#### MCLAREN TRAFFIC ENGINEERING

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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

25 July 2022 Reference: 220051.02FA

Johnson Property Group 27 Patrick Drive, Cooranbong NSW 2265 Attention: Bryan Garland

### SUPPLEMENTARY TRAFFIC ADVICE FOR WATAGAN PARK TOWN CENTRE PLANNING PROPOSAL AT 35 MCCULLOUGH STREET, COORANBONG

Dear Bryan,

Reference is made to your request to provide supplementary traffic advice for the Watagan Park Town Centre Planning Proposal at 35 McCullough Street, Cooranbong. This supplementary advice is provided in response to Lake Macquarie City Council's comments. The comments made by Council relevant to traffic and parking are reproduced in the following sections (italicised) with  $M^{C}$ Laren Traffic Engineering's (MTE) response thereafter.

### 1 SIDRA Intersection Files

Provide a copy of the electronic SIDRA files to enable further interrogation of the modelling. The capacity of the intersections need to be assessed for the ten year design horizon.

The electronic SIDRA files have been provided for review and reflect development traffic plus growth up to 2032.

#### 2 Capacity of Patrick Drive Intersection for Future Growth

The TfNSW advice states 'the modelling used to inform the traffic signal design found that the intersection may reach capacity by about 2025 with regard to the right turn out of Patrick Drive'. This modelling submitted to TfNSW should be submitted with the planning proposal to allow comparison with new modelling for this proposal.

Growth volumes have been added to the Patrick Drive / Freemans Drive intersection to reflect the proposed development and growth volumes to the year 2032. The results as provided in **Annexure A** reflect that the Patrick Drive / Freemans Drive intersection will perform with a Level of Service of "C" in the AM peak and "A" in the PM peak, which is acceptable and demonstrates additional capacity beyond the 10-year design horizon.



# 3 Alton Road / Central Road / Patrick Drive Intersection Layout

The layout of the Alton Road / Central Road / Freemans Drive intersection is different in the model than is being designed, with the merge lane being different lengths. The model is required to be updated to match the design layout.

The model has been modified to reflect the Council's design layout and the modelling rerun on this basis. There is no change reflected in the capacity of the intersection compared to the previous results, with the results showing a Level of Service of "B" in the AM peak and "A" in the PM peak under the existing plus development plus growth to 2032 volumes. The results are provided in **Annexure B** for reference.

Please contact the undersigned on 9521 7199 should you require further information or assistance.

Yours faithfully,

McLaren Traffic Engineering

**Tom Steal** 

Senior Traffic Engineer BE Civil AMAITPM MIEAust

RMS Accredited Level 2 Road Safety Auditor



ANNEXURE A: PATRICK DRIVE SIDRA RESULTS (6 SHEETS)

# LANE SUMMARY

Site: 101 [Patrick Drive / Freeman Drive Existing +

**■■** Network: N101 [PM Peak Development PM - Copy (Site Folder: Alton Layout Testing)] (Network Folder: Alton Layout

Testing)]

Freeman Drive / Patrick Drive

AM Peak Period

100% Development Scale + Existing

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 70 seconds (Network Optimum Cycle Time -

Minimum Delay)

Design Life Analysis: Constant Number of Years = 26

Lane Use	Lane Use and Performance														
	DEM/ FLO [ Total veh/h		ARRI FLO [ Total veh/h	WS	Cap.	Deg. Satn	Lane Util.		Level of Service	95% BA QUE [ Veh		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Free			VCII/II	/0	VCII/II	V/C	/0	360			- '''		- '''	70	70
Lane 1 Lane 2 Approach	536 108 644	0.0 0.0 0.0	536 108 644	0.0 0.0 0.0	159	0.410 0.677 0.677	100 100	5.6 42.8 11.8	LOS A LOS D LOS A	8.2 4.0 8.2	57.7 27.8 57.7	Full Short	550 60	0.0	0.0 NA
North: Patr	ick Drive	e (N)													
Lane 1 Lane 2 Approach	11 142 152	0.0 0.0 0.0	11 142 152	0.0 0.0 0.0	292	0.017 0.486 0.486	100 100	22.5 35.9 35.0	LOS B LOS C LOS C	0.2 4.6 4.6	1.7 32.5 32.5	Short Full	70 500	0.0	NA 0.0
West: Free	man Dri	ive (W	)												
Lane 1 Lane 2	470 589	0.0	470 589	0.0		0.554 0.604	100 100	13.8 5.2	LOS A LOS A	7.9 7.6	55.4 53.1	Short Full	50 450	0.0	NA 0.0
Approach	1059	0.0	1059	0.0		0.604		9.0	LOS A	7.9	55.4				
Intersectio n	1855	0.0	1855	0.0		0.677		12.1	LOSA	8.2	57.7				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Lane LOS values are based on average delay per lane.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

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

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

Approach L	ane Flo	ows (v	eh/h)							
East: Freema	n Drive	(E)								
Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1 Lane 2	536 -	- 108	536 108	0.0 0.0	1309 159	0.410 0.677	100 100	NA 0.0	NA 1	
Approach	536	108	644	0.0		0.677				
North: Patrick	Drive (I	N)								
Mov. From N To Exit:	L2 E	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	11	-	11	0.0	610	0.017	100	0.0	2	
Lane 2	-	142	142	0.0	292	0.486	100	NA	NA	
Approach	11	142	152	0.0		0.486				
West: Freema	an Drive	(W)								

Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c		Prob. SL Ov. %		
Lane 1	470	-	470	0.0	849	0.554	100	<mark>14.3</mark>	2	
Lane 2	-	589	589	0.0	975	0.604	100	NA	NA	
Approach	470	589	1059	0.0		0.604				
	Total	%HV[	Deg.Sat	n (v/c)						
Intersection	1855	0.0		0.677						

Merge Analysis					
Exit Lane Number	Short Percent Opposing Lane Opng in Flow Rate Length Lane m % veh/h pcu/h	Critical Gap sec	Follow-up Lane Capacity Headway Flow Rate sec veh/h veh/h	Satn Delay	Merge Delay sec
East Exit: Freeman Drive (E Merge Type: <b>Not Applied</b>	:)				
Full Length Lane 1	Merge Analysis not applied.				
North Exit: Patrick Drive (N) Merge Type: <b>Not Applied</b>					
Full Length Lane 1	Merge Analysis not applied.				
West Exit: Freeman Drive (V Merge Type: <b>Not Applied</b>	N)				
Full Length Lane 1	Merge Analysis not applied.				

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## **MOVEMENT SUMMARY**

Site: 101 [Patrick Drive / Freeman Drive Existing +

**■■** Network: N101 [AM Peak Development AM - Copy (Site Folder: Alton Layout Testing)] (Network Folder: Alton Layout

Testing)]

Freeman Drive / Patrick Drive

AM Peak Period

100% Development Scale + Existing

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 95 seconds (Network Optimum Cycle Time -

Minimum Delay)

Design Life Analysis: Constant Number of Years = 26

Vehi	<b>/ehicle Movement Performance</b> Mov Turn DEMAND ARRIVAL Deg. Aver. Level of 95% BACK OF Prop. EffectiveAver. No. Aver.													
Mov ID	Turn	DEMA FLO\ [ Total veh/h		ARRI FLO' [ Total veh/h	WS HV]	Deg. Satn v/c	Aver. Delay sec	Level of Service		ACK OF EUE Dist ] m	Prop. Que	Effective A Stop Rate	ver. No. Cycles	Aver. Speed km/h
East:	Freema	an Drive	(E)											
5 6	T1 R2	822 27	0.0	822 27	0.0	* 0.890 0.230	34.4 54.1	LOS C LOS D	40.9 1.3	286.1 8.9	0.96 0.98	1.01 0.71	1.13 0.98	29.7 31.9
Appro		849	0.0	849	0.0	0.890	35.0	LOS C	40.9	286.1	0.96	1.00	1.13	29.9
North	: Patric	k Drive (N	۷)											
7	L2	42	0.0	42	0.0	0.044	17.6	LOS B	0.9	6.6	0.52	0.67	0.52	38.3
9	R2	568	0.0	568	0.0	* 0.900	51.1	LOS D	30.7	214.9	1.00	0.99	1.27	22.6
Appro	oach	610	0.0	610	0.0	0.900	48.8	LOS D	30.7	214.9	0.97	0.97	1.22	23.2
West	: Freem	an Drive	(W)											
10	L2	118	0.0	118	0.0	0.201	32.8	LOS C	4.5	31.3	0.86	0.77	0.86	37.6
11	T1	427	0.0	427	0.0	0.665	29.0	LOS C	17.5	122.2	0.94	0.82	0.94	29.4
Appro	oach	544	0.0	544	0.0	0.665	29.8	LOS C	17.5	122.2	0.92	0.81	0.92	31.9
All Ve	ehicles	2003	0.0	2003	0.0	0.900	37.8	LOS C	40.9	286.1	0.95	0.94	1.10	28.1

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

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

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

Delay Model: SIDRA Standard (Geometric Delay is included).

