Appendix D

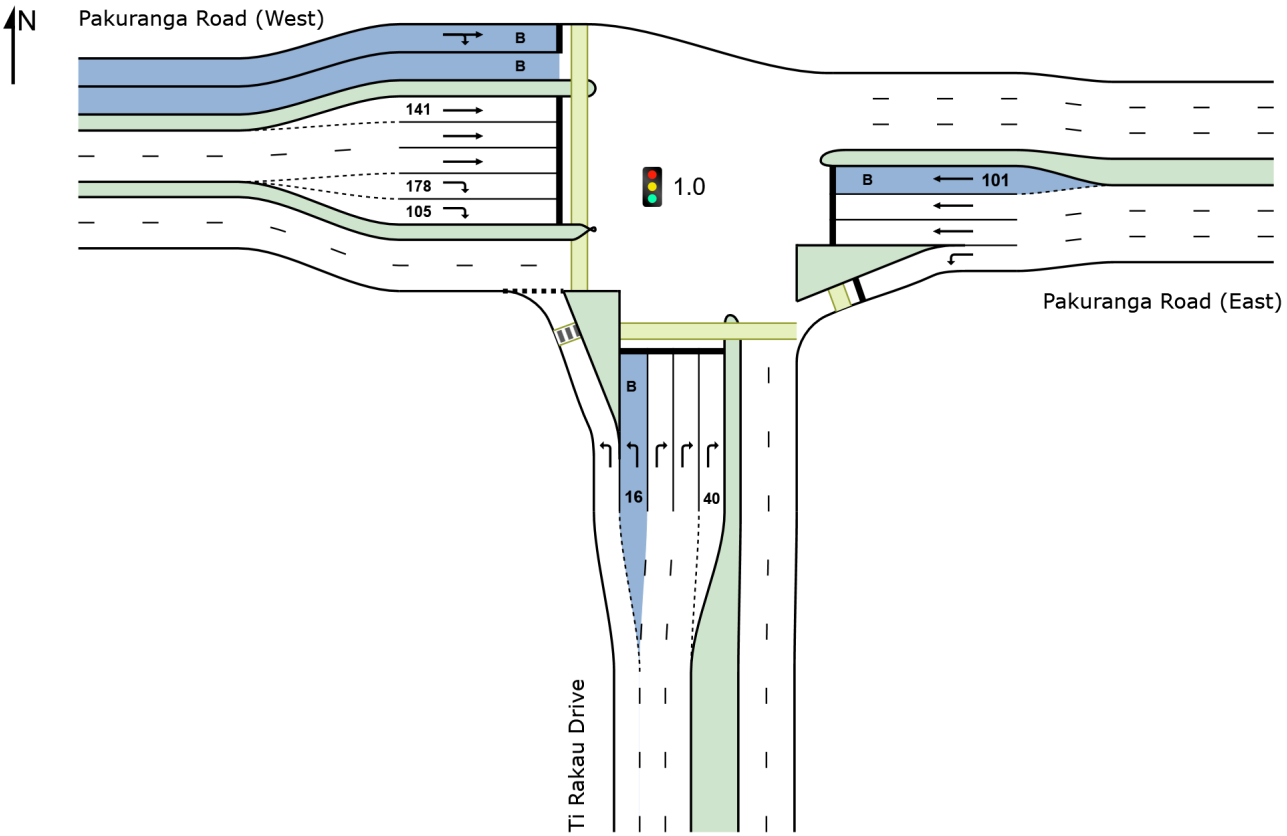
Construction Scenario 1 – Phasing Diagrams

SITE LAYOUT

Site: 1.0 [1.0 Pakuranga Rd / Ti Rakau Rd (Site Folder: General)]

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

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



PHASING SUMMARY

Site: 1.0 [1.0 Pakuranga Rd / Ti Rakau Rd (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site Practical Cycle Time)

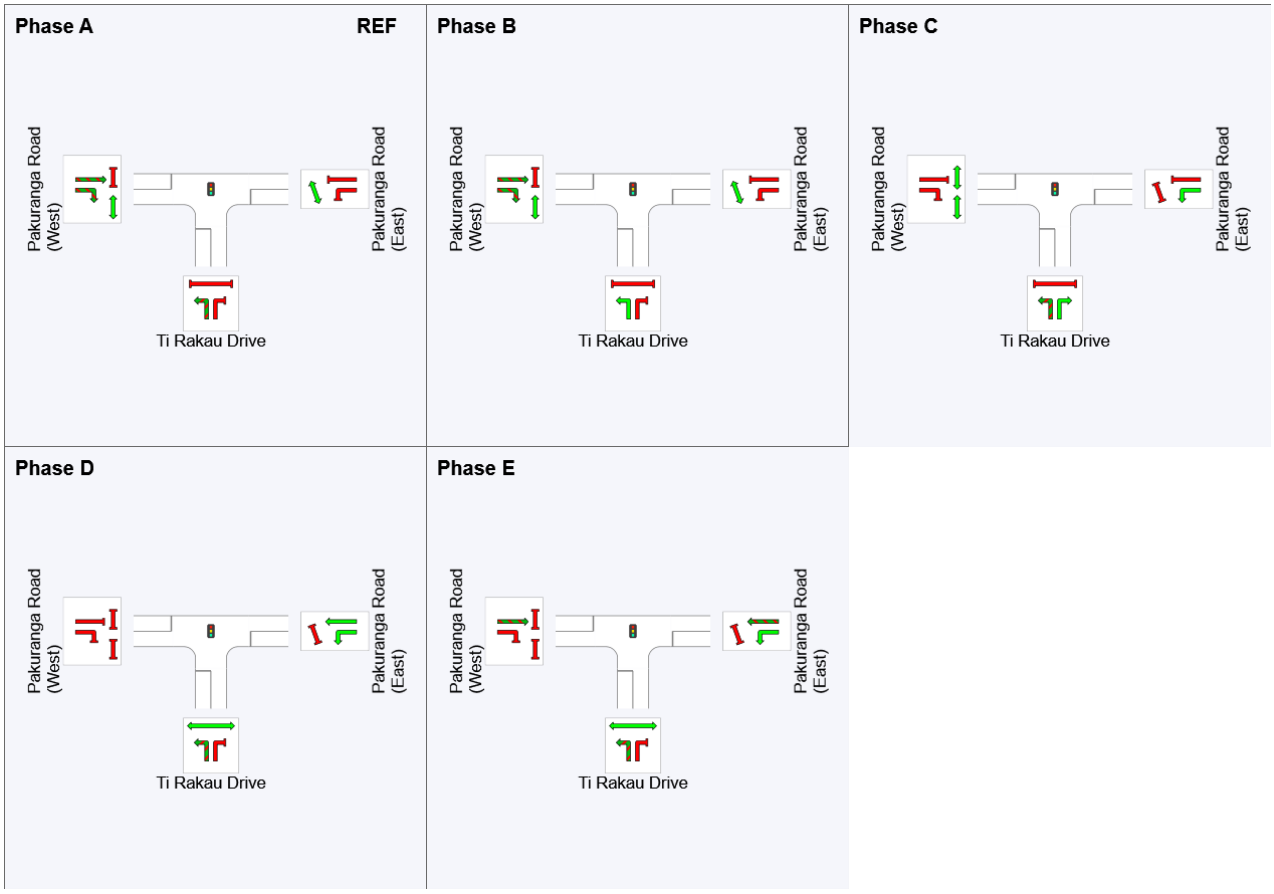
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Map Extract Default
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

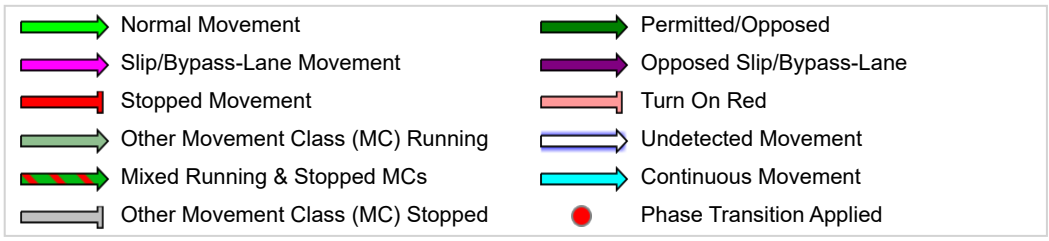
Phase	A	B	C	D	E
Phase Change Time (sec)	0	23	35	64	78
Green Time (sec)	17	6	23	8	46
Phase Time (sec)	23	12	29	14	52
Phase Split	18%	9%	22%	11%	40%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 1.0 [1.0 Pakuranga Rd / Ti Rakau Rd (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 70 seconds (Site Practical Cycle Time)

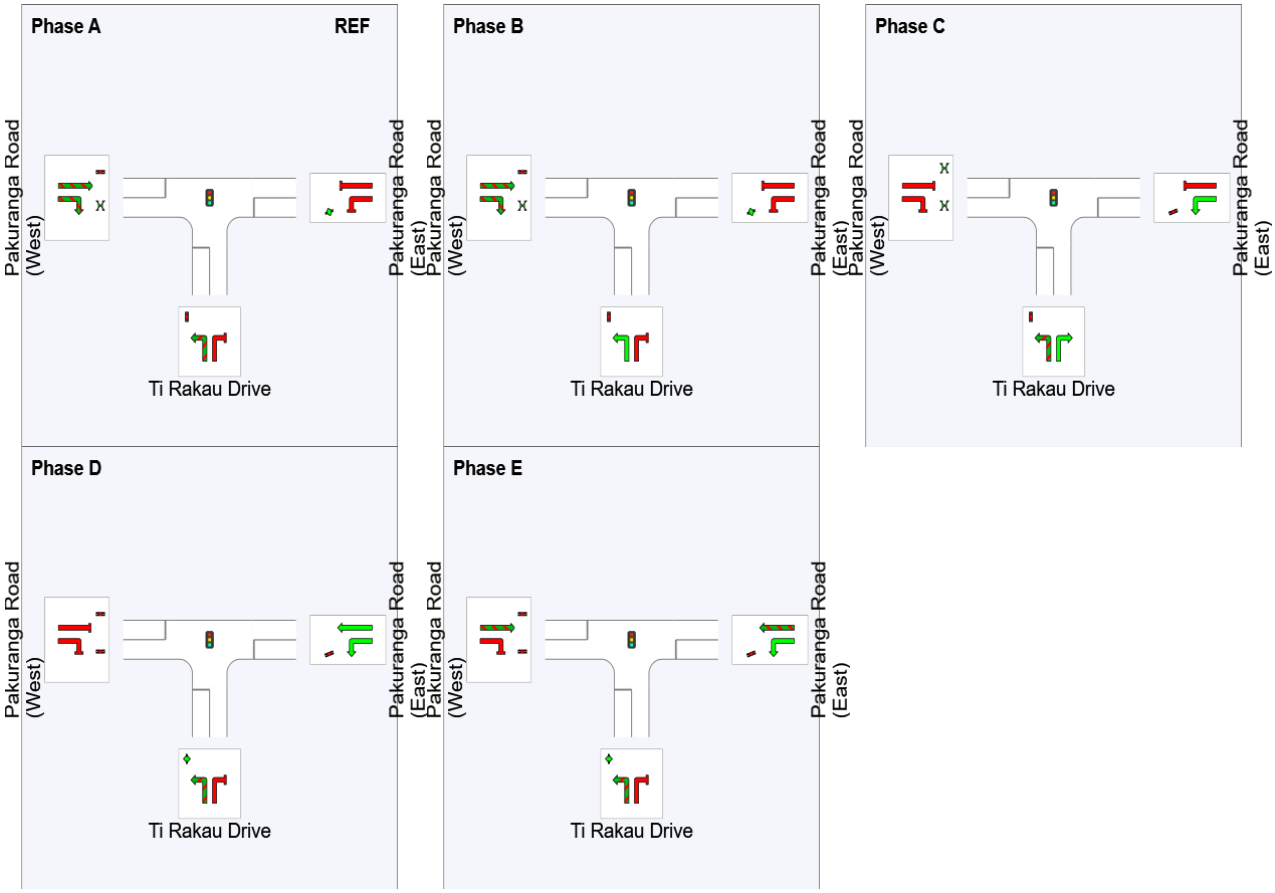
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Map Extract Default
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

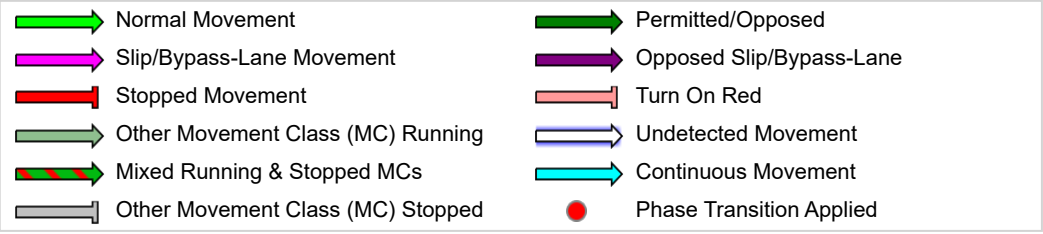
Phase	A	B	C	D	E
Phase Change Time (sec)	0	13	25	47	59
Green Time (sec)	7	6	16	6	5
Phase Time (sec)	13	12	22	12	11
Phase Split	19%	17%	31%	17%	16%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

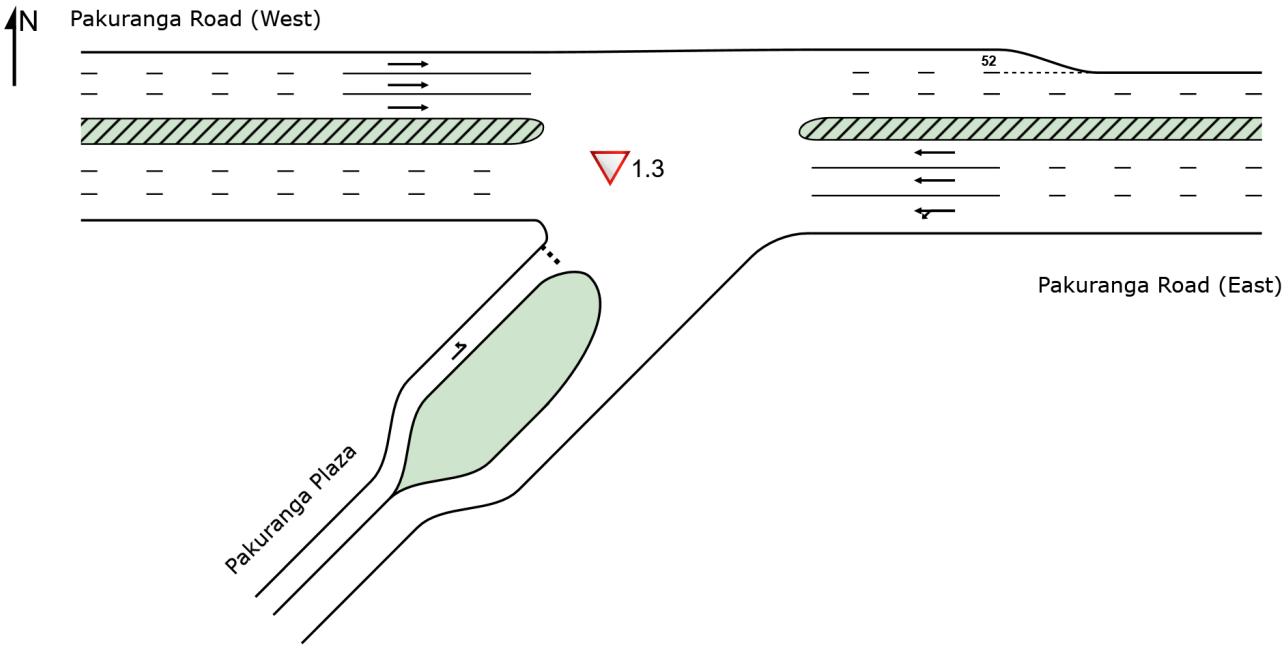


SITE LAYOUT

Site: 1.3 [1.3 Mall/ Pakuranga Rd WR Closure (Site Folder: General)]

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

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

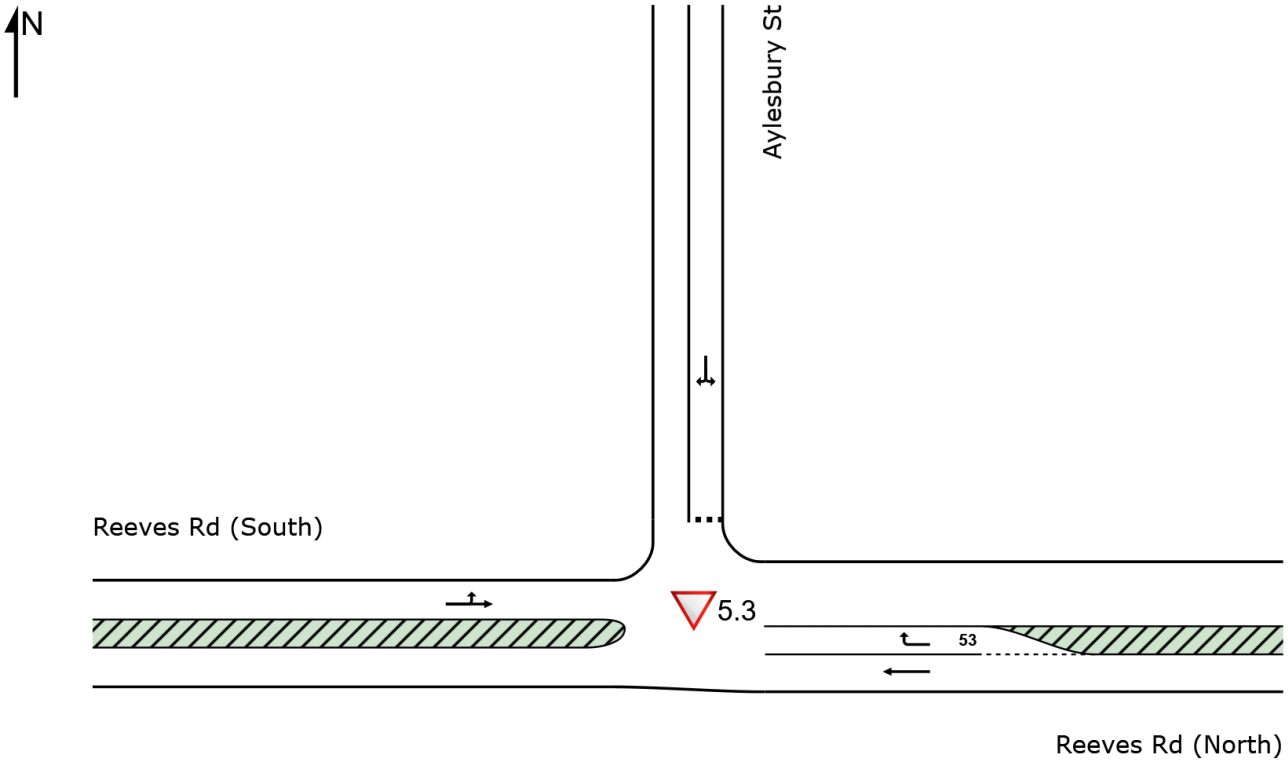


SITE LAYOUT

Site: 5.3 [5.3 Reeves Rd/ Aylesbury St (Site Folder: General)]

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

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

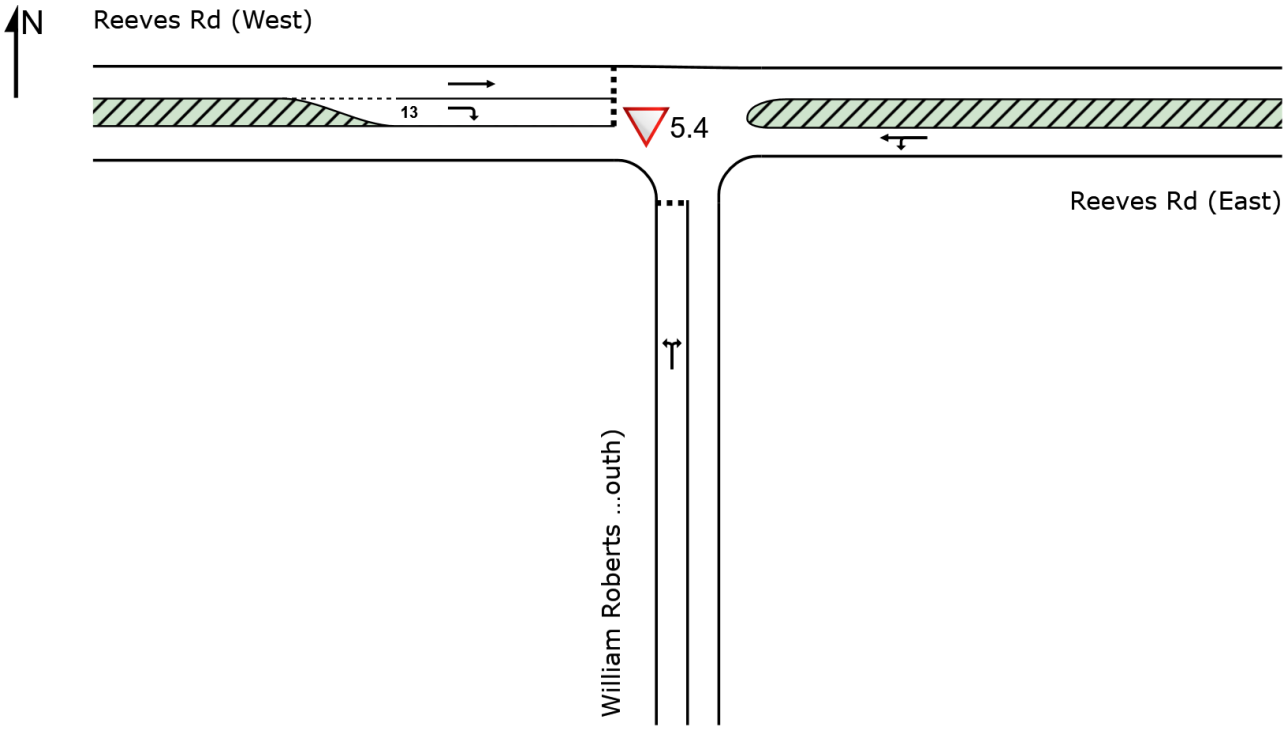


SITE LAYOUT

Site: 5.4 [5.4 Reeves Rd / William Roberts Rd WR Closure C (Site Folder: General)]

