	48.0	LOS D	40.1	283.0	0.98	0.94	24.8
12	R	74	1.0	0.331	69.2	LOS E	6.5	45.7	0.87	0.76	20.8
Approach		2035	0.9	0.902	41.1	LOS C	40.1	283.0	0.80	0.87	27.3
South West Balaclava Rd (S)											
1	L	23	22.0	0.243	25.4	LOS B	1.1	8.8	0.62	0.69	35.8
2	T	261	3.0	0.906	75.1	LOS F	40.6	289.8	1.00	1.00	18.7
3	R	731	1.5	0.906	82.2	LOS F	40.6	289.8	0.99	0.96	18.6
Approach		1015	2.4	0.906	79.1	LOS F	40.6	289.8	0.98	0.96	18.8
All Vehicles		4356	2.5	0.910	52.9	LOS D	40.6	289.8	0.82	0.86	24.0

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	Across SE approach	156	59.6	LOS E	0.6	0.6	0.86	0.86
P5	Across NE approach	3	38.7	LOS D	0.0	0.0	0.69	0.69
P7	Across NW approach	84	41.5	LOS E	0.3	0.3	0.72	0.72
P1	Across SW approach	7	38.7	LOS D	0.0	0.0	0.69	0.69
All Pedestrians		250	52.7				0.80	0.80

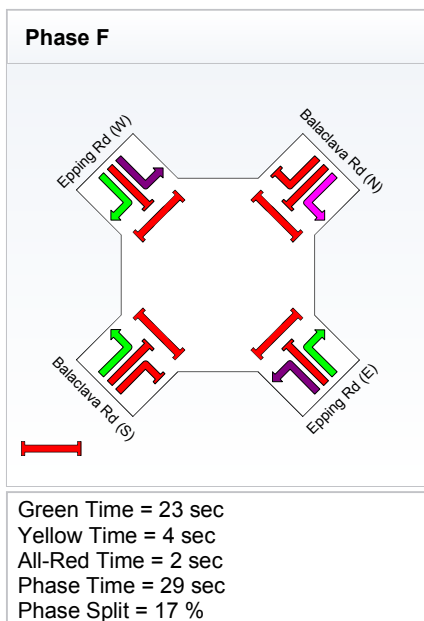
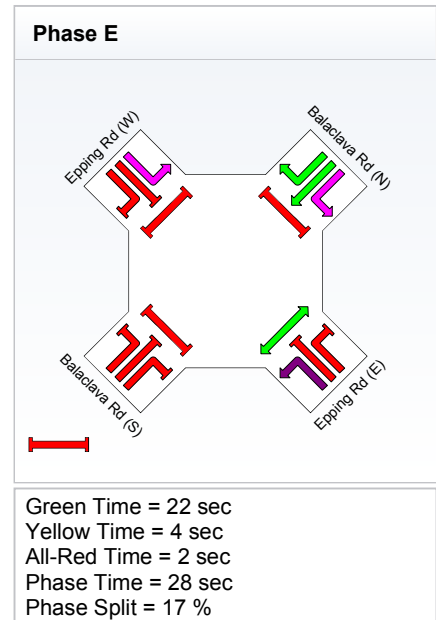
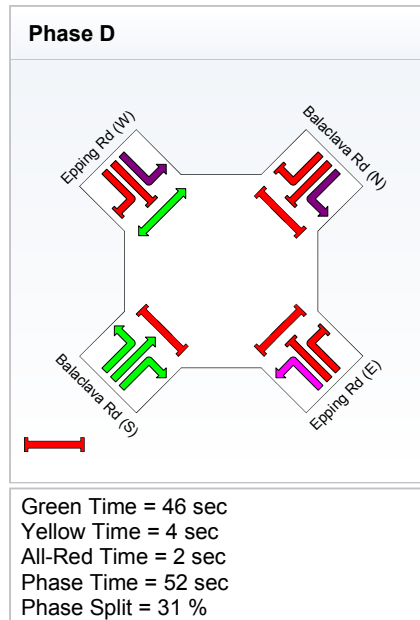
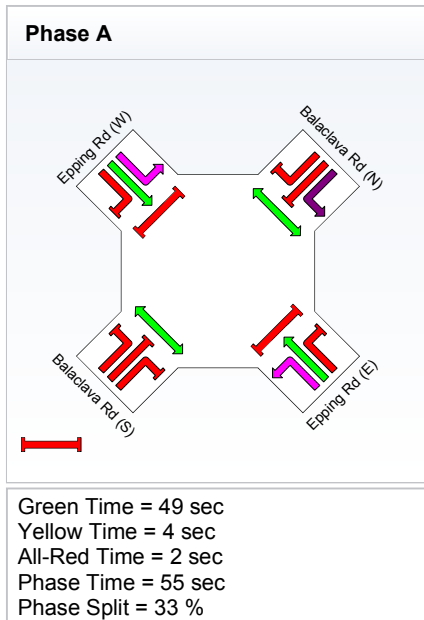
Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

PHASING SUMMARY

Site: Epping Rd/ Balaclava Rd AM
- Project 2012

Epping Rd/ Balaclava Rd AM - Project 2012
Signals - Fixed Time Cycle Time = 164 seconds

Cycle Time Option: **Optimum Cycle Time (Minimum Delay)**
Phase times determined by the program
Sequence: **Split Phasing**
Input Sequence: **A, D, E, F**
Output Sequence: **A, D, E, F**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Epping Rd/ Balaclava Rd AM
- Project 2012

