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Our Reference: P3134.002L
Your Reference:

3 September 2018

Tian An Enfield Pty Ltd

Attention: **Paul Georgiades**
Sent via email: pgeorgiades@tianan.com.au

Dear Paul,

RE: 4 MITCHELL STREET, ENFIELD TIA – ADDITIONAL SUPPLEMENTARY INFORMATION FOR TRAFFIC

The following information has been provided in response to the statements made at the Burwood Local Planning Panel meeting on 14 August 2018 in relation to our Traffic Impact Assessment (TIA) report dated 18 May 2018 for the above development. Quotes from the panel's minutes are italicised followed by our response to each particular issue raised.

Baker Street ingress/egress and local street capacity

1. *The ingress/egress from Baker Street and the impact in the limited available capacity of nearby local streets*

Bitzios Consulting response:

Historic Journey to Work data was used to estimate that only 19% of development trips would be to the west, generating up to 22 peak trips via Baker Street. The existing Vision Australia traffic on Baker Street from traffic surveys in September 2017 was 9 vehicles per hour in the AM and PM peaks. Therefore, traffic on Baker Street is only expected to increase by 13 peak trips.

Bitzios Consulting undertook spot checks at the Baker Street/Ann Street intersection between 8:00am and 8:30am on Friday 31 August 2018. During that period, around 40-50 vehicles were recorded turning right from Ann Street westbound into Baker Street and the same amount turning left from Baker Street southbound into Ann Street, totalling approximately 200 vehicles per hour.

There was very minor traffic using Baker Street south of Ann Street, which has six low-density dwellings, which would each generate one peak trip.

Table 4.6 of the *RMS Guide to Traffic Generating Developments (2002)* stipulates that a maximum 300 vehicles per hour is considered the standard environmental capacity for 50km/h local streets. Based on the above observations and expected traffic distribution, the development is unlikely to increase traffic volumes on Baker Street and nearby local streets beyond this environmental goal nor impact their capacity, particularly given the Baker Street/Ann Street intersection is where traffic from the development starts to split and distribute into the road network.

Cumulative impact of Flower Power site development on Mitchell Street

2. *The cumulative impact on Mitchell [Street] from the development of the Flower Power Site*

Bitzios Consulting response:

AM, PM, and Saturday peak traffic surveys were undertaken at the Flower Power driveway on Wednesday 29 August 2018 and on Saturday 1 September 2018. The results below show volumes for Mitchell Street turning left into the driveway and the Flower Power driveway turning right into Mitchell Street for each peak. These volumes were discounted from the existing Mitchell Street traffic at Burwood Road before traffic modelling was undertaken with future development traffic.

Table 4.1: Flower Power Driveway Existing Traffic

Movement	AM Peak	PM Peak	Saturday Peak
Mitchell Street left into driveway	16	43	92
Flower Power driveway right into Mitchell Street	10	39	58

The proposed Flower Power site development is expected to generate 149 trips; these were added to the "with development" for all peak scenarios.

4 Mitchell Street is expected to generate the following traffic.

Land Use	Dwellings/GFA	AM Peak Trip Generation Rate	PM Peak Trip Generation Rate	AM Peak Generated Traffic Volume	PM Peak Generated Traffic Volume	Sat Peak Generated Traffic Volume
EXISTING SITE						
Surveyed Trip Generation Aug 2017	N/A	34 trips to site, 11 trips from site, total 45 trips	27 total	45 trips	27	0
PROPOSED DEVELOPMENT						
One and Two Bedroom Residential Units	156	0.5/dwelling	0.5/dwelling	78 trips	78 trips	78 trips
Three Bedroom Residential Units	27	0.65/dwelling	0.65/dwelling	18 trips	18 trips	18 trips
Retail	400m^2	-	5/100m^2	4 trips	20 trips	20 trips
			Total proposed trips	**100 trips**	**116 trips**	**116 trips**
			Net trips	**55 trips**	**89 trips**	**89 trips**

As with our previous traffic assessment, the existing Vision Australia traffic was not subtracted from the traffic volumes used in the traffic models, so the modelling outcomes are a conservative assessment of the future traffic operation.

