JMT Consulting
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Department of Planning, Housing and Infrastructure

27 February 2026

Dear Sir / Madam

This document provides responses to the traffic and transport related matters raised by the Department of Planning, Housing and Infrastructure (DPHI) and Bayside Council (Council) in their submissions to the site 68-80 Beauchamp Road, Hillsdale (SSD –83256478).

The relevant comments and associated responses are outlined in the tables on the following pages of this document.

Please do not hesitate to contact the undersigned should you have any questions in relation to this advice.

Regards

Josh Milston

Director | JMT Consulting

MIEAust CPEng

Table 1: Responses to DPHI comments

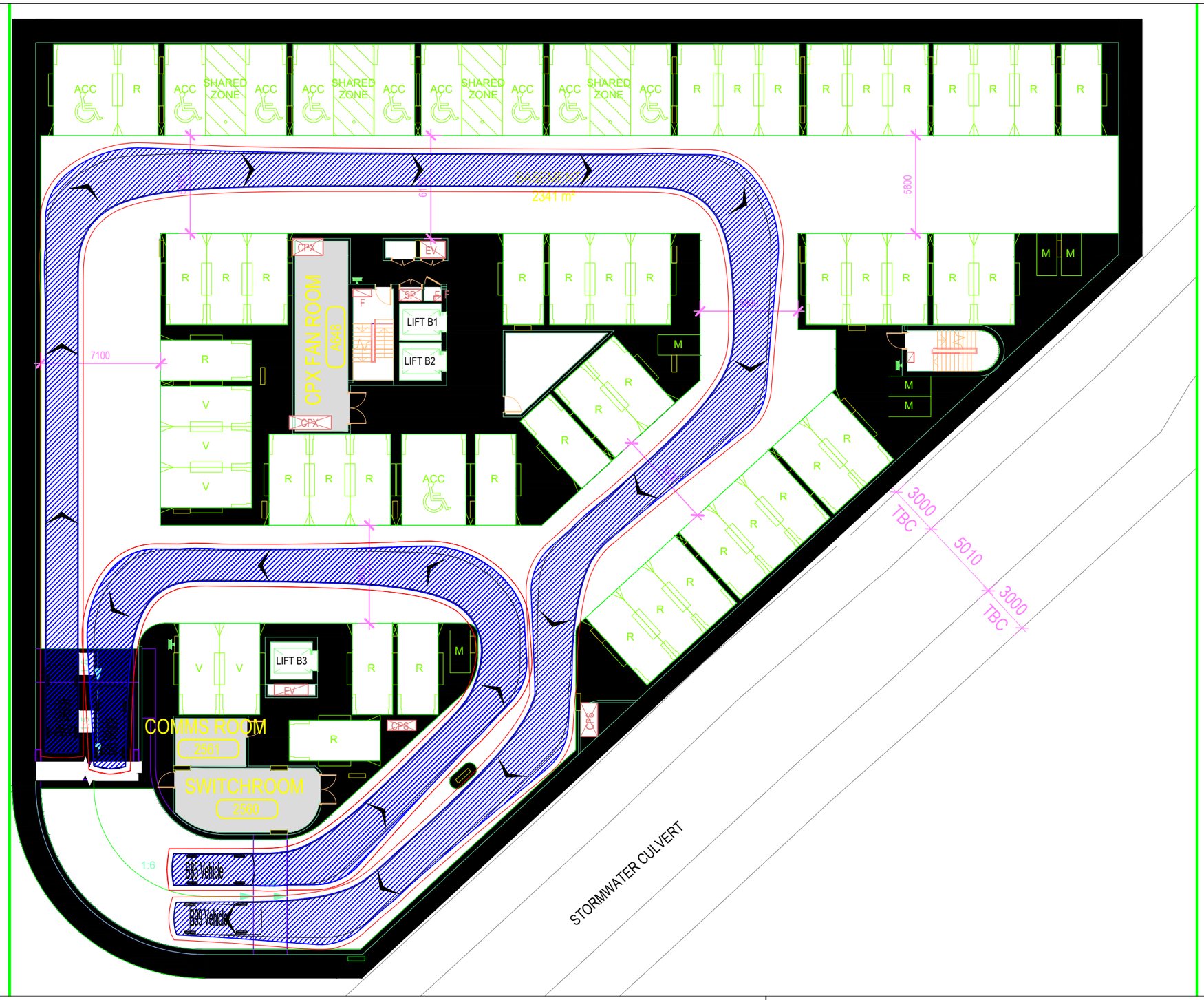
DPHI Comment	JMT Consulting Response
The proposed driveway access location is prohibited under Section 3.2.3 of the Australian Standard 2890.1:2004 (AS 2890.1:2004) as it is approximately 3 m from the tangent point of Jennings Street. Please revise the driveway layout to satisfy the provisions of AS 2890.1:2004 as detailed in Figure 1 below.	It is acknowledged the proposed driveway location is strictly not in full alignment with Figure 3.1 of AS2890.1. The Australian Standards notes that discretion must be applied in certain circumstances in the design of car parking areas and can not be applied simply as a 'textbook'. The foreword of AS2890.1 notes the following "*the success of a parking development requires an efficient design. It must represent a balance between function, economics, safety and aesthetics. Consideration must be given to the speed and quality of parking service, the traffic circulation, access to and from the street, the external traffic network, car manoeuvring, and convenience ……...The services of a qualified person experienced in designing car parking facilities should be sought in the application of this document*". The proposed driveway location aligns with existing access point for the site and is considered suitable for the proposed development given: • There is no historical record of any crash history at this existing driveway location. • Jennings Street is a low volume, quiet local street and therefore the impact of traffic movements from the proposed driveway on this local road would be low. • The proposed location of the driveway is towards the lowest point of the site and provides for the shallowest driveway gradient. This results in minimal gradients for vehicles and therefore provides for the best driver / pedestrian safety outcome, with drivers able to easily sight pedestrians walking along Beauchamp Road. • Retaining the current driveway location results in no impacts to adjacent on-street car parking or other existing Council infrastructure • The proposed development generates very few traffic movements and therefore the minor non-compliance would not result in significant traffic impacts. If the driveway were to be relocated further east on Beauchamp Road this would trigger significant design implications, as follows: • Loss of ground floor social housing units as the current driveway location provides the only position where a double height space can be provided for built form • Increases the extent of hardstand coverage within the site including the extent of the bridge over the existing Sydney Water asset • Potential impacts to existing streets trees / proposed landscaped zone along Beauchamp Road • Potential adverse impacts on flood modelling In the above context it is considered appropriate to retain the proposed driveway location on Beauchamp Road.
Provide swept paths for all basement areas.	Swept paths have been provided as per Appendix A of this document. Basement swept paths will be the subject of further design resolution during the detailed design phase of the project, with sign off from a suitably qualified engineer required to confirm the layout conforms with the requirements of AS2890.1 prior to the issue of a Construction Certificate. It would be expected this requirement would be reinforced through a suitably worded consent condition.