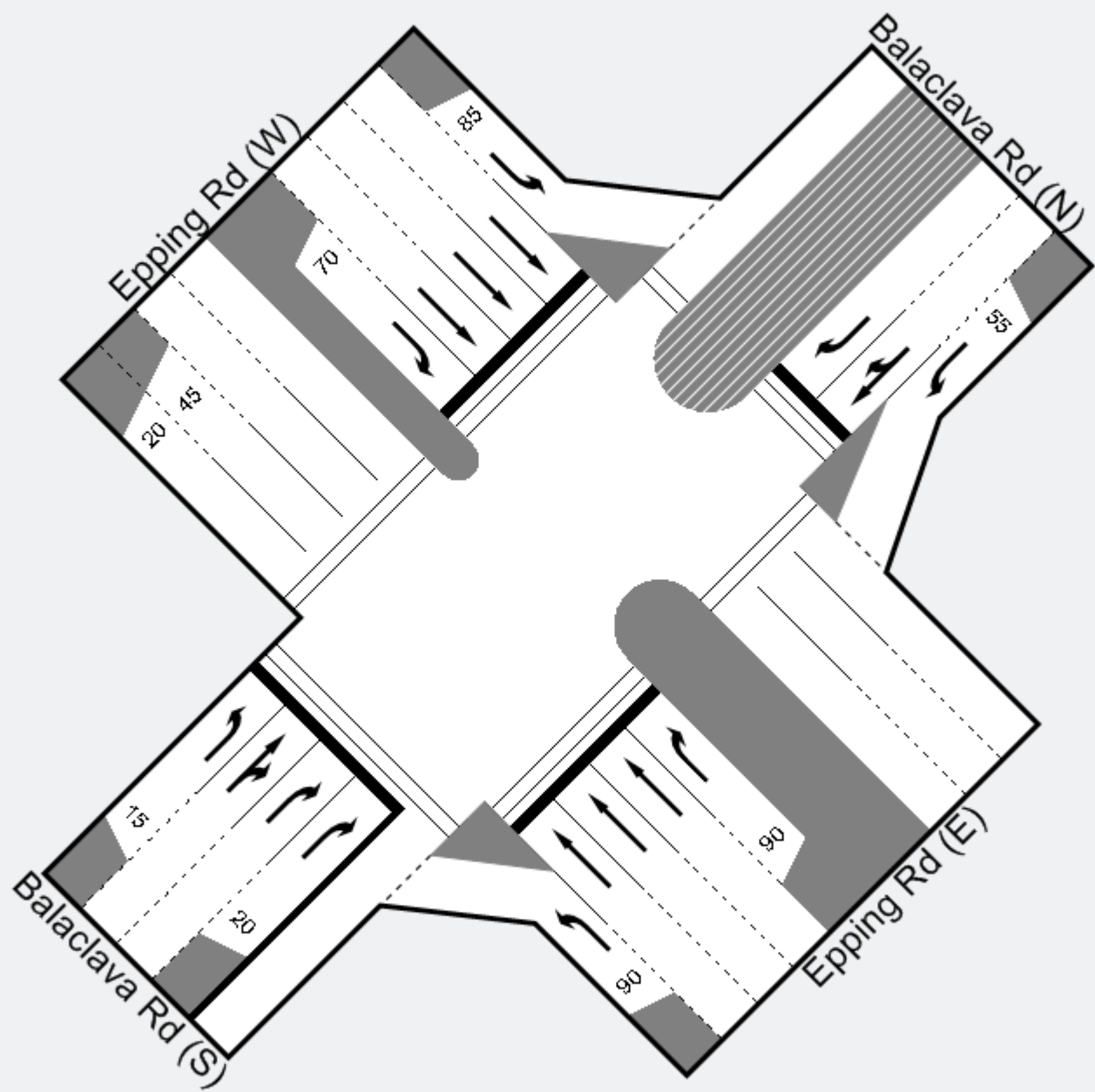
Epping Rd/ Balaclava Rd AM - Project 2012
Signals - Fixed Time Cycle Time = 164 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Epping Rd (E)											
4	L	283	3.0	0.302	9.0	LOS A	4.1	29.5	0.18	0.65	48.3
5	T	615	7.0	0.505	50.0	LOS D	19.2	142.1	0.87	0.74	24.4
6	R	239	0.0	0.932	95.5	LOS F	21.8	152.6	1.00	0.92	16.6
Approach		1137	4.5	0.932	49.3	LOS D	21.8	152.6	0.73	0.75	25.0
North East Balaclava Rd (N)											
7	L	48	5.0	0.189	34.8	LOS C	3.2	23.5	0.62	0.71	30.9
8	T	84	7.0	0.341	70.1	LOS E	7.8	58.1	0.95	0.75	19.9
9	R	75	7.0	0.321	78.2	LOS F	7.8	58.1	0.95	0.77	19.1
Approach		207	6.5	0.341	64.8	LOS E	7.8	58.1	0.87	0.75	21.4
North West Epping Rd (W)											
10	L	446	0.4	0.443	9.2	LOS A	3.7	25.7	0.09	0.63	48.0
11	T	1561	1.0	0.913	50.7	LOS D	41.5	292.9	0.99	0.96	24.1
12	R	74	1.0	0.332	69.0	LOS E	6.5	45.7	0.86	0.76	20.8
Approach		2081	0.9	0.913	42.4	LOS C	41.5	292.9	0.79	0.88	26.8
South West Balaclava Rd (S)											
1	L	23	22.0	0.243	25.2	LOS B	1.1	8.8	0.61	0.69	36.0
2	T	275	2.5	0.910	76.4	LOS F	41.9	298.8	1.00	1.00	18.5
3	R	731	1.5	0.910	83.5	LOS F	41.9	298.8	0.99	0.96	18.4
Approach		1029	2.2	0.910	80.3	LOS F	41.9	298.8	0.98	0.97	18.6
All Vehicles		4454	2.4	0.932	54.0	LOS D	41.9	298.8	0.82	0.86	23.7

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	Across SE approach	156	60.6	LOS F	0.6	0.6	0.86	0.86
P5	Across NE approach	3	39.6	LOS D	0.0	0.0	0.70	0.70
P7	Across NW approach	84	41.7	LOS E	0.3	0.3	0.71	0.71
P1	Across SW approach	7	39.6	LOS D	0.0	0.0	0.70	0.70
All Pedestrians		250	53.4				0.80	0.80

Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS F. LOS Method for individual pedestrian movements: Delay (HCM).