Also, as with our previous assessment, traffic distribution from both proposed residential developments is conservatively skewed for a higher than expected proportion of traffic using the Mitchell Street/ Burwood Road intersection as follows:

- Traffic to and from the east on Mitchell Street is 55% of the development traffic, with the remaining 45% to and from the west.
- Traffic travelling to the site versus traffic travelling from the site is split of 30:70 during the AM peak, 70:30 during the PM peak, and 40:60 during the Saturday peak due to the primarily residential nature of the site.

- For traffic travelling to the proposed site via Mitchell Street from Burwood Road, based on the traffic counts it is assumed that 80% of the trips will be from the north (Hume Highway and Burwood Town Centre), while the remaining 20% will be from the south (Georges River Road and Campsie Town Centre).
- For traffic travelling from the proposed site via Mitchell Street to Burwood Road, based on historic Journey to Work data, it is assumed that 45% of the trips will be to the north (Hume Highway and Burwood Town Centre), while the remaining 55% will be to the south (Georges River Road and Campsie Town Centre).

The table below summarises the 2022 and 2027 AM, PM and Saturday peak SIDRA results with both developments (4 Mitchell Street and Flower Power). All scenarios use an Optimum Cycle Time of 120 seconds with minimum cycle times inputted to optimise results. The movement and phasing summaries for each peak are provided in **Attachment 1** and the SIDRA files are also provided.

Table 4.2: Burwood Road/Mitchell Street SIDRA Results Summary – With Development

Scenario	Level of Service (LoS)	Average Delay (sec/veh)	95th Percentile Queue (m)	Degree of Saturation (v/c)
AM 2022 With Development	A	14.5	70	0.60
PM 2022 With Development	A	14	69	0.87
Saturday 2022 With Development	A	14	89	0.84
AM 2027 With Development	B	16	96	0.77
PM 2027 With Development	A	10	48	0.83
Saturday 2027 With Development	B	15	102	0.86

The SIDRA outputs for the future operation of the Burwood Road/Mitchell Street signalised intersection show that it is expected to operate within acceptable LoS B and 0.90 practical capacity in all scenarios. The range of average delay of LoS B is 15 to 28 seconds; the two scenarios shown to operate at LoS B are at the lower end of this range.

Again, it is noted that the above results assume conservative assumptions for the future traffic generation and distribution.

Therefore, based on the SIDRA analysis and site observations, it is expected that both developments can be adequately catered for by the Burwood Road/Mitchell Street signalised intersection and the surrounding road network.

I trust that the above supplementary information is suitable to complete Council's review of the traffic impacts of the proposed development.

Yours faithfully

Tom Wheatley
Manager – Sydney, Principal Traffic Engineer
BITZIOS CONSULTING

Attachments:
- *SIDRA Outputs*

ATTACHMENT 1

SIDRA OUTPUTS

MOVEMENT SUMMARY

Site: 101 [Burwood Road & Mitchell Street_AM Peak 2022 With Development]

0745 - 0845
Signals - Fixed Time Coordinated Cycle Time = 85 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Burwood Road											
9	L2	54	5.6	0.142	13.0	LOS A	1.9	13.6	0.36	0.44	32.7
8	T1	557	3.2	0.600	10.2	LOS A	9.3	66.9	0.48	0.44	31.2
Approach		611	3.4	0.600	10.5	LOS A	9.3	66.9	0.47	0.44	31.4
North: Burwood Road											
2	T1	455	6.2	0.529	6.0	LOS A	9.7	70.4	0.48	0.46	35.5
1	R2	152	1.3	0.529	11.9	LOS A	9.7	70.4	0.56	0.56	29.0
Approach		607	4.9	0.529	7.4	LOS A	9.7	70.4	0.50	0.49	33.9
West: Mitchell Street											
12	L2	279	1.1	0.575	28.4	LOS B	9.2	64.7	0.83	0.79	16.0
10	R2	94	2.1	0.456	44.3	LOS D	3.8	27.3	0.97	0.77	15.9
Approach		373	1.3	0.575	32.4	LOS C	9.2	64.7	0.87	0.79	16.0
All Vehicles		1591	3.5	0.600	14.5	LOS A	9.7	70.4	0.58	0.54	26.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	22	36.7	LOS D	0.0	0.0	0.93	0.93
P4	West Full Crossing	11	14.1	LOS B	0.0	0.0	0.58	0.58
All Pedestrians		33	29.2	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.

