

Attachment One – SIDRA model layouts

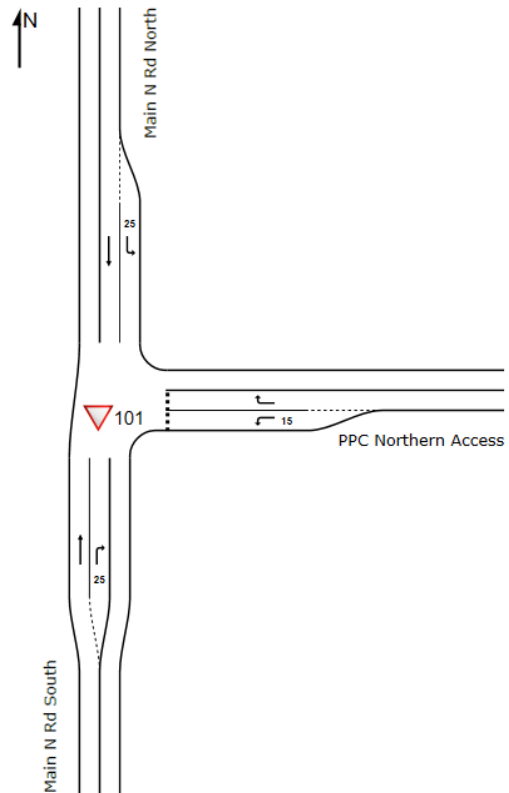
Location	Scenario
Main North Road / Northern Site Access	Future development

SITE LAYOUT

▽ Site: 101 [PPC Northern Access Dev AM (Site Folder: Addn Turn Lanes)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Attachment One – SIDRA model layouts

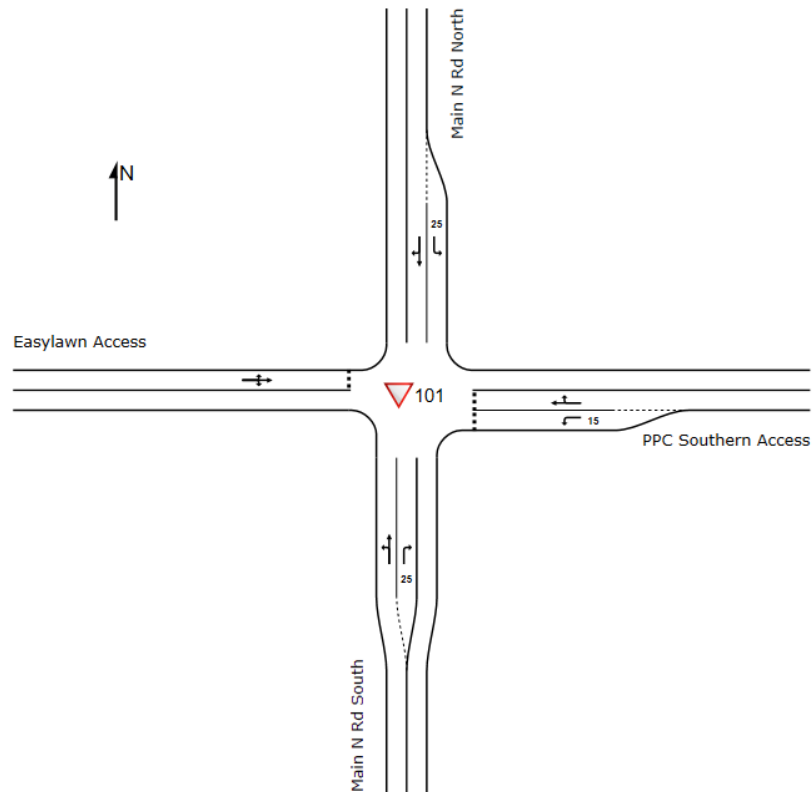
Location	Scenario
Main North Road / Southern Site Access	Future development

SITE LAYOUT

▽ Site: 101 [PPC Southern Access Dev AM (Site Folder: Addn Turn Lanes)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Attachment One – SIDRA model layouts

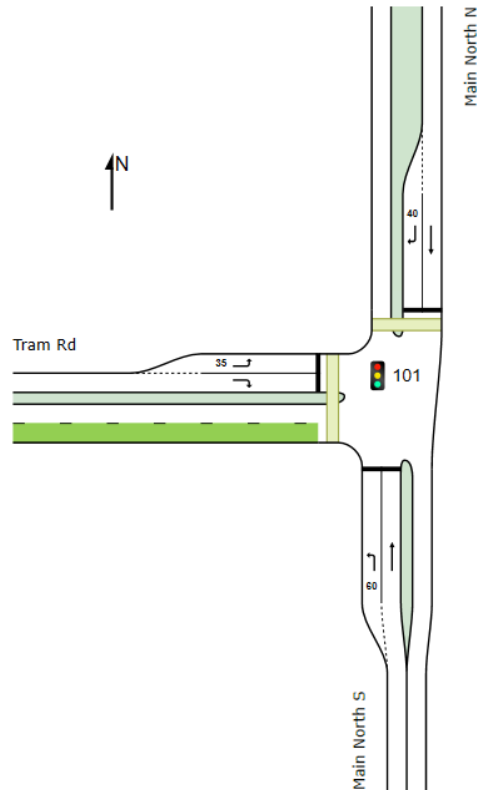
Location	Scenario
Main North Road / Tram Road	All scenarios

SITE LAYOUT

Site: 101 [Tram Rd - Main North Rd Baseline AM (Site Folder: Baseline - SCATS Timings)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Attachment One – SIDRA model layouts

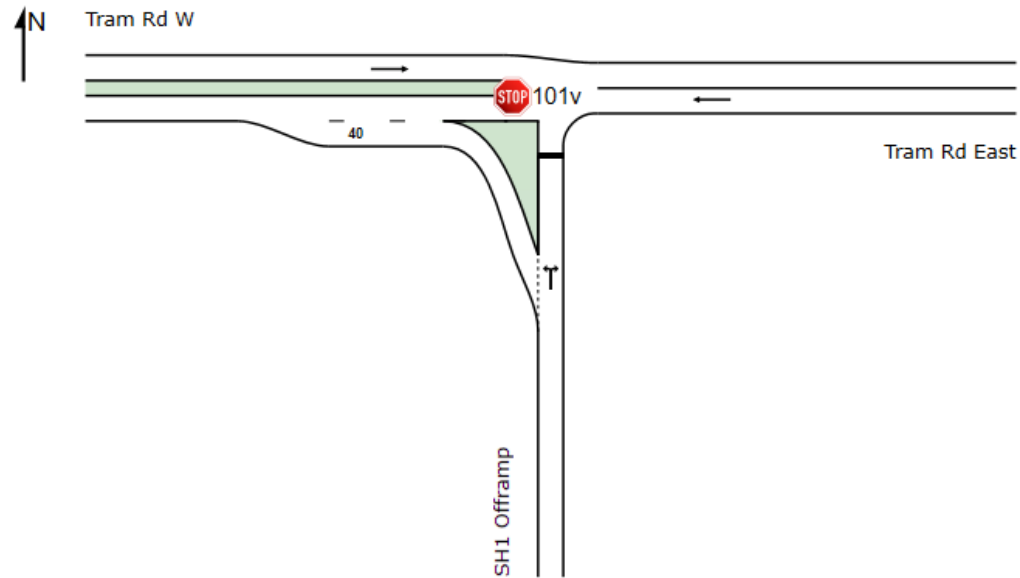
Location	Scenario
SH1 off ramp / Tram Road	Baseline

