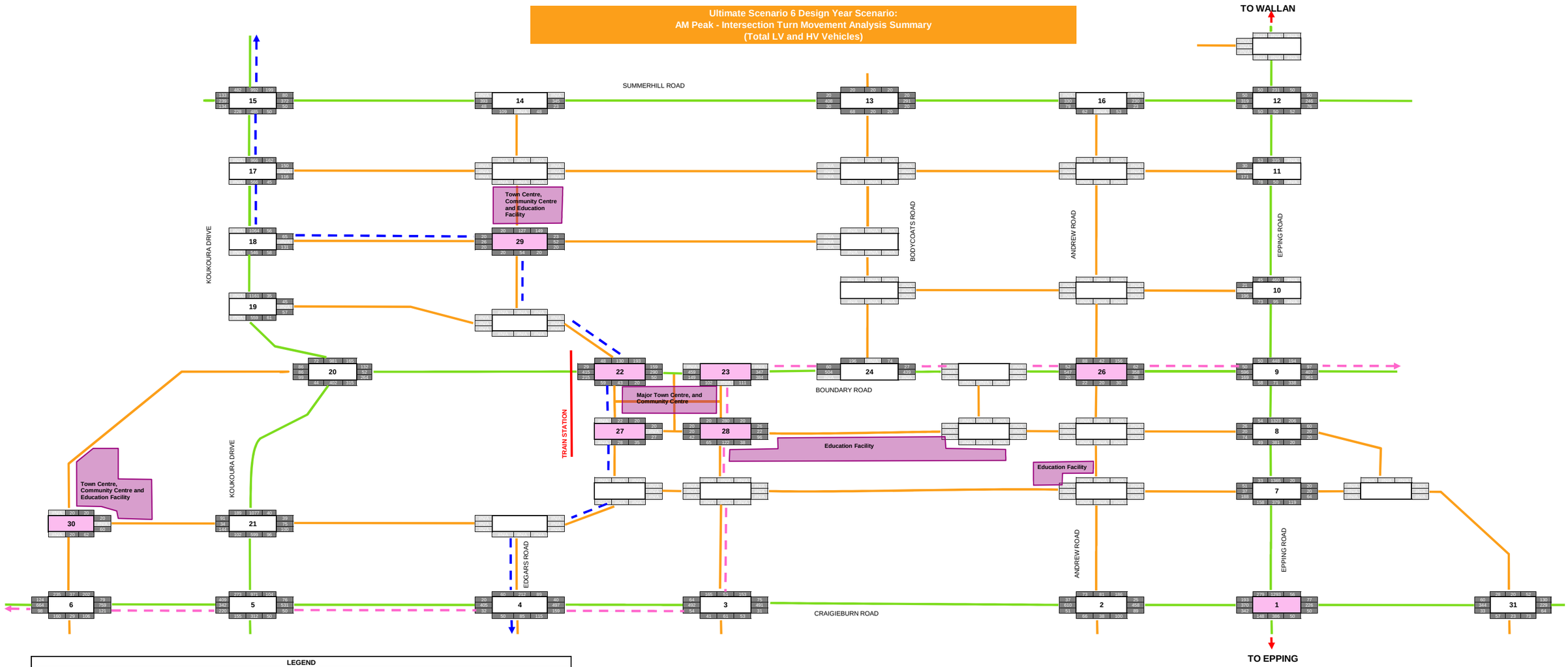
D R A F T

Appendix C

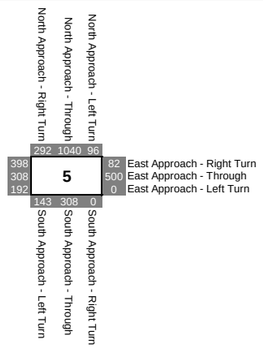
Intersection Results - Ultimate Scenario - Scenario 6

Ultimate Scenario 6 Design Year Scenario:
AM Peak - Intersection Turn Movement Analysis Summary
(Total LV and HV Vehicles)

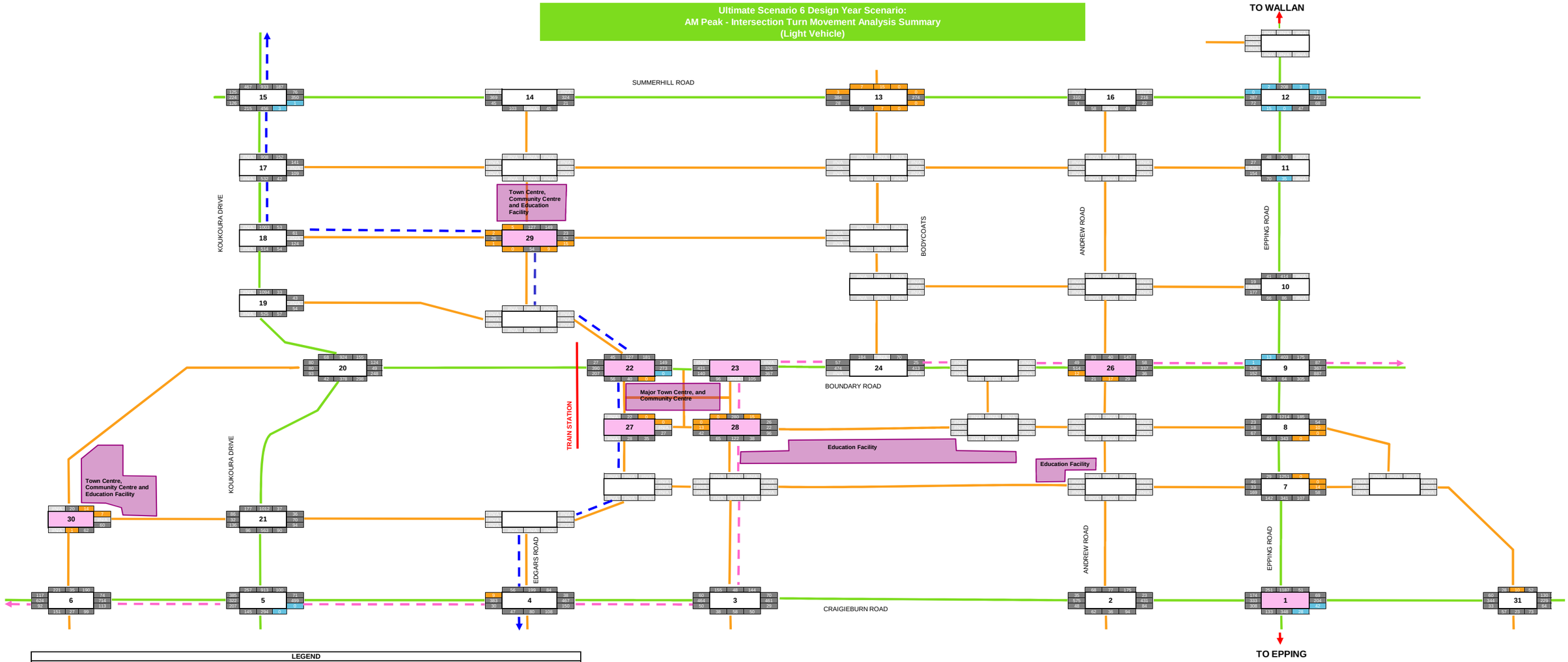


LEGEND

- Intersection with 50 pedestrians at each approach
- Intersection with 20 pedestrians at each approach
- Six traffic lane Arterial Road (three lanes in each direction)
- Four traffic lane Arterial Road (two lanes in each direction)
- Two traffic lane Arterial Road (one lane in each direction)
- Two traffic lane Collector Road (one lane in each direction)
- Bus Priority Routes (different colour represent different bus services)



Ultimate Scenario 6 Design Year Scenario:
AM Peak - Intersection Turn Movement Analysis Summary
(Light Vehicle)



LEGEND

A minimum total vehicle of 20 vehicles (LV + HV). If the total volumes less than 20 vehicles, an additional LV of up to 20 will be added to the turn movement to meet the minimum total vehicles.
eg. 3 input = 20 total volumes (LV & HV)

A minimum total vehicle of 50 vehicles (LV + HV). If the total volumes less than 50 vehicles, an additional LV of up to 50 will be added to the turn movement to meet the minimum total vehicles.
eg. 3 input = 50 total volumes (LV & HV)

Intersection with 50 pedestrians at each approach

Intersection with 20 pedestrians at each approach

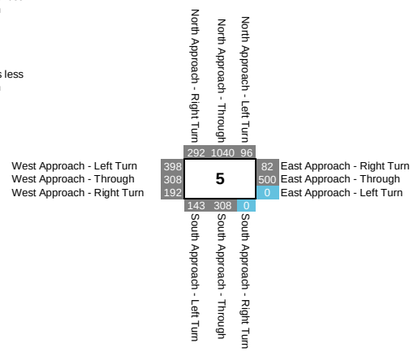
Six traffic lane Arterial Road (three lanes in each direction)

Four traffic lane Arterial Road (two lanes in each direction)

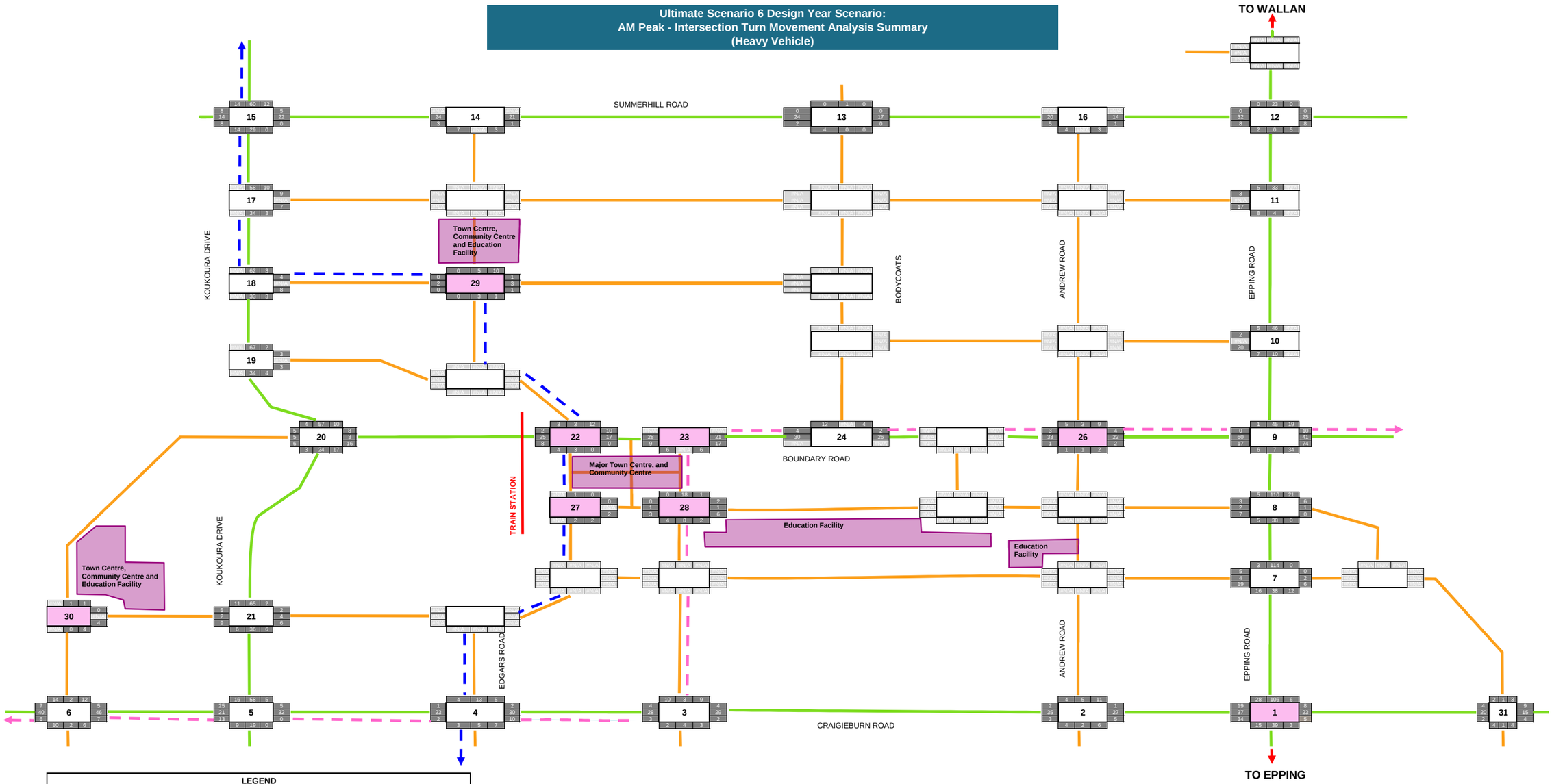
Two traffic lane Arterial Road (one lane in each direction)

Two traffic lane Collector Road (one lane in each direction)

Bus Priority Routes (different colour represent different bus services)

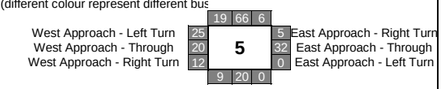


Ultimate Scenario 6 Design Year Scenario:
AM Peak - Intersection Turn Movement Analysis Summary
(Heavy Vehicle)



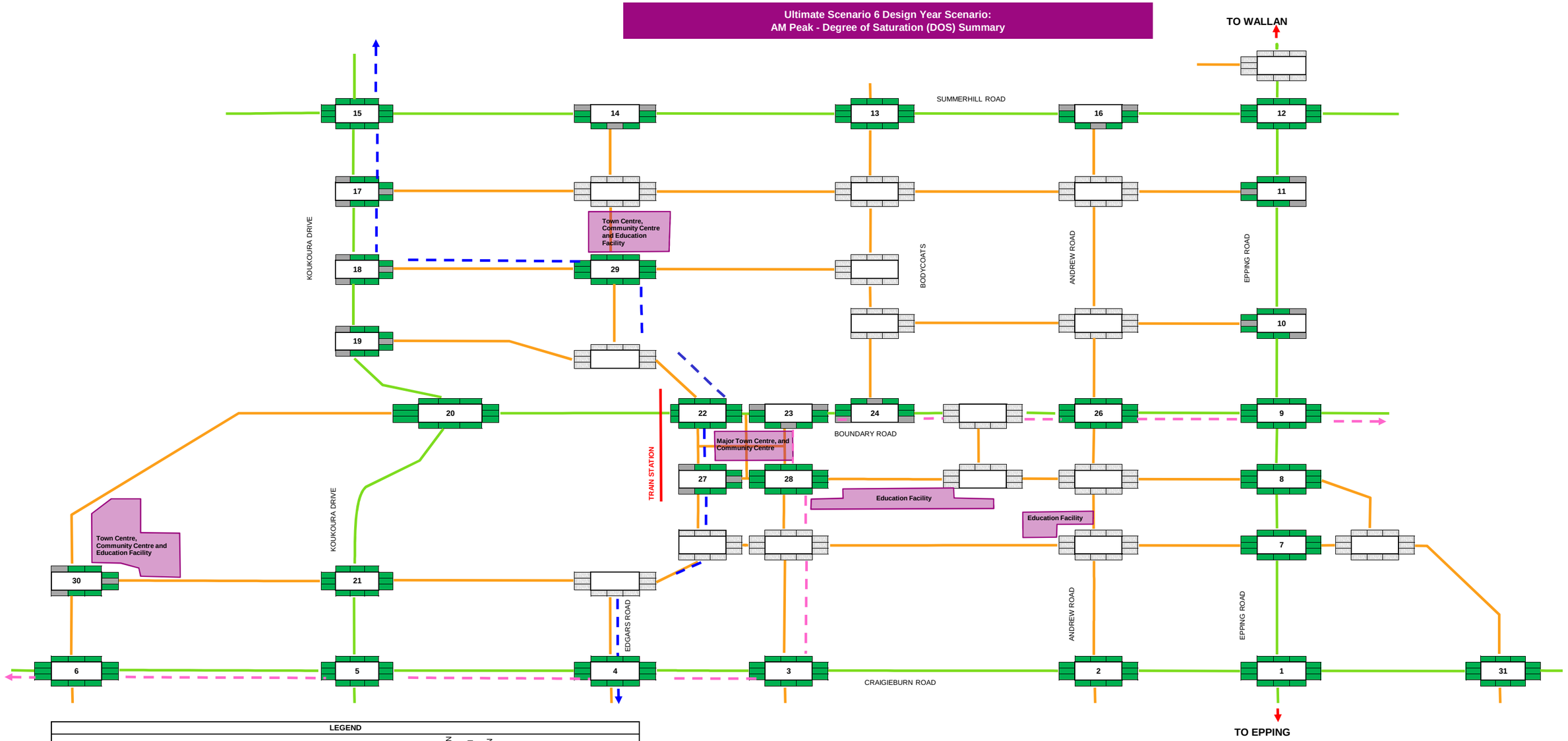
LEGEND

- Intersection with 50 pedestrians at each approach
- Intersection with 20 pedestrians at each approach
- Six traffic lane Arterial Road (three lanes in each direction)
- Four traffic lane Arterial Road (two lanes in each direction)
- Two traffic lane Arterial Road (one lane in each direction)
- Two traffic lane Collector Road (one lane in each direction)
- Bus Priority Routes (different colour represent different bus



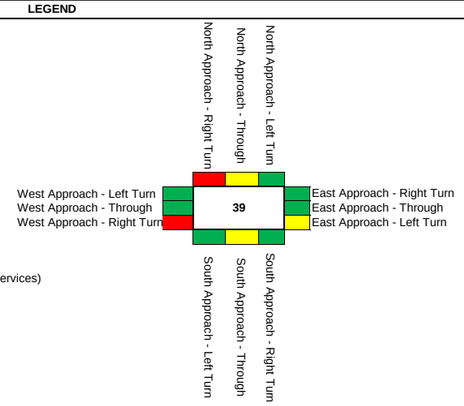
Heavy Vehicle Assumptions:
10% of LV are HV on Epping Road applied on all approaches
6% of LV are HV on all other roads applied on all approaches

Ultimate Scenario 6 Design Year Scenario:
AM Peak - Degree of Saturation (DOS) Summary



LEGEND

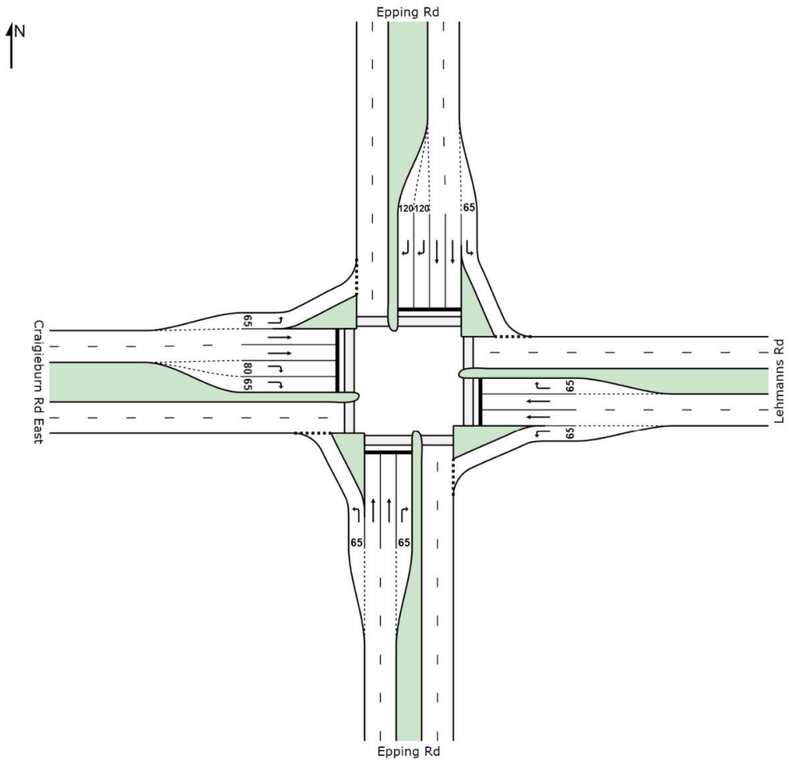
- Degree of Saturation greater than 1.00
- Degree of Saturation between 0.95 and 1.00
- Degree of Saturation between 0.85 and 0.95
- Degree of Saturation less than 0.85
- Intersection not analysed
- Six traffic lane Arterial Road (three lanes in each direction)
- Four traffic lane Arterial Road (two lanes in each direction)
- Two traffic lane Arterial Road (one lane in each direction)
- Two traffic lane Collector Road (one lane in each direction)
- Bus Priority Routes (different colour represent different bus services)



SITE LAYOUT

Site: Intersection 1 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 1 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 110 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Epping Rd											
1	L2	148	10.1	0.135	9.4	LOS A	1.4	11.0	0.26	0.67	60.4
2	T1	387	10.1	0.646	47.8	LOS D	10.0	76.2	0.99	0.82	39.3
3	R2	50	6.0	0.288	53.5	LOS D	2.5	18.4	0.95	0.74	35.3
Approach		585	9.7	0.646	38.6	LOS D	10.0	76.2	0.80	0.77	42.7
East: Lehmanns Rd											
4	L2	50	10.0	0.080	20.1	LOS C	1.3	9.8	0.55	0.71	51.5
5	T1	227	10.1	0.525	51.0	LOS D	5.9	45.3	0.99	0.78	38.0
6	R2	77	10.4	0.377	57.5	LOS E	4.0	30.2	0.96	0.77	33.8
Approach		354	10.2	0.525	48.0	LOS D	5.9	45.3	0.92	0.77	38.4
North: Epping Rd											
7	L2	57	10.5	0.047	9.5	LOS A	0.5	4.2	0.25	0.65	60.3
8	T1	1293	8.2	0.761	25.1	LOS C	28.8	215.9	0.87	0.79	51.8
9	R2	279	10.0	0.221	33.4	LOS C	5.2	39.2	0.73	0.76	43.5
Approach		1629	8.6	0.761	26.0	LOS C	28.8	215.9	0.83	0.78	50.4
West: Craigieburn Rd East											
10	L2	193	9.8	0.191	10.2	LOS B	2.3	17.6	0.31	0.68	59.7
11	T1	370	10.0	0.741	52.9	LOS D	10.2	77.4	1.00	0.87	37.3
12	R2	342	9.9	0.723	60.0	LOS E	9.4	71.2	1.00	0.85	33.0
Approach		905	9.9	0.741	46.5	LOS D	10.2	77.4	0.85	0.82	38.5
All Vehicles		3473	9.3	0.761	35.7	LOS D	28.8	215.9	0.84	0.79	44.1

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	50	49.3	LOS E	0.1	0.1	0.95	0.95
P12	South Stage 2	50	46.5	LOS E	0.1	0.1	0.92	0.92
P21	East Stage 1	50	27.0	LOS C	0.1	0.1	0.70	0.70
P22	East Stage 2	50	24.9	LOS C	0.1	0.1	0.67	0.67
P31	North Stage 1	50	49.3	LOS E	0.1	0.1	0.95	0.95
P32	North Stage 2	50	44.6	LOS E	0.1	0.1	0.90	0.90
P41	West Stage 1	50	46.5	LOS E	0.1	0.1	0.92	0.92
P42	West Stage 2	50	42.0	LOS E	0.1	0.1	0.87	0.87
All Pedestrians		400	41.3	LOS E			0.86	0.86

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

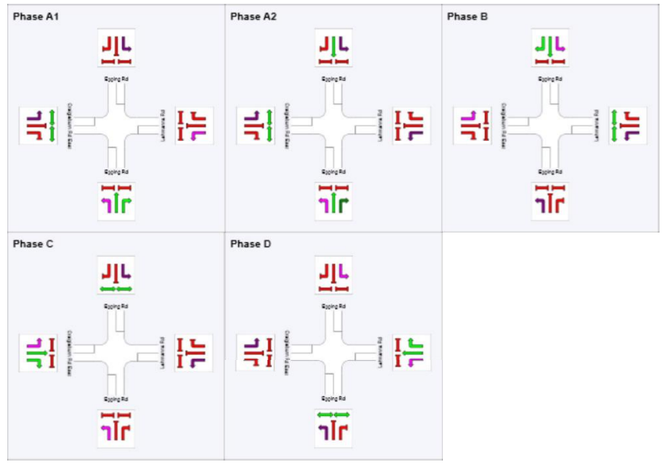
Site: Intersection 1 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 110 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A1, A2, B, C, D
Output Sequence: A1, A2, B, C, D

Phase Timing Results

Phase	A1	A2	B	C	D
Reference Phase	Yes	No	No	No	No
Phase Change Time (sec)	0	12	24	70	91
Green Time (sec)	6	6	40	15	13
Yellow Time (sec)	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2
Phase Time (sec)	12	12	46	21	19
Phase Split	11 %	11 %	42 %	19 %	17 %



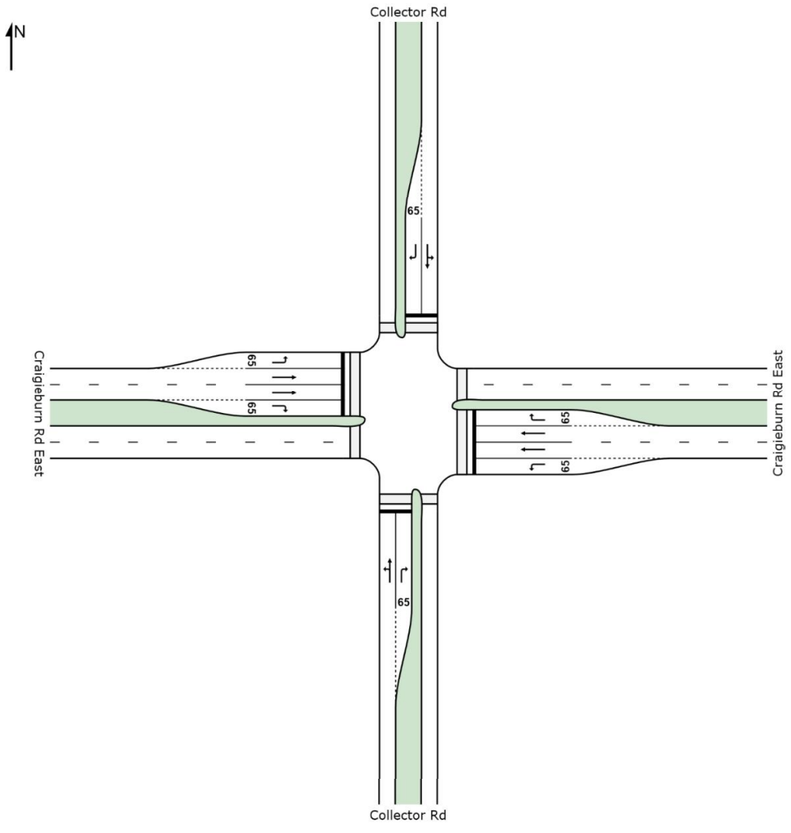
Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class Running
Mixed Running & Stopped Movement Classes
Undetected Movement
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Other Movement Class Stopped
Phase Transition Applied

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 2 AM Ultimate

New Site
Signals - Fixed Time



MOVEMENT SUMMARY

Site: Intersection 2 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
1	L2	66	6.1	0.175	24.8	LOS C	2.9	21.1	0.74	0.68	41.7
2	T1	38	5.3	0.175	20.2	LOS C	2.9	21.1	0.74	0.68	38.0
3	R2	100	6.0	0.642	46.2	LOS D	4.1	30.4	1.00	0.83	33.1
Approach		204	5.9	0.642	34.4	LOS C	4.1	30.4	0.87	0.75	36.4
East: Craigieburn Rd East											
4	L2	89	5.6	0.121	22.6	LOS C	2.1	15.7	0.65	0.74	44.3
5	T1	458	5.9	0.488	28.2	LOS C	7.8	57.4	0.90	0.75	49.4
6	R2	24	4.2	0.177	46.9	LOS D	0.9	6.8	0.97	0.71	34.2
Approach		571	5.8	0.488	28.1	LOS C	7.8	57.4	0.87	0.75	47.7
North: Collector Rd											
7	L2	186	5.9	0.439	26.4	LOS C	8.1	59.9	0.82	0.76	40.8
8	T1	82	6.1	0.439	21.8	LOS C	8.1	59.9	0.82	0.76	37.3
9	R2	72	5.6	0.461	44.7	LOS D	2.9	21.0	0.99	0.76	33.6
Approach		340	5.9	0.461	29.1	LOS C	8.1	59.9	0.85	0.76	38.2
West: Craigieburn Rd East											
10	L2	37	5.4	0.050	22.1	LOS C	0.9	6.3	0.63	0.71	44.6
11	T1	610	5.7	0.649	29.7	LOS C	11.0	80.5	0.95	0.81	48.4
12	R2	51	5.9	0.382	48.0	LOS D	2.0	15.1	0.99	0.74	33.9
Approach		698	5.7	0.649	30.7	LOS C	11.0	80.5	0.94	0.80	46.7
All Vehicles		1813	5.8	0.649	30.0	LOS C	11.0	80.5	0.89	0.77	43.8

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	29.8	LOS C	0.0	0.0	0.86	0.86
P2	East Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	29.8	LOS C	0.0	0.0	0.86	0.86
P4	West Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
All Pedestrians		80	32.0	LOS D			0.89	0.89

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

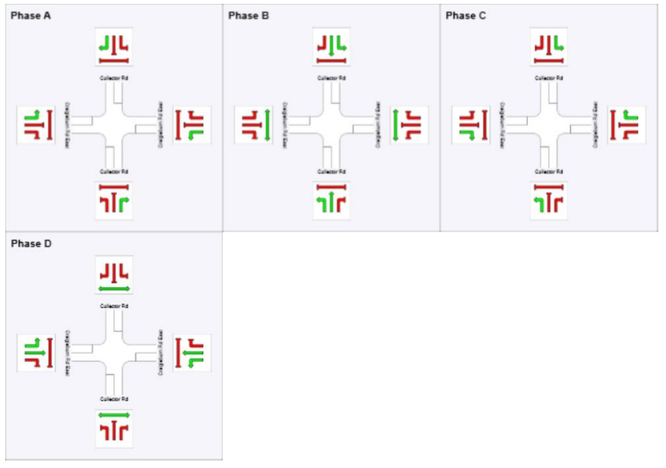
Site: Intersection 2 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Split Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

