
Colston Budd Hunt & Kafes Pty Ltd

as Trustee for C & B Unit Trust
ABN 27 623 918 759

Our Ref: SK/8928/sk

22 March 2013

Transport Planning
Town Planning
Retail Studies

Empirica
PO Box 524
FORTITUDE VALLEY QLD 4006

Attention: Matthew Volk
Email: MVolk@empirica.com.au

Dear Sir,

RE: PRESTONS SHOPPING CENTRE
TRAFFIC ENGINEERING SERVICES

1. As requested, we are writing to respond to matters raised by Liverpool City Council in correspondence dated 14 March 2013 in relation to the above development. We have previously prepared a traffic report⁽¹⁾ which supported the planning proposal to rezone the site at Prestons to permit the development of a supermarket and specialty shops.
2. Traffic related matters raised by Council and our comments to these matters are set out below:-

Rezoning the development site, as a retail precinct could generate significant pedestrian movements across the Camden Valley Way/Corfield Road intersection. This has not been planned for. Hence, integrated land use/transport assessment is required on the suitability of the site for the requested rezoning.

The Traffic Report prepared by Colston Budd Hunt & Kafes Pty Ltd includes intersection performance analysis of the existing signalised Camden Valley Way/Corfield Road intersection. The intersection performance analysis is incomplete. In accordance with the RMS adopted practice for the assessment of major traffic generating developments, the intersection assessment should

⁽¹⁾ "Traffic Report for Proposed Shopping Centre, 1975-1985 Camden Valley Way, Prestons", March 2013, Colston Budd Hunt & Kafes Pty Ltd.

be carried out assessing traffic conditions, 10 years after the proposed rezoning and associated development has been occupied.

Council is currently assessing a DA for the B6 Precinct opposite the proposed development site, which includes the construction of a southern leg approach to the existing signalised “T” intersection (Refer DA-107/2013), and RMS has given in principle support for the southern leg approach. Hence the intersection performance needs to be revised to provide the projected level of service and any required attributable improvements to the proposed rezoning, for traffic conditions beyond 2023, which include the southern approach, to the existing “T” intersection.

3. With regards to pedestrian movements across the intersection of Camden Valley Way/Corfield Road, the intersection is a traffic signal controlled T-intersection, and in accordance with RMS requirements the intersection incorporates pedestrian crossing facilities across each approach leg to the intersection. The intersection design allows for a fourth leg (southern approach) to be constructed in the future in association with the development to the south of Camden Valley Way and the development of a proposed new service centre on the south eastern corner of the intersection of Camden Valley Way/Corfield Road. In a letter dated the 18 July 2012 the RMS advised that “in principle” approval has been granted to the design of the intersection incorporating the fourth leg.
4. The pedestrian facilities at the intersection provide convenient access across Camden Valley Way and Corfield Road linking to existing bus stops and public transport services on either side of Camden Valley Way. These pedestrian facilities are considered appropriate and will provide convenient pedestrian access to and from the site.
5. With regards to the operation of the intersection of Camden Valley Way/Corfield Road, the intersection has been assessed taking into consideration the proposed fourth leg onto the intersection and the proposed future development to the south of Camden Valley Way, including the development of a proposed new service centre on the south eastern corner of the intersection.
6. The existing morning and afternoon peak period traffic flows through the intersection, including traffic generated by the proposed future development to the south of Camden Valley Way (provided by Varga Traffic Planning and determined in consultation with RMS) and the proposed development traffic generated by the proposed shopping centre, are shown on Figures 1 and 2.

7. The intersection of Camden Valley Way/Corfield Road has been analysed with SIDRA as a four-way intersection for the forecast traffic flows and additional development traffic shown in Figures 1 and 2.

8. The SIDRA program simulates the operation of intersections to provide a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle. Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):

- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:-

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity

9. The results of the SIDRA analysis are shown in Table 1. Copies of the SIDRA output summaries are appended to this document.