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

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

\* Critical Movement (Signal Timing)

Pedestrian Mo	vement	Perforr	nance							
Mov .	Dem.	Aver.	Level of	AVERAGE	BACK OF	Prop. Et	ffective	Travel	Travel	Aver.
ID Crossing	Flow	Delay	Service	QUE		Que	Stop	Time	Dist.	Speed
	171			[ Ped	Dist ]		Rate			
	ped/h	sec		ped	m			sec	m	m/sec
East: Freeman D	rive (E)									
P2 Full	80	23.7	LOS C	0.2	0.2	0.71	0.71	49.8	33.9	0.68
North: Patrick Dri	ive (N)									
P3 Full	80	25.9	LOS C	0.2	0.2	0.74	0.74	52.0	33.9	0.65
West: Freeman D	Orive (W)									
P4 Full	80	23.7	LOS C	0.2	0.2	0.71	0.71	49.8	33.9	0.68
All Pedestrians	240	24.4	LOS C	0.2	0.2	0.72	0.72	50.5	33.9	0.67

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.

# LANE SUMMARY

Site: 101 [Patrick Drive / Freeman Drive Existing + Development AM - Copy (Site Folder: Alton Layout Testing)]

■■ Network: N101 [AM Peak (Network Folder: Alton Layout

Testing)]

Freeman Drive / Patrick Drive

AM Peak Period

100% Development Scale + Existing

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 95 seconds (Network Optimum Cycle Time -

Minimum Delay)

Design Life Analysis: Constant Number of Years = 26

Lane Use	Lane Use and Performance														
	DEM FLO [ Total	WS HV]	ARR FLO [ Total	WS HV]	Сар.	Deg. Satn	Lane Util.		Level of Service		ACK OF EUE Dist ]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
East: Free	man Dri	ve (E)			1										
Lane 1	822	0.0	822	0.0	924	0.890	100	34.4	LOS C	40.9	286.1	Full	550	0.0	0.0
Lane 2	27	0.0	27	0.0	117	0.230	100	54.1	LOS D	1.3	8.9	Short	60	0.0	NA
Approach	849	0.0	849	0.0		0.890		35.0	LOS C	40.9	286.1				
North: Patr	ick Drive	e (N)													
Lane 1	42	0.0	42	0.0	958	0.044	100	17.6	LOS B	0.9	6.6	Short	70	0.0	NA
Lane 2	568	0.0	568	0.0	631 <sup>1</sup>	0.900	100	51.1	LOS D	30.7	214.9	Full	500	0.0	0.0
Approach	610	0.0	610	0.0		0.900		48.8	LOS D	30.7	214.9				
West: Free	man Dr	ive (W	)												
Lane 1	118	0.0	118	0.0	586	0.201	100	32.8	LOS C	4.5	31.3	Short	50	0.0	NA
Lane 2	427	0.0	427	0.0	642 <sup>1</sup>	0.665	100	29.0	LOS C	17.5	122.2	Full	450	0.0	0.0
Approach	544	0.0	544	0.0		0.665		29.8	LOS C	17.5	122.2				
Intersectio n	2003	0.0	2003	0.0		0.900		37.8	LOS C	40.9	286.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Lane LOS values are based on average delay per lane.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

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

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

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach	Lane Flo	ows (v	reh/h)						
East: Freem	nan Drive (	(E)							
Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1 Lane 2	822 -	- 27	822 27	0.0 0.0	924 <sup>1</sup> 117	0.890 0.230	100 100	NA 0.0	NA 1
Approach	822	27	849	0.0		0.890			
North: Patrio	ck Drive (N	٧)							
Mov. From N To Exit:	L2 E	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1 Lane 2	42	- 568	42 568	0.0	958 631 <sup>1</sup>	0.044 0.900	100 100	0.0 NA	2 NA

Approach	42	568	610	0.0		0.900			
West: Freem	an Drive	e (W)							
Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c		Prob. SL Ov. %	Ov. Lane No.
Lane 1 Lane 2	118 -	- 427	118 427	0.0	586 642 <sup>1</sup>	0.201 0.665	100 100	0.0 NA	2 NA
Approach	118	427	544	0.0		0.665			
	Total	%HV E	eg.Sat	n (v/c)					
Intersection	2003	0.0		0.900					

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis								
Exit Lane Number	Lane	Percent Opposing Opng in Flow Rate Lane % veh/h pcu/h	Critical Gap sec	Headway	Rate	Deg. Satn D		Merge Delay sec
East Exit: Freeman Drive ( Merge Type: <b>Not Applied</b>		70 VOTI/ITI   DOGITI			VO11/11	V/ 0	300	000
Full Length Lane 1	Merge	Analysis not applied.						
North Exit: Patrick Drive (N Merge Type: <b>Not Applied</b>	)							
Full Length Lane 1	Merge	Analysis not applied.						
West Exit: Freeman Drive ( Merge Type: <b>Not Applied</b>	W)							
Full Length Lane 1	Merge	Analysis not applied.						

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## **MOVEMENT SUMMARY**

Site: 101 [Patrick Drive / Freeman Drive Existing +

**■■** Network: N101 [PM Peak Development PM - Copy (Site Folder: Alton Layout Testing)] (Network Folder: Alton Layout

Testing)]

Freeman Drive / Patrick Drive

AM Peak Period

100% Development Scale + Existing

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 70 seconds (Network Optimum Cycle Time -

Minimum Delay)

Design Life Analysis: Constant Number of Years = 26

Vehi	cle Mo	vement	Perfo	rmanc	e:									
Mov ID	Turn	DEMA FLO\ [ Total veh/h		ARRI FLO' [ Total veh/h	WS HV]	Deg. Satn v/c	Aver. Delay sec	Level of Service		ACK OF EUE Dist ] m	Prop. Que	Effective A Stop Rate	ver. No. Cycles	Aver. Speed km/h
East:	Freema	an Drive	(E)											
5 6	T1 R2	536 108	0.0	536 108	0.0	0.410 * 0.677	5.6 42.8	LOS A LOS D	8.2 4.0	57.7 27.8	0.49 1.00	0.43 0.84	0.49 1.17	51.5 35.2
Appro	oach	644	0.0	644	0.0	0.677	11.8	LOS A	8.2	57.7	0.57	0.50	0.60	45.7
North	: Patric	k Drive (I	٧)											
7	L2	11	0.0	11	0.0	0.017	22.5	LOS B	0.2	1.7	0.70	0.66	0.70	34.7
9	R2	142	0.0	142	0.0	<b>*</b> 0.486	35.9	LOS C	4.6	32.5	0.96	0.79	0.96	27.7
Appro	oach	152	0.0	152	0.0	0.486	35.0	LOS C	4.6	32.5	0.94	0.78	0.94	28.1
West	: Freem	nan Drive	(W)											
10	L2	470	0.0	470	0.0	0.554	13.8	LOS A	7.9	55.4	0.52	0.73	0.52	47.3
11	T1	589	0.0	589	0.0	<b>*</b> 0.604	5.2	LOS A	7.6	53.1	0.40	0.36	0.40	50.5
Appro	oach	1059	0.0	1059	0.0	0.604	9.0	LOS A	7.9	55.4	0.46	0.52	0.46	48.5
All Ve	hicles	1855	0.0	1855	0.0	0.677	12.1	LOSA	8.2	57.7	0.54	0.54	0.55	45.4

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

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

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

Delay Model: SIDRA Standard (Geometric Delay is included).

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

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

\* Critical Movement (Signal Timing)

Pedestrian	Movement	Perforr	nance							
Mov	Dem.	Aver.	Level of	AVERAGE	BACK OF	Prop. Et	ffective	Travel	Travel	Aver.
ID Crossing	Flow	Delay	Service	QUE [ Ped	EUE Dist ]	Que	Stop Rate	Time	Dist.	Speed
	ped/h	sec		ped	m			sec	m	m/sec
East: Freema	n Drive (E)									
P2 Full	80	29.4	LOS C	0.1	0.1	0.92	0.92	55.4	33.9	0.61
North: Patrick	Drive (N)									
P3 Full	80	13.9	LOS B	0.1	0.1	0.63	0.63	40.0	33.9	0.85
West: Freema	an Drive (W)									
P4 Full	80	29.4	LOS C	0.1	0.1	0.92	0.92	55.4	33.9	0.61
All Pedestriar	ns 240	24.2	LOS C	0.1	0.1	0.82	0.82	50.3	33.9	0.67

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.