PHASING SUMMARY

Site: 101 [Burwood Road & Mitchell Street_AM Peak 2022 With Development]

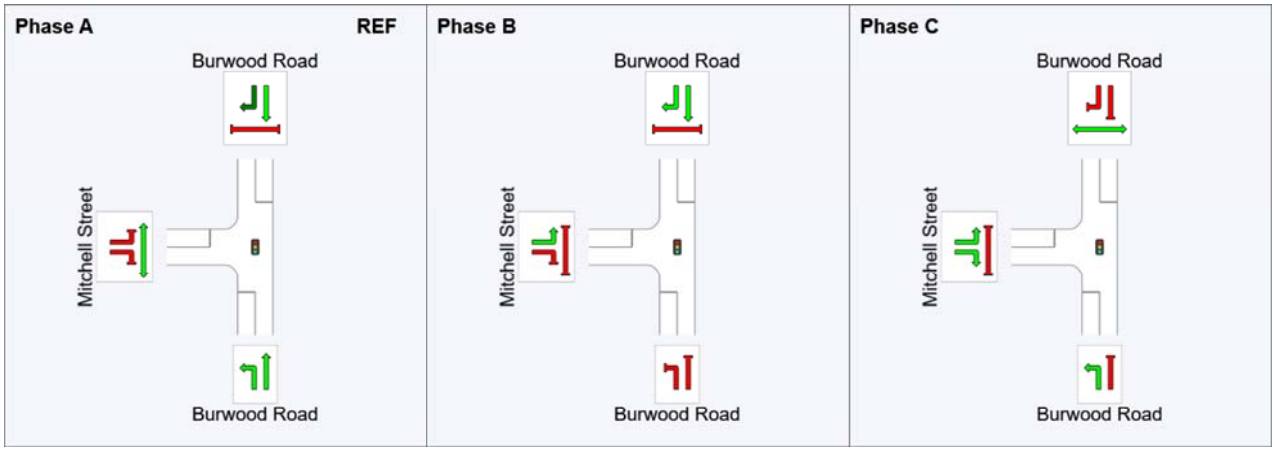
0745 - 0845
Signals - Fixed Time Coordinated Cycle Time = 85 seconds (Optimum Cycle Time - Minimum Delay)

Phase Times determined by the program
Green Split Priority applies
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Phase Change Time (sec)	0	50	69
Green Time (sec)	44	13	10
Phase Time (sec)	50	19	16
Phase Split	59%	22%	19%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 101 [Burwood Road & Mitchell Street_AM Peak 2027 With Development]

0745 - 0845
Signals - Fixed Time Coordinated Cycle Time = 75 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Burwood Road											
9	L2	56	5.4	0.184	17.0	LOS B	2.5	18.0	0.51	0.52	29.1
8	T1	584	3.3	0.774	17.3	LOS B	13.4	96.1	0.69	0.66	24.9
Approach		640	3.4	0.774	17.3	LOS B	13.4	96.1	0.67	0.65	25.3
North: Burwood Road											
2	T1	476	6.1	0.528	6.1	LOS A	9.9	72.3	0.51	0.48	35.3
1	R2	158	1.3	0.528	12.4	LOS A	9.9	72.3	0.61	0.59	28.4
Approach		634	4.9	0.528	7.7	LOS A	9.9	72.3	0.53	0.50	33.6
West: Mitchell Street											
12	L2	290	1.0	0.507	21.3	LOS B	7.5	53.1	0.75	0.77	19.0
10	R2	97	2.1	0.691	45.2	LOS D	3.9	27.5	1.00	0.86	15.7
Approach		387	1.3	0.691	27.3	LOS B	7.5	53.1	0.81	0.79	17.8
All Vehicles		1661	3.5	0.774	16.0	LOS B	13.4	96.1	0.65	0.63	25.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	22	31.8	LOS D	0.0	0.0	0.92	0.92
P4	West Full Crossing	11	17.3	LOS B	0.0	0.0	0.68	0.68
All Pedestrians		33	27.0	LOS C			0.84	0.84