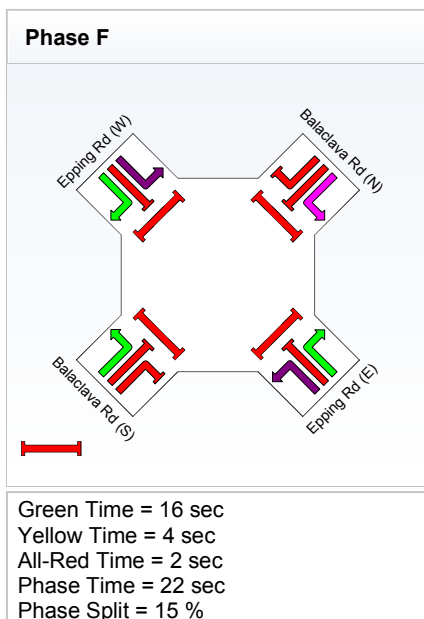
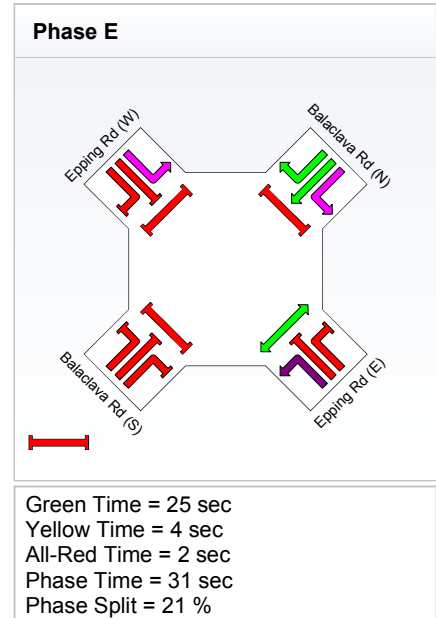
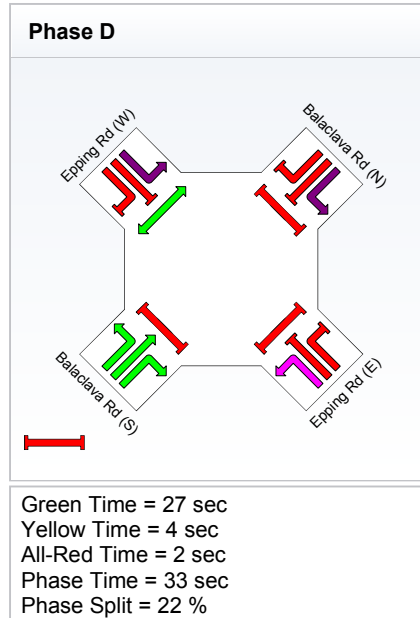
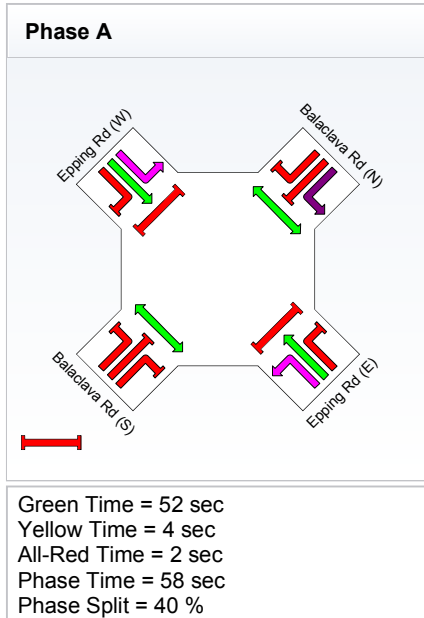


PHASING SUMMARY

Site: Epping Rd/ Balaclava Rd PM
- Existing

Epping Rd/ Balaclava Rd PM 25.3.2010
Signals - Fixed Time Cycle Time = 144 seconds

Cycle Time Option: **User-specified Cycle Time**
Phase times determined by the program
Sequence: **Split Phasing**
Input Sequence: **A, D, E, F**
Output Sequence: **A, D, E, F**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Epping Rd/ Balaclava Rd PM
- Existing

Epping Rd/ Balaclava Rd PM 25.3.2010
Signals - Fixed Time Cycle Time = 144 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Epping Rd (E)											
4	L	707	1.4	0.820	10.3	LOS A	5.8	41.3	0.14	0.74	46.9
5	T	1424	1.1	0.929	38.2	LOS C	45.4	321.1	0.92	0.91	28.0
6	R	80	2.5	0.401	68.2	LOS E	6.7	47.6	0.92	0.77	21.0
Approach		2211	1.2	0.929	30.4	LOS C	45.4	321.1	0.67	0.85	31.8
North East Balaclava Rd (N)											
7	L	152	0.0	0.359	13.5	LOS A	4.4	31.0	0.36	0.69	43.9
8	T	304	2.3	0.912	78.7	LOS F	25.0	178.5	1.00	1.05	18.4
9	R	236	5.5	0.761	72.2	LOS F	25.0	178.5	1.00	0.87	20.2
Approach		692	2.9	0.911	62.1	LOS E	25.0	178.5	0.86	0.91	21.9
North West Epping Rd (W)											
10	L	98	10.2	0.109	9.3	LOS A	1.4	10.5	0.19	0.64	48.2
11	T	834	4.7	0.413	36.7	LOS C	15.8	115.2	0.80	0.69	28.7
12	R	176	1.1	0.873	86.7	LOS F	15.0	106.3	1.00	0.96	17.8
Approach		1108	4.6	0.873	42.3	LOS C	15.8	115.2	0.78	0.73	27.1
South West Balaclava Rd (S)											
1	L	97	0.0	0.921	35.1	LOS C	4.8	33.9	0.78	0.77	30.5
2	T	101	8.9	0.606	58.3	LOS E	14.8	108.1	0.97	0.81	21.8
3	R	356	1.1	0.606	65.7	LOS E	14.8	108.1	0.96	0.82	21.6
Approach		554	2.3	0.920	59.0	LOS E	14.8	108.1	0.93	0.81	22.8
All Vehicles		4565	2.4	0.929	41.5	LOS C	45.4	321.1	0.76	0.83	27.4

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	Across SE approach	155	48.3	LOS E	0.5	0.5	0.82	0.82
P5	Across NE approach	3	28.8	LOS C	0.0	0.0	0.63	0.63
P7	Across NW approach	98	46.7	LOS E	0.3	0.3	0.81	0.81
P1	Across SW approach	28	28.8	LOS C	0.1	0.1	0.63	0.63
All Pedestrians		284	45.6				0.79	0.79

