

ADDITIONAL TRAFFIC MODELLING
OF
COMMERCIAL MASTERPLAN
DEVELOPMENT APPLICATION
FOR
7-9, 14-18 AND 19-21
CHALMERS CRESCENT
MASCOT
FOR ISSUE L PLANS

Ref. 16111r

2 June 2016

Prepared By

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1.0 INTRODUCTION

1.1 Introduction

This report updates the SIDRA traffic modelling for the Commercial Masterplan DA for 7-9, 14-18 and 19-21 Chalmers Street Mascot – Revision L Drawings.

The modelling has been updated for the principal intersection of Kent Road and Coward Street which will provide the direct access to Chalmers Street development. The previous traffic modelling and traffic impact assessment reports^{1&2} as well as a recent peer review report prepared by Traffic and Parking Consultants identified that the Kent Road/Coward Street intersection is the most critical intersection on the adjacent road network in terms of capacity.

The modelling has been updated to reflect:

- 2016 base traffic and pedestrian volumes for the intersection;
- The lower traffic generation of the revised Masterplan DA reflected in the Issue L plans. It should be noted that the traffic generation of the Issue L plans is 50% lower than the original Masterplan DA submitted in 2009 and 27% lower than the modelling reflected in the June 2014 Transport and Urban Planning Pty Ltd report that was subject to the peer review by Parking and Traffic Consultants;
- Comments from the RMS concerning improvements/changes at the Kent Street/Coward Street intersection that the RMS would support;
- Address matters raised in the peer review report prepared by Parking and Traffic Consultants dated 8 April 2016.

The previous traffic assessment report undertaken for the development dated June 2014² concluded that the other adjacent traffic signal controlled intersections in Coward Street and Bourke Road would all operate at a good level of service (Level of Service A or B) in the weekday peak hours with the Masterplan Development in place. This modelling was based on a higher traffic generation for the Masterplan development than the current proposal and given the good level of service of these intersections with the development in place, no updated traffic modelling for these intersections has been undertaken.

1. Commercial Masterplan DA, 7-9, 14-18, 19-21 Chalmers Street Mascot. Update for Revision L – Transport, Traffic and Parking Impacts, Transport and Urban Planning Pty Ltd 7 March 2016.
2. Assessment of Transport and Traffic Impacts of Amended Proposed Commercial Masterplan Development Application for 7-9, 14-18 and 19-21 Chalmers Street Mascot, Transport and Urban Planning Pty Ltd 25 June 2014.

2.0 ASSUMPTIONS

2.1 Base Traffic Volumes

The previous traffic modelling was based on 2009 traffic volumes and these have been updated to reflect 2016 AM and PM peak hour traffic and pedestrian volumes for the Kent Road/Coward Street intersection.

The traffic and pedestrian volumes were recorded in a traffic count undertaken on Tuesday 24 May 2016 between 7am – 9am and 4pm – 6pm. Traffic conditions in the area were considered to be normal during the traffic count. The peak hours occurred between 8am – 9am and 4pm – 5pm. The counts recorded light and heavy vehicles for all movements as well as pedestrian volumes.

Figure 1 shows the AM and PM peak hour traffic and pedestrian volumes at the intersection.

While the 2016 traffic volumes in the AM peak hour are similar to the 2009 volumes, there has been an overall reduction in the total volumes using the intersection during the PM peak hour, since 2009. This may be explained by a range of factors including the reduction of industry and employment in the Mascot area and the replacement of the industrial uses with residential development, together with increased use of public transport in the Mascot area.

In addition to the traffic counts, site inspections of the intersection and traffic and pedestrian conditions were undertaken in the PM peak hour on 31 May 2016 and in the AM peak hour on 1 June 2016. This inspection examined the traffic and pedestrian conditions at the intersection, as well as at the adjacent intersections. As part of the inspections the operating cycle lengths for the Kent Road/Coward Street intersection were recorded.

2.2 Traffic Generation of Commercial Masterplan DA – Issue L Plans

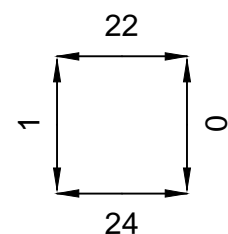
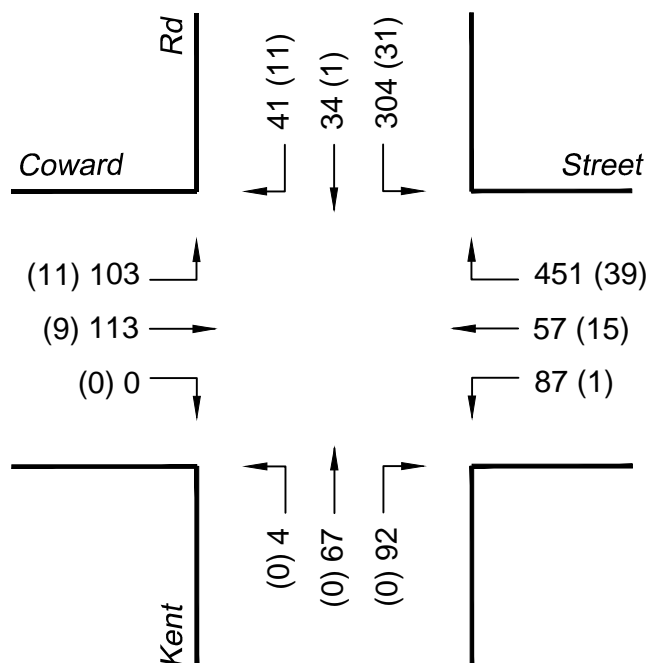
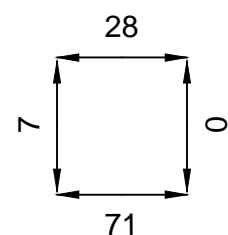
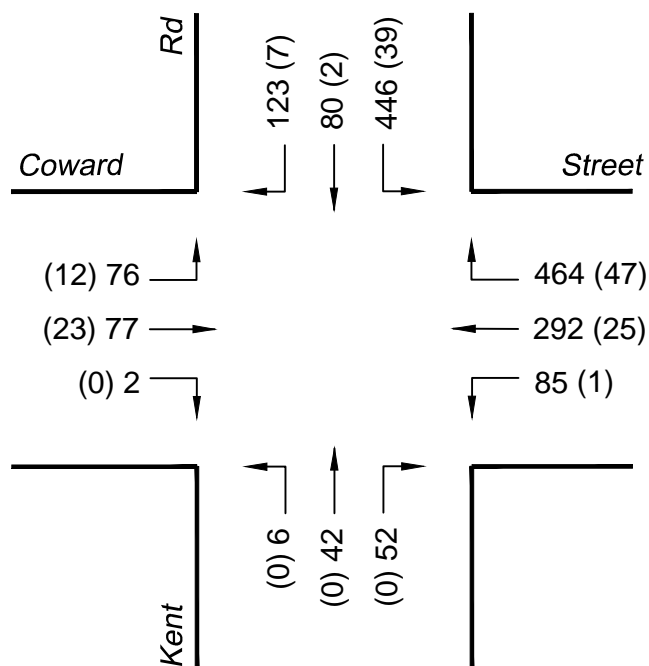
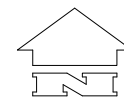
The maximum traffic generation of Commercial Masterplan DA – Issue L plans based on a total NLA of 33,795m² is 388 trips in the AM and PM peak hour based on 1 trip/100m² of floor area.

It was previously assumed that development if approved would be built in stages. The Stage 1 of the development based on 60% of the total development, would generate a total 203 vehicle trips in the AM and PM peak hour.

These volumes have been assigned to the road network in accordance with the original 2009 assignment based on:

- 80% in/20% out in the AM peak;
- 20% in/80% out in the PM peak hour;
- 45% of development traffic arriving and departing from/to the north in Kent Road;
- 55% of development arriving and departing from/to the east in Coward Street.

Figure 2 shows the additional traffic generated by the Commercial Masterplan DA proposal in the AM and PM peak hour assigned to the Kent Road/Coward Street intersection for the Stage 1 and full development.



KEY
344 TOTAL VEHICLES
(27) HEAVY VEHICLES

Source: Traffic Count Tuesday 24th May, 2016

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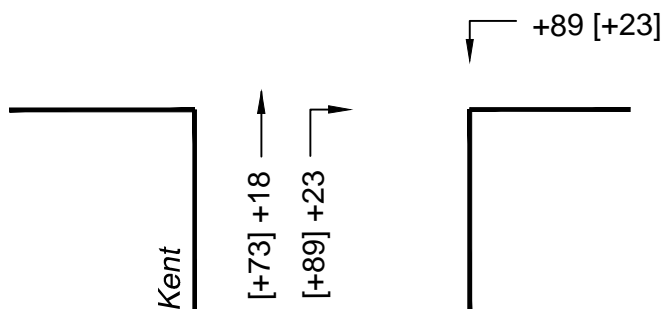
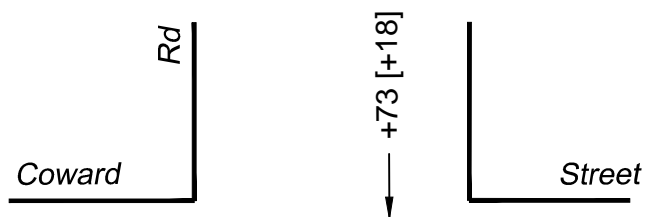
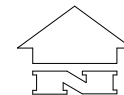
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FIGURE 1

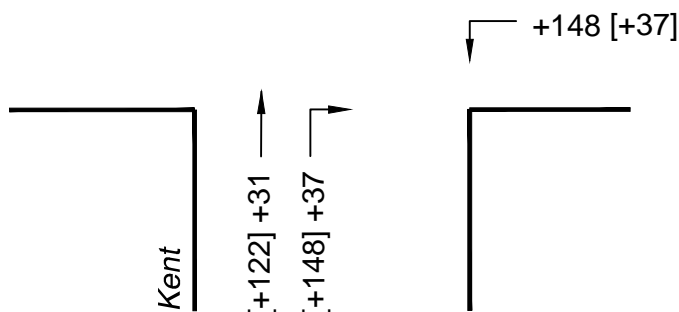
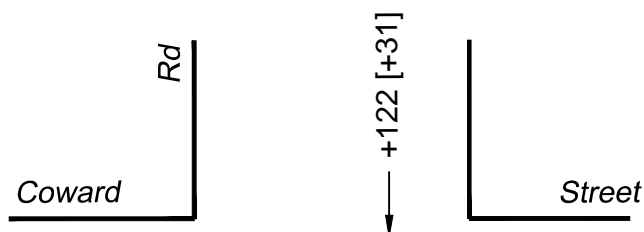
MASTERPLAN DA
CHALMERS CRESCENT, MASCOT

EXISTING WEEKDAY AM & PM PEAK HOUR TRAFFIC VOLUMES

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STAGE 1 DEVELOPMENT



FULL DEVELOPMENT

KEY

+18 AM PEAK HOUR VOLUME

[+73] PM PEAK HOUR VOLUME

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FIGURE 2

MASTERPLAN DA

CHALMERS CRESCENT, MASCOT

**DEVELOPMENT TRAFFIC IN
AM & PM PEAK HOURS**

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2.3 Modelling Assumptions

The modelling assumptions for the Kent Road/Coward Street intersection include:

- The intersection is modelled as an isolated intersection using SIDRA 7 with no allowance for the benefits of traffic signal co-ordination;
- Reduction in lane capacity of 5% for the approach lanes in the northern approach of Kent Road and for the eastern approach of Coward Street to take account of long vehicles turning left from the northern approach of Kent Road and right from the eastern approach of Coward Street. This reduction was based on past and current observations undertaken at the intersection concerning traffic behaviour, as well as the number of long vehicles making these turns;
- The proportion of existing heavy vehicles for each movement and pedestrian crossing volumes across each leg, established by the traffic counts, have been retained at same level for all the models;
- Existing geometry and phasing including pedestrian crossings as well as existing parking controls at the intersection for those models that retained the existing traffic management. **Figure 3** refers.
- The improvement options included:
 - (i) additional No Stopping to a total of 60 metres in the southern approach of Kent Road and the western approach of Coward Street (**Figure 4**). These would only be required in the weekday AM and PM peak hours.
 - (ii) The Mascot TMAP improvements for the intersection which included a 2 lane left turn from the northern approach of Kent Road without a pedestrian crossing across the eastern approach of Coward Street; and
 - (iii) The Mascot TMAP improvement described in (ii) above but with a pedestrian crossing across the eastern approach of Coward Street.