SITE LAYOUT

 **Site: 101v [Tram Rd Offramp Baseline AM (Site Folder: Baseline Ramps)]**

New Site
Site Category: (None)
Stop (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Attachment One – SIDRA model layouts

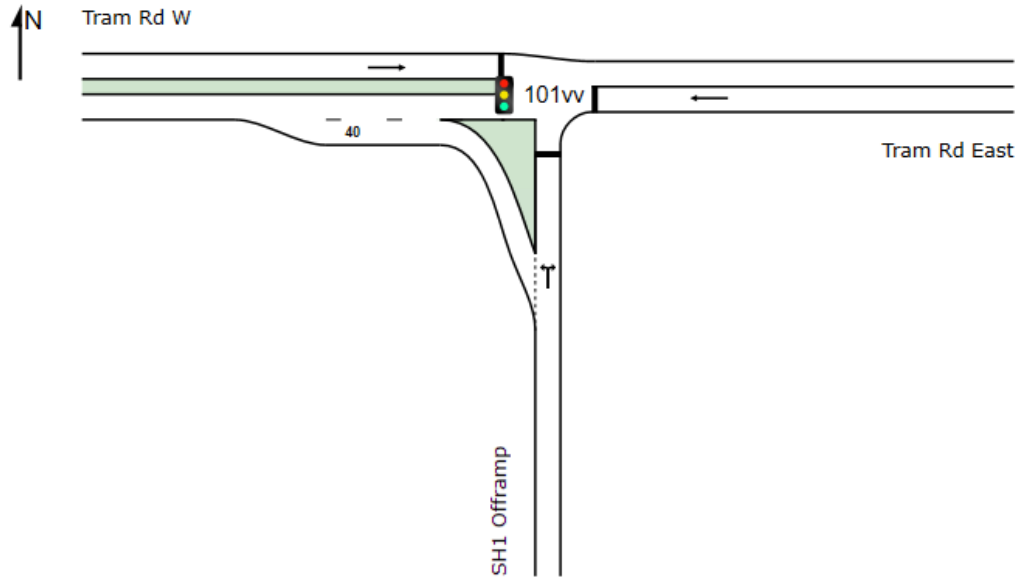
Location	Scenario
SH1 off ramp / Tram Road	Future baseline, Future development

SITE LAYOUT

Site: 101vv [Tram Rd Offramp Signalised AM (Site Folder: Signalise Offramp RT)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Attachment One – SIDRA model layouts

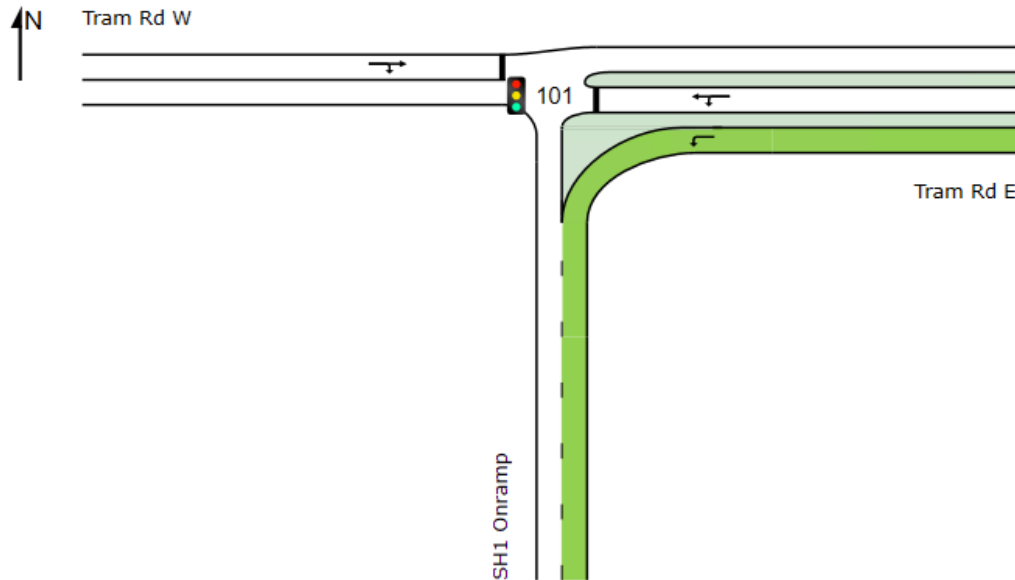
Location	Scenario
SH1 on ramp / Tram Road	All scenarios

SITE LAYOUT

Site: 101 [Tram Rd Onramp Baseline AM (Site Folder: Baseline Ramps)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Attachment Two – SIDRA model results

Location	Scenario	Peak
Main North Road / Northern Site Access	Future development	AM

MOVEMENT SUMMARY

Site: 101 [PPC Northern Access Dev AM - Future (Site Folder: Addn Turn Bays - Future (+10%))]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Main N Rd South															
2	T1	All MCs	312	8.2	312	8.2	0.169	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
3	R2	All MCs	2	4.0	2	4.0	0.003	8.9	LOS A	0.0	0.1	0.58	0.63	0.58	36.7
Approach			314	8.2	314	8.2	0.169	0.1	NA	0.0	0.1	0.00	0.00	0.00	49.8
East: PPC Northern Access															
4	L2	All MCs	27	4.0	27	4.0	0.061	9.6	LOS A	0.2	1.4	0.63	0.80	0.63	35.9
6	R2	All MCs	16	4.0	16	4.0	0.143	35.9	LOS E	0.4	3.0	0.88	0.94	0.88	30.4
Approach			43	4.0	43	4.0	0.143	19.2	LOS C	0.4	3.0	0.72	0.85	0.72	33.2
North: Main N Rd North															
7	L2	All MCs	9	4.0	9	4.0	0.005	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	45.9
8	T1	All MCs	662	8.2	662	8.2	0.358	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach			671	8.1	671	8.1	0.358	0.2	NA	0.0	0.0	0.00	0.01	0.00	49.7
All Vehicles			1028	8.0	1028	8.0	0.358	1.0	NA	0.4	3.0	0.03	0.04	0.03	48.6

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

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

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Attachment Two – SIDRA model results

Location	Scenario	Peak
Main North Road / Northern Site Access	Future development	PM

MOVEMENT SUMMARY

▽ Site: 101 [PPC Northern Access Dev PM - Future (Site Folder: Addn Turn Bays - Future (+10%))]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				
South: Main N Rd South															
2	T1	All MCs	581	8.2	581	8.2	0.314	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
3	R2	All MCs	24	4.0	24	4.0	0.027	6.7	LOS A	0.1	0.7	0.46	0.62	0.46	37.8
Approach			605	8.0	605	8.0	0.314	0.3	NA	0.1	0.7	0.02	0.02	0.02	49.2
East: PPC Northern Access															
4	L2	All MCs	3	4.0	3	4.0	0.004	5.9	LOS A	0.0	0.1	0.45	0.53	0.45	37.8
6	R2	All MCs	13	4.0	13	4.0	0.125	36.1	LOS E	0.4	2.6	0.88	0.94	0.88	30.3
Approach			16	4.0	16	4.0	0.125	31.2	LOS D	0.4	2.6	0.81	0.87	0.81	31.1
North: Main N Rd North															
7	L2	All MCs	14	4.0	14	4.0	0.008	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	45.9
8	T1	All MCs	399	8.2	399	8.2	0.216	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			413	8.1	413	8.1	0.216	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.7
All Vehicles			1034	8.0	1034	8.0	0.314	0.8	NA	0.4	2.6	0.02	0.03	0.02	48.8