Table 1: SIDRA results for the intersection of Camden Valley Way and Corfield Road (Four-Way Intersection)			
	Average Delay (sec/veh)	Level of Service	95th percentile queue length (vehicles)⁽¹⁾
Existing Traffic Flows Plus Development to the South of Camden Valley Way			
- Morning	42.1	D	35.5
- Afternoon	36.4	C	35.1
Existing Traffic Flows Plus Development to the South of Camden Valley Way and the Subject Development Traffic			
- Morning	44.2	D	35.8
- Afternoon	38.2	C	35.6

(1) 95th percentile queue length (vehicles) for worst approach.

Colston Budd Hunt & Kafes Pty Ltd

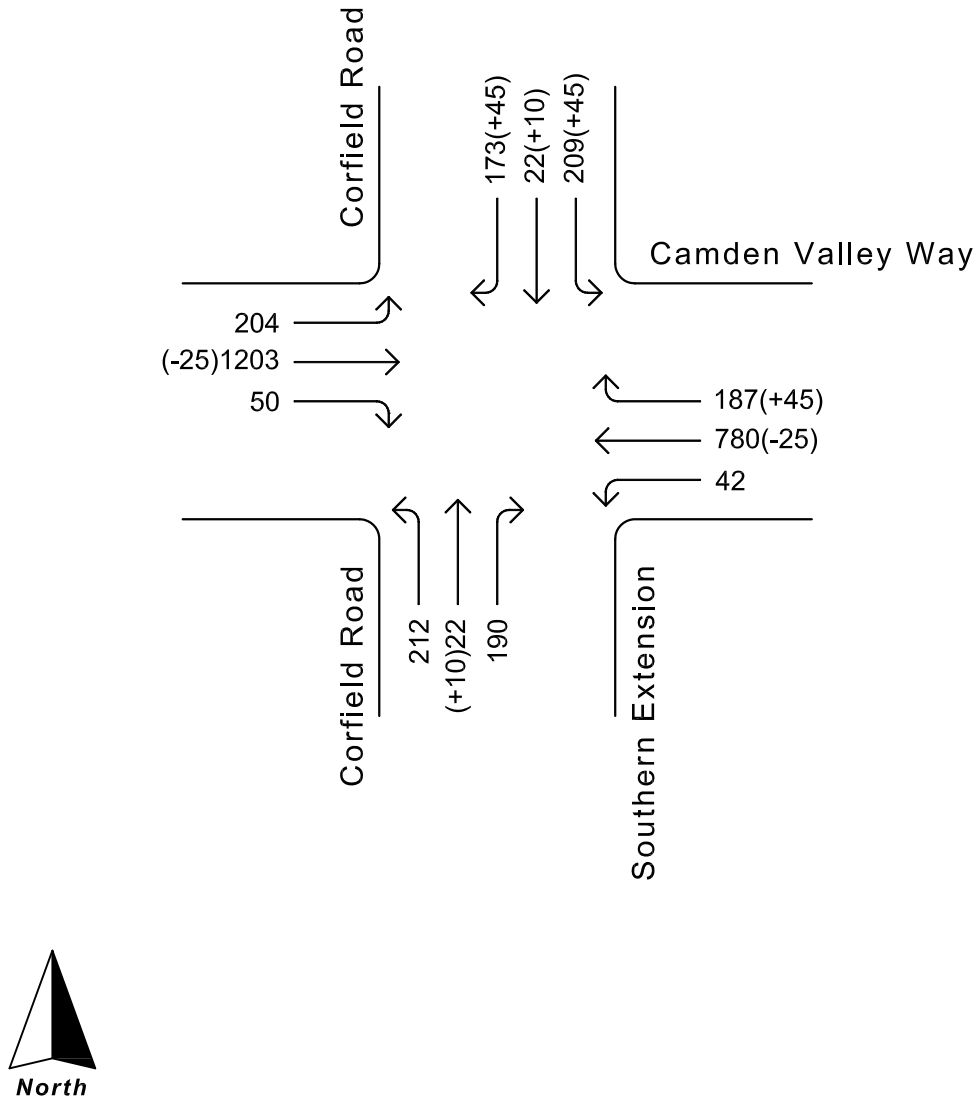
10. It can be seen from Table 1, that the four-way intersection with the existing traffic flows and the additional development traffic south of Camden Valley Way, will operate with average delays of 42.1 seconds per vehicle during the morning and 36.4 seconds per vehicle during the afternoon peak periods. This represents levels of service D and C respectively, which are satisfactory levels of intersection operation.
11. The SIDRA analysis found that with the subject development traffic the intersection would operate with average delays of 44.2 seconds per vehicle during the morning and 38.2 seconds per vehicle during the afternoon peak periods. This represents levels of service D and C respectively, which are satisfactory levels of intersection operation.
12. To assess the operation of the intersection for 10 years in the future, we have increased through traffic flows along Camden Valley Way by two per cent compounded for 10 years and added the development traffic on top of this growth.
13. With the additional traffic from the proposed development to the south of Camden Valley Way and the subject site development traffic, the intersection would operate with average delays of 46.7 seconds per vehicle during the morning and 40.3 seconds per vehicle during the afternoon peak periods in 10 years time. This represents levels of service D and C respectively, which are satisfactory levels of intersection operation.
14. Hence, in summary, with the fourth leg, the intersection of Camden Valley Way/Corfield Road will operate satisfactorily with traffic from both developments both now and in 10 years time.
15. We trust the above provides the additional information you require. Should you have any queries, please do not hesitate to contact us.