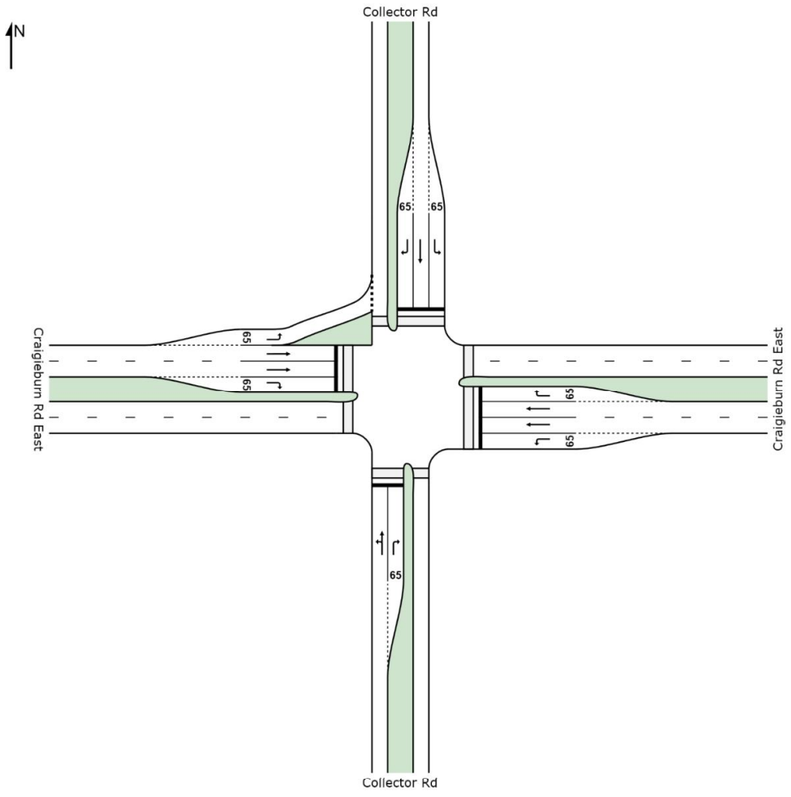
Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	13	42	54
Green Time (sec)	7	23	6	20
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	13	29	12	26
Phase Split	16 %	36 %	15 %	33 %



SITE LAYOUT

Site: Intersection 3 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 3 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
1	L2	40	5.0	0.183	26.4	LOS C	2.9	21.5	0.77	0.66	41.6
2	T1	62	6.5	0.183	21.8	LOS C	2.9	21.5	0.77	0.66	37.9
3	R2	53	5.7	0.264	41.4	LOS D	2.0	14.6	0.95	0.74	34.7
Approach		155	5.8	0.264	29.7	LOS C	2.9	21.5	0.83	0.69	37.6
East: Craigieburn Rd East											
4	L2	31	6.5	0.042	22.0	LOS C	0.7	5.3	0.62	0.70	44.6
5	T1	490	5.9	0.580	30.6	LOS C	8.8	64.4	0.94	0.79	48.0
6	R2	74	5.4	0.552	49.1	LOS D	3.0	22.3	1.00	0.77	33.7
Approach		595	5.9	0.580	32.4	LOS C	8.8	64.4	0.93	0.78	45.4
North: Collector Rd											
7	L2	153	5.9	0.196	19.5	LOS B	3.7	27.0	0.65	0.72	43.5
8	T1	51	5.9	0.094	22.6	LOS C	1.5	10.8	0.76	0.58	38.3
9	R2	165	6.1	0.824	49.0	LOS D	7.2	53.3	1.00	0.99	32.3
Approach		369	6.0	0.824	33.1	LOS C	7.2	53.3	0.82	0.82	37.1
West: Craigieburn Rd East											
10	L2	64	6.3	0.049	8.5	LOS A	0.4	2.7	0.23	0.65	54.2
11	T1	492	5.7	0.581	30.6	LOS C	8.8	64.6	0.94	0.79	47.9
12	R2	53	5.7	0.396	48.1	LOS D	2.1	15.6	0.99	0.74	33.8
Approach		609	5.7	0.581	29.8	LOS C	8.8	64.6	0.87	0.77	46.8
All Vehicles		1728	5.8	0.824	31.4	LOS C	8.8	64.6	0.88	0.78	43.0

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	31.5	LOS D	0.0	0.0	0.89	0.89
P2	East Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P4	West Full Crossing	20	32.4	LOS D	0.0	0.0	0.90	0.90
All Pedestrians		80	33.1	LOS D			0.91	0.91

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

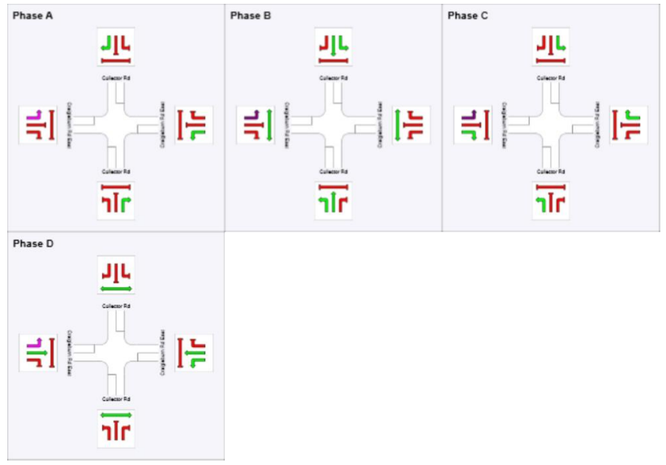
Site: Intersection 3 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Leading Right Turn
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	15	44	56
Green Time (sec)	9	23	6	18
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	15	29	12	24
Phase Split	19 %	36 %	15 %	30 %



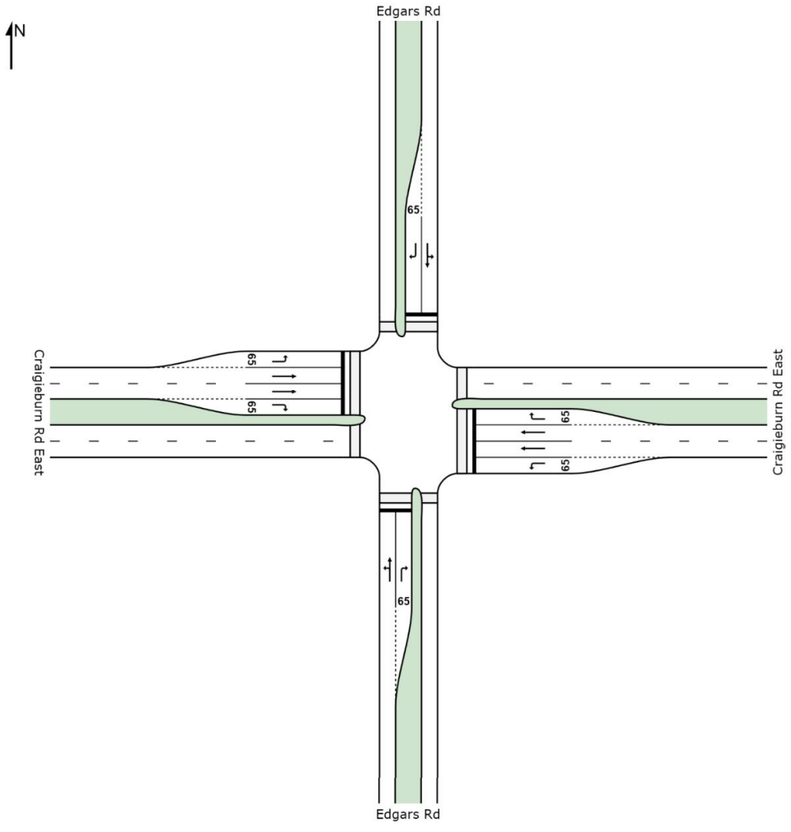
SIDRA INTERSECTION 6

SITE LAYOUT

10

Site: Intersection 4 AM Ultimate

New Site
Signals - Fixed Time



MOVEMENT SUMMARY

11

Site: Intersection 4 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Edgars Rd											
1	L2	50	6.0	0.243	27.9	LOS C	4.0	29.1	0.78	0.71	43.8
2	T1	85	5.9	0.243	23.5	LOS C	4.0	29.1	0.78	0.71	39.8
3	R2	115	6.1	0.574	44.4	LOS D	4.5	33.5	0.99	0.80	35.7
Approach		250	6.0	0.574	34.0	LOS C	4.5	33.5	0.88	0.75	38.5
East: Craigieburn Rd East											
4	L2	160	6.3	0.218	23.4	LOS C	4.0	29.8	0.68	0.76	46.6
5	T1	497	6.0	0.589	30.6	LOS C	8.9	65.6	0.95	0.79	47.8
6	R2	40	5.0	0.297	47.6	LOS D	1.6	11.6	0.98	0.73	34.0
Approach		697	6.0	0.589	30.0	LOS C	8.9	65.6	0.89	0.78	46.5
North: Edgars Rd											
7	L2	89	5.6	0.547	30.3	LOS C	10.0	73.7	0.89	0.79	40.0
8	T1	212	6.1	0.547	26.9	LOS C	10.0	73.7	0.89	0.79	38.9
9	R2	60	6.7	0.301	41.6	LOS D	2.3	16.8	0.96	0.75	34.5
Approach		361	6.1	0.547	30.2	LOS C	10.0	73.7	0.90	0.79	38.4
West: Craigieburn Rd East											
10	L2	20	5.0	0.027	21.9	LOS C	0.5	3.3	0.62	0.69	44.7
11	T1	406	5.7	0.480	29.7	LOS C	7.1	51.8	0.92	0.76	48.4
12	R2	32	6.3	0.240	47.3	LOS D	1.3	9.3	0.97	0.72	35.7
Approach		458	5.7	0.480	30.6	LOS C	7.1	51.8	0.91	0.75	47.1
All Vehicles		1766	5.9	0.589	30.7	LOS C	10.0	73.7	0.89	0.77	43.4

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	31.5	LOS D	0.0	0.0	0.89	0.89
P2	East Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	31.5	LOS D	0.0	0.0	0.89	0.89
P4	West Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
All Pedestrians		80	32.9	LOS D			0.91	0.91

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

12

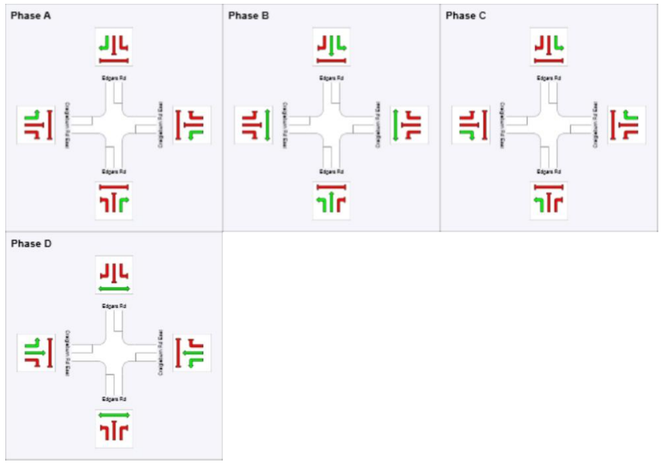
Site: Intersection 4 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Leading Right Turn
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	15	44	56
Green Time (sec)	9	23	6	18
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	15	29	12	24
Phase Split	19 %	36 %	15 %	30 %

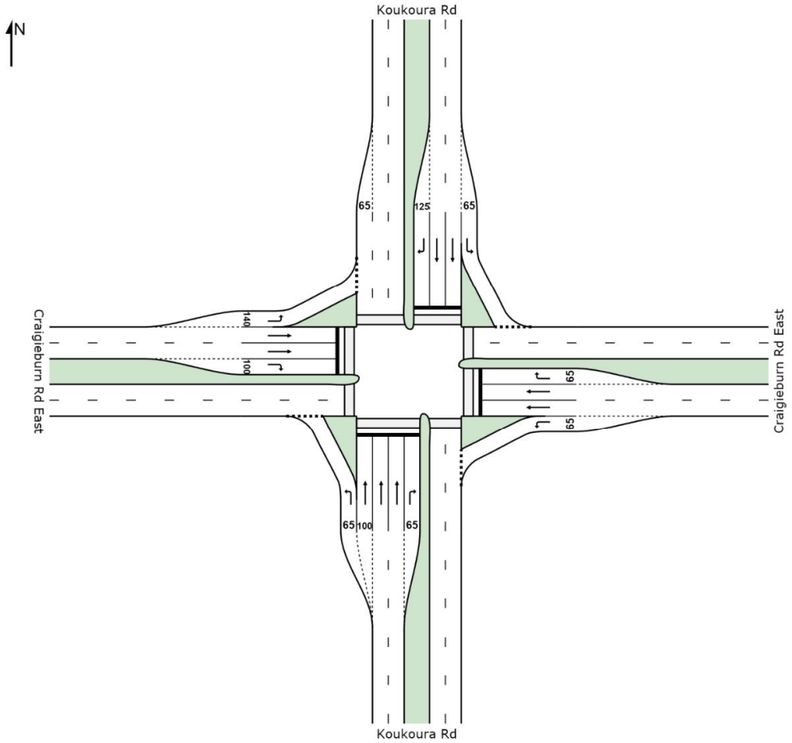


SITE LAYOUT

13

Site: Intersection 5 AM Ultimate

New Site
Signals - Fixed Time



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SIDRA INTERSECTION 6

MOVEMENT SUMMARY

14

Site: Intersection 5 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Rd											
1	L2	154	5.8	0.174	12.4	LOS B	3.0	22.4	0.42	0.67	49.2
2	T1	313	6.1	0.636	57.1	LOS E	7.6	55.8	0.99	0.80	31.1
3	R2	50	0.0	0.249	59.9	LOS E	2.8	19.3	0.95	0.74	30.1
Approach		517	5.4	0.636	44.0	LOS D	7.6	55.8	0.82	0.76	34.8
East: Craigieburn Rd East											
4	L2	50	0.0	0.058	17.3	LOS B	1.3	9.0	0.50	0.66	46.3
5	T1	531	6.0	0.772	53.8	LOS D	15.7	115.3	1.00	0.91	32.0
6	R2	76	6.6	0.234	51.2	LOS D	3.8	28.4	0.89	0.76	32.3
Approach		657	5.6	0.772	50.7	LOS D	15.7	115.3	0.95	0.87	32.8
North: Koukoura Rd											
7	L2	105	4.8	0.077	7.5	LOS A	1.0	7.5	0.23	0.61	52.6
8	T1	971	6.0	0.771	38.1	LOS D	26.9	197.8	0.94	0.85	37.0
9	R2	273	5.9	0.438	37.8	LOS D	12.2	89.9	0.82	0.80	36.7
Approach		1349	5.9	0.771	35.6	LOS D	26.9	197.8	0.86	0.82	37.8
West: Craigieburn Rd East											
10	L2	410	6.1	0.344	7.9	LOS A	5.0	36.9	0.30	0.65	52.3
11	T1	343	6.1	0.578	51.5	LOS D	9.5	70.0	0.98	0.80	32.7
12	R2	220	5.9	0.780	62.5	LOS E	13.3	97.7	1.00	0.90	29.5
Approach		973	6.1	0.780	35.6	LOS D	13.3	97.7	0.70	0.76	37.7
All Vehicles		3496	5.8	0.780	39.7	LOS D	26.9	197.8	0.83	0.80	36.3

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	47.7	LOS E	0.1	0.1	0.89	0.89
P12	South Stage 2	20	43.4	LOS E	0.1	0.1	0.85	0.85
P21	East Stage 1	20	30.1	LOS D	0.0	0.0	0.71	0.71
P22	East Stage 2	20	28.0	LOS C	0.0	0.0	0.68	0.68
P31	North Stage 1	20	48.6	LOS E	0.1	0.1	0.90	0.90
P32	North Stage 2	20	48.6	LOS E	0.1	0.1	0.90	0.90
P41	West Stage 1	20	54.2	LOS E	0.1	0.1	0.95	0.95
P42	West Stage 2	20	51.4	LOS E	0.1	0.1	0.93	0.93
All Pedestrians		160	44.0	LOS E			0.85	0.85

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

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SIDRA INTERSECTION 6

PHASING SUMMARY

15

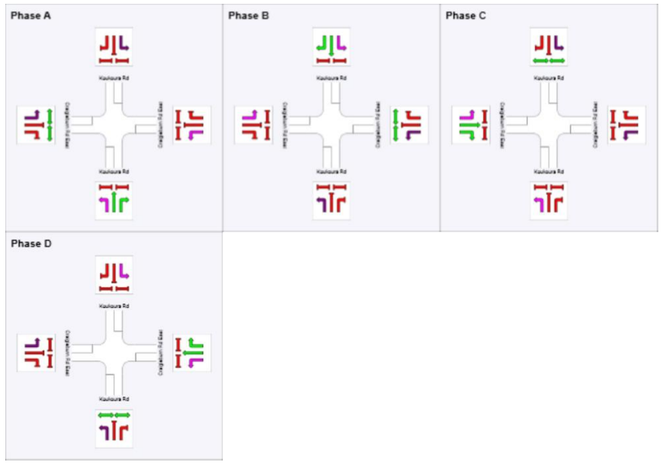
Site: Intersection 5 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Split Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	19	67	92
Green Time (sec)	13	42	19	22
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	19	48	25	28
Phase Split	16 %	40 %	21 %	23 %



Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class Running
Mixed Running & Stopped Movement Classes
Undetected Movement
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Other Movement Class Stopped
Phase Transition Applied

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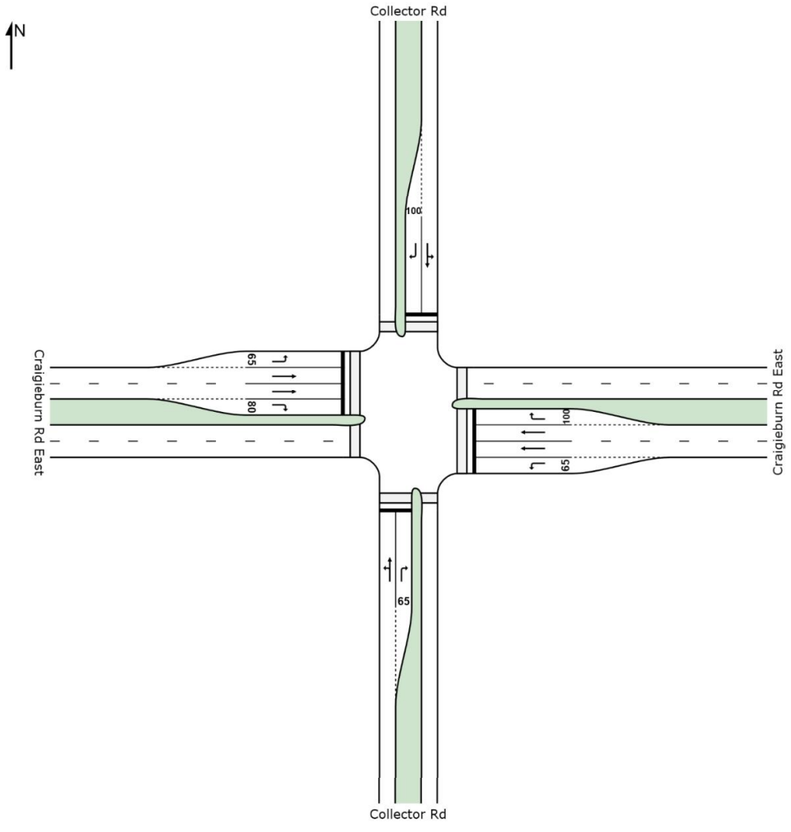
SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 6 AM Reference

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 6 AM Reference

New Site
Signals - Fixed Time Cycle Time = 100 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
1	L2	161	6.2	0.347	33.5	LOS C	7.2	53.2	0.82	0.76	37.5
2	T1	29	6.9	0.347	28.9	LOS C	7.2	53.2	0.82	0.76	34.6
3	R2	105	5.7	0.327	43.9	LOS D	4.6	33.5	0.91	0.77	33.9
Approach		295	6.1	0.347	36.7	LOS D	7.2	53.2	0.85	0.76	35.8
East: Craigieburn Rd East											
4	L2	120	5.8	0.132	20.7	LOS C	3.0	22.3	0.55	0.73	45.3
5	T1	760	6.1	0.761	38.5	LOS D	18.2	134.1	0.98	0.88	43.4
6	R2	79	6.3	0.556	58.0	LOS E	4.0	29.3	1.00	0.77	31.0
Approach		959	6.0	0.761	37.9	LOS D	18.2	134.1	0.93	0.85	42.2
North: Collector Rd											
7	L2	202	5.9	0.436	34.4	LOS C	9.4	68.9	0.85	0.78	37.2
8	T1	37	5.4	0.436	29.8	LOS C	9.4	68.9	0.85	0.78	34.2
9	R2	235	6.0	0.733	49.3	LOS D	11.5	84.8	1.00	0.88	32.2
Approach		474	5.9	0.733	41.5	LOS D	11.5	84.8	0.92	0.83	34.3
West: Craigieburn Rd East											
10	L2	124	5.6	0.136	20.7	LOS C	3.1	23.0	0.56	0.73	45.3
11	T1	664	6.0	0.655	35.3	LOS D	14.5	107.1	0.94	0.81	45.1
12	R2	98	6.1	0.688	59.7	LOS E	5.1	37.3	1.00	0.82	30.6
Approach		886	6.0	0.688	35.9	LOS D	14.5	107.1	0.90	0.80	42.9
All Vehicles		2614	6.0	0.761	37.7	LOS D	18.2	134.1	0.91	0.82	39.9

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	33.6	LOS D	0.0	0.0	0.82	0.82
P2	East Full Crossing	20	44.2	LOS E	0.1	0.1	0.94	0.94
P3	North Full Crossing	20	33.6	LOS D	0.0	0.0	0.82	0.82
P4	West Full Crossing	20	44.2	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		80	38.9	LOS D			0.88	0.88

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

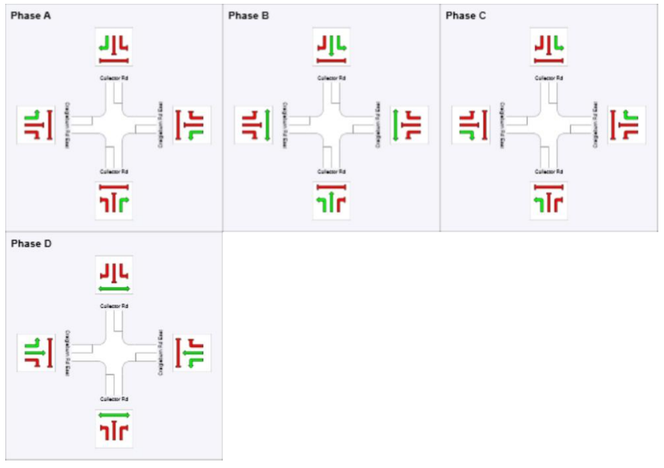
Site: Intersection 6 AM Reference

New Site
Signals - Fixed Time Cycle Time = 100 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	24	53	67
Green Time (sec)	18	23	8	27
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	24	29	14	33
Phase Split	24 %	29 %	14 %	33 %



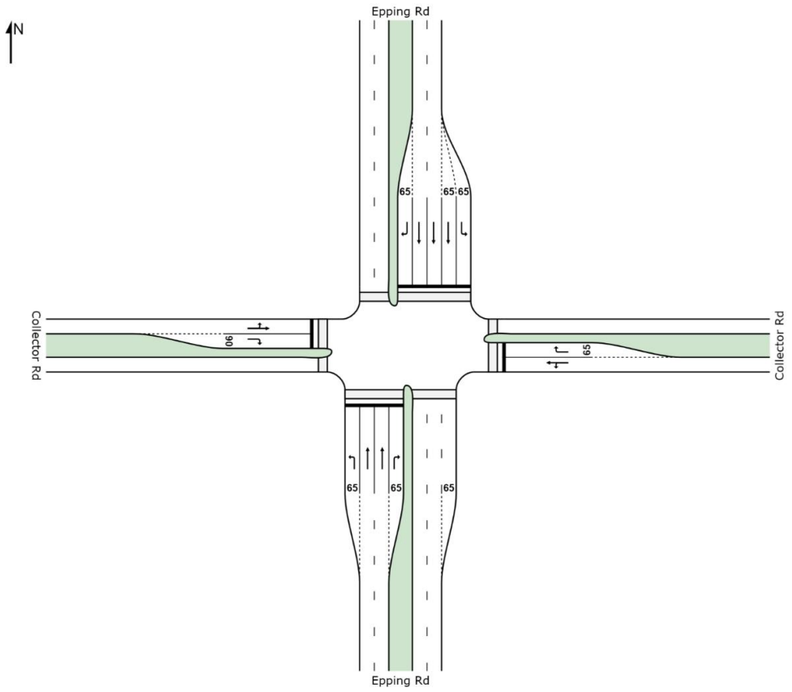
Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class Running
Mixed Running & Stopped Movement Classes
Undetected Movement
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Other Movement Class Stopped
Phase Transition Applied

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 7 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 7 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Epping Rd											
1	L2	158	10.1	0.150	16.3	LOS B	3.9	29.7	0.46	0.69	43.5
2	T1	379	10.0	0.244	23.5	LOS C	7.0	53.4	0.68	0.57	43.3
3	R2	119	10.1	0.749	68.2	LOS E	7.4	56.0	1.00	0.87	27.0
Approach		656	10.1	0.749	29.9	LOS C	7.4	56.0	0.69	0.65	39.0
East: Collector Rd											
4	L2	64	9.4	0.220	47.4	LOS D	3.9	29.8	0.87	0.74	31.6
5	T1	16	12.5	0.220	42.7	LOS D	3.9	29.8	0.87	0.74	30.6
6	R2	20	0.0	0.045	37.0	LOS D	0.8	5.9	0.78	0.67	34.9
Approach		100	8.0	0.220	44.6	LOS D	3.9	29.8	0.85	0.73	32.0
North: Epping Rd											
7	L2	20	0.0	0.018	15.2	LOS B	0.4	3.1	0.41	0.64	44.1
8	T1	1365	8.4	0.797	31.3	LOS C	30.9	232.2	0.86	0.79	39.6
9	R2	32	9.4	0.201	61.9	LOS E	1.8	13.6	0.96	0.73	28.2
Approach		1417	8.3	0.797	31.8	LOS C	30.9	232.2	0.86	0.78	39.3
West: Collector Rd											
10	L2	51	9.8	0.319	34.1	LOS C	3.3	25.1	0.93	0.74	36.1
11	T1	37	10.8	0.319	29.4	LOS C	3.3	25.1	0.93	0.74	34.8
12	R2	188	10.1	0.814	65.8	LOS E	11.8	89.6	1.00	0.93	27.2
Approach		276	10.1	0.814	55.1	LOS E	11.8	89.6	0.98	0.87	29.4
All Vehicles		2449	8.9	0.814	34.4	LOS C	30.9	232.2	0.82	0.76	37.5

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	51.4	LOS E	0.1	0.1	0.93	0.93
P12	South Stage 2	20	49.5	LOS E	0.1	0.1	0.91	0.91
P21	East Stage 1	20	22.2	LOS C	0.0	0.0	0.61	0.61
P22	East Stage 2	20	21.0	LOS C	0.0	0.0	0.59	0.59
P31	North Stage 1	20	54.2	LOS E	0.1	0.1	0.95	0.95
P32	North Stage 2	20	46.9	LOS E	0.1	0.1	0.88	0.88
P41	West Stage 1	20	22.2	LOS C	0.0	0.0	0.61	0.61
P42	West Stage 2	20	21.0	LOS C	0.0	0.0	0.59	0.59
All Pedestrians		160	36.1	LOS D			0.76	0.76

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

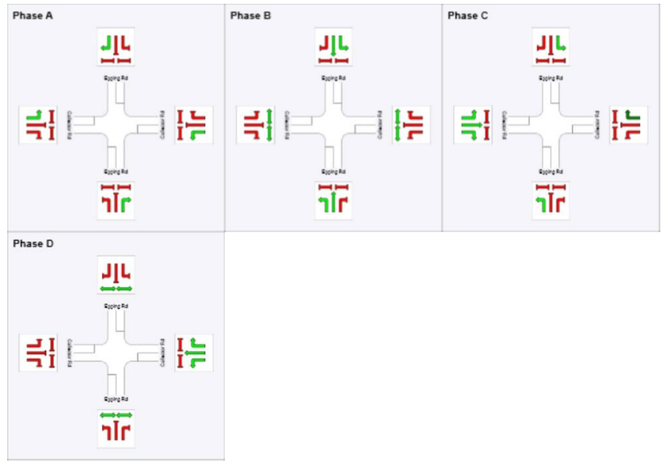
Site: Intersection 7 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Leading Right Turn (phase reduction applied)
Movement Class: All Movement Classes
Input Sequence: A, ?, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	17	74	96
Green Time (sec)	11	51	16	18
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	17	57	22	24
Phase Split	14 %	48 %	18 %	20 %



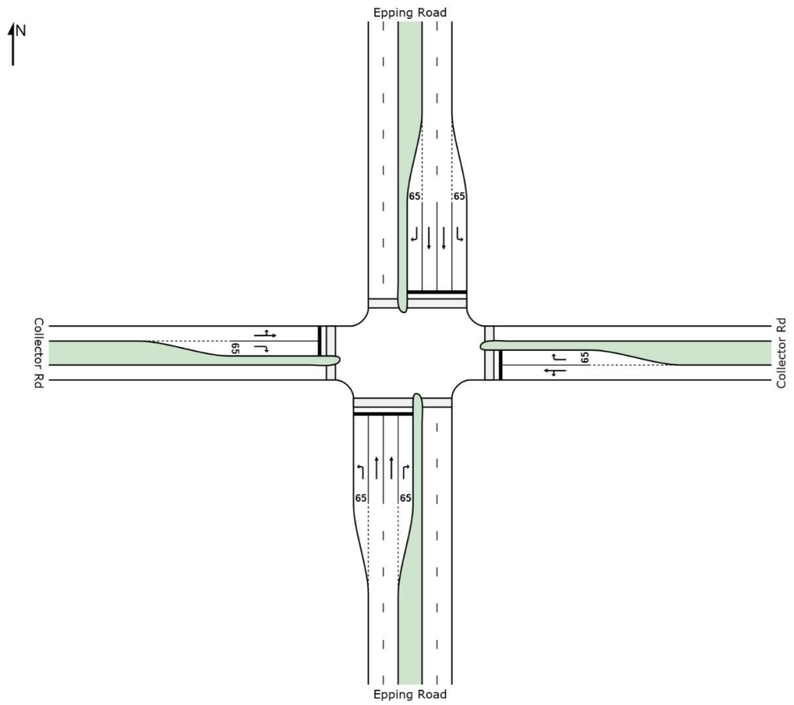
SIDRA INTERSECTION 6

SITE LAYOUT

22

Site: Intersection 8 AM Ultimate

New Site
Signals - Fixed Time



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SIDRA INTERSECTION 6

MOVEMENT SUMMARY

23

Site: Intersection 8 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Epping Road											
1	L2	49	10.2	0.047	15.6	LOS B	1.1	8.6	0.42	0.66	43.9
2	T1	381	10.0	0.208	17.7	LOS B	6.1	46.5	0.59	0.50	46.5
3	R2	20	0.0	0.215	68.2	LOS E	1.2	8.4	0.99	0.70	26.9
Approach		450	9.6	0.215	19.7	LOS B	6.1	46.5	0.59	0.53	44.7
East: Collector Rd											
4	L2	20	0.0	0.103	45.9	LOS D	1.9	13.5	0.84	0.68	32.5
5	T1	20	5.0	0.103	41.3	LOS D	1.9	13.5	0.84	0.68	31.3
6	R2	60	10.0	0.593	68.7	LOS E	3.7	28.1	1.00	0.78	26.6
Approach		100	7.0	0.593	58.6	LOS E	3.7	28.1	0.94	0.74	28.5
North: Epping Road											
7	L2	206	10.2	0.196	16.7	LOS B	5.3	40.0	0.47	0.71	43.3
8	T1	1324	8.3	0.799	26.2	LOS C	33.0	247.4	0.84	0.78	41.9
9	R2	54	9.3	0.620	71.3	LOS E	3.4	25.5	1.00	0.78	26.3
Approach		1584	8.6	0.799	26.5	LOS C	33.0	247.4	0.80	0.77	41.3
West: Collector Rd											
10	L2	26	11.5	0.122	45.5	LOS D	2.2	16.6	0.84	0.69	32.4
11	T1	20	10.0	0.122	40.8	LOS D	2.2	16.6	0.84	0.69	31.4
12	R2	74	9.5	0.729	70.7	LOS E	4.7	35.4	1.00	0.86	26.3
Approach		120	10.0	0.729	60.2	LOS E	4.7	35.4	0.94	0.79	28.2
All Vehicles		2254	8.8	0.799	28.3	LOS C	33.0	247.4	0.77	0.72	40.1