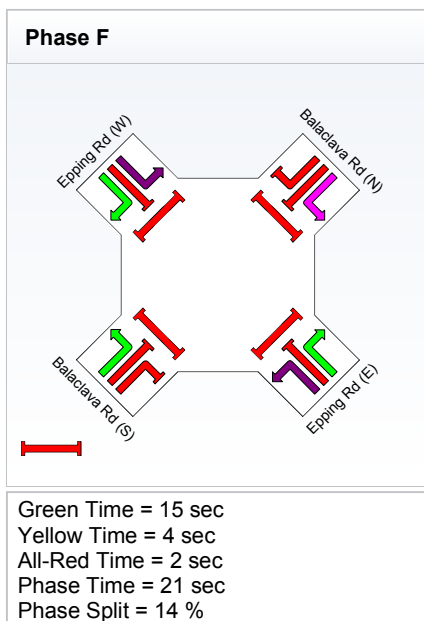
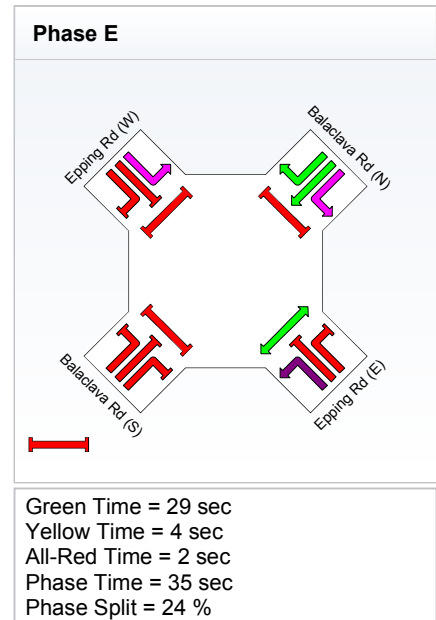
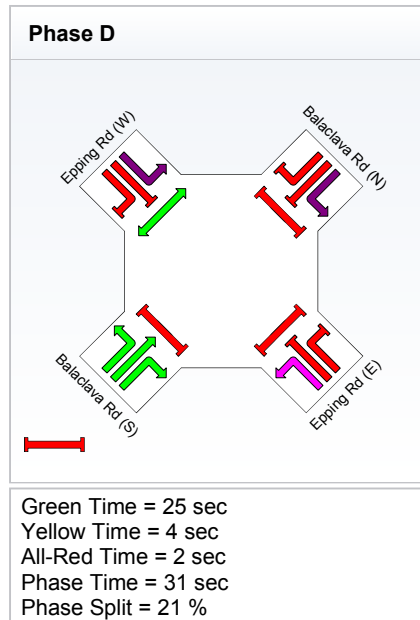
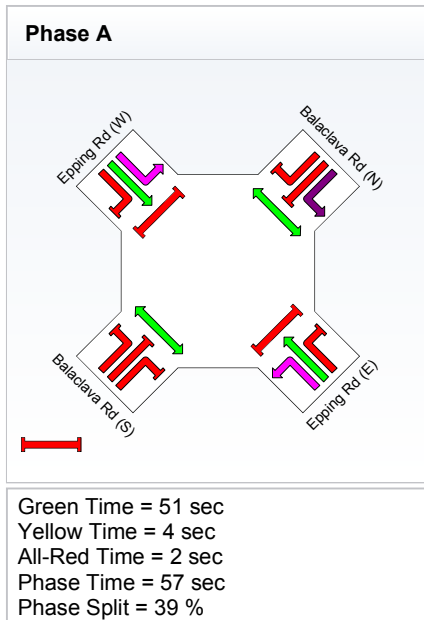
Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

PHASING SUMMARY

Site: Epping Rd/ Balaclava Rd PM
- Base 2012

Epping Rd/ Balaclava Rd PM - Base 2012
Signals - Fixed Time Cycle Time = 144 seconds

Cycle Time Option: **User-specified Cycle Time**
Phase times determined by the program
Sequence: **Split Phasing**
Input Sequence: **A, D, E, F**
Output Sequence: **A, D, E, F**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Epping Rd/ Balaclava Rd PM
- Base 2012

Epping Rd/ Balaclava Rd PM - Base 2012
Signals - Fixed Time Cycle Time = 144 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Epping Rd (E)											
4	L	707	1.4	0.866	14.1	LOS A	8.4	59.7	0.13	0.74	43.5
5	T	1424	1.1	0.947	42.9	LOS D	48.2	340.2	0.95	0.96	26.4
6	R	89	2.0	0.474	70.1	LOS E	7.4	53.0	0.94	0.77	20.6
Approach		2220	1.2	0.947	34.8	LOS C	48.2	340.2	0.69	0.88	29.8
North East Balaclava Rd (N)											
7	L	261	1.0	0.630	14.7	LOS B	8.1	57.1	0.42	0.71	42.8
8	T	343	2.0	0.933	81.5	LOS F	30.4	216.2	1.00	1.10	17.9
9	R	359	3.0	0.933	90.3	LOS F	30.4	216.2	1.00	1.02	17.4
Approach		963	2.1	0.933	66.7	LOS E	30.4	216.2	0.84	0.96	21.0
North West Epping Rd (W)											
10	L	131	7.0	0.147	9.5	LOS A	2.1	15.2	0.21	0.65	47.8
11	T	834	4.7	0.421	37.6	LOS C	16.0	116.3	0.81	0.69	28.4
12	R	176	1.1	0.931	96.7	LOS F	15.9	112.6	1.00	1.02	16.5
Approach		1141	4.4	0.931	43.5	LOS D	16.0	116.3	0.77	0.74	26.7
South West Balaclava Rd (S)											
1	L	97	0.0	0.909	36.5	LOS C	4.8	33.9	0.80	0.77	29.9
2	T	111	7.0	0.663	60.6	LOS E	15.3	111.2	0.99	0.82	21.3
3	R	356	1.1	0.663	68.2	LOS E	15.3	111.2	0.97	0.82	21.1
Approach		564	2.1	0.909	61.2	LOS E	15.3	111.2	0.95	0.82	22.2
All Vehicles		4888	2.2	0.947	46.2	LOS D	48.2	340.2	0.77	0.86	25.9

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	Across SE approach	155	45.1	LOS E	0.5	0.5	0.79	0.79
P5	Across NE approach	3	29.4	LOS C	0.0	0.0	0.64	0.64
P7	Across NW approach	98	48.3	LOS E	0.3	0.3	0.82	0.82
P1	Across SW approach	28	29.4	LOS C	0.1	0.1	0.64	0.64
All Pedestrians		284	44.5				0.78	0.78