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

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

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Attachment Two – SIDRA model results

Location	Scenario	Peak
Main North Road / Southern Site Access	Future development	AM

MOVEMENT SUMMARY

Site: 101 [PPC Southern Access Dev AM - Future (Site Folder: Addn Turn Bays - Future (+10%))]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Main N Rd South															
1	L2	All MCs	1	8.2	1	8.2	0.150	4.7	LOS A	0.0	0.0	0.00	0.00	0.00	48.6
2	T1	All MCs	277	8.2	277	8.2	0.150	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
3	R2	All MCs	4	4.0	4	4.0	0.007	9.1	LOS A	0.0	0.2	0.59	0.68	0.59	39.5
Approach			283	8.1	283	8.1	0.150	0.2	NA	0.0	0.2	0.01	0.01	0.01	49.6
East: PPC Southern Access															
4	L2	All MCs	64	4.0	64	4.0	0.146	10.1	LOS B	0.5	3.5	0.66	0.81	0.66	38.7
5	T1	All MCs	1	4.0	1	4.0	0.328	32.4	LOS D	1.1	7.7	0.90	1.00	1.06	24.8
6	R2	All MCs	37	4.0	37	4.0	0.328	40.8	LOS E	1.1	7.7	0.90	1.00	1.06	25.2
Approach			101	4.0	101	4.0	0.328	21.4	LOS C	1.1	7.7	0.75	0.88	0.81	33.3
North: Main N Rd North															
7	L2	All MCs	21	4.0	21	4.0	0.012	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	44.5
8	T1	All MCs	669	8.2	669	8.2	0.363	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	50.0
9	R2	All MCs	1	8.2	1	8.2	0.363	4.9	LOS A	0.0	0.1	0.00	0.00	0.00	34.0
Approach			691	8.1	691	8.1	0.363	0.1	NA	0.0	0.1	0.00	0.02	0.00	49.8
West: Easylawn Access															
10	L2	All MCs	1	8.2	1	8.2	0.022	3.6	LOS A	0.1	0.5	0.75	0.71	0.75	25.8
11	T1	All MCs	1	4.0	1	4.0	0.022	24.4	LOS C	0.1	0.5	0.75	0.71	0.75	28.1
12	R2	All MCs	1	8.2	1	8.2	0.022	39.8	LOS E	0.1	0.5	0.75	0.71	0.75	29.8
Approach			3	6.8	3	6.8	0.022	22.6	LOS C	0.1	0.5	0.75	0.71	0.75	28.0
All Vehicles			1078	7.7	1078	7.7	0.363	2.2	NA	1.1	7.7	0.08	0.10	0.08	46.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Attachment Two – SIDRA model results

Location	Scenario	Peak
Main North Road / Southern Site Access	Future development	PM

MOVEMENT SUMMARY

Site: 101 [PPC Southern Access Dev PM - Future (Site Folder: Addn Turn Bays - Future (+10%))]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Main N Rd South															
1	L2	All MCs	1	8.2	1	8.2	0.311	4.7	LOS A	0.0	0.0	0.00	0.00	0.00	48.5
2	T1	All MCs	574	8.2	574	8.2	0.311	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
3	R2	All MCs	56	4.0	56	4.0	0.062	6.7	LOS A	0.2	1.7	0.46	0.64	0.46	40.6
Approach			631	7.8	631	7.8	0.311	0.7	NA	0.2	1.7	0.04	0.06	0.04	48.5
East: PPC Southern Access															
4	L2	All MCs	6	4.0	6	4.0	0.008	5.6	LOS A	0.0	0.2	0.43	0.54	0.43	40.6
5	T1	All MCs	1	4.0	1	4.0	0.299	33.2	LOS D	0.9	6.9	0.90	1.00	1.04	24.6
6	R2	All MCs	31	4.0	31	4.0	0.299	42.0	LOS E	0.9	6.9	0.90	1.00	1.04	24.9
Approach			39	4.0	39	4.0	0.299	36.0	LOS E	0.9	6.9	0.83	0.92	0.94	27.1
North: Main N Rd North															
7	L2	All MCs	32	4.0	32	4.0	0.018	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	44.5
8	T1	All MCs	370	8.2	370	8.2	0.202	0.0	LOS A	0.0	0.2	0.01	0.00	0.01	50.0
9	R2	All MCs	1	8.2	1	8.2	0.202	8.2	LOS A	0.0	0.2	0.01	0.00	0.01	34.0
Approach			403	7.9	403	7.9	0.202	0.4	NA	0.0	0.2	0.01	0.05	0.01	49.4
West: Easylawn Access															
10	L2	All MCs	1	8.2	1	8.2	0.023	6.7	LOS A	0.1	0.5	0.82	0.85	0.82	25.7
11	T1	All MCs	1	4.0	1	4.0	0.023	26.4	LOS D	0.1	0.5	0.82	0.85	0.82	28.0
12	R2	All MCs	1	8.2	1	8.2	0.023	36.6	LOS E	0.1	0.5	0.82	0.85	0.82	29.7
Approach			3	6.8	3	6.8	0.023	23.2	LOS C	0.1	0.5	0.82	0.85	0.82	27.9
All Vehicles			1076	7.7	1076	7.7	0.311	1.9	NA	0.9	6.9	0.06	0.09	0.06	47.3

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

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

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Attachment Two – SIDRA model results

Location	Scenario	Peak
Main North Road / Tram Road	Baseline	AM

MOVEMENT SUMMARY

Site: 101 [Tram Rd - Main North Rd Baseline AM (Site Folder: Baseline - SCATS Timings)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Baseline AM - SCATS (Network Folder: Baseline)]

New Site
 Site Category: (None)
 Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Main North S															
1	L2	All MCs	94	17.6	94	17.6	0.120	12.2	LOS B	1.1	8.5	0.58	0.70	0.58	43.2
2	T1	All MCs	151	0.0	151	0.0	* 0.309	13.8	LOS B	2.5	17.6	0.85	0.68	0.85	48.9
Approach			245	6.8	245	6.8	0.309	13.2	LOS B	2.5	17.6	0.75	0.69	0.75	47.4
North: Main North N															
8	T1	All MCs	284	0.0	284	0.0	0.224	3.1	LOS A	2.3	16.0	0.43	0.37	0.43	57.1
9	R2	All MCs	162	17.6	162	17.6	* 0.303	17.2	LOS B	2.5	20.1	0.79	0.76	0.79	38.8
Approach			446	6.4	446	6.4	0.303	8.2	LOS A	2.5	20.1	0.56	0.51	0.56	51.6
West: Tram Rd															
10	L2	All MCs	56	13.1	56	13.1	0.053	8.8	LOS A	0.4	3.3	0.41	0.65	0.41	46.4
12	R2	All MCs	104	13.2	104	13.2	* 0.408	23.9	LOS C	2.0	15.7	0.95	0.77	0.95	36.3
Approach			160	13.2	160	13.2	0.408	18.6	LOS B	2.0	15.7	0.76	0.73	0.76	39.3
All Vehicles			851	7.8	851	7.8	0.408	11.6	LOS B	2.5	20.1	0.65	0.60	0.65	48.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Attachment Two – SIDRA model results