Figure 5 shows the 2 lane left turn as proposed in the TMAP.

It should be noted that the RMS in their most recent advice to Council on the Masterplan DA – Issue L Plans advised that they would support the increased parking restrictions (ie. item (i) above) and the 2 lane left turn from Kent Road (item (ii) above). However they also point out that the ultimate configuration at the intersection of Kent Road/Coward Street has not been agreed upon at this stage.

It should be noted that the RMS will be responsible for determining the future traffic signal phasing including pedestrian crossing locations at the intersection, as well as the geometry for the ultimate configuration (not Botany Bay Council).

Transport and Urban Planning Pty Ltd considers that the provision of a pedestrian crossing across the eastern leg of Coward Street based on the TMAP concept would reduce the capacity of the intersection, due to the need to provide extended red arrow protection for this crossing and therefore this crossing may not be adopted by the RMS. Suitable alternative crossing locations are available and are shown on **Figure 6**.

Notwithstanding this, an option for the TMAP improvements including the additional crossing has been modelled.

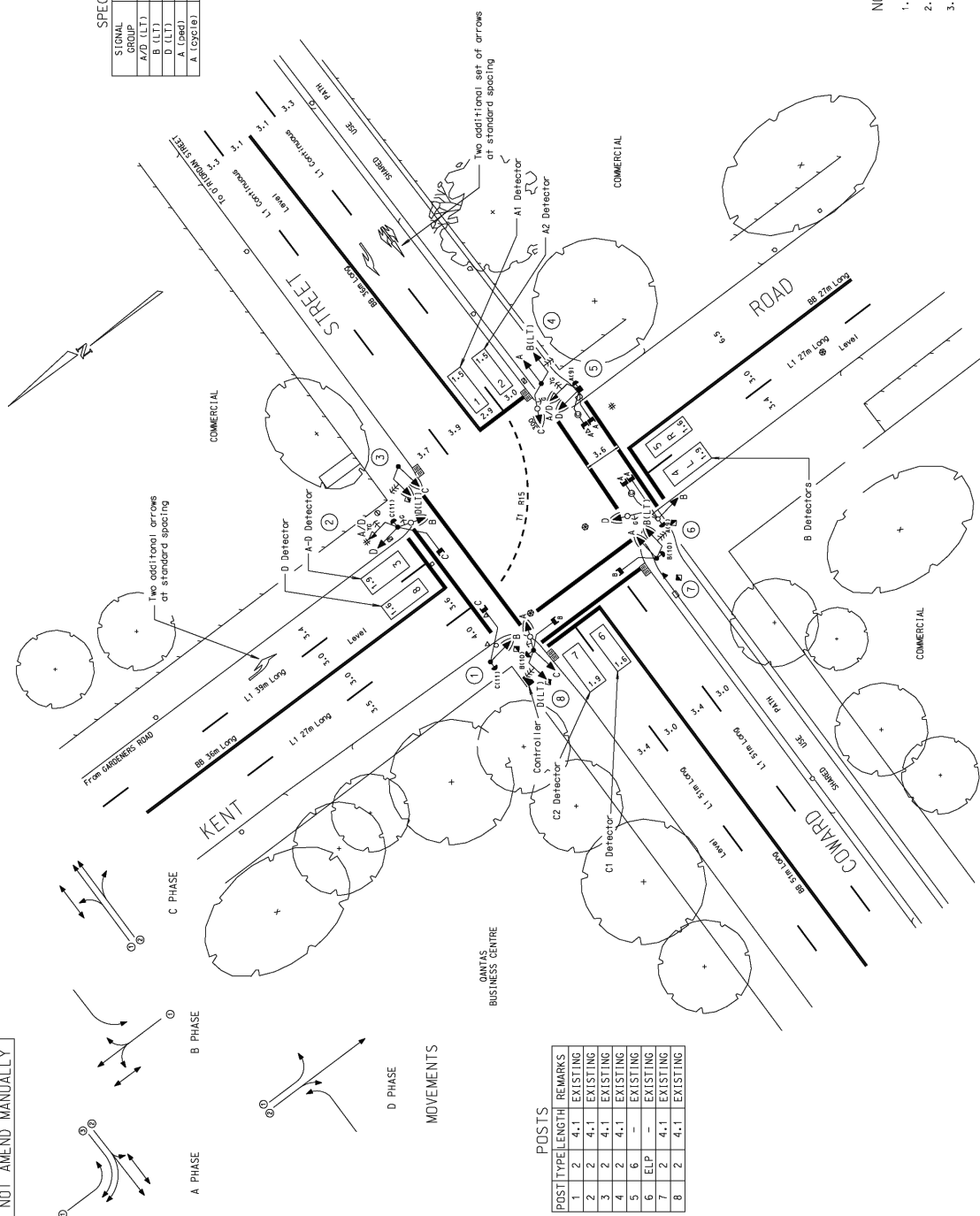
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FIGURE 3
MASTERPLAN DA
CHALMERS CRESCENT, MASCOT

EXISTING TRAFFIC MANAGEMENT

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SPECIAL SIGNAL GROUP DISPLAY SEQUENCE

SIGNAL GROUP	TABLE TYPE	REMARKS
A/D (LT)	10	—
B (LT)	21	Timed R.A. protection for A pedestrian WALK
D (LT)	12	Timed R.A. protection for C pedestrian WALK
A (ped)	Ped	
A (cycle)	Ped	

DETECTOR SPECIFICATION

DETECTOR	SPECIFICATIONS			
	FN	A(L)	A(E1)	
A1	SG/PS	A	A	
	DS	—	—	
	FN (A1P)	A(E2)		
A2	SG/PS	A	A	
	DS	—	—	
	FN (A2P)	A(E1)	D(E1)	
A-D	SG/PS	A(D)	A	D
	DS	D	D(NEXT)	A(NEXT)
	FN (B(L))	B(E1)		
B	SG/PS	B	B	
	DS	—	—	
	FN (C(L))	C(E2)		
C1	SG/PS	C	C	
	DS	—	—	
	FN (C1P)	C(E1)		
C2	SG/PS	C	C	
	DS	—	—	
	FN (D(L))	D(E2)		
D	SG/PS	D	D	
	DS	—	—	
	FN (A1P)	C(L)		
A P.B.	SG/PS	A(WALK)	A(WALK)	
	DS	—	B, C, D	
	FN (A1P)	A(L)		
B P.B.	SG/PS	B(WALK)	B(WALK)	
	DS	—	A, C, D	
	FN (C1P)	A(L)		
C P.B.	SG/PS	C(WALK)	C(WALK)	
	DS	—	B, D	

POSTS

POST	TYPE	LENGTH	REMARKS
1	2	4.1	EXISTING
2	2	4.1	EXISTING
3	2	4.1	EXISTING
4	2	4.1	EXISTING
5	6	-	EXISTING
6	ELP	-	EXISTING
7	2	4.1	EXISTING
8	2	4.1	EXISTING

NOTES

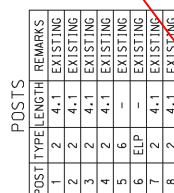
1. This site is SCATS linked.
2. Special STAP Sign (R1-202) is placed on posts 2 and 6.
3. All push buttons are audio tactile.

PUBLIC UTILITY RECORD 1. WATER MAINS 2. GAS MAINS 3. SANITARY MAINS 4. TELEPHONE CABLES 5. POWER LINES 6. OTHER	REFERENCE PLANS 1. 100-1 2. 100-2 3. 100-3 4. 100-4 5. 100-5 6. 100-6 7. 100-7 8. 100-8 9. 100-9 10. 100-10	DESIGN APPROVAL 1. CITY ENGINEER 2. COUNTY ENGINEER 3. STATE ENGINEER 4. FEDERAL ENGINEER 5. OTHER	EXISTING <input type="checkbox"/> PROPOSED <input checked="" type="checkbox"/> CAD FILE: 47375.DWG/1875/.../AV1893.87.dgn SCALE: 1" = 40' (1:200) 5" = 100' (1:200) FILE: 51 TS 256 RECD: 7000.051.VV.1639 SHEET: 6 OF 6 DATE: 11/19/93
Roads and Traffic Authority, N.S.W. BOTANY COUNCIL AREA TRAFFIC SIGNALS AT COWARD STREET AND KENT ROAD MASCOIT DESIGN LAYOUT TFS No. 1639			

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3. All push buttons are audio tactile.