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

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

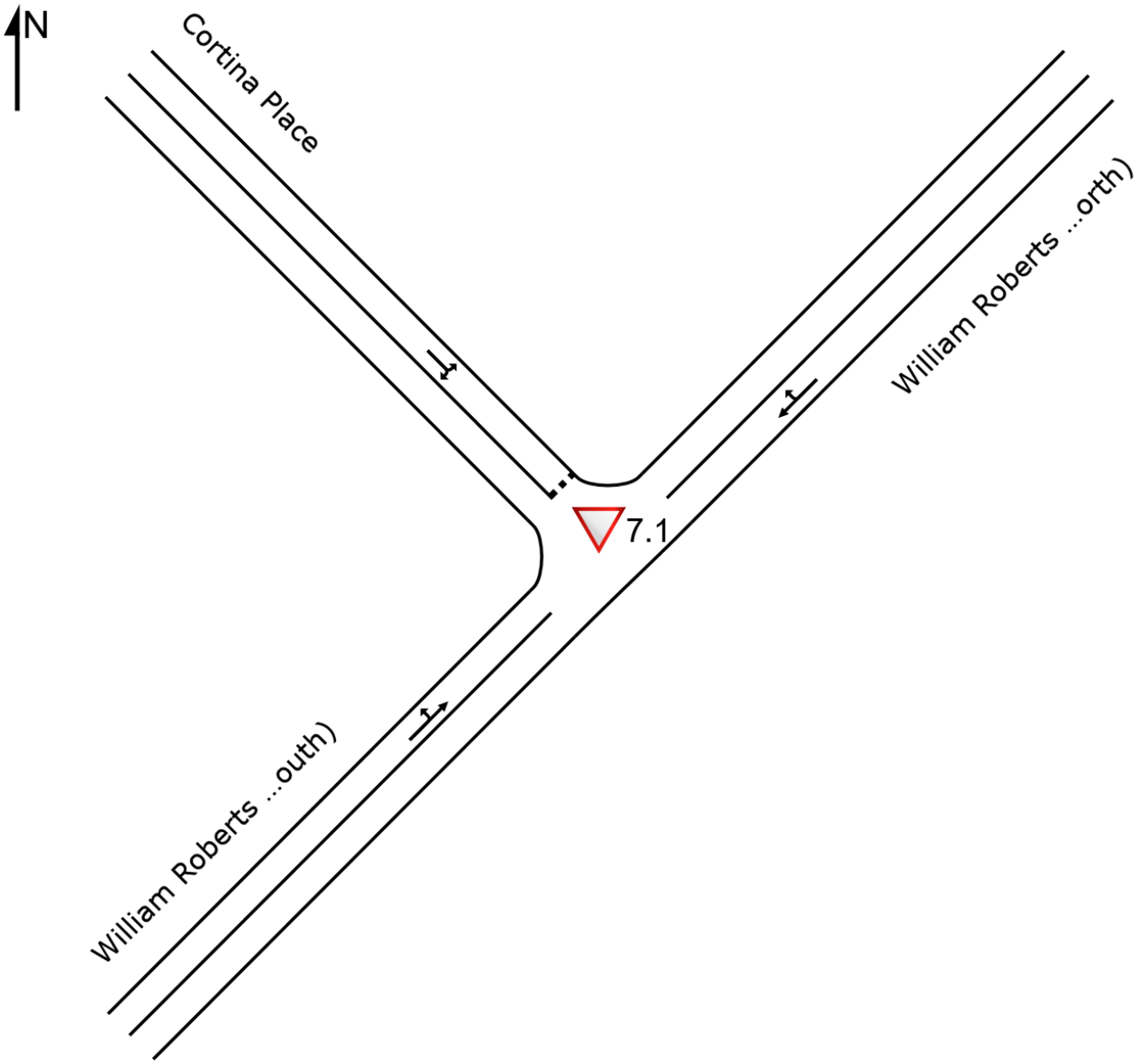


SITE LAYOUT

Site: 7.1 [7.1 William Roberts Rd / Cortina Pl WR Closure (Site Folder: General)]

Scheme Design
Site Category: (None)
Give-Way (Two-Way)

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

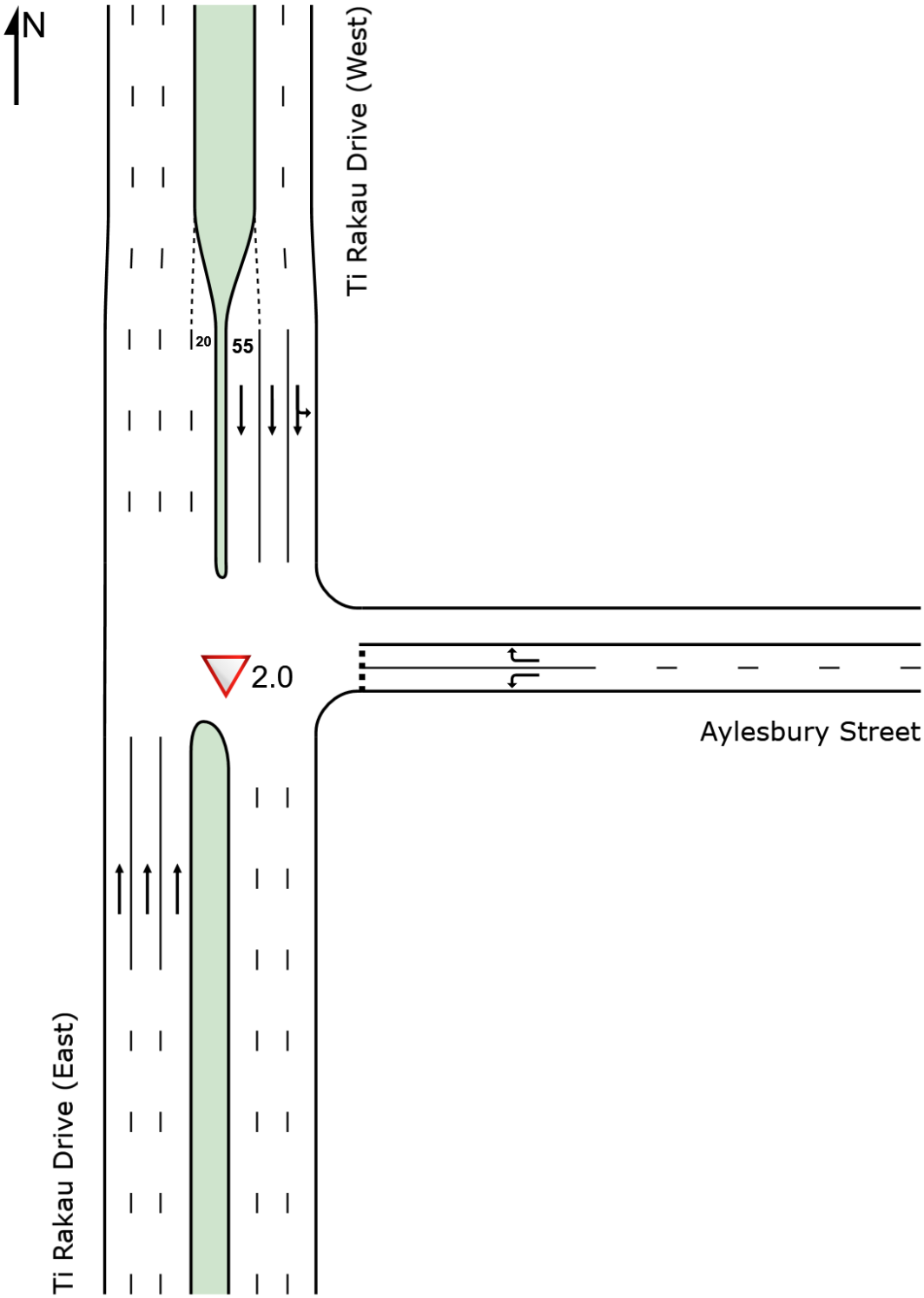


SITE LAYOUT

Site: 2.0 [2.0 Aylesbury St North/Ti Rakau Dr (Site Folder: General)]

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

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

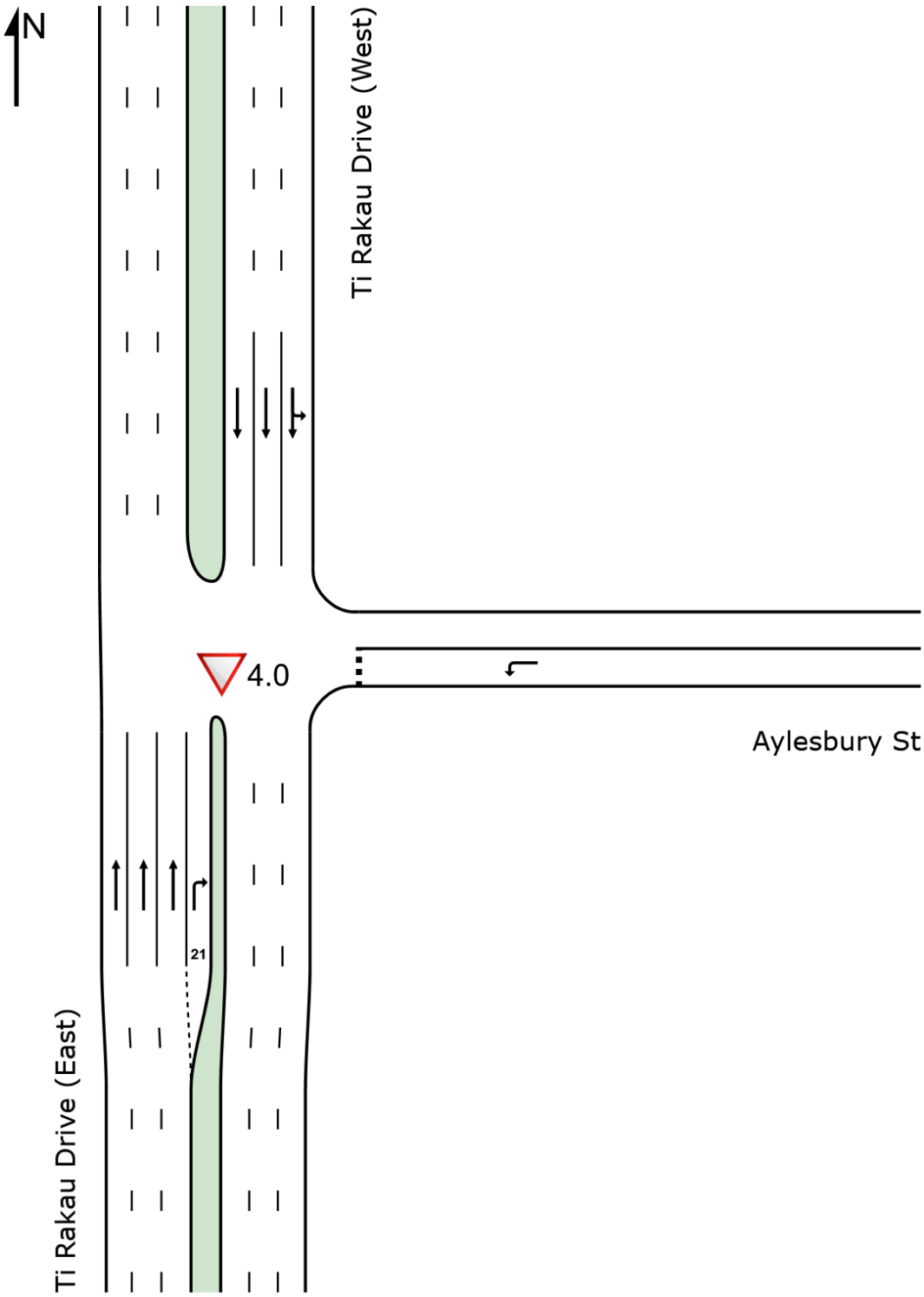


SITE LAYOUT

Site: 4.0 [4.0 Aylesbury St South/ Ti Rakau Dr (Site Folder: General)]

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

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

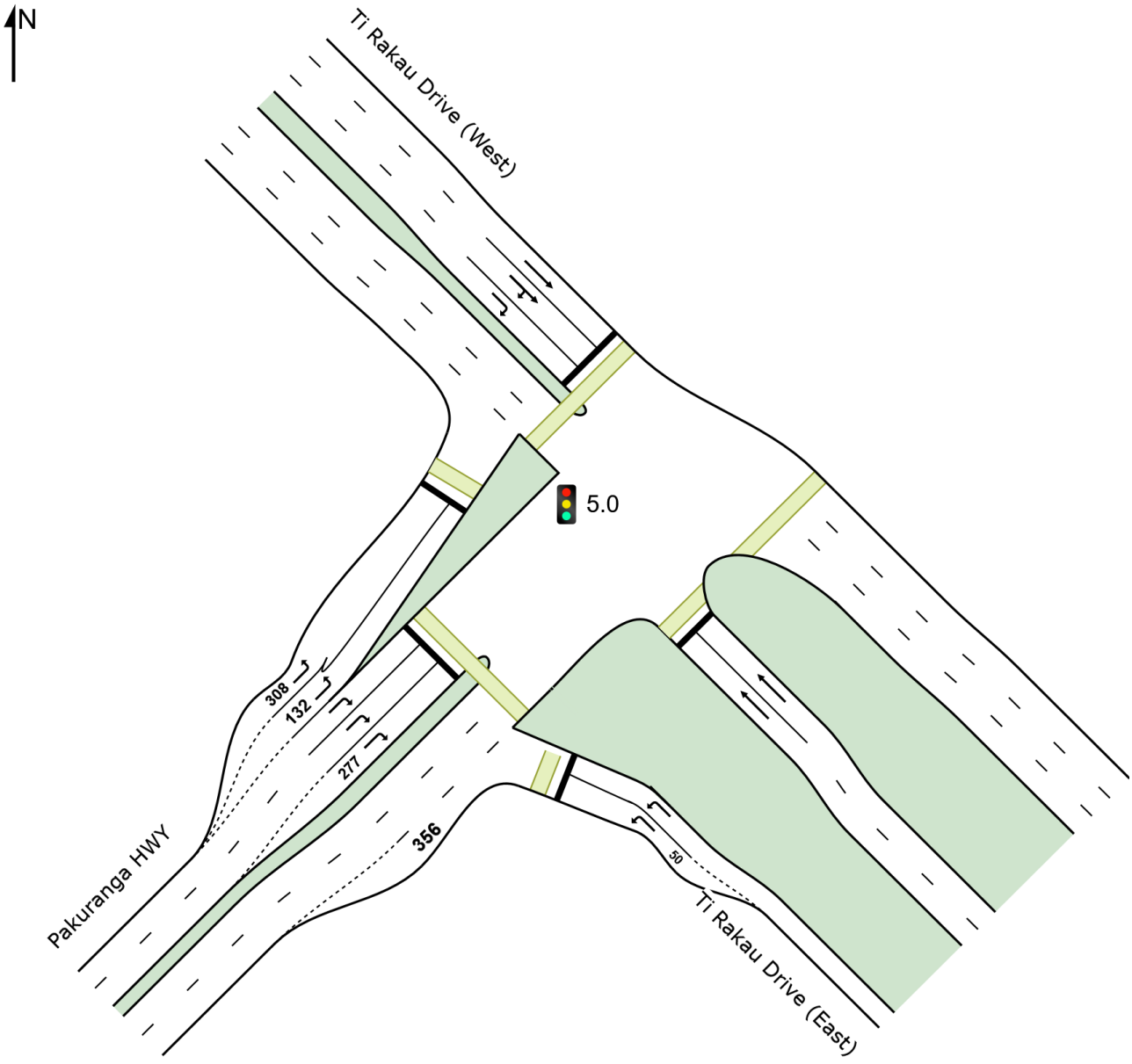


SITE LAYOUT

Site: 5.0 [5.0 Pakuranga HWY/ Reeves Rd Mitigation 1 C (Site Folder: General)]

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.



PHASING SUMMARY

Site: 5.0 [5.0 Pakuranga HWY/ Reeves Rd Mitigation 1 C (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 65 seconds (Site User-Given Phase Times)

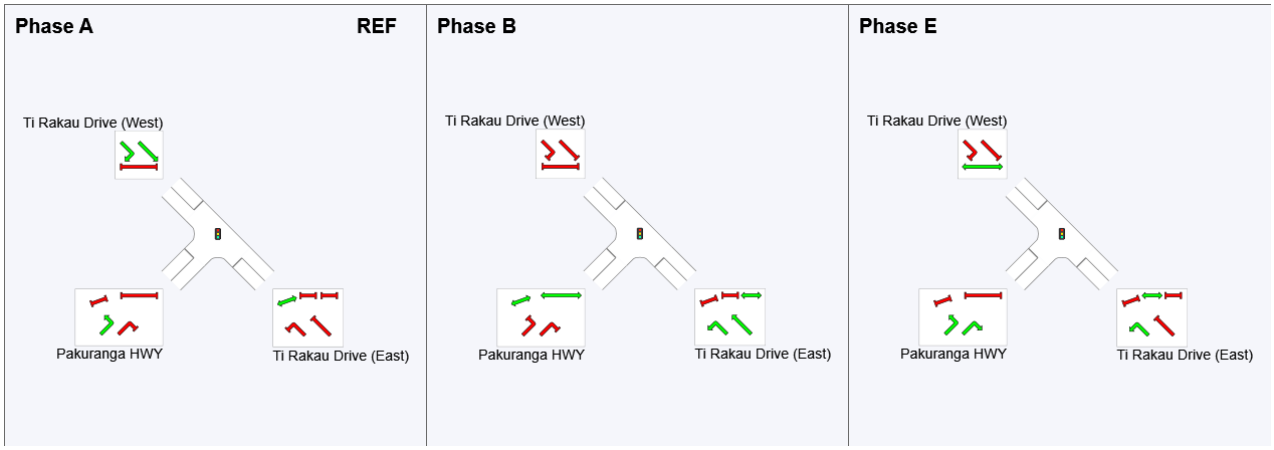
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Map Extract Default
Reference Phase: Phase A
Input Phase Sequence: A, B, E
Output Phase Sequence: A, B, E

Phase Timing Summary

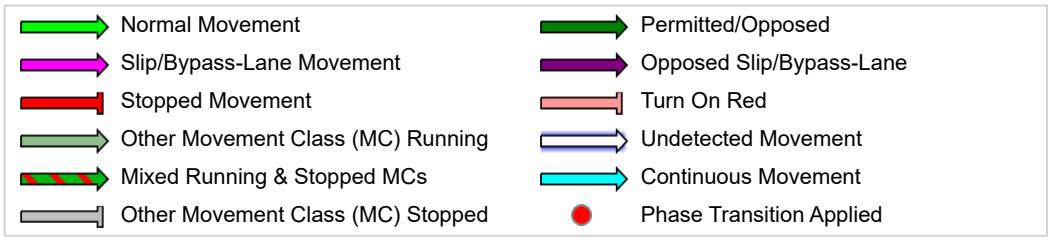
Phase	A	B	E
Phase Change Time (sec)	0	23	48
Green Time (sec)	20	19	12
Phase Time (sec)	26	24	15
Phase Split	40%	37%	23%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5.0 [5.0 Pakuranga HWY/ Reeves Rd Mitigation 1 C (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