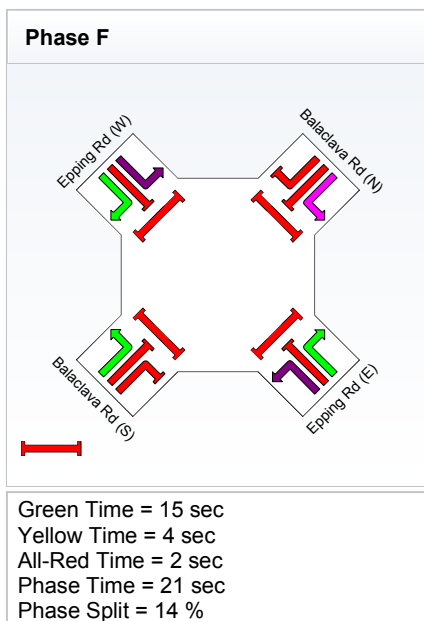
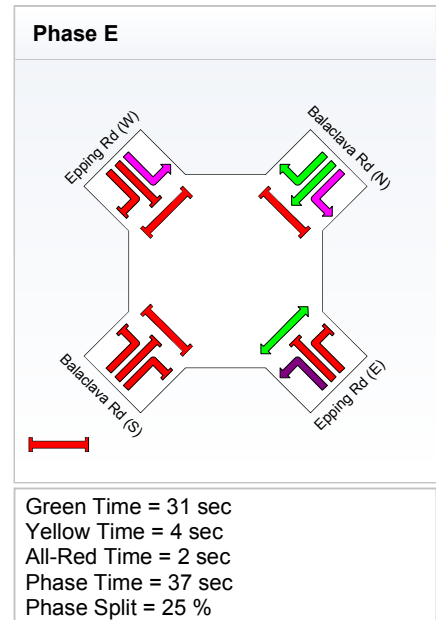
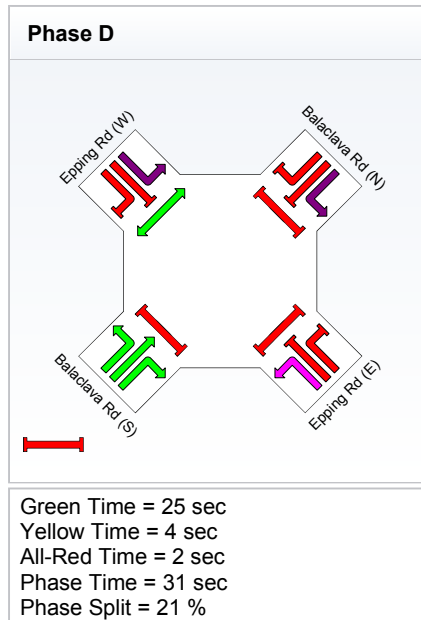
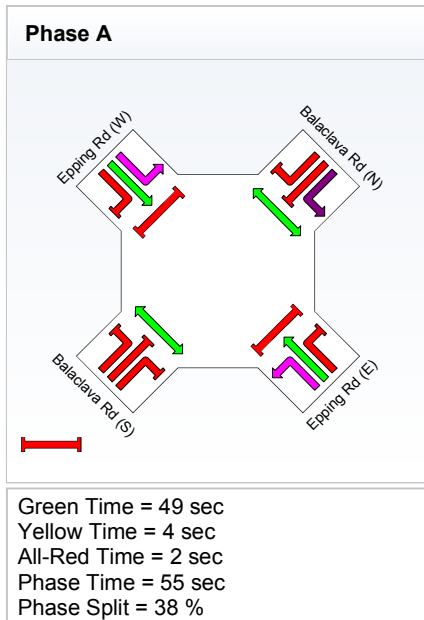
Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

PHASING SUMMARY

Site: Epping Rd/ Balaclava Rd PM
- Project 2012

Epping Rd/ Balaclava Rd PM - Project 2012
Signals - Fixed Time Cycle Time = 144 seconds

Cycle Time Option: **User-specified Cycle Time**
Phase times determined by the program
Sequence: **Split Phasing**
Input Sequence: **A, D, E, F**
Output Sequence: **A, D, E, F**



	Normal Movement		Permitted/Opposed
	Slip-Lane Movement		Opposed Slip-Lane
	Stopped Movement		Continuous Movement
	Turn On Red		Undetected Movement
			Phase Transition Applied

MOVEMENT SUMMARY

Site: Epping Rd/ Balaclava Rd PM
- Project 2012

Epping Rd/ Balaclava Rd PM - Project 2012
Signals - Fixed Time Cycle Time = 144 seconds

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	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East Epping Rd (E)											
4	L	707	1.4	0.896	18.5	LOS B	10.8	76.8	0.14	0.77	40.0
5	T	1424	1.1	0.986	57.6	LOS E	55.0	388.3	0.95	1.04	22.4
6	R	92	2.0	0.490	70.2	LOS E	7.7	54.6	0.95	0.78	20.6
Approach		2223	1.2	0.986	45.7	LOS D	55.0	388.3	0.69	0.94	26.0
North East Balaclava Rd (N)											
7	L	303	1.0	0.732	17.4	LOS B	10.2	72.1	0.44	0.73	40.8
8	T	359	2.0	0.950	85.8	LOS F	34.0	242.1	1.00	1.13	17.3
9	R	407	2.0	0.950	94.4	LOS F	34.0	242.1	1.00	1.05	16.8
Approach		1069	1.7	0.949	69.7	LOS E	34.0	242.1	0.84	0.99	20.5
North West Epping Rd (W)											
10	L	142	6.0	0.158	9.5	LOS A	2.2	16.4	0.21	0.65	47.8
11	T	834	4.7	0.439	39.3	LOS C	16.3	118.6	0.83	0.71	27.8
12	R	176	1.1	0.931	96.7	LOS F	15.9	112.6	1.00	1.02	16.5
Approach		1152	4.3	0.931	44.4	LOS D	16.3	118.6	0.78	0.75	26.4
South West Balaclava Rd (S)											
1	L	97	0.0	0.883	37.6	LOS C	4.8	33.9	0.80	0.79	29.4
2	T	115	7.0	0.668	60.7	LOS E	15.5	112.3	0.99	0.83	21.3
3	R	356	1.1	0.668	68.3	LOS E	15.5	112.3	0.98	0.83	21.0
Approach		568	2.1	0.882	61.5	LOS E	15.5	112.3	0.95	0.82	22.2
All Vehicles		5012	2.1	0.986	52.3	LOS D	55.0	388.3	0.77	0.89	24.2

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	Across SE approach	155	43.6	LOS E	0.5	0.5	0.78	0.78
P5	Across NE approach	3	30.7	LOS D	0.0	0.0	0.65	0.65
P7	Across NW approach	98	48.3	LOS E	0.3	0.3	0.82	0.82
P1	Across SW approach	28	30.7	LOS D	0.1	0.1	0.65	0.65
All Pedestrians		284	43.8				0.78	0.78

Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

Appendix D

**Macquarie University
Traffic and Parking
Rules & Guidelines**

Macquarie University Traffic and Parking Rules & Guidelines

The University accepts no responsibility for any damage caused to vehicles while travelling, standing or parked in the University grounds, or the theft of any vehicle, motorbike or cycle, nor for any damage to or loss of accessories or contents.

The University operates a Restricted Parking Area Scheme.

Periodical entry permits are available on personal application to the Cashier's office in the Student Centre or by written application addressed to the Director, Financial Services.

Casual or short term entry permits are available from ticket dispensing machines near the two main entrances and other identified car parks within the campus.

Periodical entry permits are issued upon presentation of student/staff I.D. number or, in the case of persons directly affiliated with the University, the approval of the Director, Office of Facilities Management or the Deputy Vice-Chancellor and Chief Operating Officer. Periodical entry permits are not available to persons not directly affiliated with the University.