SPECIAL SIGNAL GROUP DISPLAY SEQUENCE

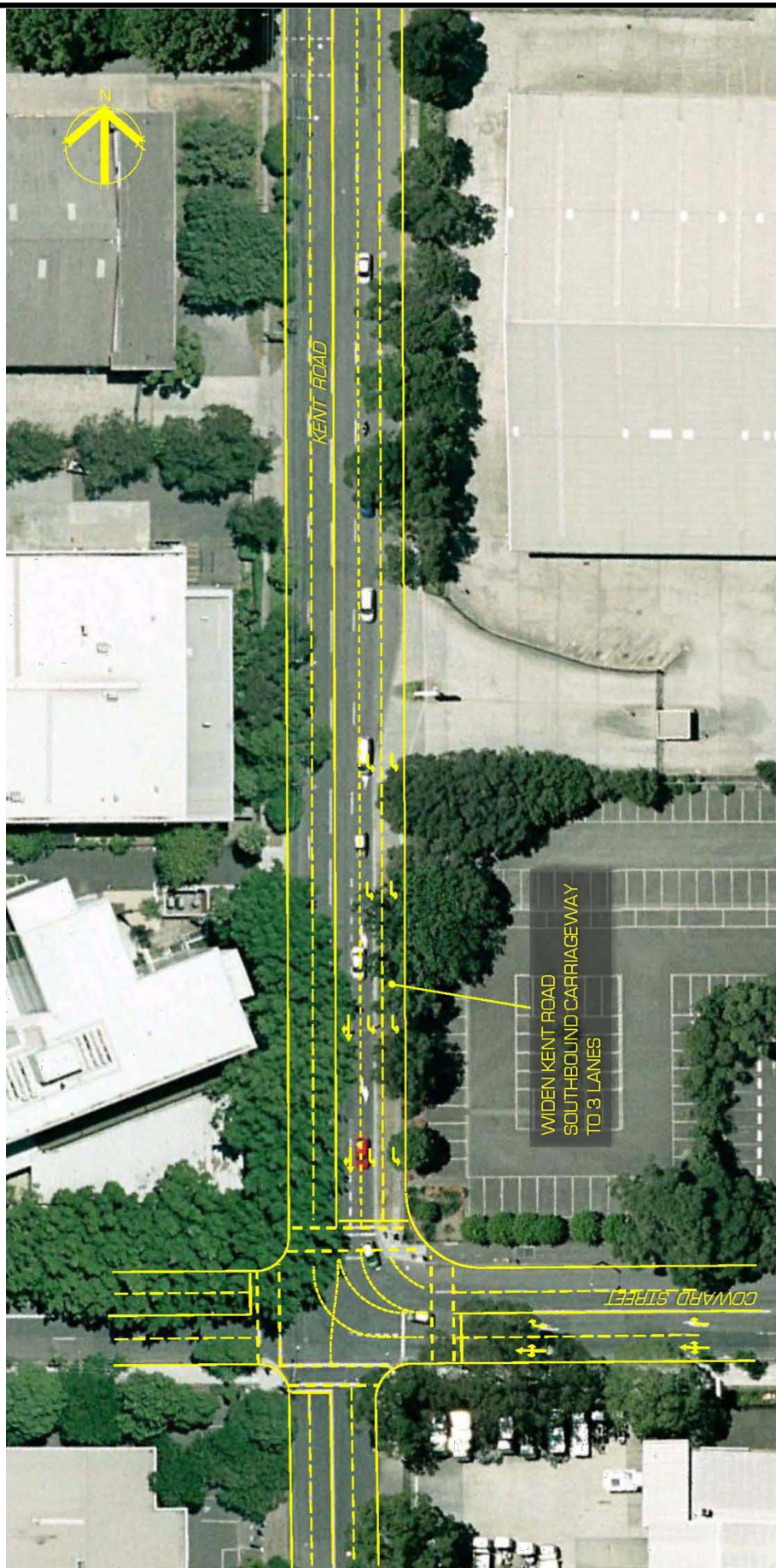
SIGNAL	TABLE	REMARKS
GROUP	TYPE	
A/D	(LT)	10
B	(LT)	21
D	(LT)	12
A. (ped)	Ped	Timed R.A. protection for A pedestrian WALK
A. (GVGle)	Ped	Timed R.A. protection for C pedestrian WALK
A. (GVGle)	Ped	

DETECTOR SPECIFICATION

DETECTOR	SPECIFICATIONS			
A1	FN	ALL	AE1	
	S/G/PS	A	A	
A2	DS	—	—	
	FN	APR1	AE12	
A-D	S/G/PS	A	A	
	DS	—	—	
A-D	FN	APR1	AE11	DE11
	S/G/PS	A/D	A	D
B	DS	D	DNEXT1	AE1NEXT1
	FN	B1L1	B1E11	
C1	S/G/PS	B	B	
	DS	—	—	
C2	FN	CL1	CL12	
	S/G/PS	C	C	
D	DS	—	—	
	FN	CPR1	CE11	
A	S/G/PS	C	C	
	DS	—	—	
P.B.	FN	D1L1	D1E21	
	S/G/PS	D	D	
B	DS	—	—	
	FN	APB1	CL1	
P.B.	S/G/PS	AWALK1	A-AWALK1	
	DS	—	B-C-D	
C	FN	BPB1	ALL1	
	S/G/PS	BWALK1	B-AWALK1	
P.B.	DS	—	A-C-D	
	FN	CPB1	ALL1	
P.B.	S/G/PS	CWALK1	C-AWALK1	
	DS	—	C-B	

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FIGURE 5




MASTERPLAN DA

CHALMERS CRESCENT, MASCOT

TMAP WIDENING PROPOSAL
KENT RD & COWARD ST, MASCOT

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-  PEDESTRIAN CROSSING LOCATIONS
 SITE BOUNDARY
 PEDESTRIAN ROUTE BETWEEN MASCOT RAILWAY STATION AND SITE

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NOT TO SCALE

FIGURE 6

MASTERPLAN DA
CHALMERS STREET, MASCOT

**PEDESTRIAN CROSSING
LOCATIONS & PEDESTRIAN ROUTE**

JOB NO. 16111

- Fixed time cycle lengths have been adopted for the models based on 100 seconds and 110 seconds, to replicate cycle lengths suitable for traffic signal co-ordination. The 100 second cycle length corresponds to the average of the cycle lengths that operated at the intersection, as recorded during the AM and PM peak hour site inspections. Higher cycle lengths were examined as part of the analysis, however higher cycle lengths would increase the vehicle delay at the intersection and would not necessarily assist in determining the impacts of the Commercial Masterplan Development in terms of Level of Service and vehicle delay. Higher cycle lengths when not required by the traffic demand at intersections, result in higher vehicle delay.

2.4 SIDRA Models

The SIDRA models for the intersection include:

- (i) AM and PM peak hour models for 2016 existing conditions, with a 100 second cycle length;
- (ii) AM and PM models for the Stage 1 development scenario with existing traffic management and phasing and a 100 second cycle length;
- (iii) AM and PM models for Full Development with existing traffic management and phasing, with a 100 second cycle length;
- (iv) AM and PM models for Full Development with existing traffic management and phasing and increased parking restrictions in Kent Street south and Coward Street west, with a 100 second cycle length;
- (v) AM and PM models for Full Development with TMAP Improvements and no additional pedestrian crossing, with a 100 second cycle length;
- (vi) AM and PM models as per (v) above but with increased parking restriction in Kent Road south and Coward Street west, with a 100 second cycle length.
- (vii) AM and PM models for Full Development with TMAP Improvements including the additional pedestrian crossing and increased parking restrictions in Kent Road south and Coward Street west, with a 110 second cycle length.

3.0 SIDRA MODELLING

3.1 Sidra Modelling

The SIDRA 7.0 traffic model has been used to examine the operation and impacts at the intersection of Kent Road/Coward Street for the various scenarios outlined above. The SIDRA model reflects the intersection operation as an isolated intersection (i.e. no co-ordination with other adjacent traffic signal controlled intersection.)

SIDRA assesses the operational performance of intersections under traffic signal roundabout or sign control. The best criteria for assessing intersections controlled by traffic signals are Level of Service (LS), Degree of Saturation (DS) and Average Vehicle Delay (AVD). Table 3.1 shows the Level of Service Criteria for intersection as reproduced from the RTA's Guide to Traffic Generating Developments.

A Level of Service D or better (i.e. A, B, C or D) is generally considered to be minimum design requirement for intersections. For intersections controlled by traffic signals the level of service is determined by the average vehicle delay for all vehicle using the intersection.

Average vehicle delay for intersections controlled by traffic signals is based on the delay for all vehicles using the intersection and not individual traffic movements. Provided that the average vehicle delay for all vehicles at the intersection is equivalent to a Level of Service D or better, then the intersection is considered to have satisfactory operation.

It should be noted that many critical intersections in the Sydney Metropolitan Area, operate with a level of service E or F operation in the weekday peak hours, due to capacity constraints.

LEVEL 3.1

LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	<14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	>70	Intersection is oversaturated	Oversaturated, requires other control mode

The results of the modelling are shown in Tables 3.2 and 3.3.

The AM and PM models for the existing conditions were calibrated based on observed queue lengths and traffic conditions at the intersection and the operating cycle lengths.

It was noted that those pedestrians crossing at the intersection arrived in groups, particularly during the AM peak hour.

Table 3.2 shows the existing conditions as well as the development scenarios using the existing traffic signal phasing and geometry at the intersection with and without extended No Stopping.

Table 3.3 shows the development scenarios with the TMAP improvements and extended No Stopping with and without the pedestrian crossing across the eastern side of Coward Street.

Reference to Table 3.2 shows that:

- The existing conditions at the intersection are satisfactory with a Level of Service B/C operation and average vehicle delays of 28-30 seconds per vehicle. This operation is consistent with the on-site observations.
- The reduced traffic generation of Masterplan development will have satisfactory impacts on the conditions at the Kent Road/Coward Street intersection with both the Stage 1 and full development scenarios operating at a Level of Service C operation. Average vehicle delays at the intersection will be in the order of 31-33 seconds per vehicle for the full development, which represents a satisfactory operation.

The extended No Stopping restrictions in Kent Road south approach and Coward Street west approach do not appear to make any difference in terms of vehicle delay, however may be required in future years when the Mascot area is fully developed.

Reference to Table 3.3 which shows the full development with the future geometry of TMAP improvements at the intersection indicates a continuing suitable operation with a Level of Service C operation in both peak hours with average vehicle delays in the order of 31-33 seconds, for the option with no crossing.

The option which provides for a new pedestrian crossing across the eastern leg of Coward Street has the highest average vehicle delays, which are 36-41 seconds per vehicle.

As previously noted the RMS has indicated that the ultimate configuration of the Kent Road/Coward Street intersection has not been settled. Therefore the modelling of the TMAP options provide guidance on the possible future operation.

TABLE 3.2

**SIDRA TRAFFIC MODELLING RESULTS FOR
KENT ROAD/COWARD STREET INTERSECTION**

	Existing		Stage 1 Development Existing Geometry		Full Development Existing Geometry		Full Development Existing Geometry ¹	
Criteria	AM	PM	AM	PM	AM	PM	AM	PM
LS	B	C	C	C	C	C	C	C
DS	0.575	0.422	0.676	0.495	0.739	0.532	0.739	0.533
AVD	27.6	29.3	29.6	32.1	31.1	32.9	31.1	33.1

Where LS - Level of Service

DS - Degree of Saturation

AVD - Average Vehicle Delay in Seconds

¹ With extended No Stopping at Kent Road/Coward Street

TABLE 3.3

**SIDRA TRAFFIC MODELLING RESULTS FOR
KENT ROAD/COWARD STREET INTERSECTION**

	Full Development TMAP Improvements ²		Full Development TMAP Improvements ^{1&2}		Full Development TMAP Improvements ^{1&3}	
Criteria	AM	PM	AM	PM	AM	PM
LS	C	C	C	C	C	D
DS	0.739	0.532	0.739	0.529	0.721	0.549
AVD	30.9	32.4	30.9	32.2	36.0	40.5

Where LS - Level of Service

DS - Degree of Saturation

AVD - Average Vehicle Delay in Seconds

¹ With extended No Stopping at Kent Road/Coward Street

² No pedestrian crossing across east side of Coward Street

³ Pedestrian crossing across east side of Coward Street

3.2 Summary

In summary the results of the updated traffic modelling reveal that:

- The existing intersection at Kent Road/Coward Street will have adequate capacity to cater for the Masterplan DA as represented by the Issue L plans at full development, without the need to implement any improvement options;
- The intersection will have a Level of Service C operation in both the AM and PM peak hours with the full development in place. This represents a satisfactory operation;
- Other improvement measures are available in the future to increase the capacity of the intersection if required. These include extended No Stopping restrictions in Kent Road south and Coward Street west, in the weekday AM and PM peak periods as well as the TMAP improvements. As noted above these improvement measures are not necessarily required at the present time, however are available if required at a future date.