Yours faithfully,

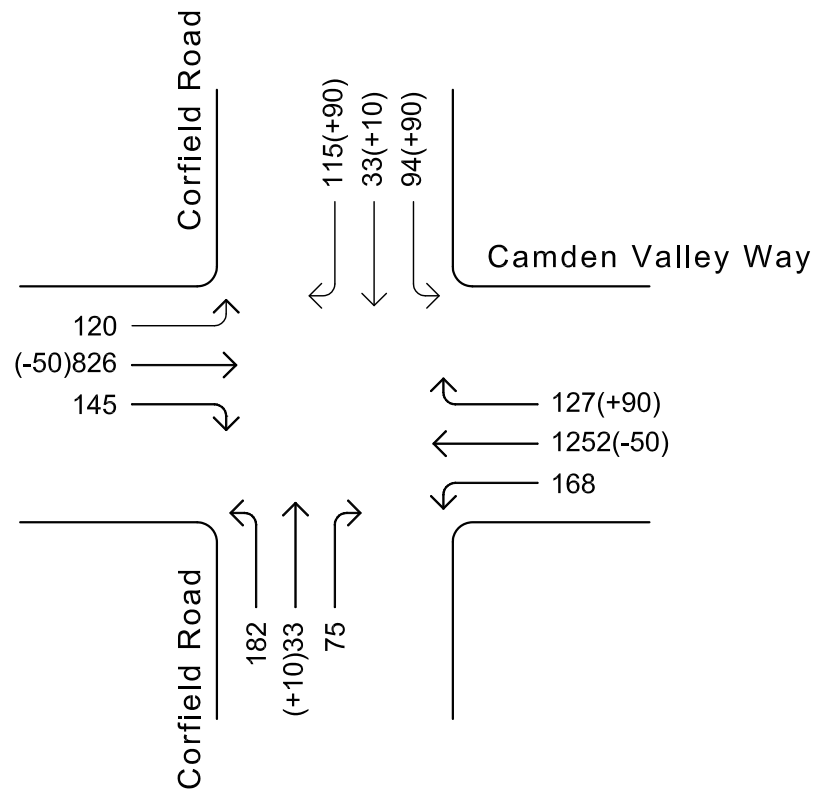
COLSTON BUDD HUNT & KAFES PTY LTD



S. Kafes
Director



Existing weekday morning peak hour traffic flows plus development traffic



LEGEND

- 100 - Existing Peak Hour Traffic Flows plus Development Traffic South of Camden Valley Way
- (+10) - Additional Subject Development Traffic