Location	Scenario	Peak
Main North Road / Tram Road	Future baseline	AM

MOVEMENT SUMMARY

Site: 101 [Tram Rd - Main North Rd Future 10% AM (Site Folder: Future Baseline (+10%))]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future Baseline AM (Network Folder: Future Baseline)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Main North S															
1	L2	All MCs	104	17.6	104	17.6	0.133	12.2	LOS B	1.2	9.4	0.59	0.70	0.59	43.2
2	T1	All MCs	166	0.0	166	0.0	* 0.340	13.9	LOS B	2.8	19.6	0.86	0.69	0.86	48.9
Approach			270	6.8	270	6.8	0.340	13.3	LOS B	2.8	19.6	0.76	0.70	0.76	47.4
North: Main North N															
8	T1	All MCs	312	0.0	312	0.0	0.246	3.2	LOS A	2.6	18.0	0.44	0.38	0.44	57.0
9	R2	All MCs	179	17.6	179	17.6	* 0.333	17.3	LOS B	2.8	22.3	0.80	0.77	0.80	38.7
Approach			491	6.4	491	6.4	0.333	8.3	LOS A	2.8	22.3	0.57	0.52	0.57	51.5
West: Tram Rd															
10	L2	All MCs	62	13.1	62	13.1	0.058	8.9	LOS A	0.5	3.7	0.41	0.66	0.41	46.4
12	R2	All MCs	114	13.2	114	13.2	* 0.449	24.0	LOS C	2.2	17.4	0.95	0.77	0.95	36.3
Approach			176	13.2	176	13.2	0.449	18.7	LOS B	2.2	17.4	0.76	0.73	0.76	39.3
All Vehicles			936	7.8	936	7.8	0.449	11.7	LOS B	2.8	22.3	0.66	0.61	0.66	47.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Attachment Two – SIDRA model results

Location	Scenario	Peak
Main North Road / Tram Road	Future development	AM

MOVEMENT SUMMARY

Site: 101 [Tram Rd - Main North Rd with PPC 10% AM (Site Folder: Future with PPC (+10%))]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future with PPC AM (Network Folder: Future with PPC)]

New Site
 Site Category: (None)
 Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Main North S															
1	L2	All MCs	104	17.6	104	17.6	0.133	12.2	LOS B	1.2	9.4	0.59	0.70	0.59	43.2
2	T1	All MCs	166	0.0	166	0.0	*0.340	13.9	LOS B	2.8	19.6	0.86	0.69	0.86	48.9
Approach			270	6.8	270	6.8	0.340	13.3	LOS B	2.8	19.6	0.76	0.70	0.76	47.4
North: Main North N															
8	T1	All MCs	314	0.0	314	0.0	0.248	3.2	LOS A	2.6	18.1	0.44	0.38	0.44	57.0
9	R2	All MCs	267	11.8	267	11.8	*0.480	17.9	LOS B	4.4	33.9	0.85	0.79	0.85	38.1
Approach			582	5.4	582	5.4	0.480	10.0	LOS A	4.4	33.9	0.63	0.57	0.63	49.6
West: Tram Rd															
10	L2	All MCs	68	12.0	68	12.0	0.063	8.9	LOS A	0.5	4.0	0.41	0.66	0.41	46.4
12	R2	All MCs	114	13.2	114	13.2	*0.449	24.0	LOS C	2.2	17.4	0.95	0.77	0.95	36.3
Approach			182	12.7	182	12.7	0.449	18.4	LOS B	2.2	17.4	0.75	0.73	0.75	39.5
All Vehicles			1033	7.1	1033	7.1	0.480	12.3	LOS B	4.4	33.9	0.68	0.63	0.68	47.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Attachment Two – SIDRA model results

Location	Scenario	Peak
Main North Road / Tram Road	Baseline	PM

MOVEMENT SUMMARY

Site: 101 [Tram Rd - Main North Rd Baseline PM (Site Folder: Baseline - SCATS Timings)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Baseline PM - SCATS (Network Folder: Baseline)]

New Site
 Site Category: (None)
 Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Main North S															
1	L2	All MCs	140	2.4	140	2.4	0.115	8.5	LOS A	1.1	7.9	0.38	0.67	0.38	47.1
2	T1	All MCs	401	0.0	401	0.0	*0.514	11.3	LOS B	6.9	48.0	0.80	0.69	0.80	50.6
Approach			541	0.6	541	0.6	0.514	10.6	LOS B	6.9	48.0	0.69	0.68	0.69	50.1
North: Main North N															
8	T1	All MCs	190	0.0	190	0.0	0.146	3.0	LOS A	1.5	10.8	0.39	0.32	0.39	57.2
9	R2	All MCs	81	2.3	81	2.3	*0.333	26.2	LOS C	1.8	12.5	0.95	0.75	0.95	32.5
Approach			271	0.7	271	0.7	0.333	9.9	LOS A	1.8	12.5	0.56	0.45	0.56	50.4
West: Tram Rd															
10	L2	All MCs	155	3.7	155	3.7	0.214	15.4	LOS B	2.3	16.5	0.69	0.74	0.69	41.6
12	R2	All MCs	73	3.7	73	3.7	*0.304	26.2	LOS C	1.6	11.4	0.94	0.75	0.94	35.4
Approach			228	3.7	228	3.7	0.304	18.8	LOS B	2.3	16.5	0.77	0.74	0.77	39.4
All Vehicles			1041	1.3	1041	1.3	0.514	12.2	LOS B	6.9	48.0	0.68	0.64	0.68	47.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Attachment Two – SIDRA model results

Location	Scenario	Peak
Main North Road / Tram Road	Future baseline	PM

MOVEMENT SUMMARY

Site: 101 [Tram Rd - Main North Rd Future 10% PM (Site Folder: Future Baseline (+10%))]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future Baseline PM (Network Folder: Future Baseline)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Main North S															
1	L2	All MCs	154	2.4	154	2.4	0.126	8.5	LOS A	1.2	8.8	0.38	0.67	0.38	47.1
2	T1	All MCs	441	0.0	441	0.0	* 0.566	11.6	LOS B	7.8	54.3	0.83	0.71	0.83	50.4
Approach			595	0.6	595	0.6	0.566	10.8	LOS B	7.8	54.3	0.71	0.70	0.71	49.9
North: Main North N															
8	T1	All MCs	209	0.0	209	0.0	0.161	3.0	LOS A	1.7	12.0	0.40	0.33	0.40	57.2
9	R2	All MCs	89	2.4	89	2.4	* 0.367	26.4	LOS C	1.9	13.9	0.95	0.76	0.95	32.4
Approach			298	0.7	298	0.7	0.367	10.0	LOS B	1.9	13.9	0.56	0.46	0.56	50.3
West: Tram Rd															
10	L2	All MCs	171	3.6	171	3.6	0.236	15.5	LOS B	2.5	18.4	0.70	0.74	0.70	41.6
12	R2	All MCs	81	3.8	81	3.8	* 0.335	26.3	LOS C	1.7	12.6	0.95	0.75	0.95	35.3
Approach			251	3.7	251	3.7	0.335	18.9	LOS B	2.5	18.4	0.78	0.75	0.78	39.3
All Vehicles			1145	1.3	1145	1.3	0.566	12.4	LOS B	7.8	54.3	0.69	0.65	0.69	47.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Attachment Two – SIDRA model results