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	54.2	LOS E	0.1	0.1	0.95	0.95
P2	East Full Crossing	20	19.9	LOS B	0.0	0.0	0.58	0.58
P3	North Full Crossing	20	54.2	LOS E	0.1	0.1	0.95	0.95
P4	West Full Crossing	20	19.9	LOS B	0.0	0.0	0.58	0.58
All Pedestrians		80	37.0	LOS D			0.76	0.76

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

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SIDRA INTERSECTION 6

PHASING SUMMARY

24

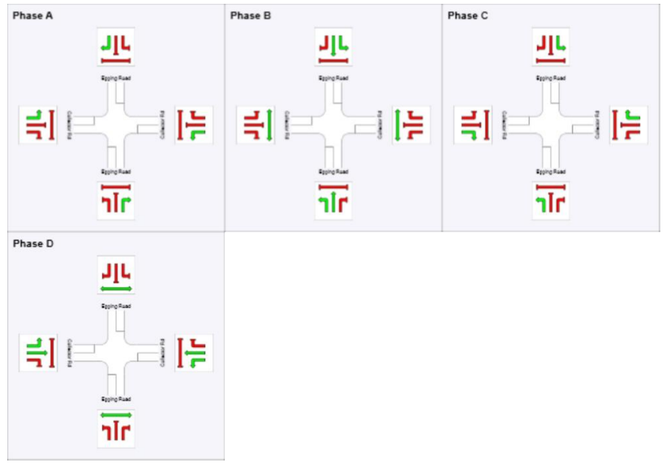
Site: Intersection 8 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	12	78	91
Green Time (sec)	6	60	7	23
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	12	66	13	29
Phase Split	10 %	55 %	11 %	24 %



Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class Running
Mixed Running & Stopped Movement Classes
Undetected Movement
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Other Movement Class Stopped
Phase Transition Applied

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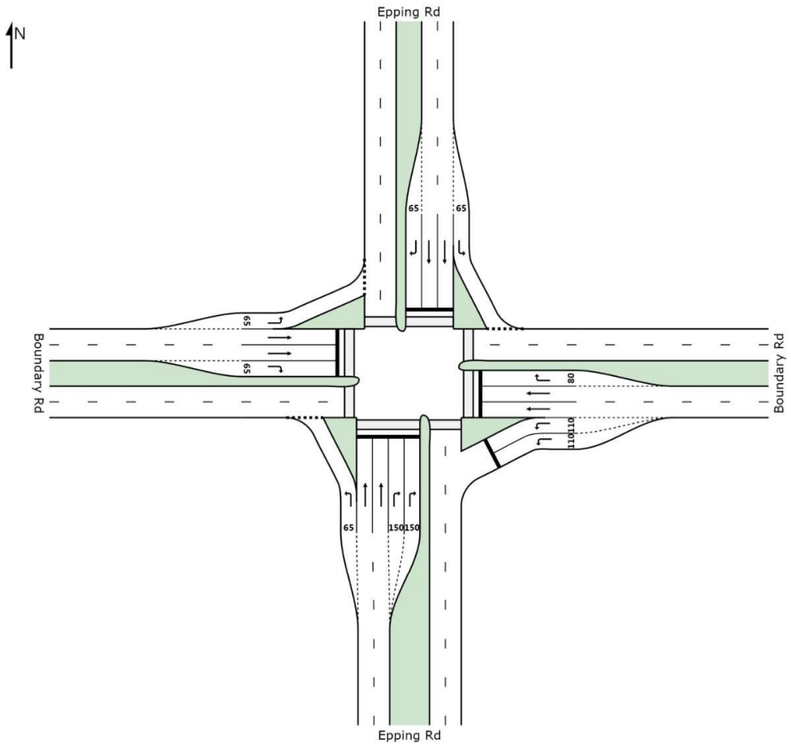
SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 9 AM Ultimate

New Site
Signals - Fixed Time



MOVEMENT SUMMARY

Site: Intersection 9 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Epping Rd											
1	L2	58	10.3	0.052	7.5	LOS A	0.4	3.3	0.29	0.61	52.4
2	T1	71	9.9	0.119	31.6	LOS C	1.2	9.2	0.89	0.65	39.6
3	R2	339	10.0	0.602	40.9	LOS D	6.5	49.1	0.98	0.81	36.8
Approach		468	10.0	0.602	35.4	LOS D	6.5	49.1	0.88	0.77	38.6
East: Boundary Rd											
4	L2	961	7.7	0.590	24.6	LOS C	13.9	104.1	0.79	0.83	46.5
5	T1	408	10.0	0.495	32.2	LOS C	7.1	54.3	0.92	0.78	43.0
6	R2	97	10.3	0.408	43.0	LOS D	3.6	27.7	0.96	0.78	37.6
Approach		1466	8.5	0.590	28.0	LOS C	13.9	104.1	0.84	0.81	44.8
North: Epping Rd											
7	L2	194	9.8	0.197	11.1	LOS B	2.9	21.8	0.47	0.68	52.3
8	T1	448	10.0	0.699	36.0	LOS D	8.8	66.8	0.99	0.87	37.9
9	R2	50	2.0	0.156	36.5	LOS D	1.7	12.1	0.88	0.73	37.2
Approach		692	9.4	0.699	29.0	LOS C	8.8	66.8	0.84	0.81	41.0
West: Boundary Rd											
10	L2	50	0.0	0.036	6.7	LOS A	0.3	1.9	0.23	0.60	53.4
11	T1	596	10.1	0.724	38.1	LOS D	11.5	87.4	0.98	0.90	42.4
12	R2	169	10.1	0.709	44.7	LOS D	6.9	52.2	1.00	0.87	34.4
Approach		815	9.4	0.724	37.5	LOS D	11.5	87.4	0.94	0.88	40.9
All Vehicles		3441	9.1	0.724	31.5	LOS C	13.9	104.1	0.87	0.82	42.1

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	31.5	LOS D	0.0	0.0	0.89	0.89
P12	South Stage 2	20	27.2	LOS C	0.0	0.0	0.83	0.83
P21	East Stage 1	20	33.3	LOS D	0.0	0.0	0.91	0.91
P22	East Stage 2	20	30.7	LOS D	0.0	0.0	0.88	0.88
P31	North Stage 1	20	29.8	LOS C	0.0	0.0	0.86	0.86
P32	North Stage 2	20	27.2	LOS C	0.0	0.0	0.83	0.83
P41	West Stage 1	20	34.3	LOS D	0.0	0.0	0.93	0.93
P42	West Stage 2	20	31.5	LOS D	0.0	0.0	0.89	0.89
All Pedestrians		160	30.7	LOS D			0.88	0.88

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

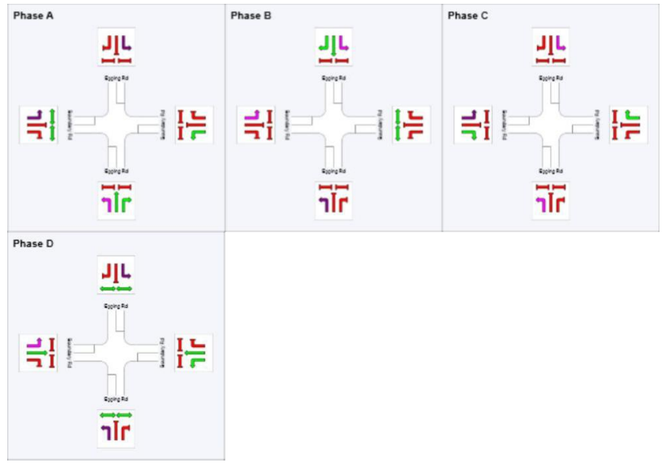
Site: Intersection 9 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Leading Right Turn
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

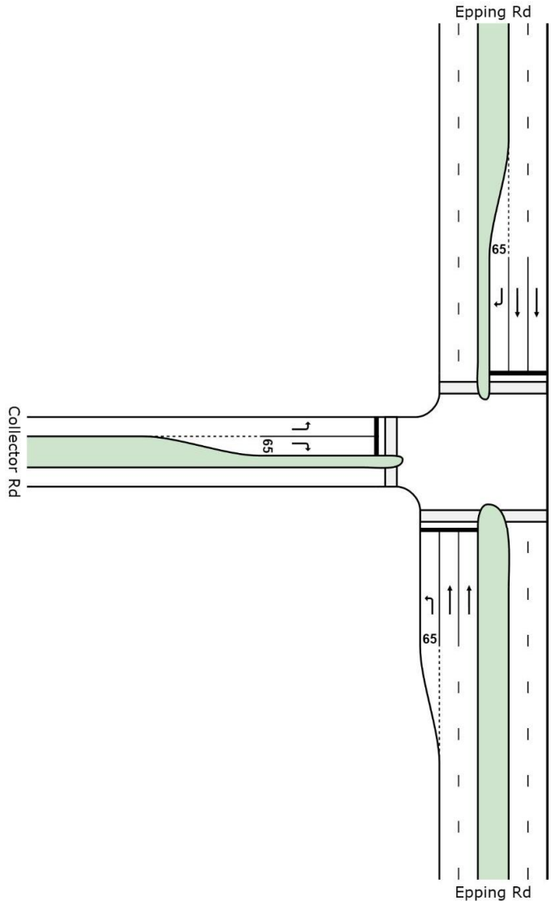
Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	19	39	56
Green Time (sec)	13	14	11	18
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	19	20	17	24
Phase Split	24 %	25 %	21 %	30 %



SITE LAYOUT

Site: Intersection 10 AM Ultimate

New Site
Signals - Fixed Time



MOVEMENT SUMMARY

Site: Intersection 10 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Epping Rd											
1	L2	73	9.6	0.075	16.2	LOS B	1.3	9.7	0.48	0.67	40.4
2	T1	96	10.4	0.117	26.9	LOS C	1.5	11.5	0.83	0.63	33.2
Approach		169	10.1	0.117	22.3	LOS C	1.5	11.5	0.68	0.65	35.9
North: Epping Rd											
8	T1	460	10.0	0.558	30.4	LOS C	8.2	62.2	0.94	0.78	31.4
9	R2	46	10.9	0.093	30.3	LOS C	1.3	10.1	0.76	0.71	31.8
Approach		506	10.1	0.558	30.4	LOS C	8.2	62.2	0.92	0.77	31.5
West: Collector Rd											
10	L2	21	9.5	0.019	14.1	LOS B	6.5	49.6	0.39	0.62	39.1
12	R2	197	10.2	0.433	35.1	LOS D	6.5	49.8	0.88	0.79	28.8
Approach		218	10.1	0.433	33.1	LOS C	6.5	49.8	0.83	0.77	29.6
All Vehicles		893	10.1	0.558	29.5	LOS C	8.2	62.2	0.85	0.75	31.7

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P4	West Full Crossing	20	31.5	LOS D	0.0	0.0	0.89	0.89
All Pedestrians		60	33.3	LOS D			0.91	0.91

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

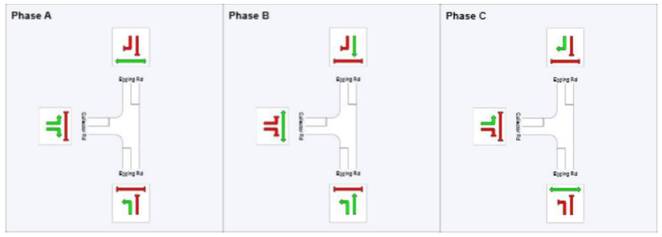
Site: Intersection 10 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Leading Right Turn
Movement Class: All Movement Classes
Input Sequence: A, B, C
Output Sequence: A, B, C

Phase Timing Results

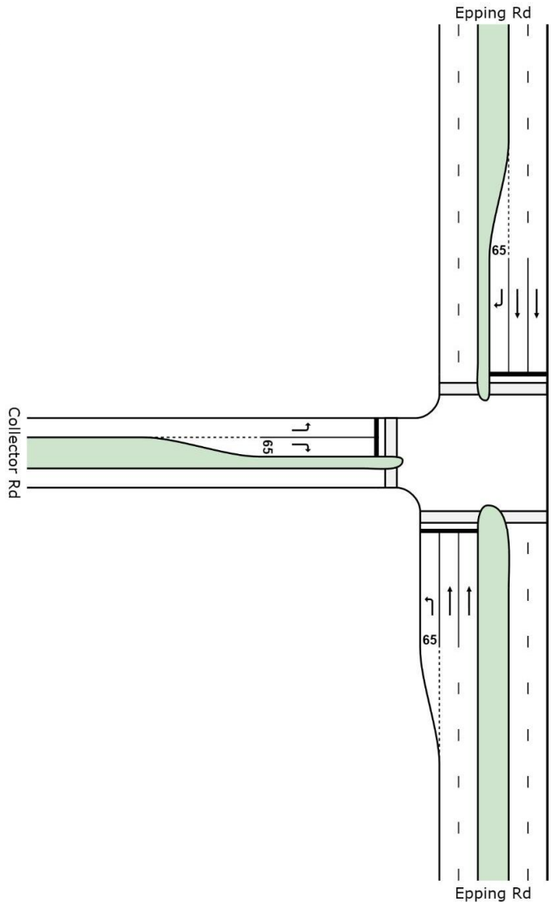
Phase	A	B	C
Reference Phase	Yes	No	No
Phase Change Time (sec)	0	27	51
Green Time (sec)	21	18	23
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	27	24	29
Phase Split	34 %	30 %	36 %



SITE LAYOUT

Site: Intersection 11 AM Ultimate

New Site
Signals - Fixed Time



MOVEMENT SUMMARY

Site: Intersection 11 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Epping Rd											
1	L2	78	10.3	0.080	16.2	LOS B	1.4	10.5	0.48	0.67	40.4
2	T1	50	8.0	0.060	26.4	LOS C	1.4	10.3	0.81	0.59	33.5
Approach		128	9.4	0.080	20.2	LOS C	1.4	10.5	0.61	0.64	37.3
North: Epping Rd											
8	T1	334	9.9	0.405	29.2	LOS C	5.7	43.3	0.90	0.73	32.0
9	R2	53	9.4	0.106	30.4	LOS C	1.5	11.6	0.77	0.72	31.7
Approach		387	9.8	0.405	29.3	LOS C	5.7	43.3	0.88	0.73	32.0
West: Collector Rd											
10	L2	30	10.0	0.028	14.1	LOS B	5.6	42.4	0.40	0.62	39.1
12	R2	171	9.9	0.376	34.6	LOS C	5.6	42.4	0.86	0.78	29.0
Approach		201	10.0	0.376	31.6	LOS C	5.6	42.4	0.79	0.76	30.2
All Vehicles		716	9.8	0.405	28.3	LOS C	5.7	43.3	0.81	0.72	32.2

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P4	West Full Crossing	20	31.5	LOS D	0.0	0.0	0.89	0.89
All Pedestrians		60	33.3	LOS D			0.91	0.91

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

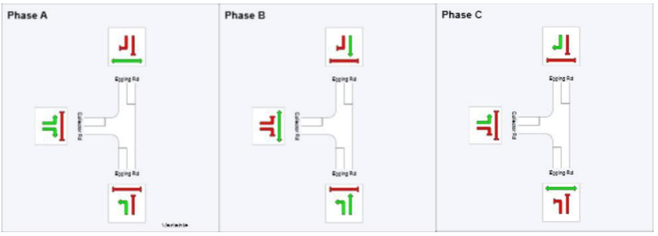
Site: Intersection 11 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C
Output Sequence: A, B, C

Phase Timing Results

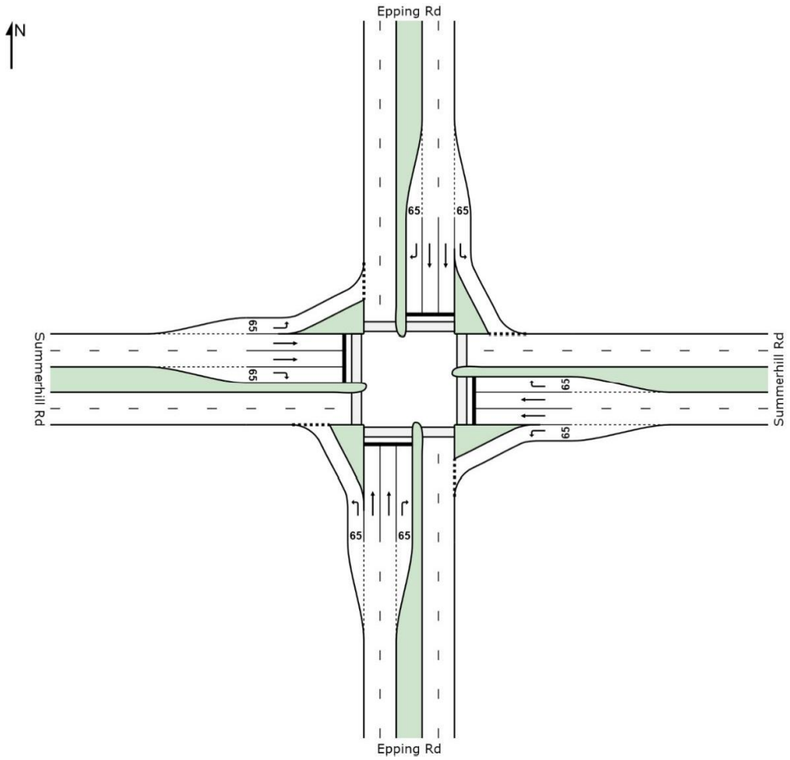
Phase	A	B	C
Reference Phase	No	Yes	No
Phase Change Time (sec)	0	27	51
Green Time (sec)	21	18	23
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	27	24	29
Phase Split	34 %	30 %	36 %



SITE LAYOUT

Site: Intersection 12 AM Ultimate

New Site
Signals - Fixed Time



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SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 12 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Epping Rd											
1	L2	50	4.0	0.041	10.8	LOS B	0.4	3.0	0.30	0.65	46.8
2	T1	50	0.0	0.049	23.7	LOS C	2.1	14.7	0.77	0.56	34.7
3	R2	52	9.6	0.399	50.0	LOS D	2.1	15.9	0.99	0.74	26.1
Approach		152	4.6	0.399	28.4	LOS C	2.1	15.9	0.69	0.65	33.8
East: Summerhill Rd											
4	L2	76	10.5	0.064	10.2	LOS B	0.5	3.9	0.26	0.59	47.3
5	T1	246	10.2	0.256	25.5	LOS C	3.9	29.3	0.83	0.67	33.9
6	R2	50	0.0	0.269	45.8	LOS D	1.9	13.4	0.96	0.74	26.6
Approach		372	8.9	0.269	25.1	LOS C	3.9	29.3	0.73	0.66	34.7
North: Epping Rd											
7	L2	50	0.0	0.041	10.2	LOS B	0.4	3.1	0.31	0.67	46.8
8	T1	231	10.0	0.240	25.4	LOS C	3.6	27.4	0.83	0.66	34.0
9	R2	50	0.0	0.359	48.7	LOS D	2.0	14.0	0.99	0.74	25.7
Approach		331	6.9	0.359	26.6	LOS C	3.6	27.4	0.77	0.68	33.8
West: Summerhill Rd											
10	L2	50	0.0	0.035	8.6	LOS A	0.2	1.4	0.19	0.66	48.4
11	T1	319	10.0	0.332	26.1	LOS C	5.1	38.9	0.85	0.69	33.6
12	R2	80	10.0	0.461	47.9	LOS D	3.1	23.9	0.98	0.77	26.7
Approach		449	8.9	0.461	28.0	LOS C	5.1	38.9	0.80	0.70	33.1
All Vehicles		1304	7.9	0.461	26.9	LOS C	5.1	38.9	0.76	0.68	33.8

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P2	East Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P4	West Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
All Pedestrians		80	34.3	LOS D			0.93	0.93

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

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SIDRA INTERSECTION 6

PHASING SUMMARY

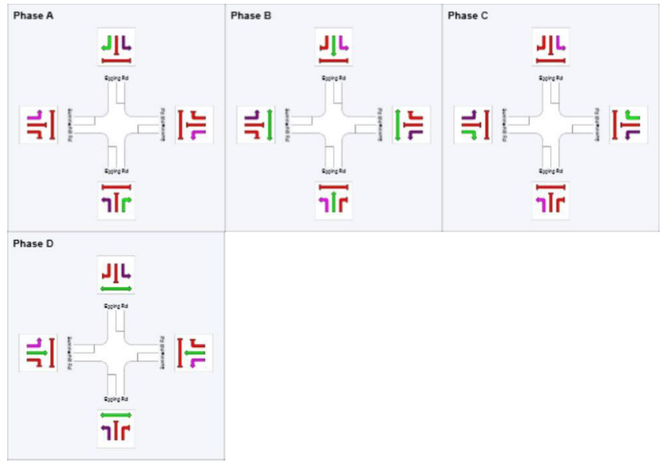
Site: Intersection 12 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	12	39	53
Green Time (sec)	6	21	8	21
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	12	27	14	27
Phase Split	15 %	34 %	18 %	34 %



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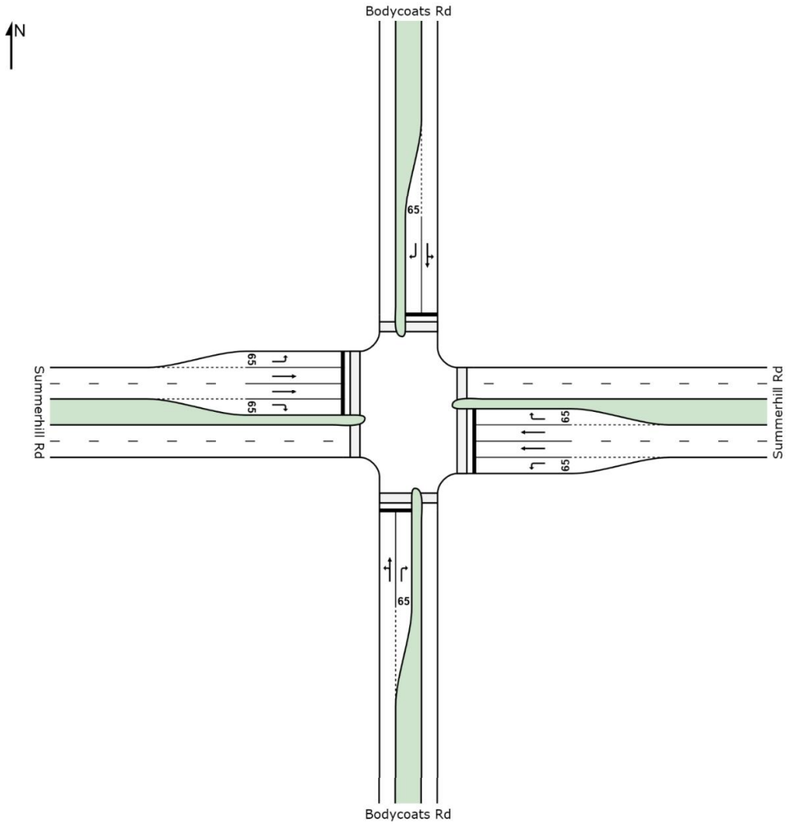
8000907, AECOM, NETWORK / Enterprise

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 13 AM Ultimate

New Site
Signals - Fixed Time



MOVEMENT SUMMARY

Site: Intersection 13 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bodycoats Rd											
1	L2	68	5.9	0.137	23.1	LOS C	2.3	16.8	0.70	0.73	42.2
2	T1	20	0.0	0.137	21.4	LOS C	2.3	16.8	0.70	0.73	43.1
3	R2	20	0.0	0.144	44.1	LOS D	0.8	5.4	0.96	0.69	34.3
Approach		108	3.7	0.144	26.7	LOS C	2.3	16.8	0.75	0.72	40.6
East: Summerhill Rd											
4	L2	20	0.0	0.026	21.8	LOS C	0.5	3.2	0.62	0.69	44.8
5	T1	291	5.8	0.295	25.8	LOS C	4.6	33.9	0.84	0.68	51.1
6	R2	20	0.0	0.144	46.5	LOS D	0.8	5.4	0.96	0.70	37.3
Approach		331	5.1	0.295	26.8	LOS C	4.6	33.9	0.84	0.68	49.6
North: Bodycoats Rd											
7	L2	20	0.0	0.069	27.1	LOS C	1.1	7.8	0.73	0.68	47.2
8	T1	20	5.0	0.069	23.2	LOS C	1.1	7.8	0.73	0.68	41.7
9	R2	20	0.0	0.144	46.1	LOS D	0.8	5.4	0.96	0.70	37.3
Approach		60	1.7	0.144	32.1	LOS C	1.1	7.8	0.81	0.68	41.7
West: Summerhill Rd											
10	L2	20	0.0	0.026	21.8	LOS C	0.5	3.2	0.62	0.69	49.9
11	T1	408	5.9	0.414	26.8	LOS C	6.7	49.4	0.87	0.72	50.4
12	R2	30	6.7	0.226	47.3	LOS D	1.2	8.7	0.97	0.72	34.1
Approach		458	5.7	0.414	27.9	LOS C	6.7	49.4	0.87	0.72	48.8
All Vehicles		957	5.0	0.414	27.6	LOS C	6.7	49.4	0.84	0.71	47.5

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	28.9	LOS C	0.0	0.0	0.85	0.85
P2	East Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	28.9	LOS C	0.0	0.0	0.85	0.85
P4	West Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
All Pedestrians		80	31.6	LOS D			0.89	0.89

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

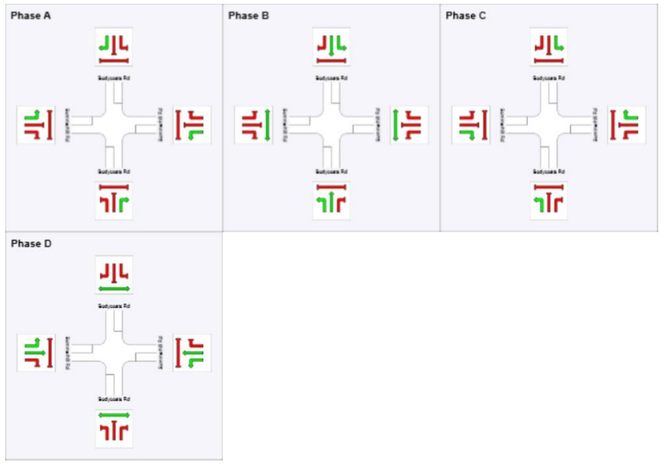
Site: Intersection 13 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

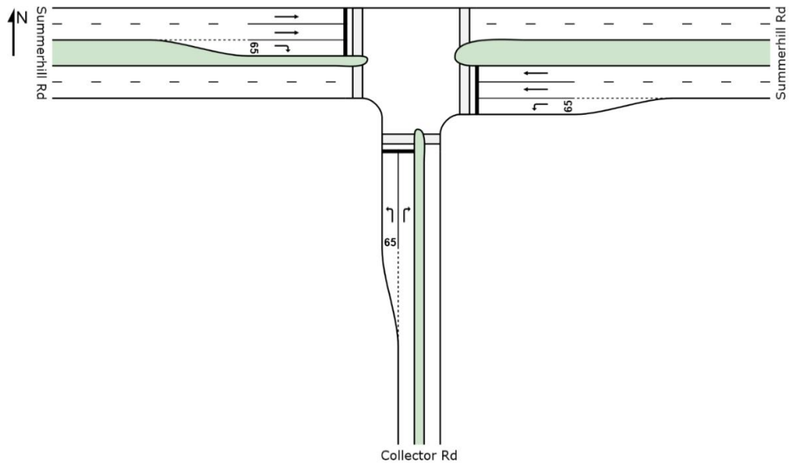
Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	12	41	53
Green Time (sec)	6	23	6	21
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	12	29	12	27
Phase Split	15 %	36 %	15 %	34 %



SITE LAYOUT

Site: Intersection 14 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 14 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
1	L2	110	6.4	0.099	11.0	LOS B	1.7	12.5	0.42	0.65	48.3
3	R2	48	6.3	0.103	28.9	LOS C	1.4	10.6	0.79	0.71	39.1
Approach		158	6.3	0.103	16.4	LOS B	1.7	12.5	0.53	0.67	45.1
East: Summerhill Rd											
4	L2	22	4.5	0.022	15.2	LOS B	0.4	2.7	0.46	0.68	48.7
5	T1	345	6.1	0.409	29.2	LOS C	5.9	43.4	0.90	0.73	48.8
Approach		367	6.0	0.409	28.3	LOS C	5.9	43.4	0.87	0.73	48.8
West: Summerhill Rd											
11	T1	393	6.1	0.466	29.6	LOS C	6.8	50.2	0.91	0.75	48.5
12	R2	48	6.3	0.094	29.6	LOS C	1.4	10.2	0.76	0.73	40.8
Approach		441	6.1	0.466	29.6	LOS C	6.8	50.2	0.90	0.75	47.5
All Vehicles		966	6.1	0.466	27.0	LOS C	6.8	50.2	0.83	0.73	47.6

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	31.5	LOS D	0.0	0.0	0.89	0.89
P2	East Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P4	West Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
All Pedestrians		60	33.3	LOS D			0.91	0.91