**Existing weekday afternoon peak hour
traffic flows plus development traffic**

MOVEMENT SUMMARY

Site: Traffic Signals Intersection
AM Peak - Four Way

Camden Valley Way - Corfield Road
Traffic Signals Four Way Intersection AM peak (2013)
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	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: RoadName											
1	L	223	1.0	0.477	33.5	LOS C	8.2	58.2	0.90	0.81	31.2
2	T	23	1.0	0.071	48.8	LOS D	1.2	8.7	0.87	0.63	24.7
3	R	200	1.0	0.641	63.1	LOS E	12.0	84.9	0.99	0.82	22.0
Approach		446	1.0	0.641	47.6	LOS D	12.0	84.9	0.93	0.81	26.0
East: Camden Valley Way (east)											
4	L	44	2.0	0.072	31.0	LOS C	1.4	9.6	0.52	0.69	32.6
5	T	821	2.0	0.544	29.4	LOS C	17.2	122.3	0.71	0.63	32.0
6	R	197	2.0	0.843	77.0	LOS F	13.1	92.9	1.00	1.08	19.3
Approach		1062	2.0	0.843	38.3	LOS C	17.2	122.3	0.76	0.71	28.5
North: Corfield Road											
7	L	220	1.0	0.521	53.2	LOS D	13.3	93.9	0.91	0.83	24.4
8	T	23	1.0	0.521	45.0	LOS D	13.3	93.9	0.91	0.77	24.7
9	R	182	1.0	0.584	62.5	LOS E	10.8	76.4	0.97	0.82	22.1
Approach		425	1.0	0.584	56.7	LOS E	13.3	93.9	0.94	0.82	23.4
West: Camden Valley Way (west)											
10	L	215	2.0	0.361	33.7	LOS C	7.6	54.2	0.60	0.75	31.4
11	T	1266	2.0	0.838	37.5	LOS C	35.5	252.9	0.92	0.86	28.3
12	R	53	2.0	0.173	37.5	LOS C	2.0	14.4	0.64	0.75	29.6
Approach		1534	2.0	0.838	37.0	LOS C	35.5	252.9	0.86	0.84	28.7
All Vehicles		3467	1.7	0.843	41.1	LOS C	35.5	252.9	0.85	0.79	27.5

Level of Service (LOS) Method: Delay (RTA NSW).

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 used.

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	Across S approach	126	32.6	LOS D	0.3	0.3	0.71	0.71
P3	Across E approach	126	59.1	LOS E	0.4	0.4	0.95	0.95
P5	Across N approach	126	29.8	LOS C	0.3	0.3	0.68	0.68
P7	Across W approach	126	59.1	LOS E	0.4	0.4	0.95	0.95
All Pedestrians		504	45.2	LOS E			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: Traffic Signals Intersection
PM Peak - Four Way

Camden Valley Way - Corfield Road

Traffic Signals Four Way Intersection PM peak (2013)

Signals - Fixed Time Cycle Time = 130 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: RoadName											
1	L	192	1.0	0.450	35.3	LOS C	7.4	52.3	0.90	0.80	30.4
2	T	35	1.0	0.106	49.2	LOS D	1.9	13.2	0.88	0.65	24.6
3	R	79	1.0	0.253	58.9	LOS E	4.4	31.0	0.91	0.77	23.0
Approach		305	1.0	0.450	43.0	LOS D	7.4	52.3	0.90	0.78	27.4
East: Camden Valley Way (east)											
4	L	177	2.0	0.283	30.5	LOS C	5.7	40.3	0.54	0.73	32.9
5	T	1318	2.0	0.824	33.4	LOS C	35.1	249.8	0.89	0.82	29.9
6	R	134	2.0	0.535	45.5	LOS D	6.9	49.0	0.85	0.82	26.7
Approach		1628	2.0	0.824	34.1	LOS C	35.1	249.8	0.85	0.81	29.9
North: Corfield Road											
7	L	99	1.0	0.347	55.8	LOS D	7.3	51.4	0.90	0.80	23.9
8	T	35	1.0	0.347	47.6	LOS D	7.3	51.4	0.90	0.73	24.2
9	R	121	1.0	0.388	60.3	LOS E	6.9	48.8	0.94	0.79	22.6
Approach		255	1.0	0.388	56.8	LOS E	7.3	51.4	0.92	0.79	23.3
West: Camden Valley Way (west)											
10	L	126	2.0	0.200	29.8	LOS C	3.9	27.6	0.52	0.71	33.2
11	T	869	2.0	0.544	26.8	LOS B	17.4	123.9	0.68	0.60	33.3
12	R	153	2.0	0.801	74.6	LOS F	10.1	72.1	1.00	1.03	19.7
Approach		1148	2.0	0.801	33.5	LOS C	17.4	123.9	0.71	0.67	30.5
All Vehicles		3337	1.8	0.824	36.4	LOS C	35.1	249.8	0.81	0.76	29.2