While no updated traffic modelling has been undertaken for the adjacent traffic signal controlled intersections in Coward Street and Bourke Road, it would be expected that these intersections would continue to have a satisfactory to good operation (as found in the previous traffic report dated June 2014).

This conclusion is based on the lower traffic generation of the current Masterplan proposal (ie. 27% less traffic generation than modelled in the June 2014 report) and the lower peak hour traffic volumes using the Kent Road/Coward Street/Bourke Road route, particularly during the PM peak hour.

4.0 CONCLUSIONS

This report documents updated traffic modelling for the Proposed Commercial Masterplan Development Application for 7-9, 14-18 and 19-21 Chalmers Crescent Mascot – Issue L Plans.

The traffic modelling and assessment has found that the existing geometry and traffic management at the intersection of Kent Road and Coward Street has sufficient capacity to accommodate the traffic impacts of the Masterplan development at full development.

The intersection will operate at a Level of Service C operation with average vehicle delays of 31-33 seconds per vehicle in the AM and PM peak hours which represents a satisfactory operation.

Improvement options for the intersection have also been examined and these will also provide a satisfactory operation with the full development in place. However these improvements are not necessarily required at the present time, but remain available options at a future time, if there is a need to increase the capacity at the intersection.

APPENDIX 1 - Traffic Counts



Coward St & Kent Rd

To

Terry Lawrence

at **TUPA**

your results for

MASCOT Coward St Counts

supplied by

R.O.A.R. DATA Pty. Ltd.

www.roardata.com.au



Lights	NORTH				WEST				SOUTH				EAST			
	Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St	
Time Per	L	T	R	T	L	T	R	T	L	T	R	T	L	T	R	T
0700 - 0715	105	20	32	10	13	0	1	6	18	10	29	78	322			
0715 - 0730	80	15	36	9	17	0	0	4	10	16	22	77	286			
0730 - 0745	110	19	29	9	14	0	2	3	25	12	29	96	348			
0745 - 0800	105	30	44	15	7	0	1	5	20	17	44	96	384			
0800 - 0815	111	17	39	22	16	0	1	7	16	22	39	125	415			
0815 - 0830	105	18	23	8	9	0	1	13	12	18	71	85	363			
0830 - 0845	84	12	22	20	14	1	3	8	11	23	81	102	381			
0845 - 0900	107	31	32	14	15	1	1	14	13	21	76	105	430			
Period End	807	162	257	107	105	2	10	60	125	139	391	764	2929			

Lights	NORTH				WEST				SOUTH				EAST			
	Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St	
Peak Time	L	T	R	T	L	T	R	T	L	T	R	T	L	T	R	T
0700 - 0800	400	84	141	43	51	0	4	18	73	55	124	347	1340			
0715 - 0815	406	81	148	55	54	0	4	19	71	67	134	394	1433			
0730 - 0830	431	84	135	54	46	0	5	28	73	69	183	402	1510			
0745 - 0845	405	77	128	65	46	1	6	33	59	80	235	408	1543			
0800 - 0900	407	78	116	64	54	2	6	42	52	84	267	417	1589			
PEAK HOUR	407	78	116	64	54	2	6	42	52	84	267	417	1589			

Combined	NORTH				WEST				SOUTH				EAST			
	Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St	
Time Per	L	T	R	T	L	T	R	T	L	T	R	T	L	T	R	T
0700 - 0715	121	20	37	13	16	0	1	6	18	11	31	90	364			
0715 - 0730	92	15	38	13	23	0	0	4	10	16	23	88	322			
0730 - 0745	122	20	31	14	17	0	2	3	25	12	37	110	393			
0745 - 0800	115	32	45	23	10	0	1	5	20	17	47	109	424			
0800 - 0815	122	17	41	24	21	0	1	7	16	22	42	136	449			
0815 - 0830	116	19	25	11	15	0	1	13	12	18	78	93	401			
0830 - 0845	93	12	24	23	20	1	3	8	11	24	85	116	420			
0845 - 0900	115	32	33	18	21	1	1	14	13	21	87	119	475			
Period End	896	167	274	139	143	2	10	60	125	141	430	861	3248			

Combined	NORTH				WEST				SOUTH				EAST			
	Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St	
Peak Time	L	T	R	T	L	T	R	T	L	T	R	T	L	T	R	T
0700 - 0800	450	87	151	63	66	0	4	18	73	56	138	397	1503			
0715 - 0815	451	84	155	74	71	0	4	19	71	67	149	443	1588			
0730 - 0830	475	88	142	72	63	0	5	28	73	69	204	448	1667			
0745 - 0845	446	80	135	81	66	1	6	33	59	81	252	454	1694			
0800 - 0900	446	80	123	76	77	2	6	42	52	85	292	464	1745			
PEAK HOUR	446	80	123	76	77	2	6	42	52	85	292	464	1745			

Heavies	NORTH				WEST				SOUTH				EAST			
	Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St	
Time Per	L	T	R	T	L	T	R	T	L	T	R	T	L	T	R	T
0700 - 0715	16	0	5	3	3	0	0	0	0	0	1	2	12			
0715 - 0730	12	0	2	4	6	0	0	0	0	0	1	11	36			
0730 - 0745	12	1	2	5	3	0	0	0	0	0	8	14	45			
0745 - 0800	10	2	1	8	3	0	0	0	0	0	3	13	40			
0800 - 0815	11	0	2	2	5	0	0	0	0	0	3	11	34			
0815 - 0830	11	1	2	3	6	0	0	0	0	0	7	8	38			
0830 - 0845	9	0	2	3	6	0	0	0	0	1	4	14	39			
0845 - 0900	8	1	1	4	6	0	0	0	0	0	11	14	45			
Period End	89	5	17	32	38	0	0	0	0	2	39	97	319			

Heavies	NORTH				WEST				SOUTH				EAST			
	Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St	
Peak Time	L	T	R	T	L	T	R	T	L	T	R	T	L	T	R	T
0700 - 0800	50	3	10	20	15	0	0	0	0	1	14	50	163			
0715 - 0815	45	3	7	19	17	0	0	0	0	0	15	49	155			
0730 - 0830	44	4	7	18	17	0	0	0	0	0	21	46	157			
0745 - 0845	41	3	7	16	20	0	0	0	0	1	17	46	151			
0800 - 0900	39	2	7	12	23	0	0	0	0	1	25	47	156			
PEAK HOUR	39	2	7	12	23	0	0	0	0	1	25	47	156			

Peds	NORTH				WEST				SOUTH				EAST			
	Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St	
Time Per	L	T	R	T	L	T	R	T	L	T	R	T	L	T	R	T
0700 - 0715	16			0				1				1	18			
0715 - 0730	7			2				8				0	17			
0730 - 0745	10			2				10				0	22			
0745 - 0800	5			2				5				0	12			
0800 - 0815	12			3				15				0	30			
0815 - 0830	4			0				22				0	26			
0830 - 0845	8			2				18				0	28			
0845 - 0900	4			2				16				0	22			
Period End	66			13				95				1	175			

Peds	NORTH				WEST				SOUTH				EAST			
	Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St		Kent Rd		Coward St	
Peak Per	L	T	R	T	L	T	R	T	L	T	R	T	L	T	R	T
0700 - 0800	38			6				24				1	69			
0715 - 0815	34			9				38				0	81			
0730 - 0830	31			7				52				0	90			
0745 - 0845	29			7				60				0	96			
0800 - 0900	28			7				71				0	106			
PEAK HR	28			7				71				0	106			



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob. 0418 239019

Client : TUPA

Job No/Name : 6083 MASCOT Coward St Counts

Day/Date : Tuesday 24th May 2016

Lights	NORTH				WEST				SOUTH				EAST			
	Kent Rd				Coward St				Kent Rd				Coward St			
	Time Per	L	I	R	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
1600 - 1615	68	8	13	18	14	0	3	9	24	18	23	107	305			
1615 - 1630	95	8	5	35	24	0	1	25	24	23	9	91	340			
1630 - 1645	61	12	6	16	30	0	0	12	17	22	7	99	282			
1645 - 1700	49	5	6	23	36	0	0	21	27	23	3	115	308			
1700 - 1715	57	2	3	27	15	0	0	17	15	12	11	111	270			
1715 - 1730	61	1	4	47	53	0	0	28	22	17	4	99	336			
1730 - 1745	63	4	8	22	44	2	0	15	14	12	7	87	278			
1745 - 1800	55	5	8	19	30	1	0	19	25	17	11	102	292			
Period End	509	45	53	207	246	3	4	146	168	144	75	811	2411			

Lights	NORTH				WEST				SOUTH				EAST			
	Kent Rd				Coward St				Kent Rd				Coward St			
	Time Per	L	I	R	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
1600 - 1700	273	33	30	92	104	0	4	67	92	86	42	412	1235			
1615 - 1715	262	27	20	101	105	0	1	75	83	80	30	416	1200			
1630 - 1730	228	20	19	113	134	0	0	78	81	74	25	424	1196			
1645 - 1745	230	12	21	119	148	2	0	81	78	64	25	412	1192			
1700 - 1800	236	12	23	115	142	3	0	79	76	58	33	399	1176			
PEAK HOUR	273	33	30	92	104	0	4	67	92	86	42	412	1235			

Combined	NORTH				WEST				SOUTH				EAST			
	Kent Rd				Coward St				Kent Rd				Coward St			
	Time Per	L	I	R	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
1600 - 1615	79	9	15	22	16	0	3	9	24	19	28	122	346			
1615 - 1630	100	8	7	37	28	0	1	25	24	23	12	100	365			
1630 - 1645	68	12	9	18	31	0	0	12	17	22	12	106	307			
1645 - 1700	57	5	10	26	38	0	0	21	27	23	5	123	335			
1700 - 1715	62	3	4	28	16	0	0	17	16	12	15	114	287			
1715 - 1730	68	1	7	47	57	0	0	28	22	17	6	102	355			
1730 - 1745	65	4	10	22	44	2	0	15	14	12	8	94	290			
1745 - 1800	58	5	9	19	32	1	0	19	25	17	12	108	305			
Period End	557	47	71	219	262	3	4	146	169	145	98	869	2590			