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

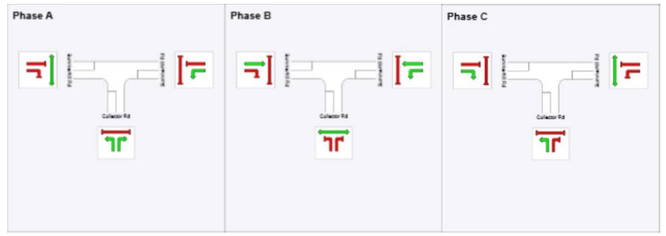
Site: Intersection 14 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C
Output Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Reference Phase	Yes	No	No
Phase Change Time (sec)	0	27	51
Green Time (sec)	21	18	23
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	27	24	29
Phase Split	34 %	30 %	36 %



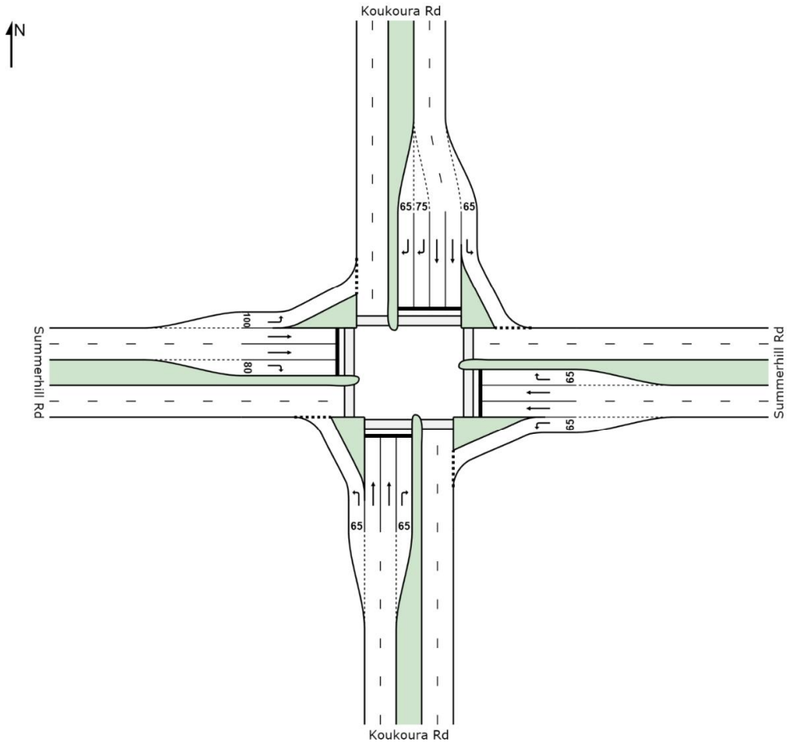
Normal Movement
Permitted/Opposed
Slip/Bypass-Lane Movement
Opposed Slip/Bypass-Lane
Stopped Movement
Turn On Red
Other Movement Class Running
Other Movement Class Stopped
Mixed Running & Stopped Movement Classes
Undetected Movement
Phase Transition Applied

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 15 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 15 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 100 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Rd											
1	L2	229	6.1	0.216	12.3	LOS B	3.6	26.3	0.41	0.71	58.7
2	T1	485	6.0	0.562	37.2	LOS D	10.6	78.3	0.94	0.78	44.2
3	R2	50	0.0	0.449	59.8	LOS E	2.5	17.8	1.00	0.74	33.8
Approach		764	5.6	0.562	31.2	LOS C	10.6	78.3	0.78	0.76	46.7
East: Summerhill Rd											
4	L2	50	0.0	0.059	14.1	LOS B	0.9	6.2	0.44	0.69	58.5
5	T1	372	5.9	0.708	47.1	LOS D	9.2	67.6	1.00	0.85	39.6
6	R2	81	6.2	0.325	50.5	LOS D	3.7	27.1	0.94	0.77	36.6
Approach		503	5.4	0.708	44.4	LOS D	9.2	67.6	0.93	0.82	40.3
North: Koukoura Rd											
7	L2	199	6.0	0.143	8.8	LOS A	1.5	11.3	0.24	0.67	62.1
8	T1	993	6.0	0.702	25.5	LOS C	19.7	145.0	0.86	0.76	51.5
9	R2	481	2.9	0.551	43.7	LOS D	10.4	74.9	0.93	0.82	39.4
Approach		1673	5.1	0.702	28.7	LOS C	19.7	145.0	0.81	0.77	48.2
West: Summerhill Rd											
10	L2	133	6.0	0.127	10.2	LOS B	1.5	11.0	0.32	0.68	60.7
11	T1	238	5.9	0.422	42.8	LOS D	5.4	39.9	0.95	0.76	41.5
12	R2	134	6.0	0.501	50.8	LOS D	6.2	45.7	0.97	0.80	36.3
Approach		505	5.9	0.501	36.3	LOS D	6.2	45.7	0.79	0.75	43.5
All Vehicles		3445	5.4	0.708	32.7	LOS C	19.7	145.0	0.82	0.77	45.9

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	43.3	LOS E	0.1	0.1	0.93	0.93
P12	South Stage 2	20	40.5	LOS E	0.1	0.1	0.90	0.90
P21	East Stage 1	20	21.8	LOS C	0.0	0.0	0.66	0.66
P22	East Stage 2	20	19.9	LOS B	0.0	0.0	0.63	0.63
P31	North Stage 1	20	44.2	LOS E	0.1	0.1	0.94	0.94
P32	North Stage 2	20	39.6	LOS D	0.1	0.1	0.89	0.89
P41	West Stage 1	20	35.3	LOS D	0.0	0.0	0.84	0.84
P42	West Stage 2	20	32.8	LOS D	0.0	0.0	0.81	0.81
All Pedestrians		160	34.7	LOS D			0.83	0.83

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

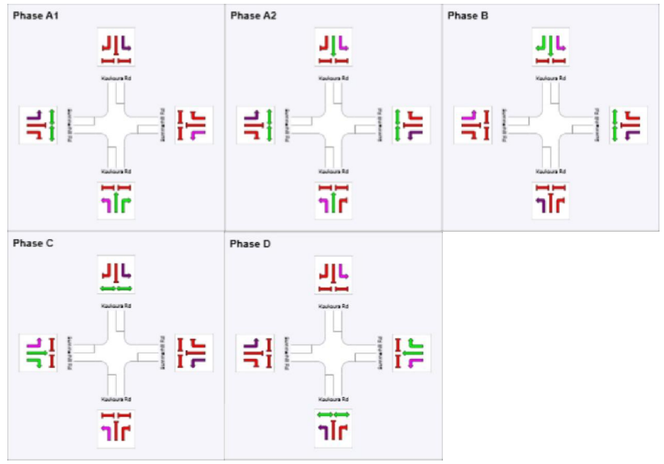
Site: Intersection 15 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 100 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Split Phasing
Movement Class: All Movement Classes
Input Sequence: A1, A2, B, C, D
Output Sequence: A1, A2, B, C, D

Phase Timing Results

Phase	A1	A2	B	C	D
Reference Phase	Yes	No	No	No	No
Phase Change Time (sec)	0	12	29	59	80
Green Time (sec)	6	11	24	15	14
Yellow Time (sec)	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2
Phase Time (sec)	12	17	30	21	20
Phase Split	12 %	17 %	30 %	21 %	20 %

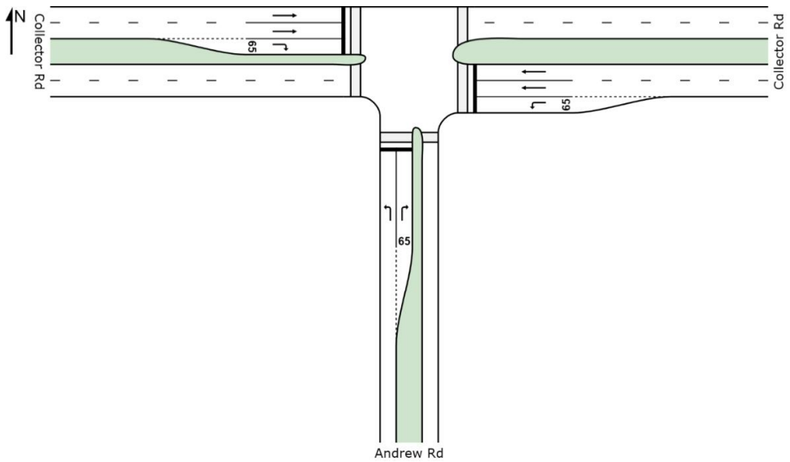


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 16 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 16 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Andrew Rd											
1	L2	62	6.5	0.056	10.8	LOS B	0.9	6.8	0.41	0.63	48.4
3	R2	52	5.8	0.111	29.0	LOS C	1.6	11.4	0.79	0.71	39.1
Approach		114	6.1	0.111	19.1	LOS B	1.6	11.4	0.58	0.67	43.7
East: Collector Rd											
4	L2	23	4.3	0.023	15.2	LOS B	0.4	2.8	0.46	0.68	48.7
5	T1	230	6.1	0.272	28.1	LOS C	3.8	27.9	0.87	0.69	49.5
Approach		253	5.9	0.272	26.9	LOS C	3.8	27.9	0.83	0.69	49.4
West: Collector Rd											
11	T1	330	6.1	0.391	29.0	LOS C	5.6	41.3	0.90	0.73	48.9
12	R2	79	6.3	0.155	30.2	LOS C	2.3	17.1	0.78	0.75	40.6
Approach		409	6.1	0.391	29.3	LOS C	5.6	41.3	0.87	0.73	47.0
All Vehicles		776	6.1	0.391	27.0	LOS C	5.6	41.3	0.82	0.71	47.2

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	31.5	LOS D	0.0	0.0	0.89	0.89
P2	East Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P4	West Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
All Pedestrians		60	33.3	LOS D			0.91	0.91

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

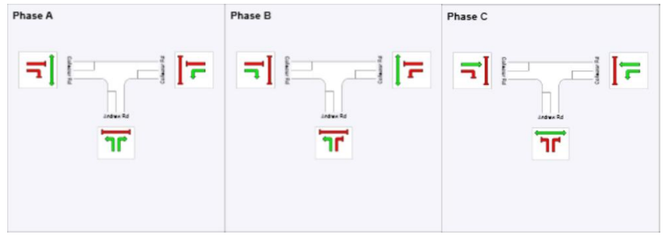
Site: Intersection 16 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C
Output Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Reference Phase	Yes	No	No
Phase Change Time (sec)	0	27	56
Green Time (sec)	21	23	18
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	27	29	24
Phase Split	34 %	36 %	30 %



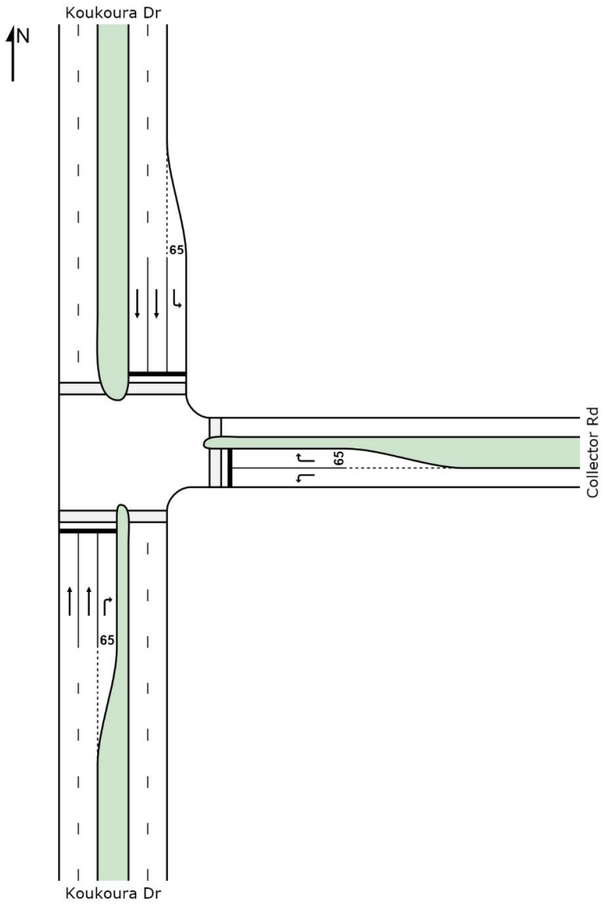
Normal Movement
Permitted/Opposed
Slip/Bypass-Lane Movement
Opposed Slip/Bypass-Lane
Stopped Movement
Turn On Red
Other Movement Class Running
Other Movement Class Stopped
Mixed Running & Stopped Movement Classes
Undetected Movement
Phase Transition Applied

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 17 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 17 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 100 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Dr											
2	T1	566	6.0	0.397	24.3	LOS C	10.1	74.1	0.78	0.66	52.2
3	R2	45	6.7	0.110	40.0	LOS D	1.7	12.9	0.82	0.74	36.6
Approach		611	6.1	0.397	25.5	LOS C	10.1	74.1	0.78	0.67	50.6
East: Collector Rd											
4	L2	116	6.0	0.130	18.8	LOS B	3.0	22.0	0.56	0.69	43.8
6	R2	150	6.0	0.401	42.0	LOS D	6.4	47.4	0.91	0.79	34.3
Approach		266	6.0	0.401	31.9	LOS C	6.4	47.4	0.76	0.74	37.9
North: Koukoura Dr											
7	L2	162	6.2	0.140	14.2	LOS B	3.0	22.0	0.41	0.71	49.3
8	T1	966	6.0	0.705	27.9	LOS C	20.8	153.2	0.90	0.79	49.6
Approach		1128	6.0	0.705	26.0	LOS C	20.8	153.2	0.83	0.78	49.6
All Vehicles		2005	6.0	0.705	26.6	LOS C	20.8	153.2	0.80	0.74	47.9

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	44.2	LOS E	0.1	0.1	0.94	0.94
P2	East Full Crossing	20	25.2	LOS C	0.0	0.0	0.71	0.71
P3	North Full Crossing	20	44.2	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		60	37.9	LOS D			0.86	0.86

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

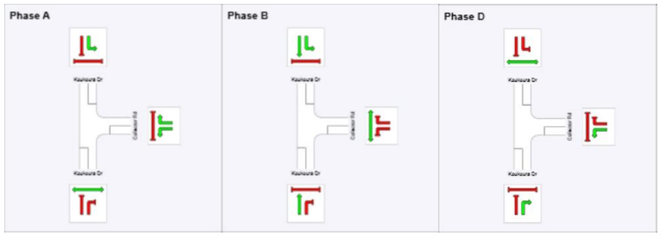
Site: Intersection 17 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 100 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, D
Output Sequence: A, B, D

Phase Timing Results

Phase	A	B	D
Reference Phase	Yes	No	No
Phase Change Time (sec)	0	27	71
Green Time (sec)	21	38	23
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	27	44	29
Phase Split	27 %	44 %	29 %



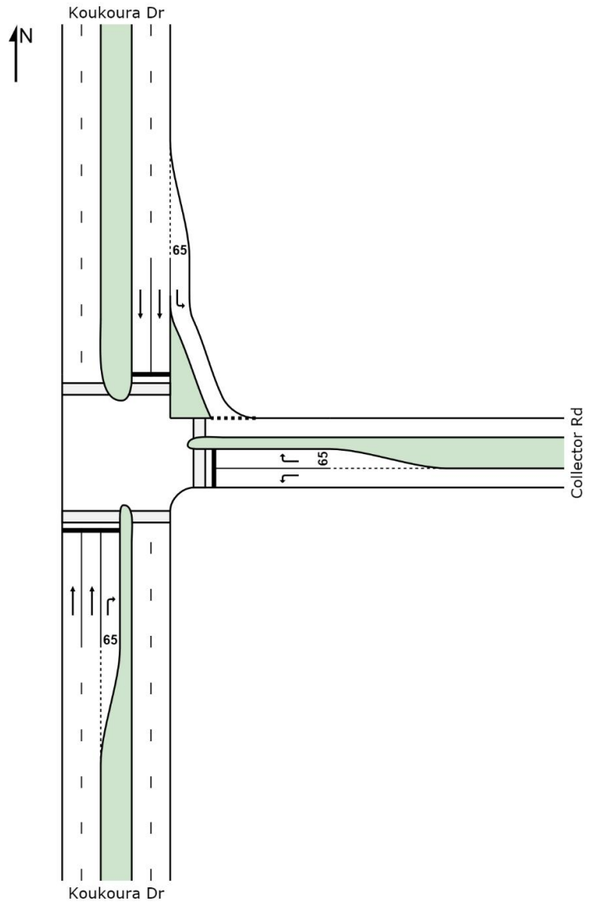
Normal Movement
Permitted/Opposed
Slip/Bypass-Lane Movement
Opposed Slip/Bypass-Lane
Stopped Movement
Turn On Red
Other Movement Class Running
Other Movement Class Stopped
Mixed Running & Stopped Movement Classes
Undetected Movement
Phase Transition Applied

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 18 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 18 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 100 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Dr											
2	T1	547	6.0	0.364	22.6	LOS C	9.3	68.7	0.75	0.64	53.5
3	R2	57	5.3	0.152	42.1	LOS D	2.3	16.8	0.85	0.75	35.8
Approach		604	6.0	0.364	24.4	LOS C	9.3	68.7	0.76	0.65	51.1
East: Collector Rd											
4	L2	132	6.1	0.154	20.1	LOS C	3.6	26.3	0.59	0.70	43.1
6	R2	65	6.2	0.174	39.9	LOS D	2.6	19.4	0.86	0.74	35.0
Approach		197	6.1	0.174	26.7	LOS C	3.6	26.3	0.68	0.71	40.1
North: Koukoura Dr											
7	L2	56	5.4	0.040	7.9	LOS A	0.2	1.6	0.15	0.64	54.6
8	T1	1065	5.8	0.719	27.1	LOS C	22.2	163.5	0.90	0.80	50.2
Approach		1121	5.8	0.719	26.1	LOS C	22.2	163.5	0.86	0.79	50.4
All Vehicles		1922	5.9	0.719	25.6	LOS C	22.2	163.5	0.81	0.74	49.3

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	44.2	LOS E	0.1	0.1	0.94	0.94
P2	East Full Crossing	20	23.8	LOS C	0.0	0.0	0.69	0.69
P3	North Full Crossing	20	44.2	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		60	37.4	LOS D			0.86	0.86

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

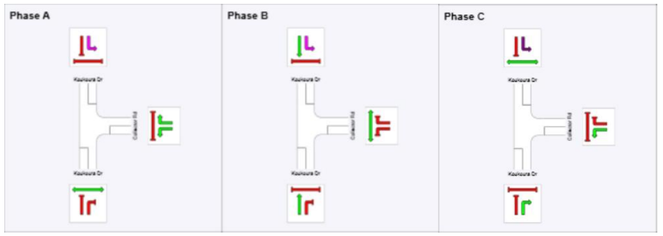
Site: Intersection 18 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 100 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C
Output Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Reference Phase	Yes	No	No
Phase Change Time (sec)	0	27	73
Green Time (sec)	21	40	21
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	27	46	27
Phase Split	27 %	46 %	27 %

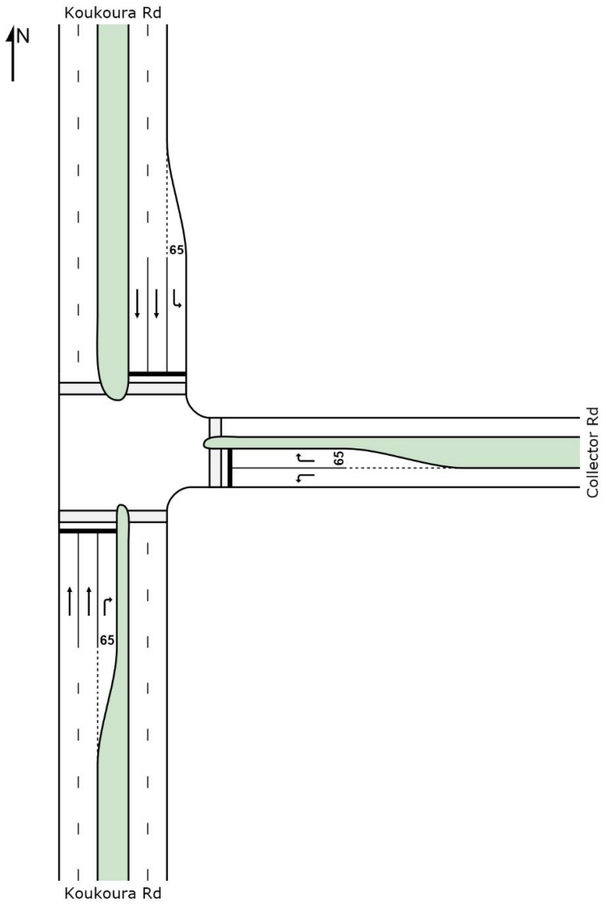


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 19 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 19 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 100 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Rd											
2	T1	559	6.1	0.392	24.3	LOS C	9.9	73.0	0.78	0.66	52.2
3	R2	61	6.6	0.149	40.4	LOS D	2.4	17.7	0.83	0.75	36.4
Approach		620	6.1	0.392	25.8	LOS C	9.9	73.0	0.78	0.67	50.1
East: Collector Rd											
4	L2	57	5.3	0.064	18.3	LOS B	1.4	10.3	0.54	0.66	44.2
6	R2	46	6.5	0.123	39.4	LOS D	1.8	13.6	0.85	0.72	35.1
Approach		103	5.8	0.123	27.7	LOS C	1.8	13.6	0.68	0.69	39.6
North: Koukoura Rd											
7	L2	35	5.7	0.030	13.6	LOS B	0.6	4.4	0.37	0.68	49.7
8	T1	1161	5.8	0.823	34.5	LOS C	28.1	206.8	0.96	0.92	45.6
Approach		1196	5.8	0.823	33.9	LOS C	28.1	206.8	0.95	0.91	45.7
All Vehicles		1919	5.9	0.823	30.9	LOS C	28.1	206.8	0.88	0.82	46.6

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	44.2	LOS E	0.1	0.1	0.94	0.94
P2	East Full Crossing	20	25.2	LOS C	0.0	0.0	0.71	0.71
P3	North Full Crossing	20	44.2	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		60	37.9	LOS D			0.86	0.86

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

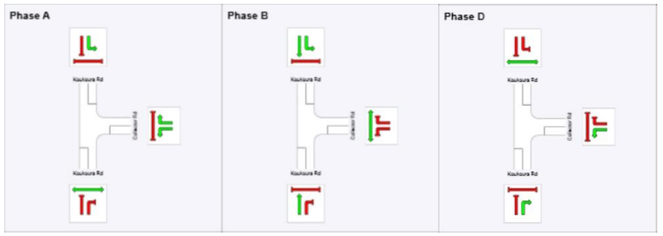
Site: Intersection 19 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 100 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, D
Output Sequence: A, B, D

Phase Timing Results

Phase	A	B	D
Reference Phase	Yes	No	No
Phase Change Time (sec)	0	27	71
Green Time (sec)	21	38	23
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	27	44	29
Phase Split	27 %	44 %	29 %



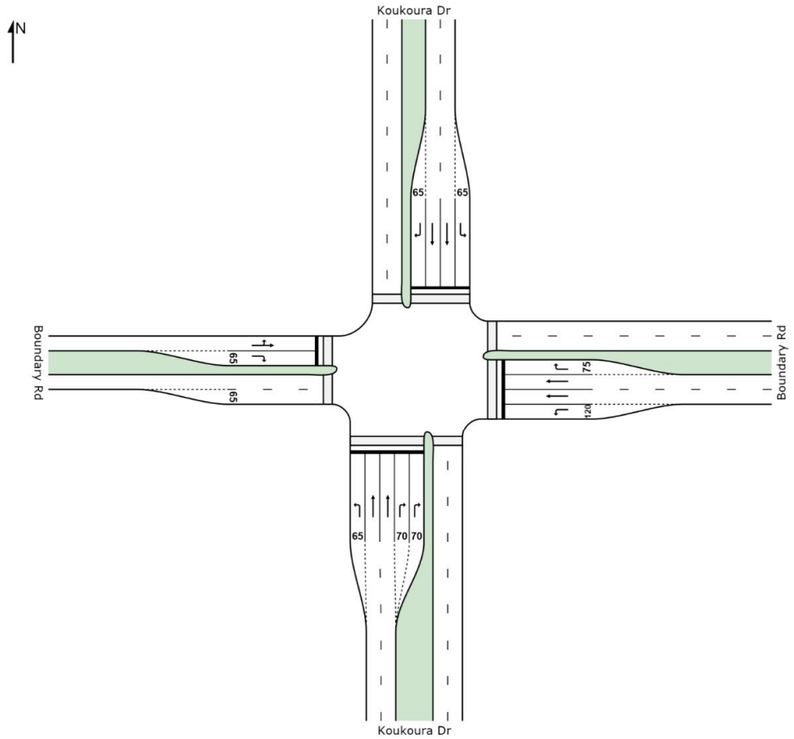
SIDRA INTERSECTION 6

SITE LAYOUT

58

Site: Intersection 20 AM Ultimate

New Site
Signals - Fixed Time



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SIDRA INTERSECTION 6

MOVEMENT SUMMARY

59

Site: Intersection 20 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 110 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Dr											
1	L2	45	6.7	0.096	24.7	LOS C	1.1	8.4	0.79	0.73	43.2
2	T1	402	6.0	0.841	58.5	LOS E	11.8	87.0	1.00	0.95	35.2
3	R2	315	5.4	0.692	59.8	LOS E	8.6	62.7	1.00	0.84	32.1
Approach		762	5.8	0.841	57.0	LOS E	11.8	87.0	0.99	0.89	34.2
East: Boundary Rd											
4	L2	264	6.1	0.816	58.3	LOS E	15.0	110.4	1.00	0.92	31.3
5	T1	52	5.8	0.106	41.7	LOS D	1.6	12.0	0.86	0.66	33.8
6	R2	132	6.1	0.408	49.3	LOS D	6.4	47.0	0.93	0.79	34.2
Approach		448	6.0	0.816	53.8	LOS D	15.0	110.4	0.96	0.85	32.4
North: Koukoura Dr											
7	L2	165	6.1	0.276	35.7	LOS D	6.5	47.6	0.77	0.78	40.2
8	T1	981	5.8	0.844	42.3	LOS D	27.6	202.8	0.96	0.94	41.7
9	R2	72	5.6	0.120	34.0	LOS C	2.7	19.4	0.73	0.74	38.9
Approach		1218	5.8	0.844	40.9	LOS D	27.6	202.8	0.92	0.90	41.3
West: Boundary Rd											
10	L2	85	5.9	0.603	51.9	LOS D	8.7	64.1	0.98	0.81	32.1
11	T1	85	5.9	0.603	48.3	LOS D	8.7	64.1	0.98	0.81	31.4
12	R2	99	6.1	0.408	52.8	LOS D	5.0	36.9	0.96	0.78	31.4
Approach		269	5.9	0.603	51.1	LOS D	8.7	64.1	0.97	0.80	31.6
All Vehicles		2697	5.9	0.844	48.6	LOS D	27.6	202.8	0.95	0.88	36.4

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	47.3	LOS E	0.1	0.1	0.93	0.93
P12	South Stage 2	20	40.2	LOS E	0.1	0.1	0.86	0.86
P21	East Stage 1	20	30.6	LOS D	0.0	0.0	0.75	0.75
P22	East Stage 2	20	27.0	LOS C	0.0	0.0	0.70	0.70
P31	North Stage 1	20	49.2	LOS E	0.1	0.1	0.95	0.95
P32	North Stage 2	20	44.6	LOS E	0.1	0.1	0.90	0.90
P41	West Stage 1	20	45.5	LOS E	0.1	0.1	0.91	0.91
P42	West Stage 2	20	45.5	LOS E	0.1	0.1	0.91	0.91
All Pedestrians		160	41.2	LOS E			0.86	0.86

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.