Parking areas are provided at various locations within the University.

Vehicles may ONLY be parked in car parks and within marked bays. It is stressed that noncommercial vehicles may not park adjacent to buildings. Kerb parking is not permitted on any University road or in access lanes in car parks, except where marked.

The Macquarie University Traffic and Parking Rules and the Macquarie University By-laws make provision for the imposition of fines or other action to deal with breaches of the Traffic and Parking Rules.

The NSW State Debt Recovery Office operates the Self Enforcing Infringement Notice Scheme (SEINS) and is the University's agent for the collection of fines.

Repeated breaches of the Traffic and Parking Rules by staff or students will result in the withdrawal of entry permits and/or non renewal of permits.

Preamble

1. The University grounds are private property and the University Council has the right to regulate the entry of vehicles and their operation within the grounds.
2. Periodical entry permits are issued to a person(s). In circumstances where no permit is displayed on vehicle(s) the person(s) in charge of the vehicle will be responsible for any breach of the Traffic and Parking Rules.
3. Any vehicle brought into the University grounds is required to be driven, parked and managed in compliance with the University Traffic and Parking Rules and signs, and in observance of the directions of authorised persons.
4. For the purpose of these rules, "authorised persons" include all University security services officers and their Supervisors.
5. All persons, pedestrians or drivers, are responsible for conducting themselves in a safe manner whilst within the University grounds in accordance with the 'Occupational Health and Safety Act'.

Entry into University Grounds

The following vehicles only are ordinarily permitted to enter the University grounds:

1. Vehicles in the charge of members of Council, staff and students of Macquarie University.
2. Vehicles of members of the public who have business or are attending meetings or functions within the University.
3. Vehicles making delivery of goods ordered by the University, and contractors to the University.
4. Vehicles picking up or setting down passengers within the University.

5. No person shall operate, park or allow a vehicle to be parked in the University grounds except in accordance with these rules.
6. All vehicles must visibly display an entry permit.

Parking

1. Parking and standing is prohibited at all times on all roads and in access lanes within car parks on University owned land except to the extent specifically authorised by notice, by marking or by an authorised person. This prohibition applies irrespective of whether a notice is displayed. The prohibition against parking and standing means that a vehicle may be stationary only for the minimum time necessary to set down and pick up passengers.
2. At all times parking is permitted only in established car parks and not on University roads or elsewhere within the University grounds except that:
 - a. staff occupying cottages may also park in those adjacent parts of adjacent areas assigned for parking
 - b. builders' vehicles must be parked within the building site
 - c. vehicles with special permits may be parked in locations specially assigned them and must display a valid annual entry permit
 - d. cycles and scooters may park in areas reserved for them. Other vehicles may not use these areas
 - e. vehicles displaying RTA disability permits may park in especially allocated areas or general parking areas at no charge
 - f. spaces designated for particular officers (eg Heads of Divisions) may be used only by those officers
3. Vehicles are to be parked or placed wholly within the parking areas denoted by painted lines or other marking, and are not to be parked or placed so as to obstruct the free and safe passage of vehicles in the access lanes in car parks.

General

1. The bringing and driving of vehicles, cycles or scooters on paths, grassed areas or elsewhere on the grounds other than University roads and car parks is prohibited, except with the permission of the Vice-Chancellor or a person authorised by the Vice-Chancellor for this purpose.
2. Subject to the above, the provisions of the NSW Road Transport (General) Act 1999, and Regulations made under it shall be observed in the University grounds so far as these can be applied to the circumstances.
3. Notwithstanding any of the above provisions, the bringing and management of any vehicle, conveyance or animal onto and while on the University grounds shall be subject to the directions of any authorised person.
4. These rules must be read in conjunction with any other instructions, or guidelines made available from time to time.

Guidelines

All staff, students, visitors and other University users operating vehicles on campus are required to comply with Macquarie University Traffic and Parking Rules and the NSW Road Transport (General) Act 1999 and Regulations. By complying with these rules and regulations, you make life a little easier for yourself and others within the campus community.

Restricted Parking Area

The University operates a Restricted Parking Area Scheme under the Traffic Amendment (Pay Parking Schemes Act 1998) which is covered by prescribed regulations. Under this Regulation, standing, waiting or parking of motor vehicles is prohibited at any place within the campus, except when actually engaged in taking up or setting down persons or goods, or when parked in specially marked parking bays in designated parking stations and parking areas.

Self Enforcing Infringement Notice Scheme (SEINS)

Macquarie University is authorised by the Commissioner of Police to issue infringements under the SEINS Traffic and Parking Rules, which make provision for the imposition of fines for breaches of the University's Traffic and Parking Rules. The NSW Police Service Infringement Processing Bureau operates the Self Enforcing Infringement Notice Scheme (SEINS) and is the University's agent for the collection of fines.

Entry Permits

Permits may be long term (yearly, half-yearly), short term (monthly) and are available to students and staff only. Permits will be issued on payment of the prescribed fee. Casual or short term entry permits are also available to students, staff, visitors and members of the public. These are available from ticket dispensing machines located at the two main entrances and car parks as shown on the campus map Campus Map. Entry permits are required and are enforced seven days a week all year round, during the hours of 6:00am to 8:00pm and as posted in each parking area. Entry permits allow entry to the campus to seek parking, but do not guarantee location proximity or a place to park. All vehicles parked on campus must display a valid entry permit. To be valid, a permit must be current and clearly visible inside the vehicle on the driver's side of the windscreen.

Lost or Stolen Permits

In the event that a permit is lost or stolen, report it immediately to the Security Office in Building C1A. A replacement permit will be issued upon completion of a lost/stolen Permit Report. The Claimant must also provide a Statutory Declaration. There is a charge of \$30 for a replacement permit. Recovered, lost, or stolen permits must be returned to the Security Office as soon as possible. Use of a lost or stolen permit by anyone will result in internal hearing and disciplinary action taken and/or criminal charges being laid.

People with Disabilities

State Roads and Traffic Authority (RTA) disability permits are honoured at Macquarie University. Vehicles displaying these permits may park in specially designated "disabled only" spaces, (see Disabled Parking Map) or general parking areas at no charge. However, vehicles should not park contrary to parking signs.

Short Term Mobility Limitations

Students or Staff who have a short-term mobility limitation (i.e.-recent surgery, broken limb) may obtain a temporary disabled only permit from the Security Office. A supporting medical report would be required prior to issue of this permit. Both a valid University permit and the disabled -only permit must be clearly visible inside the driver's side of the windscreen.

