

Appendix H

Construction Scenario 3 – Phasing Diagrams

SITE LAYOUT Site: 1.0 [1.0 Pakuranga Rd / Ti Rakau Dr (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



V Site: 2.1 [2.1 Pakuranga Plaza / Pakuranga Rd (Site Folder: AM)]

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

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



Site: 3.0 [3.0 Pakuranga Highway / Pakuranga Rd (Site Folder: AM)]

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

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



V Site: 7.1 [7.1 William Roberts Rd / Cortina PI (Site Folder: AM)]

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 Palm Ave / Aylesbury St (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



Site: 5.0 [5.0 Pakuranga Highway/ Reeves Rd (Site Folder: AM)]

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.



Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr (Site Folder: ĀM)]

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

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



SITE LAYOUT Site: 7.5 [7.5 Mattson Rd/ Ti Rakau Dr (Site Folder: AM)]

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

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



SITE LAYOUT Site: 8.1 [8.1 U-turn - West of Marriot Rd (Site Folder: AM)]

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

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



Site: 10.1 [10.1 U-turn - East of Edgewater Dr (West) (Site Folder: AM)]

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

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



Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr Closure (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



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

■ Network: N101 [AM (Network Folder: General)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated 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 Phase Sequence: Variable Phasing Reference Phase: Phase B Input Phase Sequence: A, B, Bus, D, E Output Phase Sequence: A, B, Bus, D, E

Phase Timing	Summary
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Phase	Α	В	Bus	D	E
Phase Change Time (sec)	83	0	21	33	57
Green Time (sec)	21	15	6	18	20
Phase Time (sec)	27	21	12	24	26
Phase Split	25%	19%	11%	22%	24%

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: 3.0 [3.0 Pakuranga Highway / Pakuranga Rd (Site Folder: AM)]

■ Network: N101 [AM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 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, D Output Phase Sequence: A, B, D

Phase Timir	ng Summary	
Dhase		Λ

Phase	A	в	D
Phase Change Time (sec)	0	28	42
Green Time (sec)	22	8	12
Phase Time (sec)	28	14	18
Phase Split	47%	23%	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



Stopped Movement	
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

Site: 4.0 [4.0 Palm Ave / Aylesbury St (Site Folder: AM)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Isolated 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 Green Split Priority has been specified 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	Α	В	С	D
Phase Change Time (sec)	0	28	46	58
Green Time (sec)	22	12	6	6
Phase Time (sec)	28	18	12	12
Phase Split	40%	26%	17%	17%

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

חור Ti Rakau Drive (East)

alm Avenue



Site: 5.0 [5.0 Pakuranga Highway/ Reeves Rd (Site Folder: AM)]

Network: N101 [AM (Network Folder: General)]

New Site Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 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 Output Phase Sequence: A, B

Phase Timing Summary		
Phase	Α	В
Phase Change Time (sec)	0	35
Green Time (sec)	29	9
Phase Time (sec)	35	15
Phase Split	70%	30%

Mixed Running & Stopped MCs

Other Movement Class (MC) Stopped

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 Transition Applied

Site: 8.1 [8.1 U-turn - West of Marriot Rd (Site Folder: AM)]

■ Network: N101 [AM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 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: Opposed Turns Reference Phase: Phase A Input Phase Sequence: A, B Output Phase Sequence: A, B

Phase Timing Summary		
Phase	Α	В
Phase Change Time (sec)	0	18
Green Time (sec)	12	6
Phase Time (sec)	18	12
Phase Split	60%	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%.





Site: 10.1 [10.1 U-turn - East of Edgewater Dr (West) (Site Folder: AM)]

■ Network: N101 [AM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 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: Opposed Turns Reference Phase: Phase B Input Phase Sequence: A, B Output Phase Sequence: A, B

Phase Timing Summary		
Phase	Α	В
Phase Change Time (sec)	12	0
Green Time (sec)	12	6
Phase Time (sec)	18	12
Phase Split	60%	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%.





Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr Closure (Site Folder: AM)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 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 Output Phase Sequence: A, B, C

Phase Timing Summary				
Phase	Α	В	С	
Phase Change Time (sec)	0	105	135	
Green Time (sec)	99	24	9	
Phase Time (sec)	105	30	15	
Phase Split	70%	20%	10%	

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



CCG PHASING SUMMARY

□ Common Control Group: CCG2 [WRR / Mattson]

■ Network: N101 [AM (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (CCG Practical Cycle Time)

Timings based on settings in the Network Timing dialog Phase Times determined by the program Downstream Iane blockage effects included in determining phase times Phase Sequence: CCG Phasing (phase reduction applied) Reference Phase: Phase A1 Input Phase Sequence: A1, A2, B, C, D Output Phase Sequence: A1, B, C, D

Phase Timing Summary	(CCG)			
Phase	A1	В	С	D
Phase Change Time (sec)	0	15	28	40
Green Time (sec)	9	7	6	4
Phase Time (sec)	15	13	12	10

 Phase Split
 30%
 26%
 24%
 20%

 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 Activities Time and All-Red Time values in access of Dedastrian Activities Minor Phase Activities

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)







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

■ Network: N101 [PM (Network Folder: General)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 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: B, A, Bus, E, D Output Phase Sequence: B, A, Bus, E, D

Phase	Timina	Summarv
1 11430	1 IIIIII M	Ourmany

Phase	В	Α	Bus	E	D
Phase Change Time (sec)	108	0	44	56	83
Green Time (sec)	6	38	6	21	19
Phase Time (sec)	12	44	12	27	25
Phase Split	10%	37%	10%	23%	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



REF: Reference Phase VAR: Variable Phase



Site: 3.0 [3.0 Pakuranga Highway / Pakuranga Rd (Site Folder: ■■ Network: N101 [PM (Network PM)] Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 134 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, D, B, C Output Phase Sequence: A, D, B, C

Phase Timing Summary					
Phase	Α	D	В	С	
Phase Change Time (sec)	0	43	100	120	
Green Time (sec)	40	51	14	9	
Phase Time (sec)	46	57	19	12	
Phase Split	34%	43%	14%	9%	

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: 4.0 [4.0 Palm Ave / Aylesbury St (Site Folder: PM)]

■ Network: N101 [PM (Network Folder: General)]

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 Green Split Priority has been specified 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	Α	В	С	D	
Phase Change Time (sec)	0	53	76	88	
Green Time (sec)	47	17	6	6	
Phase Time (sec)	53	23	12	12	
Phase Split	53%	23%	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: 5.0 [5.0 Pakuranga Highway/ Reeves Rd (Site Folder: PM)]

■ Network: N101 [PM (Network Folder: General)]

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 Output Phase Sequence: A, B

Phase Timing Summary				
Phase	Α	В		
Phase Change Time (sec)	0	28		
Green Time (sec)	22	6		
Phase Time (sec)	28	12		
Phase Split	70%	30%		

Mixed Running & Stopped MCs

Other Movement Class (MC) Stopped

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



Continuous Movement

Phase Transition Applied

CCG PHASING SUMMARY

□□ Common Control Group: CCG2 [WRR / Mattson]

■ Network: N101 [PM (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (CCG Practical Cycle Time)

Timings based on settings in the Network Timing dialog Phase Times determined by the program Downstream lane blockage effects included in determining phase times Phase Sequence: CCG Phasing Reference Phase: Phase A1 Input Phase Sequence: A1, B, C, D Output Phase Sequence: A1, B, C, D

Phase Timing Summary (CCG)					
Phase	A1	В	С	D	
Phase Change Time (sec)	0	12	28	40	
Green Time (sec)	6	10	6	4	
Phase Time (sec)	12	16	12	10	
Phase Split	24%	32%	24%	20%	

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)







Site: 8.1 [8.1 U-turn - West of Marriot Rd (Site Folder: PM)]

■ Network: N101 [PM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 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: Opposed Turns Reference Phase: Phase A Input Phase Sequence: A, B Output Phase Sequence: A, B

Phase Timing Summary				
Phase	Α	В		
Phase Change Time (sec)	0	17		
Green Time (sec)	11	7		
Phase Time (sec)	17	13		
Phase Split	57%	43%		

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%.



Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

Site: 10.1 [10.1 U-turn - East of Edgewater Dr (West) (Site Folder: PM)]

■ Network: N101 [PM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 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: Opposed Turns Reference Phase: Phase B Input Phase Sequence: A, B Output Phase Sequence: A, B

Phase Timing Summary				
Phase	Α	В		
Phase Change Time (sec)	12	0		
Green Time (sec)	12	6		
Phase Time (sec)	18	12		
Phase Split	60%	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%.





Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr Closure (Site Folder: PM)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 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 Output Phase Sequence: A, B, C

Phase Timing Summary					
Phase	Α	В	С		
Phase Change Time (sec)	0	104	135		
Green Time (sec)	98	25	9		
Phase Time (sec)	104	31	15		
Phase Split	69%	21%	10%		

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





Appendix I

Construction Scenario 3 – Lane performance Summaries
Site: 1.0 [1.0 Pakuranga Rd / Ti Rakau Dr (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Site Practical Cycle Time)

Lane Use	and P	erforn	nance	;											
	DEM FLC [Total	AND WS HV 1	ARF FLC Tota	RIVAL DWS I HV 1	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% B/ QU [Veh	ACK OF EUE Dist 1	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Ti R	lakau D	rive													
Lane 1	367	9.0	367	9.0	896 ¹	0.410	100	12.0	LOS B	7.2	54.2	Full	174	0.0	0.0
Lane 2 (B)	17	100.0	17	100.0	90	0.189	100	59.1	LOS E	0.8	10.3	Short	16	0.0	NA
Lane 3	34	4.4	34	4.4	326	0.104	100	45.3	LOS D	1.4	10.0	Full	174	0.0	0.0
Lane 4	34	4.4	34	4.4	326	0.104	100	45.3	LOS D	1.4	10.0	Short	40	0.0	NA
Approach	452	11.7	452	11.7		0.410		18.7	LOS B	7.2	54.2				
East: Paku	ranga F	Road (E	ast)												
Lane 1	275	8.0	275	8.0	381 ¹	0.722	100	33.6	LOS C	10.2	76.0	Short	21	0.0	NA
Lane 2	363	6.0	363	6.0	452 ¹	0.803	100	33.9	LOS C	14.9	110.0	Full	98	0.0	<mark>25.5</mark>
Lane 3	490	10.8	490	10.8	611	0.803	100	39.2	LOS D	18.7 ^{N4}	143.2 ^{N4}	Full	98	0.0	<mark>50.0</mark>
Approach	1128	8.6	1128	8.6		0.803		36.1	LOS D	18.7	143.2				
West: Paki	uranga	Road (West)												
Lane 1 (B)	24	100.0	24	100.0	62	0.389	100	61.3	LOS E	1.2	15.8	Full	380	0.0	0.0
Lane 2	209	6.9	209	6.9	253	0.826	100	56.6	LOS E	10.8	80.3	Full	380	0.0	0.0
Lane 3	209	6.9	209	6.9	253	0.826	100	56.6	LOS E	10.8	80.3	Full	380	0.0	0.0
Lane 4	129	15.6	129	15.6	272	0.472	100	50.8	LOS D	5.8	45.7	Short	178	0.0	NA
Lane 5	129	15.6	129	15.6	272	0.472	100	50.8	LOS D	5.8	45.7	Short	105	0.0	NA
Approach	699	13.3	699	13.3		0.826		54.7	LOS D	10.8	80.3				
Intersectio n	2279	10.7	2279	10.7		0.826		38.4	LOS D	18.7	143.2				

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.

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.

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

Approach I	_ane Flo	ws (v	eh/h)							
South: Ti Ral	kau Drive									
Mov. From S	L2	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No	
	VV	E			1		,,,	,,,	110.	
Lane 1	367	-	367	9.0	896	0.410	100	NA	NA	
Lane 2	17	-	17	100.0	90	0.189	100	0.0	1	
Lane 3	-	34	34	4.4	326	0.104	100	NA	NA	
Lane 4	-	34	34	4.4	326	0.104	100	0.0	3	
Approach	384	68	452	11.7		0.410				
East: Pakura	nga Roac	l (Eas	t)							
Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.	

From E To Exit:	S	W			Cap.	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	275	_	275	8.0	381 ¹	0 722	100	100.0	2
Lane 2	- 210	363	363	6.0	452 ¹	0.803	100	NA	NA
Lane 3	-	490	490	10.8	611	0.803	100	NA	NA
Approach	275	853	1128	8.6		0.803			
West: Pakura	anga Ro	oad (We	st)						
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	62	0.389	100	NA	NA
Lane 2	209	-	209	6.9	253	0.826	100	NA	NA
Lane 3	209	-	209	6.9	253	0.826	100	NA	NA
Lane 4	-	129	129	15.6	272	0.472	100	0.0	3
Lane 5	-	129	129	15.6	272	0.472	100	0.0	4
Approach	427	272	699	13.3		0.826			
	Total	%HV [Deg.Sat	n (v/c)					
Intersection	2279	10.7		0.826					

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 Short Percent Opposing Critical Follow-up Lane Capacity Deg. Lane Lane Opng in Flow Rate Gap Headway Flow Sath Number Length Lane Rate m % veh/h pcu/h sec sec veh/h veh/h v/c	Min. Merge Delay Delay sec 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.	
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.	