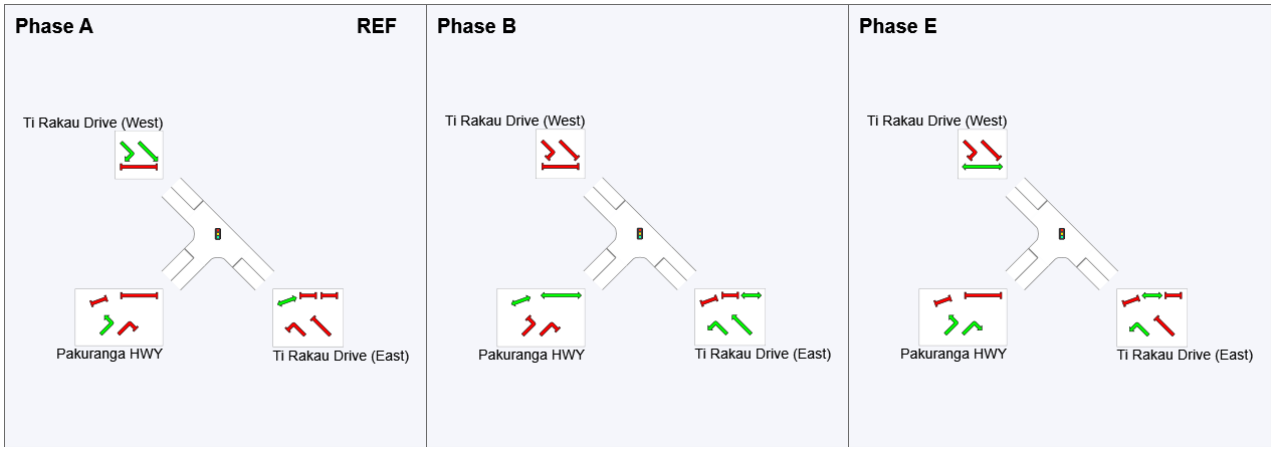
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Map Extract Default
Reference Phase: Phase A
Input Phase Sequence: A, B, E
Output Phase Sequence: A, B, E

Phase Timing Summary

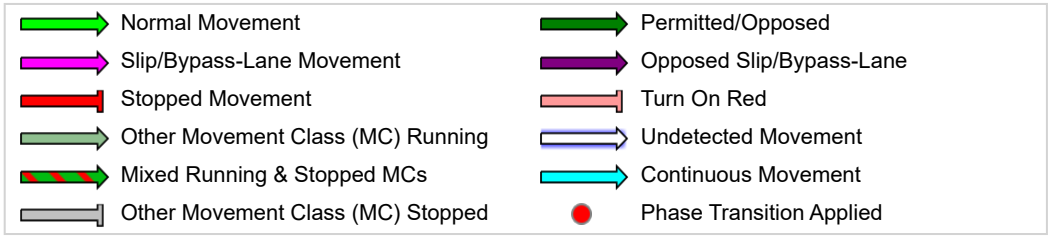
Phase	A	B	E
Phase Change Time (sec)	0	14	28
Green Time (sec)	8	8	6
Phase Time (sec)	14	14	12
Phase Split	35%	35%	30%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

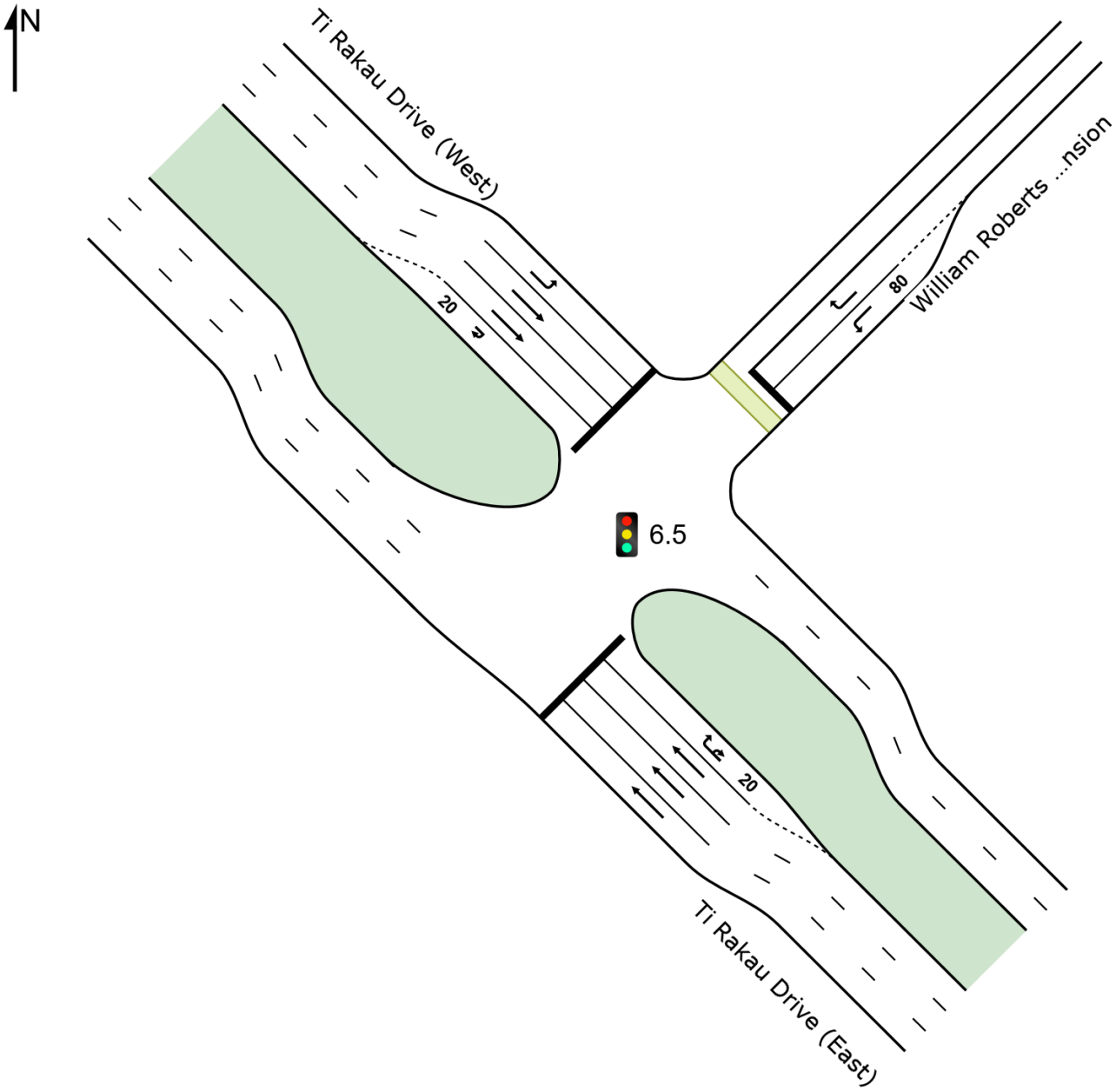


SITE LAYOUT

Site: 6.5 [6.5 William Roberts Rd / Ti Rakau Dr C (Site Folder: General)]

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

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

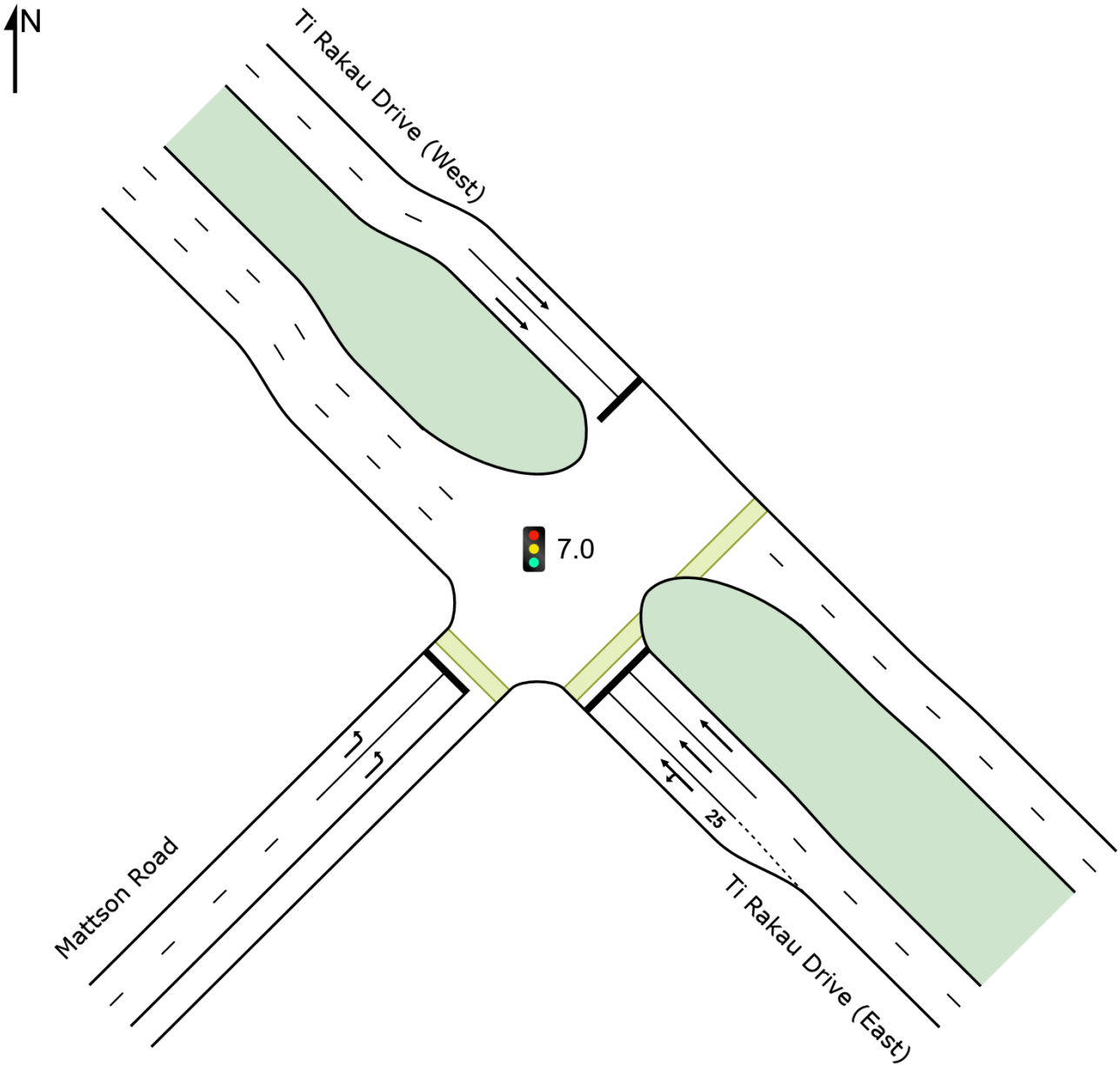


SITE LAYOUT

Site: 7.0 [7.0 Mattson Rd/ Ti Rakau Dr C (Site Folder: General)]

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

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



CCG PHASING SUMMARY

Common Control Group: CCG1 [WR/ Mattson]

Network: N101 [Construction 1 (Network Folder: AM)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 131 seconds (CCG User-Given Phase Times)

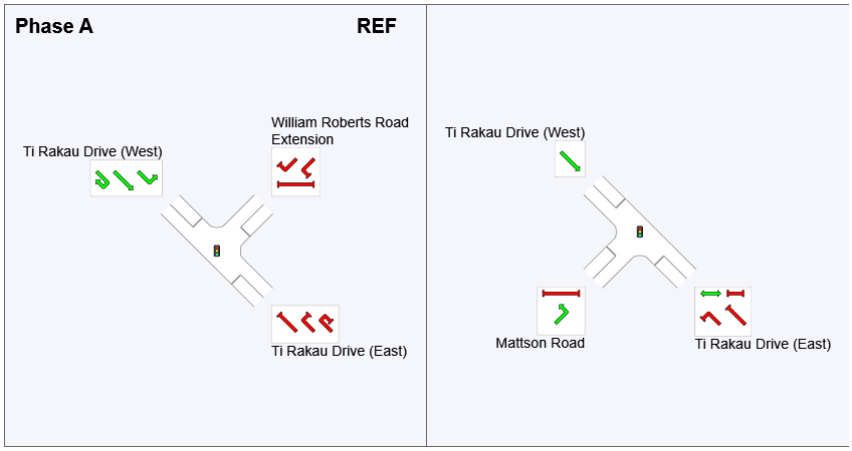
Timings based on settings in the Network Timing dialog
Phase Times specified by the user
Phase Sequence: CCG Phasing
Reference Phase: Phase A
Input Phase Sequence: A, A2, B, B2, C
Output Phase Sequence: A, A2, B, B2, C

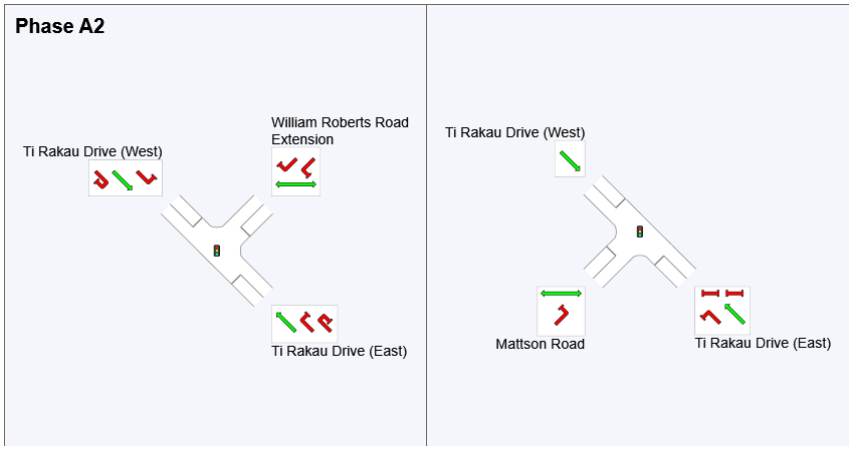
Phase Timing Summary (CCG)

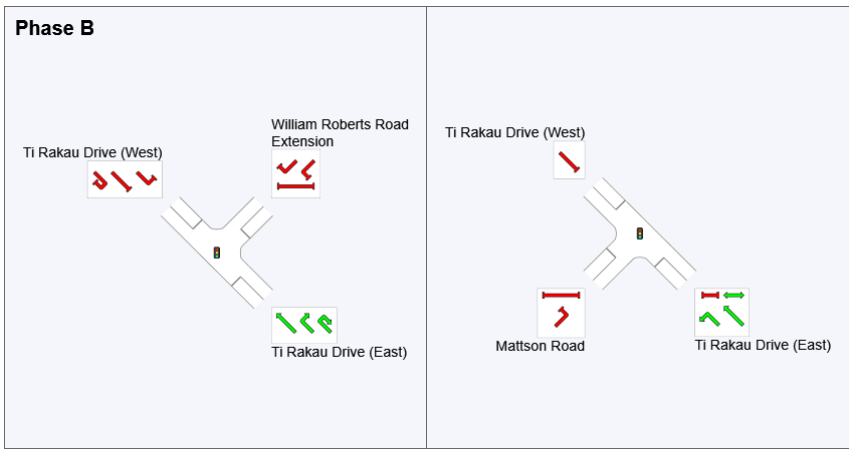
Phase	A	A2	B	B2	C
Phase Change Time (sec)	0	18	43	82	101
Green Time (sec)	12	19	33	13	24
Phase Time (sec)	18	25	39	19	30
Phase Split	14%	19%	30%	15%	23%

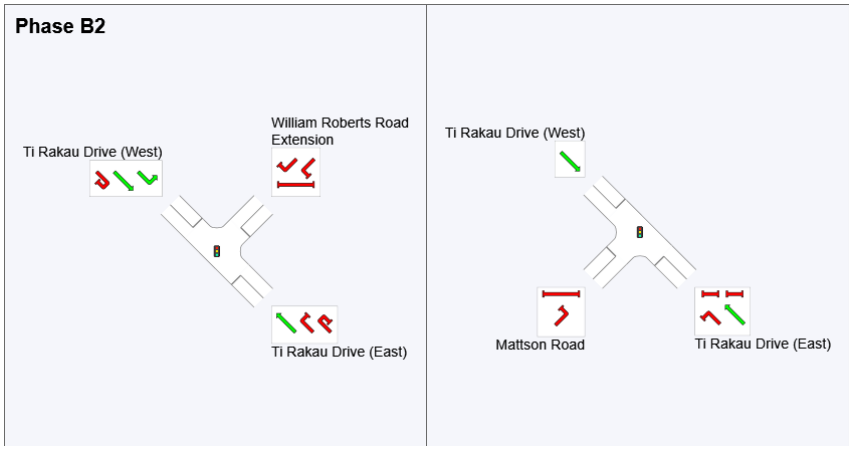
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

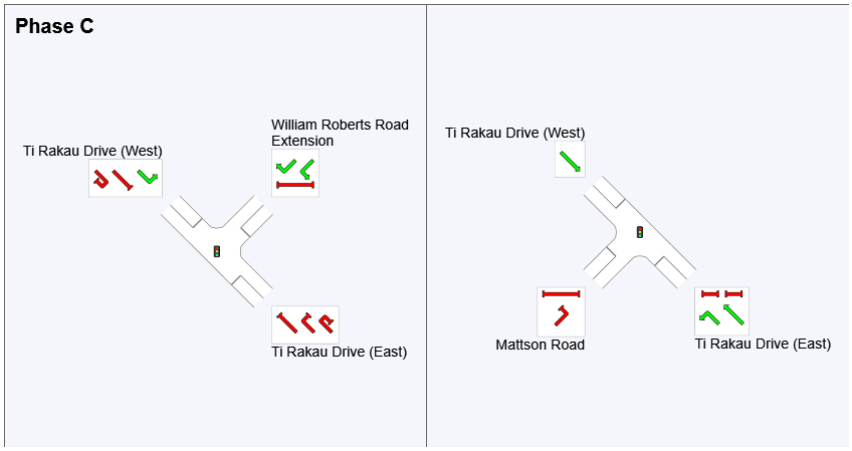
Output Phase Sequence (CCG)



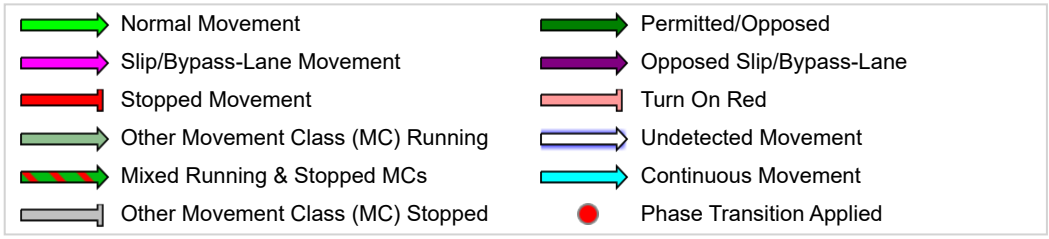








REF: Reference Phase
VAR: Variable Phase



CCG PHASING SUMMARY

Common Control Group: CCG1 [WR/ Mattson]

Network: N101 [Construction 1 (Network Folder: PM)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (CCG User-Given Phase Times)

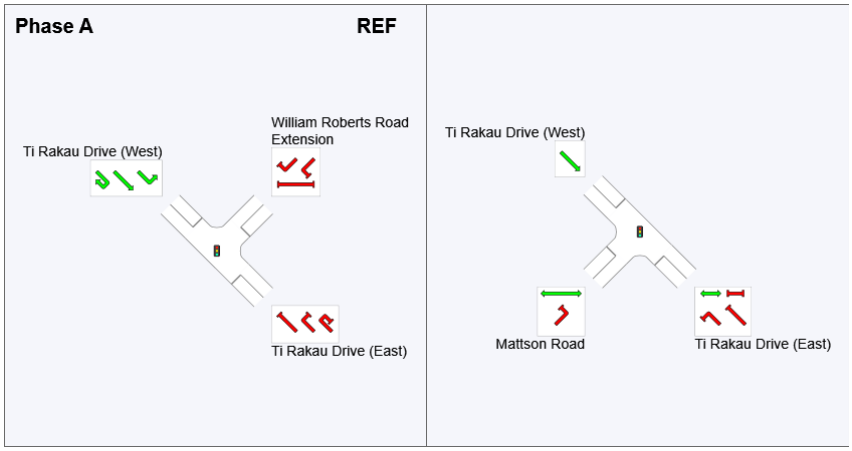
Timings based on settings in the Network Timing dialog
Phase Times specified by the user
Phase Sequence: CCG Phasing
Reference Phase: Phase A
Input Phase Sequence: A, A2, B, B2, C
Output Phase Sequence: A, A2, B, B2, C

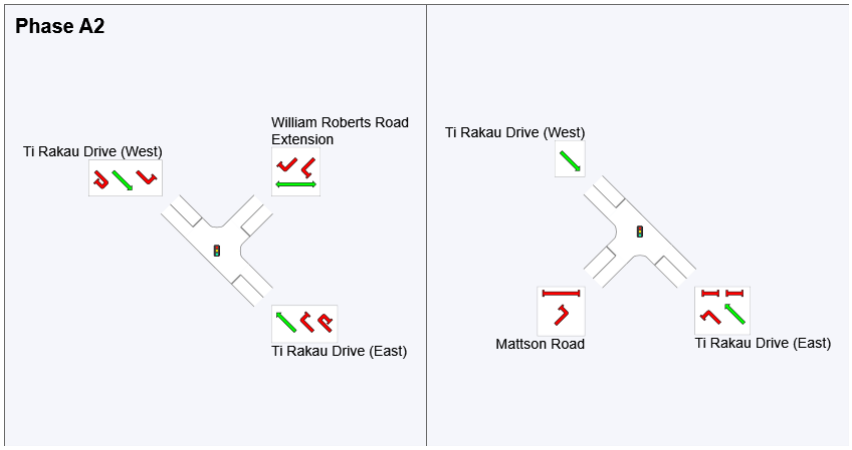
Phase Timing Summary (CCG)