Table 2: Responses to Council comments

Council Comment	JMT Consulting Response
Driveway location: • The driveway for the development needs to be confirmed to not be a prohibited location as per Figure 3.1 of AS2890.1:2004.	Refer to response to first DPHI traffic related comment
Swept path diagrams: • The traffic report must be amended to include full page scaled swept path drawings in the appendix to enable an assessment by council. • The swept paths in the submitted traffic report are limited in detail/ pixel resolution, so Council are unable to assess the swept paths. • These swept paths are to include the road line marking, traffic signage, and street parking etc. • The swept paths need to include a legend that provides full details of the swept path vehicle.	Swept paths have been provided as per Appendix A of this document. Basement swept paths will be the subject of further design resolution during the detailed design phase of the project, with sign off from a suitably qualified engineer required to confirm the layout conforms with the requirements of AS2890.1 prior to the issue of a Construction Certificate. It would be expected this requirement would be reinforced through a suitably worded consent condition.
Driveway design: • A longitudinal driveway profile prepared by a civil engineer shall be provided for the proposed driveway with a vertical ground clearance test of the largest vehicle proposed to use the driveway (Council garbage truck as detailed in Section 13.5 of Bayside Waste Management Technical Specification). • A longitudinal section plotting headroom clearance along the travel path of the service vehicle(s) is to be provided. • It must be demonstrated that a safe headroom clearance of 4.5m is achieved along the entire travel path, parking, and manoeuvring areas of the MRV and Council garbage truck within the development.	Refer to civil engineering drawings prepared by Mott Macdonald for response to this item. The Council waste collection vehicle will not physically enter the building basement and therefore be afforded with unconstrained headheight along its path of travel.

Council Comment	JMT Consulting Response
SIDRA modelling: • The SIDRA modelling presented in the appendix of the traffic report needs to be revised to be accompanied by Intersection Layouts and Phasing Summary.	Additional SIDRA modelling outputs are provided as Appendix B of this document as requested by Council.
Bicycle and motorcycle parking: • The development shall be revised to provide bicycle and motorcycle parking as per Bayside DCP, Section 3.5.4. • The number of bicycle and motorcycle spaces shall be clearly shown on the architectural plans. • The architectural plans do not include an appropriate area for resident and visitor bicycle parking. Council requires a secure room (Security Level B) for resident bicycle parking designed as per AS2890.3.	The Bayside DCP outlines minimum bicycle parking requirements for residential developments - to be provided at the rate of 1 space for every dwelling. 192 bicycle parking spaces for residents are indicated on the architectural plans, including 14 at ground level for the use of visitors to the site. The remaining 178 spaces are provided in storage areas within each residential level of the buildings. This is consistent with a Security Level A facility as described in AS2890.3 and therefore conforms with relevant Australian Standards.