Combined	NORTH				WEST				SOUTH				EAST			
	Kent Rd				Coward St				Kent Rd				Coward St			
	Time Per	L	I	R	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
1600 - 1700	304	34	41	103	113	0	4	67	92	87	57	451	1353			
1615 - 1715	287	28	30	109	113	0	1	75	84	80	44	443	1294			
1630 - 1730	255	21	30	119	142	0	0	78	82	74	38	445	1284			
1645 - 1745	252	13	31	123	155	2	0	81	79	64	34	433	1267			
1700 - 1800	253	13	30	116	149	3	0	79	77	58	41	418	1237			
PEAK HOUR	304	34	41	103	113	0	4	67	92	87	57	451	1353			

Heavies	NORTH				WEST				SOUTH				EAST			
	Kent Rd				Coward St				Kent Rd				Coward St			
	Time Per	L	I	R	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
1600 - 1615	11	1	2	4	2	0	0	0	0	0	1	5	15			
1615 - 1630	5	0	2	2	4	0	0	0	0	0	0	3	9			
1630 - 1645	7	0	3	2	1	0	0	0	0	0	0	5	7			
1645 - 1700	8	0	4	3	2	0	0	0	0	0	0	2	8			
1700 - 1715	5	1	1	1	1	0	0	1	0	0	1	4	3			
1715 - 1730	7	0	3	0	4	0	0	0	0	0	0	2	3			
1730 - 1745	2	0	2	0	0	0	0	0	0	0	0	1	7			
1745 - 1800	3	0	1	0	2	0	0	0	0	0	0	1	6			
Period End	48	2	18	12	16	0	0	0	0	1	1	23	58			

Heavies	NORTH				WEST				SOUTH				EAST			
	Kent Rd				Coward St				Kent Rd				Coward St			
	Time Per	L	I	R	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
1600 - 1700	31	1	11	11	9	0	0	0	0	0	1	15	39			
1615 - 1715	25	1	10	8	8	0	0	1	0	0	1	14	27			
1630 - 1730	27	1	11	6	8	0	0	1	0	0	1	13	21			
1645 - 1745	22	1	10	4	7	0	0	0	0	0	1	9	21			
1700 - 1800	17	1	7	1	7	0	0	0	0	0	1	8	19			
PEAK HOUR	31	1	11	11	9	0	0	0	0	0	1	15	39			

Peds	NORTH				WEST				SOUTH				EAST			
	Kent Rd				Coward St				Kent Rd				Coward St			
	Time Per	L	I	R	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
1600 - 1615	4			0			3	7			0					
1615 - 1630	8			1			6	15			0					
1630 - 1645	6			0			10	16			0					
1645 - 1700	4			0			5	9			0					
1700 - 1715	12			0			11	23			0					
1715 - 1730	19			4			15	38			0					
1730 - 1745	7			1			13	21			0					
1745 - 1800	6			1			8	15			0					
Period End	66			7			71	144			0					

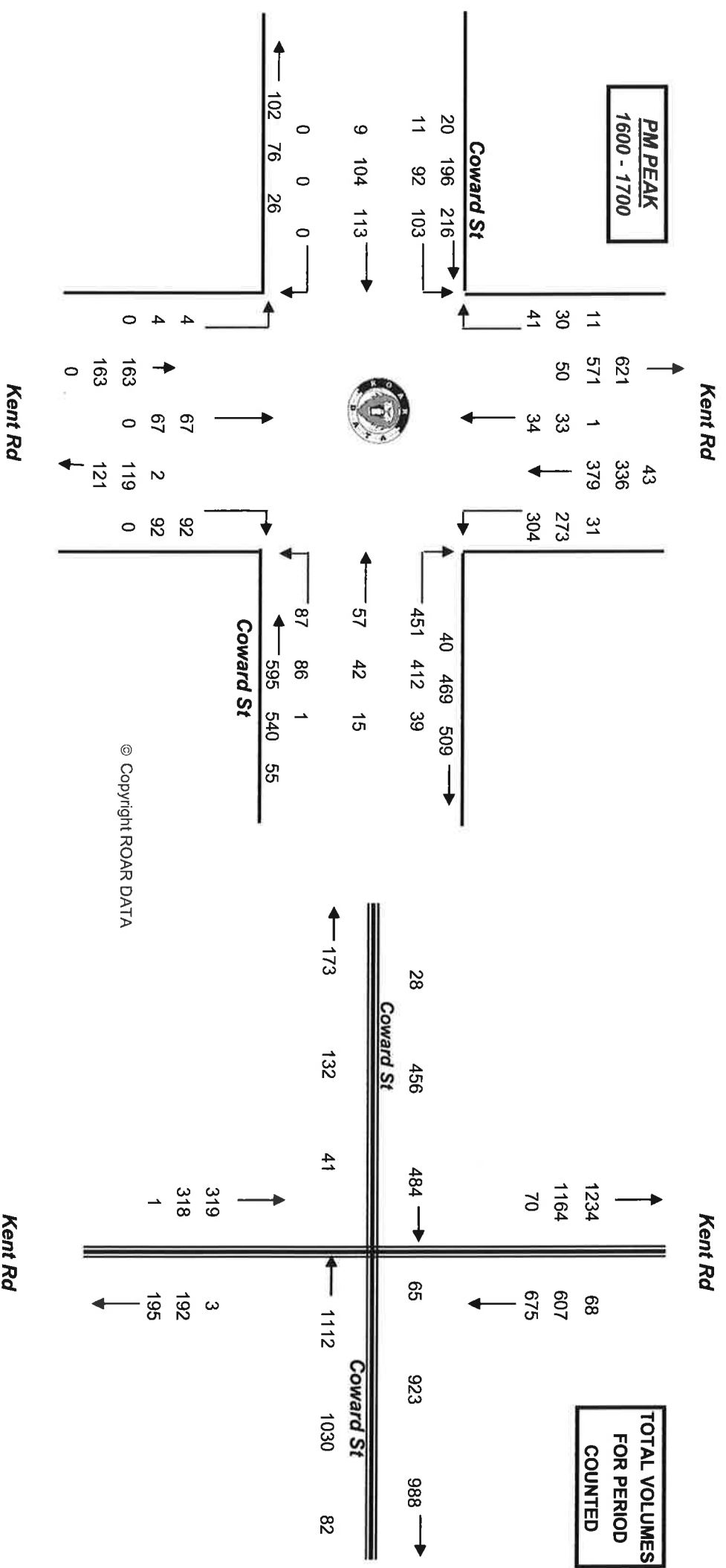
Peds	NORTH				WEST				SOUTH				EAST			
	Kent Rd				Coward St				Kent Rd				Coward St			
	Time Per	L	I	R	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
1600 - 1700	22			1			24	47			0					
1615 - 1715	30			1			32	63			0					
1630 - 1730	41			4			41	86			0					
1645 - 1745	42			5			44	91			0					
1700 - 1800	44			6			47	97			0					
PEAK HR	22			1			24	47			0					



R.O.A.R DATA

Reliable, Original & Authentic Results
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Client : TUPA
Job No/Name : 6083 MASCOT Coward St Counts
Day/Date : Tuesday 24th May 2016