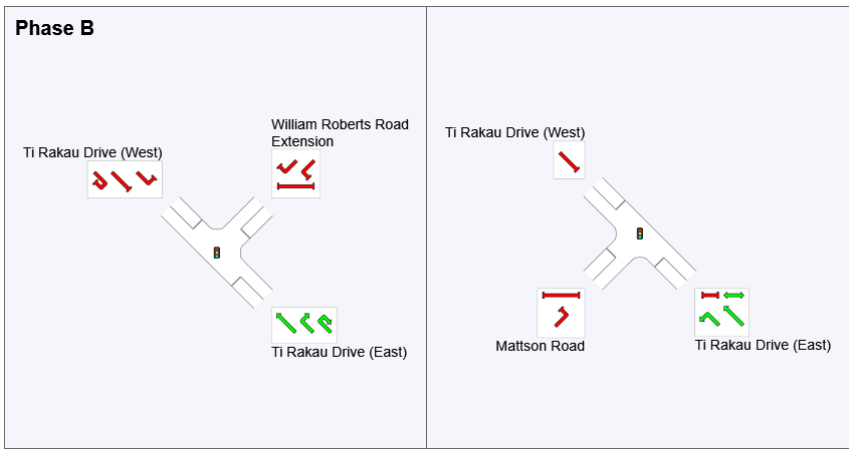
Phase	A	A2	B	B2	C
Phase Change Time (sec)	0	46	70	95	118
Green Time (sec)	40	18	19	17	26
Phase Time (sec)	46	24	25	23	32
Phase Split	31%	16%	17%	15%	21%

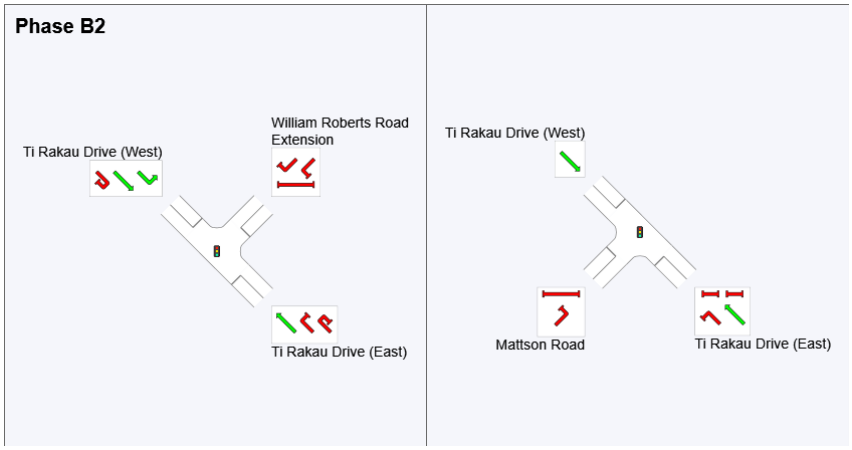
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

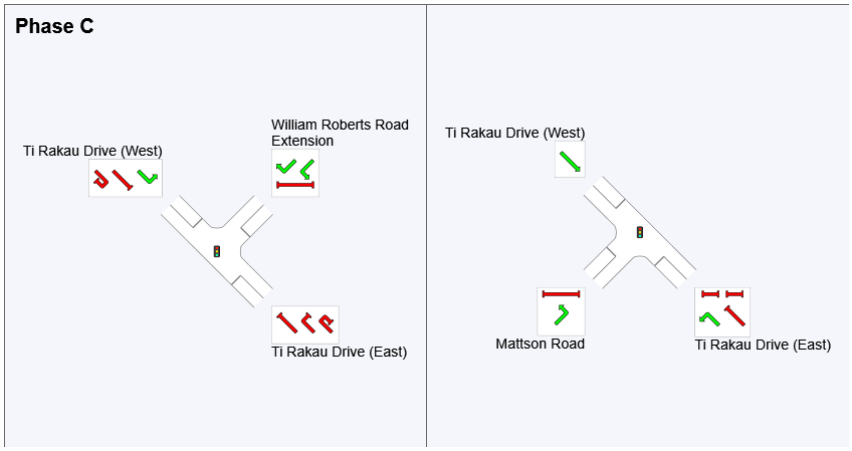
Output Phase Sequence (CCG)



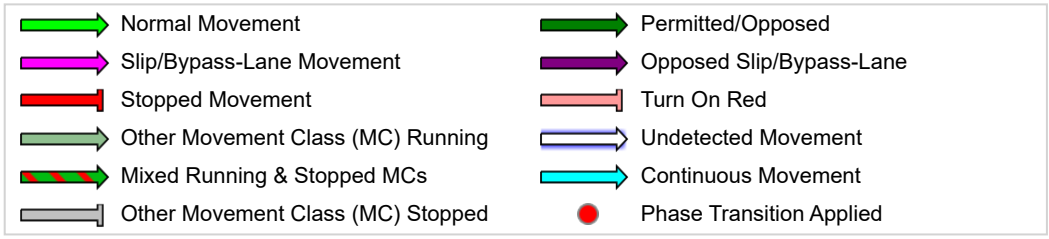








REF: Reference Phase
VAR: Variable Phase

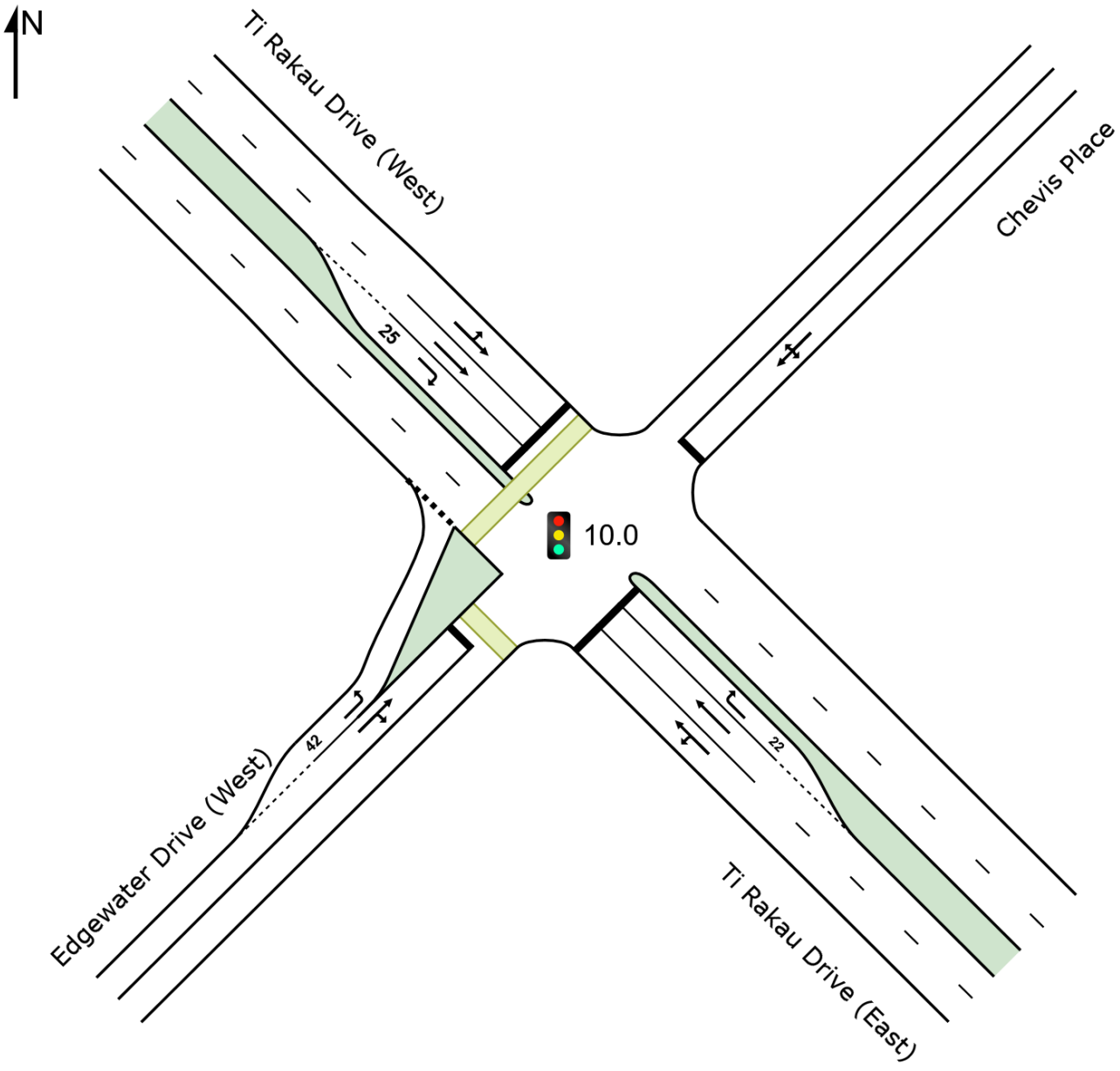


SITE LAYOUT

Site: 10.0 [10.0 Edgewater Dr (West) / Chevis Pl (Site Folder: General)]

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.



PHASING SUMMARY

Site: 10.0 [10.0 Edgewater Dr (West) / Chevis Pl (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site Practical Cycle Time)

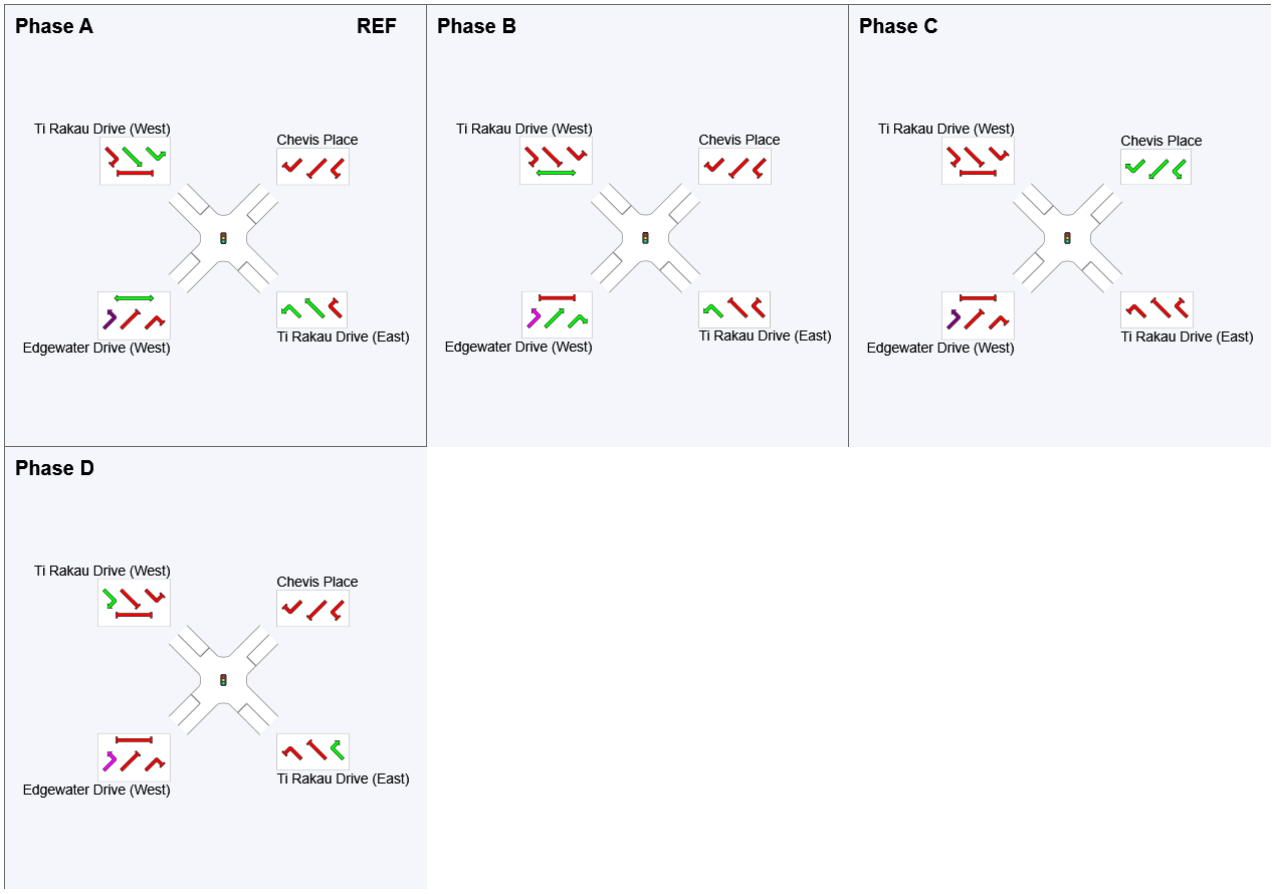
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

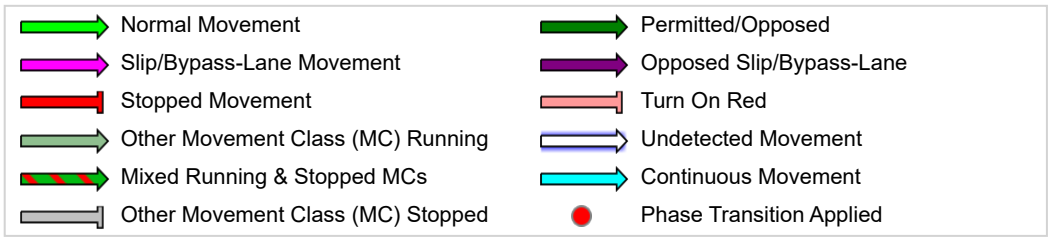
Phase	A	B	C	D
Phase Change Time (sec)	0	46	66	78
Green Time (sec)	40	14	6	6
Phase Time (sec)	46	20	12	12
Phase Split	51%	22%	13%	13%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 10.0 [10.0 Edgewater Dr (West) / Chevis Pl (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site Practical Cycle Time)

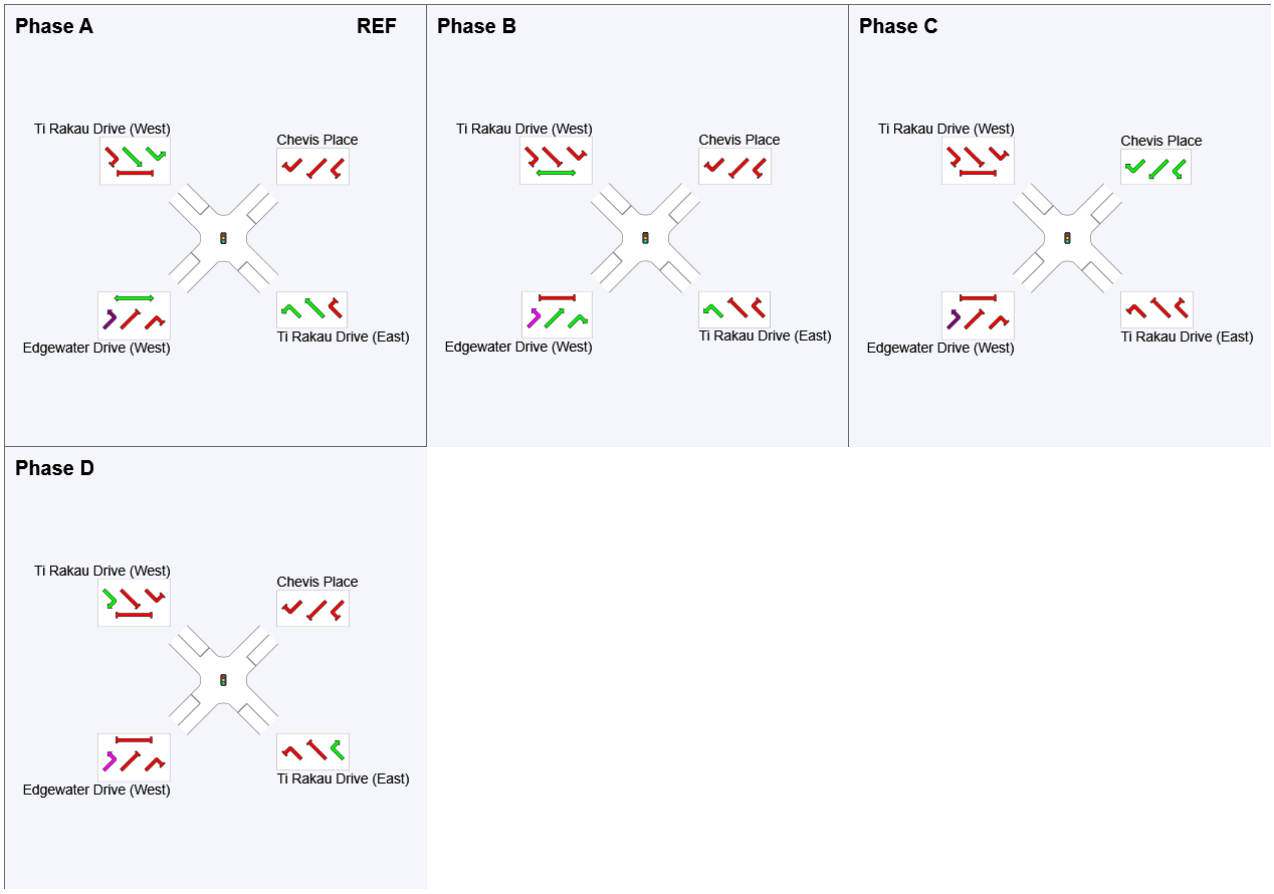
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

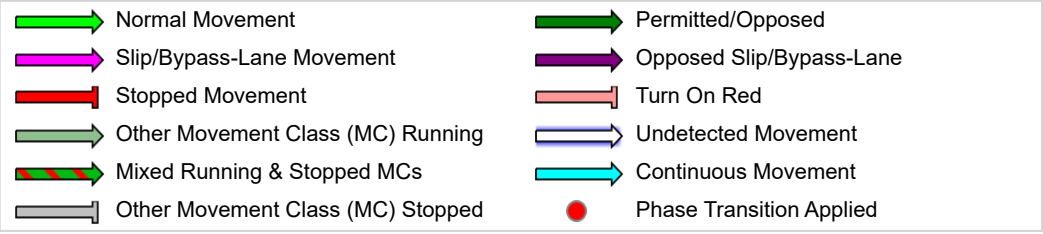
Phase	A	B	C	D
Phase Change Time (sec)	0	55	76	88
Green Time (sec)	49	15	6	6
Phase Time (sec)	55	21	12	12
Phase Split	55%	21%	12%	12%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

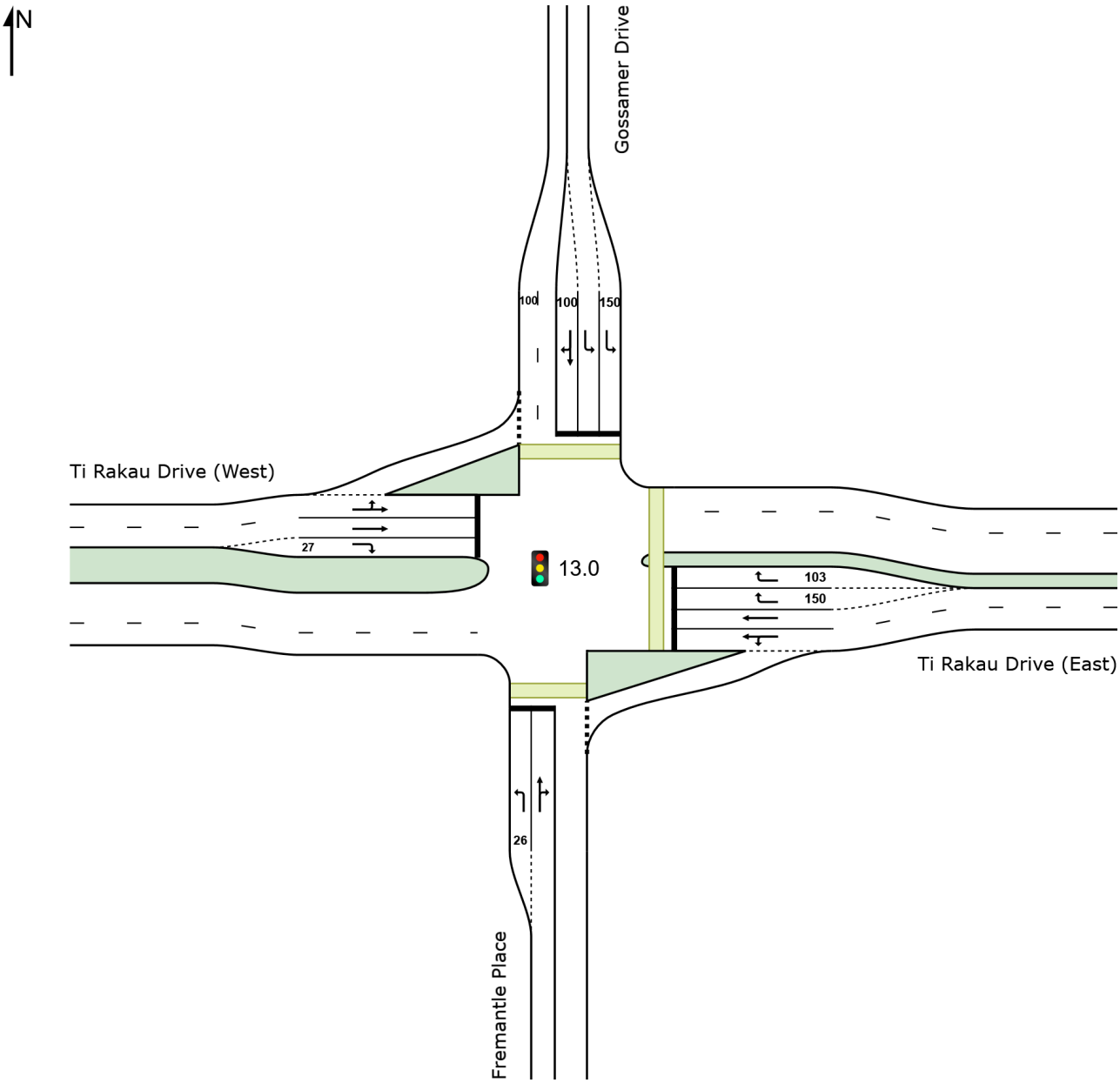


SITE LAYOUT

Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr Mitigation 2 (Site Folder: General)]