Appendix A: Swept Path Diagrams



Job Title
68-80 BEAUCHAMP RD, HILLSDALE

Drawing Title
Turning Paths

Client
HOMES NSW

Drawing No
2538_H_03

Date
27.02.26

Legend
- Body Envelope
- 300mm Envelope
- Wheel Envelope

Job No
2538

Scale at A3
1:250

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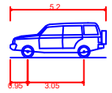
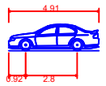
Vehicle type(s)



B99 Vehicle (AS2890.1) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m



B85 Vehicle (AS2890.1)

Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.120m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.750m

Job Title
68-80 BEAUCHAMP RD, HILLSDALE

Drawing Title
Turning Paths

Client
HOMES NSW

Drawing No
2538_H_04

Date
27.02.26

Legend
Body Envelope
300mm Envelope
Wheel Envelope

Job No
2538

Scale at A3
1:250

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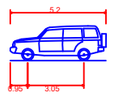
Vehicle type(s)



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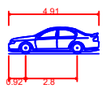

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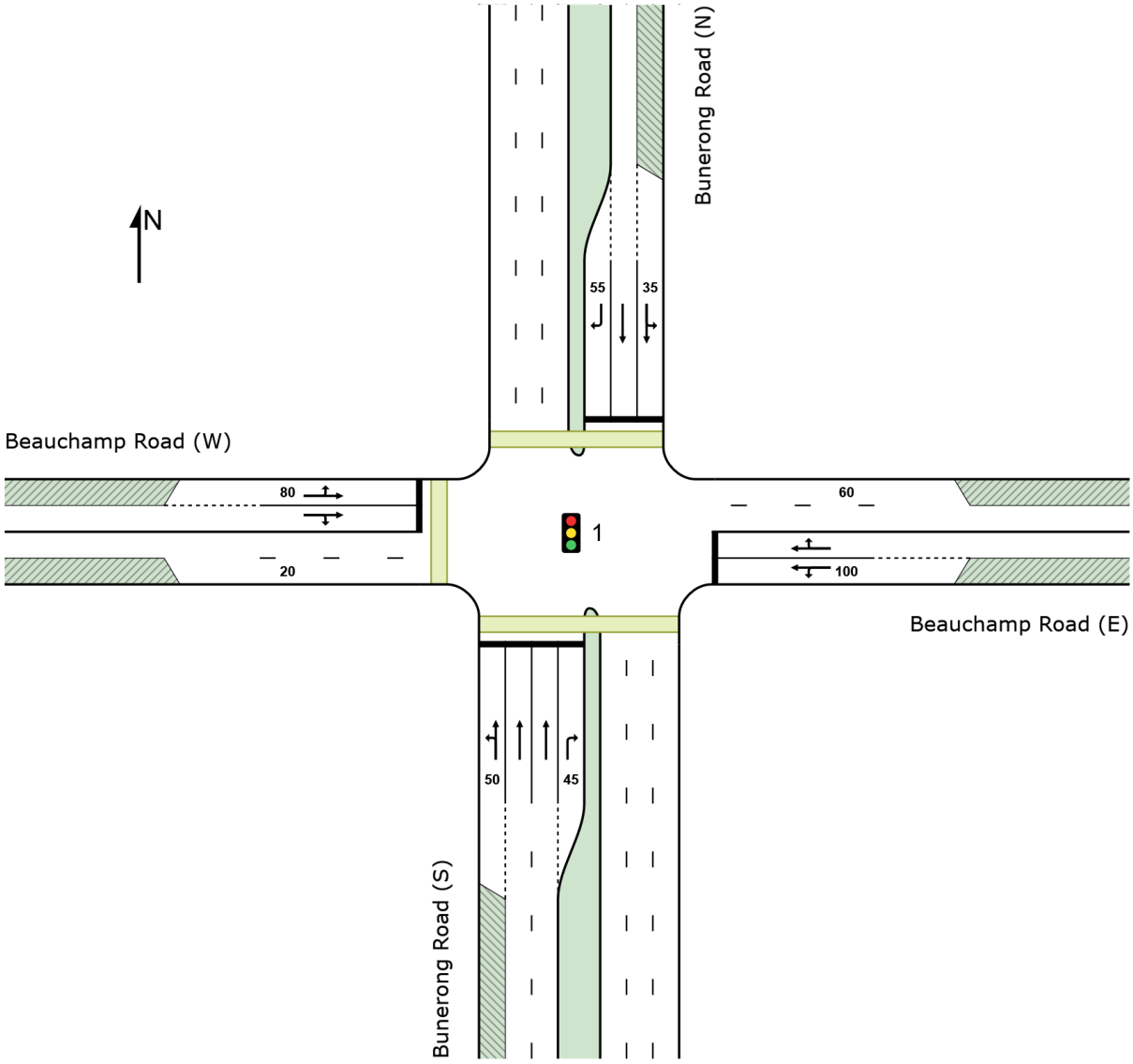
Appendix B: SIDRA Modelling Outputs

SITE LAYOUT

Site: [1] AM Existing (Beauchamp / Bunnerong)

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



PHASING SUMMARY

Site: [1] AM Existing (Beauchamp / Bunnerong)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110.0 seconds (Site User-Given Cycle Time)
Site Scenario: 1 | Local Volumes

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase B

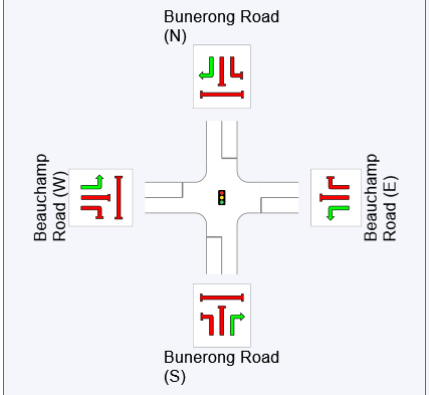
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	95.5	0.0	34.2	65.1
Green Time (sec)	8.5	28.2	24.9	24.4
Phase Time (sec)	14.5	34.2	30.9	30.4
Phase Split	13%	31%	28%	28%
Phase Frequency (%)	100.0	100.0	100.0	100.0