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: 101 [Burwood Road & Mitchell Street_AM Peak 2027 With Development]

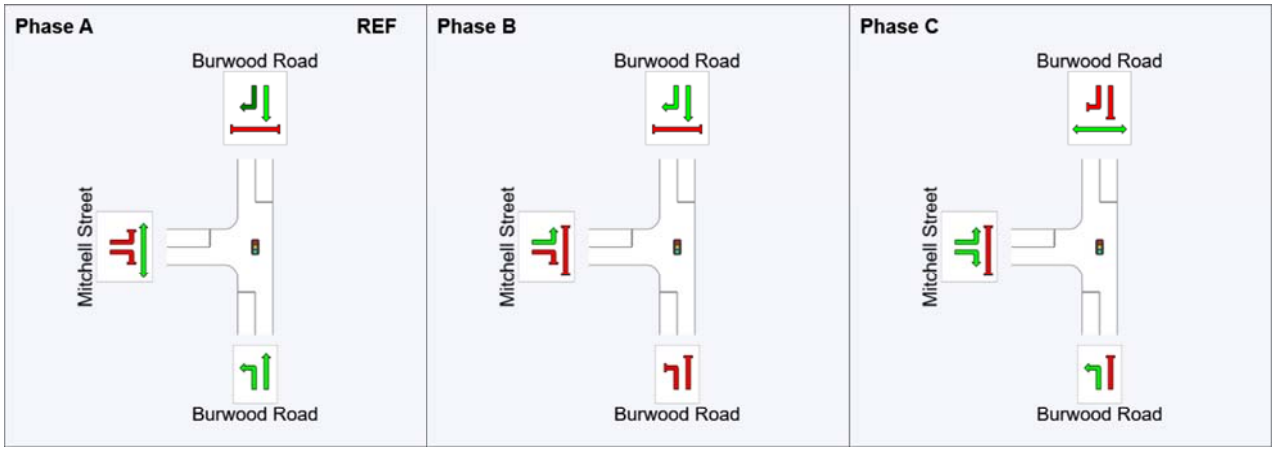
0745 - 0845
Signals - Fixed Time Coordinated Cycle Time = 75 seconds (Optimum Cycle Time - Minimum Delay)

Phase Times determined by the program
Green Split Priority applies
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Phase Change Time (sec)	0	38	63
Green Time (sec)	32	19	6
Phase Time (sec)	38	25	12
Phase Split	51%	33%	16%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 101 [Burwood Road & Mitchell Street_PM Peak 2022 With Development]

1700 - 1800
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Burwood Road											
9	L2	37	0.0	0.206	32.7	LOS C	3.0	21.4	0.98	0.77	20.4
8	T1	379	3.2	0.869	36.5	LOS C	12.3	88.5	1.00	0.95	16.1
Approach		416	2.9	0.869	36.1	LOS C	12.3	88.5	1.00	0.94	16.5
North: Burwood Road											
2	T1	651	2.8	0.702	0.4	LOS A	1.3	9.4	0.06	0.25	45.5
1	R2	290	0.7	0.702	5.1	LOS A	1.3	9.4	0.07	0.35	39.9
Approach		941	2.1	0.702	1.9	LOS A	1.3	9.4	0.06	0.28	43.9
West: Mitchell Street											
12	L2	132	0.0	0.130	12.0	LOS A	2.1	14.5	0.49	0.67	25.4
10	R2	77	3.9	0.519	40.6	LOS C	2.7	19.9	1.00	0.77	16.8
Approach		209	1.4	0.519	22.5	LOS B	2.7	19.9	0.68	0.71	20.5
All Vehicles		1566	2.2	0.869	13.7	LOS A	12.3	88.5	0.39	0.51	27.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	19	29.3	LOS C	0.0	0.0	0.92	0.92
P4	West Full Crossing	5	25.7	LOS C	0.0	0.0	0.86	0.86
All Pedestrians		24	28.5	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.