Level of Service (LOS) Method: Delay (RTA NSW).

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 used.

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	Across S approach	126	30.5	LOS D	0.3	0.3	0.68	0.68
P3	Across E approach	126	59.1	LOS E	0.4	0.4	0.95	0.95
P5	Across N approach	126	27.8	LOS C	0.3	0.3	0.65	0.65
P7	Across W approach	126	59.1	LOS E	0.4	0.4	0.95	0.95
All Pedestrians		504	44.1	LOS E			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: Traffic Signals Intersection
AM Peak - Four Way + Dev

Camden Valley Way - Corfield Road

Traffic Signals Four Way Intersection AM peak (2013) + Dev

Signals - Fixed Time Cycle Time = 140 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	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: RoadName											
1	L	223	1.0	0.434	33.6	LOS C	8.6	60.4	0.87	0.81	31.2
2	T	23	1.0	0.076	54.1	LOS D	1.3	9.5	0.88	0.64	23.3
3	R	200	1.0	0.690	69.7	LOS E	13.3	93.6	1.00	0.84	20.6
Approach		446	1.0	0.690	50.8	LOS D	13.3	93.6	0.93	0.81	25.0
East: Camden Valley Way (east)											
4	L	44	2.0	0.076	32.7	LOS C	1.5	10.3	0.51	0.69	31.8
5	T	795	2.0	0.525	31.2	LOS C	17.6	125.4	0.70	0.62	31.2
6	R	244	2.0	0.803	75.0	LOS F	16.0	114.2	0.99	1.08	19.6
Approach		1083	2.0	0.803	41.1	LOS C	17.6	125.4	0.76	0.72	27.5
North: Corfield Road											
7	L	267	1.0	0.610	56.9	LOS E	17.4	123.0	0.93	0.84	23.4
8	T	23	1.0	0.610	48.7	LOS D	17.4	123.0	0.93	0.80	23.7
9	R	229	1.0	0.792	73.8	LOS F	16.0	113.2	1.00	0.89	19.9
Approach		520	1.0	0.792	64.0	LOS E	17.4	123.0	0.96	0.86	21.7
West: Camden Valley Way (west)											
10	L	215	2.0	0.379	35.6	LOS C	8.2	58.1	0.60	0.75	30.6
11	T	1240	2.0	0.820	38.1	LOS C	35.8	255.1	0.90	0.83	28.1
12	R	53	2.0	0.140	34.0	LOS C	1.9	13.6	0.57	0.74	31.1
Approach		1507	2.0	0.820	37.6	LOS C	35.8	255.1	0.85	0.81	28.5
All Vehicles		3557	1.7	0.820	44.2	LOS D	35.8	255.1	0.85	0.79	26.6

Level of Service (LOS) Method: Delay (RTA NSW).

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 used.