ANNEXURE B: ALTON/CENTRAL SIDRA RESULTS (10 SHEETS)

# **CCG MOVEMENT SUMMARY**

**□□** Common Control Group: CCG1 [CCGName]

■■ Network: N101 [AM Peak (Network Folder: Alton Layout

Testing)]

EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 95 seconds (Network Optimum Cycle Time - Minimum

Delay)

Design Life Analysis: Constant Number of Years = 26

Vehi	icle Mo	vement	Perfor	mance	(CC	:G)								
Mov ID	Turn [	DEMAND	FLOW	S ARRI FLO		Deg. Satn		Level of Service	95% BA QUE		Prop. Que	Effective A Stop	ver. No. Cycles	Aver. Speed
		[ Total	HV]	[ Total	HV]		Delay	Service	[ Veh.	Dist ]	Que	Rate	Cycles	
		veh/h	%	veh/h		v/c	sec		veh	m				km/h
Site:	101 [Alt	on / Free	man Ex	isting +	Deve	elopment Al	M - Copy	]						
East	: Freema	an Drive (	(E)											
5	T1	1230	0.0	1230		<b>*</b> 0.968	22.9	LOS B	4.7	32.6	0.63	0.72	0.81	37.1
6	R2	79	0.0	79	0.0	0.968	31.3	LOS C	4.7	32.6	0.89	1.03	1.16	30.7
Appr	oach	1308	0.0	1308	0.0	0.968	23.4	LOS B	4.7	32.6	0.65	0.74	0.83	36.6
North	n: Alton	Road (N)												
7	L2	96	0.0	96	0.0	0.408	38.9	LOS C	3.9	27.1	0.88	0.79	0.88	26.6
9	R2	359	0.0	359	0.0	0.920	60.6	LOS E	20.2	141.2	0.99	1.02	1.43	29.6
Appr	oach	455	0.0	455	0.0	0.920	56.0	LOS D	20.2	141.2	0.96	0.97	1.31	29.2
West	t: Freem	an Drive	(W)											
10	L2	125	0.0	125	0.0	0.536	18.1	LOS B	10.1	71.0	0.64	0.64	0.64	47.4
11	T1	548	0.0	548	0.0	0.536	12.7	LOS A	10.1	71.0	0.64	0.60	0.64	41.7
Appr	oach	673	0.0	673	0.0	0.536	13.7	LOSA	10.1	71.0	0.64	0.61	0.64	43.3
All V	ehicles	2436	0.0	2436	0.0	0.968	26.8	LOS B	20.2	141.2	0.71	0.75	0.87	35.6
Site:	101 [Ce	entral / Fre	eeman l	Existing	+ De	evelopment	AM - Co	py]						
Sout	h: Centr	al												
1	L2	47	0.0	47	0.0	0.090	32.4	LOS C	1.6	11.3	0.77	0.72	0.77	29.3
3	R2	36	0.0	36	0.0	<b>*</b> 0.153	46.5	LOS D	1.5	10.7	0.92	0.73	0.92	23.9
Appr	oach	83	0.0	83	0.0	0.153	38.4	LOS C	1.6	11.3	0.83	0.72	0.83	26.7
East	: Freema	an Drive (	E)											
4	L2	99	0.0	99	0.0	0.814	23.3	LOS B	32.8	229.5	0.83	0.80	0.86	44.6
5	T1	1258	0.0	1258	0.0	0.814	20.4	LOS B	41.8	292.3	0.84	0.82	0.91	34.3
Appr	oach	1357	0.0	1357	0.0	0.814	20.6	LOS B	41.8	292.3	0.84	0.82	0.90	35.5
West	t: Freem	an Drive	(W)											
11	T1	543	0.0	543	0.0	0.830	8.7	LOSA	4.7	32.6	0.43	0.39	0.46	11.2
12	R2	145	0.0	145	0.0	<b>*</b> 0.830	30.9	LOS C	4.7	32.6	1.00	0.93	1.18	30.2
Appr	oach	689	0.0	689	0.0	0.830	13.4	LOSA	4.7	32.6	0.55	0.50	0.61	22.9
All V	ehicles	2129	0.0	2129	0.0	0.830	19.0	LOS B	41.8	292.3	0.75	0.72	0.81	32.8

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

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

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

Delay Model: SIDRA Standard (Geometric Delay is included).

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

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

\* Critical Movement (Signal Timing)

Pedestrian Mo	vement	Perforr	nance (C	CG)					
Mov	Dem.	Aver.	Level of	AVERAGE BACK OF	Prop.	Effective	Travel	Travel	Aver.
ID Crossing	Flow	Delay	Service	QUEUE	Que	Stop	Time	Dist.	Speed

				[ Ped	Dist ]		Rate			
	ped/h	sec		ped	m			sec	m	m/sec
Site: 101 [Alton / F	reeman	Existing	ı + Developr	nent AM -	Copy]					
East: Freeman Dri	ive (E)									
P2 Full	80	41.8	LOS E	0.2	0.2	0.94	0.94	70.4	37.2	0.53
North: Alton Road	(N)									
P3 Full	80	11.2	LOS B	0.1	0.1	0.49	0.49	35.7	31.9	0.89
West: Freeman Dr	rive (W)									
P4 Full	80	41.8	LOS E	0.2	0.2	0.94	0.94	70.4	37.2	0.53
All Pedestrians	240	31.6	LOS D	0.2	0.2	0.79	0.79	58.9	35.4	0.60
Site: 101 [Central	/ Freema	an Existi	ng + Develo	pment AM	- Copy]					
South: Central										
P1 Full	80	11.2	LOS B	0.1	0.1	0.49	0.49	35.7	31.9	0.89
East: Freeman Dri	ive (E)									
P2 Full	80	41.8	LOS E	0.2	0.2	0.94	0.94	70.4	37.2	0.53
All Pedestrians	160	26.5	LOS C	0.2	0.2	0.71	0.71	53.1	34.6	0.65

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.

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Project: \mte\_nas1\mte\_storage\Jobs\2022\220051\MTE SIDRA\22 02 03 PM12.23 - Revis in Sidra 9\22 07 08 Final Yield no Filters + Deaves -Modified to Council Design.sip9

# **CCG MOVEMENT SUMMARY**

**□□** Common Control Group: CCG1 [CCGName]

■■ Network: N101 [PM Peak (Network Folder: Alton Layout

Testing)]

EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 70 seconds (Network Optimum Cycle Time - Minimum

Delay)

Design Life Analysis: Constant Number of Years = 26

Vehi	icle Mo	vement	Porfor	mance	(CC	:G)								
Mov ID		DEMAND [ Total			VAL VS	Deg. Satn		Level of Service	95% BA QUE [ Veh.		Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed
		veh/h	%	veh/h		v/c	sec		veh	m				km/h
Site:	101 [Alt	on / Free	man Ex	isting +	Deve	elopment P	М - Сору	]						
East:	: Freema	an Drive (	(E)											
5	T1	609	0.0	609	0.0	<b>*</b> 0.778	14.3	LOSA	4.7	32.6	0.64	0.59	0.70	41.6
6	R2	87	0.0	87	0.0	0.778	28.6	LOS C	4.7	32.6	0.97	0.93	1.11	31.8
Appr	oach	696	0.0	696	0.0	0.778	16.1	LOS B	4.7	32.6	0.68	0.63	0.75	40.1
North	n: Alton	Road (N)												
7	L2	83	0.0	83	0.0	0.345	36.3	LOS C	2.7	18.9	0.94	0.76	0.94	27.6
9	R2	110	0.0	110	0.0	0.414	36.5	LOS C	3.6	25.2	0.95	0.78	0.95	36.7
Appr	oach	193	0.0	193	0.0	0.414	36.4	LOS C	3.6	25.2	0.95	0.77	0.95	33.7
West	t: Freem	an Drive	(W)											
10	L2	319	0.0	319	0.0	0.769	16.7	LOS B	22.1	155.0	0.78	0.78	0.80	48.2
11	T1	1028	0.0	1028	0.0	0.769	12.7	LOS A	22.1	155.0	0.77	0.77	0.84	41.4
Appr	oach	1347	0.0	1347	0.0	0.769	13.7	LOSA	22.1	155.0	0.77	0.77	0.83	43.8
All Ve	ehicles	2236	0.0	2236	0.0	0.778	16.4	LOS B	22.1	155.0	0.76	0.73	0.81	41.4
Site:	101 [Ce	entral / Fr	eeman E	Existing	+ De	evelopment	PM - Co	ру]						
South	h: Centr	al												
1	L2	108	0.0	108	0.0	<b>*</b> 0.629	37.5	LOS C	3.8	26.8	0.97	0.85	1.09	25.6
3	R2	78	0.0	78	0.0	0.294	35.8	LOS C	2.5	17.5	0.93	0.76	0.93	26.2
Appr	oach	186	0.0	186	0.0	0.629	36.8	LOS C	3.8	26.8	0.95	0.81	1.02	25.9
East:	Freema	an Drive (	(E)											
4	L2	28	0.0	28	0.0	0.553	13.8	LOSA	7.7	53.6	0.66	0.60	0.66	50.5
5	T1	676	0.0	676	0.0	0.553	8.2	LOSA	7.7	53.6	0.66	0.59	0.66	46.0
Appr	oach	704	0.0	704	0.0	0.553	8.5	LOSA	7.7	53.6	0.66	0.59	0.66	46.3
West	t: Freem	an Drive	(W)											
11	T1	1059	0.0	1059	0.0	0.755	5.0	LOS A	4.7	32.6	0.36	0.35	0.37	19.3
12	R2	69	0.0	69	0.0	0.755	7.1	LOS A	4.7	32.6	0.42	0.42	0.44	49.2
Appr	oach	1128	0.0	1128	0.0	0.755	5.2	LOSA	4.7	32.6	0.37	0.36	0.38	27.4
All Ve	ehicles	2019	0.0	2019	0.0	0.755	9.2	LOSA	7.7	53.6	0.52	0.48	0.53	37.5

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

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

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

Delay Model: SIDRA Standard (Geometric Delay is included).

