

Transport Engineering

REF: N170560

DATE: 20 August 2020

Health Infrastructure
c/- Johnstaff Projects
Level 5, 9 Castlereagh Street
SYDNEY NSW 2000

Attention: Shamma Hasan

Dear Shamma

RE: LIVERPOOL HEALTH AND ACADEMIC PRECINCT – MSCP ADDITIONAL LEVEL TRANSPORT ASSESSMENT

Introduction

A State Significant Development Application (SSDA) was lodged in early 2020 for the proposed multi-storey car park (MSCP) at Liverpool Hospital. GTA prepared a Transport and Accessibility Impact Assessment (TAIA) dated 6 May 2020 to support the SSDA. The new MSCP and at-grade car park proposal replaces the existing CP2, and accommodates approximately 1,097 car parking spaces, with the breakdown as follows:

- Ground level 167 spaces (22 accessible spaces)
- Level 1 144 spaces
- Level 2 152 spaces
- Level 3 159 spaces
- Level 4 158 spaces
- Level 5 158 spaces
- Level 6 159 spaces.

Considering the replacement of the existing CP2 car park, the new MSCP would result in a nett increase of 500 car parking spaces.

It is understood Health Infrastructure is now seeking to revise the proposal to include an additional (seventh) level of car parking. This letter sets out the transport implications of the additional level of parking.

Parking Assessment

The TAIA (GTA, 2020) identified a 2025/26 car parking demand, based on staff and visitor projections associated with the Liverpool Health and Academic Precinct (LHAP) Redevelopment, of 368 parking spaces.

The proposed additional level of car parking would result in an increase of around 151 parking spaces, resulting in a total of 1,248 spaces for the new MSCP or a revised nett increase of 651 spaces taking into consideration the replacement of the existing 597 car parking spaces in CP2.

As documented in the TAIA, the LHAP Redevelopment will require the removal of the existing fleet vehicle parking area near the CP3 access on Burnside Drive, which currently accommodates 24 spaces. Around 44 spaces will also be lost in CP3 and 49 in CP1 due to various construction works in this area related to the link between the two car parks, construction of the mortuary, new main kitchen and temporary distribution centre. It is noted that these parking changes have been approved via separate planning pathways.

A breakdown of the change in the LHAP car parking supply is summarised in Table 1, resulting in a revised overall nett increase of 534 car parking spaces.

Figure 1: Summary of future car parking locations



Base image source: Nearmap

Table 1: Change in car parking supply

Location	Existing	Future	Change
CP1	143	94	-49 ^[1]
CP2	597	1,248	+651
CP3	141	97	-44 ^[1]
CP4	780	780	0
CP5	575	575	0
HSB (Health Services Building)	35	35	0
Western Campus Fleet Vehicles car park	24	0	-24 ^[1]
Total	2,295	2,829	+534

[1] Removal of parking associated with works approved via separate planning pathways

Table 1 indicates the overall nett increase in parking within the LHAP of 534 spaces would meet the 2025/ 26 additional parking requirement of 368 spaces, while also internalising some of the existing off-site car parking demand.

The National Construction Code (NCC, formerly BCA) requires accessible parking to be provided at a rate of one space per 50 car parking spaces or part thereof for the first 1,000 car parking spaces, then 1 spaces per 100 car parking spaces or part thereof in excess of 1,000 car parking spaces. On this basis, a total of 23 accessible spaces would be required which is an increase of one accessible space from the original proposal for the MSCP. Accessible spaces are required to be a minimum 2.4 metres wide and 5.4 metres long with an adjacent shared area next to the parking space.

Motorcycle parking should be provided at a rate of one motorcycle space per 20 car spaces to meet the requirements of DCP 2008. This represents a requirement of 63 motorcycle spaces, an increase of eight spaces from the original proposal for the MSCP. A minimum of 63 motorcycle spaces will be provided in the multi-storey car park. Motorcycle spaces should be 1.2 metres wide and 2.5 metres long.

Traffic Generation

The TAIA (GTA, 2020) identified a traffic generation rate of 0.54 and 0.38 trips per car space in the AM and PM road network peak hours respectively. A 90 per cent inbound and 10 per cent outbound directional split was identified for the AM peak hour, while a 20 per cent inbound and 80 per cent outbound directional split was identified for the PM peak hour.

Adopting the above rates and directional distribution for the additional car parking spaces proposed results in revised traffic generation estimates as set out in Table 2. As mentioned above, it is expected that there will be some loss of spaces in various locations around the hospital due to the redevelopment, however these are it is expected that these will be replaced in a new car parking area on the hospital campus as part of a separate planning pathway, with a minor redistribution of existing traffic as a result. As such, for the purposes of this assessment it has been assumed that the overall nett increase in parking is the additional 659 spaces being provided by the new MSCP.

Table 2: Redevelopment traffic generation estimates

Peak hour	Nett increase in parking	Traffic generation rate (trips/ hour)	Traffic generation estimates (trips/ hour)		
			In	Out	Total
AM	651 spaces	0.54	316	35	351
PM		0.38	49	198	247

Table 2 indicates that the site could potentially generate an additional 351 and 247 vehicle trips in the AM and PM peak hours respectively. This represents an increase of around 81 and 57 vehicle trips in the AM and PM peak hour associated with the proposed additional level of the MSCP.

Traffic Impact

Cumulative Assessment with LHAP Redevelopment (seven-level MSCP)

The anticipated traffic generated by the LHAP with the six-level MSCP scheme along with the additional traffic generated by the nearby Westfield Shopping Centre redevelopment and the 26 Elizabeth Street development was modelled in SIDRA as part of the TAIA (GTA, May 2020) to support the SSDA. Modelling was completed based on existing traffic being redistributed based on the relocation of the main hospital access plus the new traffic generated from the additional car parking.

The additional traffic generated by the redevelopment of the LHAP resulting from the additional level of car parking in the MSCP (an additional 151 spaces) has been modelled in SIDRA, along with the additional traffic generated by the Westfield Shopping Centre redevelopment and the 26 Elizabeth Street development. SIDRA modelling results are summarised in Table 3.

Table 3: Intersection operation with surrounding developments and LHAP additional parking

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m) ^[1]	Level of Service (LOS)
Lachlan Street/ Hart Street	AM	0.38	10	17	A
	PM	0.43	9	22	A
Forbes Street/ Campbell Street/ Hospital access	AM	0.17	7	11	A
	PM	0.11	6	4	A
Goulburn Street/ hospital access	AM	0.12	7	0	A
	PM	0.19	7	0	A
Hume Highway/ Bigge Street	AM	0.93	33	124	C
	PM	0.81	20	118	B
Burnside Drive/ northern access road	AM	0.01	13	1	A
	PM	0.01	10	1	A
Burnside Drive/ Burnside drive bridge	AM	0.02	12	1	A
	PM	0.26	7	9	A
Burnside Drive/ Multi-storey car park access	AM	0.02	6	0	A
	PM	0.03	6	0	A
Bigge Street/ Campbell Street	AM	0.71	14	78	A
	PM	0.49	16	54	B
Bigge Street/ Elizabeth Street	AM	0.59	19	111	B
	PM	0.53	16	65	B
Campbell Street/ Goulburn Street	AM	0.51	16	50	B
	PM	0.26	15	27	B
Elizabeth Street/ Goulburn Street	AM	0.21	6	6	A
	PM	0.34	6	10	A
Bigge Street/ Moore Street	AM	0.69	22	151	B
	PM	0.54	23	128	B
Elizabeth Street/ College Street	AM	0.11	4	5	A
	PM	0.16	4	6	A
Hume Highway/ Remembrance Avenue	AM	0.96	28	244	B
	PM	0.83	27	187	B
Speed Street/ Newbridge Road	AM	0.80	22	88	B
	PM	0.87	24	375	B

[1] Average queue reported for Hume Highway intersections, as these intersections modelled in SIDRA Network

Table 3 indicates the increase in vehicle trips associated with the additional level of car parking will have a minor effect on the surrounding key intersections, with all intersection continuing operate satisfactorily in the AM and PM peak periods with minor increases to delays and queues. It should be noted that the additional parking supply does not necessarily mean additional traffic demand at surrounding intersections, given the intention that the additional parking internalises a proportion of

current off-site parking demand. As such, the above analysis represents a conservatively high traffic impact.

Campbell Street Shared Zone Analysis

The existing SIDRA network assessment results for the key intersections related to the Campbell Street shared zone analysis are summarised in Table 4 and Table 5.

Table 4: Existing AM peak hour network operation

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Lachlan Street/ Burnside Drive/ Hart Street	Roundabout	0.24	9	4	A
Lachlan Street/ Forbes Street	Priority	0.50	15	10	B
Lachlan Street/ Goulburn Street	Roundabout	0.11	9	2	A
Campbell Street/ Goulburn Street	Signals	0.47	16	28	B

Table 5: Existing PM peak hour network operation

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Lachlan Street/ Burnside Drive/ Hart Street	Roundabout	0.32	9	6	A
Lachlan Street/ Forbes Street	Priority	0.20	14	2	A
Lachlan Street/ Goulburn Street	Roundabout	0.19	9	3	A
Campbell Street/ Goulburn Street	Signals	0.24	15	15	B

Traffic Impact of Shared Zone (Existing Intersection Layouts)

The SIDRA Network assessment results for the proposed shared zone treatment of Campbell Street is presented in Table 6 and Table 7 for AM and PM peak hours respectively. It is noted that for priority-controlled intersections, the results are reported for the worst movement based on average delay.

Table 6: Post development AM peak hour network operation with Campbell Street shared zone (existing intersection layouts)

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Lachlan Street/ Burnside Drive/ Hart Street	Roundabout	0.24	9	4	LOS A
Lachlan Street/ Forbes Street	Priority	0.93	31	81	LOS C
Lachlan Street/ Goulburn Street	Roundabout	1.00	29	124	LOS C
Campbell Street/ Goulburn Street	Signals	0.16	14	9	LOS A

Table 7: Post development PM peak hour network operation with Campbell Street shared zone (existing intersection layouts)

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Lachlan Street/ Burnside Drive/ Hart Street	Roundabout	0.49	8	11	LOS A
Lachlan Street/ Forbes Street	Priority	0.33	20	4	LOS B
Lachlan Street/ Goulburn Street	Roundabout	0.23	11	4	LOS A
Campbell Street/ Goulburn Street	Signals	0.12	13	6	LOS A

The SIDRA results indicate the Lachlan Street/ Forbes Street intersection is expected to operate close to capacity with the redistributed traffic as indicated by the degree of saturation of 0.93, with an average queue length of approximately 80 metres on the west approach during the AM peak hour. This queue therefore extends to the Lachlan Street/ Goulburn Street intersection and impacts the operation of this intersection, as indicated by the high degree of saturation and average queues.

Lachlan Street/ Forbes Street Mitigation Measures

The TAIA (GTA, 2020) identified reversing the priority at the Lachlan Street/ Forbes Street intersection as the preferred mitigation measure to improve intersection operation at this location (and associated queuing impact identified above), following implementation of the Campbell Street shared zone.

Revised SIDRA network assessment results with the proposed mitigation measures at the Lachlan Street/ Forbes Street intersection are presented in Table 8 and Table 9 for the AM and PM peak hours.

Table 8: Post development AM peak hour network operation with Campbell Street shared zone (with mitigated Forbes Street/ Lachlan Street intersection layout)

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Lachlan Street/ Burnside Drive/ Hart Street	Roundabout	0.26	9	4	LOS A
Lachlan Street/ Forbes Street	Reversed Priority	0.43	27	5	LOS B
	Roundabout	0.32	14	6	LOS A
Lachlan Street/ Goulburn Street	Roundabout	0.12	15	2	LOS B
Campbell Street/ Goulburn Street	Signals	0.16	14	9	LOS A

Table 9: Post development PM peak hour network operation with Campbell Street shared zone (with mitigated Forbes Street/ Lachlan Street intersection layout)

Intersection	Control	Degree of Saturation	Average delay (seconds)	Average queue (metres)	Level of Service
Lachlan Street/ Burnside Drive/ Hart Street	Roundabout	0.49	8	11	LOS A
Lachlan Street/ Forbes Street	Reversed Priority	0.15	15	2	LOS B
	Roundabout	0.31	10	6	LOS A
Lachlan Street/ Goulburn Street	Roundabout	0.23	11	4	LOS A
Campbell Street/ Goulburn Street	Signals	0.12	13	6	LOS A

SIDRA results indicate that with the proposed mitigation measures, the redistributed traffic following implementation of the proposed shared zone treatment in Campbell Street can be accommodated by the surrounding road network. In addition, the increase in traffic generated by the additional level of parking in the MSCP would have a minor impact on these key intersections following implementation of the shared zone.

Campbell Street Shared Zone Analysis Summary

The above traffic analysis indicates the following:

- With the proposed shared zone treatment of Campbell Street between Forbes Street and Goulburn Street, it is expected that traffic movements along Lachlan Street will increase by around 510 and 350 vehicles per hour in the AM and PM peak hours respectively.
- With reversed priority at Lachlan Street/ Forbes Street (i.e. making Lachlan Street the continuous road and installing stop signs on Forbes Street), all intersections are expected to operate satisfactorily with minor queuing and delays.
- The additional 7th level of car parking in the MSCP is expected to have a minor impact on the key surrounding intersections following implementation of the shared zone.

Car Parking Access Controls

A queuing analysis has been completed based on the anticipated traffic generation with consideration to the additional seventh level of the MSCP. Assuming the same distribution as detailed in the TAIA (GTA, May 2020), it is anticipated that approximately 237 and 37 vehicles will arrive at the Burnside Drive access to the MSCP in the AM and PM peak hours respectively.

Based on a standard ticket machine service rate of 300 vehicles per hour per boom gate and the two boom gates proposed at the Burnside Drive entrance, this would result in a 95th percentile queue of three vehicles per lane (i.e. six vehicles). Assuming redistribution of existing traffic from the western access to Burnside Drive as a result of the promotion of the Burnside Drive access, this would result in the 95th percentile queues at the eastern access increasing to around 9-10 vehicles per lane (i.e. 18-20 vehicles). The proposed design allows for these vehicles to be stored on the ramp leading into the multi-storey car park without affecting through traffic on Burnside Drive. Notwithstanding, traffic modelling conservatively assumes no redistribution of traffic from the western access as these intersections are more constrained than those along Burnside Drive. Should any additional queuing occur at the western car park access, vehicles could readily divert to the eastern access via the northern link road.

Summary

Based on the analysis and discussions presented within this letter, the following conclusions are made:

1. It is proposed that an additional (seventh) level of car parking be provided as part of the new Multi-storey Car Park at Liverpool Hospital, increasing the number of car parking spaces in this location by 151 spaces to a total of 1,248 spaces.
2. Taking into consideration the removal of the existing CP2 parking and other minor reductions in car parking as part of the Liverpool Health and Academic Precinct Redevelopment, the revised nett increase in car parking is expected to be around 534 spaces.
3. The proposed parking provision exceeds the 2025/ 26 additional parking requirement of 368 spaces, while also internalising some of the existing off-site car parking demand.
4. It is anticipated that the additional level of parking would result in an increase of around 81 and 57 vehicle trips in the AM and PM peak hour compared to what estimated in the original SSDA.
5. SIDRA modelling indicates the additional traffic generated by the seventh level of car parking in the MSCP is expected to have a minor impact on the surrounding road network, with minor increases to delay and queuing expected at the key intersections assessed. Given the additional parking supply does not necessarily mean additional traffic demand at surrounding intersections, this analysis represents a conservatively high traffic impact.
6. Additional queuing would occur at the car park access boom gates, however all queuing can be contained within the internal hospital road network.
7. Overall, the additional level of car parking can be supported from a traffic and transport perspective, without further intersection or access improvements.

I trust the above provides the necessary information. Should you have any questions or require any further information, please do not hesitate to contact me on (02) 8448 1800.

Yours sincerely

GTA CONSULTANTS



Brett Maynard
Director

encl.

Attachment 1 - SIDRA Modelling Results

ATTACHMENT 1

SIDRA Modelling Results

USER REPORT FOR SITE

 **Project: 200707-N170560 SIDRA - Future (seven-level MSCP)**

Template: Movement Summary

 **Site: 1 [1 Lachlan/ Hart AM]**

Site Category: -
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Burnside Drive												
5	T1	63	1.7	0.074	2.4	LOS A	0.4	2.9	0.23	0.40	0.23	38.4
6	R2	27	0.0	0.074	5.8	LOS A	0.4	2.9	0.23	0.40	0.23	38.6
6u	U	1	0.0	0.074	7.2	LOS A	0.4	2.9	0.23	0.40	0.23	39.4
Approach		92	1.1	0.074	3.5	LOS A	0.4	2.9	0.23	0.40	0.23	38.4
North: Hart Street												
7	L2	271	0.0	0.377	5.9	LOS A	2.4	16.8	0.68	0.73	0.68	36.1
9	R2	46	2.3	0.377	9.2	LOS A	2.4	16.8	0.68	0.73	0.68	36.4
9u	U	12	0.0	0.377	10.4	LOS A	2.4	16.8	0.68	0.73	0.68	37.5
Approach		328	0.3	0.377	6.5	LOS A	2.4	16.8	0.68	0.73	0.68	36.2
West: Lachlan Street												
10	L2	65	0.0	0.384	2.5	LOS A	2.7	18.9	0.20	0.31	0.20	37.6
11	T1	494	0.2	0.384	2.3	LOS A	2.7	18.9	0.20	0.31	0.20	39.0
12u	U	9	0.0	0.384	7.1	LOS A	2.7	18.9	0.20	0.31	0.20	40.0
Approach		568	0.2	0.384	2.4	LOS A	2.7	18.9	0.20	0.31	0.20	38.9
All Vehicles		988	0.3	0.384	3.9	LOS A	2.7	18.9	0.36	0.46	0.36	37.9

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.

Roundabout Capacity Model: SIDRA Standard.

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.

Site: 1 [1 Lachlan/ Hart PM]

Site Category: -
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Burnside Drive												
5	T1	374	0.0	0.432	4.2	LOS A	3.1	21.7	0.37	0.52	0.37	42.0
6	R2	189	0.0	0.432	7.7	LOS A	3.1	21.7	0.37	0.52	0.37	44.7
6u	U	1	0.0	0.432	9.3	LOS A	3.1	21.7	0.37	0.52	0.37	46.0
Approach		564	0.0	0.432	5.4	LOS A	3.1	21.7	0.37	0.52	0.37	42.9
North: Hart Street												
7	L2	36	0.0	0.109	3.7	LOS A	0.6	4.1	0.22	0.57	0.22	43.1
9	R2	95	1.1	0.109	7.3	LOS A	0.6	4.1	0.22	0.57	0.22	40.3
9u	U	9	0.0	0.109	8.9	LOS A	0.6	4.1	0.22	0.57	0.22	44.2
Approach		140	0.8	0.109	6.5	LOS A	0.6	4.1	0.22	0.57	0.22	41.4
West: Lachlan Street												
10	L2	43	0.0	0.099	3.3	LOS A	0.5	3.6	0.38	0.44	0.38	40.0
11	T1	60	0.0	0.099	3.1	LOS A	0.5	3.6	0.38	0.44	0.38	42.4
12u	U	6	0.0	0.099	7.9	LOS A	0.5	3.6	0.38	0.44	0.38	39.1
Approach		109	0.0	0.099	3.4	LOS A	0.5	3.6	0.38	0.44	0.38	41.4
All Vehicles		814	0.1	0.432	5.3	LOS A	3.1	21.7	0.35	0.51	0.35	42.4

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.

Roundabout Capacity Model: SIDRA Standard.

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.

Site: 2 [2 Forbes/ Campbell/ Hospital AM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Hospital Access												
1	L2	25	0.0	0.033	0.5	LOS A	0.1	0.9	0.30	0.17	0.30	12.3
2	T1	8	12.5	0.033	4.9	LOS A	0.1	0.9	0.30	0.17	0.30	19.9
Approach		34	3.1	0.033	1.6	LOS A	0.1	0.9	0.30	0.17	0.30	14.7
North: RoadName												
8	T1	86	0.0	0.167	6.7	LOS A	1.0	7.5	0.40	0.51	0.40	20.1
9	R2	161	10.5	0.167	4.8	LOS A	1.0	7.5	0.40	0.51	0.40	35.9
Approach		247	6.8	0.167	5.4	NA	1.0	7.5	0.40	0.51	0.40	27.4
West: RoadName												
10	L2	313	0.0	0.333	3.7	LOS A	1.6	11.1	0.15	0.55	0.15	36.8
12	R2	276	0.0	0.333	6.1	LOS A	1.6	11.1	0.15	0.55	0.15	12.4
Approach		588	0.0	0.333	4.8	NA	1.6	11.1	0.15	0.55	0.15	22.6
All Vehicles		869	2.1	0.333	4.9	NA	1.6	11.1	0.23	0.53	0.23	23.7

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: 2 [2 Forbes/ Campbell/ Hospital PM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Hospital Access												
1	L2	194	0.0	0.186	0.6	LOS A	0.8	5.7	0.30	0.18	0.30	12.4
2	T1	49	0.0	0.186	1.5	LOS A	0.8	5.7	0.30	0.18	0.30	20.1
Approach		243	0.0	0.186	0.8	LOS A	0.8	5.7	0.30	0.18	0.30	14.4
North: RoadName												
8	T1	16	0.0	0.105	5.8	LOS A	0.6	4.3	0.12	0.49	0.12	20.3
9	R2	169	0.0	0.105	3.7	LOS A	0.6	4.3	0.12	0.49	0.12	36.9
Approach		185	0.0	0.105	3.8	NA	0.6	4.3	0.12	0.49	0.12	34.1
West: RoadName												
10	L2	106	1.0	0.078	3.4	LOS A	0.2	1.2	0.03	0.53	0.03	37.4
12	R2	37	0.0	0.078	5.8	LOS A	0.2	1.2	0.03	0.53	0.03	12.6
Approach		143	0.7	0.078	4.0	NA	0.2	1.2	0.03	0.53	0.03	28.6
All Vehicles		572	0.2	0.186	2.6	NA	0.8	5.7	0.17	0.37	0.17	22.4

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: 3a [3a Goulburn/ Hospital access AM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Goulburn Street												
2	T1	385	1.1	0.252	0.2	LOS A	0.6	4.5	0.15	0.14	0.15	37.4
3	R2	76	0.0	0.252	6.7	LOS A	0.6	4.5	0.15	0.14	0.15	22.0
Approach		461	0.9	0.252	1.3	NA	0.6	4.5	0.15	0.14	0.15	35.0
East: Hospital access												
4	L2	31	0.0	0.045	0.6	LOS A	0.2	1.1	0.31	0.20	0.31	18.3
6	R2	15	0.0	0.045	3.4	LOS A	0.2	1.1	0.31	0.20	0.31	21.2
Approach		45	0.0	0.045	1.5	LOS A	0.2	1.1	0.31	0.20	0.31	19.4
North: Goulburn Street												
7	L2	39	0.0	0.121	7.2	LOS A	0.0	0.0	0.00	0.19	0.00	23.3
8	T1	184	9.1	0.121	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	37.6
Approach		223	7.5	0.121	1.3	NA	0.0	0.0	0.00	0.19	0.00	34.7
All Vehicles		729	2.9	0.252	1.3	NA	0.6	4.5	0.11	0.16	0.11	33.8

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: 3a [3a Goulburn/ Hospital access PM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Goulburn Street												
2	T1	152	2.1	0.132	0.7	LOS A	0.5	3.7	0.30	0.26	0.30	35.3
3	R2	66	0.0	0.132	7.2	LOS A	0.5	3.7	0.30	0.26	0.30	20.6
Approach		218	1.4	0.132	2.7	NA	0.5	3.7	0.30	0.26	0.30	31.1
East: Hospital access												
4	L2	37	0.0	0.068	1.2	LOS A	0.2	1.7	0.42	0.32	0.42	18.2
6	R2	27	0.0	0.068	2.7	LOS A	0.2	1.7	0.42	0.32	0.42	21.0
Approach		64	0.0	0.068	1.8	LOS A	0.2	1.7	0.42	0.32	0.42	19.5
North: Goulburn Street												
7	L2	33	0.0	0.193	7.2	LOS A	0.0	0.0	0.00	0.10	0.00	23.9
8	T1	340	0.6	0.193	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	38.8
Approach		373	0.6	0.193	0.6	NA	0.0	0.0	0.00	0.10	0.00	37.3
All Vehicles		655	0.8	0.193	1.4	NA	0.5	3.7	0.14	0.17	0.14	33.1

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

USER REPORT FOR NETWORK SITE

 **Project: 200707-N170560 SIDRA - Future (seven-level MSCP)**

Template: Movement Summary

 **Site: 4 [4 Hume/ Bigge AM]**

 **Network: 5 [AM Network]**

Site Category: -

Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Site User-Given Phase Times)

Timings based on settings in the Network Timing dialog

Phase Times specified by the user

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B, C

Output Phase Sequence: A, B, C

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows	Arrival Flows	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed			
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m				
South: Bigge Street														
1	L2	86	2.4	86	2.4	0.109	31.2	LOS C	2.2	16.1	0.63	0.70	0.63	26.8
3	R2	423	2.0	423	2.0	0.930	96.4	LOS F	12.5	89.2	1.00	1.07	1.42	6.0
Approach		509	2.1	509	2.1	0.930	85.4	LOS F	12.5	89.2	0.94	1.00	1.28	8.1
East: Hume Highway														
4	L2	205	7.2	205	7.2	0.161	7.6	LOS A	0.4	3.2	0.05	0.62	0.05	46.4
5	T1	1374	12.4	1374	12.4	0.521	22.0	LOS B	10.7	83.0	0.57	0.51	0.57	39.9
Approach		1579	11.7	1579	11.7	0.521	20.2	LOS B	10.7	83.0	0.50	0.52	0.50	40.5
West: Hume Highway														
11	T1	1603	5.6	1603	5.6	0.913	16.9	LOS B	15.7	114.9	0.30	0.35	0.39	33.4
12	R2	343	1.2	343	1.2	0.932	86.9	LOS F	17.5	123.7	1.00	0.96	1.26	14.5
Approach		1946	4.9	1946	4.9	0.932	29.2	LOS C	17.5	123.7	0.42	0.46	0.54	25.3
All Vehicles		4035	7.2	4035	7.2	0.932	32.8	LOS C	17.5	123.7	0.52	0.55	0.62	26.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

USER REPORT FOR NETWORK SITE

 Project: 200707-N170560 SIDRA - Future (seven-level MSCP)

Template: Movement Summary

 Site: 4 [4 Hume/ Bigge PM]

 Network: 6 [PM Network]

Site Category: -

Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B, C

Output Phase Sequence: A, B, C

Movement Performance - Vehicles														
Mov ID	Turn	Demand	Flows	Arrival	Flows	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed	
		veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m			km/h	
South: Bigge Street														
1	L2	184	3.4	184	3.4	0.254	36.4	LOS C	5.4	39.1	0.71	0.75	0.71	24.7
3	R2	435	1.9	435	1.9	0.808	75.1	LOS F	10.2	72.4	1.00	0.91	1.14	7.4
Approach		619	2.4	619	2.4	0.808	63.5	LOS E	10.2	72.4	0.91	0.87	1.01	11.6
East: Hume Highway														
4	L2	213	2.0	213	2.0	0.158	9.3	LOS A	1.2	8.2	0.13	0.64	0.13	44.3
5	T1	2292	3.9	2292	3.9	0.802	9.9	LOS A	16.3	118.2	0.45	0.41	0.45	52.3
Approach		2504	3.7	2504	3.7	0.802	9.9	LOS A	16.3	118.2	0.43	0.43	0.43	51.7
West: Hume Highway														
11	T1	1282	5.8	1282	5.8	0.539	8.5	LOS A	12.0	88.2	0.46	0.42	0.46	45.2
12	R2	277	1.1	277	1.1	0.805	74.0	LOS F	12.6	88.8	1.00	0.89	1.10	16.4
Approach		1559	5.0	1559	5.0	0.805	20.1	LOS B	12.6	88.8	0.56	0.51	0.57	31.4
All Vehicles		4682	4.0	4682	4.0	0.808	20.4	LOS B	16.3	118.2	0.53	0.52	0.55	36.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Site: 5a [5a Burnside/ Northern Access Road AM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Burnside Drive												
1	L2	3	0.0	0.046	3.0	LOS A	0.0	0.0	0.00	0.02	0.00	47.9
2	T1	86	0.0	0.046	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		89	0.0	0.046	0.1	NA	0.0	0.0	0.00	0.02	0.00	49.8
North: Burnside Drive												
8	T1	752	0.0	0.386	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
9	R2	13	0.0	0.008	4.8	LOS A	0.0	0.2	0.18	0.51	0.18	43.1
Approach		764	0.0	0.386	0.1	NA	0.0	0.2	0.00	0.01	0.00	49.7
West: Northern Access Road												
10	L2	1	0.0	0.007	4.8	LOS A	0.0	0.2	0.35	0.59	0.35	39.7
12	R2	2	0.0	0.007	12.9	LOS A	0.0	0.2	0.35	0.59	0.35	30.5
Approach		3	0.0	0.007	10.2	LOS A	0.0	0.2	0.35	0.59	0.35	34.7
All Vehicles		857	0.0	0.386	0.2	NA	0.0	0.2	0.00	0.01	0.00	49.7

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: 5a [5a Burnside/ Northern Access Road PM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Burnside Drive												
1	L2	1	0.0	0.290	3.0	LOS A	0.0	0.0	0.00	0.00	0.00	48.1
2	T1	564	0.0	0.290	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		565	0.0	0.290	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
North: Burnside Drive												
8	T1	94	0.0	0.048	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	2	0.0	0.002	6.7	LOS A	0.0	0.1	0.52	0.57	0.52	41.9
Approach		96	0.0	0.048	0.1	NA	0.0	0.1	0.01	0.01	0.01	49.7
West: Northern Access Road												
10	L2	1	0.0	0.007	6.7	LOS A	0.0	0.2	0.57	0.66	0.57	40.6
12	R2	3	0.0	0.007	9.7	LOS A	0.0	0.2	0.57	0.66	0.57	31.8
Approach		4	0.0	0.007	8.9	LOS A	0.0	0.2	0.57	0.66	0.57	35.1
All Vehicles		665	0.0	0.290	0.1	NA	0.0	0.2	0.01	0.01	0.01	49.8

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: 5b [5b Burnside/ Bridge AM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Burnside Drive												
1	L2	3	0.0	0.032	3.0	LOS A	0.0	0.0	0.00	0.03	0.00	48.0
2	T1	60	0.0	0.032	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	48.6
Approach		63	0.0	0.032	0.1	NA	0.0	0.0	0.00	0.03	0.00	48.5
North: Burnside Drive												
8	T1	333	0.0	0.172	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	421	0.0	0.247	3.1	LOS A	1.4	9.6	0.19	0.49	0.19	40.6
Approach		754	0.0	0.247	1.7	NA	1.4	9.6	0.10	0.28	0.10	41.9
West: Burnside Drive												
10	L2	29	0.0	0.021	4.7	LOS A	0.1	0.6	0.13	0.50	0.13	38.1
12	R2	1	0.0	0.021	11.7	LOS A	0.1	0.6	0.13	0.50	0.13	37.7
Approach		31	0.0	0.021	5.0	LOS A	0.1	0.6	0.13	0.50	0.13	38.1
All Vehicles		847	0.0	0.247	1.7	NA	1.4	9.6	0.10	0.27	0.10	41.8

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: 5b [5b Burnside/ Bridge PM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Burnside Drive												
1	L2	1	0.0	0.110	3.0	LOS A	0.0	0.0	0.00	0.00	0.00	48.3
2	T1	213	0.0	0.110	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		214	0.0	0.110	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.8
North: Burnside Drive												
8	T1	63	0.0	0.033	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	34	0.0	0.023	3.5	LOS A	0.1	0.7	0.31	0.51	0.31	40.1
Approach		97	0.0	0.033	1.2	NA	0.1	0.7	0.11	0.18	0.11	42.8
West: Burnside Drive												
10	L2	353	0.0	0.262	5.4	LOS A	1.2	8.6	0.35	0.57	0.35	36.9
12	R2	2	0.0	0.262	6.9	LOS A	1.2	8.6	0.35	0.57	0.35	36.6
Approach		355	0.0	0.262	5.4	LOS A	1.2	8.6	0.35	0.57	0.35	36.9
All Vehicles		665	0.0	0.262	3.1	NA	1.2	8.6	0.20	0.33	0.20	38.6

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: 5c [5c Burnside/ MSCP AM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Burnside Drive												
1	L2	1	0.0	0.018	6.3	LOS A	0.0	0.0	0.00	0.04	0.00	26.6
2	T1	34	0.0	0.018	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	48.3
Approach		35	0.0	0.018	0.2	NA	0.0	0.0	0.00	0.04	0.00	46.9
North: Burnside Drive												
8	T1	81	0.0	0.042	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	253	0.0	0.145	4.9	LOS A	0.7	5.1	0.12	0.69	0.12	13.0
Approach		334	0.0	0.145	3.7	NA	0.7	5.1	0.09	0.52	0.09	15.6
West: MSCP												
10	L2	29	0.0	0.020	0.1	LOS A	0.1	0.6	0.09	0.02	0.09	12.3
12	R2	1	0.0	0.020	2.2	LOS A	0.1	0.6	0.09	0.02	0.09	12.3
Approach		31	0.0	0.020	0.2	LOS A	0.1	0.6	0.09	0.02	0.09	12.3
All Vehicles		399	0.0	0.145	3.1	NA	0.7	5.1	0.08	0.44	0.08	16.1

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: 5c [5c Burnside/ MSCP PM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Burnside Drive												
1	L2	1	0.0	0.029	6.3	LOS A	0.0	0.0	0.00	0.03	0.00	26.8
2	T1	55	0.0	0.029	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	48.9
Approach		56	0.0	0.029	0.1	NA	0.0	0.0	0.00	0.03	0.00	48.0
North: Burnside Drive												
8	T1	25	0.0	0.013	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	40	0.0	0.023	4.9	LOS A	0.1	0.7	0.14	0.68	0.14	13.0
Approach		65	0.0	0.023	3.0	NA	0.1	0.7	0.09	0.41	0.09	17.8
West: MSCP												
10	L2	158	0.0	0.102	0.2	LOS A	0.4	3.0	0.14	0.05	0.14	12.2
12	R2	1	0.0	0.102	0.7	LOS A	0.4	3.0	0.14	0.05	0.14	12.2
Approach		159	0.0	0.102	0.2	LOS A	0.4	3.0	0.14	0.05	0.14	12.2
All Vehicles		280	0.0	0.102	0.8	NA	0.4	3.0	0.10	0.13	0.10	15.4

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: 6 [6 Bigge/ Campbell AM]

Site Category: -

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

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B

Output Phase Sequence: A, B

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Bigge Street												
1	L2	211	5.5	0.173	5.6	LOS A	1.2	8.8	0.12	0.50	0.12	35.1
2	T1	514	4.3	0.711	4.4	LOS A	10.8	78.0	0.31	0.38	0.31	35.7
3	R2	202	0.5	0.711	7.8	LOS A	10.8	78.0	0.31	0.38	0.31	34.6
Approach		926	3.8	0.711	5.4	LOS A	10.8	78.0	0.26	0.40	0.26	35.4
East: Campbell Street												
4	L2	36	5.9	0.096	41.4	LOS C	1.6	11.4	0.84	0.70	0.84	17.5
5	T1	112	4.7	0.337	41.1	LOS C	5.5	39.9	0.90	0.72	0.90	15.0
6	R2	6	0.0	0.337	44.5	LOS D	5.5	39.9	0.90	0.72	0.90	17.6
Approach		154	4.8	0.337	41.3	LOS C	5.5	39.9	0.89	0.72	0.89	15.8
North: Bigge Street												
7	L2	52	2.0	0.062	5.4	LOS A	0.4	2.8	0.10	0.35	0.10	35.6
8	T1	309	4.8	0.311	3.2	LOS A	2.7	19.6	0.16	0.21	0.16	36.9
9	R2	36	5.9	0.311	6.7	LOS A	2.7	19.6	0.17	0.19	0.17	36.7
Approach		397	4.5	0.311	3.8	LOS A	2.7	19.6	0.16	0.22	0.16	36.8
West: Campbell Street												
10	L2	39	2.7	0.148	41.8	LOS C	2.5	18.1	0.85	0.70	0.85	19.2
11	T1	192	0.5	0.687	44.4	LOS D	10.6	74.5	0.95	0.82	1.00	14.2
12	R2	36	0.0	0.687	48.4	LOS D	10.6	74.5	0.96	0.84	1.01	18.1
Approach		266	0.8	0.687	44.6	LOS D	10.6	74.5	0.94	0.81	0.98	15.6
All Vehicles		1743	3.6	0.711	14.2	LOS A	10.8	78.0	0.40	0.45	0.40	29.1

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.

Site: 6 [6 Bigge/ Campbell PM]

Site Category: -

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

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B

Output Phase Sequence: A, B

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Bigge Street												
1	L2	102	14.4	0.097	6.4	LOS A	0.8	6.0	0.13	0.47	0.13	34.7
2	T1	455	1.9	0.485	3.8	LOS A	5.2	36.9	0.19	0.22	0.19	36.6
3	R2	54	2.0	0.485	7.2	LOS A	5.2	36.9	0.19	0.21	0.19	35.7
Approach		611	4.0	0.485	4.5	LOS A	5.2	36.9	0.18	0.26	0.18	36.2
East: Campbell Street												
4	L2	56	0.0	0.129	42.5	LOS C	2.6	18.0	0.83	0.71	0.83	17.3
5	T1	141	1.5	0.414	42.6	LOS D	7.6	53.5	0.89	0.73	0.89	14.7
6	R2	11	0.0	0.414	46.0	LOS D	7.6	53.5	0.89	0.73	0.89	17.2
Approach		207	1.0	0.414	42.7	LOS D	7.6	53.5	0.87	0.73	0.87	15.6
North: Bigge Street												
7	L2	18	0.0	0.065	6.2	LOS A	0.6	3.9	0.12	0.19	0.12	36.4
8	T1	313	0.7	0.325	3.7	LOS A	3.1	21.9	0.17	0.23	0.17	36.4
9	R2	68	0.0	0.325	7.3	LOS A	3.1	21.9	0.18	0.24	0.18	35.9
Approach		399	0.5	0.325	4.4	LOS A	3.1	21.9	0.17	0.23	0.17	36.3
West: Campbell Street												
10	L2	45	4.7	0.108	42.3	LOS C	2.1	15.1	0.82	0.71	0.82	18.9
11	T1	58	5.5	0.489	48.2	LOS D	6.6	47.5	0.94	0.77	0.94	13.3
12	R2	65	1.6	0.489	51.6	LOS D	6.6	47.5	0.94	0.77	0.94	17.2
Approach		168	3.8	0.489	47.9	LOS D	6.6	47.5	0.91	0.76	0.91	16.4
All Vehicles		1385	2.5	0.489	15.5	LOS B	7.6	53.5	0.37	0.38	0.37	28.7

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.

Site: 7 [7 Bigge/ Elizabeth AM]

Site Category: -

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

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B

Output Phase Sequence: A, B

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Bigge Street												
1	L2	183	2.9	0.586	16.4	LOS B	15.4	110.7	0.53	0.54	0.53	27.8
2	T1	769	3.4	0.586	14.0	LOS A	15.4	110.7	0.55	0.55	0.55	28.8
3	R2	107	1.0	0.586	18.7	LOS B	13.4	95.9	0.57	0.56	0.57	24.8
Approach		1060	3.1	0.586	14.9	LOS B	15.4	110.7	0.55	0.55	0.55	28.3
East: Elizabeth Street												
4	L2	56	3.8	0.155	27.7	LOS B	3.1	22.3	0.60	0.58	0.60	19.9
5	T1	102	6.2	0.155	28.0	LOS B	3.1	22.3	0.65	0.58	0.65	18.4
6	R2	15	7.1	0.155	34.4	LOS C	2.5	18.5	0.68	0.57	0.68	20.2
Approach		173	5.5	0.155	28.5	LOS B	3.1	22.3	0.63	0.58	0.63	19.0
North: Bigge Street												
7	L2	28	7.4	0.169	13.2	LOS A	2.9	21.1	0.34	0.34	0.34	30.5
8	T1	361	3.5	0.278	11.3	LOS A	4.9	35.4	0.39	0.36	0.39	30.7
9	R2	14	7.7	0.278	15.8	LOS B	4.9	35.4	0.42	0.38	0.42	30.1
Approach		403	3.9	0.278	11.6	LOS A	4.9	35.4	0.39	0.36	0.39	30.6
West: Elizabeth Street												
10	L2	161	3.3	0.250	28.7	LOS C	5.1	37.0	0.63	0.69	0.63	22.7
11	T1	194	10.3	0.594	34.2	LOS C	12.2	90.6	0.83	0.74	0.83	16.5
12	R2	95	1.1	0.594	37.7	LOS C	12.2	90.6	0.83	0.74	0.83	18.8
Approach		449	5.9	0.594	33.0	LOS C	12.2	90.6	0.76	0.72	0.76	19.3
All Vehicles		2085	4.0	0.594	19.3	LOS B	15.4	110.7	0.57	0.55	0.57	25.6

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.

Site: 7 [7 Bigge/ Elizabeth PM]

Site Category: -

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

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B

Output Phase Sequence: A, B

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Bigge Street												
1	L2	311	3.4	0.273	8.4	LOS A	3.5	25.0	0.23	0.55	0.23	31.8
2	T1	534	2.6	0.519	6.1	LOS A	8.8	63.1	0.31	0.31	0.31	34.3
3	R2	43	0.0	0.519	9.5	LOS A	8.8	63.1	0.31	0.31	0.31	32.4
Approach		887	2.7	0.519	7.0	LOS A	8.8	63.1	0.28	0.39	0.28	33.4
East: Elizabeth Street												
4	L2	97	0.0	0.374	38.8	LOS C	6.7	47.3	0.78	0.70	0.78	16.4
5	T1	184	2.9	0.374	37.7	LOS C	6.7	47.3	0.81	0.69	0.81	15.6
6	R2	26	44.0	0.374	42.8	LOS D	5.9	45.4	0.83	0.69	0.83	17.9
Approach		307	5.5	0.374	38.5	LOS C	6.7	47.3	0.80	0.69	0.80	16.1
North: Bigge Street												
7	L2	18	5.9	0.162	8.0	LOS A	2.0	13.8	0.20	0.20	0.20	35.1
8	T1	391	0.5	0.268	5.3	LOS A	3.1	21.8	0.23	0.24	0.23	34.9
9	R2	32	0.0	0.268	9.3	LOS A	3.1	21.8	0.26	0.27	0.26	34.5
Approach		440	0.7	0.268	5.7	LOS A	3.1	21.8	0.23	0.24	0.23	34.8
West: Elizabeth Street												
10	L2	39	0.0	0.105	36.3	LOS C	1.8	13.2	0.70	0.64	0.70	20.6
11	T1	147	18.6	0.525	39.7	LOS C	8.3	64.8	0.86	0.73	0.86	15.1
12	R2	48	0.0	0.525	43.7	LOS D	8.3	64.8	0.87	0.74	0.87	17.3
Approach		235	11.7	0.525	39.9	LOS C	8.3	64.8	0.83	0.72	0.83	16.6
All Vehicles		1869	3.8	0.525	16.0	LOS B	8.8	64.8	0.43	0.45	0.43	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.

Site: 8 [8 Campbell/ Goulburn AM]

Site Category: -

Signals - Fixed Time Isolated Cycle Time = 60 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B

Output Phase Sequence: A, B

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Goulburn Street												
1	L2	39	5.4	0.111	14.4	LOS A	1.5	10.9	0.62	0.57	0.62	29.0
2	T1	98	2.2	0.513	12.4	LOS A	6.7	47.0	0.70	0.67	0.70	30.1
3	R2	254	0.0	0.513	17.2	LOS B	6.7	47.0	0.78	0.75	0.78	26.5
Approach		391	1.1	0.513	15.7	LOS B	6.7	47.0	0.74	0.71	0.74	27.8
East: Campbell Street												
4	L2	91	25.6	0.192	20.8	LOS B	2.0	17.3	0.78	0.71	0.78	24.4
5	T1	98	8.6	0.214	15.1	LOS B	2.5	18.7	0.74	0.62	0.74	22.1
6	R2	21	5.0	0.214	18.5	LOS B	2.5	18.7	0.74	0.62	0.74	27.0
Approach		209	15.6	0.214	17.9	LOS B	2.5	18.7	0.76	0.66	0.76	23.8
North: Goulburn Street												
7	L2	39	0.0	0.050	14.6	LOS B	0.7	4.8	0.62	0.64	0.62	27.7
8	T1	87	4.8	0.172	11.4	LOS A	2.2	16.0	0.64	0.57	0.64	31.4
9	R2	32	13.3	0.172	14.8	LOS B	2.2	16.0	0.64	0.57	0.64	29.1
Approach		158	5.3	0.172	12.9	LOS A	2.2	16.0	0.64	0.58	0.64	30.2
West: Campbell Street												
10	L2	43	4.9	0.108	18.5	LOS B	1.4	9.8	0.72	0.64	0.72	26.2
11	T1	298	0.0	0.502	16.0	LOS B	7.0	49.6	0.81	0.70	0.81	21.7
12	R2	32	6.7	0.502	19.5	LOS B	7.0	49.6	0.81	0.70	0.81	26.6
Approach		373	1.1	0.502	16.6	LOS B	7.0	49.6	0.80	0.69	0.80	22.9
All Vehicles		1131	4.4	0.513	16.0	LOS B	7.0	49.6	0.75	0.68	0.75	26.1

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.

Site: 8 [8 Campbell/ Goulburn PM]

Site Category: -

Signals - Fixed Time Isolated Cycle Time = 60 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B

Output Phase Sequence: A, B

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Goulburn Street												
1	L2	21	0.0	0.051	16.7	LOS B	0.7	4.7	0.67	0.59	0.67	27.2
2	T1	80	5.3	0.238	14.3	LOS A	2.7	19.5	0.72	0.65	0.72	29.4
3	R2	64	0.0	0.238	18.0	LOS B	2.7	19.5	0.73	0.66	0.73	26.7
Approach		165	2.5	0.238	16.0	LOS B	2.7	19.5	0.72	0.64	0.72	28.2
East: Campbell Street												
4	L2	198	0.0	0.256	15.9	LOS B	3.8	26.8	0.69	0.71	0.69	26.9
5	T1	159	0.0	0.238	11.7	LOS A	3.5	24.4	0.67	0.58	0.67	24.6
6	R2	27	0.0	0.238	15.1	LOS B	3.5	24.4	0.67	0.58	0.67	29.2
Approach		384	0.0	0.256	14.1	LOS A	3.8	26.8	0.68	0.65	0.68	26.4
North: Goulburn Street												
7	L2	14	0.0	0.040	17.3	LOS B	0.5	3.6	0.68	0.58	0.68	27.1
8	T1	98	0.0	0.187	14.1	LOS A	2.3	16.7	0.71	0.60	0.71	29.9
9	R2	29	14.3	0.187	17.6	LOS B	2.3	16.7	0.71	0.61	0.71	27.4
Approach		141	3.0	0.187	15.2	LOS B	2.3	16.7	0.71	0.60	0.71	29.3
West: Campbell Street												
10	L2	25	16.7	0.038	15.3	LOS B	0.5	3.6	0.63	0.63	0.63	27.2
11	T1	67	1.6	0.147	12.5	LOS A	1.8	12.5	0.67	0.58	0.67	23.6
12	R2	26	0.0	0.147	15.9	LOS B	1.8	12.5	0.67	0.58	0.67	28.3
Approach		119	4.4	0.147	13.9	LOS A	1.8	12.5	0.66	0.59	0.66	25.8
All Vehicles		809	1.7	0.256	14.6	LOS B	3.8	26.8	0.69	0.63	0.69	27.4

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.

Site: 9 [9 Elizabeth/ Goulburn AM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Elizabeth Street												
5	T1	63	10.0	0.209	1.4	LOS A	1.2	8.8	0.46	0.46	0.46	36.7
6	R2	232	1.8	0.209	5.0	LOS A	1.2	8.8	0.46	0.46	0.46	37.1
Approach		295	3.6	0.209	4.2	NA	1.2	8.8	0.46	0.46	0.46	37.0
North: Goulburn Street												
7	L2	105	13.0	0.213	3.9	LOS A	0.8	5.8	0.21	0.52	0.21	37.2
9	R2	109	2.9	0.213	6.2	LOS A	0.8	5.8	0.21	0.52	0.21	34.2
Approach		215	7.8	0.213	5.1	LOS A	0.8	5.8	0.21	0.52	0.21	36.1
West: Elizabeth Street												
10	L2	229	0.0	0.181	3.4	LOS A	0.0	0.0	0.00	0.32	0.00	37.4
11	T1	98	22.6	0.181	0.0	LOS A	0.0	0.0	0.00	0.32	0.00	38.0
Approach		327	6.8	0.181	2.4	NA	0.0	0.0	0.00	0.32	0.00	37.7
All Vehicles		837	5.9	0.213	3.7	NA	1.2	8.8	0.22	0.42	0.22	36.9

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: 9 [9 Elizabeth/ Goulburn PM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Elizabeth Street												
5	T1	112	15.1	0.142	0.6	LOS A	0.8	5.7	0.32	0.27	0.32	37.6
6	R2	118	1.8	0.142	4.4	LOS A	0.8	5.7	0.32	0.27	0.32	37.8
Approach		229	8.3	0.142	2.6	NA	0.8	5.7	0.32	0.27	0.32	37.7
North: Goulburn Street												
7	L2	187	1.1	0.337	3.9	LOS A	1.4	9.9	0.25	0.53	0.25	37.3
9	R2	189	0.0	0.337	5.7	LOS A	1.4	9.9	0.25	0.53	0.25	34.4
Approach		377	0.6	0.337	4.8	LOS A	1.4	9.9	0.25	0.53	0.25	36.3
West: Elizabeth Street												
10	L2	100	1.1	0.120	3.4	LOS A	0.0	0.0	0.00	0.22	0.00	38.2
11	T1	111	24.8	0.120	0.0	LOS A	0.0	0.0	0.00	0.22	0.00	38.6
Approach		211	13.5	0.120	1.6	NA	0.0	0.0	0.00	0.22	0.00	38.4
All Vehicles		817	6.1	0.337	3.4	NA	1.4	9.9	0.20	0.38	0.20	37.2

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site: [10 Bigge/ Moore AM]

Site Category: -

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

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: VV1481_14C - applied

Reference Phase: Phase A

Input Phase Sequence: A, D, E

Output Phase Sequence: A, D, E

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Bigge Street												
1	L2	82	2.6	0.692	25.6	LOS B	20.7	146.9	0.86	0.77	0.86	23.3
2	T1	1118	1.6	0.692	21.0	LOS B	21.2	150.7	0.86	0.77	0.86	20.0
3	R2	229	2.8	0.325	11.7	LOS A	3.6	25.7	0.60	0.72	0.60	34.7
Approach		1429	1.8	0.692	19.8	LOS B	21.2	150.7	0.81	0.76	0.81	24.1
East: Moore Street												
4	L2	74	1.4	0.322	38.3	LOS C	4.0	32.9	0.91	0.75	0.91	24.8
5	T1	73	72.5	0.322	38.2	LOS C	4.0	32.9	0.93	0.74	0.93	23.6
6	R2	11	0.0	0.322	43.7	LOS D	2.3	24.3	0.94	0.73	0.94	21.5
Approach		157	34.2	0.322	38.6	LOS C	4.0	32.9	0.92	0.74	0.92	24.0
North: Bigge Street												
7	L2	6	0.0	0.399	20.8	LOS B	9.5	69.5	0.70	0.61	0.70	30.3
8	T1	322	5.6	0.399	17.3	LOS B	9.5	69.5	0.70	0.61	0.70	22.4
9	R2	36	0.0	0.076	13.3	LOS A	0.6	3.9	0.66	0.67	0.66	23.3
Approach		364	4.9	0.399	17.0	LOS B	9.5	69.5	0.70	0.62	0.70	22.8
West: Moore Street												
10	L2	155	2.0	0.337	30.9	LOS C	5.9	43.4	0.83	0.76	0.83	7.2
11	T1	76	51.4	0.337	35.5	LOS C	5.9	43.4	0.91	0.73	0.91	24.5
12	R2	14	0.0	0.337	40.6	LOS C	3.1	29.3	0.92	0.73	0.92	16.7
Approach		244	17.2	0.337	32.9	LOS C	5.9	43.4	0.86	0.75	0.86	13.1
All Vehicles		2195	6.4	0.692	22.1	LOS B	21.2	150.7	0.81	0.73	0.81	21.6

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.

Site: [10 Bigge/ Moore PM]

Site Category: -

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

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: VV1481_14C - applied

Reference Phase: Phase A

Input Phase Sequence: A, D, E

Output Phase Sequence: A, D, E

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Bigge Street												
1	L2	72	1.5	0.370	19.1	LOS B	12.6	89.8	0.58	0.55	0.58	27.1
2	T1	747	2.7	0.370	14.3	LOS A	12.6	90.5	0.57	0.52	0.57	24.6
3	R2	122	9.5	0.215	11.9	LOS A	1.9	14.0	0.53	0.69	0.53	34.6
Approach		941	3.5	0.370	14.3	LOS A	12.6	90.5	0.57	0.55	0.57	27.4
East: Moore Street												
4	L2	219	0.5	0.491	43.6	LOS D	11.2	80.4	0.89	0.80	0.89	23.4
5	T1	74	71.4	0.491	53.9	LOS D	11.2	80.4	0.97	0.77	0.97	20.5
6	R2	11	0.0	0.491	58.8	LOS E	4.4	47.3	0.98	0.77	0.98	18.6
Approach		303	17.7	0.491	46.6	LOS D	11.2	80.4	0.92	0.79	0.92	22.5
North: Bigge Street												
7	L2	3	0.0	0.541	18.7	LOS B	18.2	128.1	0.62	0.56	0.62	31.3
8	T1	542	0.8	0.541	15.3	LOS B	18.2	128.1	0.62	0.56	0.62	24.0
9	R2	42	0.0	0.076	9.0	LOS A	0.6	4.2	0.44	0.62	0.44	27.4
Approach		587	0.7	0.541	14.9	LOS B	18.2	128.1	0.61	0.56	0.61	24.3
West: Moore Street												
10	L2	94	2.2	0.424	51.8	LOS D	6.4	52.9	0.94	0.78	0.94	5.8
11	T1	59	82.1	0.424	56.0	LOS D	6.4	52.9	0.97	0.76	0.97	19.9
12	R2	9	0.0	0.424	65.9	LOS E	2.5	27.2	1.00	0.76	1.00	11.7
Approach		162	31.2	0.424	54.1	LOS D	6.4	52.9	0.95	0.77	0.95	11.4
All Vehicles		1994	7.1	0.541	22.6	LOS B	18.2	128.1	0.67	0.61	0.67	22.3

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.

 Site: [11 Elizabeth/ College AM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: College Street												
1	L2	204	4.6	0.121	3.4	LOS A	0.1	0.6	0.02	0.45	0.02	36.9
3	R2	14	0.0	0.121	3.6	LOS A	0.1	0.6	0.02	0.45	0.02	36.4
Approach		218	4.3	0.121	3.5	NA	0.1	0.6	0.02	0.45	0.02	36.8
East: Hospital Access												
4	L2	14	0.0	0.045	0.5	LOS A	0.2	1.2	0.35	0.23	0.35	35.7
5	T1	27	19.2	0.045	2.2	LOS A	0.2	1.2	0.35	0.23	0.35	24.5
Approach		41	12.8	0.045	1.6	LOS A	0.2	1.2	0.35	0.23	0.35	31.0
West: Elizabeth Street												
11	T1	32	10.0	0.113	3.0	LOS A	0.6	4.6	0.07	0.46	0.07	23.9
12	R2	151	22.4	0.113	3.7	LOS A	0.6	4.6	0.07	0.46	0.07	36.0
Approach		182	20.2	0.113	3.6	NA	0.6	4.6	0.07	0.46	0.07	35.2
All Vehicles		441	11.7	0.121	3.3	NA	0.6	4.6	0.07	0.43	0.07	35.9

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

 Site: [11 Elizabeth/ College PM]

Site Category: -
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: College Street												
1	L2	162	9.1	0.104	3.5	LOS A	0.1	0.9	0.02	0.45	0.02	36.7
3	R2	20	0.0	0.104	3.6	LOS A	0.1	0.9	0.02	0.45	0.02	36.3
Approach		182	8.1	0.104	3.5	NA	0.1	0.9	0.02	0.45	0.02	36.7
East: Hospital Access												
4	L2	16	0.0	0.057	0.8	LOS A	0.2	1.4	0.41	0.30	0.41	35.6
5	T1	38	0.0	0.057	2.1	LOS A	0.2	1.4	0.41	0.30	0.41	25.3
Approach		54	0.0	0.057	1.8	LOS A	0.2	1.4	0.41	0.30	0.41	31.0
West: Elizabeth Street												
11	T1	27	0.0	0.162	3.0	LOS A	0.8	6.3	0.09	0.46	0.09	23.7
12	R2	247	9.4	0.162	3.7	LOS A	0.8	6.3	0.09	0.46	0.09	35.9
Approach		275	8.4	0.162	3.6	NA	0.8	6.3	0.09	0.46	0.09	35.5
All Vehicles		511	7.4	0.162	3.4	NA	0.8	6.3	0.10	0.44	0.10	35.7

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model 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.

Site Category: -

Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Site User-Given Phase Times)

Timings based on settings in the Network Timing dialog

Phase Times specified by the user

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B, D, E, G

Output Phase Sequence: A, B, D, E, G

Movement Performance - Vehicles													
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m			km/h
SouthEast: Remembrance Avenue													
4	L2	77	4.1	77	4.1	0.355	60.1	LOS E	4.0	28.4	0.92	1.26	9.6
5	T1	34	0.0	34	0.0	0.355	55.5	LOS D	4.0	28.4	0.92	1.26	17.4
6	R2	111	1.9	111	1.9	0.503	81.8	LOS F	2.5	18.0	1.00	1.00	20.2
Approach		221	2.4	221	2.4	0.503	70.3	LOS E	4.0	28.4	0.96	1.13	17.2
NorthEast: Hume Highway													
7	L2	172	1.2	172	1.2	0.121	6.9	LOS A	0.1	1.0	0.02	0.02	54.4
8	T1	1512	10.7	1512	10.7	0.609	21.9	LOS B	13.8	105.5	0.59	0.59	38.3
9	R2	51	6.3	51	6.3	0.328	78.0	LOS F	2.1	15.9	0.96	0.96	22.2
Approach		1734	9.7	1734	9.7	0.609	22.1	LOS B	13.8	105.5	0.54	0.54	38.7
NorthWest: Mannix Parade													
10	L2	76	5.6	76	5.6	0.324	62.6	LOS E	4.1	29.4	0.92	0.92	24.8
11	T1	27	0.0	27	0.0	0.324	58.0	LOS E	4.1	29.4	0.92	0.92	16.9
12	R2	72	2.9	72	2.9	0.656	83.7	LOS F	3.3	24.0	1.00	1.08	9.0
Approach		175	3.6	175	3.6	0.656	70.5	LOS E	4.1	29.4	0.95	0.98	17.4
SouthWest: Hume Highway													
1	L2	37	5.7	37	5.7	0.963	26.3	LOS B	29.6	219.8	0.53	0.65	35.8
2	T1	2024	6.9	2024	6.9	0.963	20.1	LOS B	33.0	244.2	0.57	0.69	46.6
3	R2	215	0.0	215	0.0	0.913	65.8	LOS E	7.1	49.9	1.00	1.47	17.9
Approach		2276	6.2	2276	6.2	0.963	24.5	LOS B	33.0	244.2	0.61	0.76	42.5
All Vehicles		4405	7.3	4405	7.3	0.963	27.7	LOS B	33.0	244.2	0.61	0.70	37.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Site Category: -

Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Network Site User-Given Phase Times)

Timings based on settings in the Network Timing dialog

Phase Times specified by the user

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, D, E, G

Output Phase Sequence: A, D, E, G

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows	Arrival Flows		Deg. Satn	Average Delay	Level of Service	Aver. Queue	Back of Queue	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m			km/h	
SouthEast: Remembrance Avenue														
4	L2	158	0.0	158	0.0	0.573	65.7	LOS E	7.7	53.7	0.97	0.81	0.97	8.8
5	T1	27	0.0	27	0.0	0.573	61.1	LOS E	7.7	53.7	0.97	0.81	0.97	16.2
6	R2	231	0.5	231	0.5	0.584	75.1	LOS F	5.1	35.5	1.00	0.79	1.00	21.5
Approach		416	0.3	416	0.3	0.584	70.6	LOS F	7.7	53.7	0.99	0.80	0.99	17.4
NorthEast: Hume Highway														
7	L2	72	1.5	72	1.5	0.045	6.7	LOS A	0.0	0.3	0.02	0.59	0.02	54.6
8	T1	2204	4.6	2204	4.6	0.753	19.2	LOS B	20.7	150.6	0.63	0.58	0.63	40.6
9	R2	59	3.6	59	3.6	0.542	84.0	LOS F	2.7	19.3	1.00	0.76	1.00	21.2
Approach		2335	4.5	2335	4.5	0.753	20.5	LOS B	20.7	150.6	0.62	0.58	0.62	39.7
NorthWest: Mannix Parade														
10	L2	56	5.7	56	5.7	0.238	61.5	LOS E	2.9	21.2	0.90	0.74	0.90	25.4
11	T1	19	5.6	19	5.6	0.238	56.9	LOS E	2.9	21.2	0.90	0.74	0.90	17.0
12	R2	68	3.1	68	3.1	0.353	73.1	LOS F	2.9	20.9	0.97	0.76	0.97	10.1
Approach		143	4.4	143	4.4	0.353	66.4	LOS E	2.9	21.2	0.93	0.75	0.93	17.5
SouthWest: Hume Highway														
1	L2	42	10.0	42	10.0	0.825	26.9	LOS B	25.0	184.0	0.74	0.69	0.74	35.3
2	T1	1633	5.5	1633	5.5	0.825	20.8	LOS B	25.5	186.6	0.74	0.69	0.74	46.1
3	R2	57	0.0	57	0.0	0.510	83.8	LOS F	2.6	18.0	1.00	0.75	1.00	15.0
Approach		1732	5.4	1732	5.4	0.825	23.0	LOS B	25.5	186.6	0.75	0.69	0.75	44.1
All Vehicles		4625	4.4	4625	4.4	0.825	27.3	LOS B	25.5	186.6	0.71	0.65	0.71	36.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.

Site: [13 Speed Street/ Newbridge Road AM]

Site Category: -

Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times specified by the user

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B, C

Output Phase Sequence: A, B, C

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Newbridge Road												
1	L2	904	2.8	0.799	15.0	LOS B	33.3	239.0	0.74	0.82	0.74	41.4
2	T1	973	5.4	0.799	20.0	LOS B	39.3	288.0	0.84	0.79	0.84	40.7
Approach		1877	4.2	0.799	17.6	LOS B	39.3	288.0	0.79	0.80	0.79	41.0
NorthEast: Terminus Street												
4	L2	15	100.0	0.204	64.8	LOS E	0.9	11.5	0.98	0.70	0.98	19.6
Approach		15	100.0	0.204	64.8	LOS E	0.9	11.5	0.98	0.70	0.98	19.6
NorthWest: Terminus Street												
7	L2	128	0.0	0.122	14.4	LOS A	3.1	21.7	0.41	0.63	0.41	15.8
8	T1	1040	9.7	0.612	25.9	LOS B	22.5	170.5	0.81	0.72	0.81	37.5
Approach		1168	8.6	0.612	24.7	LOS B	22.5	170.5	0.76	0.71	0.76	35.4
SouthWest: Speed Street												
10	L2	21	5.0	0.293	37.0	LOS C	7.3	53.3	0.79	0.77	0.79	19.2
12	R2	318	5.0	0.293	37.0	LOS C	7.4	54.3	0.79	0.77	0.79	28.4
Approach		339	5.0	0.293	37.0	LOS C	7.4	54.3	0.79	0.77	0.79	28.0
All Vehicles		3399	6.2	0.799	22.2	LOS B	39.3	288.0	0.78	0.77	0.78	37.3

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.

Site: [13 Speed Street/ Newbridge Road PM]

Site Category: -

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

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B, C

Output Phase Sequence: A, B, C

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Newbridge Road												
1	L2	843	4.4	0.866	19.5	LOS B	44.9	325.5	0.83	0.87	0.87	38.7
2	T1	1327	4.0	0.866	19.1	LOS B	51.8	375.0	0.86	0.84	0.89	41.1
Approach		2171	4.1	0.866	19.3	LOS B	51.8	375.0	0.85	0.85	0.88	40.2
NorthEast: Terminus Street												
4	L2	14	100.0	0.126	58.9	LOS E	0.8	10.0	0.94	0.70	0.94	20.8
Approach		14	100.0	0.126	58.9	LOS E	0.8	10.0	0.94	0.70	0.94	20.8
NorthWest: Terminus Street												
7	L2	118	0.0	0.110	11.7	LOS A	2.3	16.2	0.34	0.61	0.34	16.5
8	T1	1072	1.8	0.551	21.9	LOS B	21.2	150.7	0.74	0.66	0.74	39.9
Approach		1189	1.6	0.551	20.9	LOS B	21.2	150.7	0.70	0.66	0.70	37.8
SouthWest: Speed Street												
10	L2	35	3.0	0.629	48.1	LOS D	14.8	105.1	0.95	0.83	0.95	16.3
12	R2	537	1.2	0.629	48.0	LOS D	15.2	107.5	0.95	0.83	0.95	24.9
Approach		572	1.3	0.629	48.0	LOS D	15.2	107.5	0.95	0.83	0.95	24.5
All Vehicles		3945	3.3	0.866	24.1	LOS B	51.8	375.0	0.82	0.79	0.84	36.4

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.

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