Processed: Wednesday, 20 August 2014 2:09:56 PM
SIDRA INTERSECTION 6.0.22.4722
Project: P:\60313908\4. Tech work area\4.5 Planning\SIDRA MODEL\Ultimate Scenario 6\MODELS\Ultimate Scenario 6\Intersection 20 2046.sip6
8000907, AECOM, NETWORK / Enterprise

SIDRA INTERSECTION 6

PHASING SUMMARY

60

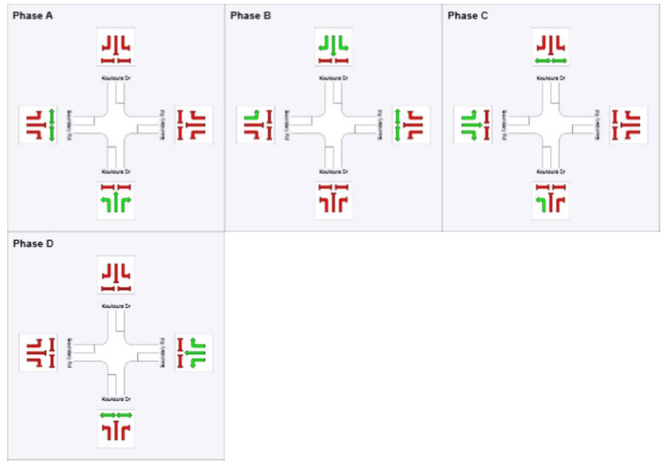
Site: Intersection 20 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 110 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Split Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	20	63	84
Green Time (sec)	14	37	15	20
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	20	43	21	26
Phase Split	18 %	39 %	19 %	24 %



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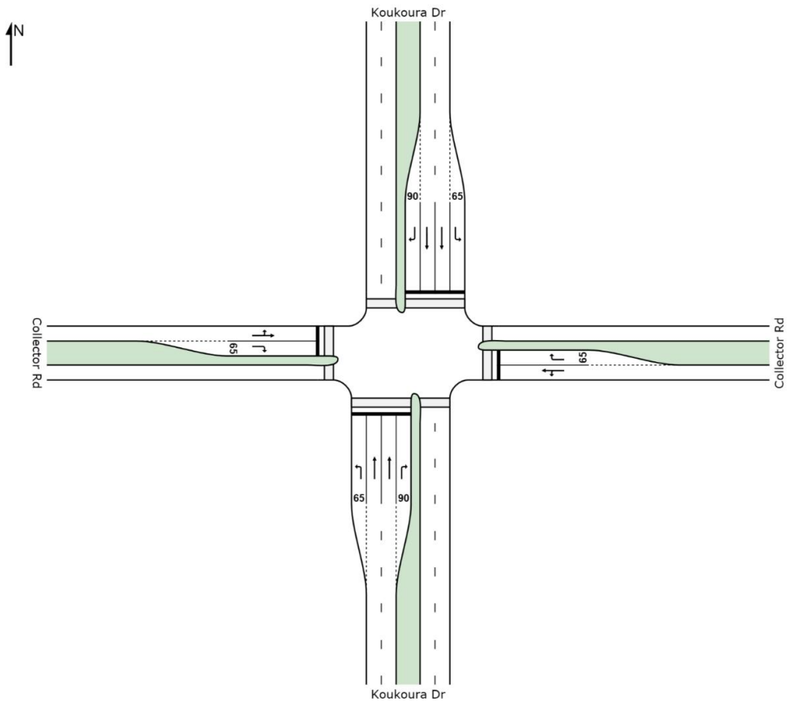
SIDRA INTERSECTION 6

SITE LAYOUT

61

Site: Intersection 21 AM Ultimate

New Site
Signals - Fixed Time



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SIDRA INTERSECTION 6.0.22.4722

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SIDRA INTERSECTION 6

MOVEMENT SUMMARY

62

Site: Intersection 21 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 110 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Dr											
1	L2	102	5.9	0.102	18.8	LOS B	2.5	18.2	0.49	0.72	46.4
2	T1	599	6.0	0.399	25.2	LOS C	11.4	83.9	0.76	0.65	51.5
3	R2	96	6.3	0.396	55.2	LOS E	4.8	35.8	0.96	0.78	31.7
Approach		797	6.0	0.399	28.0	LOS C	11.4	83.9	0.75	0.68	47.3
East: Collector Rd											
4	L2	100	6.0	0.594	51.7	LOS D	8.9	65.3	0.98	0.81	32.0
5	T1	74	5.4	0.594	47.1	LOS D	8.9	65.3	0.98	0.81	29.8
6	R2	38	5.3	0.195	54.2	LOS D	1.9	14.0	0.95	0.73	31.0
Approach		212	5.7	0.594	50.6	LOS D	8.9	65.3	0.97	0.79	31.0
North: Koukoura Dr											
7	L2	39	5.1	0.039	18.3	LOS B	0.9	6.7	0.47	0.69	46.7
8	T1	1077	6.0	0.778	31.5	LOS C	26.8	197.4	0.91	0.83	47.3
9	R2	188	5.9	0.773	61.3	LOS E	10.6	77.6	1.00	0.87	30.2
Approach		1304	6.0	0.778	35.4	LOS D	26.8	197.4	0.91	0.83	43.7
West: Collector Rd											
10	L2	91	5.5	0.377	47.2	LOS D	6.0	43.7	0.92	0.77	33.1
11	T1	34	5.9	0.377	42.5	LOS D	6.0	43.7	0.92	0.77	30.7
12	R2	145	6.2	0.747	60.4	LOS E	8.2	60.2	1.00	0.88	29.4
Approach		270	5.9	0.747	53.7	LOS D	8.2	60.2	0.96	0.83	30.7
All Vehicles		2583	6.0	0.778	36.3	LOS D	26.8	197.4	0.87	0.78	41.4

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	49.2	LOS E	0.1	0.1	0.95	0.95
P12	South Stage 2	20	44.6	LOS E	0.1	0.1	0.90	0.90
P21	East Stage 1	20	22.3	LOS C	0.0	0.0	0.64	0.64
P22	East Stage 2	20	21.0	LOS C	0.0	0.0	0.62	0.62
P31	North Stage 1	20	49.2	LOS E	0.1	0.1	0.95	0.95
P32	North Stage 2	20	44.6	LOS E	0.1	0.1	0.90	0.90
P41	West Stage 1	20	22.3	LOS C	0.0	0.0	0.64	0.64
P42	West Stage 2	20	21.0	LOS C	0.0	0.0	0.62	0.62
All Pedestrians		160	34.3	LOS D			0.78	0.78

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

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SIDRA INTERSECTION 6.0.22.4722

Project: P:\603139081\4. Tech work area\4.5 Planning\SIDRA MODEL\Ultimate Scenario 6\MODELS\Ultimate Scenario 6\Intersection 21 2046.sip6
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SIDRA INTERSECTION 6

PHASING SUMMARY

63

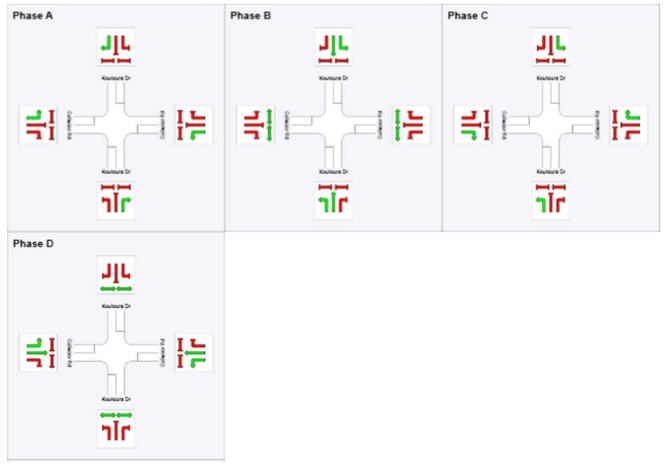
Site: Intersection 21 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 110 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	21	71	89
Green Time (sec)	15	44	12	15
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	21	50	18	21
Phase Split	19 %	45 %	16 %	19 %



Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class Running
Mixed Running & Stopped Movement Classes
Undetected Movement
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Other Movement Class Stopped
Phase Transition Applied

Processed: Wednesday, 30 July 2014 4:34:45 PM
SIDRA INTERSECTION 6.0.22.4722

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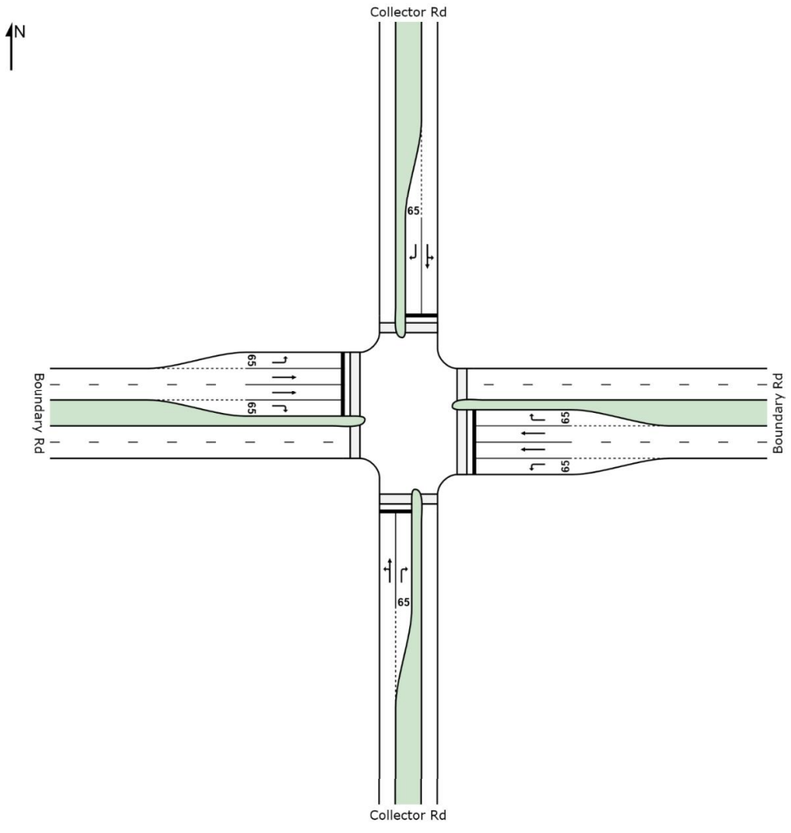
SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 22 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 22 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 90 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
1	L2	60	6.7	0.191	28.8	LOS C	3.4	25.0	0.78	0.70	34.6
2	T1	43	7.0	0.191	25.9	LOS C	3.4	25.0	0.78	0.70	33.4
3	R2	20	0.0	0.162	48.6	LOS D	0.9	6.2	0.97	0.69	29.0
Approach		123	5.7	0.191	31.0	LOS C	3.4	25.0	0.81	0.70	33.1
East: Boundary Rd											
4	L2	50	0.0	0.084	28.3	LOS C	1.5	10.7	0.73	0.71	35.2
5	T1	290	5.9	0.409	35.4	LOS D	5.7	42.2	0.92	0.75	37.9
6	R2	159	6.3	0.424	39.5	LOS D	6.2	45.7	0.91	0.79	34.1
Approach		499	5.4	0.424	36.0	LOS D	6.2	45.7	0.90	0.76	36.3
North: Collector Rd											
7	L2	193	6.2	0.589	33.2	LOS C	12.1	88.3	0.90	0.81	36.2
8	T1	130	2.3	0.589	29.9	LOS C	12.1	88.3	0.90	0.81	32.1
9	R2	48	6.3	0.405	51.4	LOS D	2.2	16.1	1.00	0.74	30.5
Approach		371	4.9	0.589	34.4	LOS C	12.1	88.3	0.91	0.80	33.9
West: Boundary Rd											
10	L2	29	6.9	0.051	28.1	LOS C	0.9	6.5	0.72	0.69	38.1
11	T1	415	6.0	0.585	36.9	LOS D	8.6	63.0	0.96	0.79	37.3
12	R2	215	3.7	0.563	40.7	LOS D	8.7	62.7	0.95	0.82	31.4
Approach		659	5.3	0.585	37.7	LOS D	8.7	63.0	0.95	0.80	35.2
All Vehicles		1652	5.3	0.589	36.0	LOS D	12.1	88.3	0.91	0.78	35.1

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	37.4	LOS D	0.1	0.1	0.91	0.91
P2	East Full Crossing	50	38.4	LOS D	0.1	0.1	0.92	0.92
P3	North Full Crossing	50	37.4	LOS D	0.1	0.1	0.91	0.91
P4	West Full Crossing	50	38.4	LOS D	0.1	0.1	0.92	0.92
All Pedestrians		200	37.9	LOS D			0.92	0.92

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

SIDRA INTERSECTION 6

PHASING SUMMARY

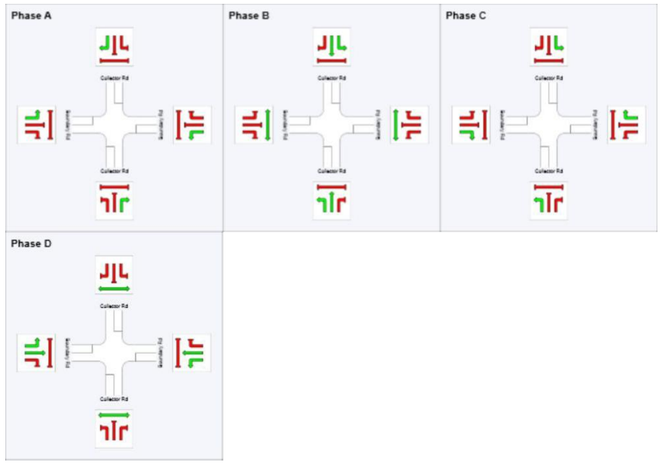
Site: Intersection 22 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 90 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	12	42	67
Green Time (sec)	6	24	19	17
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	12	30	25	23
Phase Split	13 %	33 %	28 %	26 %

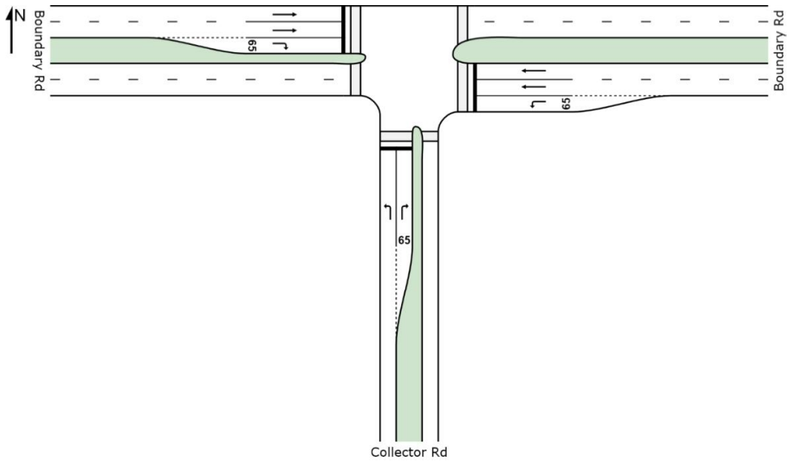


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 23 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 23 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
1	L2	102	5.9	0.092	10.9	LOS B	1.6	11.5	0.42	0.64	45.7
3	R2	111	5.4	0.236	30.0	LOS C	3.5	25.4	0.83	0.75	37.0
Approach		213	5.6	0.236	20.9	LOS C	3.5	25.4	0.63	0.70	40.7
East: Boundary Rd											
4	L2	384	4.4	0.379	16.0	LOS B	8.3	60.3	0.60	0.75	43.7
5	T1	347	6.1	0.411	29.2	LOS C	5.9	43.6	0.90	0.73	40.5
Approach		731	5.2	0.411	22.3	LOS C	8.3	60.3	0.74	0.74	42.1
West: Boundary Rd											
11	T1	459	6.1	0.544	30.3	LOS C	8.1	59.9	0.93	0.77	40.1
12	R2	149	6.0	0.291	29.8	LOS C	4.6	33.8	0.82	0.77	37.5
Approach		608	6.1	0.544	30.2	LOS C	8.1	59.9	0.91	0.77	39.4
All Vehicles		1552	5.6	0.544	25.2	LOS C	8.3	60.3	0.79	0.75	40.8

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	31.6	LOS D	0.1	0.1	0.89	0.89
P2	East Full Crossing	50	34.3	LOS D	0.1	0.1	0.93	0.93
P4	West Full Crossing	50	34.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		150	33.4	LOS D			0.91	0.91

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

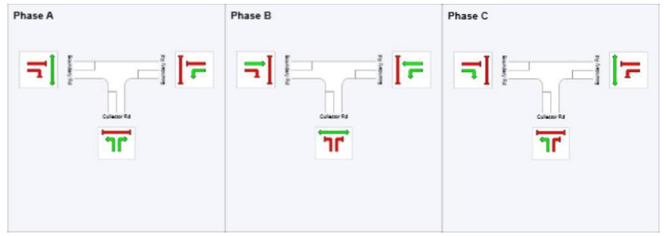
Site: Intersection 23 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C
Output Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Reference Phase	Yes	No	No
Phase Change Time (sec)	0	27	51
Green Time (sec)	21	18	23
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	27	24	29
Phase Split	34 %	30 %	36 %

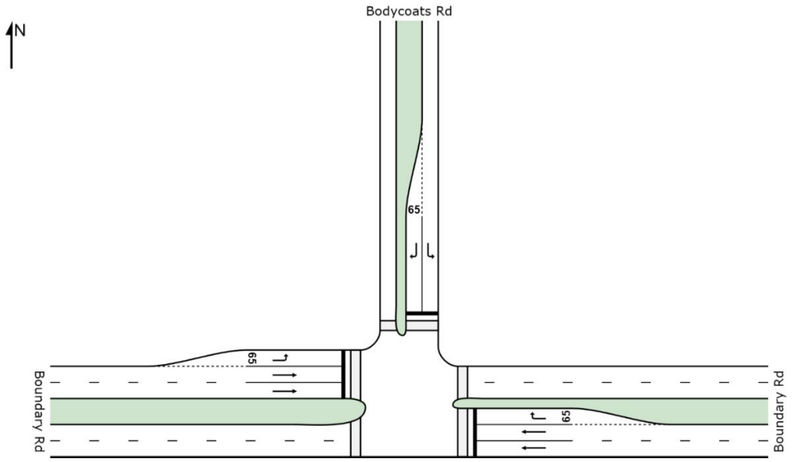


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 24 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 24 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Boundary Rd											
5	T1	439	5.9	0.520	30.1	LOS C	7.7	56.8	0.93	0.77	40.1
6	R2	27	7.4	0.053	27.9	LOS C	0.8	5.7	0.75	0.70	38.2
Approach		466	6.0	0.520	29.9	LOS C	7.7	56.8	0.92	0.76	40.0
North: Bodycoats Rd											
7	L2	74	5.4	0.066	10.8	LOS B	1.1	8.1	0.41	0.64	45.8
9	R2	196	6.1	0.420	31.5	LOS C	6.5	47.7	0.88	0.79	36.4
Approach		270	5.9	0.420	25.8	LOS C	6.5	47.7	0.75	0.75	38.5
West: Boundary Rd											
10	L2	61	6.6	0.061	14.0	LOS B	1.1	7.9	0.48	0.67	44.7
11	T1	504	6.0	0.597	30.7	LOS C	9.1	66.6	0.95	0.79	39.9
Approach		565	6.0	0.597	28.9	LOS C	9.1	66.6	0.90	0.78	40.3
All Vehicles		1301	6.0	0.597	28.6	LOS C	9.1	66.6	0.87	0.77	39.8

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	31.5	LOS D	0.0	0.0	0.89	0.89
P4	West Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
All Pedestrians		60	33.3	LOS D			0.91	0.91

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

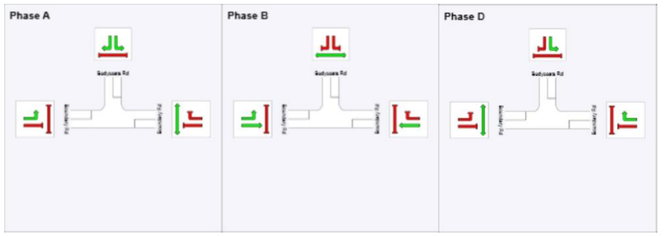
Site: Intersection 24 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, D
Output Sequence: A, B, D

Phase Timing Results

Phase	A	B	D
Reference Phase	Yes	No	No
Phase Change Time (sec)	0	27	51
Green Time (sec)	21	18	23
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	27	24	29
Phase Split	34 %	30 %	36 %



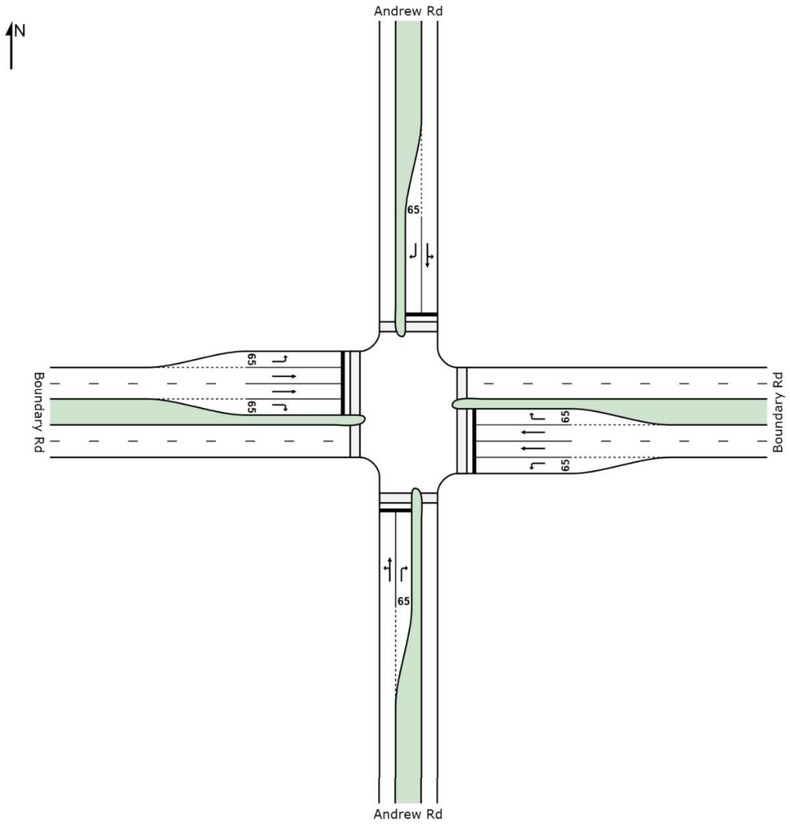
Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class Running
Mixed Running & Stopped Movement Classes
Undetected Movement
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Other Movement Class Stopped
Phase Transition Applied

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 26 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 26 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Andrew Rd											
1	L2	22	4.5	0.073	24.7	LOS C	1.1	8.3	0.72	0.62	40.0
2	T1	20	5.0	0.073	20.1	LOS C	1.1	8.3	0.72	0.62	38.3
3	R2	31	6.5	0.200	43.4	LOS D	1.2	8.8	0.96	0.72	32.7
Approach		73	5.5	0.200	31.4	LOS C	1.2	8.8	0.82	0.66	36.1
East: Boundary Rd											
4	L2	38	5.3	0.051	20.7	LOS C	0.9	6.5	0.63	0.69	41.4
5	T1	359	6.1	0.383	27.3	LOS C	5.9	43.7	0.88	0.72	41.4
6	R2	62	6.5	0.466	47.0	LOS D	2.5	18.6	1.00	0.75	31.9
Approach		459	6.1	0.466	29.4	LOS C	5.9	43.7	0.87	0.72	39.8
North: Andrew Rd											
7	L2	156	5.8	0.310	24.5	LOS C	5.6	41.4	0.76	0.73	39.5
8	T1	43	7.0	0.310	19.9	LOS B	5.6	41.4	0.76	0.73	37.9
9	R2	88	5.7	0.563	45.4	LOS D	3.6	26.2	1.00	0.79	32.1
Approach		287	5.9	0.563	30.2	LOS C	5.6	41.4	0.83	0.75	36.7
West: Boundary Rd											
10	L2	52	5.8	0.071	20.8	LOS C	1.2	9.0	0.63	0.70	41.3
11	T1	547	6.0	0.583	29.0	LOS C	9.6	70.7	0.93	0.78	40.6
12	R2	20	5.0	0.149	45.3	LOS D	0.8	5.7	0.97	0.70	32.3
Approach		619	6.0	0.583	28.9	LOS C	9.6	70.7	0.91	0.77	40.3
All Vehicles		1438	6.0	0.583	29.4	LOS C	9.6	70.7	0.88	0.75	39.1

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	29.8	LOS C	0.1	0.1	0.86	0.86
P2	East Full Crossing	50	34.3	LOS D	0.1	0.1	0.93	0.93
P3	North Full Crossing	50	29.8	LOS C	0.1	0.1	0.86	0.86
P4	West Full Crossing	50	34.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		200	32.1	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.

SIDRA INTERSECTION 6

PHASING SUMMARY

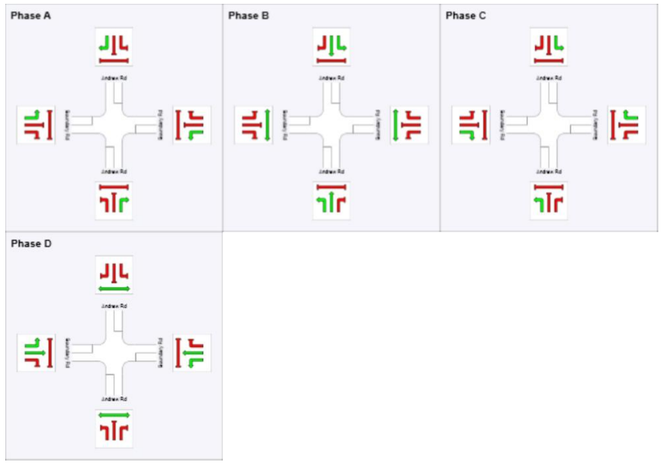
Site: Intersection 26 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	13	42	54
Green Time (sec)	7	23	6	20
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	13	29	12	26
Phase Split	16 %	36 %	15 %	33 %

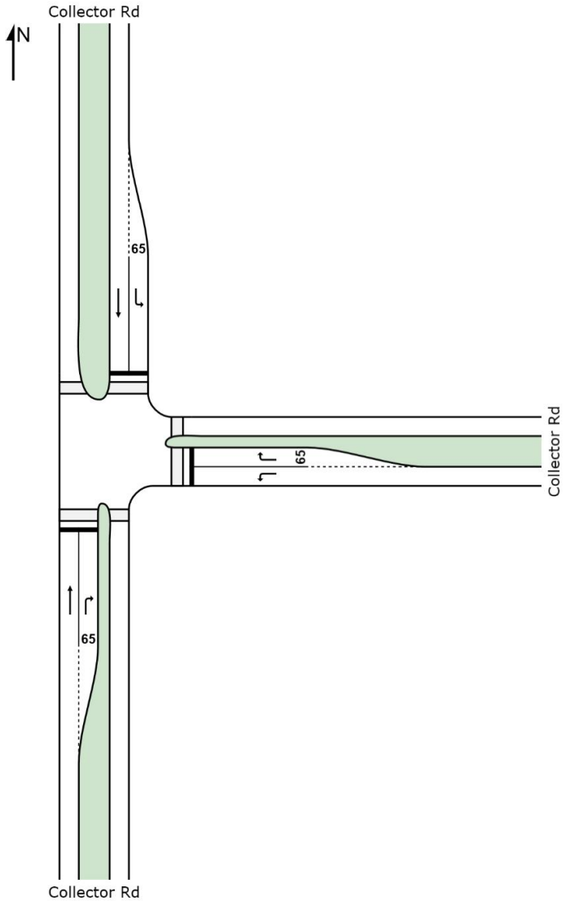


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 27 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 27 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 70 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
2	T1	30	6.7	0.070	24.3	LOS C	0.8	6.0	0.81	0.64	34.3
3	R2	37	5.4	0.069	23.6	LOS C	0.9	6.7	0.74	0.69	34.6
Approach		67	6.0	0.070	23.9	LOS C	0.9	6.7	0.78	0.67	34.4
East: Collector Rd											
4	L2	29	6.9	0.027	9.5	LOS A	0.4	2.9	0.42	0.58	39.4
6	R2	20	0.0	0.050	27.3	LOS C	0.6	3.9	0.82	0.67	33.0
Approach		49	4.1	0.050	16.8	LOS B	0.6	3.9	0.59	0.62	36.5
North: Collector Rd											
7	L2	20	0.0	0.020	11.7	LOS B	0.3	2.2	0.49	0.59	35.6
8	T1	23	4.3	0.053	24.4	LOS C	0.6	4.5	0.81	0.65	34.7
Approach		43	2.3	0.053	18.5	LOS B	0.6	4.5	0.66	0.62	35.1
All Vehicles		159	4.4	0.070	20.2	LOS C	0.9	6.7	0.69	0.64	35.2

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	29.3	LOS C	0.1	0.1	0.92	0.92
P2	East Full Crossing	50	28.4	LOS C	0.1	0.1	0.90	0.90
P3	North Full Crossing	50	26.6	LOS C	0.1	0.1	0.87	0.87
All Pedestrians		150	28.1	LOS C			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.