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	Across S approach	126	34.3	LOS D	0.4	0.4	0.70	0.70
P3	Across E approach	126	64.1	LOS F	0.5	0.5	0.96	0.96
P5	Across N approach	126	31.6	LOS D	0.3	0.3	0.67	0.67
P7	Across W approach	126	64.1	LOS F	0.5	0.5	0.96	0.96
All Pedestrians		504	48.5	LOS E			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: Traffic Signals Intersection
PM Peak - Four Way + Dev

Camden Valley Way - Corfield Road

Traffic Signals Four Way Intersection PM peak (2013) + Dev

Signals - Fixed Time Cycle Time = 140 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: RoadName											
1	L	192	1.0	0.441	37.4	LOS C	8.0	56.7	0.90	0.80	29.6
2	T	35	1.0	0.114	54.6	LOS D	2.0	14.4	0.89	0.66	23.2
3	R	79	1.0	0.272	64.5	LOS E	4.8	33.9	0.92	0.77	21.7
Approach		305	1.0	0.441	46.3	LOS D	8.0	56.7	0.90	0.78	26.3
East: Camden Valley Way (east)											
4	L	177	2.0	0.284	29.9	LOS C	5.7	40.6	0.51	0.72	33.2
5	T	1265	2.0	0.754	30.1	LOS C	31.8	226.6	0.81	0.73	31.5
6	R	228	2.0	0.764	55.0	LOS D	14.3	101.5	0.93	0.98	23.9
Approach		1671	2.0	0.764	33.5	LOS C	31.8	226.6	0.79	0.76	30.3
North: Corfield Road											
7	L	194	1.0	0.569	60.8	LOS E	14.0	98.7	0.95	0.83	22.6
8	T	35	1.0	0.569	52.6	LOS D	14.0	98.7	0.95	0.79	22.8
9	R	216	1.0	0.745	71.5	LOS F	14.7	103.6	1.00	0.86	20.3
Approach		444	1.0	0.745	65.4	LOS E	14.7	103.6	0.97	0.84	21.4
West: Camden Valley Way (west)											
10	L	126	2.0	0.201	29.2	LOS C	3.9	27.8	0.49	0.71	33.5
11	T	817	2.0	0.487	25.6	LOS B	16.1	114.3	0.63	0.55	34.0
12	R	153	2.0	0.675	68.8	LOS E	9.8	70.0	0.96	0.97	20.8
Approach		1096	2.0	0.675	32.0	LOS C	16.1	114.3	0.66	0.63	31.2
All Vehicles		3516	1.8	0.764	38.2	LOS C	31.8	226.6	0.78	0.73	28.7

Level of Service (LOS) Method: Delay (RTA NSW).

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 used.

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	Across S approach	126	30.2	LOS D	0.3	0.3	0.66	0.66
P3	Across E approach	126	64.1	LOS F	0.5	0.5	0.96	0.96
P5	Across N approach	126	27.7	LOS C	0.3	0.3	0.63	0.63
P7	Across W approach	126	64.1	LOS F	0.5	0.5	0.96	0.96
All Pedestrians		504	46.5	LOS E			0.80	0.80

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: Traffic Signals Intersection
AM Peak - Four Way + Dev +10
Years

Camden Valley Way - Corfield Road
Traffic Signals Four Way Intersection AM peak (2013) + Dev + 10 Years Growth
Signals - Fixed Time Cycle Time = 150 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: RoadName											
1	L	223	1.0	0.465	38.0	LOS C	9.8	69.4	0.89	0.81	29.3
2	T	23	1.0	0.081	59.4	LOS E	1.5	10.3	0.90	0.65	22.1
3	R	200	1.0	0.740	76.8	LOS F	14.6	102.8	1.00	0.86	19.3
Approach		446	1.0	0.740	56.5	LOS D	14.6	102.8	0.94	0.82	23.5
East: Camden Valley Way (east)											
4	L	44	2.0	0.073	29.8	LOS C	1.4	9.8	0.46	0.68	33.2
5	T	969	2.0	0.581	29.2	LOS C	22.2	158.0	0.68	0.61	32.1
6	R	244	2.0	0.884	90.4	LOS F	18.7	133.0	1.00	1.13	17.2
Approach		1258	2.0	0.884	41.1	LOS C	22.2	158.0	0.74	0.71	27.5
North: Corfield Road											
7	L	267	1.0	0.654	62.9	LOS E	19.1	135.0	0.96	0.85	22.0
8	T	23	1.0	0.654	54.7	LOS D	19.1	135.0	0.96	0.82	22.2
9	R	229	1.0	0.848	83.4	LOS F	17.9	126.3	1.00	0.92	18.3
Approach		520	1.0	0.848	71.6	LOS F	19.1	135.0	0.98	0.88	20.2
West: Camden Valley Way (west)											
10	L	215	2.0	0.365	32.3	LOS C	7.7	55.0	0.53	0.73	32.0
11	T	1513	2.0	0.907	45.1	LOS D	53.9	383.9	0.96	0.95	25.7
12	R	53	2.0	0.157	36.9	LOS C	2.1	15.1	0.58	0.74	29.8
Approach		1780	2.0	0.907	43.4	LOS D	53.9	383.9	0.90	0.91	26.4
All Vehicles		4004	1.8	0.907	47.8	LOS D	53.9	383.9	0.86	0.84	25.4