Loading and Unloading

Loading and unloading in designated marked/sign posted areas may only be used for the purpose of loading and unloading by University services vehicles including those belonging to Colleges, contractors, suppliers, and external services vehicles for a period of less than one (1) hour (60 minutes), or as defined by the parking control sign. Loading and unloading close to building in areas not marked or sign posted, requires prior exemption from the Security Manager.

Services

Parking for external service providers' vehicles is provided in all day (P) and one hour (1P) limited controlled parking in specially marked areas, sign posted as 'AUTHORISED SERVICE VEHICLES ONLY'. These are located across campus and as shown on campus map Service vehicles map. Permits are available from the Security Office in Building C1A and are issued subject to verification from the Office of Facilities Management. These parking spaces are also accessible to University Services vehicles. Should the 'AUTHORISED SERVICE VEHICLES ONLY' parking space be fully occupied, providers must park in the general parking areas in marked bays and must display a valid entry permit. Controlled parking limited to one hour (60 minutes), is available to University service vehicles in specially marked areas, sign posted as '1P AUTHORISED UNIVERSITY SERVICE VEHICLES ONLY'. To qualify for these parking spaces the vehicle must be an identifiable University service vehicle displaying a gold special permit as well as a current annual permit. Locations are shown on campus maps Campus Map.

Motorcycles

Motorcycle parking is provided in specially marked areas throughout campus. At present motorcycles do not need to obtain entry permits if they park in these designated bays. Motorcycles may use automobile spaces if they display a valid entry permit.

Visitors

Visitors are welcome on the Macquarie University campus. Those wishing to park on campus on any day of the week between the hours of 6:00am to 8:00PM are required to obtain and display an entry permit clearly visible inside the driver's side of the windscreen. Visitors other than authorised visitors, must not park in spaces marked "P AUTHORISED VISITOR WITH GREEN SCRATCH PERMIT ONLY". Authorised visitors with a GREEN ONE DAY SCRATCH PERMIT can park in spaces sign posted "P AUTHORISED VISITORS WITH GREEN SCRATCH PERMIT ONLY". (i.e. C1 carpark behind the Security Office).

Dedicated Parking

Marked parking bays are dedicated for the use of specific individuals or group(s) and may be controlled by means of physical barriers such as lockable bollards or boom gates.

Special Permits

Special Permit areas may only be used by the holders of gold and blue special permits. Holders of these permits must endeavour to park in the general parking areas when vehicle is not continuously being used for University business during the course of the working day. All gold and blue special permits must be displayed accompanied with a valid annual entry permit.

Child Care Permits

Childcare permits are available free of charge on application to the Manager, Security Office. This permit allows the vehicle to park for up to 30 minutes in specially marked areas 'P30 minutes Set Down' located in front of the Child Care centres X5A, X5B, X6A, Gumnut Cottage and Parents Co-op. This permit does not allow parking in any other parking areas on campus.

Contractor's Permits

Each project and the principal contractor on the project will receive one (1) contractor's permit. The permit allows the contractor's vehicle to be parked in the general parking areas. It does not guarantee location proximity or a place to park. Contractor's employees, sub-contractors and providers, must obtain and display a valid University entry permit. Should there be a dedicated contractor's compound for the duration of the project, vehicles parked inside the compound, inclusive of contractor's, employees, sub-contractors, deliveries, and service providers are exempt, and do not need to display a valid permit. NOTE: When parking in areas outside the contractor's compound, all vehicles MUST display a valid entry permit, clearly visible inside the driver's side of the windscreen.

Authorised

Vehicles parking in parking bays with the following wording "Authorised Service Vehicle"; "Authorised Visitor"; "Authorised Delivery" and "Authorised Loading and Unloading" must display the relevant entry permit issued by the Security Office or the Office of Facilities Management, and signed for by the user on the day of issue. All vehicles must park in a marked bay and in accordance with the parking control signs. The permit must be clearly visible inside the driver's side of the windscreen.

Authorised Permits

An Authorised Permit is any valid permit displayed and clearly visible inside the driver's side of the windscreen.

Appeals

If you receive an infringement notice and believe you can demonstrate reasonable and acceptable grounds for an appeal, the infringement notice may be appealed within the specified time shown on the infringement, by writing to the NSW Police Infringement Processing Bureau and mailing it to the address shown on the Infringement Notice envelope.

General

Parking any vehicle on campus with the intent of camping is illegal and will be viewed as trespass.

Tips for Parking on Campus

The following are tips for avoiding an 'Infringement Notice' at Macquarie University

- Know the Traffic and Parking rules and observe them.
- Park only in designated marked parking spaces.
- Make sure your current permit is clearly visible inside the driver's side of the windscreen.
- Do not use 'disabled only' parking areas for parking, loading or unloading even if the vehicle is occupied.
- Read and follow instructions on all signs posted at each parking area.
- Do not park over the space line, on the street, sidewalk or lawn.
- Observe time limitation or restriction.
- Remember that parking in the same manner as another illegally parked vehicle does not make you exempt from an infringement notice.
- Parking requires thought, consideration, effort, and perhaps extra time. Allow yourself that time.

Security and Attendants Services are here to help. Security staff is available to help you at the Security Office 24 hours, Monday through Sunday. For general information call 9850 7112 or stop by our office in Building C1A on Macquarie Drive.

Appendix E

RTA Paramics Model Checklist

RTA Paramics Model Checklist

PROJECT DETAILS

Please provide general information about the project.