R.O.A.R. DATA

Reliable, Original & Authentic Results

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Client : TUPA

Job No/Name : 6083 MASCOT Coward St Counts

Day/Date : Tuesday 24th May 2016

Kent Rd



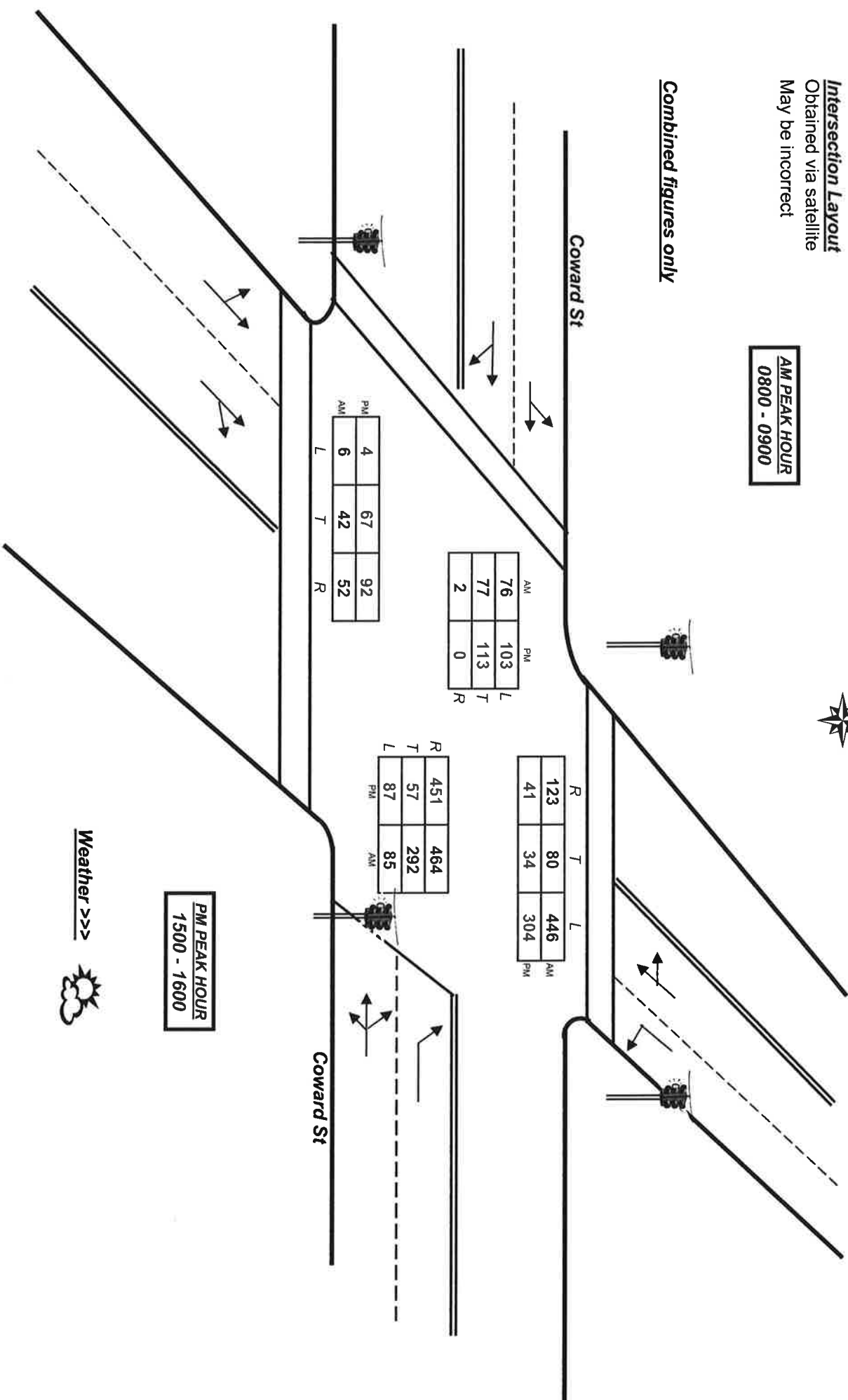
Intersection Layout

Obtained via satellite

May be incorrect

AM PEAK HOUR
0800 - 0900

Combined figures only



Weather >>>



Kent Rd

APPENDIX 2 - SIDRA Modelling Outputs

MOVEMENT SUMMARY

 **Site: 1 [1699 AM -Existing 2016]**

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

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 Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Kent Rd											
1	L2	6	0.0	0.316	57.3	LOS E	1.8	12.8	0.99	0.72	31.7
2	T1	42	0.0	0.316	44.6	LOS D	2.0	13.8	0.98	0.73	34.1
3	R2	52	0.0	0.316	30.4	LOS C	2.0	13.8	0.93	0.74	39.7
Approach		100	0.0	0.316	38.0	LOS C	2.0	13.8	0.96	0.73	36.6
East: Coward St											
4	L2	85	1.2	0.575	28.1	LOS B	15.9	118.2	0.80	0.75	42.0
5	T1	292	8.6	0.575	22.6	LOS B	15.9	118.2	0.80	0.75	42.8
6	R2	464	10.1	0.575	28.9	LOS C	15.9	118.2	0.81	0.81	40.0
Approach		841	8.7	0.575	26.6	LOS B	15.9	118.2	0.81	0.78	41.1
North: Kent Rd											
7	L2	446	8.7	0.384	12.2	LOS A	8.8	66.3	0.44	0.71	48.6
8	T1	80	2.5	0.555	38.9	LOS C	9.1	65.9	0.95	0.80	35.5
9	R2	123	5.7	0.555	44.5	LOS D	9.1	65.9	0.95	0.80	34.8
Approach		649	7.4	0.555	21.6	LOS B	9.1	66.3	0.60	0.74	43.4
West: Coward St											
10	L2	76	15.6	0.525	52.4	LOS D	5.0	40.6	0.98	0.78	32.0
11	T1	77	29.9	0.525	51.1	LOS D	5.0	40.6	0.99	0.77	32.2
12	R2	2	0.0	0.525	59.1	LOS E	2.7	23.3	1.00	0.76	31.4
Approach		155	22.5	0.525	51.8	LOS D	5.0	40.6	0.99	0.77	32.0
All Vehicles		1745	8.9	0.575	27.6	LOS B	15.9	118.2	0.75	0.76	40.6

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 (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	71	21.8	LOS C	0.1	0.1	0.66	0.66	
P3	North Full Crossing	28	43.3	LOS E	0.1	0.1	0.93	0.93	
P4	West Full Crossing	8	43.3	LOS E	0.0	0.0	0.93	0.93	
All Pedestrians		107	29.1	LOS C			0.75	0.75	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 1 [1699 PM - Existing 2016]

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

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: Kent Rd											
1	L2	4	0.0	0.343	52.6	LOS D	3.2	22.2	0.97	0.74	33.2
2	T1	67	0.0	0.343	45.6	LOS D	3.2	22.2	0.97	0.74	34.1
3	R2	92	0.0	0.343	29.2	LOS C	2.8	19.7	0.94	0.76	39.9
Approach		163	0.0	0.343	36.5	LOS C	3.2	22.2	0.95	0.75	37.1
East: Coward St											
4	L2	87	1.1	0.413	26.2	LOS B	10.0	76.6	0.73	0.76	41.5
5	T1	57	31.9	0.413	20.6	LOS B	10.0	76.6	0.73	0.76	42.4
6	R2	451	8.6	0.413	26.7	LOS B	10.0	76.6	0.74	0.78	40.9
Approach		595	9.7	0.413	26.0	LOS B	10.0	76.6	0.73	0.77	41.1
North: Kent Rd											
7	L2	304	10.2	0.308	16.1	LOS B	7.2	54.8	0.52	0.73	46.2
8	T1	34	2.9	0.422	47.0	LOS D	3.6	28.6	0.97	0.76	33.1
9	R2	41	26.8	0.422	52.9	LOS D	3.6	28.6	0.97	0.76	32.1
Approach		379	11.3	0.422	22.9	LOS B	7.2	54.8	0.61	0.74	42.6
West: Coward St											
10	L2	103	10.7	0.394	44.7	LOS D	5.7	43.1	0.92	0.78	34.3
11	T1	113	8.0	0.394	44.0	LOS D	5.7	43.1	0.96	0.76	34.5
12	R2	1	0.0	0.394	51.0	LOS D	4.1	30.7	0.97	0.75	33.8
Approach		217	9.2	0.394	44.4	LOS D	5.7	43.1	0.94	0.77	34.4
All Vehicles		1354	8.9	0.422	29.3	LOS C	10.0	76.6	0.76	0.76	39.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	24	19.9	LOS B	0.0	0.0	0.63	0.63	
P3	North Full Crossing	22	43.3	LOS E	0.1	0.1	0.93	0.93	
P4	West Full Crossing	1	43.2	LOS E	0.0	0.0	0.93	0.93	
All Pedestrians		47	31.3	LOS D			0.78	0.78	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 **Site: 1 [1699 AM - Stage 1 Development]**

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

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 Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Kent Rd											
1	L2	6	0.0	0.435	57.9	LOS E	2.6	17.9	1.00	0.74	31.6
2	T1	60	0.0	0.435	45.2	LOS D	2.8	19.7	0.99	0.75	33.9
3	R2	75	0.0	0.435	30.2	LOS C	2.8	19.7	0.95	0.76	39.8
Approach		141	0.0	0.435	37.8	LOS C	2.8	19.7	0.97	0.75	36.7
East: Coward St											
4	L2	174	1.2	0.676	30.9	LOS C	19.2	141.6	0.87	0.80	40.5
5	T1	292	8.6	0.676	25.3	LOS B	19.2	141.6	0.87	0.80	41.3
6	R2	464	10.1	0.676	32.3	LOS C	19.2	141.6	0.88	0.84	38.4
Approach		930	8.0	0.676	29.9	LOS C	19.2	141.6	0.88	0.82	39.6
North: Kent Rd											
7	L2	446	8.7	0.384	12.2	LOS A	8.8	66.3	0.44	0.71	48.6
8	T1	153	2.5	0.653	37.6	LOS C	12.4	89.5	0.96	0.82	36.2
9	R2	123	5.7	0.653	43.2	LOS D	12.4	89.5	0.96	0.82	35.5
Approach		722	6.9	0.653	22.8	LOS B	12.4	89.5	0.64	0.76	42.8
West: Coward St											
10	L2	76	15.6	0.524	52.4	LOS D	5.0	40.6	0.98	0.78	32.0
11	T1	77	29.9	0.524	51.1	LOS D	5.0	40.6	0.99	0.77	32.2
12	R2	2	0.0	0.524	59.1	LOS E	2.7	23.2	1.00	0.76	31.4
Approach		155	22.5	0.524	51.8	LOS D	5.0	40.6	0.99	0.77	32.0
All Vehicles		1948	8.1	0.676	29.6	LOS C	19.2	141.6	0.80	0.79	39.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	71	23.9	LOS C	0.1	0.1	0.69	0.69
P3	North Full Crossing	28	43.3	LOS E	0.1	0.1	0.93	0.93
P4	West Full Crossing	8	43.3	LOS E	0.0	0.0	0.93	0.93
All Pedestrians		107	30.4	LOS D			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 **Site: 1 [1699 PM - Stage 1 Development]**

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

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: Kent Rd											
1	L2	4	0.0	0.433	46.5	LOS D	6.4	44.8	0.94	0.76	35.3
2	T1	140	0.0	0.433	40.8	LOS C	6.4	44.8	0.94	0.76	35.9
3	R2	181	0.0	0.433	25.8	LOS B	4.9	34.0	0.91	0.78	41.4
Approach		325	0.0	0.433	32.5	LOS C	6.4	44.8	0.92	0.77	38.7
East: Coward St											
4	L2	110	1.1	0.495	30.5	LOS C	11.6	88.6	0.81	0.79	39.6
5	T1	57	31.9	0.495	24.9	LOS B	11.6	88.6	0.81	0.79	40.3
6	R2	451	8.6	0.495	31.5	LOS C	11.6	88.6	0.82	0.80	38.8
Approach		618	9.4	0.495	30.7	LOS C	11.6	88.6	0.81	0.80	39.1
North: Kent Rd											
7	L2	304	10.2	0.337	18.9	LOS B	8.1	61.8	0.59	0.75	44.6
8	T1	52	2.9	0.470	46.3	LOS D	4.4	34.6	0.98	0.77	33.5
9	R2	41	26.8	0.470	52.1	LOS D	4.4	34.6	0.98	0.77	32.5
Approach		397	11.0	0.470	25.9	LOS B	8.1	61.8	0.68	0.75	41.2
West: Coward St											
10	L2	103	10.7	0.458	47.1	LOS D	6.0	45.5	0.95	0.79	33.6
11	T1	113	8.0	0.458	46.3	LOS D	6.0	45.5	0.98	0.77	33.7
12	R2	1	0.0	0.458	53.5	LOS D	4.1	30.7	0.99	0.76	33.1
Approach		217	9.2	0.458	46.7	LOS D	6.0	45.5	0.96	0.78	33.7
All Vehicles		1557	7.8	0.495	32.1	LOS C	11.6	88.6	0.82	0.78	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.

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 (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	24	23.8	LOS C	0.0	0.0	0.69	0.69
P3	North Full Crossing	22	43.3	LOS E	0.1	0.1	0.93	0.93
P4	West Full Crossing	1	37.0	LOS D	0.0	0.0	0.86	0.86
All Pedestrians		47	33.2	LOS D			0.81	0.81

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 **Site: 1 [1699 AM - Full Development]**

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

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 Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Kent Rd											
1	L2	6	0.0	0.518	58.3	LOS E	3.1	21.5	1.00	0.75	31.5
2	T1	73	0.0	0.518	45.5	LOS D	3.3	23.3	0.99	0.76	33.8
3	R2	89	0.0	0.518	30.0	LOS C	3.3	23.3	0.95	0.77	39.9
Approach		168	0.0	0.518	37.8	LOS C	3.3	23.3	0.97	0.76	36.7
East: Coward St											
4	L2	233	1.2	0.739	32.9	LOS C	21.9	160.5	0.91	0.84	39.5
5	T1	292	8.6	0.739	27.3	LOS B	21.9	160.5	0.91	0.84	40.3
6	R2	464	10.1	0.724	34.1	LOS C	19.5	148.5	0.91	0.86	37.6
Approach		989	7.6	0.739	31.8	LOS C	21.9	160.5	0.91	0.85	38.8
North: Kent Rd											
7	L2	446	8.7	0.384	12.2	LOS A	8.8	66.3	0.44	0.71	48.6
8	T1	202	2.5	0.734	39.3	LOS C	15.3	110.3	0.98	0.88	35.8
9	R2	123	5.7	0.734	44.9	LOS D	15.3	110.3	0.98	0.88	35.1
Approach		771	6.6	0.734	24.5	LOS B	15.3	110.3	0.67	0.78	42.1
West: Coward St											
10	L2	76	15.6	0.523	52.4	LOS D	5.0	40.6	0.98	0.78	32.0
11	T1	77	29.9	0.523	51.1	LOS D	5.0	40.6	0.99	0.77	32.2
12	R2	2	0.0	0.523	59.1	LOS E	2.7	23.2	1.00	0.76	31.4
Approach		155	22.5	0.523	51.8	LOS D	5.0	40.6	0.99	0.77	32.1
All Vehicles		2083	7.7	0.739	31.1	LOS C	21.9	160.5	0.83	0.81	39.1