V Site: 2.1 [2.1 Pakuranga Plaza / Pakuranga Rd (Site Folder: AM)]

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

Lane Use	Lane Use and Performance														
	DEM, FLO [Total veh/h	AND WS HV] %	ARR FLO [Total veh/h	IVAL WS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Paku	ranga F	Road (E	East)												
Lane 1 Lane 2	592 609	9.8 6.3	592 609	9.8 6.3	1813 1864	0.327	100 100	0.9 0.0	LOS A	0.0 0.0	0.0 0.0	Full Full	121 121	0.0 0.0	0.0 0.0
Approach	1201	8.0	1201	8.0	1001	0.327	100	0.5	NA	0.0	0.0	- un		0.0	0.0
West: Pak	uranga I	Road (West)												
Lane 1	253	8.1	253	8.1	1843	0.137	100	0.0	LOS A	0.0	0.0	Full	108	0.0	0.0
Lane 2	253	8.1	253	8.1	1843	0.137	100	0.0	LOS A	0.0	0.0	Full	108	0.0	0.0
Approach	506	8.1	506	8.1		0.137		0.0	NA	0.0	0.0				
SouthWest	t: Pakura	anga F	Plaza												
Lane 1	27	3.7	27	3.7	822	0.033	100	2.5	LOS A	0.1	0.7	Full	196	0.0	0.0
Approach	27	3.7	27	3.7		0.033		2.5	LOS A	0.1	0.7				
Intersectio n	1734	8.0	1734	8.0		0.327		0.4	NA	0.1	0.7				

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.

Approach	Lane FI	ows (\	/eh/h)						
East: Pakura	anga Roa	ad (Eas	st)						
Mov.	L1	T1	Total	%HV		Deg.	Lane	Prob.	Ov.
From E					Cap.	Satn	Util.	SL Ov.	Lane
To Exit:	SW	W			ven/n	V/C	%	%	No.
Lane 1	102	490	592	9.8	1813	0.327	100	NA	NA
Lane 2	-	609	609	6.3	1864	0.327	100	NA	NA
Approach	102	1099	1201	8.0		0.327			
West: Dekur	ongo Do	od (Ma	(at)						
west. Pakur	anya Ro	au (we	51)	_		_		_	_
Mov.	T1	Total	%HV			Deg.	Lane	Prob.	Ov.
From W					Cap.	Satn	Util.	SL Ov.	Lane
To Exit:	E				veh/h	v/c	%	%	No.
Lane 1	253	253	8.1		1843	0.137	100	NA	NA
Lane 2	253	253	8.1		1843	0.137	100	NA	NA
Approach	506	506	8.1			0.137			
	<u> </u>	-							
SouthWest:	Pakuran	ga Plaz	a						
Mov.	L3	Total	%HV			Deg.	Lane	Prob.	Ov.
From SW					Cap.	Satn	Util.	SL Ov.	Lane
To Exit:	W				veh/h	v/c	%	%	No.
Lane 1	27	27	3.7		822	0.033	100	NA	NA

Approach	27	27	3.7	0.033	
	Total	%HV De	eg.Satn (v/c)		
Intersection	1734	8.0	0.327		

Merge Analysis					
Exit Lane Number	Short Percent Opposing Lane Opng in Flow Rate Length Lane m % veh/h pcu/h	Critical Gap sec	Follow-up Lane Capaci Headway Flow Rate sec veh/h veh.	y Deg. Min. Satn Delay h v/c sec	Merge Delay sec
East Exit: Pakuranga Road Merge Type: Not Applied	(East)				
Full Length Lane1Full Length Lane2	Merge Analysis not applied. Merge Analysis not applied.				
West Exit: Pakuranga Road Merge Type: Not Applied	d (West)				
Full Length Lane 1	Merge Analysis not applied.				
Full Length Lane 2	Merge Analysis not applied.				
SouthWest Exit: Pakuranga Merge Type: Not Applied	a Plaza				
Full Length Lane 1	Merge Analysis not applied.				

Site: 3.0 [3.0 Pakuranga Highway / Pakuranga Rd (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

Lane Use	and P	erforr	nance												
	DEM FLO [Total	AND WS HV 1	ARR FLC [Total	IVAL WS HV 1	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% B/ QUI [Veh	ACK OF EUE Dist 1	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec		L	m		m	%	%
East: Paku	ıranga F	Road (E	East)												
Lane 1	598	5.5	598	5.5	671	0.890	100	34.8	LOS C	19.5	142.9	Full	183	0.0	0.0
Lane 2	598	5.5	598	5.5	671	0.890	100	34.8	LOS C	19.5	142.9	Full	183	0.0	0.0
Lane 3	453	8.1	453	8.1	660	0.685	100	21.9	LOS C	10.5	78.7	Full	183	0.0	0.0
Lane 4	453	8.1	453	8.1	660	0.685	100	21.9	LOS C	10.5	78.7	Short	60	0.0	NA
Approach	2100	6.6	2100	6.6		0.890		29.3	LOS C	19.5	142.9				
NorthWest	: Pakura	anga R	load (W	/est)											
Lane 1	188	10.9	188	10.9	648	0.290	100	18.2	LOS B	3.6	27.2	Full	121	0.0	0.0
Lane 2	193	6.5	193	6.5	667	0.290	100	18.2	LOS B	3.7	27.0	Full	121	0.0	0.0
Lane 3	130	5.4	130	5.4	356	0.365	100	27.9	LOS C	3.1	22.5	Short	98	0.0	NA
Approach	511	7.8	511	7.8		0.365		20.7	LOS C	3.7	27.2				
SouthWes	t: Flyove	er													
Lane 1	304	7.9	304	7.9	361	0.843	100	37.7	LOS D	9.2	68.8	Short	70	0.0	NA
Lane 2	215	6.5	215	6.5	250	0.858	100	39.7	LOS D	6.6	49.1	Full	1162	0.0	0.0
Lane 3	215	6.5	215	6.5	250	0.858	100	39.7	LOS D	6.6	49.1	Full	1162	0.0	0.0
Approach	733	7.1	733	7.1		0.858		38.9	LOS D	9.2	68.8				
Intersectio n	3344	6.9	3344	6.9		0.890		30.1	LOS C	19.5	142.9				

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.

Approach	Lane Flo	ows (\	/eh/h)						
East: Pakur	anga Roa	d (Eas	t)						
Mov. From E To Exit:	L1 SW	R1 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1 Lane 2 Lane 3	598 598 -	- - 453	598 598 453	5.5 5.5 8.1	671 671 660	0.890 0.890 0.685	100 100 100	NA NA NA	NA NA NA
Lane 4 Approach	- 1195	453 905	453 2100	8.1 6.6	660	0.685	100	<u>39.9</u>	3
Mov. From NW To Exit:	Ракиганд L1 Е	R0a R2 SW	Total) %HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1 Lane 2 Lane 3	188 193 -	- - 130	188 193 130	10.9 6.5 5.4	648 667 356	0.290 0.290 0.365	100 100 100	NA NA 0.0	NA NA 2

Approach	381	130	511	7.8		0.365			
SouthWest:	Flyover								
Mov. From SW	L2	R1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane
To Exit:	NW	E			veh/h	v/c	%	%	No.
Lane 1	304	-	304	7.9	361	0.843	100	<mark>13.4</mark>	2
Lane 2	-	215	215	6.5	250	0.858	100	NA	NA
Lane 3	-	215	215	6.5	250	0.858	100	NA	NA
Approach	304	429	733	7.1		0.858			
	Total	%HV[Deg.Sat	n (v/c)					
Intersection	3344	6.9		0.890					

Merge Analysis						
Exit Lane Number	Short Percent Opposing Lane Opng in Flow Rate Length Lane m % veh/h pcu/h	Critical Gap sec	Follow-up Lane C Headway Flow Rate sec veh/h	Capacity veh/h	Deg. Min Satn Dela v/c se	n. Merge y Delay c sec
East Exit: Pakuranga Road Merge Type: Not Applied	(East)					
Full Length Lane1Full Length Lane2Full Length Lane3	Merge Analysis not applied. Merge Analysis not applied. Merge Analysis not applied.					
NorthWest Exit: Pakuranga Merge Type: Not Applied	Road (West)					
Full Length Lane1Full Length Lane2	Merge Analysis not applied. Merge Analysis not applied.					
SouthWest Exit: Flyover Merge Type: Not Applied						
Full Length Lane1Full Length Lane2	Merge Analysis not applied. Merge Analysis not applied.					

Site: 4.0 [4.0 Palm Ave / Aylesbury St (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Practical Cycle Time)

Lane Use	and P	erforn	nance												
	DEM FLO [Total	AND WS HV]	ARR FLC [Total	IVAL WS HV]	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec	_	_	m	-	m	%	%
South: ITR	akau D	rive (E	ast)												
Lane 1	196	11.5	196	11.5	303	0.647	100	31.6	LOS C	6.0	46.0	Full	110	0.0	0.0
Lane 2	199	11.8	199	11.8	307	0.647	100	31.7	LOS C	6.1	46.7	Short	80	0.0	NA
Approach	395	11.6	395	11.6		0.647		31.7	LOS C	6.1	46.7				
East: Ayles	bury St	reet													
Lane 1	26	3.8	26	3.8	150	0.173	100	36.3	LOS D	0.8	5.7	Short	30	0.0	NA
Lane 2	43	9.3	43	9.3	149	0.288	100	36.5	LOS D	1.3	10.1	Full	40	0.0	0.0
Approach	69	7.2	69	7.2		0.288		36.4	LOS D	1.3	10.1				
North: Ti R	akau Dr	rive (W	est)												
Lane 1	151	13.8	151	13.8	555	0.272	39 ⁶	20.6	LOS C	3.5	27.6	Full	174	0.0	0.0
Lane 2	390	14.4	390	14.4	565	0.690	100	24.1	LOS C	10.9	85.9	Full	174	0.0	0.0
Approach	541	14.2	541	14.2		0.690		23.1	LOS C	10.9	85.9				
West: Palm	n Avenu	е													
Lane 1	92	3.3	92	3.3	158	0.582	100	40.7	LOS D	3.0	21.3	Full	87	0.0	0.0
Approach	92	3.3	92	3.3		0.582		40.7	LOS D	3.0	21.3				
Intersectio n	1097	11.9	1097	11.9		0.690		28.5	LOS C	10.9	85.9				

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.

6 Lane under-utilisation due to downstream effects

Approach La	ne Flo	ows (ve	eh/h)								
South: Ti Raka	u Drive	e (East)									
Mov. From S	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn	Lane Util.	Prob. SL Ov. %	Ov. Lane No	
IO EXIL	VV	N	E			Voniiin	\$70	70	70	110.	
Lane 1	19	177	-	196	11.5	303	0.647	100	NA	NA	
Lane 2	-	177	22	199	11.8	307	0.647	100	0.0	1	
Approach	19	354	22	395	11.6		0.647				
East: Aylesbury	/ Stree	t									
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.	
Long 1	26			26	20	150	0 172	100	0.0	n	
	20	-	-	20	3.0	150	0.175	100	0.0	2	
Lane 2	-	10	33	43	9.3	149	0.288	100	NA	NA	
Approach	26	10	33	69	7.2		0.288				
North: Ti Rakau	u Drive	(West)									

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	26	125	-	151	13.8	555	0.272	39 ⁶	NA	NA	
Lane 2	-	374	16	390	14.4	565	0.690	100	NA	NA	
Approach	26	499	16	541	14.2		0.690				
West: Palm A	venue										
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	58	10	24	92	3.3	158	0.582	100	NA	NA	
Approach	58	10	24	92	3.3		0.582				
	Total	%HVC)eg.Sat	n (v/c)							
Intersection	1097	11.9		0.690							

6 Lane under-utilisation due to downstream effects

Merge Analysis												
	Exit Lane Number	Short Lane Length	Percent Opng in Lane	Opp Flow	osing Rate ncu/h	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity veh/h	Deg. Satn	Min. Delay	Merge Delay
South Exit: Ti Raka Merge Type: Zipp	au Drive (e r	East)	,,,	VOII/II	pourn			VOII/II	VOHI/H		000	000
Exit Short Lane	1	70	50.0	199	213	2.50	2.00	151	1546	0.098	0.0	0.1
Merge Lane	2	-	50.0	75	80	2.50	2.00	398	1709	0.233	0.0	0.0
East Exit: Aylesbu Merge Type: Not A	ry Street Applied											
Full Length Lane	1	Merge	Analysis	not a	oplied.							
North Exit: Ti Raka Merge Type: Not A	au Drive (\ Applied	West)										
Full Length Lane	1	Merge	Analysis	not a	oplied.							
Full Length Lane	2	Merge	Analysis	not a	oplied.							
West Exit: Palm Av Merge Type: Not A	/enue Applied											
Full Length Lane	1	Merge	Analysis	not a	oplied.							