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

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



PHASING SUMMARY

Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr Mitigation 2 (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

Scheme Design
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Practical Cycle Time)

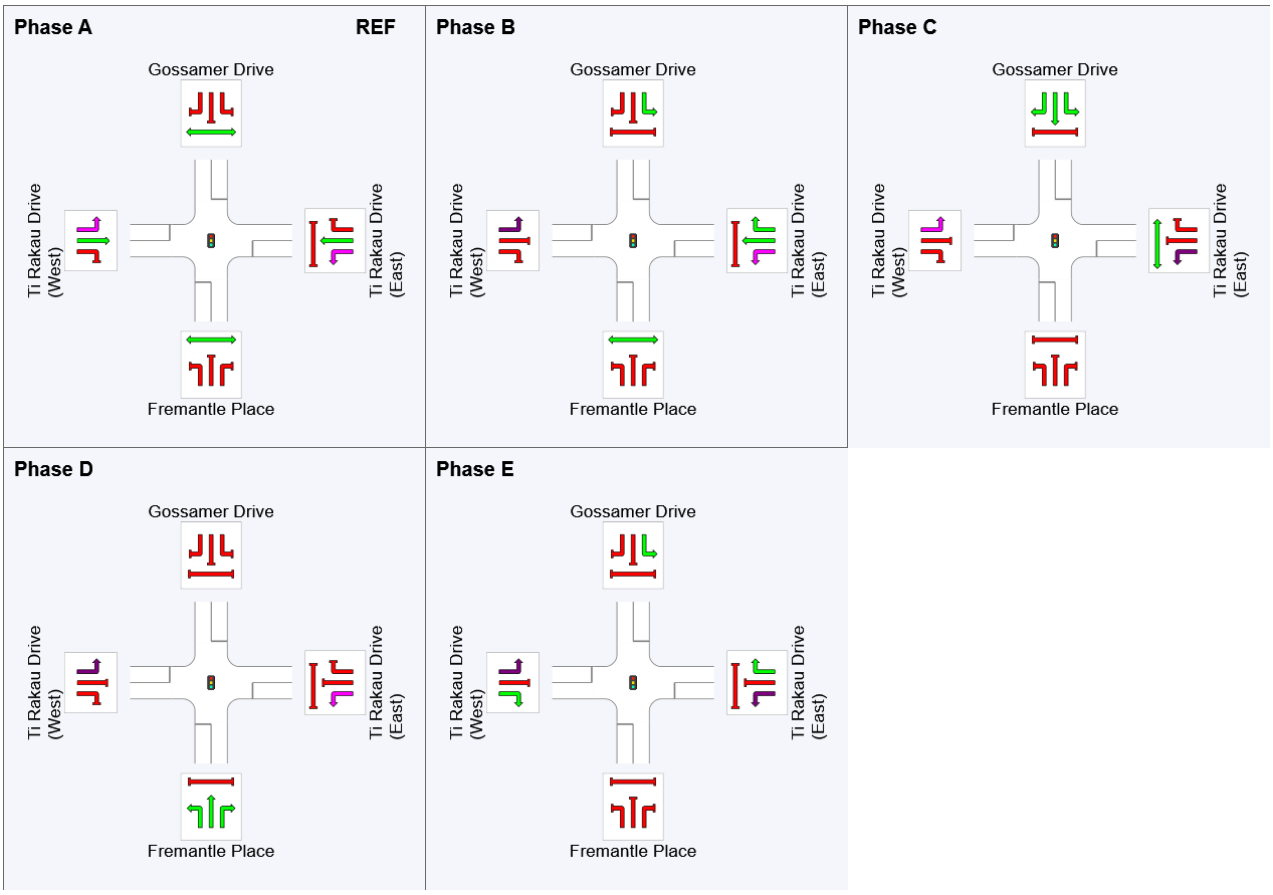
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

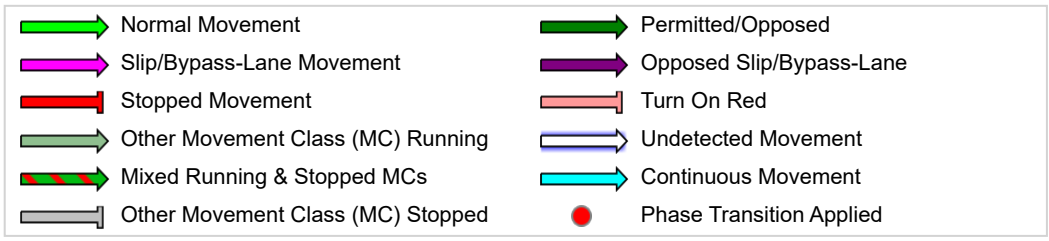
Phase	A	B	C	D	E
Phase Change Time (sec)	0	39	56	81	93
Green Time (sec)	33	11	19	6	11
Phase Time (sec)	39	17	25	12	17
Phase Split	35%	15%	23%	11%	15%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr Mitigation 2 (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

Scheme Design
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 154 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

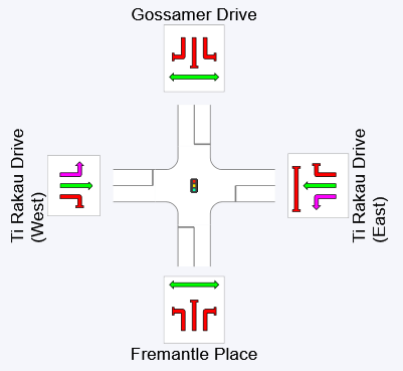
Phase Timing Summary

Phase	A	B	C	D	E
Phase Change Time (sec)	0	50	90	119	134
Green Time (sec)	44	34	23	10	14
Phase Time (sec)	50	40	28	16	20
Phase Split	32%	26%	18%	10%	13%

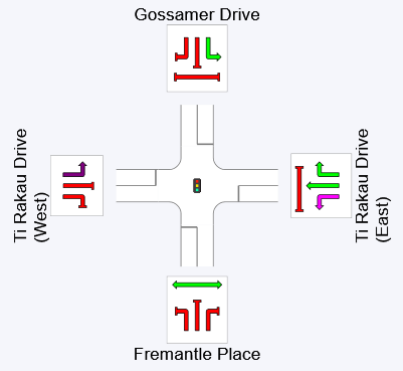
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

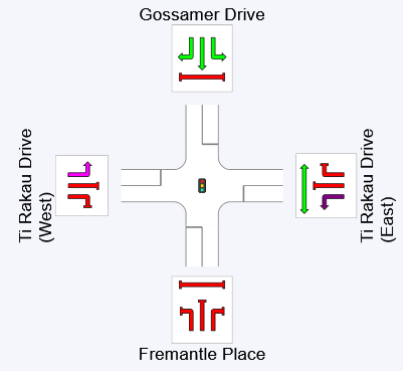
Phase A **REF**



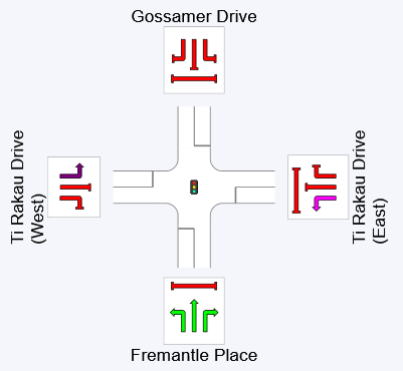
Phase B



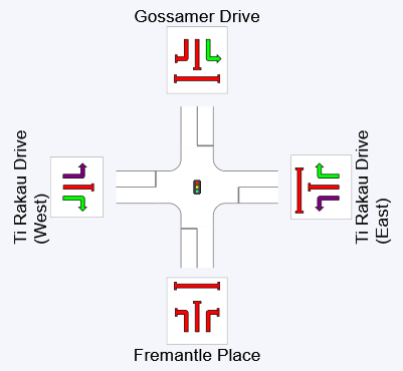
Phase C



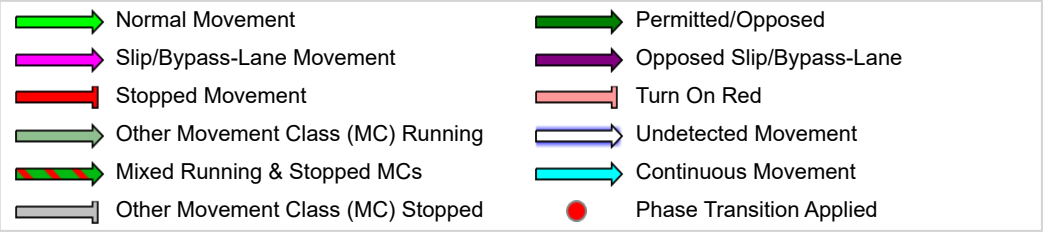
Phase D



Phase E



REF: Reference Phase
VAR: Variable Phase



Appendix E

Construction Scenario 1 – Lane performance Summaries

LANE SUMMARY

Site: 1.0 [1.0 Pakuranga Rd / Ti Rakau Rd (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site Practical Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Ti Rakau Drive															
Lane 1	618	9.4	574	9.4	878[1]	0.655	100	13.3	LOS B	19.4	146.7	Full	130	0.0	15.9
Lane 2 (B)	17	100.0	17	100.0	78	0.218	100	73.9	LOS E	1.1	14.4	Short	16	0.0	NA
Lane 3	221	3.6	205	3.6	319	0.644	100	59.0	LOS E	12.3	88.7	Full	130	0.0	0.0
Lane 4	199	3.6	185	3.6	288[1]	0.644	100	58.3	LOS E	11.0	79.0	Full	130	0.0	0.0
Lane 5	199	3.6	185	3.6	288[1]	0.644	100	58.3	LOS E	11.0	79.0	Short	40	0.0	NA
Approach	1254	7.7	1167[N1]	7.8		0.655		36.5	LOS D	19.4	146.7				
East: Pakuranga Road (East)															
Lane 1	1114	5.0	1100	5.0	1221	0.900	100	30.9	LOS C	25.3[N4]	184.4[N4]	Full	113	0.0	50.0
Lane 2	552	6.0	545	6.0	862	0.632	100	28.3	LOS C	25.1[N4]	184.4[N4]	Full	113	0.0	50.0
Lane 3	530	6.0	523	6.0	828[1]	0.632	100	27.8	LOS C	24.5	180.5	Full	113	0.0	48.0
Lane 4 (B)	25	100.0	25	100.0	73	0.340	100	69.7	LOS E	1.6	21.4	Short	101	0.0	NA
Approach	2221	6.6	2193[N1]	6.5		0.900		30.0	LOS C	25.3	184.4				
West: Pakuranga Road (West)															
Lane 1 (B)	24	100.0	24	100.0	52	0.460	100	72.1	LOS E	1.6	20.9	Full	388	0.0	0.0
Lane 2	259	8.1	259	8.1	978	0.264	100	17.6	LOS B	8.8	65.7	Short	141	0.0	NA
Lane 3	259	8.1	259	8.1	978	0.264	100	17.6	LOS B	8.8	65.7	Full	388	0.0	0.0
Lane 4	259	8.1	259	8.1	978	0.264	100	17.6	LOS B	8.8	65.7	Full	388	0.0	0.0
Lane 5	192	15.9	192	15.9	217	0.885	100	78.6	LOS E	13.8	109.9	Short	178	0.0	NA
Lane 6	192	15.9	192	15.9	217	0.885	100	78.6	LOS E	13.8	109.9	Short	105	0.0	NA
Approach	1184	12.5	1184	12.5		0.885		38.5	LOS D	13.8	109.9				
Intersection	4659	8.4	4543[N1]	8.6		0.900		33.9	LOS C	25.3	184.4				

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

South: Ti Rakau Drive

Mov. From S To Exit:	L2 W	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	574	-	574	9.4	878[1]	0.655	100	NA	NA
Lane 2	17	-	17	100.0	78	0.218	100	0.0	1

Lane 3	-	205	205	3.6	319	0.644	100	NA	NA
Lane 4	-	185	185	3.6	288[1]	0.644	100	NA	NA
Lane 5	-	185	185	3.6	288[1]	0.644	100	68.2	4
Approach	591	575	1167	7.8		0.655			

East: Pakuranga Road (East)

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1100	-	1100	5.0	1221	0.900	100	NA	NA
Lane 2	-	545	545	6.0	862	0.632	100	NA	NA
Lane 3	-	523	523	6.0	828[1]	0.632	100	NA	NA
Lane 4	-	25	25	100.0	73	0.340	100	0.0	3
Approach	1100	1093	2193	6.5		0.900			

West: Pakuranga Road (West)

Mov. From W To Exit:	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	9	15	24	100.0	52	0.460	100	NA	NA
Lane 2	259	-	259	8.1	978	0.264	100	0.0	3
Lane 3	259	-	259	8.1	978	0.264	100	NA	NA
Lane 4	259	-	259	8.1	978	0.264	100	NA	NA
Lane 5	-	192	192	15.9	217	0.885	100	0.0	4
Lane 6	-	192	192	15.9	217	0.885	100	9.1	5
Approach	785	399	1184	12.5		0.885			

	Total	%HV	Deg.Satn (v/c)
Intersection	4543	8.6	0.900

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

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	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Ti Rakau Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Pakuranga Road (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
West Exit: Pakuranga Road (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										

LANE SUMMARY

Site: 1.0 [1.0 Pakuranga Rd / Ti Rakau Rd (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 70 seconds (Site Practical Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Ti Rakau Drive															
Lane 1	624	6.4	592	6.4	1121[1]	0.528	100	7.8	LOS A	7.2	53.3	Full	130	0.0	0.0
Lane 2 (B)	13	100.0	13	100.0	145	0.090	100	39.0	LOS D	0.4	5.7	Short	16	0.0	NA
Lane 3	362	6.7	343	6.7	403	0.852	100	40.7	LOS D	13.4	99.5	Full	130	0.0	0.0
Lane 4	333	6.7	316	6.7	371[1]	0.852	100	40.5	LOS D	12.3	90.7	Full	130	0.0	0.0
Lane 5	333	6.7	316	6.7	371[1]	0.852	100	40.5	LOS D	12.3	90.7	Short	40	0.0	NA
Approach	1665	7.3	1581[N1]	7.4		0.852		28.3	LOS C	13.4	99.5				
East: Pakuranga Road (East)															
Lane 1	448	2.2	438	2.2	1013	0.432	100	15.4	LOS B	8.7	62.3	Full	113	0.0	0.0
Lane 2	385	8.2	376	8.2	447	0.841	100	34.3	LOS C	14.4	107.8	Full	113	0.0	0.7
Lane 3	385	8.2	376	8.2	447	0.841	100	34.3	LOS C	14.4	107.8	Full	113	0.0	0.7
Lane 4 (B)	11	100.0	11	100.0	102	0.107	100	36.2	LOS D	0.4	4.9	Short	101	0.0	NA
Approach	1229	6.8	1201[N1]	6.9		0.841		27.4	LOS C	14.4	107.8				
West: Pakuranga Road (West)															
Lane 1 (B)	42	100.0	42	100.0	98	0.429	100	35.8	LOS D	1.4	18.7	Full	388	0.0	0.0
Lane 2	419	8.0	419	8.0	474	0.883	100	38.0	LOS D	17.2	128.6	Short	141	0.0	NA
Lane 3	419	8.0	419	8.0	474	0.883	100	38.0	LOS D	17.2	128.6	Full	388	0.0	0.0
Lane 4	419	8.0	419	8.0	474	0.883	100	38.0	LOS D	17.2	128.6	Full	388	0.0	0.0
Lane 5	157	3.5	157	3.5	180	0.871	100	48.3	LOS D	6.4	45.9	Short	178	0.0	NA
Lane 6	157	3.5	157	3.5	180	0.871	100	48.3	LOS D	6.4	45.9	Short	105	0.0	NA
Approach	1613	9.5	1613	9.5		0.883		40.0	LOS D	17.2	128.6				
Intersection	4507	8.0	4396[N1]	8.2		0.883		32.3	LOS C	17.2	128.6				

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Ti Rakau Drive

Mov. From S To Exit:	L2 W	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	592	-	592	6.4	1121[1]	0.528	100	NA	NA
Lane 2	13	-	13	100.0	145	0.090	100	0.0	1
Lane 3	-	343	343	6.7	403	0.852	100	NA	NA

Lane 4	-	316	316	6.7	371[1]	0.852	100	NA	NA
Lane 5	-	316	316	6.7	371[1]	0.852	100	81.5	4
Approach	605	976	1581	7.4		0.852			

East: Pakuranga Road (East)

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	438	-	438	2.2	1013	0.432	100	NA	NA
Lane 2	-	376	376	8.2	447	0.841	100	NA	NA
Lane 3	-	376	376	8.2	447	0.841	100	NA	NA
Lane 4	-	11	11	100.0	102	0.107	100	0.0	3
Approach	438	763	1201	6.9		0.841			

West: Pakuranga Road (West)

Mov. From W To Exit:	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	21	21	42	100.0	98	0.429	100	NA	NA
Lane 2	419	-	419	8.0	474	0.883	100	0.0	3
Lane 3	419	-	419	8.0	474	0.883	100	NA	NA
Lane 4	419	-	419	8.0	474	0.883	100	NA	NA
Lane 5	-	157	157	3.5	180	0.871	100	0.0	4
Lane 6	-	157	157	3.5	180	0.871	100	0.0	5
Approach	1278	335	1613	9.5		0.883			

	Total	%HV	Deg.Satn (v/c)
Intersection	4396	8.2	0.883

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

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	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Ti Rakau Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Pakuranga Road (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
West Exit: Pakuranga Road (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										

LANE SUMMARY

Site: 1.3 [1.3 Mall/ Pakuranga Rd WR Closure (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

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

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Pakuranga Road (East)															
Lane 1	764	8.5	764	8.5	1966	0.389	100	0.6	LOS A	9.4 N5	70.8 N5	Full	152	0.0	16.0
Lane 2	736	5.5	736	5.5	1893	0.389	100	0.0	LOS A	0.0	0.0	Full	152	0.0	0.0
Lane 3	736	5.5	736	5.5	1893	0.389	100	0.0	LOS A	0.0	0.0	Full	152	0.0	0.0
Approach	2237	6.5	2237	6.5		0.389		0.2	NA	9.4	70.8				
West: Pakuranga Road (West)															
Lane 1	183	6.8	180	6.9	1798	0.100	31 6	1.4	LOS A	0.0	0.0	Full	108	0.0	0.0
Lane 2	592	6.8	580	6.9	1789	0.324	100	0.0	LOS A	0.0	0.0	Full	108	0.0	0.0
Lane 3	608	6.8	596	6.9	1837	0.324	100	0.0	LOS A	0.0	0.0	Full	108	0.0	0.0
Approach	1384	6.8	1356 N1	6.9		0.324		0.2	NA	0.0	0.0				
SouthWest: Pakuranga Plaza															
Lane 1	25	8.0	25	8.0	266	0.094	100	4.9	LOS A	0.3 N5	2.6 N5	Full	196	-49.9 N7	10.8
Approach	25	8.0	25	8.0		0.094		4.9	LOS A	0.3	2.6				
Intersection	3646	6.6	3618 N1	6.7		0.389		0.3	NA	9.4	70.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

6 Lane under-utilisation due to downstream effects
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N5 Continuous Lane results determined by Back of Queue values of downstream lanes (proportional to lane movement flows).
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

East: Pakuranga Road (East)

Mov. From E To Exit:	L1 SW	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	74	690	764	8.5	1966	0.389	100	NA	NA
Lane 2	-	736	736	5.5	1893	0.389	100	NA	NA
Lane 3	-	736	736	5.5	1893	0.389	100	NA	NA
Approach	74	2163	2237	6.5		0.389			

West: Pakuranga Road (West)

Mov. From W To Exit:	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	180	180	6.9	1798	0.100	31[6]	NA	NA
Lane 2	580	580	6.9	1789	0.324	100	NA	NA
Lane 3	596	596	6.9	1837	0.324	100	NA	NA
Approach	1356	1356	6.9		0.324			