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 (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	71	24.6	LOS C	0.1	0.1	0.70	0.70	
P3	North Full Crossing	28	43.3	LOS E	0.1	0.1	0.93	0.93	
P4	West Full Crossing	8	43.3	LOS E	0.0	0.0	0.93	0.93	
All Pedestrians		107	30.9	LOS D			0.78	0.78	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 **Site: 1 [1699 PM - Full Development]**

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

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: Kent Rd											
1	L2	4	0.0	0.524	44.3	LOS D	8.2	57.6	0.93	0.77	36.0
2	T1	189	0.0	0.524	38.2	LOS C	8.2	57.6	0.93	0.77	36.8
3	R2	240	0.0	0.524	24.9	LOS B	6.5	45.6	0.91	0.80	41.8
Approach		433	0.0	0.524	30.9	LOS C	8.2	57.6	0.92	0.78	39.4
East: Coward St											
4	L2	124	1.1	0.532	32.3	LOS C	12.4	94.3	0.84	0.80	38.8
5	T1	57	31.9	0.532	26.8	LOS B	12.4	94.3	0.84	0.80	39.5
6	R2	451	8.6	0.532	33.4	LOS C	12.4	94.3	0.85	0.81	38.0
Approach		632	9.2	0.532	32.6	LOS C	12.4	94.3	0.84	0.81	38.3
North: Kent Rd											
7	L2	304	10.2	0.349	20.1	LOS B	8.5	64.7	0.62	0.75	43.9
8	T1	65	2.9	0.529	46.7	LOS D	5.1	39.4	0.98	0.78	33.4
9	R2	41	26.8	0.529	52.5	LOS D	5.1	39.4	0.98	0.78	32.5
Approach		410	10.7	0.529	27.6	LOS B	8.5	64.7	0.71	0.76	40.5
West: Coward St											
10	L2	103	10.7	0.501	48.4	LOS D	6.2	46.8	0.96	0.79	33.2
11	T1	113	8.0	0.501	47.5	LOS D	6.2	46.8	0.99	0.77	33.4
12	R2	1	0.0	0.501	54.8	LOS D	4.1	30.6	0.99	0.77	32.7
Approach		217	9.2	0.501	48.0	LOS D	6.2	46.8	0.97	0.78	33.3
All Vehicles		1692	7.2	0.532	32.9	LOS C	12.4	94.3	0.85	0.79	38.3

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

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	24	25.2	LOS C	0.0	0.0	0.71	0.71	
P3	North Full Crossing	22	43.3	LOS E	0.1	0.1	0.93	0.93	
P4	West Full Crossing	1	34.4	LOS D	0.0	0.0	0.83	0.83	
All Pedestrians		47	33.9	LOS D			0.82	0.82	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY



Site: 1 [1699 AM - Full Development & Reduced Parking]

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

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: Kent Rd											
1	L2	6	0.0	0.518	58.3	LOS E	3.1	21.5	1.00	0.75	31.5
2	T1	73	0.0	0.518	45.5	LOS D	3.3	23.3	0.99	0.76	33.8
3	R2	89	0.0	0.518	30.0	LOS C	3.3	23.3	0.95	0.77	39.9
Approach		168	0.0	0.518	37.8	LOS C	3.3	23.3	0.97	0.76	36.7
East: Coward St											
4	L2	233	1.2	0.739	32.9	LOS C	21.9	160.5	0.91	0.84	39.5
5	T1	292	8.6	0.739	27.3	LOS B	21.9	160.5	0.91	0.84	40.3
6	R2	464	10.1	0.724	34.1	LOS C	19.5	148.5	0.91	0.86	37.6
Approach		989	7.6	0.739	31.8	LOS C	21.9	160.5	0.91	0.85	38.8
North: Kent Rd											
7	L2	446	8.7	0.384	12.2	LOS A	8.8	66.3	0.44	0.71	48.6
8	T1	202	2.5	0.734	39.3	LOS C	15.3	110.3	0.98	0.88	35.8
9	R2	123	5.7	0.734	44.9	LOS D	15.3	110.3	0.98	0.88	35.1
Approach		771	6.6	0.734	24.5	LOS B	15.3	110.3	0.67	0.78	42.1
West: Coward St											
10	L2	76	15.6	0.523	52.4	LOS D	5.0	40.6	0.98	0.78	32.0
11	T1	77	29.9	0.523	51.1	LOS D	5.0	40.6	0.99	0.77	32.2
12	R2	2	0.0	0.523	59.1	LOS E	2.7	23.2	1.00	0.76	31.4
Approach		155	22.5	0.523	51.8	LOS D	5.0	40.6	0.99	0.77	32.1
All Vehicles		2083	7.7	0.739	31.1	LOS C	21.9	160.5	0.83	0.81	39.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	71	24.6	LOS C	0.1	0.1	0.70	0.70
P3	North Full Crossing	28	43.3	LOS E	0.1	0.1	0.93	0.93
P4	West Full Crossing	8	43.3	LOS E	0.0	0.0	0.93	0.93
All Pedestrians		107	30.9	LOS D			0.78	0.78

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY



Site: 1 [1699 PM - Full Development & Reduced Parking]

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

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: Kent Rd											
1	L2	4	0.0	0.495	44.5	LOS D	8.5	59.6	0.94	0.77	36.0
2	T1	189	0.0	0.495	38.9	LOS C	8.5	59.6	0.94	0.77	36.6
3	R2	240	0.0	0.533	25.5	LOS B	6.5	45.3	0.92	0.80	41.5
Approach		433	0.0	0.533	31.6	LOS C	8.5	59.6	0.93	0.79	39.1
East: Coward St											
4	L2	124	1.1	0.532	32.3	LOS C	12.4	94.3	0.84	0.80	38.8
5	T1	57	31.9	0.532	26.8	LOS B	12.4	94.3	0.84	0.80	39.5
6	R2	451	8.6	0.532	33.4	LOS C	12.4	94.3	0.85	0.81	38.0
Approach		632	9.2	0.532	32.6	LOS C	12.4	94.3	0.84	0.81	38.3
North: Kent Rd											
7	L2	304	10.2	0.349	20.1	LOS B	8.5	64.7	0.62	0.75	43.9
8	T1	65	2.9	0.529	46.7	LOS D	5.1	39.4	0.98	0.78	33.4
9	R2	41	26.8	0.529	52.5	LOS D	5.1	39.4	0.98	0.78	32.5
Approach		410	10.7	0.529	27.6	LOS B	8.5	64.7	0.71	0.76	40.5
West: Coward St											
10	L2	103	10.7	0.501	48.4	LOS D	6.2	46.8	0.96	0.79	33.2
11	T1	113	8.0	0.501	47.5	LOS D	6.2	46.8	0.99	0.77	33.4
12	R2	1	0.0	0.501	54.8	LOS D	4.1	30.7	0.99	0.77	32.7
Approach		217	9.2	0.501	48.0	LOS D	6.2	46.8	0.97	0.78	33.3
All Vehicles		1692	7.2	0.533	33.1	LOS C	12.4	94.3	0.85	0.79	38.3

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 (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	24	25.2	LOS C	0.0	0.0	0.71	0.71
P3	North Full Crossing	22	43.3	LOS E	0.1	0.1	0.93	0.93
P4	West Full Crossing	1	34.4	LOS D	0.0	0.0	0.83	0.83
All Pedestrians		47	33.9	LOS D			0.82	0.82

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY



Site: 1 [1699 AM - Full Development with SMEC Improvements (No Crossing)]

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

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 Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Kent Rd											
1	L2	6	0.0	0.513	58.3	LOS E	3.0	21.3	1.00	0.75	31.5
2	T1	73	0.0	0.513	45.4	LOS D	3.4	23.9	0.99	0.76	33.9
3	R2	89	0.0	0.513	30.3	LOS C	3.4	23.9	0.95	0.77	39.8
Approach		168	0.0	0.513	37.8	LOS C	3.4	23.9	0.97	0.76	36.7
East: Coward St											
4	L2	233	1.2	0.739	32.9	LOS C	21.9	160.5	0.91	0.84	39.5
5	T1	292	8.6	0.739	27.3	LOS B	21.9	160.5	0.91	0.84	40.3
6	R2	464	10.1	0.724	34.1	LOS C	19.5	148.5	0.91	0.86	37.8
Approach		989	7.6	0.739	31.8	LOS C	21.9	160.5	0.91	0.85	38.9
North: Kent Rd											
7	L2	446	8.7	0.192	11.1	LOS A	3.7	27.9	0.37	0.68	49.3
8	T1	202	2.5	0.734	39.3	LOS C	15.3	110.3	0.98	0.88	35.8
9	R2	123	5.7	0.734	44.9	LOS D	15.3	110.3	0.98	0.88	35.1
Approach		771	6.6	0.734	23.9	LOS B	15.3	110.3	0.63	0.76	42.4
West: Coward St											
10	L2	76	15.6	0.523	52.4	LOS D	5.0	40.6	0.98	0.78	32.0
11	T1	77	29.9	0.523	51.1	LOS D	5.0	40.6	0.99	0.77	32.2
12	R2	2	0.0	0.523	59.1	LOS E	2.7	23.2	1.00	0.76	31.5
Approach		155	22.5	0.523	51.8	LOS D	5.0	40.6	0.99	0.77	32.1
All Vehicles		2083	7.7	0.739	30.9	LOS C	21.9	160.5	0.82	0.80	39.3

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 (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	71	24.6	LOS C	0.1	0.1	0.70	0.70	
P3	North Full Crossing	28	43.3	LOS E	0.1	0.1	0.93	0.93	
P4	West Full Crossing	8	43.3	LOS E	0.0	0.0	0.93	0.93	
All Pedestrians		107	30.9	LOS D			0.78	0.78	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 **Site: 1 [1699 PM - Full Development & SMEC Improvements (No Crossing)]**