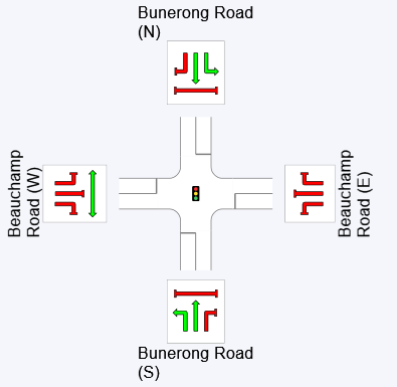
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

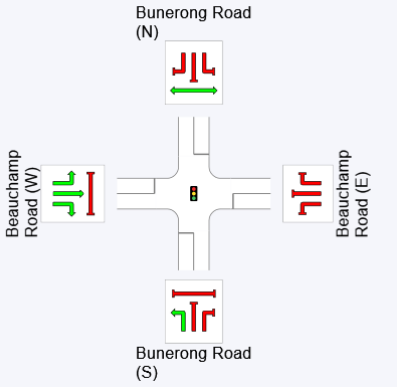
Phase A



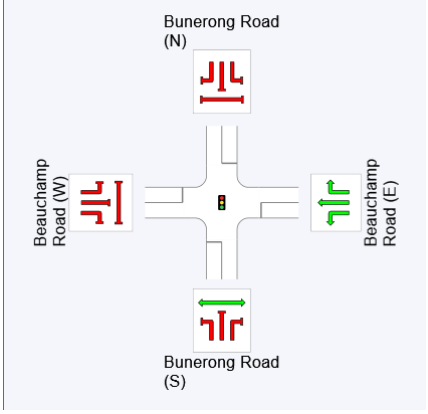
Phase B **REF**



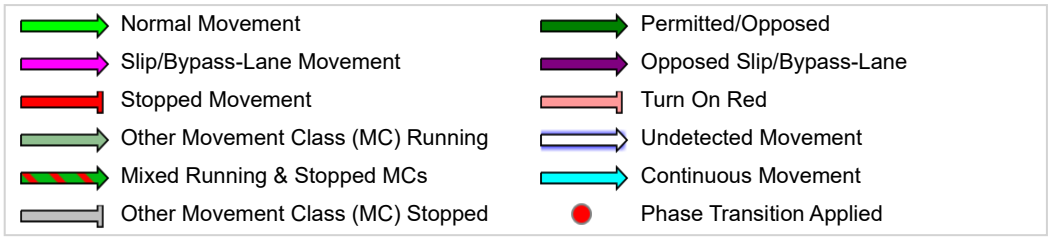
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: [1 (3)] AM Existing + Proposal (Beauchamp / Bunnerong)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110.0 seconds (Site User-Given Cycle Time)
Site Scenario: 1 | Local Volumes

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase B

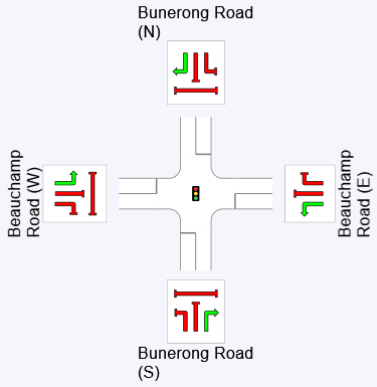
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	95.4	0.0	33.9	65.1
Green Time (sec)	8.6	27.9	25.2	24.2
Phase Time (sec)	14.6	33.9	31.2	30.2
Phase Split	13%	31%	28%	27%
Phase Frequency (%)	100.0	100.0	100.0	100.0

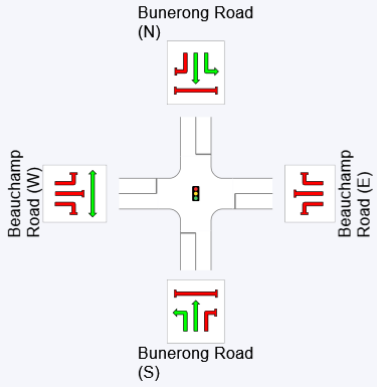
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