Location	Scenario	Peak
Main North Road / Tram Road	Future development	PM

MOVEMENT SUMMARY

Site: 101 [Tram Rd - Main North Rd with PPC 10% PM (Site Folder: Future with PPC (+10%))]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future with PPC PM (Network Folder: Future with PPC)]

New Site
 Site Category: (None)
 Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Main North S															
1	L2	All MCs	154	2.4	154	2.4	0.126	8.5	LOS A	1.2	8.8	0.38	0.67	0.38	47.1
2	T1	All MCs	443	0.0	443	0.0	* 0.568	11.6	LOS B	7.8	54.6	0.83	0.71	0.83	50.4
Approach			597	0.6	597	0.6	0.568	10.8	LOS B	7.8	54.6	0.71	0.70	0.71	49.9
North: Main North N															
8	T1	All MCs	209	0.0	209	0.0	0.161	3.0	LOS A	1.7	12.0	0.40	0.33	0.40	57.2
9	R2	All MCs	98	2.1	98	2.1	* 0.403	26.5	LOS C	2.1	15.3	0.96	0.76	0.96	32.4
Approach			307	0.7	307	0.7	0.403	10.5	LOS B	2.1	15.3	0.57	0.47	0.57	49.8
West: Tram Rd															
10	L2	All MCs	248	2.5	248	2.5	0.340	16.0	LOS B	3.9	27.9	0.74	0.77	0.74	41.2
12	R2	All MCs	81	3.8	81	3.8	* 0.335	26.3	LOS C	1.7	12.6	0.95	0.75	0.95	35.3
Approach			329	2.8	329	2.8	0.340	18.5	LOS B	3.9	27.9	0.79	0.76	0.79	39.6
All Vehicles			1233	1.2	1233	1.2	0.568	12.8	LOS B	7.8	54.6	0.70	0.66	0.70	47.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 offramp / Tram Road	Baseline	AM

MOVEMENT SUMMARY

 Site: 101v [Tram Rd Offramp Baseline AM (Site Folder: Baseline Ramps)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

 Network: N101 [Baseline Ramps AM (Network Folder: Baseline Ramps)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance																
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total	HV]	[Total	HV]				[Veh.	Dist]					
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h	
South: SH1 Offramp																
1	L2	All MCs	180	8.8	180	8.8	0.103	5.7	LOS A	0.0	0.0	0.00	0.52	0.00	51.7	
3	R2	All MCs	67	3.1	67	3.1	0.440	21.1	LOS C	0.8	5.8	0.86	1.05	1.04	29.0	
Approach			247	7.2	247	7.2	0.440	9.9	LOS A	0.8	5.8	0.23	0.67	0.28	47.2	
East: Tram Rd East																
5	T1	All MCs	73	11.6	73	11.6	0.040	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0	
Approach			73	11.6	73	11.6	0.040	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0	
West: Tram Rd W																
11	T1	All MCs	964	5.2	964	5.2	0.511	0.2	LOS A	4.8	35.1	0.00	0.00	0.00	59.6	
Approach			964	5.2	964	5.2	0.511	0.2	NA	4.8	35.1	0.00	0.00	0.00	59.6	
All Vehicles			1284	6.0	1284	6.0	0.511	2.1	NA	4.8	35.1	0.05	0.13	0.05	56.1	

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

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

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akapelik M3D).

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: J:\Mike Greer Homes NZ (MGHNZ)\MGHNZ-J002 - Rezoning ITA and expert witness- 144 to 170 Main North Road Kaiapoi\Models\Tram Rd Ramps Sidra Modelling inc Free Queue.sip9

Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 offramp / Tram Road	Future baseline	AM

MOVEMENT SUMMARY

Site: 101vv [Tram Rd Offramp Future Base AM (Site Folder: Signalise Offramp RT - Future Baseline 10%)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future Baseline AM (Network Folder: Future Baseline)]

New Site
 Site Category: (None)
 Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 85 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				
South: SH1 Offramp															
1	L2	All MCs	198	8.8	198	8.8	0.246	5.7	LOS A	4.8	35.9	0.46	0.69	0.46	45.9
3	R2	All MCs	74	3.1	74	3.1	* 0.246	32.0	LOS C	4.8	35.9	0.46	0.69	0.46	36.1
Approach			272	7.2	272	7.2	0.246	12.9	LOS B	4.8	35.9	0.46	0.69	0.46	44.4
East: Tram Rd East															
5	T1	All MCs	80	11.6	80	11.6	0.056	0.2	LOS A	0.1	0.5	0.02	0.02	0.02	59.7
Approach			80	11.6	80	11.6	0.056	0.2	LOS A	0.1	0.5	0.02	0.02	0.02	59.7
West: Tram Rd W															
11	T1	All MCs	1061	5.2	1061	5.2	* 0.714	4.6	LOS A	21.0	153.9	0.53	0.48	0.53	52.1
Approach			1061	5.2	1061	5.2	0.714	4.6	LOS A	21.0	153.9	0.53	0.48	0.53	52.1
All Vehicles			1413	6.0	1413	6.0	0.714	6.0	LOS A	21.0	153.9	0.49	0.50	0.49	50.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 offramp / Tram Road	Future development	AM

MOVEMENT SUMMARY

Site: 101vv [Tram Rd Offramp Future with PPC AM (Site Folder: Signalise Offramp RT - Future with PPC)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future with PPC AM (Network Folder: Future with PPC)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: SH1 Offramp															
1	L2	All MCs	198	8.8	198	8.8	0.268	5.7	LOS A	5.7	42.0	0.51	0.71	0.51	44.5
3	R2	All MCs	75	3.1	75	3.1	* 0.268	39.1	LOS D	5.7	42.0	0.51	0.71	0.51	34.0
Approach			273	7.2	273	7.2	0.268	14.9	LOS B	5.7	42.0	0.51	0.71	0.51	42.8
East: Tram Rd East															
5	T1	All MCs	84	11.1	84	11.1	0.057	0.2	LOS A	0.1	0.6	0.02	0.02	0.02	59.7
Approach			84	11.1	84	11.1	0.057	0.2	LOS A	0.1	0.6	0.02	0.02	0.02	59.7
West: Tram Rd W															
11	T1	All MCs	1066	5.2	1066	5.2	* 0.740	4.7	LOS A	22.7	165.9	0.53	0.49	0.53	52.0
Approach			1066	5.2	1066	5.2	0.740	4.7	LOS A	22.7	165.9	0.53	0.49	0.53	52.0
All Vehicles			1422	5.9	1422	5.9	0.740	6.4	LOS A	22.7	165.9	0.50	0.50	0.50	49.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Project: J:\Mike Greer Homes NZ (MGHNZ)\MGHNZ-J002 - Rezoning ITA and expert witness- 144 to 170 Main North Road Kaiapoi\Models\Tram Rd Ramps Sidra Modelling inc Free Queue.sip9

Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 offramp / Tram Road	Baseline	PM

MOVEMENT SUMMARY

 Site: 101v [Tram Rd Offramp Baseline PM (Site Folder: Baseline Ramps)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

 Network: N101 [Baseline Ramps PM (Network Folder: Baseline Ramps)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: SH1 Offramp															
1	L2	All MCs	775	1.9	775	1.9	0.423	5.8	LOS A	0.0	0.0	0.00	0.53	0.00	51.8
3	R2	All MCs	172	1.8	172	1.8	0.219	10.9	LOS B	0.9	6.5	0.57	0.94	0.57	39.1
Approach			946	1.9	946	1.9	0.423	6.7	LOS A	0.9	6.5	0.10	0.60	0.10	50.6
East: Tram Rd East															
5	T1	All MCs	199	3.2	199	3.2	0.104	0.5	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			199	3.2	199	3.2	0.104	0.5	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Tram Rd W															
11	T1	All MCs	386	2.2	386	2.2	0.201	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			386	2.2	386	2.2	0.201	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			1532	2.1	1532	2.1	0.423	4.2	NA	0.9	6.5	0.06	0.37	0.06	53.2

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

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

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 offramp / Tram Road	Future baseline	PM

MOVEMENT SUMMARY

Site: 101vv [Tram Rd Offramp Future Base PM (Site Folder: Signalise Offramp RT - Future Baseline 10%)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future Baseline PM (Network Folder: Future Baseline)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				
South: SH1 Offramp															
1	L2	All MCs	852	1.9	852	1.9	0.598	5.7	LOS A	2.4	16.9	0.13	0.56	0.13	51.4
3	R2	All MCs	189	1.8	189	1.8	* 0.598	6.4	LOS A	2.4	16.9	0.13	0.56	0.13	45.4
Approach			1041	1.9	1041	1.9	0.598	5.8	LOS A	2.4	16.9	0.13	0.56	0.13	50.9
East: Tram Rd East															
5	T1	All MCs	219	3.2	219	3.2	0.327	13.4	LOS B	3.7	26.7	0.88	0.73	0.88	44.4
Approach			219	3.2	219	3.2	0.327	13.4	LOS B	3.7	26.7	0.88	0.73	0.88	44.4
West: Tram Rd W															
11	T1	All MCs	425	2.2	425	2.2	* 0.631	12.5	LOS B	7.3	52.4	0.89	0.77	0.91	42.6
Approach			425	2.2	425	2.2	0.631	12.5	LOS B	7.3	52.4	0.89	0.77	0.91	42.6
All Vehicles			1685	2.1	1685	2.1	0.631	8.5	LOS A	7.3	52.4	0.42	0.63	0.42	48.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 offramp / Tram Road	Future development	PM

MOVEMENT SUMMARY

Site: 101vv [Tram Rd Offramp Future with PPC PM (Site Folder: Signalise Offramp RT - Future with PPC)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future with PPC PM (Network Folder: Future with PPC)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: SH1 Offramp															
1	L2	All MCs	852	1.9	852	1.9	0.641	5.7	LOS A	2.8	20.0	0.14	0.56	0.14	51.3
3	R2	All MCs	263	1.3	263	1.3	* 0.641	6.3	LOS A	2.8	20.0	0.14	0.56	0.14	45.3
Approach			1115	1.8	1115	1.8	0.641	5.9	LOS A	2.8	20.0	0.14	0.56	0.14	50.6
East: Tram Rd East															
5	T1	All MCs	227	3.1	227	3.1	0.365	14.4	LOS B	4.0	28.6	0.91	0.75	0.91	43.4
Approach			227	3.1	227	3.1	0.365	14.4	LOS B	4.0	28.6	0.91	0.75	0.91	43.4
West: Tram Rd W															
11	T1	All MCs	428	2.2	428	2.2	* 0.685	14.2	LOS B	8.0	56.8	0.92	0.84	1.01	41.0
Approach			428	2.2	428	2.2	0.685	14.2	LOS B	8.0	56.8	0.92	0.84	1.01	41.0
All Vehicles			1770	2.0	1770	2.0	0.685	9.0	LOS A	8.0	56.8	0.43	0.65	0.45	47.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 onramp / Tram Road	Baseline	AM

MOVEMENT SUMMARY

Site: 101 [Tram Rd Onramp Baseline AM (Site Folder: Baseline Ramps)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Baseline Ramps AM (Network Folder: Baseline Ramps)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 57 seconds (Site User-Given Phase Times)

Vehicle Movement Performance																
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total	HV]	[Total	HV]				[Veh.	Dist]					
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h	
East: Tram Rd E																
4	L2	All MCs	183	19.0	183	19.0	0.522	8.9	LOS A	2.8	21.7	0.14	0.51	0.14	47.0	
5	T1	All MCs	74	14.3	74	14.3	0.522	28.4	LOS C	2.8	21.7	0.99	0.77	1.01	30.5	
Approach			257	17.6	257	17.6	0.522	14.5	LOS B	2.8	21.7	0.38	0.58	0.39	43.1	
West: Tram Rd W																
11	T1	All MCs	160	13.2	160	13.2	* 0.833	6.9	LOS A	20.1	146.9	0.79	0.90	0.90	40.6	
12	R2	All MCs	879	3.8	879	3.8	* 0.833	18.9	LOS B	20.1	146.9	0.79	0.90	0.90	45.5	
Approach			1039	5.3	1039	5.3	0.833	17.1	LOS B	20.1	146.9	0.79	0.90	0.90	44.7	
All Vehicles			1296	7.7	1296	7.7	0.833	16.5	LOS B	20.1	146.9	0.71	0.84	0.80	44.2	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 onramp / Tram Road	Future baseline	AM

MOVEMENT SUMMARY

Site: 101 [Tram Rd Onramp Future Base AM (Site Folder: Signalise Offramp RT - Future Baseline 10%)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future Baseline AM (Network Folder: Future Baseline)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 85 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Tram Rd E															
4	L2	All MCs	201	19.0	201	19.0	0.733	11.3	LOS B	4.9	37.4	0.14	0.52	0.17	45.6
5	T1	All MCs	81	14.3	81	14.3	0.733	45.9	LOS D	4.9	37.4	1.00	0.88	1.21	23.7
Approach			283	17.6	283	17.6	0.733	21.2	LOS C	4.9	37.4	0.39	0.63	0.46	39.4
West: Tram Rd W															
11	T1	All MCs	176	13.2	176	13.2	* 0.811	0.4	LOS A	9.7	70.7	0.22	0.64	0.22	51.6
12	R2	All MCs	967	3.8	967	3.8	* 0.811	6.7	LOS A	9.7	70.7	0.22	0.64	0.22	59.7
Approach			1143	5.3	1143	5.3	0.811	5.7	LOS A	9.7	70.7	0.22	0.64	0.22	58.3
All Vehicles			1425	7.7	1425	7.7	0.811	8.8	LOS A	9.7	70.7	0.25	0.63	0.27	51.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 onramp / Tram Road	Future development	AM