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

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: Kent Rd											
1	L2	4	0.0	0.508	44.2	LOS D	8.0	55.8	0.93	0.76	36.1
2	T1	189	0.0	0.508	37.5	LOS C	8.0	55.8	0.93	0.76	37.0
3	R2	240	0.0	0.508	23.6	LOS B	6.7	46.7	0.89	0.80	42.5
Approach		433	0.0	0.508	29.8	LOS C	8.0	55.8	0.91	0.79	39.9
East: Coward St											
4	L2	124	1.1	0.532	32.3	LOS C	12.4	94.3	0.84	0.80	38.8
5	T1	57	31.9	0.532	26.8	LOS B	12.4	94.3	0.84	0.80	39.5
6	R2	451	8.6	0.532	33.4	LOS C	12.4	94.3	0.85	0.81	38.2
Approach		632	9.2	0.532	32.6	LOS C	12.4	94.3	0.84	0.81	38.4
North: Kent Rd											
7	L2	304	10.2	0.175	18.6	LOS B	3.8	28.9	0.55	0.72	44.8
8	T1	65	2.9	0.529	46.7	LOS D	5.1	39.4	0.98	0.78	33.4
9	R2	41	26.8	0.529	52.5	LOS D	5.1	39.4	0.98	0.78	32.5
Approach		410	10.7	0.529	26.5	LOS B	5.1	39.4	0.66	0.73	41.0
West: Coward St											
10	L2	103	10.7	0.501	48.4	LOS D	6.2	46.8	0.96	0.79	33.2
11	T1	113	8.0	0.501	47.5	LOS D	6.2	46.8	0.99	0.77	33.4
12	R2	1	0.0	0.501	54.8	LOS D	4.1	30.6	0.99	0.77	32.7
Approach		217	9.2	0.501	48.0	LOS D	6.2	46.8	0.97	0.78	33.3
All Vehicles		1692	7.2	0.532	32.4	LOS C	12.4	94.3	0.83	0.78	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.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	24	25.2	LOS C	0.0	0.0	0.71	0.71
P3	North Full Crossing	22	43.3	LOS E	0.1	0.1	0.93	0.93
P4	West Full Crossing	1	34.4	LOS D	0.0	0.0	0.83	0.83
All Pedestrians		47	33.9	LOS D			0.82	0.82

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY



Site: 1 [1699 AM - Full Development & SMEC & Reduced Parking (No Crossing)]

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

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: Kent Rd											
1	L2	6	0.0	0.513	58.3	LOS E	3.0	21.3	1.00	0.75	31.5
2	T1	73	0.0	0.513	45.4	LOS D	3.4	23.9	0.99	0.76	33.9
3	R2	89	0.0	0.513	30.3	LOS C	3.4	23.9	0.95	0.77	39.8
Approach		168	0.0	0.513	37.8	LOS C	3.4	23.9	0.97	0.76	36.7
East: Coward St											
4	L2	233	1.2	0.739	32.9	LOS C	21.9	160.5	0.91	0.84	39.5
5	T1	292	8.6	0.739	27.3	LOS B	21.9	160.5	0.91	0.84	40.3
6	R2	464	10.1	0.724	34.1	LOS C	19.5	148.5	0.91	0.86	37.8
Approach		989	7.6	0.739	31.8	LOS C	21.9	160.5	0.91	0.85	38.9
North: Kent Rd											
7	L2	446	8.7	0.192	11.1	LOS A	3.7	27.9	0.37	0.68	49.3
8	T1	202	2.5	0.734	39.3	LOS C	15.3	110.3	0.98	0.88	35.8
9	R2	123	5.7	0.734	44.9	LOS D	15.3	110.3	0.98	0.88	35.1
Approach		771	6.6	0.734	23.9	LOS B	15.3	110.3	0.63	0.76	42.4
West: Coward St											
10	L2	76	15.6	0.523	52.4	LOS D	5.0	40.6	0.98	0.78	32.0
11	T1	77	29.9	0.523	51.1	LOS D	5.0	40.6	0.99	0.77	32.2
12	R2	2	0.0	0.523	59.1	LOS E	2.7	23.2	1.00	0.76	31.5
Approach		155	22.5	0.523	51.8	LOS D	5.0	40.6	0.99	0.77	32.1
All Vehicles		2083	7.7	0.739	30.9	LOS C	21.9	160.5	0.82	0.80	39.3

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 (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	71	24.6	LOS C	0.1	0.1	0.70	0.70	
P3	North Full Crossing	28	43.3	LOS E	0.1	0.1	0.93	0.93	
P4	West Full Crossing	8	43.3	LOS E	0.0	0.0	0.93	0.93	
All Pedestrians		107	30.9	LOS D			0.78	0.78	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY



Site: 1 [1699 PM - Full Development & SMEC & Reduced Parking (No Crossing)]

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

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: Kent Rd											
1	L2	4	0.0	0.508	45.4	LOS D	8.4	58.8	0.95	0.78	35.6
2	T1	189	0.0	0.508	39.4	LOS C	8.4	58.8	0.94	0.78	36.4
3	R2	240	0.0	0.508	24.0	LOS B	6.6	46.4	0.89	0.80	42.2
Approach		433	0.0	0.508	30.9	LOS C	8.4	58.8	0.92	0.79	39.4
East: Coward St											
4	L2	124	1.1	0.518	31.4	LOS C	12.2	92.7	0.82	0.80	39.2
5	T1	57	31.9	0.518	25.9	LOS B	12.2	92.7	0.82	0.80	39.9
6	R2	451	8.6	0.518	32.5	LOS C	12.2	92.7	0.83	0.81	38.5
Approach		632	9.2	0.518	31.7	LOS C	12.2	92.7	0.83	0.80	38.8
North: Kent Rd											
7	L2	304	10.2	0.171	18.1	LOS B	3.7	28.3	0.54	0.71	45.1
8	T1	65	2.9	0.529	46.7	LOS D	5.1	39.4	0.98	0.78	33.4
9	R2	41	26.8	0.529	52.5	LOS D	5.1	39.4	0.98	0.78	32.5
Approach		410	10.7	0.529	26.0	LOS B	5.1	39.4	0.65	0.73	41.2
West: Coward St											
10	L2	103	10.7	0.501	48.4	LOS D	6.2	46.8	0.96	0.79	33.2
11	T1	113	8.0	0.501	47.5	LOS D	6.2	46.8	0.99	0.77	33.4
12	R2	1	0.0	0.501	54.8	LOS D	4.1	30.7	0.99	0.77	32.7
Approach		217	9.2	0.501	48.0	LOS D	6.2	46.8	0.97	0.78	33.3
All Vehicles		1692	7.2	0.529	32.2	LOS C	12.2	92.7	0.83	0.78	38.7

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 (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	24	24.5	LOS C	0.0	0.0	0.70	0.70
P3	North Full Crossing	22	43.3	LOS E	0.1	0.1	0.93	0.93
P4	West Full Crossing	1	35.3	LOS D	0.0	0.0	0.84	0.84
All Pedestrians		47	33.5	LOS D			0.81	0.81

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY



Site: 1 [1699 AM - Full Development & SMEC & Reduced Parking]

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

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: Kent Rd											
1	L2	6	0.0	0.541	64.2	LOS E	3.2	22.5	1.00	0.76	30.0
2	T1	73	0.0	0.541	49.9	LOS D	4.1	28.4	0.99	0.76	32.5
3	R2	89	0.0	0.541	34.7	LOS C	4.1	28.4	0.97	0.77	38.0
Approach		168	0.0	0.541	42.4	LOS C	4.1	28.4	0.98	0.77	35.1
East: Coward St											
4	L2	233	1.2	0.708	33.3	LOS C	23.1	169.0	0.88	0.82	39.3
5	T1	292	8.6	0.708	27.8	LOS B	23.1	169.0	0.88	0.82	40.1
6	R2	464	10.1	0.690	34.5	LOS C	20.5	156.2	0.88	0.85	37.6
Approach		989	7.6	0.708	32.3	LOS C	23.1	169.0	0.88	0.83	38.7
North: Kent Rd											
7	L2	446	8.7	0.329	29.4	LOS C	8.1	61.2	0.73	0.77	39.6
8	T1	202	2.5	0.721	41.8	LOS C	16.4	118.7	0.97	0.86	34.9
9	R2	123	5.7	0.721	47.4	LOS D	16.4	118.7	0.97	0.86	34.2
Approach		771	6.6	0.721	35.5	LOS C	16.4	118.7	0.83	0.81	37.3
West: Coward St											
10	L2	76	15.6	0.508	56.0	LOS D	5.3	43.4	0.98	0.78	31.0
11	T1	77	29.9	0.508	55.2	LOS D	5.3	43.4	0.99	0.76	31.1
12	R2	2	0.0	0.508	63.3	LOS E	3.0	25.9	1.00	0.75	30.3
Approach		155	22.5	0.508	55.7	LOS D	5.3	43.4	0.99	0.77	31.0
All Vehicles		2083	7.7	0.721	36.0	LOS C	23.1	169.0	0.88	0.81	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.

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 (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	71	25.0	LOS C	0.1	0.1	0.67	0.67	
P2	East Full Crossing	30	37.7	LOS D	0.1	0.1	0.83	0.83	
P3	North Full Crossing	28	48.3	LOS E	0.1	0.1	0.94	0.94	
P4	West Full Crossing	8	48.2	LOS E	0.0	0.0	0.94	0.94	
All Pedestrians		137	33.9	LOS D			0.78	0.78	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY



Site: 1 [1699 PM - Full Development & SMEC & Reduced Parking]

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

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 Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Kent Rd											
1	L2	4	0.0	0.419	44.2	LOS D	8.8	61.9	0.90	0.74	36.1
2	T1	189	0.0	0.419	38.6	LOS C	8.8	61.9	0.90	0.74	36.7
3	R2	240	0.0	0.547	45.7	LOS D	11.4	80.0	0.93	0.82	33.8
Approach		433	0.0	0.547	42.6	LOS D	11.4	80.0	0.91	0.79	35.0
East: Coward St											
4	L2	124	1.1	0.540	35.5	LOS C	13.7	104.3	0.85	0.80	37.5
5	T1	57	31.9	0.540	29.9	LOS C	13.7	104.3	0.85	0.80	38.2
6	R2	451	8.6	0.540	36.5	LOS C	13.7	104.3	0.85	0.81	37.0
Approach		632	9.2	0.540	35.7	LOS C	13.7	104.3	0.85	0.81	37.2
North: Kent Rd											
7	L2	304	10.2	0.268	33.6	LOS C	5.9	44.8	0.76	0.77	37.8
8	T1	65	2.9	0.537	51.3	LOS D	5.6	43.2	0.99	0.78	32.1
9	R2	41	26.8	0.537	57.2	LOS E	5.6	43.2	0.99	0.78	31.2
Approach		410	10.7	0.537	38.8	LOS C	5.9	44.8	0.82	0.77	36.0
West: Coward St											
10	L2	103	10.7	0.549	54.3	LOS D	6.9	52.5	0.98	0.80	31.5
11	T1	113	8.0	0.549	53.4	LOS D	6.9	52.5	0.99	0.78	31.7
12	R2	1	0.0	0.549	60.7	LOS E	4.5	33.9	1.00	0.77	31.1
Approach		217	9.2	0.549	53.9	LOS D	6.9	52.5	0.99	0.79	31.6
All Vehicles		1692	7.2	0.549	40.5	LOS C	13.7	104.3	0.88	0.79	35.5

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	24	27.7	LOS C	0.1	0.1	0.71	0.71	
P2	East Full Crossing	30	48.3	LOS E	0.1	0.1	0.94	0.94	
P3	North Full Crossing	22	48.3	LOS E	0.1	0.1	0.94	0.94	
P4	West Full Crossing	1	34.4	LOS D	0.0	0.0	0.79	0.79	
All Pedestrians		77	41.7	LOS E			0.86	0.86	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.