Site: 5.0 [5.0 Pakuranga Highway/ Reeves Rd (Site Folder:

ĀM)]

New Site Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)

Lane Use	and P	erforn	nance												
	DEM FLO [Total veh/h	AND WS HV] %	ARR FLC [Total veh/h	IVAL WS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% B/ QU [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast	Ti Rak	au Driv	ve (Eas	t)											
Lane 1	895	9.1	895	9.1	1007	0.889	100	26.9	LOS C	17.4 ^{N4}	131.5 ^{N4}	Full	90	0.0	<mark>50.0</mark>
Lane 2	379	12.4	379	12.4	1041	0.364	100	6.1	LOS A	4.5	34.6	Full	90	0.0	0.0
Approach	1274	10.0	1274	10.0		0.889		20.7	LOS C	17.4	131.5				
NorthWest	: Ti Rak	au Driv	/e (We	st)											
Lane 1	552	14.3	552	14.3	1046	0.528	100	6.9	LOS A	7.4	58.3	Full	110	0.0	0.0
Approach	552	14.3	552	14.3		0.528		6.9	LOS A	7.4	58.3				
SouthWest	: Pakur	anga ⊦	łWY												
Lane 1	26	3.8	26	3.8	324	0.080	100	26.5	LOS C	0.5	3.6	Full	623	0.0	0.0
Approach	26	3.8	26	3.8		0.080		26.5	LOS C	0.5	3.6				
Intersectio n	1852	11.2	1852	11.2		0.889		16.7	LOS B	17.4	131.5				

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.

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

Approach L	.ane El	ows <u>(</u> v	/eh/h)						
SouthEast: Ti	i 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 Lane 2	895 -	- 379	895 379	9.1 12.4	1007 1041	0.889 0.364	100 100	NA NA	NA NA
Approach	895	379	1274	10.0		0.889			
NorthWest: T	i 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	552	552	14.3		1046	0.528	100	NA	NA
Approach	552	552	14.3			0.528			
SouthWest: F	Pakuran	ga HW`	Y						
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	26	26	3.8		324	0.080	100	NA	NA
Approach	26	26	3.8			0.080			
	Total	%HV [Deg.Sat	n (v/c)					

Intersection	1852	11.2	0.889

Merge Analysis												
ا La Num	Exit ane ber	Short Lane Length	Percent Opng in Lane	Oppo Flow	osing Rate	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity	Deg. Satn I	Min. Delay	Merge Delay
		m	%	veh/h	pcu/h	sec	sec	veh/h	veh/h	v/c	sec	sec
SouthEast Exit: Ti Raka Merge Type: Not Appli	iu Dri ed	ve (East)									
Full Length Lane	1	Merge	Analysis	not ap	plied.							
NorthWest Exit: Ti Raka Merge Type: Not Appli	au Dri ed	ive (Wes	t)									
Full Length Lane	1	Merge	Analysis	not ap	plied.							
SouthWest Exit: Pakura Merge Type: Priority	inga	HWY										
Exit Short Lane	2	10	0.0	895	935	3.00	2.00	0	824	0.000	2.3	2.3
Merge Lane	1	-	100.0	Me	rge Lai	ne is not C	Opposed	895	1800	0.497	0.0	0.0

V Site: 7.1 [7.1 William Roberts Rd / Cortina PI (Site Folder: AM)]

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

Lane Use	and P	erforr	nance												
	DEM FLO [Total veh/h	AND WS HV] %	ARR FLO [Total veh/h	IVAL WS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
NorthEast:	William	Robe	rts Roa	d (Nor	th)										
Lane 1	131	4.6	131	4.6	1860	0.070	100	0.2	LOS A	0.1	0.5	Full	223	0.0	0.0
Approach	131	4.6	131	4.6		0.070		0.2	NA	0.1	0.5				
NorthWest	: Cortina	a Place	Э												
Lane 1	37	5.4	37	5.4	1249	0.030	100	2.7	LOS A	0.1	0.6	Full	177	0.0	0.0
Approach	37	5.4	37	5.4		0.030		2.7	LOS A	0.1	0.6				
SouthWest	: Williar	n Robe	erts Roa	ad (So	uth)										
Lane 1	87	6.9	87	6.9	1793	0.049	100	0.5	LOS A	0.0	0.0	Full	110	0.0	0.0
Approach	87	6.9	87	6.9		0.049		0.5	NA	0.0	0.0				
Intersectio n	255	5.5	255	5.5		0.070		0.7	NA	0.1	0.6				

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.

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.

Арр	roa	ch Lane	Flow	/s (vel	ח/h)	
	_					

NorthEast: W	/illiam R	oberts I	Road (I	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	121	10	131	4.6	1860	0.070	100	NA	NA	
Approach	121	10	131	4.6		0.070				
NorthWest: C	Cortina F	lace								
Mov. From NW	L2	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane	
TO EXIT:	NE	SW			ven/m	v/C	70	70	NO.	
Lane 1	19	18	37	5.4	1249	0.030	100	NA	NA	
Approach	19	18	37	5.4		0.030				
SouthWest: N	Nilliam F	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.	
Lano 1	23	64	87	60	1703	0.040	100	NΛ	ΝΔ	
	23	64	07	0.9	1795	0.049	100	INA	INA	
Approach	23	64	8/	6.9		0.049				
	Total	%HV C	Deg.Sat	:n (v/c)						

Intersection	255	5.5	0.070
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Merge Analysis							
Ex Lan Numbe	it Shor e Lane er Length m	t Percent Opposing c Opng in Flow Rate Lane % veh/h pcu/h	Critical Gap	Follow-up L Headway F F	ane Capacity Flow Rate eh/h veh/h	Deg. N Satn De	/lin. Merge elay Delay
NorthEast Exit: William R Merge Type: Not Applied	oberts Roa	ad (North)					
Full Length Lane	1 Merge	Analysis not applied.					
NorthWest Exit: Cortina P Merge Type: Not Applied	lace						
Full Length Lane	1 Merge	Analysis not applied.					
SouthWest Exit: William F Merge Type: Not Applied	Roberts Ro	ad (South)					
Full Length Lane	1 Merge	Analysis not applied.					

Site: 8.1 [8.1 U-turn - West of Marriot Rd (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Site Practical Cycle Time)

Lane Use and Performance															
	DEM FLC [Total veh/h	AND WS HV] %	ARR FLC [Total veh/h	RIVAL DWS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast:	Ti Rak	au Driv	e (Eas	st)											
Lane 1	594	9.2	593	9.2	1831	0.324	100	0.0	LOS A	0.0	0.0	Full	147	0.0	0.0
Lane 2	594	9.2	593	9.2	1831	0.324	100	0.0	LOS A	0.0	0.0	Full	147	0.0	0.0
Lane 3	110	5.5	110	5.5	268	0.411	100	18.7	LOS B	1.4	10.3	Short	14	0.0	NA
Lane 4 (B)	17	100.0	17	100.0	478	0.036	100	2.1	LOS A	0.0	0.6	Full	147	0.0	0.0
Approach	1314	10.0	1314	10.0		0.411		1.6	LOS A	1.4	10.3				
NorthWest:	Ti Rak	au Driv	ve (We	st)											
Lane 1	308	10.7	308	10.7	725	0.425	100	7.4	LOS A	3.1	23.5	Full	73	0.0	0.0
Lane 2	308	10.7	308	10.7	725	0.425	100	7.4	LOS A	3.1	23.5	Full	73	0.0	0.0
Lane 3 (B)	13	100.0	13	100.0	478	0.027	100	2.1	LOS A	0.0	0.5	Full	73	0.0	0.0
Approach	629	12.6	629	12.6		0.425		7.3	LOS A	3.1	23.5				
Intersectio n	1943	10.9	1943	10.9		0.425		3.5	LOS A	3.1	23.5				

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.

Approach Lane Flows (veh/h)													
SouthEast: T	i Rakau	ı Drive (East)										
Mov. From SE To Exit:	T1 NW	U SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. \$ %	Prob. SL Ov. %	Ov. Lane No.				
Lane 1	593	-	593	9.2	1831	0.324	100	NA	NA				
Lane 2	593	-	593	9.2	1831	0.324	100	NA	NA				
Lane 3	-	110	110	5.5	268	0.411	100	0.0	2				
Lane 4	17	-	17	100.0	478	0.036	100	NA	NA				
Approach	1204	110	1314	10.0		0.411							
NorthWest: T	i Rakau	u Drive ((West)										
Mov. From NW To Exit:	T1 SE	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. 3 %	Prob. SL Ov. %	Ov. Lane No.				
Lane 1	308	308	10.7		725	0.425	100	NA	NA				
Lane 2	308	308	10.7		725	0.425	100	NA	NA				
Lane 3	13	13	100.0		478	0.027	100	NA	NA				
Approach	629	629	12.6			0.425							
	Total	%HV[Deg.Sat	tn (v/c)									
Intersection	1943	10.9		0.425									

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

Merge Analysis											
E La Numb	xit ne oer	Short Lane Length	Percent Opng in Lane	Opposing Flow Rate	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity	Deg. Satn l	Min. Delay	Merge Delay
		m	%	veh/h pcu/h	sec	sec	veh/h	veh/h	v/c	sec	sec
SouthEast Exit: Ti Rakau Merge Type: Not Applie	u Dri d	ve (East	:)								
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 Rakat Merge Type: Not Applie	u Dr d	ive (Wes	st)								
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: 10.1 [10.1 U-turn - East of Edgewater Dr (West) (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Site Practical Cycle Time)

Lane Use and Performance															
	DEM FLC [Total veh/h	IAND WS HV] %	ARR FLC [Total veh/h	IVAL WS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast:	Ti Rak	au Driv	ve (Eas	t)											
Lane 1	580	8.8	580	8.8	734	0.790	100	12.4	LOS B	8.4	63.0	Full	64	0.0	<mark>13.6</mark>
Lane 2	580	8.8	580	8.8	734	0.790	100	12.4	LOS B	8.4	63.0	Full	64	0.0	<mark>13.6</mark>
Lane 3 (B)	17	100.0	17	100.0	478	0.036	100	2.1	LOS A	0.0	0.6	Full	64	0.0	0.0
Approach	1176	10.1	1176	10.1		0.790		12.2	LOS B	8.4	63.0				
NorthWest:	Ti Rak	au Driv	/e (We	st)											
Lane 1	623	9.2	569	9.3	1829	0.311	100	0.0	LOS A	0.0	0.0	Full	81	0.0	0.0
Lane 2	623	9.2	569	9.3	1829	0.311	100	0.0	LOS A	0.0	0.0	Full	81	0.0	0.0
Lane 3	109	7.3	100	7.4	264	0.377	100	18.6	LOS B	1.3	9.4	Short	15	0.0	NA
Lane 4 (B)	13	100.0	13	100.0	478	0.027	100	2.1	LOS A	0.0	0.5	Full	81	0.0	0.0
Approach	1367	9.9	1251 [№] 1	10.1		0.377		1.5	LOS A	1.3	9.4				
Intersectio n	2543	10.0	2427 ^N 1	10.5		0.790		6.7	LOS A	8.4	63.0				

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).

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: T	'i Rakau	Drive (East)											
Mov. From SE To Exit:	T1 NW	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.					
Lane 1	580	580	8.8		734	0.790	100	NA	NA					
Lane 2	580	580	8.8		734	0.790	100	NA	NA					
Lane 3	17	17	100.0		478	0.036	100	NA	NA					
Approach	1176	1176	10.1			0.790								
NorthWest: Ti Rakau Drive (West)														
Mov. From NW To Exit:	T1 SE	U NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.					
Lane 1	569	-	569	9.3	1829	0.311	100	NA	NA					
Lane 2	569	-	569	9.3	1829	0.311	100	NA	NA					
Lane 3	-	100	100	7.4	264	0.377	100	0.0	2					
Lane 4	13	-	13	100.0	478	0.027	100	NA	NA					
Approach	1151	100	1251	10.1		0.377								
	Total	%HVI	Deg.Sat	tn (v/c)										
Intersection	2427	10.5		0.790										

Merge Analysis											
E La Numb	xit ne oer	Short Per Lane Opr Length I	rcent Op ng in Flo ₋ane	posing w Rate	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity	Deg. Satn	Min. Delay	Merge Delay
		111	70 VEH	n pcu/n	Sec	SEC	ven/n	ven/n	V/C	Sec	Sec
SouthEast Exit: Ti Rakau Merge Type: Not Applie	u Dri d	ive (East)									
Full Length Lane	1	Merge Ana	lysis not	applied.							
Full Length Lane	2	Merge Ana	Iysis not	applied.							
Full Length Lane	3	Merge Ana	lysis not	applied.							
NorthWest Exit: Ti Raka Merge Type: Not Applie	u Dr d	ive (West)									
	-										
Full Length Lane	1	Merge Ana	lysis not	applied.							
Full Length Lane	2	Merge Ana	lysis not	applied.							
Full Length Lane	3	Merge Ana	lysis not	applied.							

Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr Closure (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Practical Cycle Time)

Lane Use	and P	erforr	nance												
	DEM FLO [Total veh/h	AND WS HV] %	ARR FLO [Total veh/h	IVAL WS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% B/ QU [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Free	mantle l	Place													
Lane 1 Lane 2	23 12	0.0 8.3	23 12	0.0 8.3	299 106	0.077 0.113	100 100	62.0 79.1	LOS E LOS E	1.3 0.8	8.9 5.8	Short Full	26 285	0.0 0.0	NA 0.0
Approach	35	2.9	35	2.9		0.113		67.9	LOS E	1.3	8.9				
East: Ti Ra	kau Dri	ve (Ea	st)												
Lane 1	1135	10.3	1135	10.3	1199	0.946	100	40.2	LOS D	72.9	555.2	Full	636	0.0	<mark>2.7</mark>
Approach	1135	10.3	1135	10.3		0.946		40.2	LOS D	72.9	555.2				
West: Ti Ra	akau Dr	ive (W	est)												
Lane 1	1214	10.2	1201	10.2	1317	0.912	100	21.8	LOS C	66.0	502.2	Full	479	0.0	<mark>19.3</mark>
Approach	1214	10.2	1201 ^N	10.2		0.912		21.8	LOS C	66.0	502.2				
Intersectio n	2384	10.2	2371 ^N 1	10.2		0.946		31.3	LOS C	72.9	555.2				

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.

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)													
South: Frem	antle Pla	ice											
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 Lane 2	23	- 12	23 12	0.0 8.3	299 106	0.077 0.113	100 100	0.0 NA	2 NA				
Approach	23	12	35	2.9		0.113							
East: Ti Rakau Drive (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	10	1125	1135	10.3	1199	0.946	100	NA	NA				
Approach	10	1125	1135	10.3		0.946							
West: Ti Rak	au Drive	(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	1191	10	1201	10.2	1317	0.912	100	NA	NA				
Approach	1191	10	1201	10.2		0.912							

	Total	%HV Deg.Sa	atn (v/c)
Intersection	2371	10.2	0.946

Merge Analysis									
Exit Lane Number	Short Lane Length	Percent Opposing Opng in Flow Rate Lane	Critical Gap	Follow-up Headway	Lane (Flow Rate	Capacity	Deg. Satn I	Min. Delay	Merge Delay
	m	% veh/h pcu/h	sec	Sec \	veh/h	veh/h	V/C	sec	sec
South Exit: Fremantle Place Merge Type: Not Applied	!								
Full Length Lane 1	Merge	Analysis not applied.							
East Exit: Ti Rakau Drive (E Merge Type: Not Applied	ast)								
Full Length Lane 1	Merge	Analysis not applied.							
West Exit: Ti Rakau Drive (\ Merge Type: Not Applied	Vest)								
Full Length Lane 1	Merge	Analysis not applied.							

CCG LANE SUMMARY

□ Common Control Group: CCG2 [WRR / Mattson]

■■ Network: N101 [AM (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (CCG Practical Cycle Time)

Lane Use and Performance (CCG) DEMAND ARRIVAL Deg. Lane Aver. Level of 85% BACK OF Lane Lane Cap. Prob.															
	DEN	1AND	ARF	RIVAL	Con	Deg.	Lane	Aver.	Level of	85% B/	ACK OF	Lane	Lane	Cap.	Prob.
	FLC [Total])WS HV 1	FL(Total	JWS I HV I	Cap.	Satn	Util.	Delay	Service	QUI [\/eh	EUE Dist 1	Config	Length	Adj.	Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec		[/0/1	m		m	%	%
Site: 7.0 [7	7.0 Willi	am Rol	berts F	Rd / Ti F	Rakau D	Dr]									
SouthEas	t: Ti Rak	au Driv	ve (Eas	st)											
Lane 1	383	9.1	383	9.1	696	0.551	100	11.9	LOS B	5.8	43.6	Full	60	0.0	0.0
Lane 2	383	9.1	383	9.1	696	0.551	100	2.6	LOS A	2.0	15.2	Full	60	0.0	0.0
Lane 3	383	9.1	383	9.1	696	0.551	100	2.6	LOS A	2.0	15.2	Full	60	0.0	0.0
Lane 4	61	4.9	61	4.9	250	0.244	100	29.4	LOS C	1.4	10.3	Short	20	0.0	NA
Lane 5 (B) 17	100.0	17	100.0	454	0.037	100	4.2	LOS A	0.1	1.2	Full	60	0.0	0.0
Approach	1228	10.2	1228	10.2		0.551		6.9	LOS A	5.8	43.6				
NorthEast	: Willian	n Rober	rts Roa	d Exte	nsion										
Lane 1	86	3.5	86	3.5	252	0.341	100	24.4	LOS C	1.8	13.2	Short	80	0.0	NA
Lane 2	53	7.5	53	7.5	210	0.252	100	25.0	LOS C	1.1	8.5	Full	110	0.0	0.0
Approach	139	5.0	139	5.0		0.341		24.7	LOS C	1.8	13.2				
NorthWes	t: Ti Rak	au Driv	/e (We	st)											
Lane 1	109	12.5	109	12.5	341	0.319	100	23.1	LOSIC	22	17 2	Full	107	0.0	0.0
Lane 2	217	12.8	217	12.8	681	0.319	100	12.1	LOSB	3.4	26.7	Full	107	0.0	0.0
Lane 3	217	12.8	217	12.8	681	0.319	100	12.1	LOSB	3.4	26.7	Full	107	0.0	0.0
Lane 4 (B) 13	100.0	13	100.0	454	0.029	100	4.1	LOSA	0.1	0.9	Full	107	0.0	0.0
Approach	556	14.7	556	14.7	101	0.319	100	14.1	LOS B	3.4	26.7	1 41	101	0.0	0.0
Intersectio	0 1023	11 1	1023	11 1		0 551		10.2		5.8	43.6				
n	1020		1020			0.001		10.2	LOOD	0.0	40.0				
Site: 7.5 [7	7.5 Matt	son Rd	/ Ti Ra	kau Dr]											
SouthEas	t: Ti Rak	au Driv	ve (Eas	st)											
Lane 1	256	9.0	256	9.0	332	0.771	100	32.9	LOS C	6.8	51.1	Short	25	0.0	NA
Lane 2	405	9.0	405	9.0	525	0.771	100	17.4	LOS B	8.3	62.7	Full	143	0.0	0.0
Lane 3	537	9.0	537	9.0	696	0.771	100	17.9	LOS B	11.7	88.5	Full	143	0.0	0.0
Lane 4 (B) 17	100.0	17	100.0	447	0.038	100	4.2	LOS A	0.1	1.2	Full	143	0.0	0.0
Approach	1215	10.3	1215	10.3		0.771		20.7	LOS C	11.7	88.5				
NorthWes	t: Ti Rak	au Driv	/e (We	st)											
Lane 1	70	11.2	70	11.2	687	0.101	27 ⁶	11.5	LOS B	1.1	8.2	Full	60	0.0	0.0
Lane 2	256	11.2	256	11.2	687	0.372	100	6.7	LOS A	2.6	19.6	Full	60	0.0	0.0
Lane 3	256	11.2	256	11.2	687	0.372	100	2.4	LOS A	1.0	7.9	Full	60	0.0	0.0
Lane 4	16	18.8	16	18.8	228	0.070	100	28.5	LOS C	0.4	3.0	Short	25	0.0	NA
Lane 5 (B) 13	100.0	13	100.0	447	0.029	100	4.1	LOS A	0.1	0.9	Full	60	0.0	0.0
Approach	610	13.3	610	13.3		0.372		6.0	LOS A	2.6	19.6				
SouthWes	st: Matts	on Roa	d												
Lane 1	27	3.7	27	3.7	252	0.107	100	26.0	LOS C	0.5	3.9	Full	282	0.0	0.0
Lane 2	38	5.3	38	5.3	214	0.178	100	27.5	LOS C	0.8	5.9	Full	282	0.0	0.0
Approach	65	4.6	65	4.6		0.178		26.9	LOS C	0.8	5.9				
Intersectio	1890	11.1	1890	11.1		0.771		16.2	LOS B	11.7	88.5				

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.
- 6 Lane under-utilisation due to downstream effects

Approac	h Lane	e Flows	s (CCG	i) (veh/	h)					
Site: 7.0 [7.0 Wil	liam Ro	berts R	d / Ti Ra	ikau Dr]					
SouthEas	t: Ti Ral	kau Driv	/e (East	:)						
Mov.	T1	R2	Total	%HV	Can	Deg.	Lane	Prob.	Ov.	
From					veh/h	Sam V/C	00. %	SL UV. %	No.	
To Exit:	INVV	INE								
Lane 1	383	-	383	9.1	696	0.551	100	NA	NA	
Lane 2	383	-	383	9.1	696	0.551	100	NA	NA	
Lane 3	383	-	383	9.1	696	0.551	100	NA	NA	
Lane 4	-	61	61	4.9	250	0.244	100	0.0	3	
Lane 5	17	-	17	100.0	454	0.037	100	NA	NA	
Approac	1167	61	1228	10.2		0.551				
h										
NorthEast	t: Williar	n Robe	rts Roa	d Extens	sion					
Mov.	L2	R2	Total	%HV		Deg.	Lane	Prob.	Ov.	
From					Cap.	Satn	Util.	SL Ov.	Lane	
NE To Exit [.]	SE	NW			ven/m	V/C	70	70	INO.	
Lane 1	86	-	86	3.5	252	0.341	100	0.0	2	
Lane 2	-	53	53	7.5	210	0.252	100	NA	NA	
Approac	86	53	139	5.0		0.341				
h	00	00	100	0.0		0.011				
North\//ea	t. Ti Ra	kau Driv	10 (Mas	• †)						
Mov		T1	Total	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Dea	Lana	Proh	\bigcirc	
From	LZ		Total	70110	Cap.	Satn	Util.	SL Ov.	Lane	
NW	NE	SE			veh/h	v/c	%	%	No.	
To Exit:										
Lane 1	26	83	109	12.5	341	0.319	100	NA	NA	
Lane 2	-	217	217	12.8	681	0.319	100	NA	NA	
Lane 3	-	217	217	12.8	681	0.319	100	NA	NA	
Lane 4	-	13	13	100.0	454	0.029	100	NA	NA	
h	26	530	556	14.7		0.319				
	Total	%HV I	Deg.Sa	tn (v/c)						
Intersec	4000	44.4		0.554						
tion	1923	11.1		0.551						
Sito: 7 E	7 5 1404	teon D-								
SouthEas	r .5 iviat t: Ti Ral	kau Driv	/ ITRak							
Mov	⊥2_	T1_	Total	%HV		Deg	Lane	Prob.	Ov	
From	LZ		Total	- 70110	Cap.	Satn	Util.	SL <u>Ov.</u>	Lane	
SE	SW	NW			veh/h	v/c	%	%	No.	
To Exit:		0.15	0.56			0 == (400	00.0	~	
Lane 1	11	245	256	9.0	332	0.771	100	82.2	2	
Lane 2	-	405	405	9.0	525	0.771	100	NA	NA	
Lane 3	-	537	537	9.0	696	0.771	100	NA	NA	
Lane 4	-	17	17	100.0	447	0.038	100	NA	NA	
h	11	1204	1215	10.3		0.771				
NorthWes	st: Ti Ra	kau Driv	/e (Wes	st)						

Mov.	T1	R2	Total	%HV	Can	Deg.	Lane	Prob.	Ov.	
From NW	SE	SW			veh/h	v/c	% 0	SL OV. %	No.	
To Exit:										
Lane 1	70	-	70	11.2	687	0.101	27 ⁶	NA	NA	
Lane 2	256	-	256	11.2	687	0.372	100	NA	NA	
Lane 3	256	-	256	11.2	687	0.372	100	NA	NA	
Lane 4	-	16	16	18.8	228	0.070	100	0.0	3	
Lane 5	13	-	13	100.0	447	0.029	100	NA	NA	
Approac	594	16	610	13.3		0.372				
h										
SouthMo	et: Matte	on Poo	d							
Southwe	St. Matts	SUITINUA	u							÷
Mov.	L2	R2	Total	%HV	0	Deg.	Lane	Prob.	Ov.	
From					Cap.	Satn	Util.	SL OV.	Lane	
SW	NW	SE			ven/h	V/C	%	%	No.	
To Exit:										
Lane 1	27	-	27	3.7	252	0.107	100	NA	NA	
Lane 2	-	38	38	5.3	214	0.178	100	NA	NA	
Approac	27	38	65	4.6		0.178				
h										
	Tabal	0/11)/1	D O	t (/)						
	Iotal	%HV I	Jeg.Sa	th (V/C)						
Intersec	1890	11.1		0.771						

- 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

tion

Merge Analysis (CCG)										
Exit Lane Number	Short Lane Length	Percent Opp Opng in Flow Lane	osing Cr Rate	itical Fo Gap H	ollow-up eadway	Lane Ca Flow Rate	pacity	Deg. Satn [Min. Delay	Merge Delay
	m	% veh/h	pcu/h	sec	sec	veh/h	veh/h	v/c	sec	sec
Site: 7.0 [7.0 William Robe	erts Rd / Ti	Rakau Drj								
SouthEast Exit: Ti Rakau D Merge Type: Not Applied	rive (East)									
Full Length Lane1Full Length Lane2Full Length Lane3Full Length Lane4	Merge A Merge A Merge A Merge A	Analysis not a Analysis not a Analysis not a Analysis not a	oplied. oplied. oplied. oplied.							
NorthEast Exit: William Rol Merge Type: Not Applied	perts Road	Extension								
Full Length Lane 1	Merge A	Analysis not a	oplied.							
NorthWest Exit: Ti Rakau E Merge Type: Not Applied	orive (West)								
Full Length Lane1Full Length Lane2Full Length Lane3Full Length Lane4	Merge A Merge A Merge A Merge A	Analysis not a Analysis not a Analysis not a Analysis not a	oplied. oplied. oplied. oplied.							
Site: 7.5 [7.5 Mattson Rd/ 1	ī Rakau D	r]								
SouthEast Exit: Ti Rakau D Merge Type: Priority	rive (East)									
Exit Short Lane1Merge Lane2	40	0.0 256 100.0 Me	270 erge Lane is	3.00 s not Oppo	2.00 osed	70 256	1526 1800	0.046 0.142	0.4 0.0	0.5 0.0
NorthWest Exit: Ti Rakau D	rive (West	.)								