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

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

\* Critical Movement (Signal Timing)

Pedestrian Mo	vement	Perforr	nance (C	CG)					
Mov	Dem.	Aver.	Level of	AVERAGE BACK OF	Prop.	Effective	Travel	Travel	Aver.
ID Crossing	Flow	Delay	Service	QUEUE	Que	Stop	Time	Dist.	Speed

				[ Ped	Dist ]		Rate			,
	ped/h	sec		ped	m			sec	m	m/sec
Site: 101 [Alton / F	reeman	Existing	y + Develop	oment PM -	Copy]					
East: Freeman Dr	ive (E)									
P2 Full	80	29.4	LOS C	0.1	0.1	0.92	0.92	58.0	37.2	0.64
North: Alton Road	(N)									
P3 Full	80	7.3	LOS A	0.1	0.1	0.46	0.46	31.9	31.9	1.00
West: Freeman Di	rive (W)									
P4 Full	80	29.4	LOS C	0.1	0.1	0.92	0.92	58.0	37.2	0.64
All Pedestrians	240	22.0	LOS C	0.1	0.1	0.76	0.76	49.3	35.4	0.72
Site: 101 [Central	/ Freema	an Existi	ng + Devel	lopment PM	- Copy]					
South: Central										
P1 Full	80	7.3	LOS A	0.1	0.1	0.46	0.46	31.9	31.9	1.00
East: Freeman Dr	ive (E)									
P2 Full	80	29.4	LOS C	0.1	0.1	0.92	0.92	58.0	37.2	0.64
All Pedestrians	160	18.3	LOS B	0.1	0.1	0.69	0.69	44.9	34.6	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.

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Project: \mte\_nas1\mte\_storage\Jobs\2022\220051\MTE SIDRA\22 02 03 PM12.23 - Revis in Sidra 9\22 07 08 Final Yield no Filters + Deaves -Modified to Council Design.sip9

## **CCG LANE SUMMARY**

□□ Common Control Group: CCG1 [CCGName]

■■ Network: N101 [PM Peak (Network Folder: Alton Layout

Testing)]

EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 70 seconds (Network Optimum Cycle Time - Minimum

Delay)

Design Life Analysis: Constant Number of Years = 26

Lane Use	and P	erforn	nance	(CCG	i)										
	DEM.	AND	ARRI	VAL	, Cap.	Deg.			Level of		ACK OF		Lane	Сар.	Prob.
	FLO [Total	WS HV]	FLO		Сар.	Satn	Util.	Delay	Service	QUI [Veh	EUE Dist ]	Config	Length	Adj.	Block.
	veh/h	% -	veh/h	%	veh/h	v/c	%	sec		<u> </u>	m <sup>1</sup>		m	%	%
Site: 101 [A	Alton / F	reema	n Existii	ng + D	)evelop	ment P	M - Cop	oy]							
East: Freer	nan Dri	ve (E)													
Lane 1	367	0.0	367	0.0	1254	0.293	38 <sup>6</sup>	6.7	LOS A	4.7 <sup>N4</sup>	32.6 <sup>N4</sup>	Full	20	0.0	<mark>50.0</mark>
Lane 2	329	0.0	329	0.0	423	0.778	100	26.6	LOS B	4.7 <sup>N4</sup>	32.6 <sup>N4</sup>	Full	20	0.0	<mark>50.0</mark>
Approach	696	0.0	696	0.0		0.778		16.1	LOS B	4.7	32.6				
North: Altor	n Road	(N)													
Lane 1	83	0.0	83	0.0	241	0.345	100	36.3	LOS C	2.7	18.9	Short (P)	40	-9.2 <sup>N3</sup>	NA
Lane 2	110	0.0	110	0.0	265	0.414	100	36.5	LOS C	3.6	25.2	Full	500	0.0	0.0
Approach	193	0.0	193	0.0		0.414		36.4	LOS C	3.6	25.2				
West: Free	man Dr	ive (W	)												
Lane 1	864	0.0	864	0.0	1123	0.769	100	13.2	LOS A	22.1	155.0	Short	110	<mark>-6.0</mark> N3	NA
Lane 2	482	0.0	482	0.0	627	0.769	100	14.5	LOS B	13.9	97.4	Full	500	-50.0 <sup>N3</sup>	0.0
Approach	1347	0.0	1347	0.0		0.769		13.7	LOSA	22.1	155.0				
Intersectio n	2236	0.0	2236	0.0		0.778		16.4	LOS B	22.1	155.0				
Site: 101 [C	Central /	Freen	nan Exis	sting +	Devel	opment	PM - C	copy]							
South: Cen	tral														
Lane 1	108	0.0	108	0.0	172	0.629	100	37.5	LOS C	3.8	26.8	Full	450	-50.0 <sup>N3</sup>	0.0
Lane 2	78	0.0	78	0.0	265	0.294	100	35.8	LOS C	2.5	17.5	Full	450	0.0	0.0
Approach	186	0.0	186	0.0		0.629		36.8	LOS C	3.8	26.8				
East: Freer	man Dri	ve (E)													
Lane 1	357	0.0	357	0.0	646	0.553	100	8.7	LOS A	7.7	53.6	Short	120	-47.9 <sup>N3</sup>	NA
Lane 2	347	0.0	347	0.0	627	0.553	100	8.2	LOS A	7.4	52.1	Full	450	-50.0 <sup>N3</sup>	0.0
Approach	704	0.0	704	0.0		0.553		8.5	LOSA	7.7	53.6				
West: Free	man Dr	ive (W	)												
Lane 1	377	0.0	377	0.0	1254	0.301	40 <sup>6</sup>	6.2	LOS A	3.1	21.5	Full	20	0.0	<b>11.7</b>
Lane 2	751	0.0	751	0.0	996	0.755	100	4.6	LOS A	4.7 <sup>N4</sup>	32.6 <sup>N4</sup>	Full	20	0.0	50.0
Approach	1128	0.0	1128	0.0		0.755		5.2	LOSA	4.7	32.6				
Intersectio n	2019	0.0	2019	0.0		0.755		9.2	LOSA	7.7	53.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Lane LOS values are based on average delay per lane.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

6 Lane under-utilisation due to downstream effects

N3 Capacity Adjustment due to downstream lane blockage determined by the program.

N4 Average back of queue has been restricted to the available queue storage space.