PHASING SUMMARY

Site: 101 [Burwood Road & Mitchell Street_PM Peak 2022 With Development]

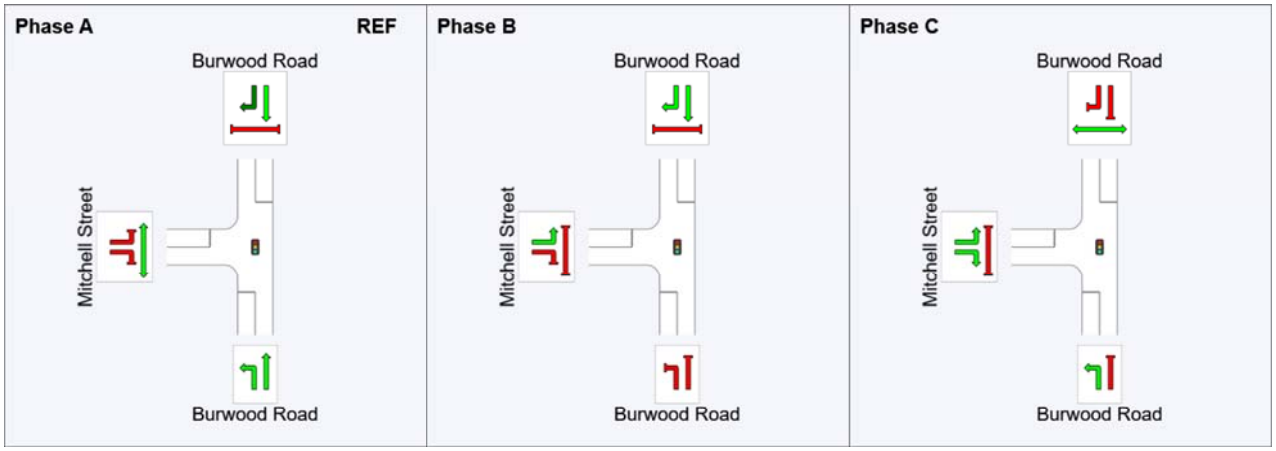
1700 - 1800
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Optimum Cycle Time - Minimum Delay)

Phase Times determined by the program
Green Split Priority applies
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Phase Change Time (sec)	0	24	58
Green Time (sec)	18	28	6
Phase Time (sec)	24	34	12
Phase Split	34%	49%	17%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 101 [Burwood Road & Mitchell Street_PM Peak 2027 With Development]

1700 - 1800
Signals - Fixed Time Coordinated Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Burwood Road											
9	L2	37	0.0	0.198	35.5	LOS C	1.6	11.3	1.00	0.75	18.9
8	T1	197	6.6	0.834	36.4	LOS C	6.5	48.0	1.00	0.91	16.1
Approach		234	5.6	0.834	36.3	LOS C	6.5	48.0	1.00	0.89	16.6
North: Burwood Road											
2	T1	682	2.8	0.688	0.4	LOS A	1.2	8.3	0.06	0.25	45.6
1	R2	300	0.7	0.688	5.0	LOS A	1.2	8.3	0.07	0.33	40.2
Approach		982	2.1	0.688	1.8	LOS A	1.2	8.3	0.06	0.27	44.0
West: Mitchell Street											
12	L2	137	0.0	0.116	8.9	LOS A	1.6	11.1	0.39	0.64	28.5
10	R2	79	3.8	0.494	37.5	LOS C	2.6	18.8	0.99	0.76	17.7
Approach		216	1.4	0.494	19.3	LOS B	2.6	18.8	0.61	0.69	22.2
All Vehicles		1432	2.6	0.834	10.1	LOS A	6.5	48.0	0.30	0.44	30.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	19	26.8	LOS C	0.0	0.0	0.91	0.91
P4	West Full Crossing	5	26.8	LOS C	0.0	0.0	0.91	0.91
All Pedestrians		24	26.8	LOS C			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: 101 [Burwood Road & Mitchell Street_PM Peak 2027 With Development]