Merge Type: Not Applie	d	
Full Length Lane	1	Merge Analysis not applied.
Full Length Lane	2	Merge Analysis not applied.
Full Length Lane	3	Merge Analysis not applied.
Full Length Lane	4	Merge Analysis not applied.
SouthWest Exit: Mattson Merge Type: Not Applie	n Ro ed	had
Full Length Lane	1	Merge Analysis not applied.

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

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site Practical Cycle Time)

Lane Use	and P	erforn	nance	;											
	DEM FLC [Total	IAND)WS HV]	ARF FLC [Tota	RIVAL DWS I HV]	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% B/ QU [Veh	ACK OF EUE Dist]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Ti R	lakau D	rive													
Lane 1	413	6.5	413	6.5	1094 ¹	0.377	100	7.6	LOS A	5.4	39.8	Full	174	0.0	0.0
Lane 2 (B)	13	100.0	13	100.0	82	0.158	100	64.6	LOS E	0.7	8.6	Short	16	0.0	NA
Lane 3	63	5.6	63	5.6	311	0.201	100	50.7	LOS D	2.8	20.8	Full	174	0.0	0.0
Lane 4	63	5.6	63	5.6	311	0.201	100	50.7	LOS D	2.8	20.8	Short	40	0.0	NA
Approach	551	8.5	551	8.5		0.377		18.7	LOS B	5.4	39.8				
East: Paku	ranga F	Road (E	ast)												
Lane 1	497	6.4	497	6.4	570 ¹	0.872	100	47.2	LOS D	19.4 ^{N4}	143.2 ^{N4}	Short	21	0.0	NA
Lane 2	191	3.4	191	3.4	385 ¹	0.497	100	24.1	LOS C	6.4	46.2	Full	98	0.0	<mark>50.0</mark> 8
Lane 3	260	7.5	260	7.5	522	0.497	100	38.7	LOS D	11.4	84.8	Full	98	0.0	<mark>1.9</mark>
Approach	948	6.1	948	6.1		0.872		40.2	LOS D	19.4	143.2				
West: Paku	uranga	Road (West)												
Lane 1 (B)	42	100.0	42	100.0	57	0.735	100	70.1	LOS E	2.5	31.9	Full	380	0.0	0.0
Lane 2	462	5.4	462	5.4	593	0.778	100	41.8	LOS D	22.6	165.8	Full	380	0.0	0.0
Lane 3	462	5.4	462	5.4	593	0.778	100	41.8	LOS D	22.6	165.8	Full	380	0.0	0.0
Lane 4	189	8.3	189	8.3	276	0.686	100	58.1	LOS E	9.8	73.2	Short	178	0.0	NA
Lane 5	147	8.3	147	8.3	213	0.686	100	59.3	LOS E	7.7	57.7	Short	105	<mark>-22.7</mark> ^{N3}	NA
Approach	1301	9.2	1301	9.2		0.778		47.1	LOS D	22.6	165.8				
Intersectio n	2800	8.0	2800	8.0		0.872		39.2	LOS D	22.6	165.8				

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.

8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.

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 I	Lane Flo	ows (v	/eh/h)							
South: Ti Ral	kau 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	413	-	413	6.5	1094 ¹	0.377	100	NA	NA	
Lane 2	13	-	13	100.0	82	0.158	100	0.0	1	
Lane 3	-	63	63	5.6	311	0.201	100	NA	NA	
Lane 4	-	63	63	5.6	311	0.201	100	0.0	3	
Approach	426	125	551	8.5		0.377				

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	497	-	497	6.4	570 ¹	0.872	100	<mark>100.0</mark>	2	
Lane 2	-	191	191	3.4	385 ¹	0.497	100	NA	NA	
Lane 3	-	260	260	7.5	522	0.497	100	NA	NA	
Approach	497	451	948	6.1		0.872				
West: Pakura	anga Ro	ad (We	est)							
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	57	0.735	100	NA	NA	
Lane 2	462	-	462	5.4	593	0.778	100	NA	NA	
Lane 3	462	-	462	5.4	593	0.778	100	NA	NA	
Lane 4	-	189	189	8.3	276	0.686	100	0.0	3	
Lane 5	-	147	147	8.3	213	0.686	100	0.0	4	
Approach	944	357	1301	9.2		0.778				
	Total	%HV[Deg.Sat	tn (v/c)						
Intersection	2800	8.0		0.872						

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

V Site: 2.1 [2.1 Pakuranga Plaza / Pakuranga Rd (Site Folder: ■Network: N101 [PM (Network PM)] Folder: General)]

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

Lane Use	ane Use and Performance														
	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	IVAL WS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Paku	ranga R	load (E	East)												
Lane 1	472 470	6.8	472 470	6.8	1850	0.255	100 100	0.7	LOSA	0.0	0.0	Full	121 121	0.0	0.0
Approach	951	5.9	951	5.9	1079	0.255	100	0.0	NA	0.0	0.0	Full	121	0.0	0.0
West: Pakı	uranga F	Road (West)												
Lane 1	532	7.2	531	7.2	1853	0.287	100	0.0	LOS A	10.7 ^{N5}	79.3 ^{N5}	Full	108	0.0	0.0
Lane 2	532	7.2	531	7.2	1853	0.287	100	0.0	LOS A	8.5 ^{N5}	63.0 ^{N5}	Full	108	0.0	0.0
Approach	1063	7.2	1063	7.2		0.287		0.0	NA	10.7	79.3				
SouthWest	: Pakura	anga F	Plaza												
Lane 1	52	5.8	52	5.8	883	0.059	100	2.0	LOS A	0.2	1.3	Full	196	0.0	0.0
Approach	52	5.8	52	5.8		0.059		2.0	LOS A	0.2	1.3				
Intersectio n	2066	6.6	2066	6.6		0.287		0.2	NA	10.7	79.3				

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.

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.

N5 Continuous Lane results determined by Back of Queue values of downstream lanes (proportional to lane movement flows).

Approach	Lane Fl	ows (v	/eh/h)							
East: Pakura	anga Roa	ad (Eas	t)							
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 Lane 2	63	409 479	472 479	6.8 5.0	1850 1879	0.255 0.255	100 100	NA NA	NA NA	
Approach	63	888	951	5.9		0.255				
West: Pakur	anga Ro	ad (We	st)							
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 Lane 2	531 531	531 531	7.2 7.2		1853 1853	0.287 0.287	100 100	NA NA	NA NA	
Approach	1063	1063	7.2			0.287				
SouthWest:	Pakuran	ga Plaz	a							
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	52	52	5.8	883	0.059	100	NA	NA			
Approach	52	52	5.8		0.059						
	Total	%HV D	eg.Satn (v/c)								
Intersection	2066	6.6	0.287								

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

Site: 3.0 [3.0 Pakuranga Highway / Pakuranga Rd (Site Folder: ■■ Network: N101 [PM (Network PM)] Folder: General)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 134 seconds (Site User-Given Phase Times)

Lane Use	Lane Use and Performance														
	DEM FLO [Total	AND WS HV]	ARR FLC [Total	IVAL WS HV]	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% B/ QU [Veh	ACK OF EUE Dist]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec		-	m		m	%	%
East: Paku	ranga F	Road (E	East)												
Lane 1	215	6.3	215	6.3	734	0.293	100	23.6	LOS C	7.0	51.6	Full	183	0.0	0.0
Lane 2	215	6.3	215	6.3	734	0.293	100	23.6	LOS C	7.0	51.6	Full	183	0.0	0.0
Lane 3	200	5.8	200	5.8	546	0.366	100	43.2	LOS D	9.2	67.2	Full	183	0.0	0.0
Lane 4	200	5.8	200	5.8	546	0.366	100	43.2	LOS D	9.2	67.2	Short	60	0.0	NA
Approach	829	6.0	829	6.0		0.366		33.1	LOS C	9.2	67.2				
NorthWest	: Pakura	anga R	load (N	/est)											
Lane 1	495	8.5	495	8.5	536	0.924	100	72.0	LOS E	23.5 ^{N4}	176.8 ^{N4}	Full	121	0.0	<mark>50.0</mark>
Lane 2	482	4.5	482	4.5	521	0.924	100	71.4	LOS E	24.3 ^{N4}	176.8 ^{N4}	Full	121	0.0	<mark>50.0</mark>
Lane 3	80	15.0	80	15.0	112	0.714	100	76.3	LOS E	5.0	39.2	Short	98	0.0	NA
Approach	1057	7.2	1057	7.2		0.924		72.0	LOS E	24.3	176.8				
SouthWest	: Flyove	er													
Lane 1	554	6.0	554	6.0	628	0.882	100	38.8	LOS D	23.5	172.8	Short	70	0.0	NA
Lane 2	637	5.4	637	5.4	649	0.982	100	79.8	LOS E	43.8	320.9	Full	1162	0.0	0.0
Lane 3	984	5.4	984	5.4	1002	0.982	100	76.6	LOS E	77.5	567.7	Full	1162	0.0	0.0
Approach	2175	5.5	2175	5.5		0.982		67.9	LOS E	77.5	567.7				
Intersectio n	4061	6.1	4061	6.1		0.982		61.9	LOS E	77.5	567.7				

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.

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.

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

Approach Lane Flows (veh/h)													
East: Pakura	East: Pakuranga Road (East)												
Mov. From E To Exit:	L1 SW	R1 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.				
Lane 1 Lane 2 Lane 3 Lane 4 Approach	215 215 - - 430	- 200 200 399	215 215 200 200 829	6.3 6.3 5.8 5.8 6.0	734 734 546 546	0.293 0.293 0.366 0.366 0.366	100 100 100 100	NA NA NA <mark>25.4</mark>	NA NA NA 3				
NorthWest: Mov. From NW To Exit:	Pakurang L1 E	a Road R2 SW	d (West Total	:) %HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.				
Lane 1	495	-	495	8.5	536	0.924	100	NA	NA				

Lane 2	482	-	482	4.5	521 ¹	0.924	100	NA	NA	
Lane 3	-	80	80	15.0	112	0.714	100	0.0	2	
Approach	977	80	1057	7.2		0.924				
SouthWest: I	lyover									
Mov. From SW	L2	R1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane	
To Exit:	NW	E			veh/h	v/c	%	%	No.	
Lane 1	554	-	554	6.0	628 ¹	0.882	100	<mark>100.0</mark>	2	
Lane 2	-	637	637	5.4	649 ¹	0.982	100	NA	NA	
Lane 3	-	984	984	5.4	1002	0.982	100	NA	NA	
Approach	554	1621	2175	5.5		0.982				
	Total	%HV[Deg.Sat	n (v/c)						
Intersection	4061	6.1		0.982						

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 Percent Opposing Lane Opng in Flow Rate Length Lane m % veh/h pcu/h	Critical Gap sec	Follow-up Lane C Headway Flow Rate sec veh/h	apacity veh/h	Deg. Satn [v/c	Min. Delay sec	Merge Delay sec
East Exit: Pakuranga Road Merge Type: Not Applied	(East)						
Full Length Lane1Full Length Lane2Full Length Lane3	Merge Analysis not applied. Merge Analysis not applied. Merge Analysis not applied.						
NorthWest Exit: Pakuranga Merge Type: Not Applied	Road (West)						
Full Length Lane1Full Length Lane2	Merge Analysis not applied. Merge Analysis not applied.						
SouthWest Exit: Flyover Merge Type: Not Applied							
Full Length Lane 1	Merge Analysis not applied.						
Full Length Lane 2	Merge Analysis not applied.						

V Site: 7.1 [7.1 William Roberts Rd / Cortina PI (Site Folder: PM)]

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

Lane Use and Performance															
	DEM FLO [Total	AND WS HV]	ARR FLO [Total	IVAL WS HV]	Cap.	Deg. Satn	Lane Util. %	Aver. Delay	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist]	Lane Config	Lane Length	Cap. Adj. %	Prob. Block. %
NorthEast:	William	Robe	rts Roa	d (Nor	th)	V/C	70	300	_			_		/0	//
Lane 1	152	3.3	152	3.3	1852	0.082	100	0.3	LOS A	0.1	0.6	Full	223	0.0	0.0
Approach	152	3.3	152	3.3		0.082		0.3	NA	0.1	0.6				
NorthWest	Cortina	a Place	e												
Lane 1	64	6.3	64	6.3	1039	0.062	100	3.4	LOS A	0.2	1.3	Full	177	0.0	0.0
Approach	64	6.3	64	6.3		0.062		3.4	LOS A	0.2	1.3				
SouthWest	: Williar	n Robe	erts Roa	ad (So	uth)										
Lane 1	221	5.9	221	5.9	1809	0.122	100	0.4	LOS A	0.0	0.0	Full	110	0.0	0.0
Approach	221	5.9	221	5.9		0.122		0.4	NA	0.0	0.0				
Intersectio n	437	5.0	437	5.0		0.122		0.8	NA	0.2	1.3				

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.