Approac	h Lane	Flows	(CCG	) (veh/	h)					
			n Existi	ng + De	velopment PM	- Copy]				
East: Free										
Mov.	T1	R2	Total	%HV	Cap.	Deg. Satn		Prob. SL Ov.	Ov.	
From E To Exit:	W	N			veh/h	Satn v/c	Util. %	SL OV. %	Lane No.	
			267	0.0	1054		38 <sup>6</sup>			
Lane 1	367	- 07	367	0.0	1254	0.293		NA	NA	
Lane 2 Approac	242	87	329	0.0	423	0.778	100	NA	NA	
h	609	87	696	0.0		0.778				
	_									
North: Alto		` '		0/1===						
Mov.	L2	R2	Total	%HV	Cap.	Deg. Satn		Prob. SL Ov.	Ov. Lane	
From N To Exit:	E	W			veh/h	v/c	%	% SL OV.	No.	
	83		02	0.0	244	0.245	100	0.0	2	
Lane 1 Lane 2	-	- 110	83 110	0.0		0.345 0.414	100	NA	2 NA	
Approac	83	110	193	0.0	203	0.414	100	INA	INA	
h	03	110	193	0.0		0.414				
West: Free				0/ 1-12-6				D 1		
Mov.	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Hil	Prob. SL Ov.	Ov. Lane	
From W To Exit:	N	Е			veh/h	v/c	0tii. %	% SL OV.	No.	
Lane 1	319	546	864	0.0	1123		100	<mark>36.3</mark>	2	
Lane 1	319	482	482	0.0	627	0.769	100	NA	NA	
Approac	319		1347	0.0	027		100	INA	INA	
h	319	1028	1347	0.0		0.769				
		0/4								
	Total	%HV [	Deg.Sat	tn (v/c)						
Intersec			Deg.Sa							
Intersec tion	Total 2236	%HV [	Deg.Sa	tn (v/c) 0.778						
tion	2236	0.0		0.778	Development F	PM - Cor	DV]			
tion	2236 [Central	0.0		0.778	Development F	⁰М - Сор	py]			
tion Site: 101	2236 [Central	0.0		0.778	Development F	PM - Cop Deg.	py] Lane	Prob.	Ov.	
tion Site: 101   South: Ce Mov. From S	2236 [Central ntral	0.0 / Freen	nan Exi	0.778 sting + I	Cap.	Deg. Satn	Lane Util.	SL Ov.	Lane	
tion Site: 101   South: Ce Mov.	2236 [Central ntral	0.0 / Freen	nan Exi	0.778 sting + I		Deg.	Lane			
tion Site: 101   South: Ce Mov. From S	2236 [Central ntral L2	0.0 / Freen	nan Exi	0.778 sting + I	Cap. veh/h	Deg. Satn	Lane Util.	SL Ov.	Lane	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2	2236 [Central ntral L2 W	0.0 / Freen	nan Exi Total	0.778 sting + I %HV	Cap. veh/h 172	Deg. Satn v/c	Lane Util. %	SL Ov. %	Lane No.	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1	2236 [Central ntral L2 W	0.0 / Freen R2 E	nan Exi Total 108	0.778 sting + I %HV 0.0	Cap. veh/h 172	Deg. Satn v/c 0.629	Lane Util. %	SL Ov. % NA	Lane No.	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2	2236 [Central ntral L2 W 108 -	0.0 / Freen R2 E - 78	nan Exi Total 108 78	0.778 sting + I %HV 0.0 0.0	Cap. veh/h 172	Deg. Satn v/c 0.629 0.294	Lane Util. %	SL Ov. % NA	Lane No.	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h	2236 [Central ntral L2 W 108 - 108	0.0 / Freen R2 E - 78 78	nan Exi Total 108 78	0.778 sting + I %HV 0.0 0.0	Cap. veh/h 172	Deg. Satn v/c 0.629 0.294	Lane Util. %	SL Ov. % NA	Lane No.	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free	2236 [Central ntral L2 W 108 - 108	0.0 / Freen R2 E - 78 78 rive (E)	Total  108 78 186	0.778 sting + I %HV 0.0 0.0 0.0	Cap. veh/h 172	Deg. Satn v/c 0.629 0.294 0.629	Lane Util. % 100 100	SL Ov. % NA NA	Lane No. NA NA	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E	2236 [Central ntral L2 W 108 - 108	0.0 / Freen R2 E - 78 78	nan Exi Total 108 78	0.778 sting + I %HV 0.0 0.0	Cap. veh/h 172 265	Deg. Satn v/c 0.629 0.294 0.629	Lane Util. % 100 100 Lane Util.	SL Ov. % NA NA Prob. SL Ov.	NA NA Ov. Lane	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov.	2236 [Central ntral L2 W 108 - 108	0.0 / Freen R2 E - 78 78 rive (E)	Total  108 78 186	0.778 sting + I %HV 0.0 0.0 0.0	Cap. veh/h 172 265	Deg. Satn v/c 0.629 0.294 0.629	Lane Util. % 100 100	SL Ov. % NA NA	NA NA Ov.	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E	2236 [Central ntral L2 W 108 - 108	0.0 / Freen R2 E - 78 78 rive (E) T1	Total  108 78 186	0.778 sting + I %HV 0.0 0.0 0.0	Cap. veh/h 172 265	Deg. Satn v/c 0.629 0.294 0.629 Deg. Satn v/c	Lane Util. % 100 100 Lane Util.	SL Ov. % NA NA Prob. SL Ov.	NA NA Ov. Lane	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit:	2236 [Central ntral L2 W 108 - 108 eman Dr L2 S	0.0  / Freen  R2  E  - 78  78  rive (E)  T1  W	Total  108 78 186	0.778 sting + I %HV 0.0 0.0 0.0	Cap. veh/h 172 265  Cap. veh/h 646	Deg. Satn v/c 0.629 0.294 0.629 Deg. Satn v/c	Lane Util. % 100 100	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No.	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1	2236 [Central ntral L2 W 108 - 108 eman Dr L2 S 28	0.0  / Freen  R2  E  - 78  78  rive (E)  T1  W  329	Total  108 78 186  Total	0.778 sting + I %HV 0.0 0.0 0.0 %HV	Cap. veh/h 172 265  Cap. veh/h 646	Deg. Satn v/c 0.629 0.294 0.629  Deg. Satn v/c 0.553 0.553	Lane Util. % 100 100  Lane Util. % 100	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No. 2	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2	2236 [Central ntral L2 W 108 - 108 eman Dr L2 S 28 -	0.0  / Freen  R2  E  -  78  78  T1  W  329  347	Total  108 78 186  Total  357 347	0.778 sting + I %HV 0.0 0.0 0.0 %HV 0.0	Cap. veh/h 172 265  Cap. veh/h 646	Deg. Satn v/c 0.629 0.294 0.629  Deg. Satn v/c 0.553	Lane Util. % 100 100  Lane Util. % 100	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No. 2	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac h	2236  [Central ntral	0.0  / Freen  R2  E  - 78  78  tive (E)  T1  W  329  347  676	Total  108 78 186  Total  357 347 704	0.778 sting + I %HV 0.0 0.0 0.0 %HV 0.0	Cap. veh/h 172 265  Cap. veh/h 646	Deg. Satn v/c 0.629 0.294 0.629  Deg. Satn v/c 0.553 0.553	Lane Util. % 100 100  Lane Util. % 100	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No. 2	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac h West: Free	2236  [Central ntral L2 W 108 - 108 eman Dr L2 S 28 - 28 eman D	0.0  / Freen  R2  E  -  78  78  T1  W  329  347  676	Total  108 78 186  Total  357 347 704	0.778 sting + I %HV 0.0 0.0 0.0 0.0 0.0	Cap. veh/h 172 265  Cap. veh/h 646	Deg. Satn v/c 0.629 0.294 0.629  Deg. Satn v/c 0.553 0.553	Lane Util. % 100 100  Lane Util. % 100 100	SL Ov. % NA NA Prob. SL Ov. % 0.0 NA	NA NA Ov. Lane No. 2 NA	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac h West: Free Mov.	2236  [Central ntral	0.0  / Freen  R2  E  - 78  78  tive (E)  T1  W  329  347  676	Total  108 78 186  Total  357 347 704	0.778 sting + I %HV 0.0 0.0 0.0 %HV 0.0	Cap. veh/h 172 265  Cap. veh/h 646	Deg. Satn v/c 0.629 0.294 0.629  Deg. Satn v/c 0.553 0.553	Lane Util. % 100 100  Lane Util. % 100 100	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No. 2	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac h West: Free	2236  [Central ntral L2 W 108 - 108 eman Dr L2 S 28 - 28 eman D	0.0  / Freen  R2  E  -  78  78  T1  W  329  347  676	Total  108 78 186  Total  357 347 704	0.778 sting + I %HV 0.0 0.0 0.0 0.0 0.0	Cap. veh/h 172 265  Cap. veh/h 646 627	Deg. Satn v/c 0.629 0.294 0.629  Deg. Satn v/c 0.553 0.553	Lane Util. % 100 100  Lane Util. % 100 100	SL Ov. % NA NA Prob. SL Ov. % 0.0 NA	NA NA Ov. Lane No. 2 NA	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac h West: Free Mov. From E To Exit:	2236 [Central ntral	0.0  / Freen  R2  E  - 78  78  T1  W  329  347  676  rive (W)  R2	Total  108 78 186  Total  357 347 704	0.778 sting + I %HV  0.0 0.0 0.0 %HV  0.0 %HV	Cap. veh/h 172 265  Cap. veh/h 646 627	Deg. Satn v/c 0.629 0.294 0.629  Deg. Satn v/c 0.553 0.553  Deg. Satn v/c	Lane Util. %  100 100  Lane Util. %  100 100	Prob. SL Ov. %  O.0 NA  Prob. SL Ov. %  O.0 NA	Ov. Lane No.  2 NA  Ov. Lane	
tion Site: 101   South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac h West: Free Mov. From W	2236 [Central ntral	0.0  / Freen  R2  E  - 78  78  T1  W  329  347  676  rive (W)  R2  S	Total  108 78 186  Total  357 347 704	0.778 sting + I %HV 0.0 0.0 0.0 0.0 0.0	Cap. veh/h 172 265  Cap. veh/h 646 627  Cap. veh/h 1254	Deg. Satn v/c 0.629 0.294 0.629  Deg. Satn v/c 0.553 0.553  Deg. Satn	Lane Util. % 100 100  Lane Util. % 100 100  Lane Util. Util. %	SL Ov. % NA NA Prob. SL Ov. % 0.0 NA	Ov. Lane No.  2 NA  Ov. Lane No. 2 NA	֡