SouthWest: Pakuranga Plaza

Mov. From SW To Exit:	L3 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	25	25	8.0	266	0.094	100	NA	NA
Approach	25	25	8.0		0.094			

	Total	%HV	Deg.Satn (v/c)
Intersection	3618	6.7	0.389

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
East Exit: Pakuranga Road (East) Merge Type: **Priority**												
Exit Short Lane	1	52	0.0	580	600	3.00	2.00	180	1180	0.152	1.1	1.4
Merge Lane	2	-	100.0	Merge Lane is not Opposed				580	1800	0.322	0.0	0.0
West Exit: Pakuranga Road (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
SouthWest Exit: Pakuranga Plaza Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 1.3 [1.3 Mall/ Pakuranga Rd WR Closure (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

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

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Pakuranga Road (East)															
Lane 1	439	8.0	439	8.0	1973	0.222	100	0.4	LOS A	0.0	0.0	Short	52	0.0	NA
Lane 2	420	5.9	420	5.9	1887	0.222	100	0.0	LOS A	0.0	0.0	Full	152	0.0	0.0
Lane 3	420	5.9	420	5.9	1887	0.222	100	0.0	LOS A	0.0	0.0	Full	152	0.0	0.0
Approach	1278	6.7	1278	6.7		0.222		0.2	NA	0.0	0.0				
West: Pakuranga Road (West)															
Lane 1	765	8.2	754	8.3	1783	0.423	100	0.0	LOS A	0.0	0.0	Full	108	0.0	0.0
Lane 2	760	8.2	749	8.3	1774	0.423	100	0.0	LOS A	0.0	0.0	Full	108	0.0	0.0
Lane 3	781	8.2	770	8.3	1822	0.423	100	0.0	LOS A	0.0	0.0	Full	108	0.0	0.0
Approach	2306	8.2	2273 N1	8.3		0.423		0.0	NA	0.0	0.0				
SouthWest: Pakuranga Plaza															
Lane 1	38	2.6	38	2.6	849	0.045	100	2.0	LOS A	0.2	1.1	Full	196	0.0	0.0
Approach	38	2.6	38	2.6		0.045		2.0	LOS A	0.2	1.1				
Intersection	3622	7.6	3589 N1	7.7		0.423		0.1	NA	0.2	1.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

East: Pakuranga Road (East)

Mov. From E To Exit:	L1 SW	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	33	406	439	8.0	1973	0.222	100	0.0	2
Lane 2	-	420	420	5.9	1887	0.222	100	NA	NA
Lane 3	-	420	420	5.9	1887	0.222	100	NA	NA
Approach	33	1245	1278	6.7		0.222			

West: Pakuranga Road (West)

Mov. From W To Exit:	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	754	754	8.3	1783	0.423	100	NA	NA
Lane 2	749	749	8.3	1774	0.423	100	NA	NA
Lane 3	770	770	8.3	1822	0.423	100	NA	NA

Approach	2273	2273	8.3		0.423				
SouthWest: Pakuranga Plaza									
Mov. From SW To Exit:	L3 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	38	38	2.6	849	0.045	100	NA	NA	
Approach	38	38	2.6		0.045				
	Total	%HV	Deg.Satn (v/c)						
Intersection	3589	7.7	0.423						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
East Exit: Pakuranga Road (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
West Exit: Pakuranga Road (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
SouthWest Exit: Pakuranga Plaza Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 5.3 [5.3 Reeves Rd/ Aylesbury St (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

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

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Reeves Rd (North)															
Lane 1	32	3.1	32	3.1	1969	0.016	100	0.0	LOS A	0.0	0.0	Full	55	0.0	0.0
Lane 2	51	5.9	51	5.9	1719	0.029	100	4.4	LOS A	0.1	1.0	Short	53	0.0	NA
Approach	83	4.8	82[N1]	4.8		0.029		2.7	NA	0.1	1.0				
North: Aylesbury St															
Lane 1	20	0.0	20	0.0	1296	0.015	100	0.4	LOS A	0.1	0.4	Full	193	0.0	0.0
Approach	20	0.0	20	0.0		0.015		0.4	LOS A	0.1	0.4				
West: Reeves Rd (South)															
Lane 1	20	0.0	20	0.0	1991	0.010	100	2.2	LOS A	0.0	0.0	Full	60	0.0	0.0
Approach	20	0.0	20	0.0		0.010		2.2	NA	0.0	0.0				
Intersection	123	3.3	122[N1]	3.3		0.029		2.2	NA	0.1	1.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

East: Reeves Rd (North)

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	32	-	32	3.1	1969	0.016	100	NA	NA
Lane 2	-	51	51	5.9	1719	0.029	100	0.0	1
Approach	32	51	82	4.8		0.029			

North: Aylesbury St

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	10	10	20	0.0	1296	0.015	100	NA	NA
Approach	10	10	20	0.0		0.015			

West: Reeves Rd (South)

Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	10	20	0.0	1991	0.010	100	NA	NA

Approach	10	10	20	0.0	0.010
	Total	%HV	Deg.Satn (v/c)		
Intersection	122	3.3	0.029		

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
East Exit: Reeves Rd (North) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Aylesbury St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Reeves Rd (South) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 5.3 [5.3 Reeves Rd/ Aylesbury St (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

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

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Reeves Rd (North)															
Lane 1	24	4.2	24	4.2	1955	0.012	100	0.0	LOS A	0.0	0.0	Full	55	0.0	0.0
Lane 2	20	5.0	20	5.1	1717	0.012	100	4.4	LOS A	0.1	0.4	Short	53	0.0	NA
Approach	44	4.5	43[N1]	4.6		0.012		2.0	NA	0.1	0.4				
North: Aylesbury St															
Lane 1	53	1.9	53	1.9	1477	0.036	100	0.2	LOS A	0.1	1.0	Full	193	0.0	0.0
Approach	53	1.9	53	1.9		0.036		0.2	LOS A	0.1	1.0				
West: Reeves Rd (South)															
Lane 1	26	0.0	26	0.0	2003	0.013	100	1.7	LOS A	0.0	0.0	Full	60	0.0	0.0
Approach	26	0.0	26	0.0		0.013		1.7	NA	0.0	0.0				
Intersection	123	2.4	122[N1]	2.5		0.036		1.1	NA	0.1	1.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

East: Reeves Rd (North)

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	24	-	24	4.2	1955	0.012	100	NA	NA
Lane 2	-	20	20	5.1	1717	0.012	100	0.0	1
Approach	24	20	43	4.6		0.012			

North: Aylesbury St

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	43	10	53	1.9	1477	0.036	100	NA	NA
Approach	43	10	53	1.9		0.036			

West: Reeves Rd (South)

Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	16	26	0.0	2003	0.013	100	NA	NA

Approach	10	16	26	0.0	0.013	
	Total	%HV	Deg.Satn (v/c)			
Intersection	122	2.5		0.036		

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
East Exit: Reeves Rd (North) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Aylesbury St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Reeves Rd (South) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 5.4 [5.4 Reeves Rd / William Roberts Rd WR Closure C (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

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

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: William Roberts Rd (South)															
Lane 1	166	7.9	163	8.0	1112	0.146	100	2.9	LOS A	0.5	4.1	Full	243	0.0	0.0
Approach	166	7.9	163[N1]	8.0		0.146		2.9	LOS A	0.5	4.1				
East: Reeves Rd (East)															
Lane 1	320	7.8	320	7.8	1741	0.184	100	4.1	LOS A	0.0	0.0	Full	266	0.0	0.0
Approach	320	7.8	320	7.8		0.184		4.1	NA	0.0	0.0				
West: Reeves Rd (West)															
Lane 1	11	0.0	11	0.0	1960	0.005	100	2.7	LOS A	0.0	0.0	Full	55	0.0	0.0
Lane 2	11	0.0	11	0.0	775	0.014	100	6.2	LOS A	0.0	0.3	Short	13	0.0	NA
Approach	21	0.0	21	0.0		0.014		4.5	LOS A	0.0	0.3				
Intersection	506	7.5	504[N1]	7.6		0.184		3.8	NA	0.5	4.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: William Roberts Rd (South)

Mov. From S To Exit:	L2 W	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	51	112	163	8.0	1112	0.146	100	NA	NA
Approach	51	112	163	8.0		0.146			

East: Reeves Rd (East)

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	284	36	320	7.8	1741	0.184	100	NA	NA
Approach	284	36	320	7.8		0.184			

West: Reeves Rd (West)

Mov. From W To Exit:	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	11	-	11	0.0	1960	0.005	100	NA	NA
Lane 2	-	11	11	0.0	775	0.014	100	0.0	1

Approach	11	11	21	0.0	0.014

	Total	%HV	Deg.Satn (v/c)
Intersection	504	7.6	0.184

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: William Roberts Rd (South) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Reeves Rd (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Reeves Rd (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 5.4 [5.4 Reeves Rd / William Roberts Rd WR Closure C (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

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

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: William Roberts Rd (South)															
Lane 1	234	4.7	228	4.8	1052	0.216	100	3.1	LOS A	0.8	6.0	Full	243	0.0	0.0
Approach	234	4.7	228[N1]	4.8		0.216		3.1	LOS A	0.8	6.0				
East: Reeves Rd (East)															
Lane 1	277	8.7	277	8.7	1728	0.160	100	4.3	LOS A	0.0	0.0	Full	266	0.0	0.0
Approach	277	8.7	277	8.7		0.160		4.3	NA	0.0	0.0				
West: Reeves Rd (West)															
Lane 1	36	2.9	36	2.9	1923	0.019	100	2.7	LOS A	0.0	0.0	Full	55	0.0	0.0
Lane 2	27	3.8	27	3.8	729	0.038	100	6.6	LOS A	0.1	0.9	Short	13	0.0	NA
Approach	63	3.3	63	3.3		0.038		4.4	LOS A	0.1	0.9				
Intersection	574	6.5	568[N1]	6.5		0.216		3.9	NA	0.8	6.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: William Roberts Rd (South)

Mov. From S To Exit:	L2 W	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	24	204	228	4.8	1052	0.216	100	NA	NA
Approach	24	204	228	4.8		0.216			

East: Reeves Rd (East)

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	256	21	277	8.7	1728	0.160	100	NA	NA
Approach	256	21	277	8.7		0.160			

West: Reeves Rd (West)

Mov. From W To Exit:	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	-	36	2.9	1923	0.019	100	NA	NA
Lane 2	-	27	27	3.8	729	0.038	100	0.0	1

Approach	36	27	63	3.3		0.038
	Total	%HV	Deg.Satn (v/c)			
Intersection	568	6.5		0.216		

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: William Roberts Rd (South) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Reeves Rd (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Reeves Rd (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 7.1 [7.1 William Roberts Rd / Cortina Pl WR Closure (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

Scheme Design
Site Category: (None)
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
NorthEast: William Roberts Road (North)															
Lane 1	319	9.4	319	9.4	1216	0.262	100	0.2	LOS A	0.2	1.2	Full	243	-32.5 N3	0.0
Approach	319	9.4	319	9.4		0.262		0.2	NA	0.2	1.2				
NorthWest: Cortina Place															
Lane 1	30	6.7	30	6.7	764	0.039	100	3.7	LOS A	0.1	0.8	Full	177	-21.3 N3	0.0
Approach	30	6.7	30	6.7		0.039		3.7	LOS A	0.1	0.8				
SouthWest: William Roberts Road (South)															
Lane 1	204	6.9	200	6.9	1798	0.111	100	0.4	LOS A	0.0	0.0	Full	110	0.0	0.0
Approach	204	6.9	200 N1	6.9		0.111		0.4	NA	0.0	0.0				
Intersection	553	8.3	549 N1	8.4		0.262		0.5	NA	0.2	1.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

NorthEast: William Roberts Road (North)

Mov. From NE To Exit:	T1 SW	R2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	303	16	319	9.4	1216	0.262	100	NA	NA
Approach	303	16	319	9.4		0.262			

NorthWest: Cortina Place

Mov. From NW To Exit:	L2 NE	R2 SW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	14	16	30	6.7	764	0.039	100	NA	NA
Approach	14	16	30	6.7		0.039			

SouthWest: William Roberts Road (South)

Mov. From SW To Exit:	L2 NW	T1 NE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	42	158	200	6.9	1798	0.111	100	NA	NA
Approach	42	158	200	6.9		0.111			

	Total	%HV	Deg.Satn (v/c)
Intersection	549	8.4	0.262

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
NorthEast Exit: William Roberts Road (North) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
NorthWest Exit: Cortina Place Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
SouthWest Exit: William Roberts Road (South) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 7.1 [7.1 William Roberts Rd / Cortina Pl WR Closure (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

Scheme Design
Site Category: (None)
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
NorthEast: William Roberts Road (North)															
Lane 1	288	8.7	288	8.7	1351	0.213	100	0.3	LOS A	0.2	1.3	Full	243	-24.7 N3	0.0
Approach	288	8.7	288	8.7		0.213		0.3	NA	0.2	1.3				
NorthWest: Cortina Place															
Lane 1	59	6.8	59	6.8	698	0.085	100	4.2	LOS A	0.2	1.8	Full	177	-19.6 N3	0.0
Approach	59	6.8	59	6.8		0.085		4.2	LOS A	0.2	1.8				
SouthWest: William Roberts Road (South)															
Lane 1	250	4.8	242	4.9	1830	0.132	100	0.2	LOS A	0.0	0.0	Full	110	0.0	0.0
Approach	250	4.8	242 N1	4.9		0.132		0.2	NA	0.0	0.0				
Intersection	597	6.9	589 N1	7.0		0.213		0.7	NA	0.2	1.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

NorthEast: William Roberts Road (North)

Mov. From NE To Exit:	T1 SW	R2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	269	19	288	8.7	1351	0.213	100	NA	NA
Approach	269	19	288	8.7		0.213			

NorthWest: Cortina Place

Mov. From NW To Exit:	L2 NE	R2 SW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	18	41	59	6.8	698	0.085	100	NA	NA
Approach	18	41	59	6.8		0.085			

SouthWest: William Roberts Road (South)

Mov. From SW To Exit:	L2 NW	T1 NE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	27	215	242	4.9	1830	0.132	100	NA	NA
Approach	27	215	242	4.9		0.132			

	Total	%HV	Deg.Satn (v/c)
Intersection	589	7.0	0.213

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
NorthEast Exit: William Roberts Road (North) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
NorthWest Exit: Cortina Place Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
SouthWest Exit: William Roberts Road (South) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 2.0 [2.0 Aylesbury St North/Ti Rakau Dr (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

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

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Ti Rakau Drive (East)															
Lane 1	363	7.8	339	7.9	1503	0.225	100	0.0	LOS A	0.0	0.0	Full	63	-15.9 N3	0.0
Lane 2	439	7.8	409	7.9	1816	0.225	100	0.0	LOS A	0.0	0.0	Full	63	0.0	0.0
Lane 3	441	7.8	411	7.9	1826	0.225	100	0.0	LOS A	0.0	0.0	Full	63	0.0	0.0
Approach	1244	7.8	1159 N 1	7.9		0.225		0.0	NA	0.0	0.0				
East: Aylesbury Street															
Lane 1	14	7.1	14	7.1	724	0.019	100	3.2	LOS A	0.1	0.6	Full	28	0.0	0.0
Lane 2	10	0.0	10	0.0	6	1.667	100	1303.7	LOS F	6.4	44.7	Full	28	0.0	21.2
Approach	24	4.2	24	4.2		1.667		545.0	LOS F	6.4	44.7				
North: Ti Rakau Drive (West)															
Lane 1	595	8.6	589	8.6	1795	0.328	100	0.2	LOS A	0.0	0.0	Full	130	0.0	0.0
Lane 2	449	8.7	444	8.7	1354	0.328	100	0.0	LOS A	0.0	0.0	Full	130	-24.6 N7	0.0
Lane 3	474	8.7	469	8.7	1429	0.328	100	0.0	LOS A	0.0	0.0	Short	55	-22.5 N7	NA
Approach	1517	8.7	1503 N 1	8.7		0.328		0.1	NA	0.0	0.0				
Intersection	2785	8.3	2686 N 1	8.6		1.667		4.9	NA	6.4	44.7				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

South: Ti Rakau Drive (East)

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	339	339	7.9	1503	0.225	100	NA	NA
Lane 2	409	409	7.9	1816	0.225	100	NA	NA
Lane 3	411	411	7.9	1826	0.225	100	NA	NA
Approach	1159	1159	7.9		0.225			

East: Aylesbury Street

Mov. From E	L2	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	S	N			veh/h	v/c	%	%	No.
Lane 1	14	-	14	7.1	724	0.019	100	NA	NA
Lane 2	-	10	10	0.0	6	1.667	100	NA	NA
Approach	14	10	24	4.2		1.667			

North: Ti Rakau Drive (West)

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	19	570	589	8.6	1795	0.328	100	NA	NA
Lane 2	-	444	444	8.7	1354	0.328	100	NA	NA
Lane 3	-	469	469	8.7	1429	0.328	100	0.0	2
Approach	19	1484	1503	8.7		0.328			

	Total	%HV	Deg.Satn (v/c)
Intersection	2686	8.6	1.667

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
East Exit: Aylesbury Street Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Ti Rakau Drive (West) Merge Type: **Priority**												
Exit Short Lane	4	20	0.0	411	428	3.00	2.00	6	1362	0.004	0.7	0.7
Merge Lane	3	-	100.0	Merge Lane is not Opposed				411	1800	0.229	0.0	0.0

LANE SUMMARY

Site: 2.0 [2.0 Aylesbury St North/Ti Rakau Dr (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

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

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Ti Rakau Drive (East)															
Lane 1	537	7.3	513	7.3	1794	0.286	100	0.0	LOS A	0.0	0.0	Full	63	0.0	0.0
Lane 2	545	7.3	521	7.3	1823	0.286	100	0.0	LOS A	0.0	0.0	Full	63	0.0	0.0
Lane 3	548	7.3	524	7.3	1832	0.286	100	0.0	LOS A	0.0	0.0	Full	63	0.0	0.0
Approach	1630	7.3	1558[N1]	7.3		0.286		0.0	NA	0.0	0.0				
East: Aylesbury Street															
Lane 1	36	5.6	36	5.6	1047	0.034	100	1.0	LOS A	0.1	1.0	Full	28	0.0	0.0
Lane 2	20	5.0	20	5.0	7	2.913	100	2137.3	LOS F	15.0	109.8	Full	28	0.0	100.0
Approach	56	5.4	56	5.4		2.913		764.0	LOS F	15.0	109.8				
North: Ti Rakau Drive (West)															
Lane 1	253	5.5	249	5.5	1830	0.136	100	0.2	LOS A	0.0	0.0	Full	130	0.0	0.0
Lane 2	253	5.7	250	5.7	1831	0.136	100	0.0	LOS A	0.0	0.0	Full	130	0.0	0.0
Lane 3	260	5.7	256	5.7	1880	0.136	100	0.0	LOS A	0.0	0.0	Short	55	0.0	NA
Approach	765	5.6	755[N1]	5.7		0.136		0.1	NA	0.0	0.0				
Intersection	2451	6.7	2369[N1]	7.0		2.913		18.1	NA	15.0	109.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Ti Rakau Drive (East)

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	513	513	7.3	1794	0.286	100	NA	NA
Lane 2	521	521	7.3	1823	0.286	100	NA	NA
Lane 3	524	524	7.3	1832	0.286	100	NA	NA
Approach	1558	1558	7.3		0.286			

East: Aylesbury Street

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	-	36	5.6	1047	0.034	100	NA	NA
Lane 2	-	20	20	5.0	7	2.913	100	NA	NA

Approach	36	20	56	5.4		2.913			
North: Ti Rakau Drive (West)									
Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	240	249	5.5	1830	0.136	100	NA	NA
Lane 2	-	250	250	5.7	1831	0.136	100	NA	NA
Lane 3	-	256	256	5.7	1880	0.136	100	0.0	2
Approach	10	745	755	5.7		0.136			
	Total	%HV	Deg.Satn (v/c)						
Intersection	2369	7.0		2.913					

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
East Exit: Aylesbury Street Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Ti Rakau Drive (West) Merge Type: **Priority**												
Exit Short Lane	4	20	0.0	524	543	3.00	2.00	7	1241	0.006	0.9	1.0
Merge Lane	3	-	100.0	Merge Lane is not Opposed				524	1800	0.291	0.0	0.0

LANE SUMMARY

Site: 4.0 [4.0 Aylesbury St South/ Ti Rakau Dr (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

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

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Ti Rakau Drive (East)															
Lane 1	402	7.8	390	7.7	1779	0.219	100	0.0	LOS A	0.0	0.0	Full	84	0.0	0.0
Lane 2	410	7.8	399	7.7	1818	0.219	100	0.0	LOS A	0.0	0.0	Full	84	0.0	0.0
Lane 3	403	7.8	391	7.7	1784	0.219	100	0.0	LOS A	0.0	0.0	Full	84	0.0	0.0
Lane 4	20	5.0	19	4.9	100	0.195	100	40.0	LOS E	0.5	3.4	Short	21	0.0	NA
Approach	1235	7.8	1200 N1	7.7		0.219		0.7	NA	0.5	3.4				
East: Aylesbury St															
Lane 1	12	0.0	12	0.0	681	0.018	100	2.0	LOS A	0.0	0.3	Full	93	-18.8 N3	0.0
Approach	12	0.0	12	0.0		0.018		2.0	LOS A	0.0	0.3				
North: Ti Rakau Drive (West)															
Lane 1	451	8.6	434	8.6	1489	0.292	100	0.1	LOS A	0.0	0.0	Full	45	-18.4 N3	0.0
Lane 2	541	8.8	521	8.8	1787	0.292	100	0.0	LOS A	9.8 N6	73.4 N6	Full	45	0.0	50.0 N6
Lane 3	547	8.8	527	8.8	1806	0.292	100	0.0	LOS A	9.8 N6	73.4 N6	Full	45	0.0	50.0 N6
Approach	1540	8.7	1482 N1	8.8		0.292		0.0	NA	9.8	73.4				
Intersection	2787	8.3	2694 N1	8.5		0.292		0.3	NA	9.8	73.4				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.
N6 Continuous Lane results determined by Back of Queue values of downstream lanes (proportional to lane movement flows) but average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

South: Ti Rakau Drive (East)

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	390	-	390	7.7	1779	0.219	100	NA	NA
Lane 2	399	-	399	7.7	1818	0.219	100	NA	NA
Lane 3	391	-	391	7.7	1784	0.219	100	NA	NA
Lane 4	-	19	19	4.9	100	0.195	100	0.0	3
Approach	1181	19	1200	7.7		0.219			

East: Aylesbury St

Mov.	L2	Total	%HV		Deg.	Lane	Prob.	Ov.