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.

NorthEast: W	/illiam R	oberts l	Road (N	North)						
Mov. From NE To Exit:	T1 SW	R2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. S %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	142	10	152	3.3	1852	0.082	100	NA	NA	
Approach	142	10	152	3.3		0.082				
NorthWest: C	Cortina F	Place								
Mov. From NW	L2	R2	Total	%HV	Cap.	Deg. Satn	Lane Util. S	Prob. SL Ov.	Ov. Lane	
To Exit:	NE	SW			veh/h	v/c	%	%	No.	
Lane 1	19	45	64	6.3	1039	0.062	100	NA	NA	
Approach	19	45	64	6.3		0.062				
SouthWest: W	Nilliam I	Roberts	Road ((South)						
Mov. From SW	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Util. S	Prob. SL Ov.	Ov. Lane	
To Exit:	NW	NE			veh/h	v/c	%	%	No.	
Lane 1	48	173	221	5.9	1809	0.122	100	NA	NA	
Approach	48	173	221	5.9		0.122				
	Total	%HV C	Deg.Sat	n (v/c)						

Intersection	437	5.0	0.122
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Merge Analysis								
Ex Lan Numbe	t Short e Lane r Length	Percent Opposing Opng in Flow Rate Lane	Critical Gap	Follow-up Headway	Lane Capacity Flow Rate	Deg. Satn [Min. Delay	Merge Delay
NorthEast Exit: William Ro Merge Type: Not Applied	berts Roa	d (North)	300	300	Venini Venini	10	300	300
Full Length Lane	Merge	Analysis not applied						
NorthWest Exit: Cortina P Merge Type: Not Applied	ace							
Full Length Lane	Merge	Analysis not applied						
SouthWest Exit: William R Merge Type: Not Applied	oberts Roa	ad (South)						
Full Length Lane	Merge	Analysis not applied.						

Site: 4.0 [4.0 Palm Ave / Aylesbury St (Site Folder: PM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site Practical Cycle Time)

Lane Use	Lane Use and Performance														
	DEM FLO [Total	AND WS HV]	ARR FLO [Total	IVAL WS HV]	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Ti R	akau D	rive (E	ast)												
Lane 1	248	9.0	248	9.0	299	0.831	100	51.1	LOS D	11.8	89.0	Full	110	0.0	0.0
Lane 2	257	9.2	257	9.2	309	0.831	100	50.8	LOS D	12.2	91.8	Short	80	0.0	NA
Approach	505	9.1	505	9.1		0.831		51.0	LOS D	12.2	91.8				
East: Ayles	bury St	reet													
Lane 1	35	8.6	35	8.6	102	0.344	100	54.5	LOS D	1.6	11.9	Short	30	0.0	NA
Lane 2	91	3.3	91	3.3	108	0.840	100	60.7	LOS E	4.5	32.4	Full	40	0.0	0.0
Approach	126	4.8	126	4.8		0.840		59.0	LOS E	4.5	32.4				
North: Ti R	akau Dr	ive (W	/est)												
Lane 1	295	9.5	295	9.5	865	0.342	39 ⁶	18.3	LOS B	8.1	61.2	Full	174	0.0	0.0
Lane 2	554	9.6	554	9.6	639	0.866	100	37.5	LOS D	26.2	198.7	Full	174	<mark>-26.5</mark> ^{N3}	<mark>27.1</mark>
Approach	849	9.5	849	9.5		0.866		30.8	LOS C	26.2	198.7				
West: Palm	n Avenu	е													
Lane 1	63	6.3	63	6.3	101	0.622	100	58.7	LOS E	3.0	21.8	Full	87	<mark>-6.7</mark> N3	0.0
Approach	63	6.3	63	6.3		0.622		58.7	LOS E	3.0	21.8				
Intersectio n	1543	8.9	1543	8.9		0.866		40.9	LOS D	26.2	198.7				

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.

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.

6 Lane under-utilisation due to downstream effects

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

Approach Lar	ne Flo	ws (ve	h/h)								
South: Ti Rakau	ı Drive	(East)									
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 Lane 2	38 -	210 222	- 35	248 257	9.0 9.2	299 309	0.831 0.831	100 100	NA <mark>27.5</mark>	NA 1	
Approach	38	432	35	505	9.1		0.831				
East: Aylesbury	Street	t									
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	35	-	-	35	8.6	102	0.344	100	0.0	2	
Lane 2	-	10	81	91	3.3	108	0.840	100	NA	NA	
Approach	35	10	81	126	4.8		0.840				

North: Ti Rak	au Driv	e (West))								
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	19	276	-	295	9.5	865	0.342	39 ⁶	NA	NA	
Lane 2	-	534	20	554	9.6	639	0.866	100	NA	NA	
Approach	19	810	20	849	9.5		0.866				
West: Palm A	venue										
Mov. From W To Exit:	L2 N	T1 F	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	41	10	12	63	6.3	101	0.622	100	NA	NA	
Approach	41	10	12	63	6.3		0.622				
	Total	%HV D	eg.Sat	n (v/c)							
Intersection	1543	8.9		0.866							

6 Lane under-utilisation due to downstream effects

Merge Analysis												
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opp Flow veh/h	osing Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane (Flow Rate veh/h	Capacity veh/h	Deg. Satn I v/c	Min. Delay sec	Merge Delay sec
South Exit: Ti Raka Merge Type: Zippe	u Drive (r	East)										
Exit Short Lane	1	70	50.0	273	286	2.50	2.00	311	1450	0.215	0.1	0.2
Merge Lane	2	-	50.0	156	163	2.50	2.00	546	1610	0.339	0.0	0.1
East Exit: Aylesbury Merge Type: Not A	y Street pplied											
Full Length Lane	1	Merge	Analysis	not a	oplied.							
North Exit: Ti Raka Merge Type: Not A	u Drive (\ pplied	West)										
Full Length Lane	1	Merge	Analysis	not a	oplied.							
Full Length Lane	2	Merge	Analysis	not a	oplied.							
West Exit: Palm Av Merge Type: Not A	enue pplied											
Full Length Lane	1	Merge	Analysis	not a	oplied.							

Site: 5.0 [5.0 Pakuranga Highway/ Reeves Rd (Site 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																
	DEM FLO [Total	AND WS HV]	ARR FLO [Total	IVAL WS HV]	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% B/ QUI [Veh	ACK OF EUE Dist]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.	
SouthEast	ven/n Ti Rak	% au Driv	ven/n /e (Eas	% t)	ven/n	V/C	%	sec	_	_	m	_	m	%	%	
SouthEast. Thatau Drive (Last)																
Lane 1	478	10.3	478	10.3	947	0.505	100	10.7	LOS B	5.4	40.8	Full	90	0.0	0.0	
Lane 2	441	8.8	441	8.8	1009	0.437	100	5.9	LOS A	4.7	35.3	Full	90	0.0	0.0	
Approach	919	9.6	919	9.6		0.505		8.4	LOS A	5.4	40.8					
NorthWest	: Ti Rak	au Driv	ve (Wes	st)												
Lane 1	857	9.6	857	9.6	1020	0.840	100	14.7	LOS B	16.6	125.8	Full	110	0.0	<mark>27.3</mark>	
Approach	857	9.6	857	9.6		0.840		14.7	LOS B	16.6	125.8					
SouthWest	: Pakur	anga F	IWY													
Lane 1	66	9.1	66	9.1	260	0.254	100	25.0	LOS C	1.1	8.4	Full	623	0.0	0.0	
Approach	66	9.1	66	9.1		0.254		25.0	LOS C	1.1	8.4					
Intersectio n	1842	9.6	1842	9.6		0.840		11.9	LOS B	16.6	125.8					

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.

Approach I	_ane Fl	ows (\	/eh/h)						
SouthEast: T	i Rakau	Drive (East)						
Mov. From SE To Exit [.]	L2	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Long 1	470		470	10.2	0.47	0.505	100	NIA	NIA
Lane	478	-	478	10.3	947	0.505	100	NA	NA
Lane 2	-	441	441	8.8	1009	0.437	100	NA	NA
Approach	478	441	919	9.6		0.505			
NorthWest: T	i 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	857	857	9.6		1020	0.840	100	NA	NA
Approach	857	857	9.6			0.840			
SouthWest: F	Pakuran	ga HW	Y						
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	66	66	9.1		260	0.254	100	NA	NA
Approach	66	66	9.1			0.254			
	Total	%HV [Deg.Sat	n (v/c)					

Intersection	1842	9.6	0.840
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Merge Analysis												
E La Num	Exit ane ber	Short Lane Length	Percent Opng in Lane	Oppo Flow	osing Rate	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity	Deg. Satn	Min. Delay	Merge Delay
		m	%	veh/h	pcu/h	sec	sec	veh/h	veh/h	v/c	sec	sec
SouthEast Exit: Ti Raka Merge Type: Not Appli	u Dri ed	ve (East)									
Full Length Lane	1	Merge	Analysis	not ap	plied.							
NorthWest Exit: Ti Raka Merge Type: Not Appli	u Dri e d	ve (Wes	t)									
Full Length Lane	1	Merge	Analysis	not ap	plied.							
SouthWest Exit: Pakura Merge Type: Priority	nga	HWY										
Exit Short Lane	2	10	0.0	478	503	3.00	2.00	0	1284	0.000	0.8	0.8
Merge Lane	1	-	100.0	Me	rge La	ne is not C	Opposed	478	1800	0.266	0.0	0.0

CCG LANE SUMMARY

□ Common Control Group: CCG2 [WRR / Mattson]

■ Network: N101 [PM (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (CCG Practical Cycle Time)

Lane Use	Lane Use and Performance (CCG)														
	DEN		ARF	RIVAL	Can	Deg.	Lane	Aver.	Level of	85% BA		Lane	Lane	Cap.	Prob.
	[Total	HV 1	[Total	I H <u>V]</u>	oap.	Sain	0111.	Delay	Service	[<u>Veh</u>	 Di <u>st]</u>	Conlig	Lengin	Auj.	BIOCK.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
Site: 7.0 [7	Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr]														
SouthEast:	Ti Rak	au Driv	e (Eas	st)											
Lane 1	295	8.3	295	8.3	589	0.500	100	15.1	LOS B	5.4	40.1	Full	60	0.0	0.0
Lane 2	295	8.3	295	8.3	589	0.500	100	5.3	LOS A	2.5	18.9	Full	60	0.0	0.0
Lane 3	295	8.3	295	8.3	589	0.500	100	5.3	LOS A	2.5	18.9	Full	60	0.0	0.0
Lane 4	155	2.6	155	2.6	363	0.427	100	28.7	LOS C	3.5	25.3	Short	20	0.0	NA
Lane 5 (B)	13	100.0	13	100.0	382	0.034	100	6.9	LOS A	0.1	1.4	Full	60	0.0	0.0
Approach	1052	8.6	1052	8.6		0.500		11.5	LOS B	5.4	40.1				
NorthEast:	William	n Rober	ts Roa	id Exter	nsion										
Lane 1	123	3.3	123	3.3	361	0.341	100	21.5	LOS C	2.4	17.5	Short	80	0.0	NA
Lane 2	64	3.1	64	3.1	217	0.295	100	25.1	LOS C	1.4	9.9	Full	110	0.0	0.0
Approach	187	3.2	187	3.2		0.341		22.7	LOS C	2.4	17.5				
NorthWest	: Ti Rak	au Driv	e (We	st)											
Lane 1	154	10.0	154	10.0	265	0.580	100	24.9	LOS C	3.1	23.8	Full	107	0.0	0.0
Lane 2	344	7.4	344	7.4	592	0.580	100	15.9	LOS B	6.5	48.4	Full	107	0.0	0.0
Lane 3	344	7.4	344	7.4	592	0.580	100	15.9	LOS B	6.5	48.4	Full	107	0.0	0.0
Lane 4 (B)	17	100.0	17	100.0	382	0.044	100	6.9	LOS A	0.1	1.9	Full	107	0.0	0.0
Approach	858	9.7	858	9.7		0.580		17.3	LOS B	6.5	48.4				
Intersectio n	2097	8.5	2097	8.5		0.580		14.9	LOS B	6.5	48.4				
Site: 7.5 [7	.5 Matt	son Rd/	/ Ti Ral	kau Dr]											
SouthEast:	Ti Rak	au Driv	e (Eas	st)											
Lane 1	185	7.8	185	7.8	229	0.807	100	36.5	LOS D	5.2	38.6	Short	25	0.0	NA
Lane 2	386	7.5	386	7.5	478 ¹	0.807	100	21.3	LOS C	8.8	65.5	Full	143	0.0	0.0
Lane 3	478	7.5	478	7.5	592	0.807	100	21.7	LOS C	11.3	84.4	Full	143	0.0	0.0
Lane 4 (B)	13	100.0	13	100.0	376	0.035	100	6.9	LOS A	0.1	1.4	Full	143	0.0	0.0
Approach	1061	8.7	1061	8.7		0.807		23.9	LOS C	11.3	84.4				
NorthWest	Ti Rak	au Driv	e (We	st)											
Lane 1	100	6.9	100	6.9	594	0.169	27 ⁶	17.8	LOS B	2.0	14.7	Full	60	0.0	0.0
Lane 2	369	6.9	369	6.9	594	0.621	100	8.1	LOS A	4.8	35.9	Full	60	0.0	0.0
Lane 3	369	6.9	369	6.9	594	0.621	100	2.9	LOS A	2.2	16.5	Full	60	0.0	0.0
Lane 4	60	5.0	60	5.0	357	0.168	100	27.1	LOS C	1.4	9.9	Short	25	0.0	NA
Lane 5 (B)	17	100.0	17	100.0	376	0.045	100	6.9	LOS A	0.1	1.9	Full	60	0.0	0.0
Approach	915	8.5	915	8.5		0.621		8.3	LOS A	4.8	35.9				
SouthWest	: Matts	on Roa	d												
Lane 1	13	7.7	13	7.7	350	0.037	100	22.5	LOS C	0.2	1.8	Full	282	0.0	0.0
Lane 2	26	3.8	26	3.8	216	0.120	100	27.2	LOS C	0.5	3.9	Full	282	0.0	0.0
Approach	39	5.1	39	5.1		0.120		25.6	LOS C	0.5	3.9				
Intersectio n	2015	8.5	2015	8.5		0.807		16.9	LOS B	11.3	84.4				