Approac h	1059	69 112	28 0.0	0.755	
	Total	%HV Deg.	Satn (v/c)		
Intersec tion	2019	0.0	0.755		

6 Lane under-utilisation due to downstream effects

Exit Lane Lane Opposing Critical Follow-up Lane Capacity Deg. Min. Merg Rate Number Length Lane Opposing My veh/h pcu/h sec sec veh/h veh/h v/c sec sec Site: 101 [Alton / Freeman Existing + Development PM - Copy]  East Exit: Freeman Drive (E) Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  Full Length Lane 2 Merge Analysis not applied.  North Exit: Alton Road (N) Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  West Exit: Freeman Drive (W) Merge Type: Priority  Exit Short Lane 1 65 0.0 352 352 3.00 2.00 367 1442 0.255 0.5 0.  Merge Lane 2 - 100.0 Merge Lane is not Opposed 352 1800 0.195 0.0 0.  Site: 101 [Central / Freeman Existing + Development PM - Copy]  South Exit: Central Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.	Merge Analysis (CCG)											
Lane Number Length Lane Opng in Flow Rate Gap Headway Flow Rate Rate Sec Sec Veh		it Short	Percent	Onnosir	na Criti	cal Fo	ollow-un	Lane	Canacity	Dea	Min	Merge
Site: 101 [Alton / Freeman Existing + Development PM - Copy]  East Exit: Freeman Drive (E)  Merge Type: Not Applied  Full Length Lane									Оараспу			Delay
Site: 101 [Alton / Freeman Existing + Development PM - Copy]  East Exit: Freeman Drive (E)  Merge Type: Not Applied  Full Length Lane	Numbe			//	//-				le //e			
East Exit: Freeman Drive (E) Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  Full Length Lane 2 Merge Analysis not applied.  North Exit: Alton Road (N) Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  West Exit: Freeman Drive (W) Merge Type: Priority  Exit Short Lane 1 65 0.0 352 352 3.00 2.00 367 1442 0.255 0.5 0.  Merge Lane 2 - 100.0 Merge Lane is not Opposed 352 1800 0.195 0.0 0.  Site: 101 [Central / Freeman Existing + Development PM - Copy]  South Exit: Central Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  East Exit: Freeman Drive (E) Merge Type: Priority	Site: 101 [Alten / Freeman					sec	sec	ven/n	ven/n	V/C	sec	sec
Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  Full Length Lane 2 Merge Analysis not applied.  North Exit: Alton Road (N)  Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  West Exit: Freeman Drive (W)  Merge Type: Priority  Exit Short Lane 1 65 0.0 352 352 3.00 2.00 367 1442 0.255 0.5 0.  Merge Lane 2 - 100.0 Merge Lane is not Opposed 352 1800 0.195 0.0 0.  Site: 101 [Central / Freeman Existing + Development PM - Copy]  South Exit: Central  Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  East Exit: Freeman Drive (E)  Merge Type: Priority	-	_	Developi	HEHR FIVI	- Соруј							
Full Length Lane 2 Merge Analysis not applied.  North Exit: Alton Road (N) Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  West Exit: Freeman Drive (W) Merge Type: Priority  Exit Short Lane 1 65 0.0 352 352 3.00 2.00 367 1442 0.255 0.5 0.  Merge Lane 2 - 100.0 Merge Lane is not Opposed 352 1800 0.195 0.0 0.  Site: 101 [Central / Freeman Existing + Development PM - Copy]  South Exit: Central Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  East Exit: Freeman Drive (E) Merge Type: Priority		` '										
North Exit: Alton Road (N) Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  West Exit: Freeman Drive (W) Merge Type: Priority  Exit Short Lane 1 65 0.0 352 352 3.00 2.00 367 1442 0.255 0.5 0.  Merge Lane 2 - 100.0 Merge Lane is not Opposed 352 1800 0.195 0.0 0.  Site: 101 [Central / Freeman Existing + Development PM - Copy]  South Exit: Central Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  East Exit: Freeman Drive (E) Merge Type: Priority	Full Length Lane	1 Merge	Analysis r	not appli	ed.							
Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  West Exit: Freeman Drive (W)  Merge Type: Priority  Exit Short Lane 1 65 0.0 352 352 3.00 2.00 367 1442 0.255 0.5 0.  Merge Lane 2 - 100.0 Merge Lane is not Opposed 352 1800 0.195 0.0 0.  Site: 101 [Central / Freeman Existing + Development PM - Copy]  South Exit: Central  Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  East Exit: Freeman Drive (E)  Merge Type: Priority	Full Length Lane	2 Merge	Analysis r	not appli	ed.							
West Exit: Freeman Drive (W) Merge Type: Priority  Exit Short Lane 1 65 0.0 352 352 3.00 2.00 367 1442 0.255 0.5 0.  Merge Lane 2 - 100.0 Merge Lane is not Opposed 352 1800 0.195 0.0 0.  Site: 101 [Central / Freeman Existing + Development PM - Copy]  South Exit: Central  Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  East Exit: Freeman Drive (E)  Merge Type: Priority	` '											
Merge Type: Priority  Exit Short Lane 1 65 0.0 352 352 3.00 2.00 367 1442 0.255 0.5 0.  Merge Lane 2 - 100.0 Merge Lane is not Opposed 352 1800 0.195 0.0 0.  Site: 101 [Central / Freeman Existing + Development PM - Copy]  South Exit: Central  Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  East Exit: Freeman Drive (E)  Merge Type: Priority	Full Length Lane	1 Merge	Analysis r	not appli	ed.							
Merge Lane 2 - 100.0 Merge Lane is not Opposed 352 1800 0.195 0.0 0.  Site: 101 [Central / Freeman Existing + Development PM - Copy]  South Exit: Central  Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  East Exit: Freeman Drive (E)  Merge Type: Priority		(W)										
Site: 101 [Central / Freeman Existing + Development PM - Copy]  South Exit: Central  Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  East Exit: Freeman Drive (E)  Merge Type: Priority	Exit Short Lane	1 65	0.0	352 3	52 3	.00	2.00	367	1442	0.255	0.5	8.0
South Exit: Central Merge Type: Not Applied Full Length Lane 1 Merge Analysis not applied. East Exit: Freeman Drive (E) Merge Type: Priority	Merge Lane	2 -	100.0	Merge	Lane is r	ot Opp	osed	352	1800	0.195	0.0	0.0
Merge Type: Not Applied  Full Length Lane 1 Merge Analysis not applied.  East Exit: Freeman Drive (E)  Merge Type: Priority	Site: 101 [Central / Freem	an Existing	+ Develo	pment F	РМ - Сору	]						
East Exit: Freeman Drive (E) Merge Type: <b>Priority</b>												
Merge Type: Priority	Full Length Lane	1 Merge	Analysis r	not appli	ed.							
		(E)										
Exit Short Lane 1 70 0.0 760 760 3.00 2.00 377 1011 0.373 1.6 2.	Exit Short Lane	1 70	0.0	760 76	30 3	.00	2.00	377	1011	0.373	1.6	2.8
Merge Lane 2 - 100.0 Merge Lane is not Opposed 760 1800 0.422 0.0 0.	Merge Lane	2 -	100.0	Merge	Lane is r	ot Opp	osed	760	1800	0.422	0.0	0.0
West Exit: Freeman Drive (W)	West Exit: Freeman Drive	(W)										
Merge Type: Not Applied	Merge Type: Not Applied											
Full Length Lane 1 Merge Analysis not applied.	Full Length Lane	1 Merge	Analysis r	not appli	ed.							
Full Length Lane 2 Merge Analysis not applied.	Full Length Lane	2 Merge	Analysis r	not appli	ed.							