Level of Service (LOS) Method: Delay (RTA NSW).

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 used.

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	Across S approach	126	32.0	LOS D	0.4	0.4	0.65	0.65
P3	Across E approach	126	69.1	LOS F	0.5	0.5	0.96	0.96
P5	Across N approach	126	29.5	LOS C	0.3	0.3	0.63	0.63
P7	Across W approach	126	69.1	LOS F	0.5	0.5	0.96	0.96
All Pedestrians		504	49.9	LOS E			0.80	0.80

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: Traffic Signals Intersection
PM Peak - Four Way + Dev + 10
Years

Camden Valley Way - Corfield Road

Traffic Signals Four Way Intersection PM peak (2013) + Dev + 10 Years

Signals - Fixed Time Cycle Time = 150 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: RoadName											
1	L	192	1.0	0.458	41.2	LOS C	9.0	63.3	0.91	0.80	28.1
2	T	35	1.0	0.122	59.9	LOS E	2.2	15.6	0.90	0.67	21.9
3	R	79	1.0	0.292	70.0	LOS E	5.2	36.7	0.93	0.77	20.6
Approach		305	1.0	0.458	50.8	LOS D	9.0	63.3	0.92	0.78	24.9
East: Camden Valley Way (east)											
4	L	177	2.0	0.277	27.9	LOS B	5.5	39.1	0.46	0.71	34.2
5	T	1543	2.0	0.859	33.1	LOS C	46.7	332.8	0.88	0.82	30.1
6	R	228	2.0	0.844	71.7	LOS F	17.2	122.1	0.97	1.08	20.2
Approach		1948	2.0	0.859	37.1	LOS C	46.7	332.8	0.85	0.84	28.8
North: Corfield Road											
7	L	194	1.0	0.606	66.6	LOS E	15.2	107.6	0.96	0.83	21.3
8	T	35	1.0	0.606	58.4	LOS E	15.2	107.6	0.96	0.81	21.4
9	R	216	1.0	0.798	79.6	LOS F	16.2	114.4	1.00	0.89	18.9
Approach		444	1.0	0.798	72.3	LOS F	16.2	114.4	0.98	0.86	20.0
West: Camden Valley Way (west)											
10	L	126	2.0	0.196	27.3	LOS B	3.8	26.8	0.44	0.70	34.5
11	T	997	2.0	0.555	24.8	LOS B	20.7	147.2	0.62	0.55	34.4
12	R	153	2.0	0.701	77.9	LOS F	10.8	77.0	0.98	1.00	19.1
Approach		1276	2.0	0.701	31.4	LOS C	20.7	147.2	0.65	0.62	31.4
All Vehicles		3974	1.8	0.859	40.3	LOS C	46.7	332.8	0.81	0.77	27.8

Level of Service (LOS) Method: Delay (RTA NSW).

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 used.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	126	28.8	LOS C	0.3	0.3	0.62	0.62
P3	Across E approach	126	69.1	LOS F	0.5	0.5	0.96	0.96
P5	Across N approach	126	26.4	LOS C	0.3	0.3	0.59	0.59
P7	Across W approach	126	69.1	LOS F	0.5	0.5	0.96	0.96
All Pedestrians		504	48.4	LOS E			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.