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.
- 6 Lane under-utilisation due to downstream effects

Approac	ch Lane	Flows	s (CCG	i) (veh/l	า)							
Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr]												
SouthEas	SouthEast: Ti Rakau Drive (East)											
Mov.	T1	R2	Total	%HV	0	Deg.	Lane	Prob.	. Ov.			
From					Cap. veb/b	Satn	Util.	SL Ov.	Lane			
SE To Exit [.]	NW	NE			Ven/m	v/C			NU.			
Lane 1	295	-	295	8.3	589	0.500	100	NA	NA			
Lane 2	295	-	295	8.3	589	0.500	100	NA	NA			
Lane 3	295	-	295	8.3	589	0.500	100	NA	NA			
Lane 4	- 200	155	155	2.6	363	0.427	100	36.7				
Lane 5	13	-	13	100.0	382	0.034	100	NA	NA			
Approac	897	155	1052	8.6	002	0.500	100	10/1	1473			
h	007	100	1002	0.0		0.000						
NorthEas	t: Williar	n Robe	rts Roa	d Extens	sion			D. et al.				
Mov.	L2	R2	Iotal	%HV	Cap	Deg. Sate	Lane	Prob.	Ov.			
NF	SE_				veh/h	<u>v/c</u>		<u></u>	<u>No.</u>			
To Exit:	- 3E											
Lane 1	123	-	123	3.3	361	0.341	100	0.0	2			
Lane 2	-	64	64	3.1	217	0.295	100	NA	NA			
Approac	123	64	187	3.2		0.341						
h												
North\//or		ou Driv	(0. /\N/00	.+)								
Northves				st)	_	Dee	Lana	Duch	0.4			
IVIOV. Erom	LZ	11	Total	% H V	Cap.	Deg. Satn	Lane	SI OV	l ane			
NW	NF	SF			veh/h	v/c	%	%	No.			
To Exit:												
Lane 1	67	87	154	10.0	265	0.580	100	NA	NA			
Lane 2	-	344	344	7.4	592	0.580	100	NA	NA			
Lane 3	-	344	344	7.4	592	0.580	100	NA	NA			
Lane 4	-	17	17	100.0	382	0.044	100	NA	NA			
Approac	67	791	858	9.7		0.580						
h												
	Total	%HV_	Ded Sa	tn (v/c)								
	Total	/0110	bog.ou									
Intersec	2097	8.5		0.580								
tion												
Site: 7.5 [[7.5 Mat	tson Rd	l/ Ti Rał	kau Dr]								
SouthEas	st: Ti Rał	kau Driv	/e (East	t)								
Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.			
From					Cap.	Satn	Util.	SL Ov.	Lane			
SE To Freitre	SW	NW			veh/h	v/c	%	%	No.			
TO EXIL		105	105	7.0	000	0.007	100	EE O	0			
	20	201	105	1.ð 7 -	229	0.007	100					
Lane 2	-	386	386	7.5	4/8	0.807	100	NA NA	NA			
Lane 3	-	478	478	7.5	592	0.807	100	NA	NA			
Lane 4	-	13	13	100.0	376	0.035	100	NA	NA			
Арргоас	20	1041	1061	8.7		0.807						
11												
NorthWes	st: Ti Ral	kau Driv	ve (Wes	st)								
Mov.	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.			
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From					Cap.	Satn	Util.	SL Ov.	Lane			
NW To Evit:	SE	SW			ven/n	V/C	70	%	INO.			
	100		400		50.4	0.400	o - 6					
Lane 1	100	-	100	6.9	594	0.169	27	NA	NA			
Lane 2	369	-	369	6.9	594	0.621	100	NA	NA			
Lane 3	369	-	369	6.9	594	0.621	100	NA	NA			
Lane 4	-	60	60	5.0	357	0.168	100	0.0	3			
Lane 5	17	-	17	100.0	376	0.045	100	NA	NA			
Approac	855	60	915	8.5		0.621						
h												
SouthWes	st: Matts	son Roa	d									
Mov.	L2	R2	Total	%HV		Deg.	Lane	Prob.	Ov.			
From					Cap.	Satn	Util.	SL Ov.	Lane			
SW	NW	SE			veh/h	v/c	%	%	No.			
To Exit:												
Lane 1	13	-	13	7.7	350	0.037	100	NA	NA			
Lane 2	-	26	26	3.8	216	0.120	100	NA	NA			
Approac	13	26	39	5.1		0.120						
h	10	20	00	0.1		0.120						
	Total	%HV I	Deg.Sat	tn (v/c)								
Intersec	2015	8.5		0.807								
tion												

- 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 (CCG)					
Exit Lane Number	Short Percent Oppo Lane Opng in Flow F Length Lane	sing Critical Fo Rate Gap He	llow-up Lane Cap eadway Flow Rate	oacity Deg. Min. Satn Delay	Merge Delay
Site: 7.0.[7.0. William Pohe	m % veh/h p rts Pd / Ti Pakau Drl	ocu/h sec	sec veh/h v	/eh/h v/c sec	sec
SouthEast Exit: Ti Pakau D	rive (East)				
Merge Type: Not Applied	ive (Lasi)				
Full Length Lane 1	Merge Analysis not ap	plied.			
Full Length Lane 2	Merge Analysis not ap	plied.			
Full Length Lane 3	Merge Analysis not ap	plied.			
Full Length Lane 4	Merge Analysis not ap	plied.			
NorthEast Exit: William Rob Merge Type: Not Applied	erts Road Extension				
Full Length Lane 1	Merge Analysis not ap	plied.			
NorthWest Exit: Ti Rakau D Merge Type: Not Applied	rive (West)				
Full Length Lane 1	Merge Analysis not ap	plied.			
Full Length Lane 2	Merge Analysis not ap	plied.			
Full Length Lane 3	Merge Analysis not ap	plied.			
Full Length Lane 4	Merge Analysis not ap	plied.			
Site: 7.5 [7.5 Mattson Rd/ T	i Rakau Dr]				
SouthEast Exit: Ti Rakau Dr Merge Type: Priority	rive (East)				
Exit Short Lane 1	40 0.0 369	382 3.00	2.00 100	1410 0.071 0.6	0.7
Merge Lane 2	- 100.0 Mer	ge Lane is not Oppo	osed 369	1800 0.205 0.0	0.0
NorthWest Exit: Ti Rakau D	rive (West)				

Merge Type: Not Appli	ed	
Full Length Lane	1	Merge Analysis not applied.
Full Length Lane	2	Merge Analysis not applied.
Full Length Lane	3	Merge Analysis not applied.
Full Length Lane	4	Merge Analysis not applied.
SouthWest Exit: Mattso Merge Type: Not Appli	on Ro ed	ad
Full Length Lane	1	Merge Analysis not applied.

Site: 8.1 [8.1 U-turn - West of Marriot Rd (Site Folder: PM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Site Practical Cycle Time)

Lane Use	Lane Use and Performance														
	DEM FLC [Total veh/h	IAND DWS HV] %	ARF FLC [Total veh/h	RIVAL DWS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUE [Veh	CK OF UE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast:	Ti Rak	au Driv	e (Eas	st)											
Lane 1	529	7.6	529	7.6	1849	0.286	100	0.0	LOS A	0.0	0.0	Full	147	0.0	0.0
Lane 2	529	7.6	529	7.6	1849	0.286	100	0.0	LOS A	0.0	0.0	Full	147	0.0	0.0
Lane 3	173	4.6	173	4.6	314	0.551	100	18.4	LOS B	2.3	16.5	Short	14	0.0	NA
Lane 4 (B)	13	100.0	13	100.0	438	0.030	100	2.9	LOS A	0.0	0.6	Full	147	0.0	0.0
Approach	1244	8.1	1244	8.1		0.551		2.6	LOS A	2.3	16.5				
NorthWest:	Ti Rak	au Driv	ve (We	st)											
Lane 1	434	6.9	433	6.9	681	0.637	100	9.5	LOS A	5.2	38.3	Full	73	0.0	0.0
Lane 2	434	6.9	433	6.9	681	0.637	100	9.5	LOS A	5.2	38.3	Full	73	0.0	0.0
Lane 3 (B)	17	100.0	17	100.0	438	0.039	100	2.9	LOS A	0.1	0.8	Full	73	0.0	0.0
Approach	884	8.7	884	8.7		0.637		9.4	LOS A	5.2	38.3				
Intersectio n	2128	8.4	2128	8.4		0.637		5.4	LOS A	5.2	38.3				

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.

Approach I	_ane Fl	lows (\	/eh/h)						
SouthEast: T	i Rakau	Drive (East)						
Mov. From SE To Exit:	T1 NW	U SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	529	-	529	7.6	1849	0.286	100	NA	NA
Lane 2	529	-	529	7.6	1849	0.286	100	NA	NA
Lane 3	-	173	173	4.6	314	0.551	100	<mark>29.8</mark>	2
Lane 4	13	-	13	100.0	438	0.030	100	NA	NA
Approach	1071	173	1244	8.1		0.551			
NorthWest: T	i 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	433	433	6.9		681	0.637	100	NA	NA
Lane 2	433	433	6.9		681	0.637	100	NA	NA
Lane 3	17	17	100.0		438	0.039	100	NA	NA
Approach	884	884	8.7			0.637			
	Total	%HV	Deg.Sat	tn (v/c)					
Intersection	2128	8.4		0.637					

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

Merge Analysis											
E La Numb	xit ne oer	Short Lane Length	Percent Opng in Lane	Opposing Flow Rate	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity	Deg. Satn l	Min. Delay	Merge Delay
		m	%	veh/h pcu/h	sec	sec	veh/h	veh/h	v/c	sec	sec
SouthEast Exit: Ti Rakau Merge Type: Not Applie	u Dri d	ve (East	:)								
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 Rakat Merge Type: Not Applie	u Dr d	ive (Wes	st)								
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: 10.1 [10.1 U-turn - East of Edgewater Dr (West) (Site Folder: PM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Site Practical Cycle Time)

Lane Use and Performance															
	DEM FLC [Total veh/h	IAND DWS HV] %	ARR FLC [Total veh/h	RIVAL DWS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast:	Ti Rak	au Driv	ve (Eas	st)											
Lane 1 Lane 2 Lane 3 (B)	572 572 13	7.2 7.2 100.0	572 572 13	7.2 7.2 100.0	741 741 478	0.772 0.772 0.027	100 100 100	11.7 11.7 2.1	LOS B LOS B LOS A	8.0 8.0 0.0	59.3 59.3 0.5	Full Full Full	64 64 64	0.0 0.0 0.0	<mark>8.1</mark> <mark>8.1</mark> 0.0
Approach	1157	8.2	1157	8.2		0.772		11.6	LOS B	8.0	59.3				
NorthWest:	Ti Rak	au Driv	/e (We	st)											
Lane 1 Lane 2 Lane 3 Lane 4 (B)	550 550 109 17	7.7 7.7 5.5 100.0	550 550 109 17	7.7 7.7 5.5 100.0	1847 1847 268 478	0.298 0.298 0.407 0.036	100 100 100 100	0.0 0.0 18.6 2.1	LOS A LOS A LOS B LOS A	0.0 0.0 1.4 0.0	0.0 0.0 10.2 0.6	Full Full Short Full	81 81 15 81	0.0 0.0 0.0 0.0	0.0 0.0 NA 0.0
Approach	1226	8.8	1226	8.8		0.407		1.7	LOS A	1.4	10.2				
Intersectio n	2383	8.5	2383	8.5		0.772		6.5	LOS A	8.0	59.3				

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.