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Project: \mte\_nas1\mte storage\Jobs\2022\220051\MTE SIDRA\22 02 03 PM12.23 - Revis in Sidra 9\22 07 08 Final Yield no Filters + Deaves - Modified to Council Design.sip9

## **CCG LANE SUMMARY**

□□ Common Control Group: CCG1 [CCGName]

■■ Network: N101 [AM Peak (Network Folder: Alton Layout

Testing)]

EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 95 seconds (Network Optimum Cycle Time - Minimum

Delay)

Design Life Analysis: Constant Number of Years = 26

Lane Use	and P	erforn	nance	(CCG	:)										
<b></b>	DEM.		ARRI			Deg.	Lane	Aver.	Level of	95% B	ACK OF	Lane	Lane	Сар.	Prob.
	FLO [ Total		FLO		Сар.	Satn	Util.	Delay	Service		EUE Dist]	Config	Length	Adj.	Block.
	veh/h	пv ј %	veh/h	пv ј %	veh/h	v/c	%	sec		[ Veh	m m		m	%	%
Site: 101 [A	Alton / F	reema	n Existii	ng + [	evelop	ment A	M - Cop	oy]							
East: Freer	man Dri	ve (E)													
Lane 1	419	0.0	419	0.0	1149	0.364	38 <sup>6</sup>	11.9	LOS A	2.5	17.6	Full	20	0.0	0.0
Lane 2	890	0.0	890	0.0	919	0.968	100	28.8	LOS C	4.7 <sup>N4</sup>	32.6 <sup>N4</sup>	Full	20	0.0	<del>50.0</del>
Approach	1308	0.0	1308	0.0		0.968		23.4	LOS B	4.7	32.6				
North: Altor	n Road	(N)													
Lane 1	96	0.0	96	0.0	235	0.408	100	38.9	LOS C	3.9	27.1	Short (P)	40	-50.0 <sup>N3</sup>	NA
Lane 2	359	0.0	359	0.0	390 <sup>1</sup>	0.920	100	60.6	LOS E	20.2	141.2	Full	500	0.0	0.0
Approach	455	0.0	455	0.0		0.920		56.0	LOS D	20.2	141.2				
West: Free	man Dr	ive (W	)												
Lane 1	365	0.0	365	0.0	682	0.536	100	14.5	LOS A	10.1	71.0	Short	110	<mark>-39.6</mark> <sup>N3</sup>	NA
Lane 2	308	0.0	308	0.0	575	0.536	100	12.8	LOS A	8.7	60.8	Full	500	-50.0 <sup>N3</sup>	0.0
Approach	673	0.0	673	0.0		0.536		13.7	LOSA	10.1	71.0				
Intersectio n	2436	0.0	2436	0.0		0.968		26.8	LOS B	20.2	141.2				
Site: 101 [0	Central /	' Freen	nan Exis	sting +	- Devel	opment	:AM - C	ору]							
South: Cen	itral														
Lane 1	47	0.0	47	0.0	528	0.090	100	32.4	LOS C	1.6	11.3	Full	500	0.0	0.0
Lane 2	36	0.0	36	0.0	235	0.153	100	46.5	LOS D	1.5	10.7	Full	500	0.0	0.0
Approach	83	0.0	83	0.0		0.153		38.4	LOS C	1.6	11.3				
East: Freer	man Dri	ve (E)													
Lane 1	889	0.0	889	0.0	1093	0.814	100	18.3	LOS B	32.8	229.5	Short	120	0.0	NA
Lane 2	468	0.0	468	0.0	575	0.814	100	25.0	LOS B	41.8 <sup>N5</sup>	292.3 <sup>N5</sup>	Full	450	<mark>-50.0</mark> N3	0.0
Approach	1357	0.0	1357	0.0		0.814		20.6	LOS B	41.8	292.3				
West: Free	man Dr	ive (W	)												
Lane 1	462	0.0	462	0.0	1396	0.331	40 <sup>6</sup>	5.2	LOS A	4.7 <sup>N4</sup>	32.6 <sup>N4</sup>	Full	20	0.0	<mark>50.0</mark>
Lane 2	227	0.0	227	0.0	274	0.830	100	29.9	LOS C	4.7 <sup>N4</sup>	32.6 <sup>N4</sup>	Full	20	0.0	<mark>50.0</mark>
Approach	689	0.0	689	0.0		0.830		13.4	LOSA	4.7	32.6				
Intersectio n	2129	0.0	2129	0.0		0.830		19.0	LOS B	41.8	292.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Lane LOS values are based on average delay per lane.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at

- entry to short lanes are not included.
- 6 Lane under-utilisation due to downstream effects
- N3 Capacity Adjustment due to downstream lane blockage determined by the program.
- N4 Average back of queue has been restricted to the available queue storage space.
- N5 Continuous Lane results determined by Back of Queue values of downstream lanes (proportional to lane movement flows).