From E To Exit:	S			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	12	12	0.0	681	0.018	100	NA	NA
Approach	12	12	0.0		0.018			

North: Ti Rakau Drive (West)

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	425	434	8.6	1489	0.292	100	NA	NA
Lane 2	-	521	521	8.8	1787	0.292	100	NA	NA
Lane 3	-	527	527	8.8	1806	0.292	100	NA	NA
Approach	10	1472	1482	8.8		0.292			

	Total	%HV	Deg.Satn (v/c)
Intersection	2694	8.5	0.292

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
Full Length Lane	3	Merge Analysis not applied.									
East Exit: Aylesbury St Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
Full Length Lane	3	Merge Analysis not applied.									

LANE SUMMARY

Site: 4.0 [4.0 Aylesbury St South/ Ti Rakau Dr (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

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

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Ti Rakau Drive (East)															
Lane 1	536	7.3	524	7.3	1784	0.294	100	0.0	LOS A	0.0	0.0	Full	84	0.0	0.0
Lane 2	547	7.3	536	7.3	1823	0.294	100	0.0	LOS A	0.0	0.0	Full	84	0.0	0.0
Lane 3	538	7.3	526	7.3	1791	0.294	100	0.0	LOS A	0.0	0.0	Full	84	0.0	0.0
Lane 4	10	10.0	10	9.9	357	0.027	100	12.1	LOS B	0.1	0.5	Short	21	0.0	NA
Approach	1631	7.4	1596[N1]	7.3		0.294		0.1	NA	0.1	0.5				
East: Aylesbury St															
Lane 1	40	10.0	40	10.0	982	0.041	100	1.1	LOS A	0.1	1.1	Full	93	0.0	0.0
Approach	40	10.0	40	10.0		0.041		1.1	LOS A	0.1	1.1				
North: Ti Rakau Drive (West)															
Lane 1	267	5.8	255	5.9	1855	0.137	100	0.1	LOS A	0.0	0.0	Full	45	0.0	0.0
Lane 2	262	6.0	250	6.2	1817	0.137	100	0.0	LOS A	0.0	0.0	Full	45	0.0	0.0
Lane 3	264	6.0	252	6.2	1836	0.137	100	0.0	LOS A	0.0	0.0	Full	45	0.0	0.0
Approach	793	5.9	757[N1]	6.1		0.137		0.1	NA	0.0	0.0				
Intersection	2464	6.9	2393[N1]	7.1		0.294		0.1	NA	0.1	1.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Ti Rakau Drive (East)

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	524	-	524	7.3	1784	0.294	100	NA	NA
Lane 2	536	-	536	7.3	1823	0.294	100	NA	NA
Lane 3	526	-	526	7.3	1791	0.294	100	NA	NA
Lane 4	-	10	10	9.9	357	0.027	100	0.0	3
Approach	1586	10	1596	7.3		0.294			

East: Aylesbury St

Mov. From E To Exit:	L2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	40	40	10.0	982	0.041	100	NA	NA

Approach	40	40	10.0			0.041			
North: Ti Rakau Drive (West)									
Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	245	255	5.9	1855	0.137	100	NA	NA
Lane 2	-	250	250	6.2	1817	0.137	100	NA	NA
Lane 3	-	252	252	6.2	1836	0.137	100	NA	NA
Approach	10	747	757	6.1		0.137			
	Total	%HV	Deg.Satn (v/c)						
Intersection	2393	7.1		0.294					

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
East Exit: Aylesbury St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										

LANE SUMMARY

Site: 5.0 [5.0 Pakuranga HWY/ Reeves Rd Mitigation 1 C (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 65 seconds (Site User-Given Phase Times)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast: Ti Rakau Drive (East)															
Lane 1	635	9.5	598	9.4	764[1]	0.782	100	112.7	LOS F	15.2	115.0	Short	50	0.0	NA
Lane 2	635	9.5	598	9.4	764[1]	0.782	100	19.2	LOS B	15.2	115.0	Full	90	0.0	27.3[8]
Lane 3	308	11.3	290	11.3	520	0.559	100	21.6	LOS C	8.0	61.6	Full	90	0.0	0.0
Lane 4	311	11.3	293	11.3	525	0.559	100	21.6	LOS C	8.1	62.3	Full	90	0.0	0.0
Approach	1889	10.1	1780[N1]	10.0		0.782		51.4	LOS D	15.2	115.0				
NorthWest: Ti Rakau Drive (West)															
Lane 1	403	18.9	389	19.1	528	0.735	73[5]	24.2	LOS C	12.0	97.8	Full	84	0.0	18.8
Lane 2	577	5.2	555	5.2	554	1.002	100	75.9	LOS E	18.7[N4]	137.1[N4]	Full	84	0.0	50.0
Lane 3	562	5.2	541	5.2	540	1.002	100	76.2	LOS E	18.7[N4]	137.1[N4]	Full	84	0.0	50.0
Approach	1542	8.8	1484[N1]	8.8		1.002		62.5	LOS E	18.7	137.1				
SouthWest: Pakuranga HWY															
Lane 1	306	4.4	306	4.4	1053	0.291	100	14.9	LOS B	4.9	35.3	Short	308	0.0	NA
Lane 2	311	4.4	311	4.4	1069	0.291	100	14.9	LOS B	4.9	35.8	Short	132	0.0	NA
Lane 3	273	8.8	273	8.8	317	0.860	100	44.0	LOS D	10.2	77.0	Full	1650	0.0	0.0
Lane 4	276	8.8	276	8.8	321	0.860	100	43.9	LOS D	10.3	77.7	Full	1650	0.0	0.0
Lane 5	276	8.8	276	8.8	321	0.860	100	43.9	LOS D	10.3	77.7	Short	277	0.0	NA
Approach	1442	6.9	1442	6.9		0.860		31.5	LOS C	10.3	77.7				
Intersection	4873	8.7	4706[N1]	9.1		1.002		48.8	LOS D	18.7	137.1				

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
5 Lane under-utilisation found by the program
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

SouthEast: Ti Rakau Drive (East)

Mov. From SE To Exit:	L2 SW	T1 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	598	-	598	9.4	764[1]	0.782	100	82.9	2
Lane 2	598	-	598	9.4	764[1]	0.782	100	NA	NA
Lane 3	-	290	290	11.3	520	0.559	100	NA	NA

Lane 4	-	293	293	11.3	525	0.559	100	NA	NA
Approach	1196	584	1780	10.0		0.782			

NorthWest: Ti Rakau Drive (West)

Mov. From NW To Exit:	T1 SE	R2 SW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	389	-	389	19.1	528	0.735	73[5]	NA	NA
Lane 2	-	555	555	5.2	554	1.002	100	NA	NA
Lane 3	-	541	541	5.2	540	1.002	100	NA	NA
Approach	389	1096	1484	8.8		1.002			

SouthWest: Pakuranga HWY

Mov. From SW To Exit:	L2 NW	R2 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	306	-	306	4.4	1053	0.291	100	0.0	3
Lane 2	311	-	311	4.4	1069	0.291	100	0.0	3
Lane 3	-	273	273	8.8	317	0.860	100	NA	NA
Lane 4	-	276	276	8.8	321	0.860	100	NA	NA
Lane 5	-	276	276	8.8	321	0.860	100	0.0	4
Approach	617	825	1442	6.9		0.860			

	Total	%HV	Deg.Satn (v/c)
Intersection	4706	9.1	1.002

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

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.

5 Lane under-utilisation found by the program

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
SouthEast Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
NorthWest Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
SouthWest Exit: Pakuranga HWY Merge Type: **Priority**												
Exit Short Lane	1	356	0.0	1152	1194	3.00	2.00	598	553	1.080	4.1	93.5
Merge Lane	2	-	100.0	Merge Lane is not Opposed				1152	1800	0.640	0.0	0.0

LANE SUMMARY

Site: 5.0 [5.0 Pakuranga HWY/ Reeves Rd Mitigation 1 C (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast: Ti Rakau Drive (East)															
Lane 1	603	7.1	568	6.8	858	0.662	100	15.7	LOS B	8.8	65.3	Short	50	0.0	NA
Lane 2	603	7.1	568	6.8	858	0.662	100	13.2	LOS B	8.8	65.3	Full	90	0.0	0.0
Lane 3	313	7.9	295	7.8	363	0.812	100	21.5	LOS C	6.7	50.1	Full	90	0.0	0.0
Lane 4	316	7.9	298	7.8	367	0.812	100	21.5	LOS C	6.8	50.6	Full	90	0.0	0.0
Approach	1835	7.4	1728[N 1]	7.2		0.812		16.9	LOS B	8.8	65.3				
NorthWest: Ti Rakau Drive (West)															
Lane 1	280	5.5	268	5.7	372	0.719	100	18.8	LOS B	5.6	40.9	Full	84	0.0	0.0
Lane 2	283	5.6	271	5.8	376	0.719	100	19.1	LOS B	5.6	41.4	Full	84	0.0	0.0
Lane 3	259	7.6	248	7.6	345	0.719	100	23.5	LOS C	5.2	38.8	Full	84	0.0	0.0
Approach	822	6.2	786[N1]	6.4		0.719		20.4	LOS C	5.6	41.4				
SouthWest: Pakuranga HWY															
Lane 1	495	6.9	495	6.9	885	0.560	100	15.4	LOS B	6.9	51.4	Short	308	0.0	NA
Lane 2	503	6.9	503	6.9	899	0.560	100	15.4	LOS B	7.0	52.2	Short	132	0.0	NA
Lane 3	202	3.4	202	3.4	268	0.754	100	28.7	LOS C	4.4	32.0	Full	1650	0.0	0.0
Lane 4	204	3.4	204	3.4	270	0.754	100	28.6	LOS C	4.5	32.3	Full	1650	0.0	0.0
Lane 5	204	3.4	204	3.4	270	0.754	100	28.6	LOS C	4.5	32.3	Short	277	0.0	NA
Approach	1608	5.6	1608	5.6		0.754		20.4	LOS C	7.0	52.2				
Intersection	4265	6.5	4123[N 1]	6.7		0.812		18.9	LOS B	8.8	65.3				

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

SouthEast: Ti Rakau Drive (East)

Mov. From SE To Exit:	L2 SW	T1 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	568	-	568	6.8	858	0.662	100	29.3	2
Lane 2	568	-	568	6.8	858	0.662	100	NA	NA
Lane 3	-	295	295	7.8	363	0.812	100	NA	NA
Lane 4	-	298	298	7.8	367	0.812	100	NA	NA
Approach	1135	593	1728	7.2		0.812			

NorthWest: Ti Rakau Drive (West)

Mov. From NW	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	SE	SW			veh/h	v/c	%	%	No.
Lane 1	268	-	268	5.7	372	0.719	100	NA	NA
Lane 2	253	18	271	5.8	376	0.719	100	NA	NA
Lane 3	-	248	248	7.6	345	0.719	100	NA	NA
Approach	521	266	786	6.4		0.719			

SouthWest: Pakuranga HWY

Mov. From SW To Exit:	L2 NW	R2 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	495	-	495	6.9	885	0.560	100	0.0	3
Lane 2	503	-	503	6.9	899	0.560	100	0.0	3
Lane 3	-	202	202	3.4	268	0.754	100	NA	NA
Lane 4	-	204	204	3.4	270	0.754	100	NA	NA
Lane 5	-	204	204	3.4	270	0.754	100	0.0	4
Approach	998	610	1608	5.6		0.754			

	Total	%HV	Deg.Satn (v/c)
Intersection	4123	6.7	0.812

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
SouthEast Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
NorthWest Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
SouthWest Exit: Pakuranga HWY Merge Type: **Priority**												
Exit Short Lane	1	356	0.0	585	605	3.00	2.00	568	1175	0.483	1.1	2.5
Merge Lane	2	-	100.0	Merge Lane is not Opposed				585	1800	0.325	0.0	0.0

CCG LANE SUMMARY

Common Control Group: CCG1 [WR/ Mattson]

Network: N101 [Construction 1 (Network Folder: AM)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 131 seconds (CCG User-Given Phase Times)

Lane Use and Performance (CCG)

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
Site: 6.5 [6.5 William Roberts Rd / Ti Rakau Dr C]															
SouthEast: Ti Rakau Drive (East)															
Lane 1	525	10.3	487	10.2	1069	0.455	100	16.0	LOS B	12.9 N4	97.9 N4	Full	60	0.0	50.0
Lane 2	525	10.3	487	10.2	1069	0.455	100	14.3	LOS B	12.9 N4	97.9 N4	Full	60	0.0	50.0
Lane 3	482	10.3	447	10.2	982 1	0.455	100	13.3	LOS B	12.1	91.8	Full	60	0.0	43.9
Lane 4	45	4.4	42	4.4	386	0.108	100	45.4	LOS D	1.9	13.7	Short	20	0.0	NA
Approach	1578	10.1	1461 N 1	10.0		0.455		15.5	LOS B	12.9	97.9				
NorthEast: William Roberts Road Extension															
Lane 1	33	12.1	33	12.1	312	0.106	100	50.1	LOS D	1.8	13.6	Short	80	0.0	NA
Lane 2	281	8.5	281	8.5	319	0.881	100	69.9	LOS E	20.0	150.6	Full	110	0.0	33.6
Approach	314	8.9	314	8.9		0.881		67.8	LOS E	20.0	150.6				
NorthWest: Ti Rakau Drive (West)															
Lane 1	182	7.1	180	7.1	819	0.220	100	26.7	LOS C	6.7	50.0	Full	107	0.0	0.0
Lane 2	527	12.8	521	12.8	684	0.762	100	25.6	LOS C	17.8	138.1	Full	107	0.0	28.2
Lane 3	473	12.8	468	12.8	614 1	0.762	100	23.1	LOS C	14.3	111.0	Full	107	0.0	8.3
Lane 4	49	16.3	48	16.3	115	0.422	100	70.3	LOS E	3.1	24.7	Short	20	0.0	NA
Approach	1231	12.1	1217 N 1	12.1		0.762		26.6	LOS C	17.8	138.1				
Intersection	3123	10.8	2992 N 1	11.3		0.881		25.5	LOS C	20.0	150.6				
Site: 7.0 [7.0 Mattson Rd/ Ti Rakau Dr C]															
SouthEast: Ti Rakau Drive (East)															
Lane 1	427	9.3	393	9.2	503 1	0.782	100	14.3	LOS B	13.0	98.5	Short	25	-48.1 N7	NA
Lane 2	367	9.5	337	9.4	432 1	0.782	100	12.6	LOS B	8.8	66.5	Full	143	-50.0 N3	0.0
Lane 3	701	11.7	646	11.8	826	0.782	100	6.5	LOS A	20.8	160.0	Full	143	-43.9 N3	15.2
Approach	1495	10.5	1376 N 1	10.4		0.782		10.2	LOS B	20.8	160.0				
NorthWest: Ti Rakau Drive (West)															
Lane 1	531	11.5	524	11.5	1185	0.443	100	2.4	LOS A	3.4	26.5	Full	60	0.0	0.0
Lane 2	524	13.7	517	13.7	1169	0.443	100	2.6	LOS A	3.7	28.7	Full	60	0.0	0.0
Approach	1055	12.6	1042 N 1	12.6		0.443		2.5	LOS A	3.7	28.7				
SouthWest: Mattson Road															
Lane 1	53	5.5	53	5.5	81	0.651	100	73.6	LOS E	3.6	26.6	Full	282	-50.0 N7	0.0
Lane 2	56	5.5	56	5.5	86	0.651	100	73.2	LOS E	3.8	28.0	Full	282	-47.1 N3	0.0
Approach	109	5.5	109	5.5		0.651		73.4	LOS E	3.8	28.0				
Intersection	2659	11.1	2527 N 1	11.7		0.782		9.7	LOS A	20.8	160.0				

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
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.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (CCG) (veh/h)

Site: 6.5 [6.5 William Roberts Rd / Ti Rakau Dr C]

SouthEast: Ti Rakau Drive (East)

Mov. From SE To Exit:	T1 NW	R2 NE	U SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	487	-	-	487	10.2	1069	0.455	100	NA	NA
Lane 2	487	-	-	487	10.2	1069	0.455	100	NA	NA
Lane 3	447	-	-	447	10.2	982[1]	0.455	100	NA	NA
Lane 4	-	20	21	42	4.4	386	0.108	100	0.0	3
Approach	1420	20	21	1461	10.0		0.455			

NorthEast: William Roberts Road Extension

Mov. From NE To Exit:	L2 SE	R2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	33	-	33	12.1	312	0.106	100	0.0	2
Lane 2	-	281	281	8.5	319	0.881	100	NA	NA
Approach	33	281	314	8.9		0.881			

NorthWest: Ti Rakau Drive (West)

Mov. From NW To Exit:	L2 NE	T1 SE	U NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	180	-	-	180	7.1	819	0.220	100	NA	NA
Lane 2	-	521	-	521	12.8	684	0.762	100	NA	NA
Lane 3	-	468	-	468	12.8	614[1]	0.762	100	NA	NA
Lane 4	-	-	48	48	16.3	115	0.422	100	24.3	3
Approach	180	988	48	1217	12.1		0.762			

	Total	%HV	Deg.Satn (v/c)
Intersection	2992	11.3	0.881

Site: 7.0 [7.0 Mattson Rd/ Ti Rakau Dr C]

SouthEast: Ti Rakau Drive (East)

Mov. From SE To Exit:	L2 SW	T1 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	28	365	393	9.2	503[1]	0.782	100	100.0	2
Lane 2	-	337	337	9.4	432[1]	0.782	100	NA	NA
Lane 3	-	646	646	11.8	826	0.782	100	NA	NA
Approach	28	1348	1376	10.4		0.782			

NorthWest: Ti Rakau Drive (West)

Mov. From NW To Exit:	T1 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	524	524	11.5	1185	0.443	100	NA	NA
Lane 2	517	517	13.7	1169	0.443	100	NA	NA
Approach	1042	1042	12.6		0.443			

SouthWest: Mattson Road

Mov. From SW To Exit:	L2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	53	5.5	81	0.651	100	NA	NA
Lane 2	56	56	5.5	86	0.651	100	NA	NA
Approach	109	109	5.5		0.651			

	Total	%HV	Deg.Satn (v/c)
Intersection	2527	11.7	0.782

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

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 (CCG)

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
Site: 6.5 [6.5 William Roberts Rd / Ti Rakau Dr C]											
SouthEast Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
NorthEast Exit: William Roberts Road Extension Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
NorthWest Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
Full Length Lane	3	Merge Analysis not applied.									
Site: 7.0 [7.0 Mattson Rd/ Ti Rakau Dr C]											
SouthEast Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
NorthWest Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
Full Length Lane	3	Merge Analysis not applied.									
SouthWest Exit: Mattson Road Merge Type: **Not Applied**											

CCG LANE SUMMARY

Common Control Group: CCG1 [WR/ Mattson]

Network: N101 [Construction 1 (Network Folder: PM)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (CCG User-Given Phase Times)

Lane Use and Performance (CCG)

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
Site: 6.5 [6.5 William Roberts Rd / Ti Rakau Dr C]															
SouthEast: Ti Rakau Drive (East)															
Lane 1	510	7.6	473	7.3	815	0.580	100	7.4	LOS A	8.6	64.0	Full	60	0.0	10.8
Lane 2	510	7.6	473	7.3	815	0.580	100	3.8	LOS A	4.7	35.3	Full	60	0.0	0.0
Lane 3	510	7.6	473	7.3	815	0.580	100	3.7	LOS A	4.6	34.1	Full	60	0.0	0.0
Lane 4	71	2.8	66	2.7	210	0.314	100	57.1	LOS E	3.8	27.2	Short	20	0.0	NA
Approach	1602	7.4	1484[N1]	7.1		0.580		7.3	LOS A	8.6	64.0				
NorthEast: William Roberts Road Extension															
Lane 1	52	7.7	52	7.7	304	0.171	100	59.0	LOS E	3.3	24.3	Short	80	0.0	NA
Lane 2	245	8.6	245	8.6	302	0.812	100	71.7	LOS E	18.4	138.6	Full	110	0.0	26.0
Approach	297	8.4	297	8.4		0.812		69.4	LOS E	18.4	138.6				
NorthWest: Ti Rakau Drive (West)															
Lane 1	198	5.6	194	5.6	1125	0.172	100	16.5	LOS B	5.7	41.7	Full	107	0.0	0.0
Lane 2	449	5.4	440	5.4	1012	0.435	100	11.3	LOS B	10.5	77.0	Full	107	0.0	0.0
Lane 3	335	5.4	328	5.4	753[1]	0.435	100	10.5	LOS B	7.2	53.1	Full	107	0.0	0.0
Lane 4	179	0.6	175	0.6	199[1]	0.881	100	77.6	LOS E	13.4	94.2	Short	20	0.0	NA
Approach	1161	4.7	1138[N1]	4.7		0.881		22.2	LOS C	13.4	94.2				
Intersection	3060	6.4	2918[N1]	6.8		0.881		19.4	LOS B	18.4	138.6				
Site: 7.0 [7.0 Mattson Rd/ Ti Rakau Dr C]															
SouthEast: Ti Rakau Drive (East)															
Lane 1	131	8.0	121	7.5	133[1]	0.904	100	75.4	LOS E	8.8	65.6	Short	25	-7.2[N3]	NA
Lane 2	665	6.6	614	6.3	679[1]	0.904	100	52.7	LOS D	31.6[N4]	233.4[N4]	Full	143	0.0	50.0
Lane 3	795	8.1	734	7.9	812	0.904	100	53.4	LOS D	31.2[N4]	233.4[N4]	Full	143	0.0	50.0
Approach	1591	7.5	1468[N1]	7.2		0.904		54.9	LOS D	31.6	233.4				
NorthWest: Ti Rakau Drive (West)															
Lane 1	433	3.5	424	3.5	1505	0.282	100	1.3	LOS A	2.2	16.0	Full	60	0.0	0.0
Lane 2	422	7.3	414	7.5	1468	0.282	100	1.5	LOS A	2.5	18.9	Full	60	0.0	0.0
Approach	855	5.4	838[N1]	5.4		0.282		1.4	LOS A	2.5	18.9				
SouthWest: Mattson Road															
Lane 1	28	5.0	28	5.0	276	0.103	100	60.9	LOS E	1.7	12.7	Full	282	-10.8[N3]	0.0
Lane 2	32	5.0	32	5.0	309	0.103	100	60.7	LOS E	2.0	14.2	Full	282	0.0	0.0
Approach	60	5.0	60	5.0		0.103		60.8	LOS E	2.0	14.2				
Intersection	2506	6.7	2366[N1]	7.1		0.904		36.1	LOS D	31.6	233.4				

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
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.