Client		Macquarie University			
Project Title		Australian Hearing Hub			
<i>Route Name</i>		<i>Scheme Location (including grid reference)</i>			
<i>Study carried out by:</i>		Arup			
<i>Previous Reports: Title</i>					<i>Date</i>
Project Description: Assess the traffic impact of the Australian Hearing Hub development using the City of Ryde's Macquarie Park Corridor Paramics Model (MPCPM). Previous modelling work done by Cardno to assess the Macquarie University Temporary Car Park, which included an update and revalidation of the 2007 Base MPCPM has been used as the base for this project. Year 2012 Base Case and Project Case Scenarios to test the Hearing Hub have been developed by Arup based on Scenario 3 of the Temporary Car Park mode (Scenario 03-P0272 003Ryde2007 AM wTCP1hrl.					
Calibration and Validation of the Traffic Model					
<i>Model Base: N/A</i>			<i>Size of Model (Calibration Base^{1[1]})</i>		
<i>Year</i>			<i>Number of Zones</i>		
<i>Traffic flow units</i>			<i>Number of Links</i>		
<i>Time Dependent Model</i>	<i>Yes</i> ☐	<i>No</i> ☐	<i>Number of Nodes</i>		
<i>Modelled time period(s)</i>			<i>Number of Modelled Junctions</i>		
			<i>Number of Signals</i>	<i>FT</i>	<i>VA</i>
Calibration and Validation Statistics					
<i>Have modelled flows and travel times been validated to acceptable standards?</i>				<i>Yes</i> ☐	<i>No</i> ☐
<i>If "yes" please specify the standards adopted?</i>		<i>NSW</i> ☐	<i>UK DMRB</i> ☐	<i>Other</i> ☐	
<i>If "other" please specify</i>					
<i>Are results reported in Model Validation Report?</i>				<i>Yes</i> ☐	<i>No</i> ☐
Model Trip Database^{2[2]}					
<i>Type</i>	<i>No.</i>	<i>Date</i>	<i>Type</i>	<i>No.</i>	<i>Date</i>
<i>Roadside Interviews</i>			<i>SCATS Counts</i>		
<i>Registration Number Survey</i>			<i>Link Count Only</i>		
<i>Manual Classified Counts</i>			<i>Commercial Vehicle Survey</i>		
<i>Automatic Traffic Counts</i>			<i>Postcard Questionnaires</i>		
<i>Junction Counts</i>			<i>Household Interviews</i>		
Matrix Estimation Techniques used					
<i>Link and Junction Count only</i>					
<i>Observed Matrix</i>					
<i>Synthetic Matrix (give details)</i>					
<i>Partial Matrix (give details)</i>					
<i>Combination of Observed and Synthetic (give details)</i>					
<i>Other (please specify)</i>					

^{1[1]} Please ensure the Local Model Validation Report contains a network diagram showing numbered links and nodes, for both base and design.

^{2[2]} Please list counts used to derive base year matrices as detailed in the Traffic Survey.

Present Year Validation		
<i>Is the model base year more than three years earlier than the current year?</i>	<i>Yes</i>	<i>No</i>
<i>If yes, has a Present Year validation been undertaken?</i>	<i>Yes</i>	<i>No</i>
Details of Sub-models (software) used	Application Name	Version
<i>Traffic assignment model</i>		
<i>Trip End Model</i>		
<i>Mode Choice Model</i>		
<i>Other (please specify)</i>		

MODEL INPUT

This section lists changes made to default values (either Paramics default values or NSW default values). Please indicate which default values were used and what changes were made to the Paramics files and comment on the reasons for the changes.

Run Initialisation

Configuration File

Tick default used

NSW Paramics ☐

Paramics ☐

Other ☒

<i>List and comment on changes where applicable.</i>					
<i>Description</i>	<i>Paramics Default Values</i>	<i>NSW Paramics Default Values</i>	<i>t</i>	<i>Other non default values</i>	
				<i>Values Used</i>	<i>Comment on reason for changes</i>
<i>Mean Headway</i>	1.0	1.0			
<i>Mean reaction time</i>	1.0	1.0			
<i>Demand weight</i>	100.0	100.0			
<i>Demand matrix tuning level</i>	0	0			
<i>Curve speed factor</i>	1.0	1.0			
<i>Amber time</i>	3.0	3.0			
<i>Timestep detail</i>	2	2			
<i>Cost Coefficients</i>	1,0,0	1,0,0			
<i>Feedback</i>	disabled	disabled		2 min	as per Base MPCPM
<i>Perturbation</i>	disabled	disabled		Square root	as per Base MPCPM
<i>Generator</i>	0	0			

Behaviour File

Have the “aggression” levels been changed from the default normal distribution?

Yes ☐ No ☒

Have the “awareness” levels been changed from the default normal distribution?

Yes ☐ No ☒

If “yes”, please provide comments on reasons for changes.

<i>“Behaviour” File</i>	<i>Comment on reasons for changes</i>
<i>Aggression</i>	
<i>Awareness</i>	

Network

Categories File

Tick default used

NSW Paramics ☒Paramics ☐

Were changes made or additional categories used?

Yes ☐ No ☒

If “yes” or if a new set of categories were defined, please complete the following table.

[illegible]

(please use additional sheet if necessary)

Next Lanes File

Was the default lane mapping changed?

Yes ☐ No ☒

If “yes”, please complete the following table with reference to the “nextlanes” file.

[illegible]

(please use additional sheet if necessary)

Signposts File

Was the look ahead lane/route choice changed?

Yes ☐No ☒

If “yes”, please complete the following table with reference to the “hazards” (signposting) file.

[illegible]

(please use additional sheet if necessary)

Restriction File

Have network restrictions been modelled?

Yes ☒

No ☐

If “yes”, specify the location and type of the restriction in the following table.

[illegible]

(please use additional sheet if necessary)

Demand

Vehicles File

Tick default used NSW Paramics ☒
Paramics ☐

Were changes made or were additional vehicle types used? Yes ☐ No ☒

If “yes” or if a new set of vehicle types were defined, please list changes and complete the following table.

<i>List Additional Vehicle Type</i>							
<i>No.</i>	<i>Type</i>	<i>Speed (kph)</i>	<i>Matrix</i>	<i>Proportion</i>	<i>Perturbation</i>	<i>Familiarity</i>	<i>Colour</i>

(please use additional sheet if necessary)

Incidents File

Have incidents been coded? Yes ☐ No ☒

If “yes”, please describe the type of incident, the location, and explain why incident modelling has been included.

<i>Incidents File</i>		
<i>Type</i>	<i>Location</i>	<i>Comment</i>

(please use additional sheet if necessary)

Summary of OD Data input to Paramics

Please complete the following tables for trip matrices and vehicle proportions.

Trip Matrices

[illegible]

(please use additional sheet if necessary)

Vehicle Classification Proportions

[illegible]

(please use additional sheet if necessary)

Assignment

<i>Generalised cost equation</i>		(1 x T) + (0 x D) + (0 x P)				
<i>Assignment method (please tick)</i>		<i>All or nothing</i>	☐			
		<i>Stochastic</i>	☐	☒	<i>or %</i>	☐
		<i>Dynamic Feedback</i>	☒	<i>Feedback interval (minutes)</i>		☒ 2
<i>Vehicle Type</i>	<i>Percentage Familiar</i>	<i>Perturbation</i>				
Car	25	5				
MRV	25	5				
HRV	25	5				
Articulated	25	5				
<i>Routing Table Number</i>	<i>Familiar / Unfamiliar</i>	<i>Describe Restriction Criteria (e.g. taxi only, 2T weight limit)</i>		<i>Vehicle Types which Restrictions apply to</i>		

(please use additional sheet if necessary)