MOVEMENT SUMMARY

Site: 101 [Tram Rd Onramp Future with PPC AM (Site Folder: Signalise Offramp RT - Future with PPC)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future with PPC AM (Network Folder: Future with PPC)]

New Site
 Site Category: (None)
 Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance																
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total	HV]	[Total	HV]				v/c	sec					[Veh.
			veh/h	%	veh/h	%				veh	m					km/h
East: Tram Rd E																
4	L2	All MCs	286	13.3	286	13.3	0.788	12.1	LOS B	6.1	46.1	0.15	0.53	0.19	44.9	
5	T1	All MCs	85	13.7	85	13.7	0.788	49.2	LOS D	6.1	46.1	1.00	0.92	1.26	22.6	
Approach			371	13.4	371	13.4	0.788	20.6	LOS C	6.1	46.1	0.34	0.62	0.43	39.8	
West: Tram Rd W																
11	T1	All MCs	182	12.7	182	12.7	* 0.813	0.2	LOS A	12.3	89.6	0.27	0.65	0.27	51.5	
12	R2	All MCs	967	3.8	967	3.8	* 0.813	6.9	LOS A	12.3	89.6	0.27	0.65	0.27	59.5	
Approach			1149	5.2	1149	5.2	0.813	5.8	LOS A	12.3	89.6	0.27	0.65	0.27	58.1	
All Vehicles			1520	7.2	1520	7.2	0.813	9.4	LOS A	12.3	89.6	0.29	0.64	0.31	50.5	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 onramp / Tram Road	Baseline	PM

MOVEMENT SUMMARY

Site: 101 [Tram Rd Onramp Baseline PM (Site Folder: Baseline Ramps)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Baseline Ramps PM (Network Folder: Baseline Ramps)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 42 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total	HV]	[Total	HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				
East: Tram Rd E															
4	L2	All MCs	95	1.1	95	1.1	0.536	8.6	LOS A	4.3	30.3	0.22	0.54	0.22	47.5
5	T1	All MCs	198	2.1	198	2.1	0.536	16.8	LOS B	4.3	30.3	0.93	0.77	0.93	38.3
Approach			293	1.8	293	1.8	0.536	14.2	LOS B	4.3	30.3	0.70	0.69	0.70	42.3
West: Tram Rd W															
11	T1	All MCs	228	3.7	228	3.7	* 0.558	1.5	LOS A	6.5	46.6	0.71	0.75	0.71	47.7
12	R2	All MCs	326	1.0	326	1.0	* 0.558	14.7	LOS B	6.5	46.6	0.71	0.75	0.71	55.7
Approach			555	2.1	555	2.1	0.558	9.2	LOS A	6.5	46.6	0.71	0.75	0.71	52.1
All Vehicles			847	2.0	847	2.0	0.558	10.9	LOS B	6.5	46.6	0.71	0.73	0.71	48.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 onramp / Tram Road	Future baseline	PM

MOVEMENT SUMMARY

Site: 101 [Tram Rd Onramp Future Base PM (Site Folder: Signalise Offramp RT - Future Baseline 10%)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future Baseline PM (Network Folder: Future Baseline)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance																
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total	HV]	[Total	HV]				[Veh.	Dist]					
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h	
East: Tram Rd E																
4	L2	All MCs	104	1.1	104	1.1	0.361	7.2	LOS A	3.7	26.0	0.18	0.51	0.18	48.4	
5	T1	All MCs	218	2.1	218	2.1	0.361	10.8	LOS B	3.7	26.0	0.79	0.66	0.79	43.8	
Approach			322	1.8	322	1.8	0.361	9.7	LOS A	3.7	26.0	0.59	0.61	0.59	45.9	
West: Tram Rd W																
11	T1	All MCs	251	3.7	251	3.7	* 0.851	2.3	LOS A	7.4	52.6	0.63	0.76	0.73	49.1	
12	R2	All MCs	359	1.0	359	1.0	* 0.851	11.9	LOS B	7.4	52.6	0.63	0.76	0.73	57.6	
Approach			610	2.1	610	2.1	0.851	7.9	LOS A	7.4	52.6	0.63	0.76	0.73	53.8	
All Vehicles			932	2.0	932	2.0	0.851	8.5	LOS A	7.4	52.6	0.62	0.71	0.68	50.5	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay; Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 onramp / Tram Road	Future development	PM

MOVEMENT SUMMARY

Site: 101 [Tram Rd Onramp Future with PPC PM (Site Folder: Signalise Offramp RT - Future with PPC)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Network: N101 [Future with PPC PM (Network Folder: Future with PPC)]

New Site
 Site Category: (None)
 Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance																
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total	HV]	[Total	HV]				[Veh.	Dist]					
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h	
East: Tram Rd E																
4	L2	All MCs	105	1.1	105	1.1	0.401	7.4	LOS A	4.0	28.1	0.19	0.52	0.19	48.3	
5	T1	All MCs	225	2.1	225	2.1	0.401	11.8	LOS B	4.0	28.1	0.82	0.69	0.82	42.8	
Approach			331	1.7	331	1.7	0.401	10.4	LOS B	4.0	28.1	0.62	0.63	0.62	45.3	
West: Tram Rd W																
11	T1	All MCs	329	2.8	329	2.8	* 0.875	5.3	LOS A	10.6	75.2	0.73	0.86	0.95	46.1	
12	R2	All MCs	359	1.0	359	1.0	* 0.875	15.9	LOS B	10.6	75.2	0.73	0.86	0.95	53.5	
Approach			688	1.9	688	1.9	0.875	10.8	LOS B	10.6	75.2	0.73	0.86	0.95	49.7	
All Vehicles			1019	1.8	1019	1.8	0.875	10.7	LOS B	10.6	75.2	0.69	0.79	0.84	48.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 / Tram Road interchange	Baseline: 95 th percentile queue	AM

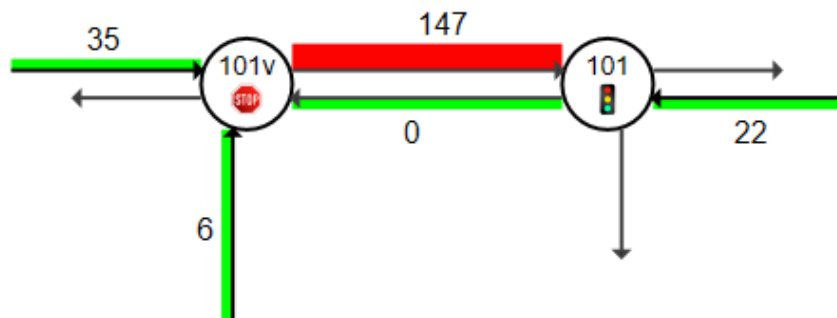
QUEUE DISTANCE (PERCENTILE)

Largest 95% Back of Queue Distance for any lane on the approach (metres)

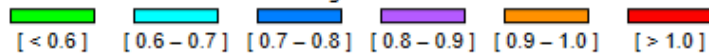
Network: N101 [Baseline Ramps AM (Network Folder: Baseline Ramps)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

New Network
Network Category: (None)