Approac	h Lane	Flows	(CCG	) (veh/l	h)					
	_		n Existi	ing + De	velopment AM	- Copy]				
East: Free		, ,								
Mov.	T1	R2	Total	%HV	Car	Deg.	Lane		Ov.	
From E To Exit:	\\\	NI-			Cap. veh/h	Satn v/c	Util. %	SL Ov.	Lane No.	
	W	N								
Lane 1	419	-	419	0.0	1149	0.364	38 <sup>6</sup>	NA	NA	
Lane 2	811	79	890	0.0	919	0.968	100	NA	NA	
Approac	1230	79	1308	0.0		0.968				
h										
North: Alto	on Road	l (N)								
Mov.	L2	R2	Total	%HV		Deg.	Lane	Prob.	Ov.	
From N	_				Cap. veh/h	Satn v/c	Util. %	SL Ov.	Lane No.	
To Exit:	Е	W								
Lane 1	96	-	96	0.0	235	0.408	100	0.0	2	
Lane 2	-	359	359	0.0	390	0.920	100	NA	NA	
Approac	96	359	455	0.0		0.920				
h										
West: Fre	eman D	rive (W	)							
Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.	
From W					Cap. veh/h	Satn		SL Ov.	Lane	
To Exit:	N	Е			ven/n	v/c	%	%	No.	
Lane 1	125	240	365	0.0	682	0.536	100	0.0	2	
Lane 2	-	308	308	0.0	575	0.536	100	NA	NA	
Approac	125	548	673	0.0		0.536				
h										
	Total	%H\/ [	Deg.Sa	tn (v/c)						
	Total	/011V L	Jeg.oa	ui (v/c)						
	Total	70110	Jeg.Ja	ui (v/c)						
Intersec	2436	0.0	Jeg.oa	0.968						
tion	2436	0.0		0.968						
tion Site: 101	2436 [Central	0.0		0.968	Development A	М - Сор	y]			
tion Site: 101 South: Ce	2436 [Central entral	0.0 / Freen	nan Exi	0.968 sting + [	Development A					
tion Site: 101 South: Ce	2436 [Central	0.0		0.968		Deg.	Lane	Prob.	Ov.	
site: 101 South: Ce Mov. From S	2436 [Central entral L2	0.0 / Freen	nan Exi	0.968 sting + [	Development A Cap. veh/h		Lane	Prob. SL Ov. %	Ov. Lane No.	
site: 101 South: Ce Mov. From S To Exit:	2436 [Central entral L2 W	0.0 / Freen	nan Exi Total	0.968 sting + [ %HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	SL Ov. %	Lane No.	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1	2436 [Central entral L2	0.0 / Freen R2 E	nan Exi Total 47	0.968 sting + I %HV	Cap. veh/h	Deg. Satn v/c 0.090	Lane Util. %	SL Ov. % NA	Lane No.	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2	2436 [Central L2 W 47 -	0.0 / Freen R2 E - 36	nan Exi Total 47 36	0.968 sting + [ %HV 0.0 0.0	Cap. veh/h	Deg. Satn v/c 0.090 0.153	Lane Util. %	SL Ov. %	Lane No.	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac	2436 [Central entral L2 W	0.0 / Freen R2 E	nan Exi Total 47	0.968 sting + I %HV	Cap. veh/h	Deg. Satn v/c 0.090	Lane Util. %	SL Ov. % NA	Lane No.	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2	2436 [Central L2 W 47 -	0.0 / Freen R2 E - 36	nan Exi Total 47 36	0.968 sting + [ %HV 0.0 0.0	Cap. veh/h	Deg. Satn v/c 0.090 0.153	Lane Util. %	SL Ov. % NA	Lane No.	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac	2436 [Central L2 W 47 - 47	0.0 / Freen R2 E - 36 36	nan Exi Total 47 36	0.968 sisting + I %HV 0.0 0.0 0.0	Cap. veh/h	Deg. Satn v/c 0.090 0.153	Lane Util. %	SL Ov. % NA	Lane No.	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov.	2436 [Central L2 W 47 - 47	0.0  / Freen  R2  E  -  36  36	nan Exi Total 47 36	0.968 sting + [ %HV 0.0 0.0	Cap. veh/h 528 235	Deg. Satn v/c 0.090 0.153 0.153	Lane Util. % 100 100	SL Ov. % NA NA	NA NA Ov.	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E	2436 [Central L2 W 47 - 47 eman Dr L2	0.0  / Freen  R2  E  -  36  36  rive (E)  T1	Total  47 36 83	0.968 sisting + I %HV 0.0 0.0 0.0	Cap. veh/h 528 235	Deg. Satn v/c 0.090 0.153 0.153	Lane Util. % 100 100 Lane Util.	SL Ov. % NA NA Prob. SL Ov.	NA NA Ov. Lane	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit:	2436 [Central L2 W 47 - 47 eman Dr L2 S	0.0  / Freen  R2  E  - 36 36 36  rive (E) T1  W	Total  47 36 83  Total	0.968  Sting + I  %HV  0.0  0.0  0.0	Cap. veh/h 528 235 Cap. veh/h	Deg. Satn v/c 0.090 0.153 0.153  Deg. Satn v/c	Lane Util. % 100 100	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No.	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1	2436 [Central L2 W 47 - 47 eman Dr L2 S 99	0.0  / Freen  R2  E  - 36 36 36  rive (E) T1  W 791	Total  47 36 83  Total	0.968  Sting + I  %HV  0.0  0.0  %HV  0.0	Cap. veh/h 528 235  Cap. veh/h 1093	Deg. Satn v/c 0.090 0.153 0.153  Deg. Satn v/c 0.814	Lane Util. % 100 100  Lane Util. %	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No. 2	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2	2436  [Central L2 W 47 - 47 Eman Dr L2 S 99 -	0.0  / Freen  R2  E  - 36 36 36  T1  W  791 468	Total  47 36 83  Total  889 468	0.968 Sting + I %HV  0.0 0.0 0.0 %HV  0.0 0.0	Cap. veh/h 528 235  Cap. veh/h 1093	Deg. Satn v/c 0.090 0.153 0.153 Deg. Satn v/c 0.814 0.814	Lane Util. % 100 100	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No.	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac	2436 [Central L2 W 47 - 47 eman Dr L2 S 99	0.0  / Freen  R2  E  - 36 36 36  rive (E) T1  W 791	Total  47 36 83  Total	0.968  Sting + I  %HV  0.0  0.0  %HV  0.0	Cap. veh/h 528 235  Cap. veh/h 1093	Deg. Satn v/c 0.090 0.153 0.153  Deg. Satn v/c 0.814	Lane Util. % 100 100  Lane Util. %	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No. 2	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2	2436  [Central L2 W 47 - 47 Eman Dr L2 S 99 -	0.0  / Freen  R2  E  - 36 36 36  T1  W  791 468	Total  47 36 83  Total  889 468	0.968 Sting + I %HV  0.0 0.0 0.0 %HV  0.0 0.0	Cap. veh/h 528 235  Cap. veh/h 1093	Deg. Satn v/c 0.090 0.153 0.153 Deg. Satn v/c 0.814 0.814	Lane Util. % 100 100  Lane Util. %	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No. 2	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac	2436  [Central L2 W 47 - 47  eman Dr L2 S 99 - 99	0.0  / Freen  R2  E  - 36 36 36  rive (E)  T1  W  791 468 1258	Total  47 36 83  Total  889 468 1357	0.968 Sting + I %HV  0.0 0.0 0.0 %HV  0.0 0.0	Cap. veh/h 528 235  Cap. veh/h 1093	Deg. Satn v/c 0.090 0.153 0.153 Deg. Satn v/c 0.814 0.814	Lane Util. % 100 100  Lane Util. %	SL Ov. % NA NA Prob. SL Ov. %	NA NA Ov. Lane No. 2	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac h	2436  [Central L2 W 47 - 47  eman Dr L2 S 99 - 99	0.0  / Freen  R2  E  - 36 36 36  rive (E)  T1  W  791 468 1258	Total  47 36 83  Total  889 468 1357	0.968 Sting + I %HV  0.0 0.0 0.0 %HV  0.0 0.0	Cap. veh/h 528 235  Cap. veh/h 1093 575	Deg. Satn v/c 0.090 0.153 0.153  Deg. Satn v/c 0.814 0.814 0.814  Deg.	Lane Util. % 100 100  Lane Util. % 100 100	SL OV. % NA NA Prob. SL OV. % 65.0 NA	Ov. Lane No. 2 NA	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac h West: Free Mov. From W	2436  [Central L2 W 47 - 47 Eman Dr L2 S 99 - 99 Eman D T1	0.0  / Freen  R2  E  - 36 36 36  rive (E)  791 468 1258  rive (W)  R2	Total  47 36 83  Total  889 468 1357	0.968 string + I %HV 0.0 0.0 0.0 0.0 0.0 0.0	Cap. veh/h 528 235  Cap. veh/h 1093 575	Deg. Satn v/c 0.090 0.153 0.153  Deg. Satn v/c 0.814 0.814  Deg. Satn	Lane Util. % 100 100  Lane Util. % 100 100	SL OV. %  NA NA  Prob. SL OV. %  65.0 NA  Prob. SL OV.	Ov. Lane No.  Ov. Lane No.  Ov. Lane No.	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac h West: Free Mov.	2436  [Central L2 W 47 - 47 eman Dr L2 S 99 - 99 eman D	0.0  / Freen  R2  E  - 36 36 36  rive (E)  T1  W  791 468 1258	Total  47 36 83  Total  889 468 1357	0.968 string + I %HV 0.0 0.0 0.0 0.0 0.0 0.0	Cap. veh/h 528 235  Cap. veh/h 1093 575	Deg. Satn v/c 0.090 0.153 0.153  Deg. Satn v/c 0.814 0.814 0.814  Deg.	Lane Util. %  100 100  Lane Util. %  100 100	SL OV. % NA NA Prob. SL OV. % 65.0 NA	Ov. Lane No. 2 NA	
tion Site: 101 South: Ce Mov. From S To Exit: Lane 1 Lane 2 Approac h East: Free Mov. From E To Exit: Lane 1 Lane 2 Approac h West: Free Mov. From W	2436  [Central L2 W 47 - 47 Eman Dr L2 S 99 - 99 Eman D T1	0.0  / Freen  R2  E  - 36 36 36  rive (E)  791 468 1258  rive (W)  R2	Total  47 36 83  Total  889 468 1357	0.968 string + I %HV 0.0 0.0 0.0 0.0 0.0 0.0	Cap. veh/h 528 235  Cap. veh/h 1093 575  Cap. veh/h	Deg. Satn v/c 0.090 0.153 0.153  Deg. Satn v/c 0.814 0.814  Deg. Satn	Lane Util. % 100 100  Lane Util. % 100 100	SL OV. %  NA NA  Prob. SL OV. %  65.0 NA  Prob. SL OV.	Ov. Lane No.  Ov. Lane No.  Ov. Lane No.	

Lane 2 Approac h	543	145 145	227 689	0.0	274	0.830	100	NA	NA	
	Total	%HV D	eg.Satr	ı (v/c)						
Intersec tion	2129	0.0		0.830						

- Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
- 6 Lane under-utilisation due to downstream effects

Merge Analysis (CCG	i)											
	xit ne		Percent Opng in Lane	Flow		Critical Gap	Headwa				Min. Delay sec	Merge Delay sec
Site: 101 [Alton / Freema	n E						30	C VCII/II	VCI1/11	V/C	300	300
East Exit: Freeman Drive Merge Type: <b>Not Applie</b>	` '											
Full Length Lane Full Length Lane	1 2	•	Analysis Analysis									
North Exit: Alton Road (N) Merge Type: Not Applied												
Full Length Lane	1	Merge	Analysis	not a	oplied.							
West Exit: Freeman Drive Merge Type: <b>Priority</b>	e (V	/)										
Exit Short Lane	1	65	0.0	1170	1170	3.00	2.0	0 419	578	0.725	3.9	9.5
Merge Lane	2	-	100.0	Me	rge Lan	e is not C	pposed	1170	1800	0.650	0.0	0.0
Site: 101 [Central / Freer	Site: 101 [Central / Freeman Existing + Development AM - Copy]											
South Exit: Central Merge Type: <b>Not Applie</b>	d											
Full Length Lane	1	Merge	Analysis	not a	oplied.							
East Exit: Freeman Drive Merge Type: <b>Priority</b>	e (E)											
Exit Short Lane	1	70	0.0	118	118	3.00	2.0	0 462	1682	0.274	0.2	0.3
Merge Lane	2	-	100.0	Ме	rge Lan	e is not C	pposed	118	1800	0.065	0.0	0.0
West Exit: Freeman Drive (W) Merge Type: Not Applied												
Full Length Lane	1	Merge	Analysis	not a	oplied.							
Full Length Lane	2	Merge	Analysis	not a	oplied.							

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Project: \mte\_nas1\mte storage\Jobs\2022\220051\MTE SIDRA\22 02 03 PM12.23 - Revis in Sidra 9\22 07 08 Final Yield no Filters + Deaves -Modified to Council Design.sip9