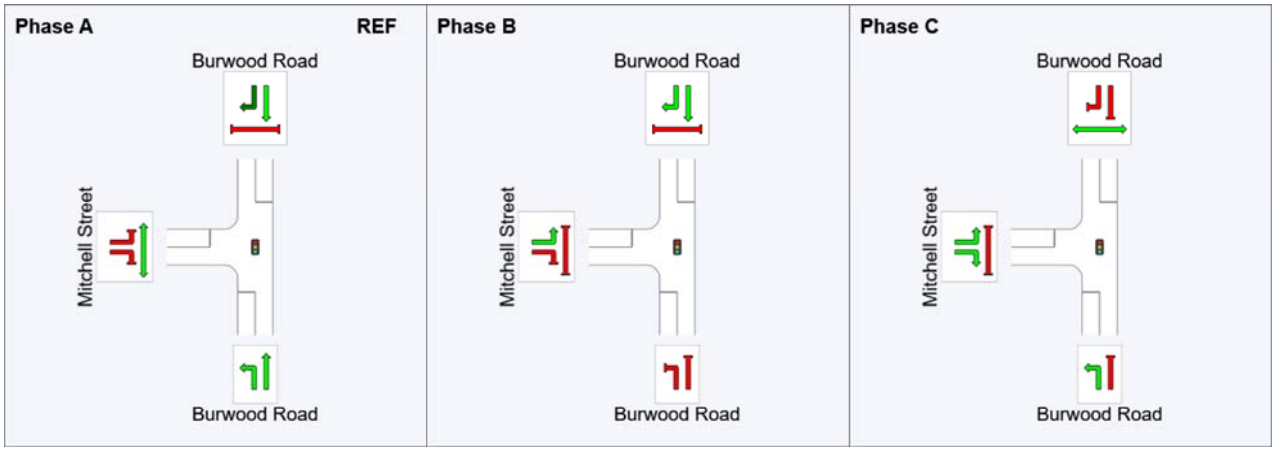
1700 - 1800
Signals - Fixed Time Coordinated Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

Phase Times determined by the program
Green Split Priority applies
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Phase Change Time (sec)	0	16	53
Green Time (sec)	10	31	6
Phase Time (sec)	16	37	12
Phase Split	25%	57%	18%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 101 [Burwood Road & Mitchell Street_SAT Peak 2022 With Development]

1115 - 1215
Signals - Fixed Time Coordinated Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Burwood Road											
9	L2	35	0.0	0.200	26.6	LOS B	3.0	21.6	0.96	0.77	23.3
8	T1	463	2.8	0.841	28.9	LOS C	12.4	88.7	0.99	0.93	18.7
Approach		498	2.6	0.841	28.7	LOS C	12.4	88.7	0.99	0.92	19.0
North: Burwood Road											
2	T1	566	2.8	0.624	1.3	LOS A	3.2	22.8	0.16	0.26	43.7
1	R2	191	1.0	0.624	6.4	LOS A	3.2	22.8	0.21	0.35	37.6
Approach		757	2.4	0.624	2.6	LOS A	3.2	22.8	0.17	0.28	42.2
West: Mitchell Street											
12	L2	197	0.0	0.221	13.7	LOS A	3.3	22.8	0.60	0.71	23.9
10	R2	83	2.4	0.474	34.5	LOS C	2.5	17.9	0.98	0.76	18.6
Approach		280	0.7	0.474	19.9	LOS B	3.3	22.8	0.71	0.72	21.5
All Vehicles		1535	2.1	0.841	14.2	LOS A	12.4	88.7	0.54	0.57	26.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	18	24.3	LOS C	0.0	0.0	0.90	0.90
P4	West Full Crossing	4	20.8	LOS C	0.0	0.0	0.83	0.83
All Pedestrians		22	23.7	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.