SIDRA INTERSECTION 6

PHASING SUMMARY

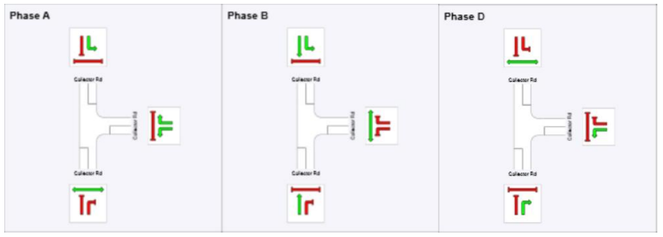
Site: Intersection 27 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 70 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing (phase reduction applied)
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, D

Phase Timing Results

Phase	A	B	D
Reference Phase	Yes	No	No
Phase Change Time (sec)	0	21	43
Green Time (sec)	15	16	21
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	21	22	27
Phase Split	30 %	31 %	39 %

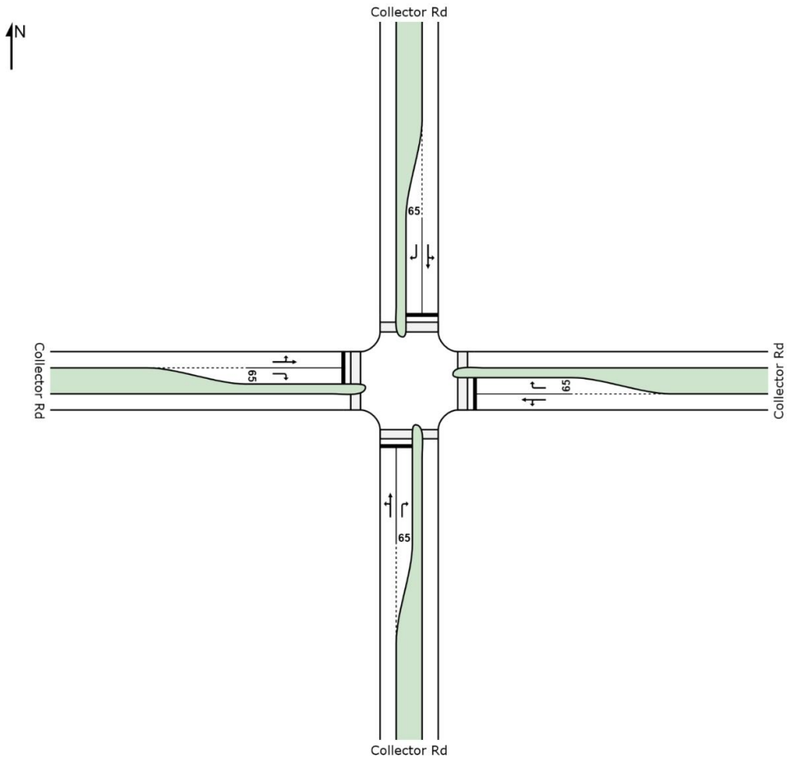


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 28 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 28 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 70 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
1	L2	69	5.8	0.377	25.9	LOS C	5.5	40.4	0.83	0.72	34.9
2	T1	130	6.2	0.377	21.3	LOS C	5.5	40.4	0.83	0.72	38.1
3	R2	40	5.0	0.260	39.3	LOS D	1.4	10.0	0.97	0.73	30.1
Approach		239	5.9	0.377	25.6	LOS C	5.5	40.4	0.86	0.72	35.6
East: Collector Rd											
4	L2	102	5.9	0.229	22.8	LOS C	3.2	23.5	0.78	0.71	34.7
5	T1	23	4.3	0.229	19.4	LOS B	3.2	23.5	0.78	0.71	32.2
6	R2	28	7.1	0.185	37.8	LOS D	1.0	7.1	0.96	0.71	30.1
Approach		153	5.9	0.229	25.1	LOS C	3.2	23.5	0.81	0.71	33.4
North: Collector Rd											
7	L2	20	5.0	0.622	28.6	LOS C	9.7	71.4	0.92	0.79	34.4
8	T1	298	6.0	0.622	24.0	LOS C	9.7	71.4	0.92	0.79	37.5
9	R2	20	0.0	0.126	38.4	LOS D	0.7	4.7	0.95	0.69	30.3
Approach		338	5.6	0.622	25.2	LOS C	9.7	71.4	0.92	0.78	36.8
West: Collector Rd											
10	L2	20	0.0	0.088	25.8	LOS C	1.1	7.7	0.81	0.65	34.1
11	T1	20	5.0	0.088	22.4	LOS C	1.1	7.7	0.81	0.65	31.6
12	R2	45	6.7	0.296	38.4	LOS D	1.6	11.5	0.97	0.73	30.0
Approach		85	4.7	0.296	31.7	LOS C	1.6	11.5	0.89	0.69	31.2
All Vehicles		815	5.6	0.622	26.0	LOS C	9.7	71.4	0.88	0.74	35.1

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	29.3	LOS C	0.1	0.1	0.92	0.92
P2	East Full Crossing	50	25.8	LOS C	0.1	0.1	0.86	0.86
P3	North Full Crossing	50	29.3	LOS C	0.1	0.1	0.92	0.92
P4	West Full Crossing	50	25.8	LOS C	0.1	0.1	0.86	0.86
All Pedestrians		200	27.5	LOS C			0.89	0.89

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

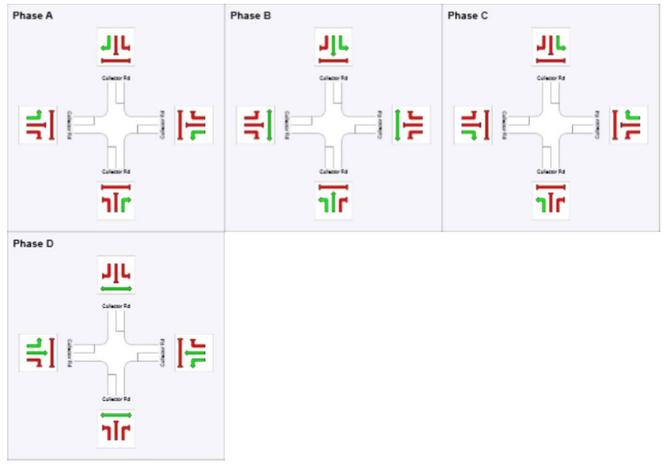
Site: Intersection 28 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 70 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	12	37	49
Green Time (sec)	6	19	6	15
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	12	25	12	21
Phase Split	17 %	36 %	17 %	30 %



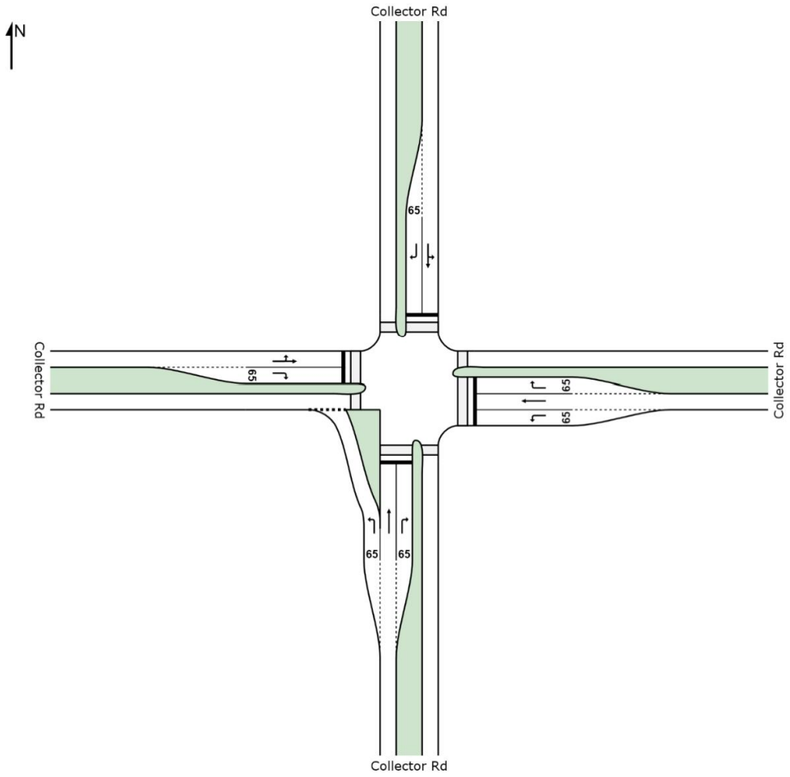
Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class Running
Mixed Running & Stopped Movement Classes
Undetected Movement
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Other Movement Class Stopped
Phase Transition Applied

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 29 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 29 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 70 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
1	L2	20	0.0	0.146	23.7	LOS C	2.0	14.4	0.78	0.68	35.0
2	T1	57	5.3	0.146	21.5	LOS C	2.0	14.4	0.78	0.68	35.3
3	R2	20	5.0	0.130	37.4	LOS D	0.7	4.9	0.95	0.69	30.3
Approach		97	4.1	0.146	25.2	LOS C	2.0	14.4	0.82	0.68	34.1
East: Collector Rd											
4	L2	20	5.0	0.029	18.9	LOS B	0.4	3.1	0.64	0.65	36.3
5	T1	55	5.5	0.136	24.5	LOS C	1.6	11.4	0.84	0.64	37.4
6	R2	24	4.2	0.155	38.7	LOS D	0.8	5.9	0.96	0.70	32.3
Approach		99	5.1	0.155	26.8	LOS C	1.6	11.4	0.83	0.66	35.8
North: Collector Rd											
7	L2	159	6.3	0.522	26.3	LOS C	8.3	61.0	0.87	0.79	37.0
8	T1	132	3.8	0.522	23.0	LOS C	8.3	61.0	0.87	0.79	34.2
9	R2	20	0.0	0.126	38.4	LOS D	0.7	4.7	0.95	0.69	32.4
Approach		311	4.8	0.522	25.7	LOS C	8.3	61.0	0.88	0.78	35.5
West: Collector Rd											
10	L2	20	0.0	0.110	27.2	LOS C	1.3	9.4	0.81	0.66	37.1
11	T1	28	7.1	0.110	22.6	LOS C	1.3	9.4	0.81	0.66	37.4
12	R2	20	0.0	0.126	38.4	LOS D	0.7	4.7	0.95	0.69	30.3
Approach		68	2.9	0.126	28.6	LOS C	1.3	9.4	0.85	0.67	34.9
All Vehicles		575	4.5	0.522	26.1	LOS C	8.3	61.0	0.86	0.73	35.2

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	29.3	LOS C	0.1	0.1	0.92	0.92
P2	East Full Crossing	50	28.4	LOS C	0.1	0.1	0.90	0.90
P3	North Full Crossing	50	29.3	LOS C	0.1	0.1	0.92	0.92
P4	West Full Crossing	50	25.8	LOS C	0.1	0.1	0.86	0.86
All Pedestrians		200	28.2	LOS C			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.

SIDRA INTERSECTION 6

PHASING SUMMARY

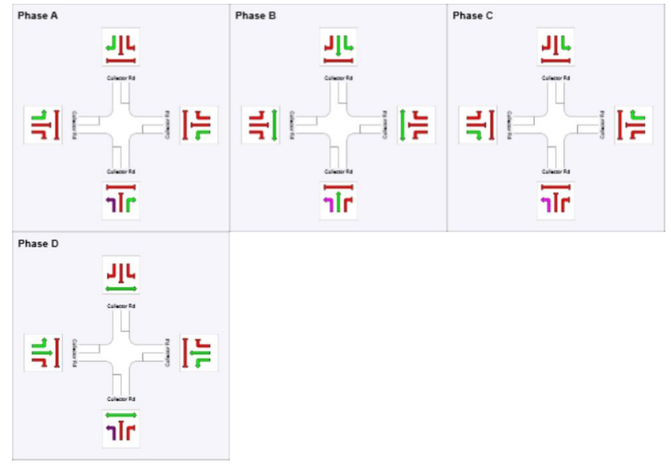
Site: Intersection 29 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 70 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	12	37	49
Green Time (sec)	6	19	6	15
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	12	25	12	21
Phase Split	17 %	36 %	17 %	30 %

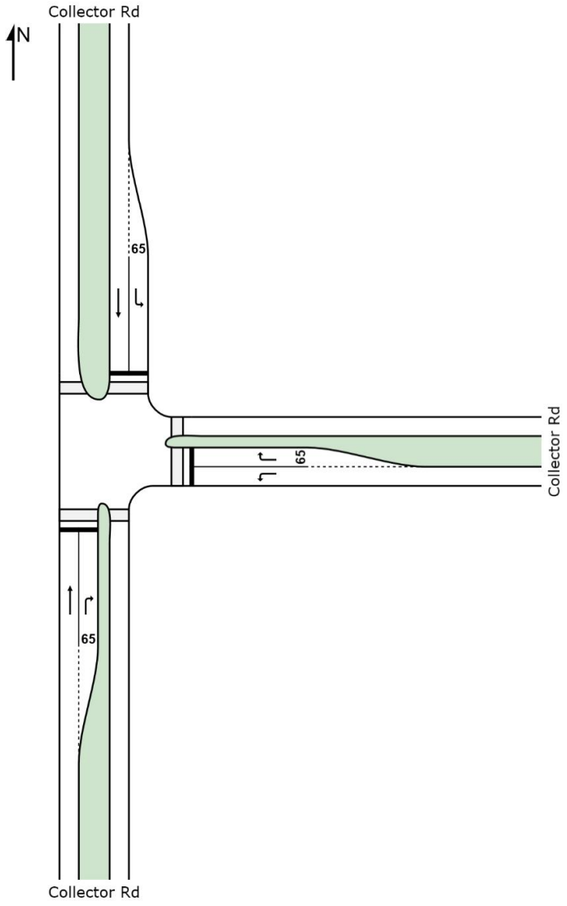


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 30 AM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 30 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 70 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
2	T1	20	0.0	0.048	25.0	LOS C	0.5	3.8	0.82	0.63	34.1
3	R2	66	6.1	0.118	23.2	LOS C	1.6	11.9	0.74	0.71	34.7
Approach		86	4.7	0.118	23.6	LOS C	1.6	11.9	0.76	0.69	34.5
East: Collector Rd											
4	L2	64	6.3	0.059	9.2	LOS A	0.9	6.4	0.42	0.59	39.6
6	R2	20	0.0	0.050	27.3	LOS C	0.6	3.9	0.82	0.67	30.8
Approach		84	4.8	0.059	13.5	LOS B	0.9	6.4	0.52	0.61	37.0
North: Collector Rd											
7	L2	20	5.0	0.022	12.3	LOS B	0.3	2.4	0.51	0.59	35.4
8	T1	21	4.8	0.052	25.3	LOS C	0.6	4.2	0.82	0.66	34.4
Approach		41	4.9	0.052	18.9	LOS B	0.6	4.2	0.67	0.63	34.9
All Vehicles		211	4.7	0.118	18.7	LOS B	1.6	11.9	0.65	0.65	35.6

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	29.3	LOS C	0.1	0.1	0.92	0.92
P2	East Full Crossing	50	29.3	LOS C	0.1	0.1	0.92	0.92
P3	North Full Crossing	50	25.8	LOS C	0.1	0.1	0.86	0.86
All Pedestrians		150	28.1	LOS C			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.

SIDRA INTERSECTION 6

PHASING SUMMARY

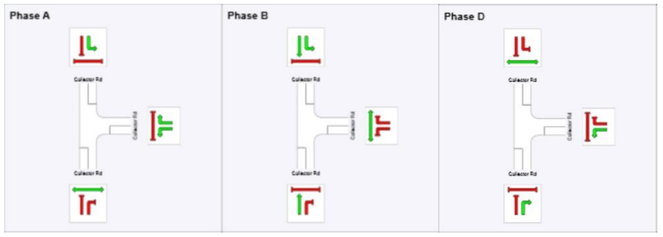
Site: Intersection 30 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 70 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing (phase reduction applied)
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, D

Phase Timing Results

Phase	A	B	D
Reference Phase	Yes	No	No
Phase Change Time (sec)	0	21	42
Green Time (sec)	15	15	22
Yellow Time (sec)	4	4	4
All-Red Time (sec)	2	2	2
Phase Time (sec)	21	21	28
Phase Split	30 %	30 %	40 %



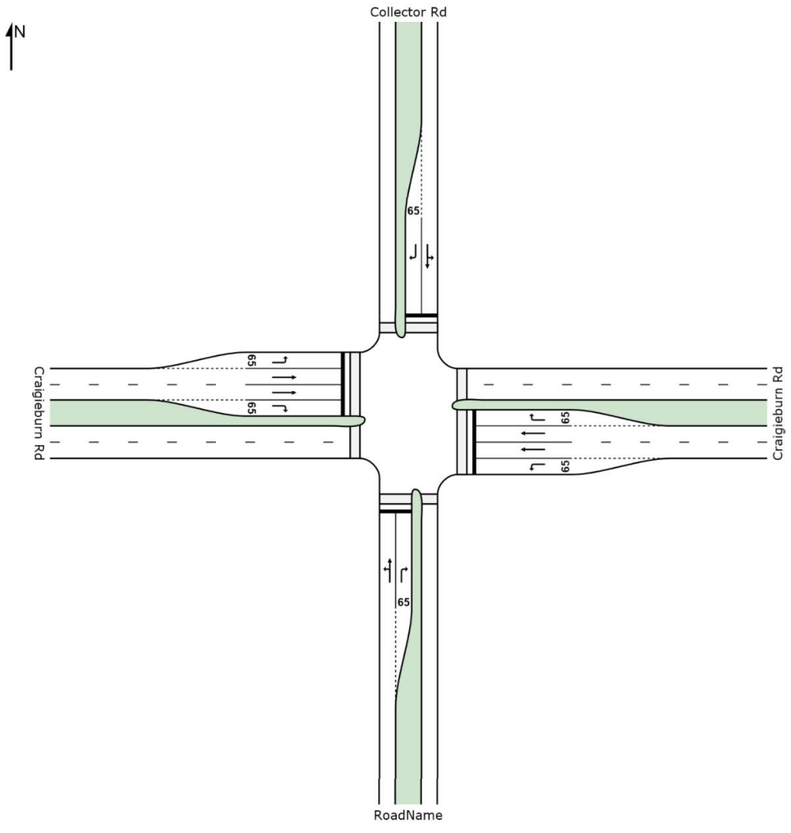
SIDRA INTERSECTION 6

SITE LAYOUT

88

Site: Intersection 31 AM Ultimate

New Site
Signals - Fixed Time



MOVEMENT SUMMARY

89

Site: Intersection 31 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: RoadName											
1	L2	63	6.3	0.138	23.1	LOS C	2.3	16.8	0.70	0.67	42.3
2	T1	24	4.2	0.138	18.5	LOS B	2.3	16.8	0.70	0.67	38.6
3	R2	74	5.4	0.552	46.5	LOS D	3.0	22.3	1.00	0.78	33.1
Approach		161	5.6	0.552	33.1	LOS C	3.0	22.3	0.84	0.72	37.0
East: Craigieburn Rd											
4	L2	71	5.6	0.118	26.8	LOS C	1.9	14.1	0.72	0.74	42.2
5	T1	243	6.2	0.346	31.3	LOS C	4.2	31.3	0.91	0.73	47.4
6	R2	143	6.3	0.536	42.5	LOS D	5.4	39.9	0.97	0.80	35.7
Approach		457	6.1	0.536	34.1	LOS C	5.4	39.9	0.90	0.75	42.2
North: Collector Rd											
7	L2	52	5.8	0.114	23.6	LOS C	1.9	14.0	0.71	0.67	42.1
8	T1	20	5.0	0.114	19.0	LOS B	1.9	14.0	0.71	0.67	38.4
9	R2	30	6.7	0.226	44.8	LOS D	1.2	8.7	0.97	0.71	33.5
Approach		102	5.9	0.226	28.9	LOS C	1.9	14.0	0.79	0.68	38.5
West: Craigieburn Rd											
10	L2	64	6.3	0.107	26.7	LOS C	1.7	12.7	0.72	0.74	42.2
11	T1	339	5.9	0.481	32.3	LOS C	6.1	44.9	0.94	0.76	46.8
12	R2	35	5.7	0.131	39.8	LOS D	1.2	9.0	0.90	0.73	36.6
Approach		438	5.9	0.481	32.1	LOS C	6.1	44.9	0.91	0.76	45.1
All Vehicles		1158	6.0	0.552	32.7	LOS C	6.1	44.9	0.88	0.74	42.1

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P2	East Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P4	West Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
All Pedestrians		80	34.3	LOS D			0.93	0.93

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

90

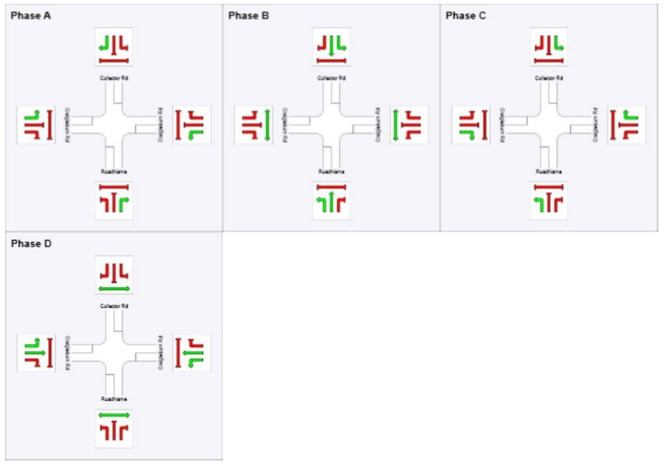
Site: Intersection 31 AM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	12	41	59
Green Time (sec)	6	23	12	15
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	12	29	18	21
Phase Split	15 %	36 %	23 %	26 %



Ultimate Scenario 6 Design Year Scenario:
PM Peak - Intersection Turn Movement Analysis Summary
(Total LV and HV Vehicles)

TO WALLAN

SUMMERHILL ROAD

KOUKOURA DRIVE

BODYCOATS ROAD

ANDREW ROAD

EPPING ROAD

Town Centre, Community Centre and Education Facility

TRAIN STATION

Major Town Centre, and Community Centre

BOUNDARY ROAD

Education Facility

Education Facility

Town Centre, Community Centre and Education Facility

KOUKOURA DRIVE

EDGARS ROAD

ANDREW ROAD

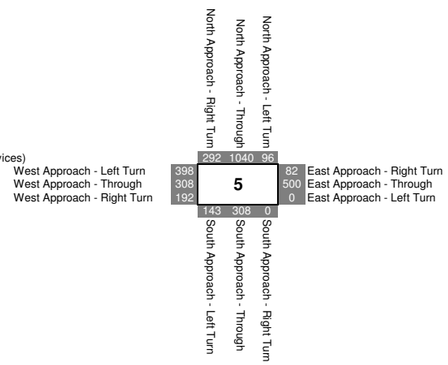
EPPING ROAD

CRAIGIEBURN ROAD

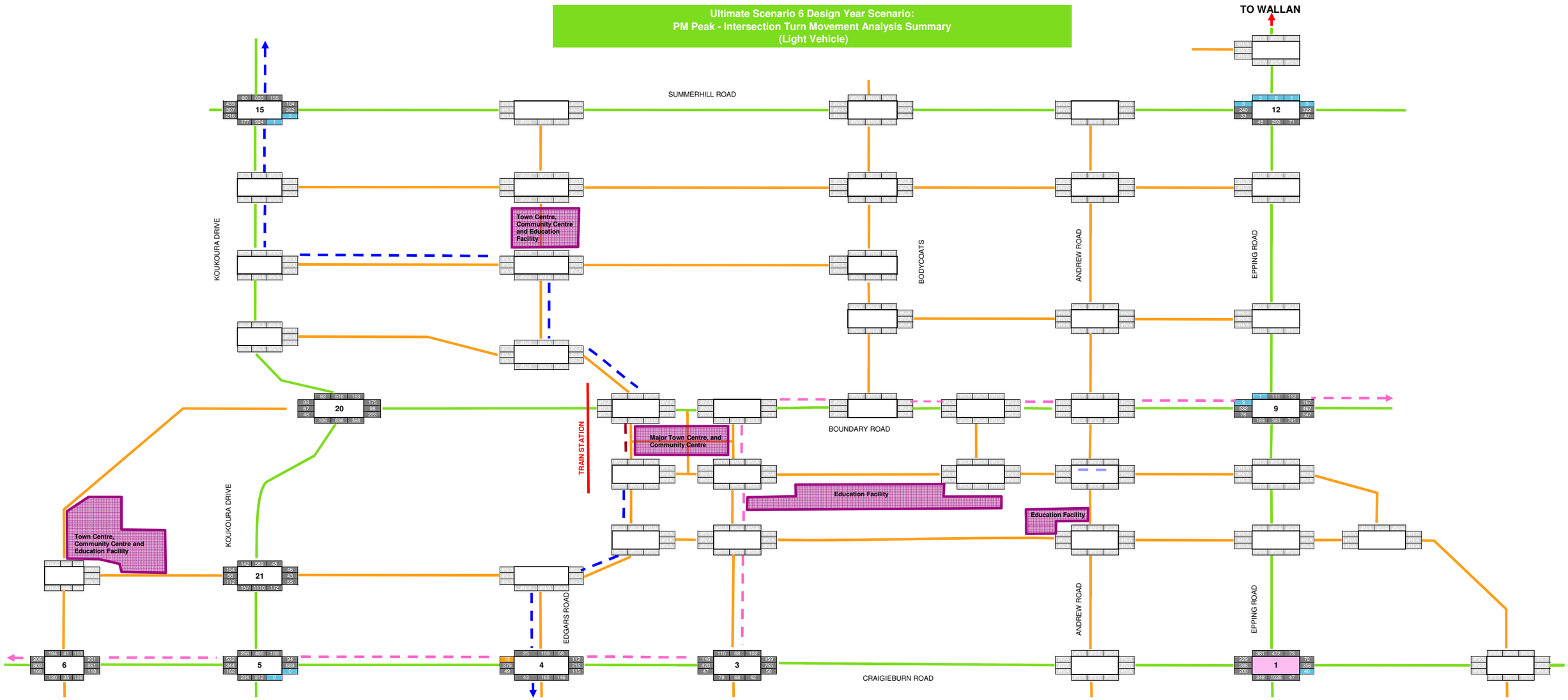
TO EPPING

LEGEND

- Intersection with 50 pedestrians at each approach
- Intersection with 20 pedestrians at each approach
- Six traffic lane Arterial Road (three lanes in each direction)
- Four traffic lane Arterial Road (two lanes in each direction)
- Two traffic lane Arterial Road (one lane in each direction)
- Two traffic lane Collector Road (one lane in each direction)
- Bus Priority Routes (different colour represent different bus services)



Ultimate Scenario 6 Design Year Scenario:
PM Peak - Intersection Turn Movement Analysis Summary
(Light Vehicle)



LEGEND

A minimum total vehicle of 20 vehicles (LV + HV). If the total volumes less than 20 vehicles, an additional LV of up to 20 will be added to the turn movement to meet the minimum total vehicles.
eg.
3 input = 20 total volumes (LV & HV)

A minimum total vehicle of 50 vehicles (LV + HV). If the total volumes less than 50 vehicles, an additional LV of up to 50 will be added to the turn movement to meet the minimum total vehicles.
eg.
3 input = 50 total volumes (LV & HV)

Intersection with 50 pedestrians at each approach

Intersection with 20 pedestrians at each approach

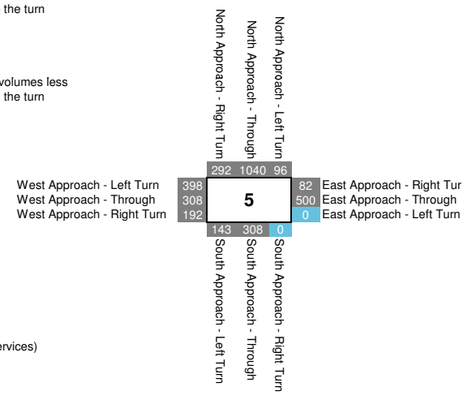
Six traffic lane Arterial Road (three lanes in each direction)

Four traffic lane Arterial Road (two lanes in each direction)

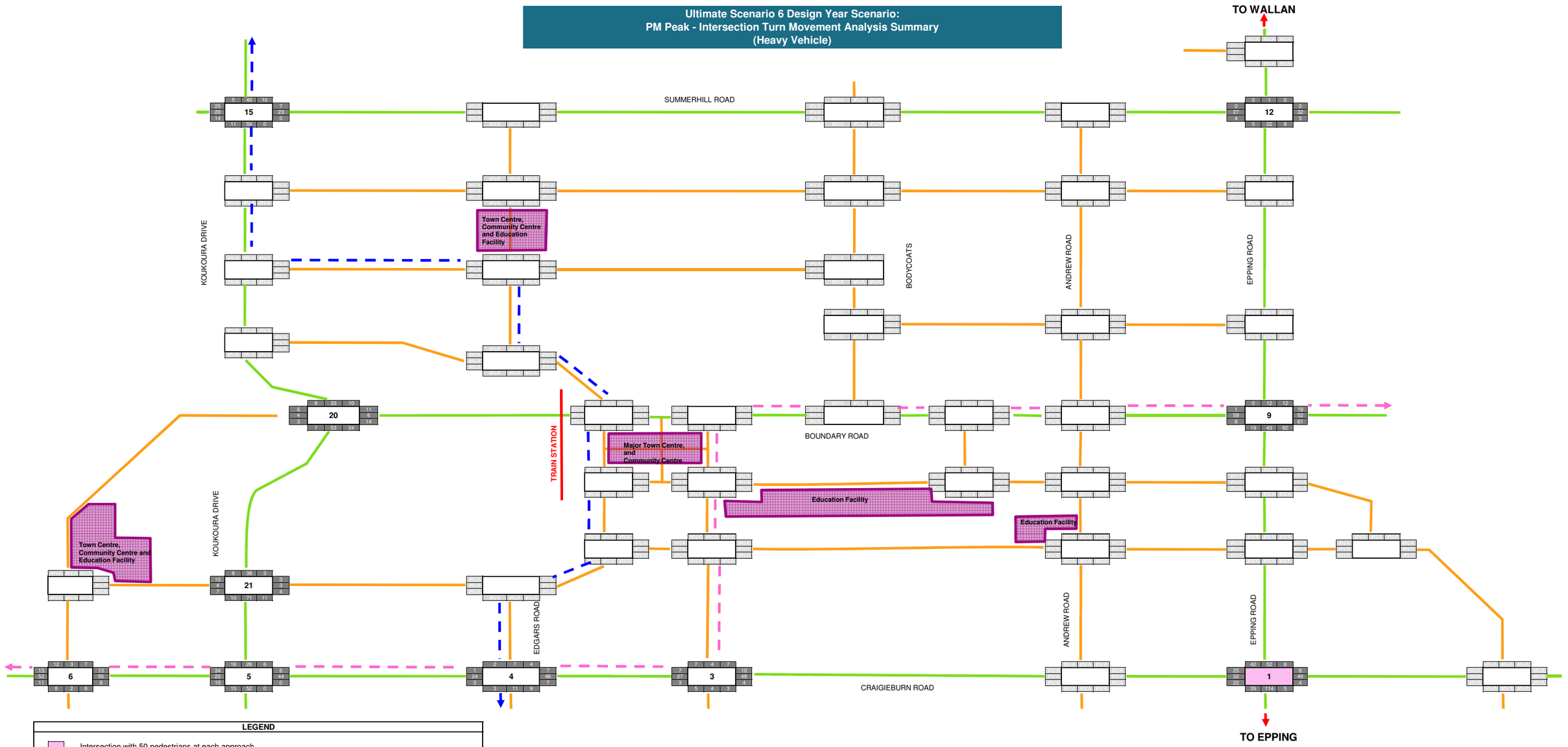
Two traffic lane Arterial Road (one lane in each direction)

Two traffic lane Collector Road (one lane in each direction)

Bus Priority Routes (different colour represent different bus services)



Ultimate Scenario 6 Design Year Scenario:
PM Peak - Intersection Turn Movement Analysis Summary
(Heavy Vehicle)



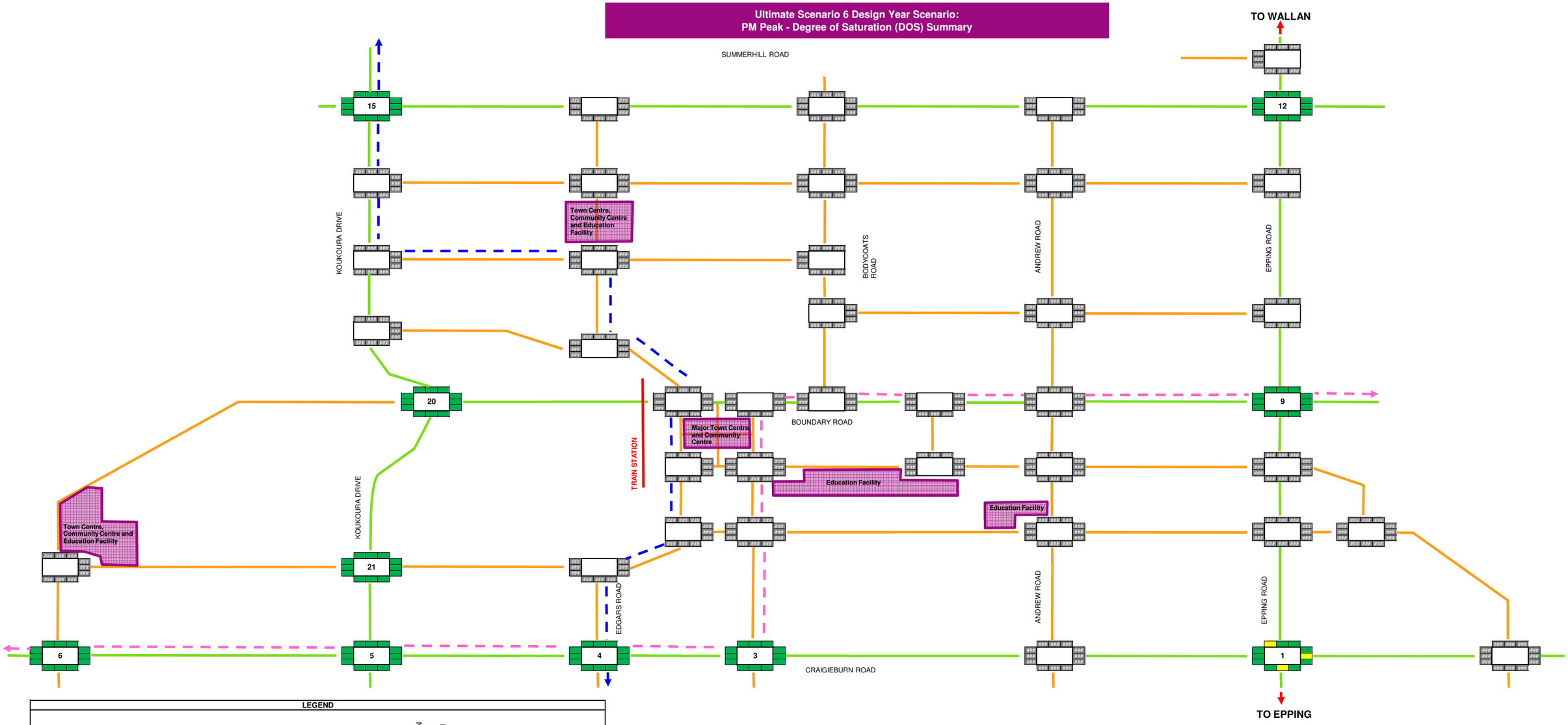
LEGEND

- Intersection with 50 pedestrians at each approach
- Intersection with 20 pedestrians at each approach
- Six traffic lane Arterial Road (three lanes in each direction)
- Four traffic lane Arterial Road (two lanes in each direction)
- Two traffic lane Arterial Road (one lane in each direction)
- Two traffic lane Collector Road (one lane in each direction)
- Bus Priority Routes (different colour represent different bus servic