Colour code based on Queue Storage Ratio



Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 / Tram Road interchange	Future baseline: 95 th percentile queue	AM

QUEUE DISTANCE (PERCENTILE)

Largest 95% Back of Queue Distance for any lane on the approach (metres)

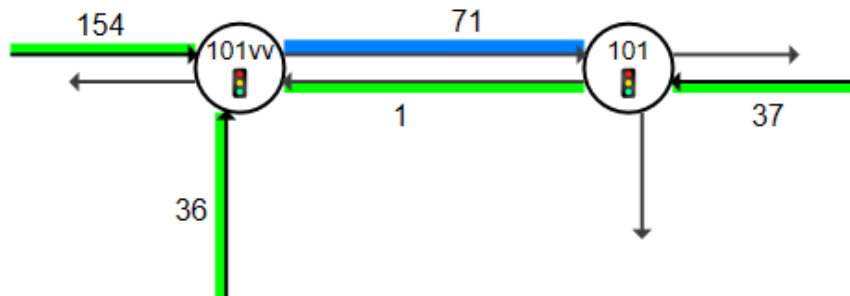
▣▣ Network: N101 [Future Baseline AM (Network Folder: Future Baseline)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

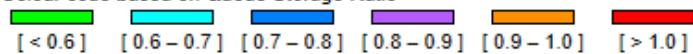
New Network

Network Category: (None)

Network Cycle Time = 85 seconds (Network Optimum Cycle Time - Minimum Delay)



Colour code based on Queue Storage Ratio



Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 / Tram Road interchange	Future development: 95 th percentile queue	AM

QUEUE DISTANCE (PERCENTILE)

Largest 95% Back of Queue Distance for any lane on the approach (metres)

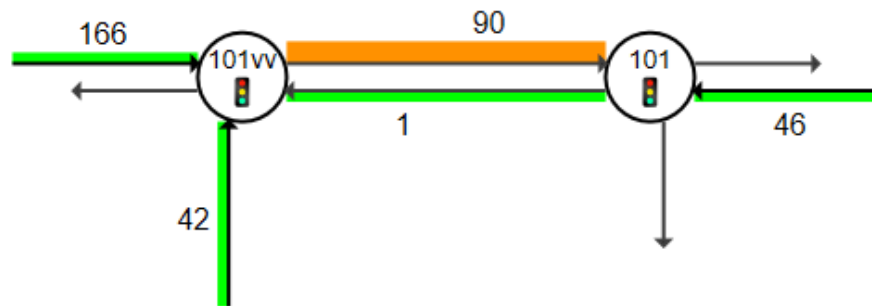
▣▣ Network: N101 [Future with PPC AM (Network Folder: Future with PPC)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

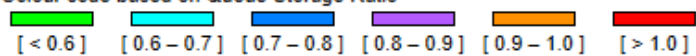
New Network

Network Category: (None)

Network Cycle Time = 90 seconds (Network Optimum Cycle Time - Minimum Delay)



Colour code based on Queue Storage Ratio



Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 / Tram Road interchange	Baseline: 95 th percentile queue	PM

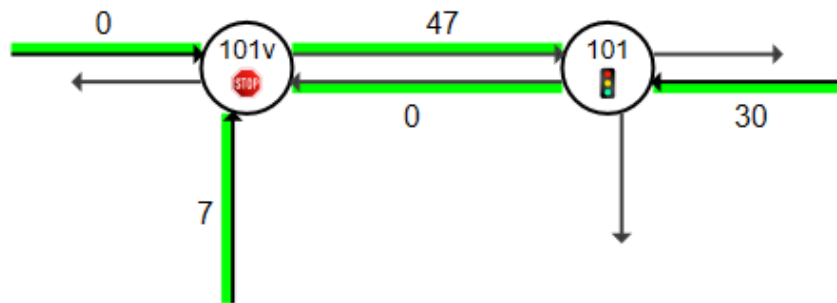
QUEUE DISTANCE (PERCENTILE)

Largest 95% Back of Queue Distance for any lane on the approach (metres)

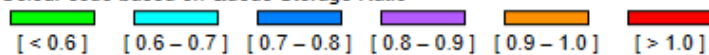
■ Network: N101 [Baseline Ramps PM (Network Folder: Baseline Ramps)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

New Network
Network Category: (None)



Colour code based on Queue Storage Ratio



Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 / Tram Road interchange	Future baseline: 95 th percentile queue	PM

QUEUE DISTANCE (PERCENTILE)

Largest 95% Back of Queue Distance for any lane on the approach (metres)

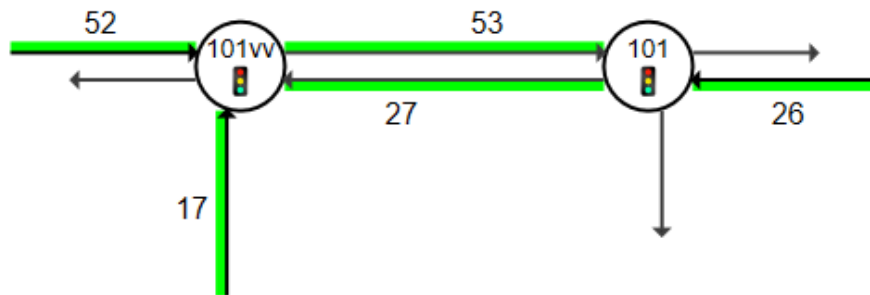
▣▣ Network: N101 [Future Baseline PM (Network Folder: Future Baseline)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

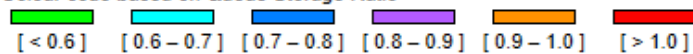
New Network

Network Category: (None)

Network Cycle Time = 40 seconds (Network Optimum Cycle Time - Minimum Delay)



Colour code based on Queue Storage Ratio



Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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Attachment Two – SIDRA model results

Location	Scenario	Peak
SH1 / Tram Road interchange	Future development: 95 th percentile queue	PM

QUEUE DISTANCE (PERCENTILE)

Largest 95% Back of Queue Distance for any lane on the approach (metres)

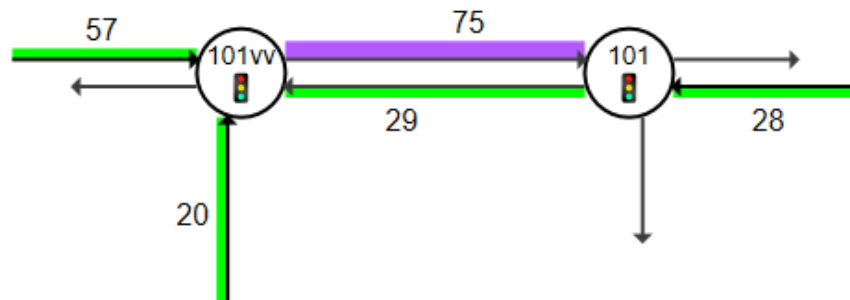
▣▣ Network: N101 [Future with PPC PM (Network Folder: Future with PPC)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

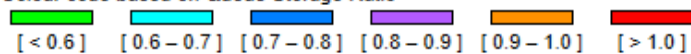
New Network

Network Category: (None)

Network Cycle Time = 40 seconds (Network Optimum Cycle Time - Minimum Delay)



Colour code based on Queue Storage Ratio



Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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