PHASING SUMMARY

Site: 101 [Burwood Road & Mitchell Street_SAT Peak 2022 With Development]

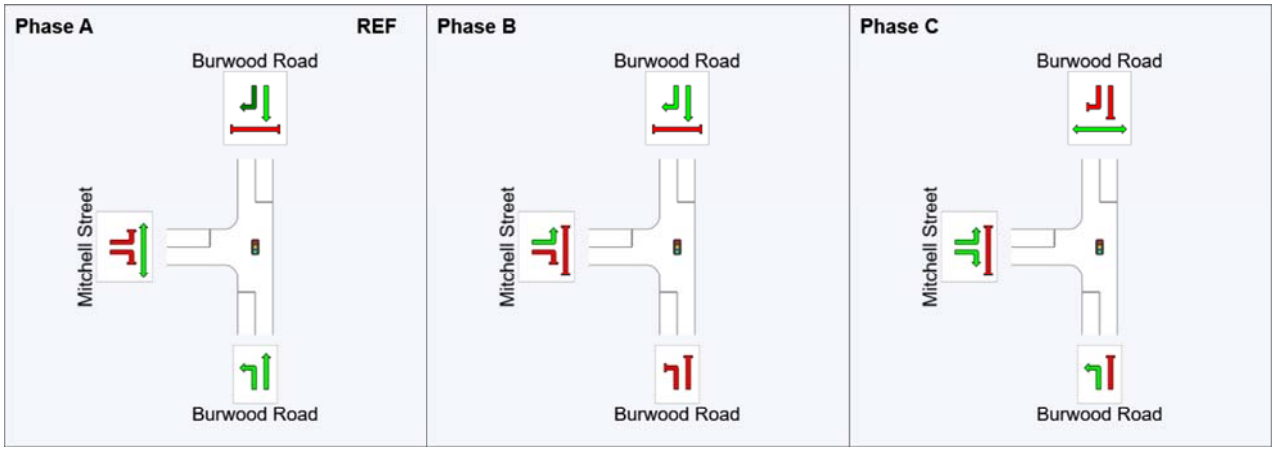
1115 - 1215
Signals - Fixed Time Coordinated Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

Phase Times determined by the program
Green Split Priority applies
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

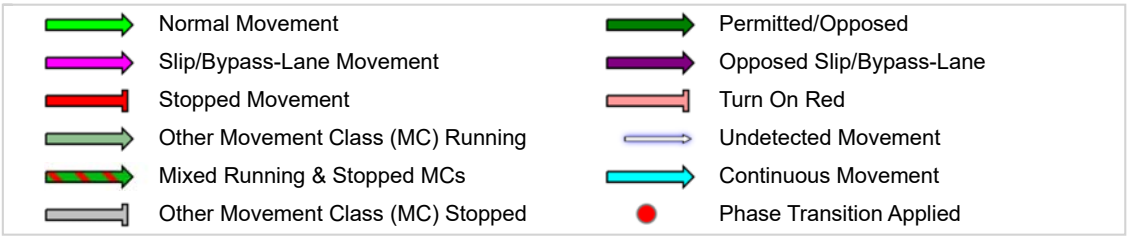
Phase Timing Results

Phase	A	B	C
Phase Change Time (sec)	0	24	48
Green Time (sec)	18	18	6
Phase Time (sec)	24	24	12
Phase Split	40%	40%	20%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