	North Approach - Right Turn	North Approach - Through	North Approach - Left Turn
	19	66	6
West Approach - Left Turn	25	5	East Approach - Right Turn
West Approach - Through	20	32	East Approach - Through
West Approach - Right Turn	12	0	East Approach - Left Turn
	9	20	0
	South Approach - Left Turn	South Approach - Through	South Approach - Right Turn

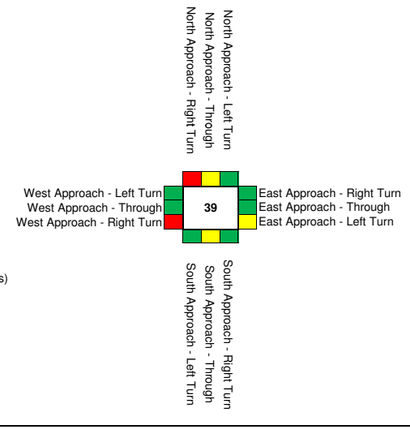
Heavy Vehicle Assumptions:
10% of LV are HV on Epping Road applied on all approaches
6% of LV are HV on all other roads applied on all approaches

Ultimate Scenario 6 Design Year Scenario:
PM Peak - Degree of Saturation (DOS) Summary



LEGEND

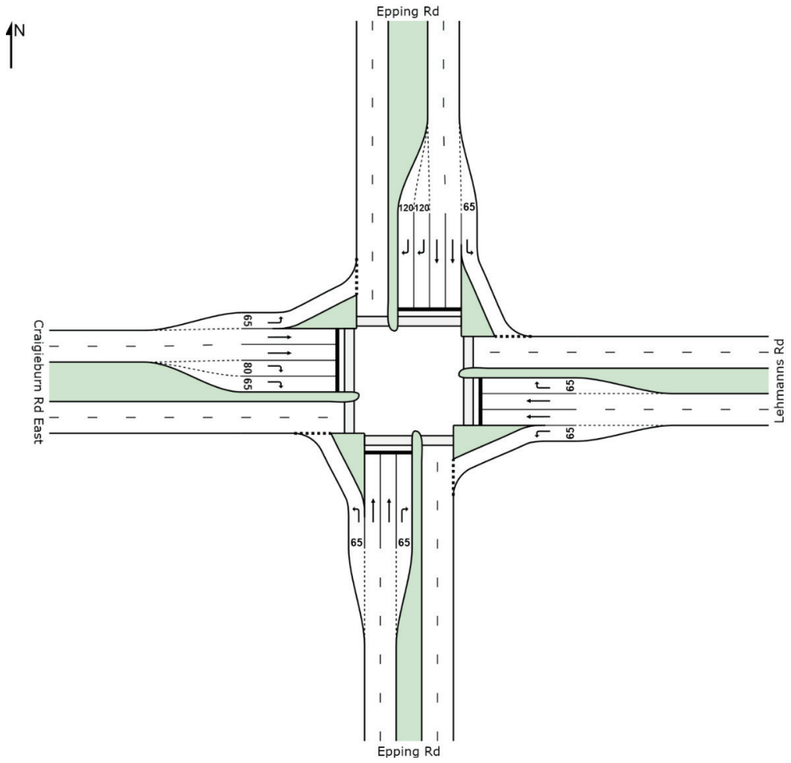
- Degree of Saturation greater than 1.00
- Degree of Saturation between 0.95 and 1.00
- Degree of Saturation between 0.85 and 0.95
- Degree of Saturation less than 0.85
- Intersection not analysed
- Six traffic lane Arterial Road (three lanes in each direction)
- Four traffic lane Arterial Road (two lanes in each direction)
- Two traffic lane Arterial Road (one lane in each direction)
- Two traffic lane Collector Road (one lane in each direction)
- Bus Priority Routes (different colour represent different bus services)



SITE LAYOUT

Site: Intersection 1 PM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 1 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Epping Rd											
1	L2	387	10.1	0.330	14.0	LOS B	8.1	61.6	0.45	0.73	56.2
2	T1	1139	10.0	0.895	48.1	LOS D	41.5	315.7	0.92	0.97	39.2
3	R2	52	9.6	0.082	30.0	LOS C	1.8	13.7	0.68	0.72	45.1
Approach		1578	10.0	0.895	39.1	LOS D	41.5	315.7	0.80	0.90	42.5
East: Lehmanns Rd											
4	L2	50	8.0	0.044	11.3	LOS B	0.7	5.4	0.31	0.66	59.1
5	T1	398	10.1	0.870	66.1	LOS E	13.1	99.3	1.00	0.98	32.9
6	R2	78	10.3	0.361	60.9	LOS E	4.3	32.8	0.96	0.77	32.8
Approach		526	9.9	0.870	60.1	LOS E	13.1	99.3	0.93	0.92	34.3
North: Epping Rd											
7	L2	81	9.9	0.065	9.1	LOS A	0.7	5.6	0.22	0.65	60.8
8	T1	524	9.9	0.613	44.7	LOS D	13.9	105.3	0.95	0.80	40.6
9	R2	423	9.9	0.915	80.8	LOS F	14.9	113.2	1.00	1.02	27.9
Approach		1028	9.9	0.915	56.8	LOS E	14.9	113.2	0.91	0.88	35.0
West: Craigieburn Rd East											
10	L2	254	9.8	0.389	22.1	LOS C	8.1	61.7	0.64	0.78	50.1
11	T1	320	10.0	0.699	57.2	LOS E	9.5	71.8	1.00	0.84	35.7
12	R2	222	9.9	0.512	62.0	LOS E	6.3	47.7	0.98	0.79	32.4
Approach		796	9.9	0.699	47.3	LOS D	9.5	71.8	0.88	0.81	38.1
All Vehicles		3928	10.0	0.915	48.2	LOS D	41.5	315.7	0.86	0.88	38.3

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	50	52.4	LOS E	0.2	0.2	0.94	0.94
P12	South Stage 2	50	49.6	LOS E	0.2	0.2	0.91	0.91
P21	East Stage 1	50	51.4	LOS E	0.2	0.2	0.93	0.93
P22	East Stage 2	50	48.7	LOS E	0.2	0.2	0.90	0.90
P31	North Stage 1	50	54.3	LOS E	0.2	0.2	0.95	0.95
P32	North Stage 2	50	49.6	LOS E	0.2	0.2	0.91	0.91
P41	West Stage 1	50	26.1	LOS C	0.1	0.1	0.66	0.66
P42	West Stage 2	50	22.9	LOS C	0.1	0.1	0.62	0.62
All Pedestrians		400	44.4	LOS E			0.85	0.85

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

SIDRA INTERSECTION 6

PHASING SUMMARY

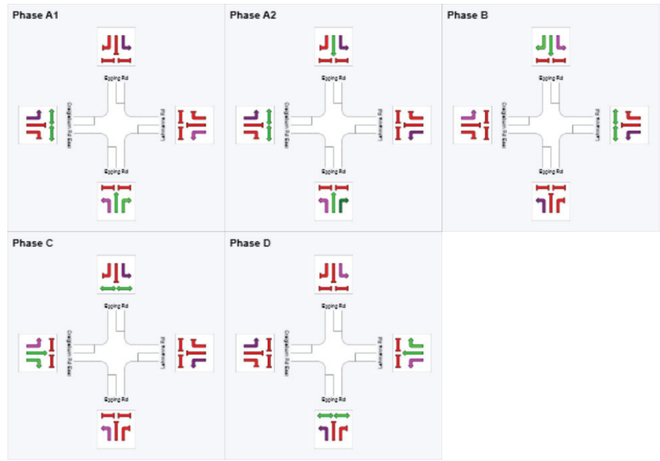
Site: Intersection 1 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A1, A2, B, C, D
Output Sequence: A1, A2, B, C, D

Phase Timing Results

Phase	A1	A2	B	C	D
Reference Phase	Yes	No	No	No	No
Phase Change Time (sec)	0	44	56	78	99
Green Time (sec)	38	6	16	15	15
Yellow Time (sec)	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2
Phase Time (sec)	44	12	22	21	21
Phase Split	37 %	10 %	18 %	18 %	18 %

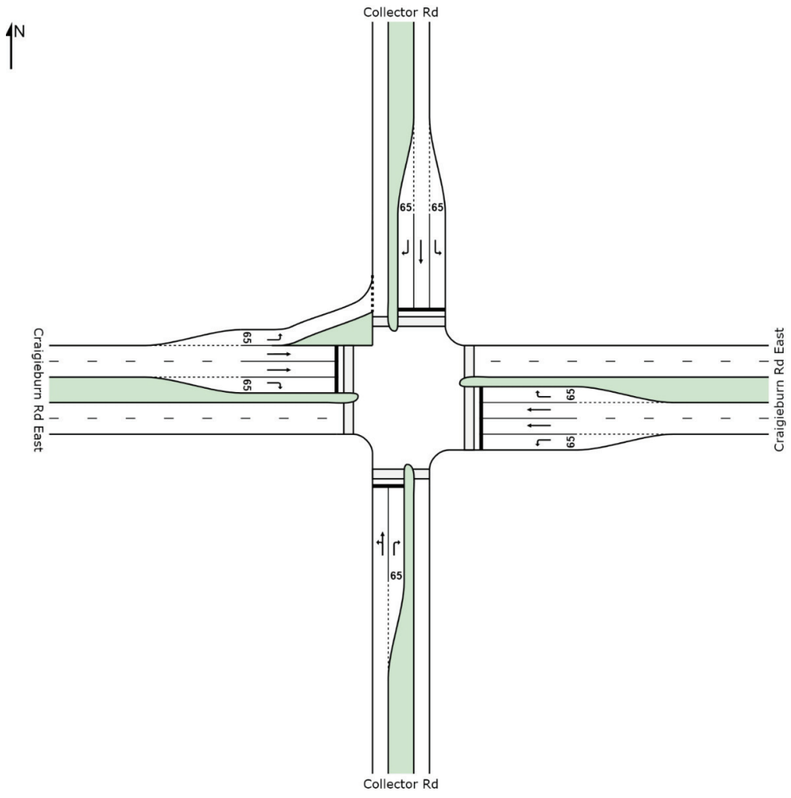


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 3 PM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 3 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 100 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
1	L2	83	6.0	0.336	37.2	LOS D	6.2	45.5	0.86	0.74	36.7
2	T1	72	5.6	0.336	32.6	LOS C	6.2	45.5	0.86	0.74	33.8
3	R2	45	6.7	0.282	52.7	LOS D	2.2	15.9	0.97	0.74	31.3
Approach		200	6.0	0.336	39.1	LOS D	6.2	45.5	0.88	0.74	34.3
East: Craigieburn Rd East											
4	L2	62	6.5	0.076	23.1	LOS C	1.7	12.3	0.59	0.72	44.0
5	T1	803	6.0	0.727	33.7	LOS C	18.3	134.7	0.94	0.83	46.1
6	R2	169	5.9	0.730	56.0	LOS E	8.5	62.7	1.00	0.86	31.7
Approach		1034	6.0	0.730	36.7	LOS D	18.3	134.7	0.93	0.83	42.8
North: Collector Rd											
7	L2	109	6.4	0.146	23.7	LOS C	3.3	24.0	0.65	0.71	41.3
8	T1	72	5.6	0.166	33.4	LOS C	2.8	20.8	0.84	0.65	34.4
9	R2	117	6.0	0.730	57.1	LOS E	6.1	44.7	1.00	0.88	30.2
Approach		298	6.0	0.730	39.1	LOS D	6.1	44.7	0.83	0.76	34.6
West: Craigieburn Rd East											
10	L2	123	5.7	0.099	9.5	LOS A	1.2	8.8	0.28	0.67	53.4
11	T1	447	6.0	0.384	29.2	LOS C	8.6	63.1	0.83	0.70	48.8
12	R2	50	6.0	0.216	50.3	LOS D	2.3	16.6	0.93	0.75	33.2
Approach		620	6.0	0.384	27.0	LOS C	8.6	63.1	0.73	0.69	47.8
All Vehicles		2152	6.0	0.730	34.5	LOS C	18.3	134.7	0.85	0.77	41.7

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	30.4	LOS D	0.0	0.0	0.78	0.78
P2	East Full Crossing	20	44.2	LOS E	0.1	0.1	0.94	0.94
P3	North Full Crossing	20	32.8	LOS D	0.0	0.0	0.81	0.81
P4	West Full Crossing	20	42.4	LOS E	0.1	0.1	0.92	0.92
All Pedestrians		80	37.5	LOS D			0.86	0.86

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

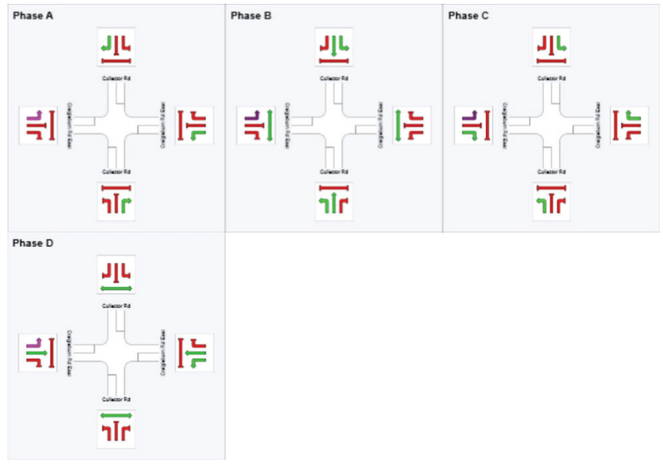
Site: Intersection 3 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 100 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Leading Right Turn
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	15	44	63
Green Time (sec)	9	23	13	31
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	15	29	19	37
Phase Split	15 %	29 %	19 %	37 %

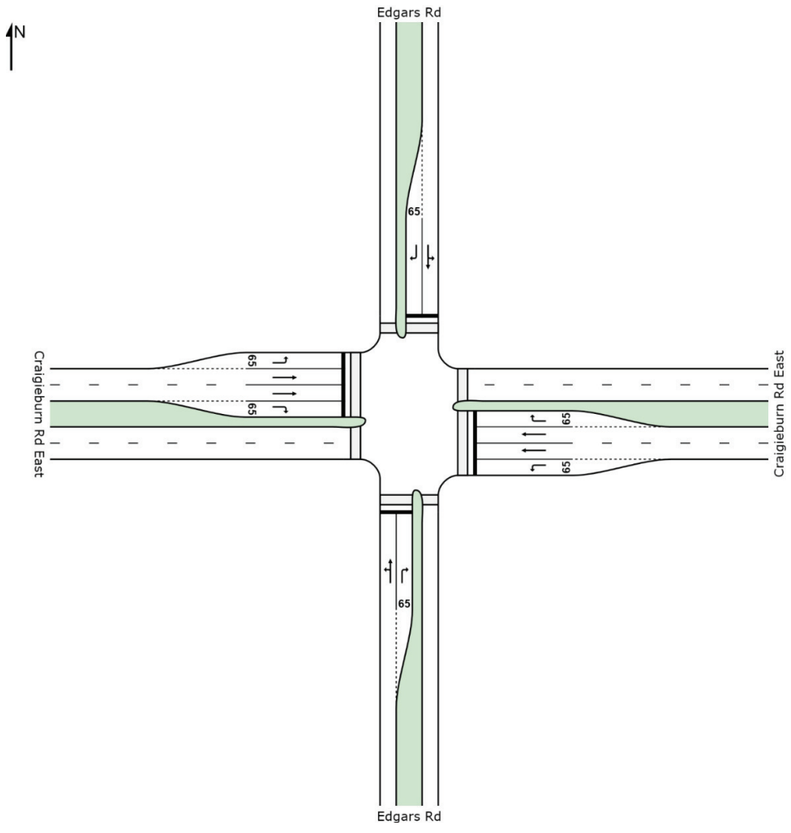


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 4 PM Ultimate

New Site
Signals - Fixed Time



MOVEMENT SUMMARY

Site: Intersection 4 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 90 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Edgars Rd											
1	L2	46	6.5	0.459	35.8	LOS D	8.3	61.0	0.88	0.77	40.3
2	T1	176	6.3	0.459	31.4	LOS C	8.3	61.0	0.88	0.77	36.9
3	R2	155	5.8	0.711	50.2	LOS D	7.1	52.0	1.00	0.86	33.9
Approach		377	6.1	0.711	39.6	LOS D	8.3	61.0	0.93	0.81	36.0
East: Craigieburn Rd East											
4	L2	122	5.7	0.150	22.3	LOS C	3.1	22.8	0.62	0.74	47.2
5	T1	761	6.0	0.760	35.4	LOS D	16.4	120.5	0.98	0.89	45.0
6	R2	119	5.9	0.751	55.3	LOS E	5.7	41.6	1.00	0.86	31.7
Approach		1002	6.0	0.760	36.2	LOS D	16.4	120.5	0.94	0.87	43.1
North: Edgars Rd											
7	L2	62	6.5	0.362	33.1	LOS C	6.4	46.9	0.85	0.76	38.6
8	T1	116	6.0	0.362	29.7	LOS C	6.4	46.9	0.85	0.76	37.7
9	R2	27	7.4	0.125	43.8	LOS D	1.1	8.1	0.92	0.71	33.8
Approach		205	6.3	0.362	32.6	LOS C	6.4	46.9	0.86	0.75	37.4
West: Craigieburn Rd East											
10	L2	20	5.0	0.024	21.3	LOS C	0.5	3.5	0.57	0.69	45.0
11	T1	403	6.0	0.402	29.6	LOS C	7.4	54.2	0.87	0.72	48.5
12	R2	52	5.8	0.328	50.9	LOS D	2.3	16.7	0.98	0.75	34.5
Approach		475	5.9	0.402	31.6	LOS C	7.4	54.2	0.87	0.72	46.3
All Vehicles		2059	6.0	0.760	35.4	LOS D	16.4	120.5	0.91	0.81	41.6

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	31.3	LOS D	0.0	0.0	0.83	0.83
P2	East Full Crossing	20	39.2	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	31.3	LOS D	0.0	0.0	0.83	0.83
P4	West Full Crossing	20	39.2	LOS D	0.0	0.0	0.93	0.93
All Pedestrians		80	35.3	LOS D			0.88	0.88

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

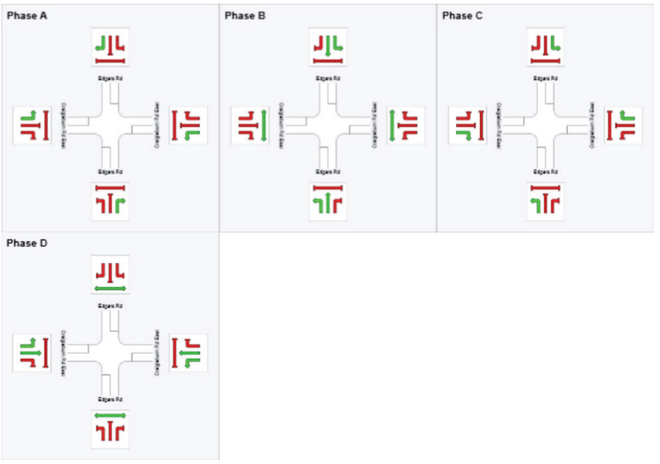
Site: Intersection 4 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 90 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Leading Right Turn
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

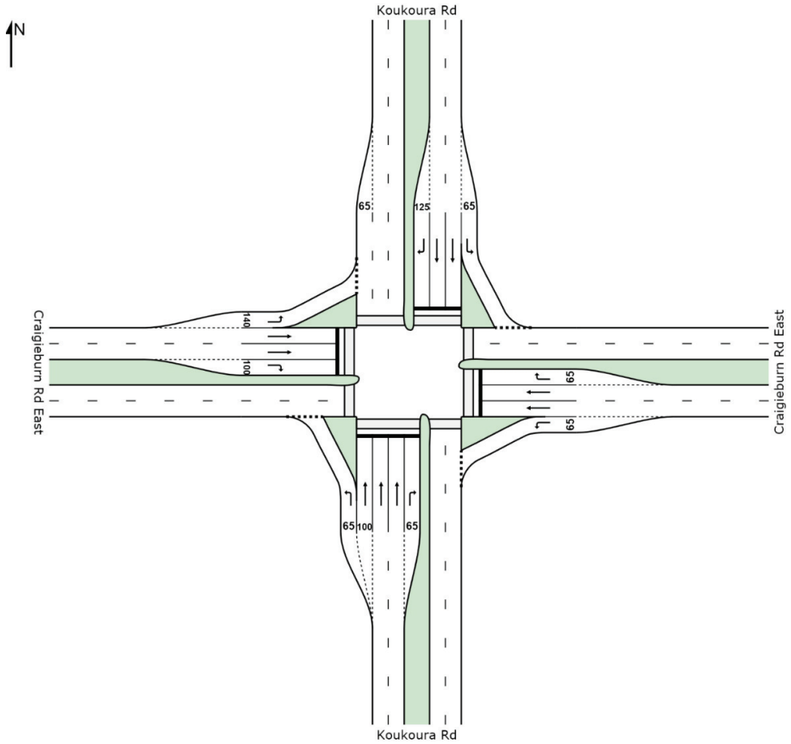
Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	17	46	60
Green Time (sec)	11	23	8	24
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	17	29	14	30
Phase Split	19 %	32 %	16 %	33 %



SITE LAYOUT

Site: Intersection 5 PM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 5 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Rd											
1	L2	249	6.0	0.269	16.8	LOS B	6.6	48.5	0.54	0.71	46.4
2	T1	864	6.0	0.823	50.5	LOS D	21.7	159.8	0.98	0.92	32.9
3	R2	50	0.0	0.115	44.5	LOS D	2.3	16.1	0.82	0.73	34.4
Approach		1163	5.8	0.823	43.1	LOS D	21.7	159.8	0.88	0.86	35.2
East: Craigieburn Rd East											
4	L2	50	0.0	0.040	9.8	LOS A	0.7	5.2	0.32	0.62	51.1
5	T1	733	6.0	0.829	51.3	LOS D	22.0	162.2	0.99	0.96	32.7
6	R2	100	6.0	0.225	44.2	LOS D	4.7	34.3	0.84	0.76	34.4
Approach		883	5.7	0.829	48.1	LOS D	22.0	162.2	0.94	0.92	33.6
North: Koukoura Rd											
7	L2	106	5.7	0.080	7.5	LOS A	1.0	7.5	0.23	0.61	52.6
8	T1	426	6.1	0.593	48.3	LOS D	11.5	85.1	0.96	0.80	33.6
9	R2	272	5.9	0.796	60.4	LOS E	16.4	120.3	1.00	0.91	30.0
Approach		804	6.0	0.796	47.0	LOS D	16.4	120.3	0.88	0.81	33.8
West: Craigieburn Rd East											
10	L2	566	6.0	0.663	15.6	LOS B	18.1	133.0	0.67	0.79	47.1
11	T1	366	6.0	0.780	59.7	LOS E	11.2	82.4	1.00	0.91	30.5
12	R2	172	5.8	0.772	65.3	LOS E	10.5	77.2	1.00	0.89	28.9
Approach		1104	6.0	0.780	38.0	LOS D	18.1	133.0	0.83	0.84	36.8
All Vehicles		3954	5.8	0.829	43.6	LOS D	22.0	162.2	0.88	0.86	35.0

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	40.9	LOS E	0.1	0.1	0.83	0.83
P12	South Stage 2	20	36.8	LOS D	0.1	0.1	0.78	0.78
P21	East Stage 1	20	45.1	LOS E	0.1	0.1	0.87	0.87
P22	East Stage 2	20	42.5	LOS E	0.1	0.1	0.84	0.84
P31	North Stage 1	20	52.3	LOS E	0.1	0.1	0.93	0.93
P32	North Stage 2	20	52.3	LOS E	0.1	0.1	0.93	0.93
P41	West Stage 1	20	40.9	LOS E	0.1	0.1	0.83	0.83
P42	West Stage 2	20	38.4	LOS D	0.1	0.1	0.80	0.80
All Pedestrians		160	43.7	LOS E			0.85	0.85

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

SIDRA INTERSECTION 6

PHASING SUMMARY

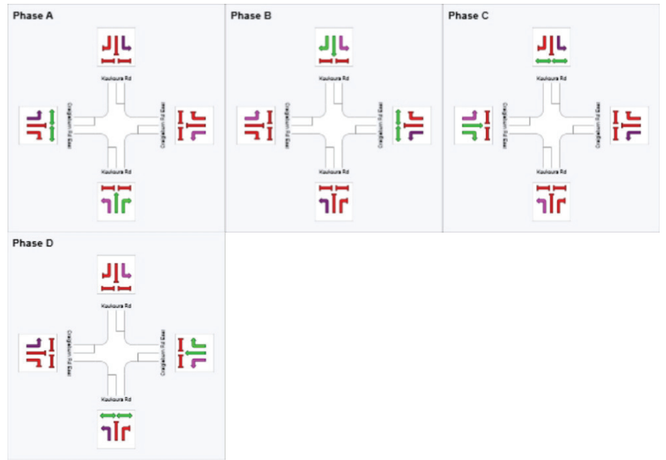
Site: Intersection 5 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Split Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	34	63	84
Green Time (sec)	28	23	15	30
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	34	29	21	36
Phase Split	28 %	24 %	18 %	30 %



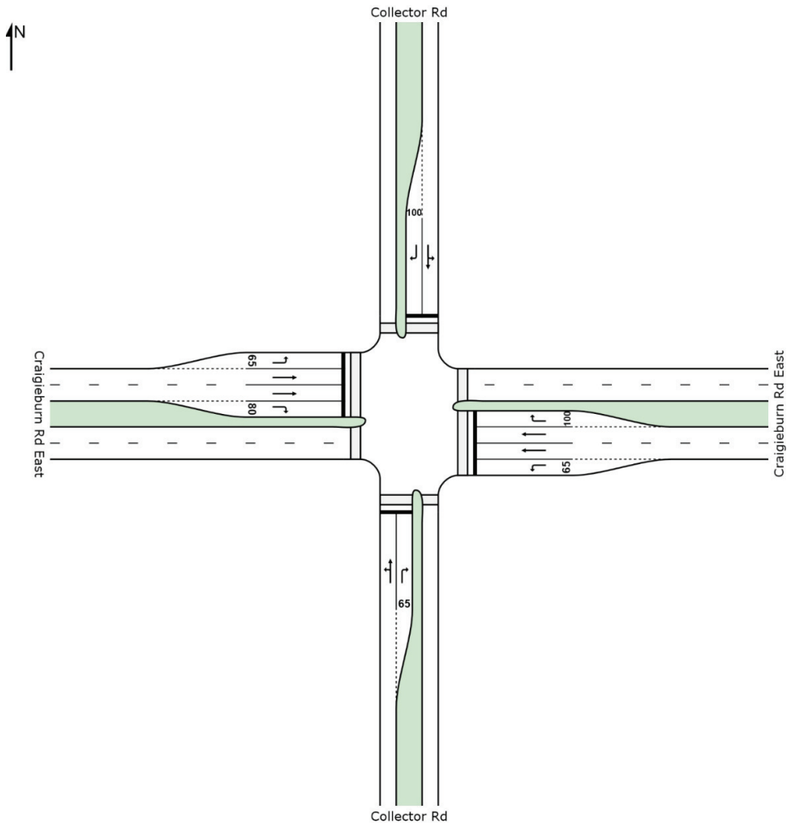
Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class Running
Mixed Running & Stopped Movement Classes
Undetected Movement
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Other Movement Class Stopped
Phase Transition Applied

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 6 PM Ultimate

New Site
Signals - Fixed Time



MOVEMENT SUMMARY

Site: Intersection 6 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Collector Rd											
1	L2	138	5.8	0.388	44.3	LOS D	8.5	62.3	0.87	0.78	33.9
2	T1	37	5.4	0.388	39.7	LOS D	8.5	62.3	0.87	0.78	31.4
3	R2	134	6.0	0.531	57.5	LOS E	7.5	55.1	0.98	0.80	30.1
Approach		309	5.8	0.531	49.5	LOS D	8.5	62.3	0.92	0.78	31.8
East: Craigieburn Rd East											
4	L2	126	6.3	0.140	23.5	LOS C	3.8	28.3	0.56	0.74	43.8
5	T1	916	6.0	0.838	46.2	LOS D	27.4	202.0	0.97	0.93	39.7
6	R2	214	6.1	0.801	65.8	LOS E	13.2	96.9	1.00	0.89	29.1
Approach		1256	6.1	0.838	47.3	LOS D	27.4	202.0	0.93	0.90	37.7
North: Collector Rd											
7	L2	110	6.4	0.368	46.4	LOS D	7.6	56.3	0.89	0.77	33.3
8	T1	44	6.8	0.368	41.8	LOS D	7.6	56.3	0.89	0.77	31.0
9	R2	206	5.8	0.816	65.0	LOS E	12.8	94.4	1.00	0.93	28.4
Approach		360	6.1	0.816	56.5	LOS E	12.8	94.4	0.95	0.86	30.0
West: Craigieburn Rd East											
10	L2	219	5.9	0.242	24.6	LOS C	7.1	52.0	0.60	0.76	43.3
11	T1	861	6.0	0.841	46.4	LOS D	25.9	190.6	0.95	0.92	39.6
12	R2	179	6.1	0.671	61.0	LOS E	10.3	75.8	1.00	0.83	30.2
Approach		1259	6.0	0.841	44.7	LOS D	25.9	190.6	0.89	0.88	38.5
All Vehicles		3184	6.0	0.841	47.5	LOS D	27.4	202.0	0.92	0.88	36.3

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	34.5	LOS D	0.1	0.1	0.76	0.76
P2	East Full Crossing	20	54.2	LOS E	0.1	0.1	0.95	0.95
P3	North Full Crossing	20	34.5	LOS D	0.1	0.1	0.76	0.76
P4	West Full Crossing	20	54.2	LOS E	0.1	0.1	0.95	0.95
All Pedestrians		80	44.4	LOS E			0.85	0.85

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

PHASING SUMMARY

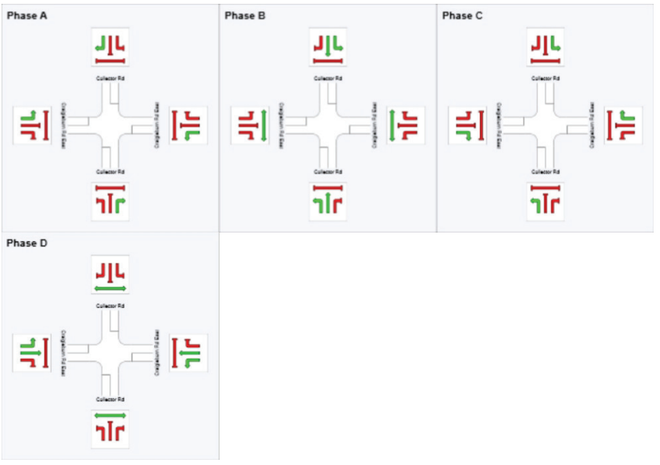
Site: Intersection 6 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

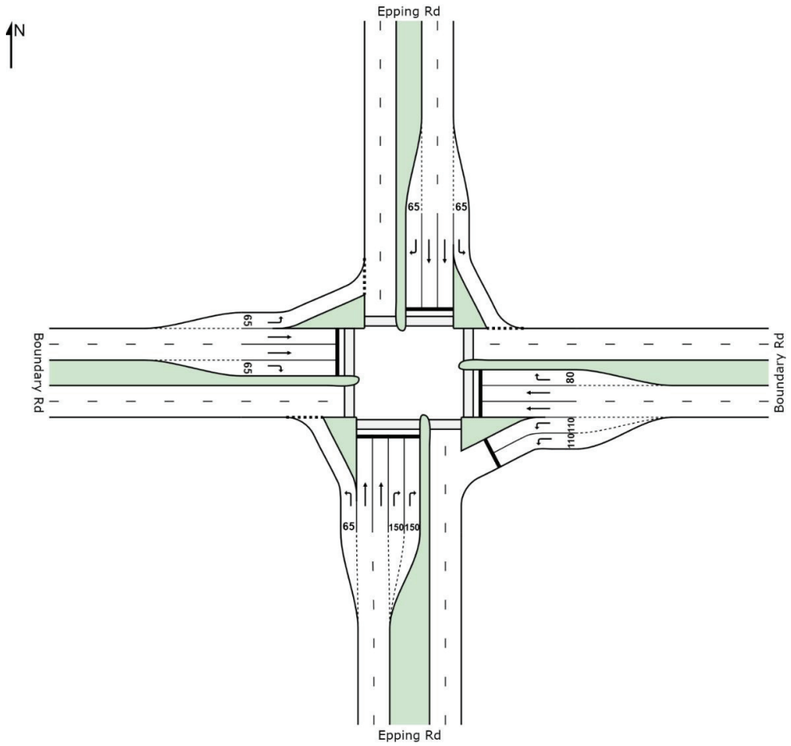
Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	23	52	76
Green Time (sec)	17	23	18	38
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	23	29	24	44
Phase Split	19 %	24 %	20 %	37 %



SITE LAYOUT

Site: Intersection 9 PM Ultimate

New Site
Signals - Fixed Time



MOVEMENT SUMMARY

Site: Intersection 9 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 94 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Epping Rd											
1	L2	188	10.1	0.155	8.7	LOS A	2.2	16.5	0.33	0.64	51.6
2	T1	426	10.1	0.342	25.0	LOS C	7.3	55.7	0.79	0.66	42.7
3	R2	823	10.0	0.826	45.8	LOS D	19.9	150.9	1.00	0.95	35.1
Approach		1437	10.0	0.826	34.8	LOS C	19.9	150.9	0.85	0.82	38.8
East: Boundary Rd											
4	L2	608	10.0	0.515	34.4	LOS C	11.2	85.5	0.85	0.82	41.3
5	T1	519	10.0	0.740	43.9	LOS D	12.0	91.0	1.00	0.88	37.9
6	R2	186	10.2	0.842	58.9	LOS E	9.6	72.8	1.00	0.94	32.3
Approach		1313	10.1	0.842	41.6	LOS D	12.0	91.0	0.93	0.86	38.4
North: Epping Rd											
7	L2	124	9.7	0.157	17.2	LOS B	2.9	21.9	0.58	0.70	48.2
8	T1	123	9.8	0.243	40.1	LOS D	2.6	19.7	0.93	0.71	36.3
9	R2	50	0.0	0.316	51.6	LOS D	2.3	15.9	0.98	0.74	32.3
Approach		297	8.1	0.316	32.5	LOS C	2.9	21.9	0.79	0.71	39.6
West: Boundary Rd											
10	L2	50	2.0	0.048	9.3	LOS A	0.6	4.4	0.35	0.63	51.4
11	T1	591	10.0	0.843	52.0	LOS D	14.9	113.3	1.00	1.00	36.6
12	R2	84	9.5	0.378	47.9	LOS D	3.7	27.9	0.96	0.77	33.4
Approach		725	9.4	0.843	48.5	LOS D	14.9	113.3	0.95	0.95	36.9
All Vehicles		3772	9.8	0.843	39.6	LOS D	19.9	150.9	0.89	0.85	38.3

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	38.5	LOS D	0.0	0.0	0.91	0.91
P12	South Stage 2	20	34.1	LOS D	0.0	0.0	0.85	0.85
P21	East Stage 1	20	41.2	LOS E	0.1	0.1	0.94	0.94
P22	East Stage 2	20	38.5	LOS D	0.0	0.0	0.91	0.91
P31	North Stage 1	20	36.7	LOS D	0.0	0.0	0.88	0.88
P32	North Stage 2	20	34.1	LOS D	0.0	0.0	0.85	0.85
P41	West Stage 1	20	25.3	LOS C	0.0	0.0	0.73	0.73
P42	West Stage 2	20	23.2	LOS C	0.0	0.0	0.70	0.70
All Pedestrians		160	33.9	LOS D			0.85	0.85

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

PHASING SUMMARY

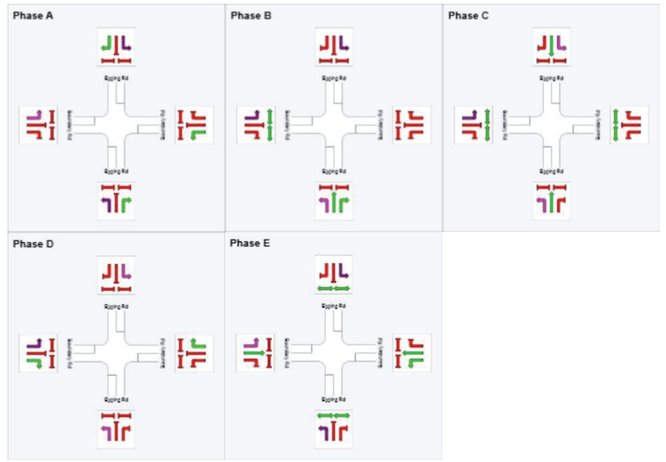
Site: Intersection 9 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 94 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Leading Right Turn
Movement Class: All Movement Classes
Input Sequence: A, B, C, D, E
Output Sequence: A, B, C, D, E

Phase Timing Results

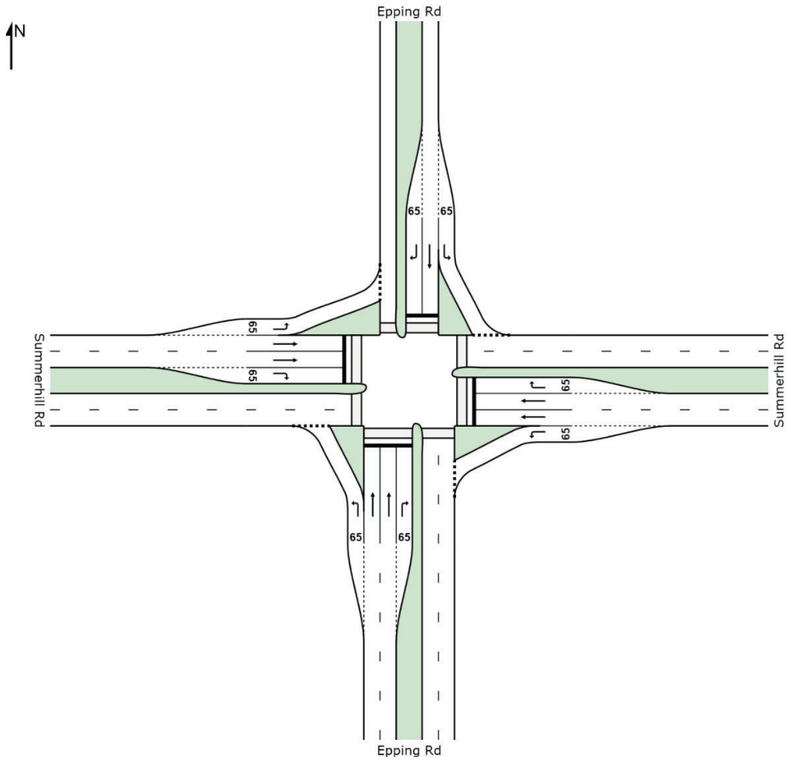
Phase	A	B	C	D	E
Reference Phase	Yes	No	No	No	No
Phase Change Time (sec)	0	14	33	52	70
Green Time (sec)	8	13	13	12	18
Yellow Time (sec)	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2
Phase Time (sec)	14	19	19	18	24
Phase Split	15 %	20 %	20 %	19 %	26 %



SITE LAYOUT

Site: Intersection 12 PM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 12 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Epping Rd											
1	L2	53	9.4	0.048	11.8	LOS B	0.5	4.2	0.35	0.62	45.8
2	T1	222	9.9	0.385	26.1	LOS C	6.0	45.9	0.85	0.69	33.6
3	R2	79	10.1	0.456	47.9	LOS D	3.1	23.6	0.98	0.76	26.7
Approach		354	9.9	0.456	28.8	LOS C	6.0	45.9	0.81	0.70	33.0
East: Summerhill Rd											
4	L2	52	9.6	0.039	9.5	LOS A	0.2	1.8	0.20	0.58	48.0
5	T1	354	9.0	0.366	26.4	LOS C	5.7	43.3	0.86	0.71	33.4
6	R2	50	0.0	0.359	48.8	LOS D	2.0	14.0	0.99	0.74	25.6
Approach		456	8.1	0.366	26.9	LOS C	5.7	43.3	0.80	0.70	33.5
North: Epping Rd											
7	L2	50	0.0	0.042	10.4	LOS B	0.5	3.2	0.32	0.68	46.6
8	T1	50	2.0	0.099	24.2	LOS C	1.9	13.6	0.79	0.60	34.7
9	R2	50	0.0	0.269	45.9	LOS D	1.9	13.4	0.96	0.74	26.6
Approach		150	0.7	0.269	26.8	LOS C	1.9	13.6	0.69	0.67	34.1
West: Summerhill Rd											
10	L2	50	0.0	0.039	9.5	LOS A	0.4	2.5	0.27	0.67	47.5
11	T1	267	10.1	0.278	25.7	LOS C	4.2	32.1	0.84	0.68	33.8
12	R2	37	10.8	0.286	49.4	LOS D	1.5	11.3	0.98	0.73	26.3
Approach		354	8.8	0.286	25.9	LOS C	4.2	32.1	0.77	0.68	34.1
All Vehicles		1314	7.9	0.456	27.1	LOS C	6.0	45.9	0.78	0.69	33.6

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P2	East Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
P3	North Full Crossing	20	28.9	LOS C	0.0	0.0	0.85	0.85
P4	West Full Crossing	20	34.3	LOS D	0.0	0.0	0.93	0.93
All Pedestrians		80	32.9	LOS D			0.91	0.91

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

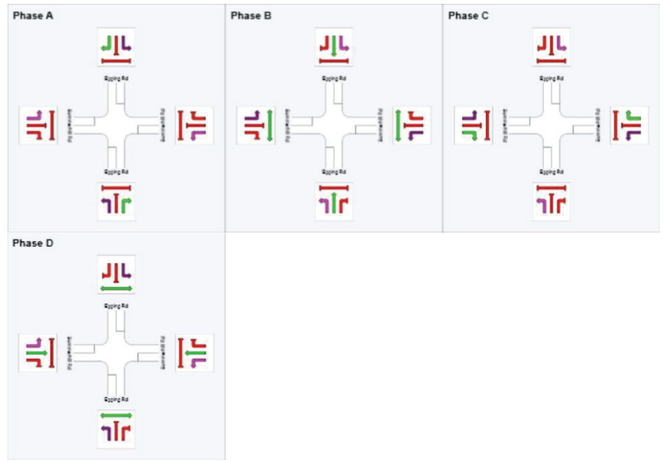
Site: Intersection 12 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	14	41	53
Green Time (sec)	8	21	6	21
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	14	27	12	27
Phase Split	18 %	34 %	15 %	34 %

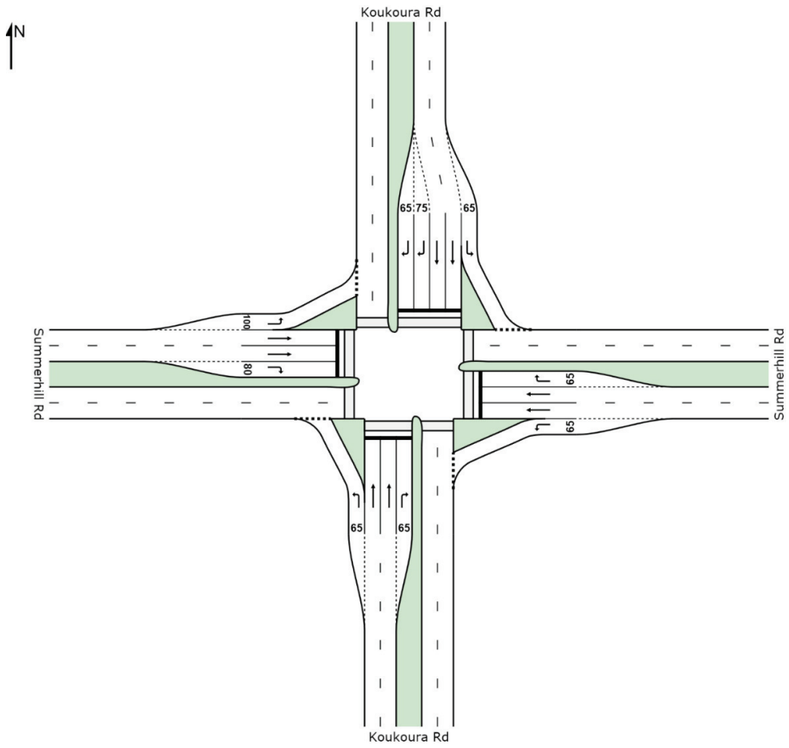


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 15 PM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 15 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 90 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Rd											
1	L2	188	5.9	0.144	9.4	LOS A	1.7	12.2	0.29	0.68	61.6
2	T1	983	6.0	0.782	30.3	LOS C	20.6	151.5	0.94	0.87	48.3
3	R2	50	0.0	0.404	53.9	LOS D	2.3	15.9	1.00	0.74	35.8
Approach		1221	5.7	0.782	28.0	LOS C	20.6	151.5	0.84	0.83	49.2
East: Summerhill Rd											
4	L2	50	0.0	0.057	12.9	LOS B	0.8	5.3	0.42	0.68	59.7
5	T1	385	6.0	0.710	42.5	LOS D	8.6	63.4	1.00	0.86	41.6
6	R2	111	6.3	0.432	46.8	LOS D	4.6	34.1	0.96	0.78	37.9
Approach		546	5.5	0.710	40.7	LOS D	8.6	63.4	0.94	0.83	42.0
North: Koukoura Rd											
7	L2	165	6.1	0.125	9.1	LOS A	1.3	9.9	0.27	0.67	61.8
8	T1	673	5.9	0.504	24.6	LOS C	11.7	85.8	0.84	0.72	52.1
9	R2	85	5.9	0.358	53.9	LOS D	1.9	14.1	0.99	0.73	35.3
Approach		923	6.0	0.504	24.6	LOS C	11.7	85.8	0.75	0.71	51.3
West: Summerhill Rd											
10	L2	464	5.4	0.606	18.3	LOS B	12.6	92.1	0.74	0.82	53.7
11	T1	327	6.1	0.523	38.1	LOS D	6.8	49.9	0.96	0.78	43.9
12	R2	230	6.1	0.775	50.6	LOS D	10.6	78.1	1.00	0.89	36.4
Approach		1021	5.8	0.775	31.9	LOS C	12.6	92.1	0.87	0.82	45.5
All Vehicles		3711	5.8	0.782	30.1	LOS C	20.6	151.5	0.84	0.80	47.4

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	39.2	LOS D	0.0	0.0	0.93	0.93
P12	South Stage 2	20	36.5	LOS D	0.0	0.0	0.90	0.90
P21	East Stage 1	20	23.5	LOS C	0.0	0.0	0.72	0.72
P22	East Stage 2	20	21.4	LOS C	0.0	0.0	0.69	0.69
P31	North Stage 1	20	39.2	LOS D	0.0	0.0	0.93	0.93
P32	North Stage 2	20	34.7	LOS D	0.0	0.0	0.88	0.88
P41	West Stage 1	20	23.5	LOS C	0.0	0.0	0.72	0.72
P42	West Stage 2	20	21.4	LOS C	0.0	0.0	0.69	0.69
All Pedestrians		160	29.9	LOS C			0.81	0.81

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

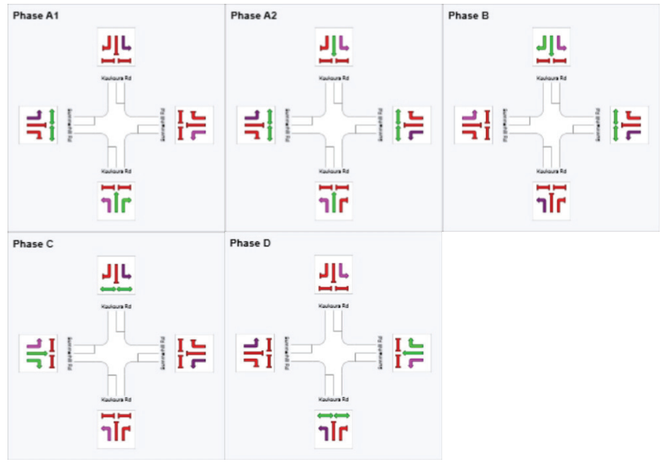
Site: Intersection 15 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 90 seconds (Practical Cycle Time)

Phase times determined by the program
Sequence: Split Phasing
Movement Class: All Movement Classes
Input Sequence: A1, A2, B, C, D
Output Sequence: A1, A2, B, C, D

Phase Timing Results

Phase	A1	A2	B	C	D
Reference Phase	Yes	No	No	No	No
Phase Change Time (sec)	0	12	38	50	71
Green Time (sec)	6	20	6	15	13
Yellow Time (sec)	4	4	4	4	4
All-Red Time (sec)	2	2	2	2	2
Phase Time (sec)	12	26	12	21	19
Phase Split	13 %	29 %	13 %	23 %	21 %

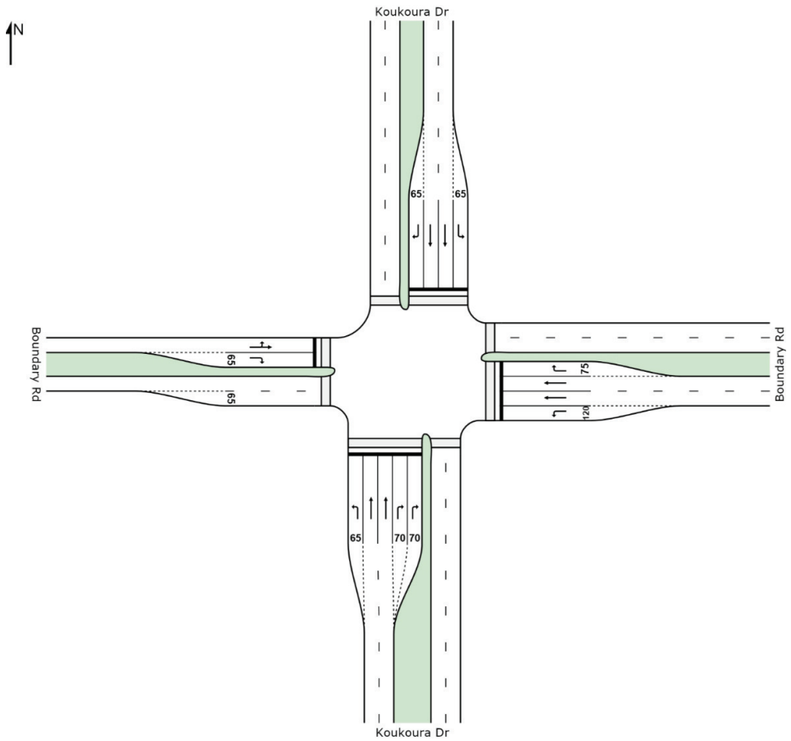


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 20 PM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 20 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 110 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Dr											
1	L2	113	6.2	0.143	16.9	LOS B	1.9	13.9	0.62	0.74	47.5
2	T1	889	6.0	0.835	43.5	LOS D	24.2	178.0	0.97	0.93	41.1
3	R2	392	6.1	0.356	39.1	LOS D	8.2	60.3	0.82	0.80	39.2
Approach		1394	6.0	0.835	40.1	LOS D	24.2	178.0	0.90	0.88	41.0
East: Boundary Rd											
4	L2	237	5.9	0.813	59.6	LOS E	13.5	99.4	1.00	0.92	31.0
5	T1	104	5.8	0.236	44.7	LOS D	3.4	25.3	0.90	0.71	32.9
6	R2	186	5.9	0.638	53.4	LOS D	9.6	70.8	0.99	0.82	32.9
Approach		527	5.9	0.813	54.5	LOS D	13.5	99.4	0.98	0.84	32.0
North: Koukoura Dr											
7	L2	163	6.1	0.530	52.8	LOS D	8.2	60.1	0.96	0.81	33.9
8	T1	543	6.1	0.838	54.7	LOS D	15.7	115.8	1.00	0.95	36.5
9	R2	99	6.1	0.322	50.8	LOS D	4.7	35.0	0.92	0.78	33.0
Approach		805	6.1	0.838	53.9	LOS D	15.7	115.8	0.98	0.90	35.5
West: Boundary Rd											
10	L2	94	6.4	0.566	51.5	LOS D	8.4	61.7	0.97	0.80	32.1
11	T1	71	5.6	0.566	47.8	LOS D	8.4	61.7	0.97	0.80	31.4
12	R2	49	6.1	0.202	51.0	LOS D	2.4	17.6	0.93	0.74	31.9
Approach		214	6.1	0.566	50.2	LOS D	8.4	61.7	0.96	0.79	31.8
All Vehicles		2940	6.0	0.838	47.2	LOS D	24.2	178.0	0.94	0.87	36.8

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	49.2	LOS E	0.1	0.1	0.95	0.95
P12	South Stage 2	20	41.9	LOS E	0.1	0.1	0.87	0.87
P21	East Stage 1	20	45.5	LOS E	0.1	0.1	0.91	0.91
P22	East Stage 2	20	41.1	LOS E	0.1	0.1	0.86	0.86
P31	North Stage 1	20	49.2	LOS E	0.1	0.1	0.95	0.95
P32	North Stage 2	20	44.6	LOS E	0.1	0.1	0.90	0.90
P41	West Stage 1	20	29.1	LOS C	0.0	0.0	0.73	0.73
P42	West Stage 2	20	29.1	LOS C	0.0	0.0	0.73	0.73
All Pedestrians		160	41.2	LOS E			0.86	0.86

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

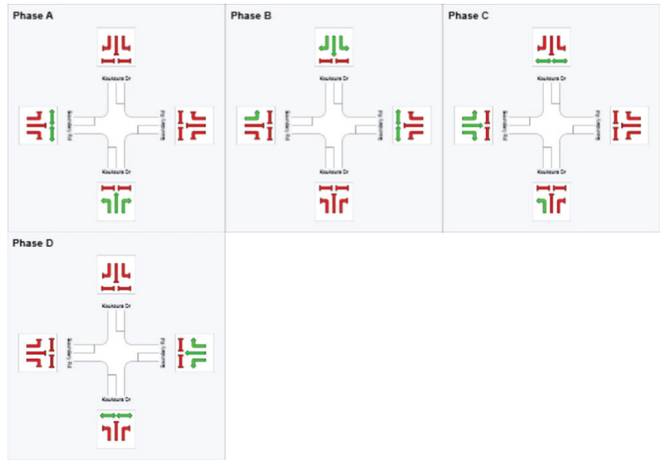
Site: Intersection 20 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 110 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Split Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	40	65	86
Green Time (sec)	34	19	15	18
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	40	25	21	24
Phase Split	36 %	23 %	19 %	22 %

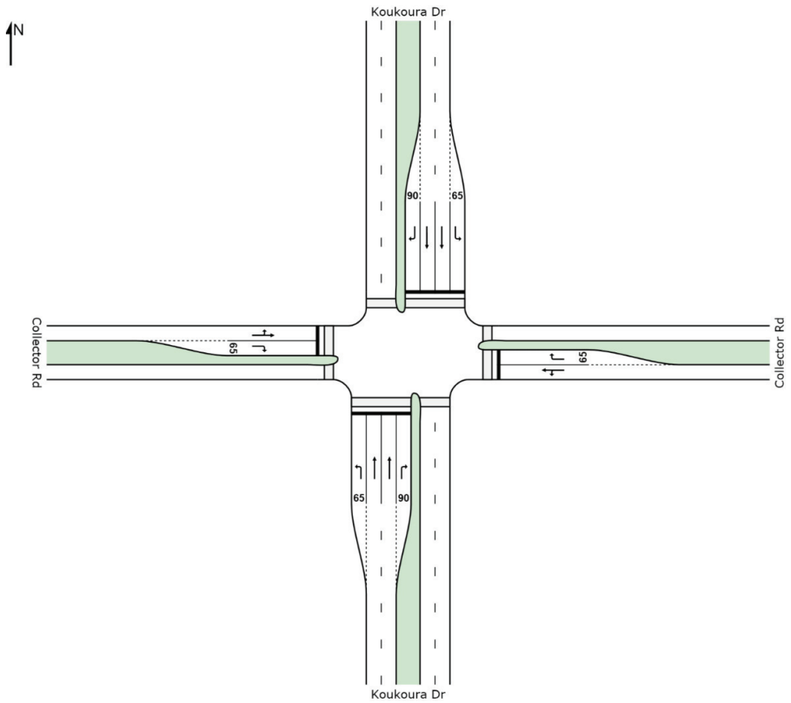


SIDRA INTERSECTION 6

SITE LAYOUT

Site: Intersection 21 PM Ultimate

New Site
Signals - Fixed Time



SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: Intersection 21 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Koukoura Dr											
1	L2	167	6.0	0.158	18.7	LOS B	4.3	31.7	0.48	0.73	46.5
2	T1	1181	6.0	0.794	29.2	LOS C	28.3	208.4	0.85	0.78	48.8
3	R2	183	6.0	0.771	65.9	LOS E	11.1	81.9	1.00	0.87	29.1
Approach		1531	6.0	0.794	32.4	LOS C	28.3	208.4	0.83	0.79	44.9
East: Collector Rd											
4	L2	59	6.8	0.396	55.4	LOS E	5.7	42.1	0.95	0.77	31.0
5	T1	46	6.5	0.396	50.8	LOS D	5.7	42.1	0.95	0.77	29.0
6	R2	49	6.1	0.330	62.9	LOS E	2.8	20.8	0.98	0.74	28.8
Approach		154	6.5	0.396	56.4	LOS E	5.7	42.1	0.96	0.76	29.6
North: Koukoura Dr											
7	L2	51	5.9	0.048	17.8	LOS B	1.2	9.0	0.44	0.70	47.0
8	T1	627	6.1	0.365	22.5	LOS C	11.8	86.8	0.69	0.60	53.6
9	R2	151	6.0	0.636	62.0	LOS E	8.7	63.9	1.00	0.82	30.0
Approach		829	6.0	0.636	29.4	LOS C	11.8	86.8	0.73	0.65	46.5
West: Collector Rd											
10	L2	164	6.1	0.747	58.6	LOS E	13.3	97.9	1.00	0.89	30.0
11	T1	62	6.5	0.747	54.0	LOS D	13.3	97.9	1.00	0.89	28.1
12	R2	119	5.9	0.801	69.7	LOS E	7.5	55.5	1.00	0.93	27.3
Approach		345	6.1	0.801	61.6	LOS E	13.3	97.9	1.00	0.90	28.7
All Vehicles		2859	6.1	0.801	36.3	LOS D	28.3	208.4	0.83	0.76	41.3

Level of Service (LOS) Method: Delay (HCM 2000).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P11	South Stage 1	20	54.2	LOS E	0.1	0.1	0.95	0.95
P12	South Stage 2	20	49.5	LOS E	0.1	0.1	0.91	0.91
P21	East Stage 1	20	19.9	LOS B	0.0	0.0	0.58	0.58
P22	East Stage 2	20	18.7	LOS B	0.0	0.0	0.56	0.56
P31	North Stage 1	20	54.2	LOS E	0.1	0.1	0.95	0.95
P32	North Stage 2	20	49.5	LOS E	0.1	0.1	0.91	0.91
P41	West Stage 1	20	19.9	LOS B	0.0	0.0	0.58	0.58
P42	West Stage 2	20	18.7	LOS B	0.0	0.0	0.56	0.56
All Pedestrians		160	35.6	LOS D			0.75	0.75

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.

SIDRA INTERSECTION 6

PHASING SUMMARY

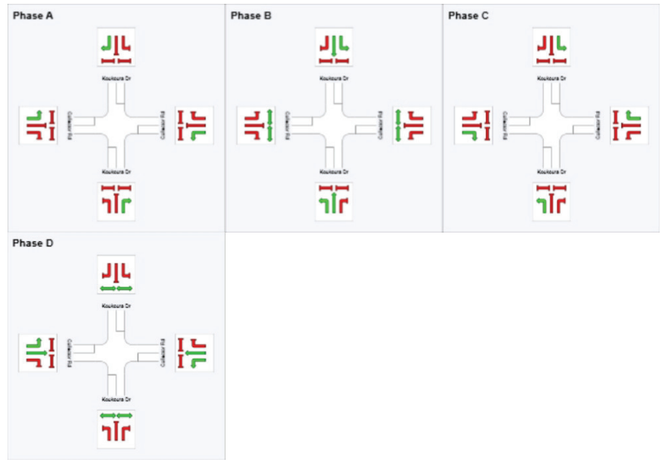
Site: Intersection 21 PM Ultimate

New Site
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Phase times determined by the program
Sequence: Variable Phasing
Movement Class: All Movement Classes
Input Sequence: A, B, C, D
Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	22	83	99
Green Time (sec)	16	55	10	15
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	22	61	16	21
Phase Split	18 %	51 %	13 %	18 %



SIDRA INTERSECTION 6