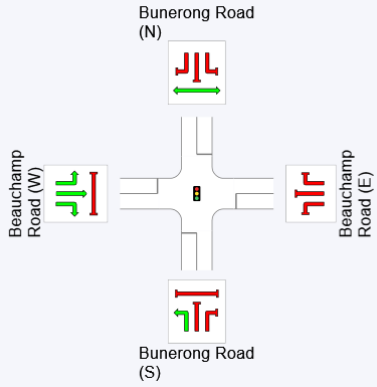
Phase A



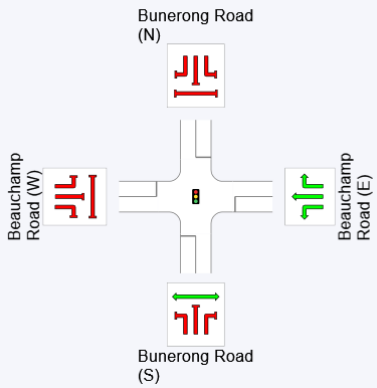
Phase B **REF**



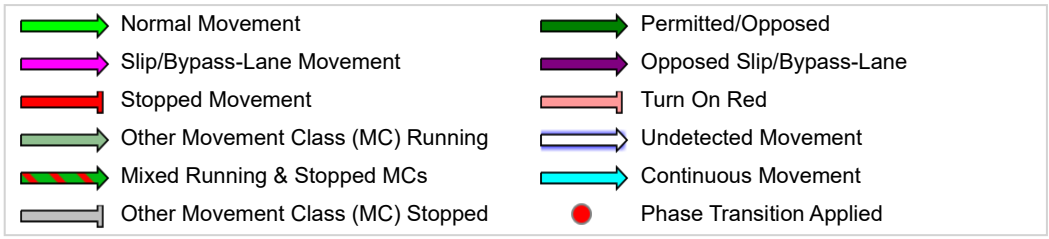
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: [1 (2)] PM Existing (Beauchamp / Bunnerong)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120.0 seconds (Site User-Given Cycle Time)
Site Scenario: 1 | Local Volumes

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase B

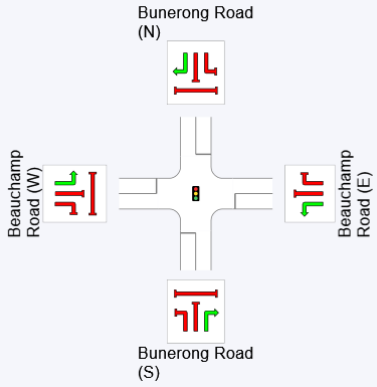
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	105.8	0.0	49.6	77.4
Green Time (sec)	8.2	43.6	21.8	22.4
Phase Time (sec)	14.2	49.6	27.8	28.4
Phase Split	12%	41%	23%	24%
Phase Frequency (%)	100.0	100.0	100.0	100.0

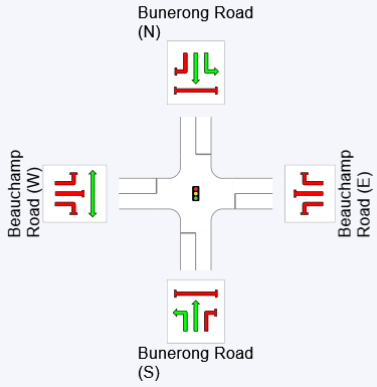
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

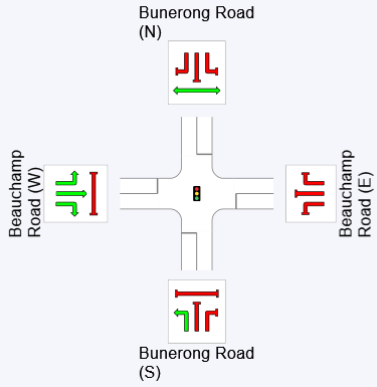
Phase A



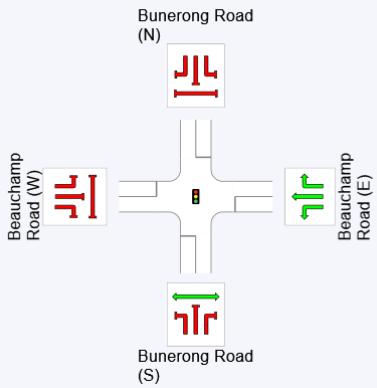
Phase B **REF**



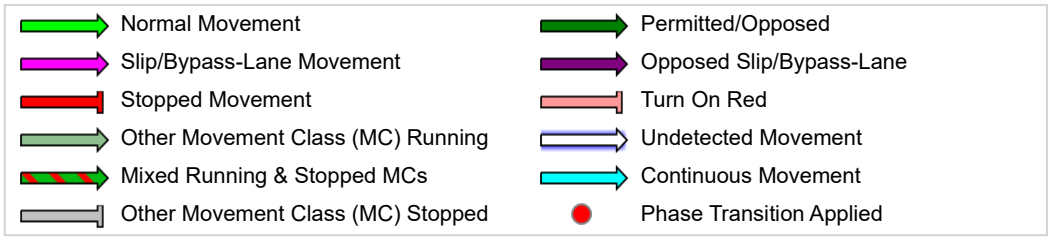
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: [1 (4)] PM Existing + Proposal (Beauchamp / Bunnerong)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120.0 seconds (Site User-Given Cycle Time)
Site Scenario: 1 | Local Volumes

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase B

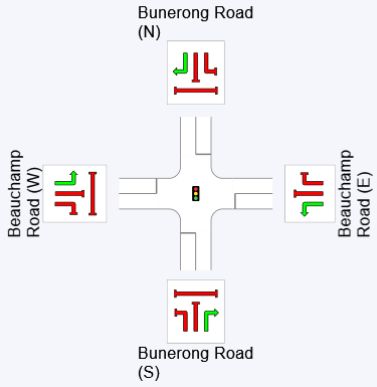
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	105.5	0.0	49.3	77.0
Green Time (sec)	8.5	43.3	21.7	22.5
Phase Time (sec)	14.5	49.3	27.7	28.5
Phase Split	12%	41%	23%	24%
Phase Frequency (%)	100.0	100.0	100.0	100.0

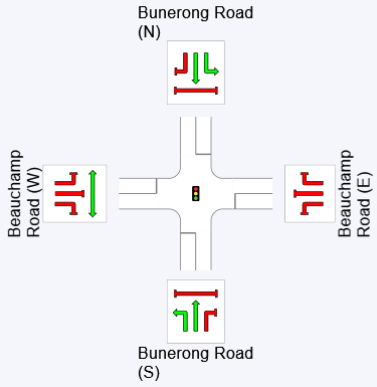
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

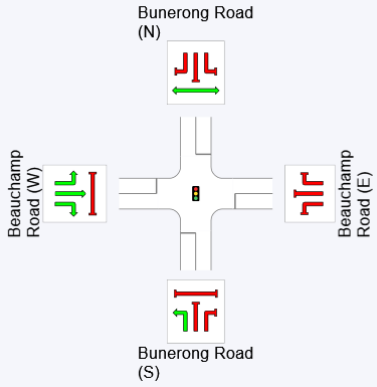
Phase A



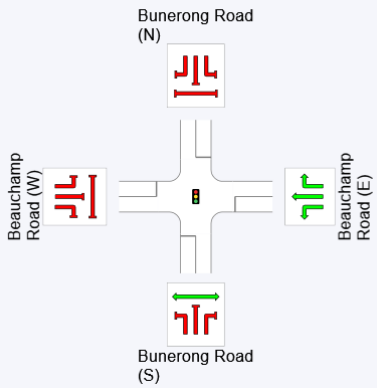
Phase B **REF**



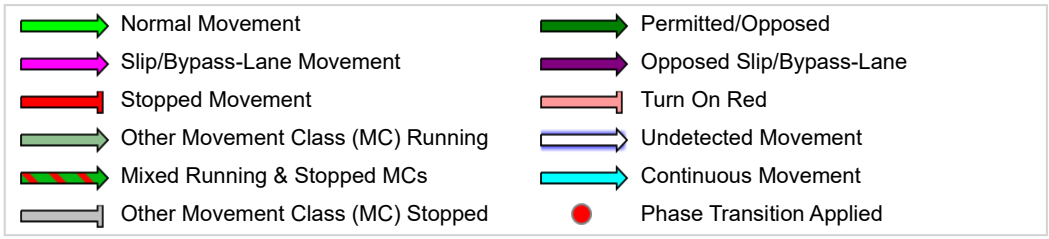
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



MOVEMENT SUMMARY

Site: [1] AM Existing (Beauchamp / Bunnerong)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110.0 seconds (Site User-Given Cycle Time)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bunerong Road (S)															
1	L2	All MCs	82	14.1	82	14.1	0.546	24.4	LOS B	12.1	90.2	0.91	0.79	0.91	35.3
2	T1	All MCs	699	4.5	699	4.5	0.546	42.0	LOS C	12.3	90.2	0.92	0.78	0.92	36.7
3	R2	All MCs	83	6.3	83	6.3	0.603	65.2	LOS E	4.6	34.1	1.00	0.80	1.05	29.1
Approach			864	5.6	864	5.6	0.603	42.6	LOS D	12.3	90.2	0.92	0.78	0.93	35.2
East: Beauchamp Road (E)															
4	L2	All MCs	60	3.5	60	3.5	0.215	35.7	LOS C	4.2	30.6	0.83	0.72	0.83	35.7
5	T1	All MCs	234	8.1	234	8.1	* 0.843	50.1	LOS D	19.6	144.1	0.97	0.94	1.12	32.7
6	R2	All MCs	147	2.9	147	2.9	0.843	56.9	LOS E	19.6	144.1	1.00	0.98	1.17	31.3
Approach			441	5.7	441	5.7	0.843	50.4	LOS D	19.6	144.1	0.96	0.93	1.10	32.6
North: Bunerong Road (N)															
7	L2	All MCs	64	18.0	64	18.0	0.842	72.1	LOS F	16.2	122.5	1.00	0.99	1.22	31.1
8	T1	All MCs	495	6.6	495	6.6	* 0.842	66.1	LOS E	16.6	122.7	1.00	0.99	1.21	32.4
9	R2	All MCs	120	1.8	120	1.8	* 0.843	68.8	LOS E	7.2	51.0	1.00	0.95	1.33	27.9
Approach			679	6.8	679	6.8	0.843	67.2	LOS E	16.6	122.7	1.00	0.98	1.23	28.4
West: Beauchamp Road (W)															
10	L2	All MCs	217	1.5	217	1.5	0.388	21.9	LOS B	4.8	34.2	0.84	1.09	0.84	31.1
11	T1	All MCs	260	6.1	260	6.1	* 0.843	51.1	LOS D	19.7	149.3	1.00	0.99	1.17	32.5
12	R2	All MCs	85	19.8	85	19.8	0.843	56.9	LOS E	19.7	149.3	1.00	0.99	1.17	31.6
Approach			562	6.4	562	6.4	0.843	40.7	LOS C	19.7	149.3	0.94	1.03	1.04	31.8
All Vehicles			2546	6.1	2546	6.1	0.843	50.1	LOS D	19.7	149.3	0.95	0.92	1.06	32.0

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Qued	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Bunerong Road (S)												

P1	Full	31	33	49.2	LOS E	0.1	0.1	0.95	0.95	203.1	200.0	0.98
North: Bunerong Road (N)												
P3	Full	22	23	49.2	LOS E	0.1	0.1	0.95	0.95	203.1	200.0	0.98
West: Beauchamp Road (W)												
P4	Full	99	104	49.4	LOS E	0.3	0.3	0.95	0.95	203.2	200.0	0.98
All Pedestrians		152	160	49.3	LOS E	0.3	0.3	0.95	0.95	203.2	200.0	0.98

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.

MOVEMENT SUMMARY

Site: [1 (3)] AM Existing + Proposal (Beauchamp / Bunnerong)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110.0 seconds (Site User-Given Cycle Time)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bunerong Road (S)															
1	L2	All MCs	83	13.9	83	13.9	0.555	24.7	LOS B	12.2	90.7	0.92	0.79	0.92	35.2
2	T1	All MCs	699	4.5	699	4.5	0.555	42.6	LOS D	12.4	90.7	0.92	0.78	0.92	36.6
3	R2	All MCs	83	6.3	83	6.3	0.595	65.2	LOS E	4.6	34.0	1.00	0.80	1.04	29.2
Approach			865	5.6	865	5.6	0.595	43.0	LOS D	12.4	90.7	0.93	0.78	0.93	35.0
East: Beauchamp Road (E)															
4	L2	All MCs	60	3.5	60	3.5	0.218	35.8	LOS C	4.2	30.9	0.84	0.72	0.84	35.6
5	T1	All MCs	237	8.0	237	8.0	* 0.854	51.1	LOS D	20.0	147.0	0.97	0.95	1.13	32.4
6	R2	All MCs	147	2.9	147	2.9	0.854	58.0	LOS E	20.0	147.0	1.00	1.00	1.19	31.0
Approach			444	5.7	444	5.7	0.854	51.3	LOS D	20.0	147.0	0.96	0.94	1.11	32.3
North: Bunerong Road (N)															
7	L2	All MCs	64	18.0	64	18.0	0.852	73.7	LOS F	16.5	124.3	1.00	1.01	1.24	30.8
8	T1	All MCs	495	6.6	495	6.6	* 0.852	67.7	LOS E	16.8	124.6	1.00	1.00	1.23	32.0
9	R2	All MCs	123	1.7	123	1.7	* 0.854	69.5	LOS E	7.4	52.6	1.00	0.97	1.35	27.8
Approach			682	6.8	682	6.8	0.854	68.6	LOS E	16.8	124.6	1.00	1.00	1.25	28.1
West: Beauchamp Road (W)															
10	L2	All MCs	223	1.4	223	1.4	0.394	21.7	LOS B	5.0	35.1	0.84	1.09	0.84	31.1
11	T1	All MCs	266	5.9	266	5.9	* 0.854	51.9	LOS D	20.5	154.9	1.00	1.01	1.19	32.2
12	R2	All MCs	88	19.0	88	19.0	0.854	57.6	LOS E	20.5	154.9	1.00	1.01	1.19	31.4
Approach			578	6.2	578	6.2	0.854	41.1	LOS C	20.5	154.9	0.94	1.04	1.05	31.7
All Vehicles			2569	6.1	2569	6.1	0.854	50.8	LOS D	20.5	154.9	0.96	0.92	1.08	31.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Qued	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Bunerong Road (S)												

P1	Full	31	33	49.2	LOS E	0.1	0.1	0.95	0.95	203.1	200.0	0.98
North: Bunerong Road (N)												
P3	Full	22	23	49.2	LOS E	0.1	0.1	0.95	0.95	203.1	200.0	0.98
West: Beauchamp Road (W)												
P4	Full	99	104	49.4	LOS E	0.3	0.3	0.95	0.95	203.2	200.0	0.98
All Pedestrians		152	160	49.3	LOS E	0.3	0.3	0.95	0.95	203.2	200.0	0.98

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.

MOVEMENT SUMMARY

Site: [1 (2)] PM Existing (Beauchamp / Bunnerong)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120.0 seconds (Site User-Given Cycle Time)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bunerong Road (S)															
1	L2	All MCs	131	10.7	131	10.7	0.330	22.7	LOS B	9.4	69.7	0.75	0.72	0.75	38.6
2	T1	All MCs	561	2.1	561	2.1	0.330	31.7	LOS C	9.7	69.7	0.77	0.66	0.77	40.4
3	R2	All MCs	95	3.2	95	3.2	0.766	71.1	LOS F	6.0	43.1	1.00	0.89	1.22	27.3
Approach			787	3.7	787	3.7	0.766	34.9	LOS C	9.7	69.7	0.79	0.70	0.82	37.9
East: Beauchamp Road (E)															
4	L2	All MCs	48	2.1	48	2.1	0.241	42.3	LOS C	4.5	32.4	0.88	0.73	0.88	33.4
5	T1	All MCs	227	2.6	227	2.6	* 0.945	72.8	LOS F	24.8	178.0	0.98	1.12	1.38	27.2
6	R2	All MCs	147	3.4	147	3.4	0.945	83.8	LOS F	24.8	178.0	1.00	1.22	1.50	25.5
Approach			422	2.8	422	2.8	0.945	73.2	LOS F	24.8	178.0	0.97	1.11	1.37	27.1
North: Bunerong Road (N)															
7	L2	All MCs	171	1.8	171	1.8	0.945	104.3	LOS F	32.8	233.6	1.00	1.22	1.49	25.3
8	T1	All MCs	634	2.4	634	2.4	* 0.945	98.5	LOS F	33.0	235.8	1.00	1.24	1.49	26.1
9	R2	All MCs	117	3.4	117	3.4	* 0.945	97.3	LOS F	8.5	61.4	1.00	1.14	1.75	24.2
Approach			922	2.4	922	2.4	0.945	99.4	LOS F	33.0	235.8	1.00	1.22	1.52	22.7
West: Beauchamp Road (W)															
10	L2	All MCs	161	0.6	161	0.6	0.391	24.3	LOS B	5.5	38.5	0.88	1.06	0.88	29.8
11	T1	All MCs	280	1.8	280	1.8	* 0.926	69.8	LOS E	22.9	162.7	0.99	1.16	1.38	27.7
12	R2	All MCs	61	1.6	61	1.6	0.926	77.5	LOS F	22.9	162.7	1.00	1.16	1.42	27.0
Approach			502	1.4	502	1.4	0.926	56.2	LOS D	22.9	162.7	0.96	1.13	1.23	28.2
All Vehicles			2633	2.7	2633	2.7	0.945	67.7	LOS E	33.0	235.8	0.92	1.03	1.23	27.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Qued	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Bunerong Road (S)												

P1	Full	49	49	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Bunerong Road (N)												
P3	Full	34	34	54.2	LOS E	0.1	0.1	0.95	0.95	208.1	200.0	0.96
West: Beauchamp Road (W)												
P4	Full	90	90	54.4	LOS E	0.3	0.3	0.95	0.95	208.2	200.0	0.96
All Pedestrians		173	173	54.3	LOS E	0.3	0.3	0.95	0.95	208.1	200.0	0.96

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.

MOVEMENT SUMMARY

Site: [1 (4)] PM Existing + Proposal (Beauchamp / Bunnerong)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120.0 seconds (Site User-Given Cycle Time)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bunerong Road (S)															
1	L2	All MCs	134	10.4	134	10.4	0.334	23.0	LOS B	9.5	70.4	0.75	0.72	0.75	38.5
2	T1	All MCs	561	2.1	561	2.1	0.334	31.9	LOS C	9.8	70.4	0.77	0.66	0.77	40.2
3	R2	All MCs	95	3.2	95	3.2	0.741	70.1	LOS E	5.9	42.7	1.00	0.88	1.19	27.4
Approach			790	3.7	790	3.7	0.741	35.0	LOS C	9.8	70.4	0.79	0.70	0.82	37.8
East: Beauchamp Road (E)															
4	L2	All MCs	48	2.1	48	2.1	0.243	42.1	LOS C	4.6	32.8	0.88	0.73	0.88	33.4
5	T1	All MCs	233	2.6	233	2.6	* 0.953	75.6	LOS F	25.8	185.1	0.98	1.15	1.41	26.7
6	R2	All MCs	147	3.4	147	3.4	0.953	87.2	LOS F	25.8	185.1	1.00	1.25	1.54	24.9
Approach			428	2.8	428	2.8	0.953	75.8	LOS F	25.8	185.1	0.97	1.13	1.40	26.6
North: Bunerong Road (N)															
7	L2	All MCs	171	1.8	171	1.8	0.953	109.2	LOS F	33.8	240.6	1.00	1.25	1.53	24.5
8	T1	All MCs	634	2.4	634	2.4	* 0.953	103.5	LOS F	34.0	243.0	1.00	1.27	1.53	25.3
9	R2	All MCs	122	3.3	122	3.3	* 0.953	100.1	LOS F	9.1	65.2	1.00	1.16	1.78	23.8
Approach			927	2.4	927	2.4	0.953	104.1	LOS F	34.0	243.0	1.00	1.25	1.56	22.1
West: Beauchamp Road (W)															
10	L2	All MCs	163	0.6	163	0.6	0.394	24.1	LOS B	5.5	38.9	0.88	1.06	0.88	29.9
11	T1	All MCs	282	1.8	282	1.8	* 0.933	71.8	LOS F	23.4	166.2	0.99	1.17	1.41	27.3
12	R2	All MCs	61	1.6	61	1.6	0.933	79.7	LOS F	23.4	166.2	1.00	1.18	1.45	26.6
Approach			506	1.4	506	1.4	0.933	57.4	LOS E	23.4	166.2	0.96	1.14	1.24	28.0
All Vehicles			2651	2.6	2651	2.6	0.953	70.0	LOS E	34.0	243.0	0.93	1.05	1.25	27.3

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Qued	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Bunerong Road (S)												

P1	Full	49	49	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Bunerong Road (N)												
P3	Full	34	34	54.2	LOS E	0.1	0.1	0.95	0.95	208.1	200.0	0.96
West: Beauchamp Road (W)												
P4	Full	90	90	54.4	LOS E	0.3	0.3	0.95	0.95	208.2	200.0	0.96
All Pedestrians		173	173	54.3	LOS E	0.3	0.3	0.95	0.95	208.1	200.0	0.96

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.