REF: Reference Phase
VAR: Variable Phase



MOVEMENT SUMMARY

Site: 101 [Burwood Road & Mitchell Street_SAT Peak 2027 With Development]

1115 - 1215
Signals - Fixed Time Coordinated Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Burwood Road											
9	L2	36	0.0	0.205	28.1	LOS B	3.4	24.5	0.96	0.78	22.6
8	T1	485	2.9	0.864	31.9	LOS C	14.2	102.0	0.99	0.95	17.6
Approach		521	2.7	0.864	31.6	LOS C	14.2	102.0	0.99	0.94	17.9
North: Burwood Road											
2	T1	593	2.9	0.630	0.9	LOS A	2.3	16.7	0.11	0.23	44.8
1	R2	197	1.0	0.630	5.7	LOS A	2.3	16.7	0.14	0.32	39.0
Approach		790	2.4	0.630	2.1	LOS A	2.3	16.7	0.11	0.25	43.4
West: Mitchell Street											
12	L2	248	0.0	0.348	14.5	LOS A	4.5	31.6	0.61	0.72	23.3
10	R2	85	2.4	0.526	37.7	LOS C	2.8	20.1	0.99	0.78	17.6
Approach		333	0.6	0.526	20.4	LOS B	4.5	31.6	0.71	0.73	21.0
All Vehicles		1644	2.1	0.864	15.2	LOS B	14.2	102.0	0.51	0.57	25.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	18	26.8	LOS C	0.0	0.0	0.91	0.91
P4	West Full Crossing	4	21.6	LOS C	0.0	0.0	0.82	0.82
All Pedestrians		22	25.9	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.

PHASING SUMMARY

Site: 101 [Burwood Road & Mitchell Street_SAT Peak 2027 With Development]

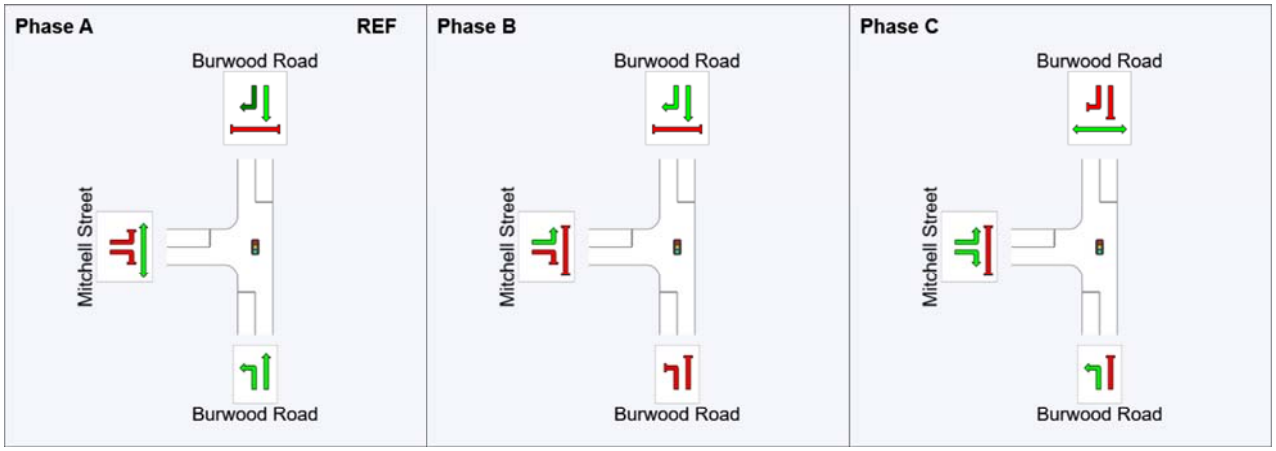
1115 - 1215
Signals - Fixed Time Coordinated Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

Phase Times determined by the program
Green Split Priority applies
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Results

Phase	A	B	C
Phase Change Time (sec)	0	26	53
Green Time (sec)	20	21	6
Phase Time (sec)	26	27	12
Phase Split	40%	42%	18%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied