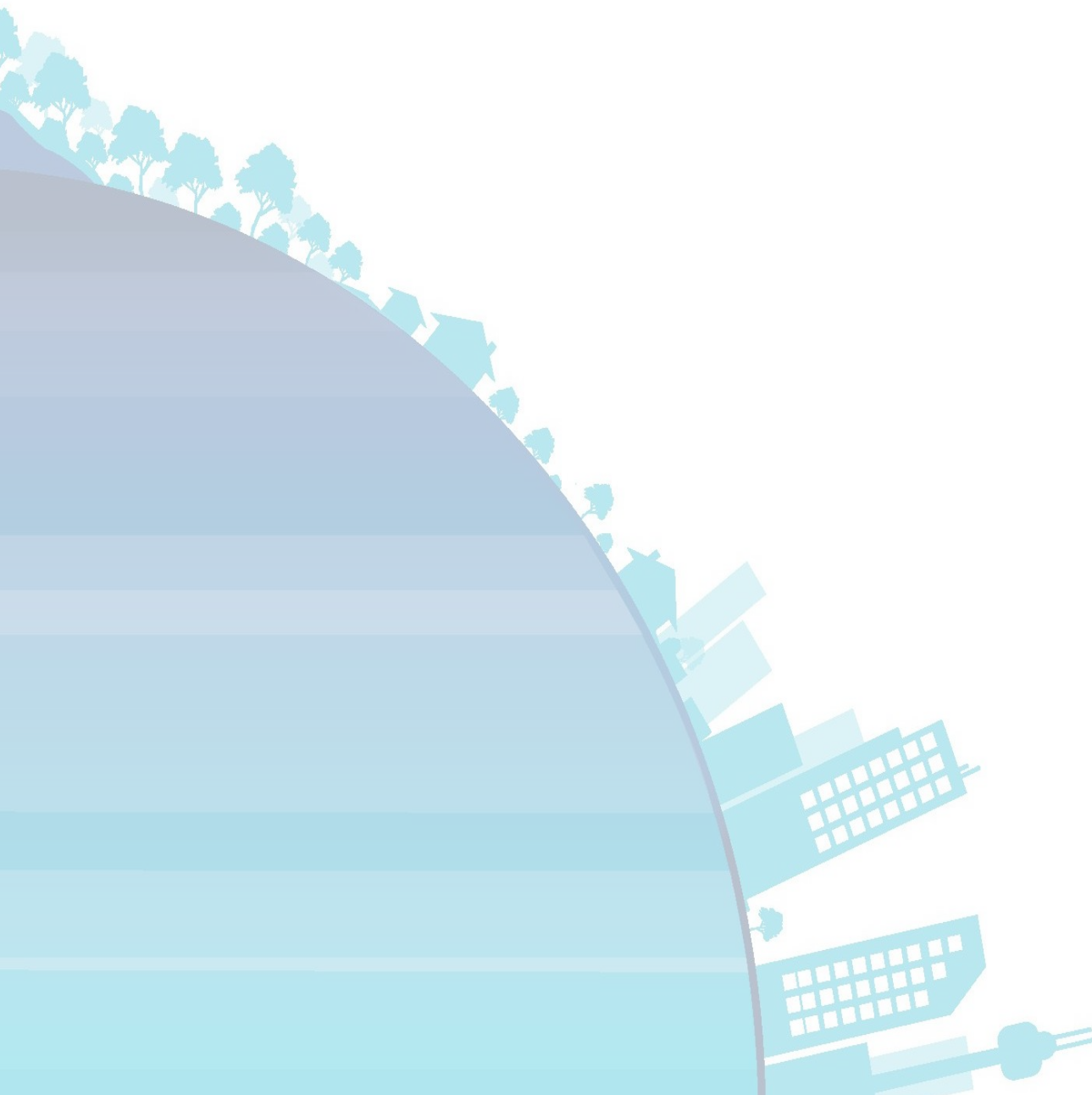


Appendix G. Construction Traffic Management Plan Intersection Performance



9th October 2017

Peter Boase, B.Arch - Pg Dip Arch
Jacobs
Sector Lead – Life Sciences NSW Built Environment
Level 7, 177 Pacific Highway
North Sydney, NSW, 2060

CC: Myall Stevens

RE: Molecular Life Sciences Building (MLSB) Project
Impact Assessment of Construction Vehicles at Key Intersections

In regards to the MLSB Project, Caldwell & Kent Consulting have been requested to assess the impact of construction vehicles at key intersections outside the Wollongong Campus. This will form part of the Construction Management Plan prepared by Capital Insight.

Traffic Routes

Upon review of the Construction Management Plan, we have determined which intersection will be most affected by the increased volume of construction vehicles during the main construction stage.

Figures 1 and 2 below show the main options with respect to heavy vehicle routes into the MLSB Site. The preferred route is via Mount Ousley Road connecting with Northfields Avenue on the eastern side of the campus. We have focused on the following intersections, which are considered to be most affected by the increased traffic activity, thereby representing the worst-case scenario for the network as a whole:

- Porter Street with University Avenue- operates as a priority controlled Intersection;
- University Avenue and Princes Highway Ramps – operates as a roundabout controlled intersection;
- University Avenue with Irvine Street - operates as a roundabout controlled intersection; and
- Northfields Avenue with University Entrance - operates as a roundabout controlled intersection.

Traffic data collected by the RMS during May 2015 was used to determine the existing traffic activity at the above intersections. The existing vehicular traffic volumes are presented as **Attachment A**

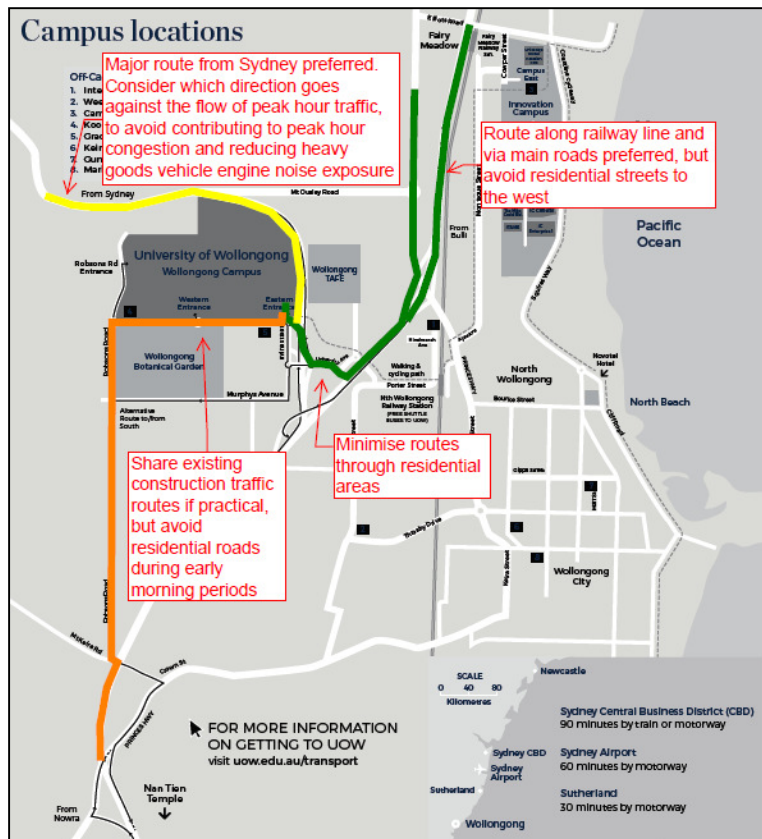


Figure 1 - UoW MLS External Traffic Considerations (source: Capital Insight)

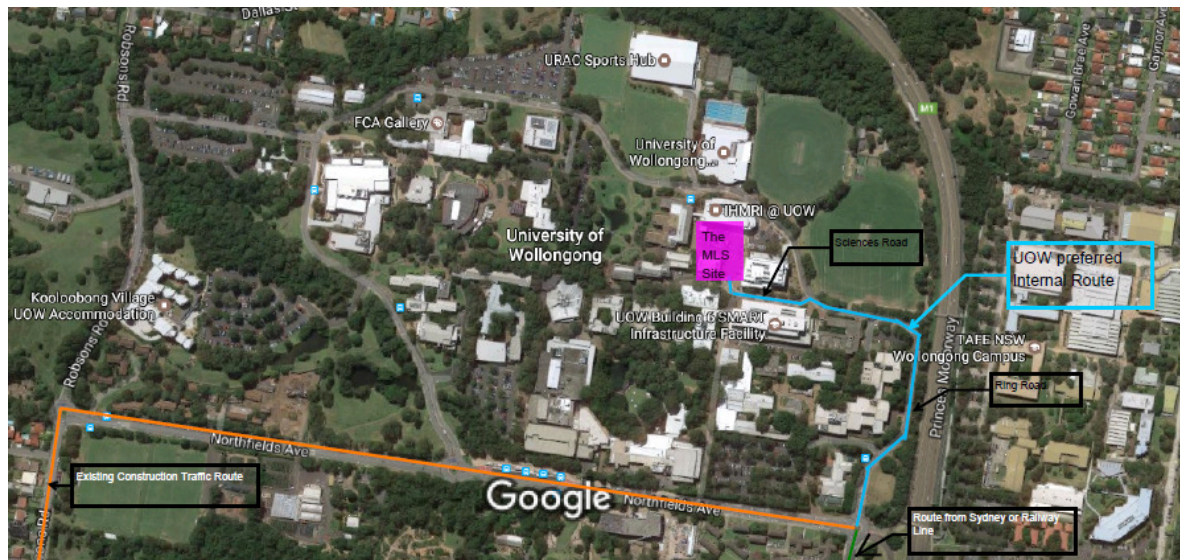


Figure 2 - UoW MLSB Internal Route from Northfields Avenue

Estimated Traffic Volumes

Construction activity will be at its peak during the Main Stage or Works. Based on the Construction Management Plan provided by Capital Insight, a maximum of 40 construction vehicles will attend the site each day. These will comprise of both Heavy Rigid Vehicles and B-doubles.

We have assumed that these vehicles will have an arrival rate evenly distributed across a normal working day – thus resulting in an additional traffic flow of 4-5 vehicle movements per hour.

A review of the proposed construction procedure indicates a maximum of 78 staff personals will be present on-site at any given time. The local road network has a limited on-street parking supply which experiences a high parking demand. Considering this the University will provide on-site parking for all construction workers. At this stage the parking location for construction staff is not finalised however we note that the University campus includes number of available grassed areas that can be potentially used as a temporary parking facilities.

To present a robust assessment we have assumed 90% of the construction staff will access the University as car drivers. As discussed, the proposed construction will involve a maximum of 78 workers and application of the above would result in a maximum 71 vehicle trips (i.e. 78×0.9) during morning and evening peak period. In this regard, the proposed construction activity has a potential to generate a maximum of 76 vehicle trips per hour (comprising 71 construction staff and 5 heavy vehicles).

It is highly likely the construction workers will access the site outside general commuter peak periods which are usually considered as following:

- Morning Peak Period – 7:00am – 9:00am; and
- Evening Peak Period – 4:00pm – 6:00pm

Furthermore, the University represents a major traffic generator in the area and the operation of University involves students arriving at morning period and exiting the campus following completion of classes. We note that classes finish at different times of day and therefore it is highly likely that the students will leave the campus at varying time periods. Considering the above, morning peak period represents the actual road network peak. In order to present the worst case scenario we have assumed the construction workers will access the site during morning peak period.

The existing vehicular access proportions (to the University) were retained to distribute the additional constructional traffic onto the local road network. For example, approximately 60% of vehicles accessing the University arrive from the southern region via the connection of Princes Highway and Northfields Avenue. We note a small proportion of vehicles access the University via the Robinson Road and therefore, we have only considered the four intersections listed above. The figure below indicates the additional traffic distributed on the local road network.

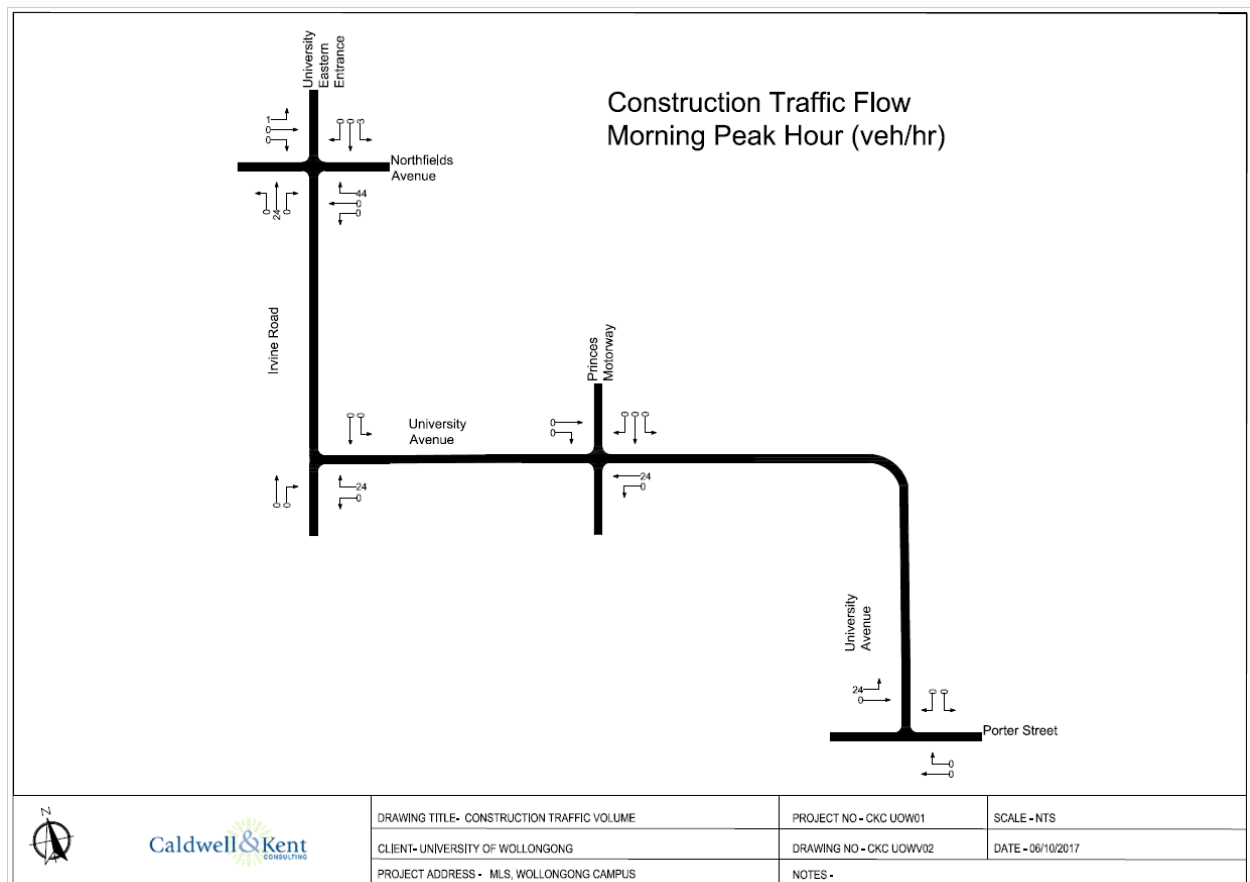


Figure 3 – Construction Traffic Activity Using Existing Road Network

The above traffic volumes were super imposed onto the existing road network and the resultant traffic flows are presented as **Attachment A**.

Intersection Operation

The operation of the road network is determined by the capacity of intersections to accommodate peak period traffic flows. The surveyed intersections were modelled utilising the SIDRA intersection modelling software. The SIDRA intersection software is a simulation tool and provides information on various performance indicators comprising Level of Service (LOS), Avg. Delay, Queue Lengths and Degree of Saturation etc.

Based on Average delay, which is defined as the average delay experienced by all vehicles accessing the intersection, the RMS Guide to Traffic Generation has categorised the operation of an intersection utilising an indicator known as Level of Service (LoS).

Degree of Saturation (DoS) is defined as the ratio of demand flow (v) to theoretical lane capacity(c) and is expressed as a percentage. For a satisfactory operation of an intersection, DoS should be less than the

nominated practical degree of saturation, usually 0.9. The intersection DoS is based on the movement with the highest value.

The table below indicates the bands adopted by RMS:

Table 1- RMS Level of Services Classification

LoS	Avg. Delay (sec/veh)	Operation of Intersection
A	0-14	Good
B	15-28	Good with minimal delays and spare capacity
C	29-42	Satisfactory with spare capacity
D	43-56	Operating near Capacity
E	57-70	At capacity and incidents will cause excessive delays
F	>70	Unsatisfactory and requires additional capacity

Source-RMS Guide to Traffic Generating Developments

Sidra Modelling has been performed on the affected intersection by overlaying the forecast construction vehicle traffic activity with the existing traffic activity. Detailed modelling results are presented as **Attachment B** and results summary are included in table 2 below:

Table 2- Summary of Surveyed Intersections

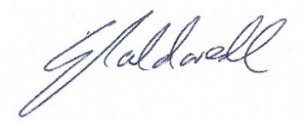
Intersection		Avg.Delay (Secs)	Level of Service (LoS)	Degree of Saturation (DoS)
Northfields Avenue and University Entrance	Existing	13.3	A	0.511
	Existing + Construction	13.7	A	0.538
Irvine Street and University Ave	Existing	12.6	A	0.689
	Existing +Construction	12.6	A	0.709
Princes Hwy and University Ave	Existing	15.4	B	0.546
	Existing +Construction	15.4	B	0.583
University Ave and Porter St	Existing	25.6	B	0.812
	Existing +Construction	28.7	C	0.843

Worst movement results are reported for the roundabout control intersection

The modelling results indicate that during the construction period associated with the proposed development, the intersections will continue to operate similarly to the existing conditions, suggesting the construction traffic will have no detrimental impact on the operation of the road network. Detailed Sidra intersection modelling results for EXISTING and FORECAST traffic activity have been included as an attachment.

If you have any questions about this assessment, please contact us at gcaldwell@ckconsultants.com.au or call 0439 380 854.

Sincerely



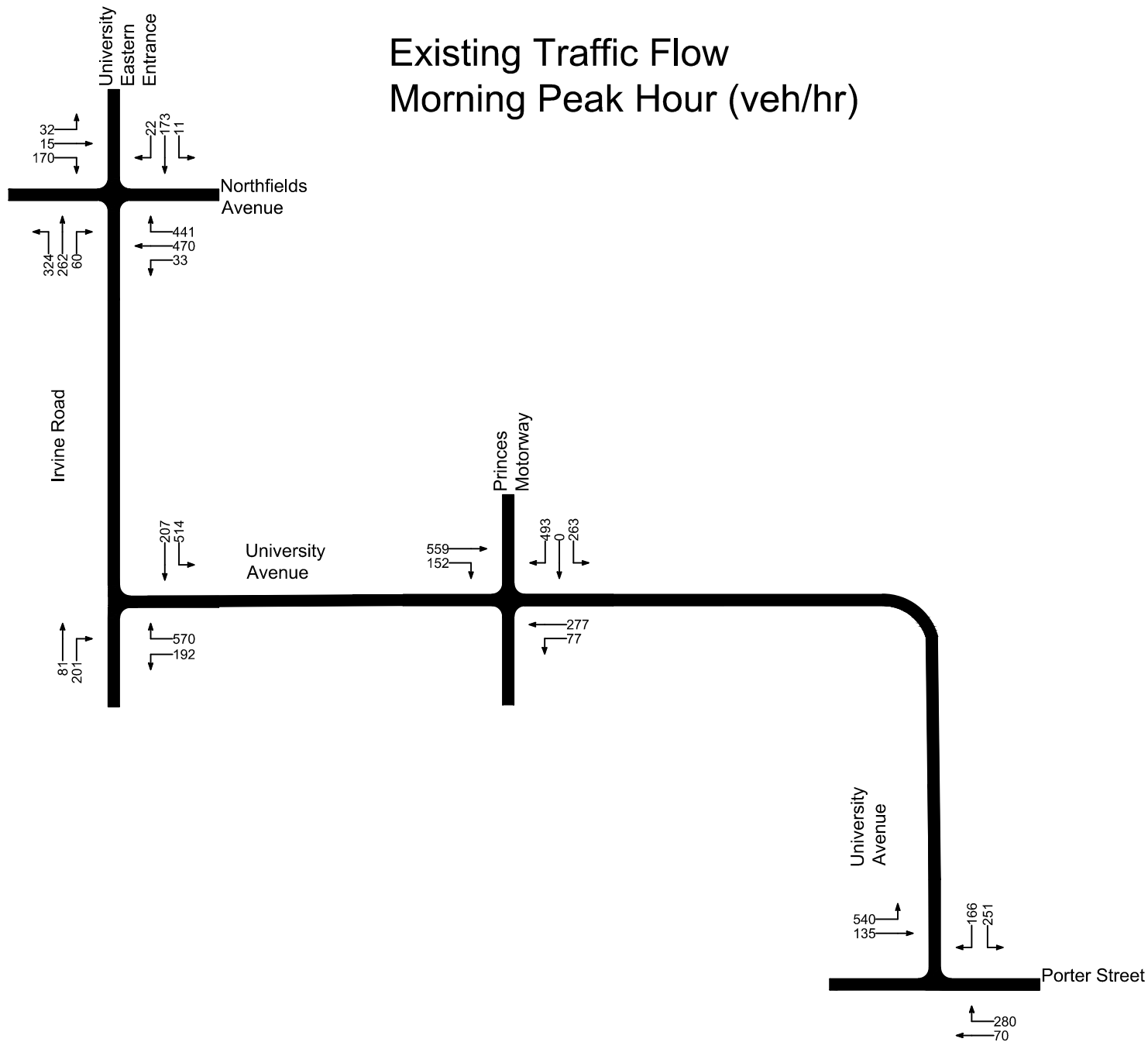
Glenn Caldwell

Caldwell & Kent Consulting

Attachment A – Traffic Flows on Local Road Network

Attachment B – SIDRA Modelling Results

Existing Traffic Flow Morning Peak Hour (veh/hr)



DRAWING TITLE- EXISTING TRAFFIC VOLUME

CLIENT- UNIVERSITY OF WOLLONGONG

PROJECT ADDRESS - MLS, WOLLONGONG CAMPUS

PROJECT NO - CKC UOW01

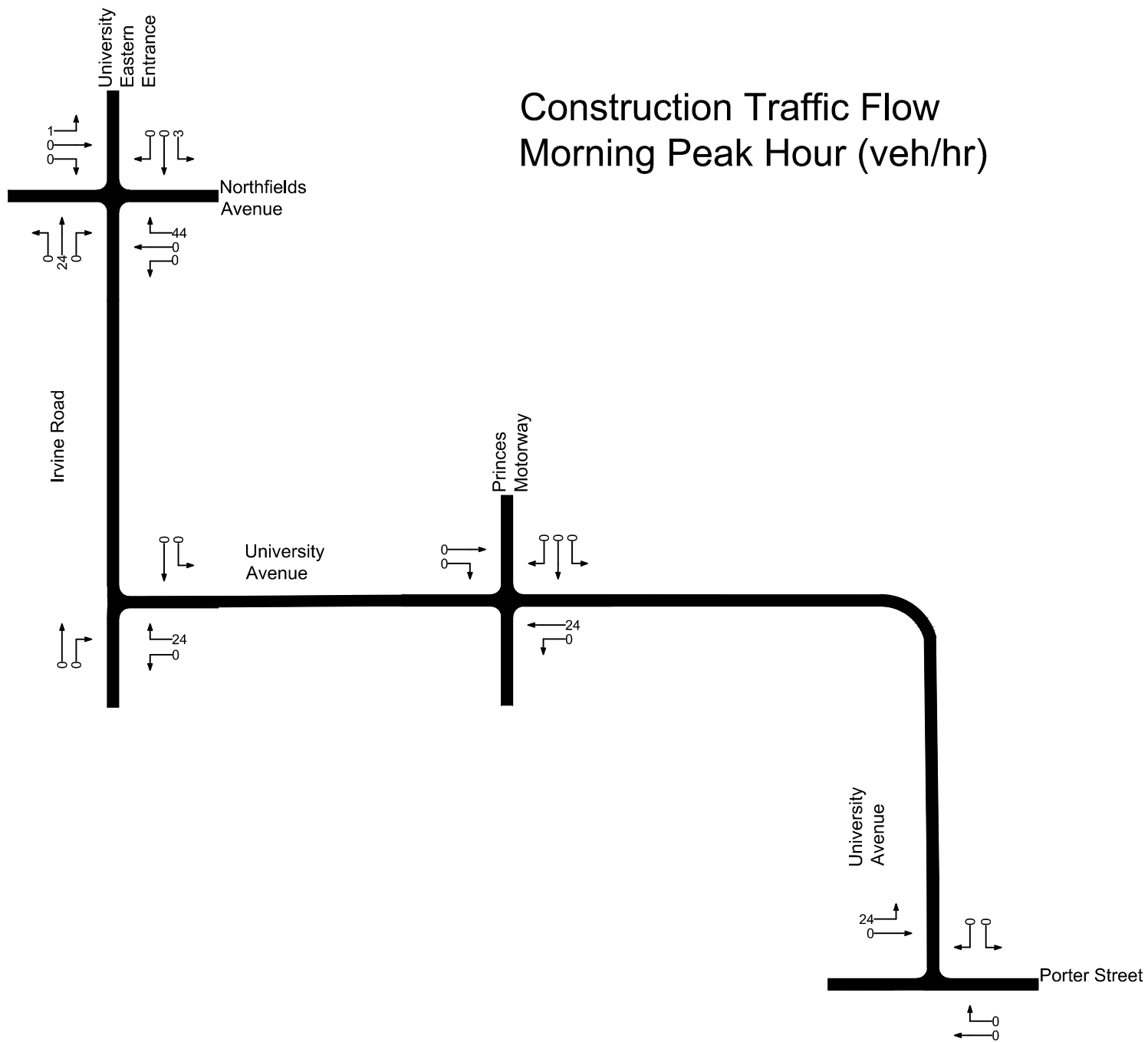
DRAWING NO - CKC UOWV01

NOTES -

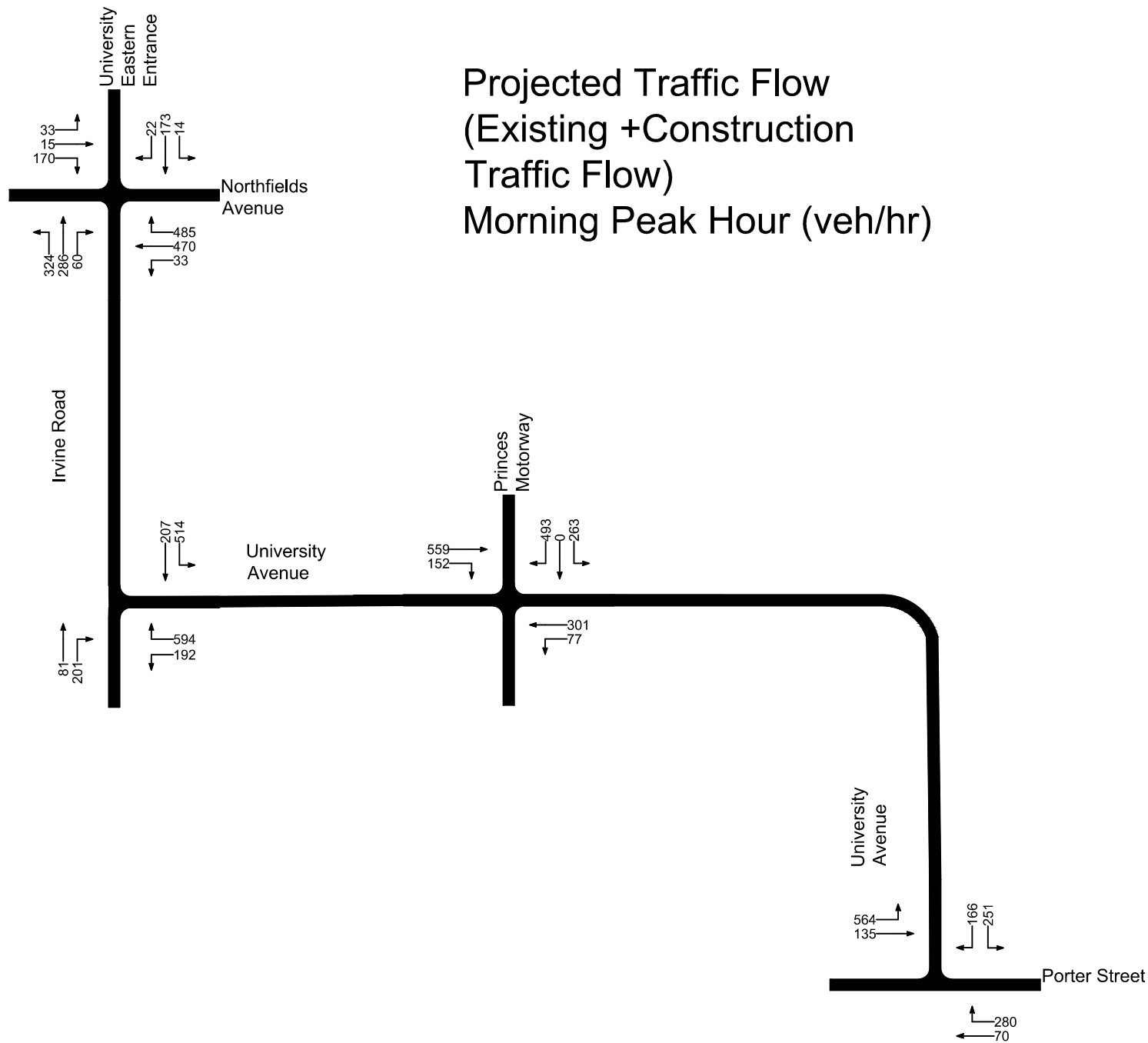
SCALE - NTS

DATE - 06/10/2017

Construction Traffic Flow Morning Peak Hour (veh/hr)



Projected Traffic Flow (Existing + Construction Traffic Flow) Morning Peak Hour (veh/hr)



MOVEMENT SUMMARY

▽ Site: 101 [Porter St & University Ave_EX]

New Site

Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
East: Porter St (West)											
5	T1	74	1.0	0.812	14.9	LOS B	6.7	47.5	0.81	1.32	28.2
6	R2	295	1.0	0.812	25.6	LOS B	6.7	47.5	0.81	1.32	42.0
Approach		368	1.0	0.812	23.5	LOS B	6.7	47.5	0.81	1.32	39.7
North: University Avenue											
7	L2	264	1.0	0.238	5.6	LOS A	0.0	0.0	0.00	0.58	53.6
9	R2	175	1.0	0.238	5.5	LOS A	0.0	0.0	0.00	0.58	37.4
Approach		439	1.0	0.238	5.6	NA	0.0	0.0	0.00	0.58	48.0
West: Porter St (east)											
10	L2	568	1.0	0.308	3.8	LOS A	0.0	0.0	0.00	0.55	51.5
11	T1	142	1.0	0.149	4.5	LOS A	0.5	3.8	0.46	0.67	50.9
Approach		711	1.0	0.308	3.9	LOS A	0.5	3.8	0.09	0.57	51.4
All Vehicles		1518	1.0	0.812	9.1	NA	6.7	47.5	0.24	0.75	46.1

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.

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Organisation: CK CONSULTANTS PTY LTD | Processed: Friday, October 06, 2017 7:30:15 PM

Project: C:\CK CONSULTANTS\CK CONSULTANTS\UoW_TIA\EXISITNG .sip7

MOVEMENT SUMMARY

 **Site: 101 [University Ave & Irvine Rd_EX]**

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
South: Irvine Rd(South)											
2	T1	85	0.0	0.393	8.5	LOS A	2.8	19.7	0.81	0.85	50.8
3	R2	212	0.0	0.393	12.6	LOS A	2.8	19.7	0.81	0.85	50.7
Approach		297	0.0	0.393	11.4	LOS A	2.8	19.7	0.81	0.85	50.7
East: University Ave											
4	L2	202	1.0	0.689	6.6	LOS A	7.8	54.7	0.75	0.71	50.6
6	R2	600	1.0	0.689	11.0	LOS A	7.8	54.7	0.75	0.71	51.5
Approach		802	1.0	0.689	9.9	LOS A	7.8	54.7	0.75	0.71	51.3
North: Irvine Ave(North)											
7	L2	541	1.0	0.651	6.0	LOS A	6.6	46.9	0.72	0.64	52.6
8	T1	218	1.0	0.651	6.3	LOS A	6.6	46.9	0.72	0.64	53.7
Approach		759	1.0	0.651	6.1	LOS A	6.6	46.9	0.72	0.64	52.9
All Vehicles		1858	0.8	0.689	8.6	LOS A	7.8	54.7	0.75	0.70	51.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 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.

MOVEMENT SUMMARY

 **Site: 101 [Northfield Rd and Irvine Street_Ex]**

Northfields Rd and Irvine Street
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
South: Irvine St											
1	L2	341	2.0	0.461	8.5	LOS A	2.6	18.5	0.75	0.92	51.4
2	T1	276	2.0	0.512	9.4	LOS A	3.0	21.1	0.77	0.94	51.6
3	R2	63	2.0	0.512	13.3	LOS A	3.0	21.1	0.77	0.94	51.3
Approach		680	2.0	0.512	9.3	LOS A	3.0	21.1	0.76	0.93	51.5
East: Northfields Ave(East)											
4	L2	35	2.0	0.454	6.8	LOS A	3.3	23.8	0.65	0.67	51.8
5	T1	495	2.0	0.454	6.7	LOS A	3.3	23.8	0.65	0.67	53.1
6	R2	464	2.0	0.463	11.1	LOS A	3.3	23.4	0.67	0.77	50.7
Approach		994	2.0	0.463	8.8	LOS A	3.3	23.8	0.66	0.71	51.9
North: UoW_Eastern Entrance											
7	L2	12	2.0	0.209	5.7	LOS A	1.3	8.9	0.49	0.58	52.4
8	T1	182	2.0	0.209	6.0	LOS A	1.3	8.9	0.49	0.58	53.5
9	R2	23	2.0	0.209	9.9	LOS A	1.3	8.9	0.49	0.58	53.3
Approach		217	2.0	0.209	6.4	LOS A	1.3	8.9	0.49	0.58	53.5
West: Northfields Ave(West)											
10	L2	34	2.0	0.392	10.9	LOS A	2.4	17.3	0.80	0.95	48.0
11	T1	16	2.0	0.392	11.1	LOS A	2.4	17.3	0.80	0.95	48.9
12	R2	179	2.0	0.392	15.0	LOS B	2.4	17.3	0.80	0.95	48.7
Approach		228	2.0	0.392	14.1	LOS A	2.4	17.3	0.80	0.95	48.6
All Vehicles		2119	2.0	0.512	9.3	LOS A	3.3	23.8	0.69	0.80	51.5

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.

MOVEMENT SUMMARY

 **Site: 101 [Northfield Rd and Irvine Street_Ex]**

Northfields Rd and Irvine Street
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
South: Irvine St											
1	L2	341	2.0	0.461	8.5	LOS A	2.6	18.5	0.75	0.92	51.4
2	T1	276	2.0	0.512	9.4	LOS A	3.0	21.1	0.77	0.94	51.6
3	R2	63	2.0	0.512	13.3	LOS A	3.0	21.1	0.77	0.94	51.3
Approach		680	2.0	0.512	9.3	LOS A	3.0	21.1	0.76	0.93	51.5
East: Northfields Ave(East)											
4	L2	35	2.0	0.454	6.8	LOS A	3.3	23.8	0.65	0.67	51.8
5	T1	495	2.0	0.454	6.7	LOS A	3.3	23.8	0.65	0.67	53.1
6	R2	464	2.0	0.463	11.1	LOS A	3.3	23.4	0.67	0.77	50.7
Approach		994	2.0	0.463	8.8	LOS A	3.3	23.8	0.66	0.71	51.9
North: UoW_Eastern Entrance											
7	L2	12	2.0	0.209	5.7	LOS A	1.3	8.9	0.49	0.58	52.4
8	T1	182	2.0	0.209	6.0	LOS A	1.3	8.9	0.49	0.58	53.5
9	R2	23	2.0	0.209	9.9	LOS A	1.3	8.9	0.49	0.58	53.3
Approach		217	2.0	0.209	6.4	LOS A	1.3	8.9	0.49	0.58	53.5
West: Northfields Ave(West)											
10	L2	34	2.0	0.392	10.9	LOS A	2.4	17.3	0.80	0.95	48.0
11	T1	16	2.0	0.392	11.1	LOS A	2.4	17.3	0.80	0.95	48.9
12	R2	179	2.0	0.392	15.0	LOS B	2.4	17.3	0.80	0.95	48.7
Approach		228	2.0	0.392	14.1	LOS A	2.4	17.3	0.80	0.95	48.6
All Vehicles		2119	2.0	0.512	9.3	LOS A	3.3	23.8	0.69	0.80	51.5

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.

MOVEMENT SUMMARY

 **Site: 101 [University Ave & Irvine Rd_PD]**

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
South: Irvine Rd(South)											
2	T1	85	0.0	0.407	8.7	LOS A	3.0	20.7	0.83	0.86	50.7
3	R2	212	0.0	0.407	12.8	LOS A	3.0	20.7	0.83	0.86	50.5
Approach		297	0.0	0.407	11.6	LOS A	3.0	20.7	0.83	0.86	50.6
East: University Ave											
4	L2	202	1.0	0.709	6.9	LOS A	8.5	59.8	0.78	0.71	50.5
6	R2	625	1.0	0.709	11.3	LOS A	8.5	59.8	0.78	0.71	51.4
Approach		827	1.0	0.709	10.2	LOS A	8.5	59.8	0.78	0.71	51.2
North: Irvine Ave(North)											
7	L2	541	1.0	0.652	6.0	LOS A	6.7	47.2	0.72	0.64	52.6
8	T1	218	1.0	0.652	6.3	LOS A	6.7	47.2	0.72	0.64	53.7
Approach		759	1.0	0.652	6.1	LOS A	6.7	47.2	0.72	0.64	52.9
All Vehicles		1883	0.8	0.709	8.8	LOS A	8.5	59.8	0.76	0.71	51.7

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.
 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.

MOVEMENT SUMMARY

 **Site: 101 [Northfield Rd and Irvine Street_PD]**

Northfields Rd and Irvine Street
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
South: Irvine St											
1	L2	341	2.0	0.538	9.9	LOS A	3.1	22.4	0.78	0.96	50.4
2	T1	301	2.0	0.505	8.8	LOS A	3.0	21.0	0.77	0.93	52.0
3	R2	63	2.0	0.505	12.7	LOS A	3.0	21.0	0.77	0.93	51.8
Approach		705	2.0	0.538	9.7	LOS A	3.1	22.4	0.78	0.95	51.2
East: Northfields Ave(East)											
4	L2	35	2.0	0.455	6.8	LOS A	3.4	23.9	0.66	0.67	51.8
5	T1	495	2.0	0.455	6.7	LOS A	3.4	23.9	0.66	0.67	53.1
6	R2	511	2.0	0.503	11.2	LOS A	3.8	27.0	0.70	0.78	50.6
Approach		1040	2.0	0.503	9.0	LOS A	3.8	27.0	0.68	0.72	51.8
North: UoW_Eastern Entrance											
7	L2	15	2.0	0.212	5.7	LOS A	1.3	9.1	0.50	0.59	52.4
8	T1	182	2.0	0.212	6.0	LOS A	1.3	9.1	0.50	0.59	53.5
9	R2	23	2.0	0.212	9.9	LOS A	1.3	9.1	0.50	0.59	53.3
Approach		220	2.0	0.212	6.4	LOS A	1.3	9.1	0.50	0.59	53.4
West: Northfields Ave(West)											
10	L2	35	2.0	0.428	12.6	LOS A	2.9	20.3	0.84	0.99	46.9
11	T1	16	2.0	0.428	12.9	LOS A	2.9	20.3	0.84	0.99	47.8
12	R2	179	2.0	0.428	16.8	LOS B	2.9	20.3	0.84	0.99	47.6
Approach		229	2.0	0.428	15.9	LOS B	2.9	20.3	0.84	0.99	47.5
All Vehicles		2195	2.0	0.538	9.7	LOS A	3.8	27.0	0.71	0.81	51.3

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.

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.

MOVEMENT SUMMARY

 **Site: 101 [University Ave & Princes Hwy_PD]**

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
East: University Ave (east)											
4	L2	81	1.0	0.583	12.5	LOS A	5.5	38.8	0.92	1.02	48.7
5	T1	317	1.0	0.583	12.8	LOS A	5.5	38.8	0.92	1.02	49.6
Approach		398	1.0	0.583	12.7	LOS A	5.5	38.8	0.92	1.02	49.4
North: Princes Hwy (North)											
7	L2	277	0.0	0.261	7.2	LOS A	1.6	11.0	0.63	0.71	52.6
8	T1	1	0.0	0.545	11.5	LOS A	5.0	34.9	0.83	0.96	48.1
9	R2	519	0.0	0.545	15.4	LOS B	5.0	34.9	0.83	0.96	47.9
Approach		797	0.0	0.545	12.5	LOS A	5.0	34.9	0.76	0.87	49.4
West: University Ave(West)											
11	T1	588	0.0	0.436	4.5	LOS A	0.0	0.0	0.00	0.51	55.2
12	R2	160	0.0	0.436	8.3	LOS A	0.0	0.0	0.00	0.51	55.0
Approach		748	0.0	0.436	5.3	LOS A	0.0	0.0	0.00	0.51	55.2
All Vehicles		1943	0.2	0.583	9.8	LOS A	5.5	38.8	0.50	0.77	51.5

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.

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MOVEMENT SUMMARY

▽ Site: 101 [Porter St & University Ave_PD]

New Site

Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
East: Porter St (West)											
5	T1	74	1.0	0.843	17.3	LOS B	7.5	53.0	0.83	1.39	27.1
6	R2	295	1.0	0.843	28.7	LOS C	7.5	53.0	0.83	1.39	40.7
Approach		368	1.0	0.843	26.4	LOS B	7.5	53.0	0.83	1.39	38.3
North: University Avenue											
7	L2	264	1.0	0.238	5.6	LOS A	0.0	0.0	0.00	0.58	53.6
9	R2	175	1.0	0.238	5.5	LOS A	0.0	0.0	0.00	0.58	37.4
Approach		439	1.0	0.238	5.6	NA	0.0	0.0	0.00	0.58	48.0
West: Porter St (east)											
10	L2	594	1.0	0.322	3.8	LOS A	0.0	0.0	0.00	0.55	51.5
11	T1	142	1.0	0.149	4.5	LOS A	0.5	3.8	0.46	0.67	50.9
Approach		736	1.0	0.322	3.9	LOS A	0.5	3.8	0.09	0.57	51.4
All Vehicles		1543	1.0	0.843	9.7	NA	7.5	53.0	0.24	0.77	45.6

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.

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