Approach Lane Flows (CCG) (veh/h)

Site: 6.5 [6.5 William Roberts Rd / Ti Rakau Dr C]

SouthEast: Ti Rakau Drive (East)

Mov. From SE To Exit:	T1 NW	R2 NE	U SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	473	-	-	473	7.3	815	0.580	100	NA	NA
Lane 2	473	-	-	473	7.3	815	0.580	100	NA	NA
Lane 3	473	-	-	473	7.3	815	0.580	100	NA	NA
Lane 4	-	47	19	66	2.7	210	0.314	100	33.0	3
Approach	1418	47	19	1484	7.1		0.580			

NorthEast: William Roberts Road Extension

Mov. From NE To Exit:	L2 SE	R2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	52	-	52	7.7	304	0.171	100	0.0	2
Lane 2	-	245	245	8.6	302	0.812	100	NA	NA
Approach	52	245	297	8.4		0.812			

NorthWest: Ti Rakau Drive (West)

Mov. From NW To Exit:	L2 NE	T1 SE	U NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	194	-	-	194	5.6	1125	0.172	100	NA	NA
Lane 2	-	440	-	440	5.4	1012	0.435	100	NA	NA
Lane 3	-	328	-	328	5.4	753[1]	0.435	100	NA	NA
Lane 4	-	-	175	175	0.6	199[1]	0.881	100	100.0	3
Approach	194	768	175	1138	4.7		0.881			

	Total	%HV	Deg.Satn (v/c)
Intersection	2918	6.8	0.881

Site: 7.0 [7.0 Mattson Rd/ Ti Rakau Dr C]

SouthEast: Ti Rakau Drive (East)

Mov. From SE To Exit:	L2 SW	T1 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	45	76	121	7.5	133[1]	0.904	100	96.1	2
Lane 2	-	614	614	6.3	679[1]	0.904	100	NA	NA
Lane 3	-	734	734	7.9	812	0.904	100	NA	NA
Approach	45	1423	1468	7.2		0.904			

NorthWest: Ti Rakau Drive (West)

Mov. From	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

NW To Exit:	SE			veh/h	v/c	%	%	No.
Lane 1	424	424	3.5	1505	0.282	100	NA	NA
Lane 2	414	414	7.5	1468	0.282	100	NA	NA
Approach	838	838	5.4		0.282			

SouthWest: Mattson Road

Mov. From SW To Exit:	L2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	28	28	5.0	276	0.103	100	NA	NA
Lane 2	32	32	5.0	309	0.103	100	NA	NA
Approach	60	60	5.0		0.103			

	Total	%HV	Deg.Satn (v/c)
Intersection	2366	7.1	0.904

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

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 (CCG)

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
Site: 6.5 [6.5 William Roberts Rd / Ti Rakau Dr C]												
SouthEast Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
NorthEast Exit: William Roberts Road Extension Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
NorthWest Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
Site: 7.0 [7.0 Mattson Rd/ Ti Rakau Dr C]												
SouthEast Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
NorthWest Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
SouthWest Exit: Mattson Road Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 10.0 [10.0 Edgewater Dr (West) / Chevis Pl (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site Practical Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast: Ti Rakau Drive (East)															
Lane 1	697	9.7	691	9.7	819	0.844	100	30.3	LOS C	30.5	231.4	Full	162	0.0	37.6
Lane 2	678	10.5	672	10.6	796[1]	0.844	100	30.2	LOS C	29.7	226.5	Full	162	0.0	35.6
Lane 3	10	0.0	10	0.0	119	0.084	100	49.4	LOS D	0.4	3.0	Short	22	0.0	NA
Approach	1385	10.0	1373[N1]	10.1		0.844		30.4	LOS C	30.5	231.4				
NorthEast: Chevis Place															
Lane 1	46	2.2	46	2.2	123	0.373	100	50.1	LOS D	2.1	14.8	Full	138	0.0	0.0
Approach	46	2.2	46	2.2		0.373		50.1	LOS D	2.1	14.8				
NorthWest: Ti Rakau Drive (West)															
Lane 1	530	12.5	494	12.7	821	0.601	100	20.5	LOS C	14.3[N4]	111.0[N4]	Full	68	0.0	50.0
Lane 2	461	12.7	429	12.9	713[1]	0.601	100	19.9	LOS B	13.9	108.2	Full	68	0.0	47.6
Lane 3	47	12.8	44	12.8	113	0.387	100	51.5	LOS D	2.0	15.5	Short	25	0.0	NA
Approach	1038	12.6	966[N1]	12.8		0.601		21.6	LOS C	14.3	111.0				
SouthWest: Edgewater Drive (West)															
Lane 1	117	8.5	117	8.5	743	0.157	100	13.0	LOS B	2.2	16.8	Short	42	0.0	NA
Lane 2	41	4.9	41	4.9	281	0.146	100	39.7	LOS D	1.6	11.6	Full	789	0.0	0.0
Approach	158	7.6	158	7.6		0.157		19.9	LOS B	2.2	16.8				
Intersection	2627	10.8	2544[N1]	11.1		0.844		26.7	LOS C	30.5	231.4				

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

SouthEast: Ti Rakau Drive (East)

Mov. From SE To Exit:	L2 SW	T1 NW	R2 NE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	94	597	-	691	9.7	819	0.844	100	NA	NA
Lane 2	-	672	-	672	10.6	796[1]	0.844	100	NA	NA
Lane 3	-	-	10	10	0.0	119	0.084	100	0.0	2
Approach	94	1269	10	1373	10.1		0.844			
NorthEast: Chevis Place										

Mov. From NE To Exit:	L2 SE	T1 SW	R2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	19	10	17	46	2.2	123	0.373	100	NA	NA
Approach	19	10	17	46	2.2		0.373			
NorthWest: Ti Rakau Drive (West)										
Mov. From NW To Exit:	L2 NE	T1 SE	R2 SW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	9	484	-	494	12.7	821	0.601	100	NA	NA
Lane 2	-	429	-	429	12.9	713[1]	0.601	100	NA	NA
Lane 3	-	-	44	44	12.8	113	0.387	100	0.0	2
Approach	9	913	44	966	12.8		0.601			
SouthWest: Edgewater Drive (West)										
Mov. From SW To Exit:	L2 NW	T1 NE	R2 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	117	-	-	117	8.5	743	0.157	100	0.0	2
Lane 2	-	10	31	41	4.9	281	0.146	100	NA	NA
Approach	117	10	31	158	7.6		0.157			
	Total	%HV	Deg.Satn (v/c)							
Intersection	2544	11.1		0.844						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

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	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
SouthEast Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
NorthEast Exit: Chevis Place Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
NorthWest Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
SouthWest Exit: Edgewater Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 10.0 [10.0 Edgewater Dr (West) / Chevis Pl (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site Practical Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast: Ti Rakau Drive (East)															
Lane 1	825	6.9	816	6.9	915	0.892	100	36.3	LOS D	35.6[N4]	264.4[N4]	Full	162	0.0	50.0
Lane 2	809	7.2	801	7.3	897[1]	0.892	100	36.3	LOS D	35.6[N4]	264.4[N4]	Full	162	0.0	50.0
Lane 3	10	0.0	10	0.0	107	0.093	100	55.1	LOS E	0.5	3.4	Short	22	0.0	NA
Approach	1644	7.0	1627[N 1]	7.1		0.892		36.4	LOS D	35.6	264.4				
NorthEast: Chevis Place															
Lane 1	30	0.0	30	0.0	113	0.265	100	54.6	LOS D	1.5	10.4	Full	138	0.0	0.0
Approach	30	0.0	30	0.0		0.265		54.6	LOS D	1.5	10.4				
NorthWest: Ti Rakau Drive (West)															
Lane 1	418	7.4	381	6.3	941	0.405	100	17.4	LOS B	11.7	86.5	Full	68	0.0	26.9
Lane 2	356	7.6	324	6.5	800[1]	0.405	100	16.9	LOS B	9.7	72.0	Full	68	0.0	10.1
Lane 3	46	6.5	42	4.9	107	0.389	100	57.0	LOS E	2.1	15.4	Short	25	0.0	NA
Approach	820	7.4	747[N1]	6.3		0.405		19.4	LOS B	11.7	86.5				
SouthWest: Edgewater Drive (West)															
Lane 1	87	6.9	87	6.9	676	0.129	100	16.1	LOS B	2.0	15.1	Short	42	0.0	NA
Lane 2	51	3.9	51	3.9	272	0.187	100	44.7	LOS D	2.2	16.1	Full	789	0.0	0.0
Approach	138	5.8	138	5.8		0.187		26.7	LOS C	2.2	16.1				
Intersection	2632	7.0	2542[N 1]	7.2		0.892		31.1	LOS C	35.6	264.4				

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

SouthEast: Ti Rakau Drive (East)

Mov. From SE To Exit:	L2 SW	T1 NW	R2 NE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	92	724	-	816	6.9	915	0.892	100	NA	NA
Lane 2	-	801	-	801	7.3	897[1]	0.892	100	NA	NA
Lane 3	-	-	10	10	0.0	107	0.093	100	0.0	2
Approach	92	1525	10	1627	7.1		0.892			
NorthEast: Chevis Place										

Mov. From NE To Exit:	L2 SE	T1 SW	R2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	10	10	30	0.0	113	0.265	100	NA	NA
Approach	10	10	10	30	0.0		0.265			
NorthWest: Ti Rakau Drive (West)										
Mov. From NW To Exit:	L2 NE	T1 SE	R2 SW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	9	372	-	381	6.3	941	0.405	100	NA	NA
Lane 2	-	324	-	324	6.5	800[1]	0.405	100	NA	NA
Lane 3	-	-	42	42	4.9	107	0.389	100	0.0	2
Approach	9	696	42	747	6.3		0.405			
SouthWest: Edgewater Drive (West)										
Mov. From SW To Exit:	L2 NW	T1 NE	R2 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	87	-	-	87	6.9	676	0.129	100	0.0	2
Lane 2	-	10	41	51	3.9	272	0.187	100	NA	NA
Approach	87	10	41	138	5.8		0.187			

	Total	%HV	Deg.Satn (v/c)
Intersection	2542	7.2	0.892

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

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	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
SouthEast Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
NorthEast Exit: Chevis Place Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
NorthWest Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
SouthWest Exit: Edgewater Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr Mitigation 2 (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: AM)]

Scheme Design
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Practical Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Fremantle Place															
Lane 1	18	5.6	18	5.6	96	0.188	100	61.6	LOS E	1.0	7.2	Short	26	0.0	NA
Lane 2	26	3.8	26	3.8	100	0.259	100	60.1	LOS E	1.4	10.3	Full	285	0.0	0.0
Approach	44	4.5	44	4.5		0.259		60.8	LOS E	1.4	10.3				
East: Ti Rakau Drive (East)															
Lane 1	624	10.2	624	10.2	824	0.758	100	26.8	LOS C	27.6	210.2	Full	636	0.0	0.0
Lane 2	610	10.4	610	10.4	804	0.758	100	26.8	LOS C	27.1	206.8	Full	636	0.0	0.0
Lane 3	168	11.0	168	11.0	339	0.496	57[6]	27.0	LOS C	4.3	33.2	Short	150	0.0	NA
Lane 4	296	11.0	296	11.0	339	0.873	100	39.2	LOS D	10.5	80.5	Short	103	0.0	NA
Approach	1698	10.5	1698	10.5		0.873		29.0	LOS C	27.6	210.2				
North: Gossamer Drive															
Lane 1	393	7.6	393	7.6	741	0.530	100	19.7	LOS B	11.2	83.6	Short	150	0.0	NA
Lane 2	393	7.6	393	7.6	741	0.530	100	19.7	LOS B	11.2	83.6	Full	1010	0.0	0.0
Lane 3	132	7.6	132	7.6	301	0.439	100	49.2	LOS D	6.5	48.4	Short	100	0.0	NA
Approach	917	7.6	917	7.6		0.530		23.9	LOS C	11.2	83.6				
West: Ti Rakau Drive (West)															
Lane 1	516	12.2	481	12.4	541	0.888	100	54.4	LOS D	29.0	224.9	Full	479	0.0	0.0
Lane 2	496	12.3	461	12.5	519[1]	0.888	100	52.2	LOS D	28.0	216.6	Full	479	0.0	0.0
Lane 3	10	0.0	9	0.0	180	0.052	100	53.8	LOS D	0.5	3.2	Short	27	0.0	NA
Approach	1022	12.1	951[N1]	12.3		0.888		53.3	LOS D	29.0	224.9				
Intersection	3681	10.2	3610[N1]	10.4		0.888		34.5	LOS C	29.0	224.9				

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
6 Lane under-utilisation due to downstream effects
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Fremantle Place

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	18	-	-	18	5.6	96	0.188	100	0.0	2
Lane 2	-	10	16	26	3.8	100	0.259	100	NA	NA
Approach	18	10	16	44	4.5		0.259			

East: Ti Rakau Drive (East)											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	19	605	-	624	10.2	824	0.758	100	NA	NA	
Lane 2	-	610	-	610	10.4	804	0.758	100	NA	NA	
Lane 3	-	-	168	168	11.0	339	0.496	57[6]	0.0	2	
Lane 4	-	-	296	296	11.0	339	0.873	100	0.0	3	
Approach	19	1215	464	1698	10.5		0.873				
North: Gossamer Drive											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	393	-	-	393	7.6	741	0.530	100	0.0	2	
Lane 2	393	-	-	393	7.6	741	0.530	100	NA	NA	
Lane 3	-	10	122	132	7.6	301	0.439	100	0.0	2	
Approach	785	10	122	917	7.6		0.530				
West: Ti Rakau Drive (West)											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	18	463	-	481	12.4	541	0.888	100	NA	NA	
Lane 2	-	461	-	461	12.5	519[1]	0.888	100	NA	NA	
Lane 3	-	-	9	9	0.0	180	0.052	100	0.0	2	
Approach	18	924	9	951	12.3		0.888				
	Total	%HV	Deg.Satn (v/c)								
Intersection	3610	10.4	0.888								

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Fremantle Place Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Gossamer Drive Merge Type: **Zipper**												
Exit Short Lane	1	100	50.0	153	161	2.50	2.00	186	1612	0.115	0.0	0.1
Merge Lane	2	-	50.0	93	98	2.50	2.00	306	1689	0.181	0.0	0.0
West Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

LANE SUMMARY

Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr Mitigation 2 (Site Folder: General)]

Network: N101 [Construction 1 (Network Folder: PM)]

Scheme Design
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 154 seconds (Site User-Given Phase Times)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Fremantle Place															
Lane 1	12	8.3	12	8.3	112	0.107	100	80.0	LOS E	0.9	6.6	Short	26	0.0	NA
Lane 2	27	3.7	27	3.7	120	0.226	100	79.2	LOS E	2.0	14.4	Full	285	0.0	0.0
Approach	39	5.1	39	5.1		0.226		79.4	LOS E	2.0	14.4				
East: Ti Rakau Drive (East)															
Lane 1	879	7.1	879	7.1	1007	0.873	100	35.1	LOS D	58.4	433.8	Full	636	0.0	0.0
Lane 2	745	7.1	745	7.1	854[1]	0.873	100	34.9	LOS C	46.6	346.0	Full	636	0.0	0.0
Lane 3	245	8.0	245	8.0	539	0.455	57[6]	28.2	LOS C	7.8	58.6	Short	150	0.0	NA
Lane 4	432	8.0	432	8.0	539	0.801	100	38.3	LOS D	19.1	142.6	Short	103	0.0	NA
Approach	2301	7.3	2301	7.3		0.873		34.9	LOS C	58.4	433.8				
North: Gossamer Drive															
Lane 1	200	14.5	200	14.5	828	0.241	100	18.8	LOS B	6.1	48.1	Short	150	0.0	NA
Lane 2	200	14.5	200	14.5	828	0.241	100	18.8	LOS B	6.1	48.1	Full	1010	0.0	0.0
Lane 3	47	8.5	47	8.5	260	0.180	100	65.7	LOS E	3.1	23.3	Short	100	0.0	NA
Approach	446	13.9	446	13.9		0.241		23.7	LOS C	6.1	48.1				
West: Ti Rakau Drive (West)															
Lane 1	411	7.2	372	6.2	539	0.690	100	53.5	LOS D	23.9	176.5	Full	479	0.0	0.0
Lane 2	387	8.1	350	7.0	508[1]	0.690	100	52.2	LOS D	23.2	172.1	Full	479	0.0	0.0
Lane 3	10	0.0	9	0.0	164	0.056	100	74.2	LOS E	0.6	4.5	Short	27	0.0	NA
Approach	808	7.5	731[N1]	6.5		0.690		53.1	LOS D	23.9	176.5				
Intersection	3594	8.2	3517[N1]	8.4		0.873		37.8	LOS D	58.4	433.8				

Site Level of Service (LOS) Method: Delay (SIDRA). 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.
6 Lane under-utilisation due to downstream effects
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Fremantle Place

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	12	-	-	12	8.3	112	0.107	100	0.0	2
Lane 2	-	10	17	27	3.7	120	0.226	100	NA	NA
Approach	12	10	17	39	5.1		0.226			

East: Ti Rakau Drive (East)											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	20	859	-	879	7.1	1007	0.873	100	NA	NA
Lane 2	-	745	-	745	7.1	854[1]	0.873	100	NA	NA
Lane 3	-	-	245	245	8.0	539	0.455	57[6]	0.5	2
Lane 4	-	-	432	432	8.0	539	0.801	100	34.7	3
Approach	20	1604	677	2301	7.3		0.873			
North: Gossamer Drive										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	200	-	-	200	14.5	828	0.241	100	0.0	2
Lane 2	200	-	-	200	14.5	828	0.241	100	NA	NA
Lane 3	-	10	37	47	8.5	260	0.180	100	0.0	2
Approach	399	10	37	446	13.9		0.241			
West: Ti Rakau Drive (West)										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	50	322	-	372	6.2	539	0.690	100	NA	NA
Lane 2	-	350	-	350	7.0	508[1]	0.690	100	NA	NA
Lane 3	-	-	9	9	0.0	164	0.056	100	0.0	2
Approach	50	672	9	731	6.5		0.690			

	Total	%HV	Deg.Satn (v/c)
Intersection	3517	8.4	0.873

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Fremantle Place Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Ti Rakau Drive (East) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Gossamer Drive Merge Type: **Zipper**												
Exit Short Lane	1	100	50.0	221	230	2.50	2.00	295	1525	0.194	0.0	0.1
Merge Lane	2	-	50.0	148	153	2.50	2.00	442	1623	0.272	0.0	0.1
West Exit: Ti Rakau Drive (West) Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										