Approach I	_ane Fl	lows (v	/eh/h)	_			_			
SouthEast: T	i Rakau	Drive (East)							
Mov. From SE To Exit:	T1 NW	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	572	572	7.2		741	0.772	100	NA	NA	
Lane 2	572	572	7.2		741	0.772	100	NA	NA	
Lane 3	13	13	100.0		478	0.027	100	NA	NA	
Approach	1157	1157	8.2			0.772				
NorthWest: T	i Rakau	Drive	(West)							
Mov. From NW To Exit:	T1 SE	U NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	550	-	550	7.7	1847	0.298	100	NA	NA	
Lane 2	550	-	550	7.7	1847	0.298	100	NA	NA	
Lane 3	-	109	109	5.5	268	0.407	100	0.0	2	
Lane 4	17	-	17	100.0	478	0.036	100	NA	NA	
Approach	1117	109	1226	8.8		0.407				
	Total	%HVI	Deg.Sat	:n (v/c)						
Intersection	2383	8.5		0.772						

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

Merge Analysis											
E La Numb	xit ne oer	Short Lane Length	Percent Opng in Lane	Opposing Flow Rate	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity	Deg. Satn l	Min. Delay	Merge Delay
		m	%	veh/h pcu/h	sec	sec	veh/h	veh/h	v/c	sec	sec
SouthEast Exit: Ti Rakau Merge Type: Not Applie	u Dri d	ve (East	:)								
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 Rakat Merge Type: Not Applie	u Dr d	ive (Wes	st)								
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: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr Closure (Site Folder: PM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Practical Cycle Time)

Lane Use	Lane Use and Performance														
	DEM FLO [Total	AND WS HV]	ARR FLO [Total	IVAL ₩S HV]	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
South: Fre	mantle F	Place	ven/m	70	ven/n	V/C	70	Sec	_	_	111	_	111	70	70
Lane 1 Lane 2	10 11	0.0 0.0	10 11	0.0 0.0	312 112	0.032 0.098	100 100	60.4 78.6	LOS E LOS E	0.5 0.7	3.8 4.9	Short Full	26 285	0.0 0.0	NA 0.0
Approach	21	0.0	21	0.0		0.098		69.9	LOS E	0.7	4.9				
East: Ti Ra	ikau Driv	ve (Ea	ist)												
Lane 1	1164	8.1	1164	8.1	1204	0.967	100	51.4	LOS D	84.1	629.2	Full	636	0.0	<mark>14.0</mark>
Approach	1164	8.1	1164	8.1		0.967		51.4	LOS D	84.1	629.2				
West: Ti Ra	akau Dri	ive (W	'est)												
Lane 1	1102	9.3	1102	9.3	1163	0.948	100	45.5	LOS D	78.4	592.7	Full	479	0.0	<mark>34.5</mark>
Approach	1102	9.3	1102	9.3		0.948		45.5	LOS D	78.4	592.7				
Intersectio n	2287	8.6	2287	8.6		0.967		48.7	LOS D	84.1	629.2				

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.

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

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

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

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

Approach I	_ane Fl	ows (v	/eh/h)							
South: Frema	antle Pla	ace								
Mov. From S	L2	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	10	E	10	0.0	210	0.022	100	0.0	2	
	10	-	10	0.0	312	0.032	100	0.0		
	-		11	0.0	112	0.096	100	NA	INA	
Approach	10	11	21	0.0		0.098				
East: Ti Raka	au Drive	(East)								
Mov. From E	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane	
To Exit:	S	W			veh/h	v/c	%	%	No.	
Lane 1	10	1154	1164	8.1	1204	0.967	100	NA	NA	
Approach	10	1154	1164	8.1		0.967				
West: Ti Rak	au Drive	e (West))							
Mov. From W	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane	
To Exit:	Е	S			veh/h	v/c	%	%	No.	
Lane 1	1085	17	1102	9.3	1163	0.948	100	NA	NA	
Approach	1085	17	1102	9.3		0.948				
	Total	%HV[Deg.Sat	n (v/c)						

Intersection 2287	8.6	0.967
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Merge Analysis											
	Exit Lane Number	Short Lane Length	Percent Opng in Lane	Opposing Flow Rate	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity veh/h	Deg. Satn I	Min. Delay	Merge Delay
South Exit: Fremar Merge Type: Not A	ntle Place Applied							Vonin	110		
Full Length Lane	1	Merge	Analysis	not applied.							
East Exit: Ti Rakau Merge Type: Not A	u Drive (Ea Applied	ast)									
Full Length Lane	1	Merge	Analysis	not applied.							
West Exit: Ti Raka Merge Type: Not A	u Drive (V Applied	Vest)									
Full Length Lane	1	Merge	Analysis	not applied.							



Appendix J

EB2/EB3R Final Scenario – Phasing Diagrams

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

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site Practical Cycle Time)

Lane Use	and P	erforn	nance	;											
	DEM FLC [Total	IAND WS HV 1	ARF FLC [Total	RIVAL DWS I HV 1	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% B/ QUI [Veh	ACK OF EUE Dist 1	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec		L	m		m	%	%
South: Ti R	Rakau D	rive													
Lane 1	446	9.3	446	9.3	554	0.804	100	42.5	LOS D	19.4	146.4	Full	174	0.0	0.0
Lane 2	446	9.3	446	9.3	554	0.804	100	42.5	LOS D	19.4	146.4	Full	174	0.0	0.0
Lane 3	256	8.6	256	8.6	557	0.460	100	34.0	LOS C	9.0	67.5	Short	87	0.0	NA
Lane 4 (B)	53	100.0	53	100.0	263	0.202	100	28.3	LOS C	1.4	17.9	Full	174	0.0	0.0
Approach	1200	13.2	1200	13.2		0.804		40.1	LOS D	19.4	146.4				
East: Paku	ranga F	Road (E	East)												
Lane 1	94	6.4	84	6.4	459	0.183	100	35.7	LOS D	2.9	21.2	Short	21	0.0	NA
Lane 2	372	4.3	333	4.4	416	0.801	100	40.8	LOS D	14.3	104.0	Full	98	0.0	<mark>20.4</mark>
Lane 3	438	4.3	393	4.4	490	0.801	100	41.5	LOS D	17.3	126.0	Full	98	0.0	<mark>38.0</mark>
Approach	904	4.5	<mark>810</mark> ^{N1}	4.6		0.801		40.6	LOS D	17.3	126.0				
West: Paki	uranga	Road (West)												
Lane 1 (B)	23	100.0	23	100.0	263	0.087	100	27.4	LOS C	0.6	7.3	Full	380	0.0	0.0
Lane 2	296	5.7	296	5.7	486	0.609	100	35.5	LOS D	11.5	84.6	Full	380	0.0	0.0
Lane 3	296	5.7	296	5.7	486	0.609	100	35.5	LOS D	11.5	84.6	Full	380	0.0	0.0
Lane 4	319	17.9	319	17.9	393	0.810	100	49.1	LOS D	14.6	117.6	Short	178	0.0	NA
Lane 5	319	17.9	319	17.9	393	0.810	100	49.1	LOS D	14.6	117.6	Short	105	0.0	NA
Approach	1252	13.7	1252	13.7		0.810		42.3	LOS D	14.6	117.6				
Intersectio n	3356	11.0	3262 ^N	11.3		0.810		41.0	LOS D	19.4	146.4				

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.

Approach L	_ane Flo	ows (v	/eh/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	446	-	446	9.3	554	0.804	100	NA	NA					
Lane 2	446	-	446	9.3	554	0.804	100	NA	NA					
Lane 3	-	256	256	8.6	557	0.460	100	0.0	2					
Lane 4	53	-	53	100.0	263	0.202	100	NA	NA					
Approach	944	256	1200	13.2		0.804								
East: Pakura	nga Roa	d (Eas	t)											
Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.					

From E	_					Satn	Util.	SL Ov.	Lane
To Exit:	S	W			Cap.	v/c	%	%	No.
					ven/n				
Lane 1	84	-	84	6.4	459	0.183	100	<mark>16.0</mark>	2
Lane 2	-	333	333	4.4	416	0.801	100	NA	NA
Lane 3	-	393	393	4.4	490	0.801	100	NA	NA
Approach	84	725	810	4.6		0.801			
West: Pakura	anga Ro	ad (We	st)						
Mov.	T <u>1</u>	R2	Total	%HV		Deg.	Lane	Prob.	Ov.
From W					Cap.	Satn	Util.	SL Ov.	Lane
To Exit:	E	S			veh/h	v/c	%	%	No.
Lane 1	-	23	23	100.0	263	0.087	100	NA	NA
Lane 2	296	-	296	5.7	486	0.609	100	NA	NA
Lane 3	296	-	296	5.7	486	0.609	100	NA	NA
Lane 4	-	319	319	17.9	393	0.810	100	0.0	3
Lane 5	-	319	319	17.9	393	0.810	100	<mark>25.4</mark>	4
Approach	592	660	1252	13.7		0.810			
	Total	%HV[Deg.Sat	tn (v/c)					
Intersection	3262	11.3		0.810					

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

Merge Analysis			
Exit Lane Number	Short Percent Opposing Lane Opng in Flow Rate Length Lane m % veh/h pcu/h	Critical Follow-up Lane C Gap Headway Flow Rate sec sec veh/h	Capacity Deg. Min. Merge Satn Delay Delay veh/h v/c sec sec
South Exit: Ti Rakau Drive Merge Type: Not Applied			
Full Length Lane1Full Length Lane2Full Length Lane3	Merge Analysis not applied. Merge Analysis not applied. Merge Analysis not applied.		
East Exit: Pakuranga Road Merge Type: Not Applied	(East)		
Full Length Lane1Full Length Lane2	Merge Analysis not applied. Merge Analysis not applied.		
West Exit: Pakuranga Road Merge Type: Not Applied	d (West)		
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: 8.1 [8.1 U-turn - West of Marriot Rd (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Site Practical Cycle Time)

Lane Use	Lane Use and Performance														
	DEM FLC [Total veh/h	IAND DWS HV] %	ARF FLC [Total veh/h	RIVAL DWS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast:	Ti Rak	au Driv	e (Eas	st)											
Lane 1	780	11.0	780	11.0	1810	0.431	100	0.1	LOS A	0.0	0.0	Full	147	0.0	0.0
Lane 2	780	11.0	780	11.0	1810	0.431	100	0.1	LOS A	0.0	0.0	Full	147	0.0	0.0
Lane 3	68	5.9	68	5.9	267	0.255	100	18.2	LOS B	0.8	6.2	Short	14	0.0	NA
Lane 4 (B)	25	100.0	25	100.0	478	0.052	100	2.1	LOS A	0.1	0.9	Full	147	0.0	0.0
Approach	1652	12.2	1652	12.2		0.431		0.8	LOS A	0.8	6.2				
NorthWest:	Ti Rak	au Driv	e (We	st)											
Lane 1	533	14.2	533	14.2	711	0.750	100	11.1	LOS B	7.2	56.7	Full	73	0.0	0.0
Lane 2	533	14.2	533	14.2	711	0.750	100	11.1	LOS B	7.2	56.7	Full	73	0.0	0.0
Lane 3 (B)	13	100.0	13	100.0	478	0.027	100	2.1	LOS A	0.0	0.5	Full	73	0.0	0.0
Approach	1079	15.2	1079	15.2		0.750		11.0	LOS B	7.2	56.7				
Intersectio n	2731	13.4	2731	13.4		0.750		4.8	LOS A	7.2	56.7				

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.

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

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

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

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

Approach I	_ane F	lows (v	/eh/h)						
SouthEast: T	i Rakau	Drive (East)						
Mov. From SE To Exit:	T1 NW	U SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. \$ %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	780	-	780	11.0	1810	0.431	100	NA	NA
Lane 2	780	-	780	11.0	1810	0.431	100	NA	NA
Lane 3	-	68	68	5.9	267	0.255	100	0.0	2
Lane 4	25	-	25	100.0	478	0.052	100	NA	NA
Approach	1584	68	1652	12.2		0.431			
NorthWest: T	'i Rakau	ı 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	533	533	14.2		711	0.750	100	NA	NA
Lane 2	533	533	14.2		711	0.750	100	NA	NA
Lane 3	13	13	100.0		478	0.027	100	NA	NA
Approach	1079	1079	15.2			0.750			
	Total	%HV[Deg.Sat	tn (v/c)					
Intersection	2731	13.4		0.750					

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

Merge Analysis										
Ex Lan Numbe	it Short e Lane r Length	Percent Opng in Lane	Opposing Flow Rate	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity	Deg. Satn I	Min. Delay	Merge Delay
	m	%	veh/h pcu/h	sec	sec	veh/h	veh/h	v/c	sec	sec
SouthEast Exit: Ti Rakau Merge Type: Not Applied	Drive (Eas	t)								
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 Merge Type: Not Applied	Drive (We	st)								
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: 10.1 [10.1 U-turn - East of Edgewater Dr (West) (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Site Practical Cycle Time)

Lane Use	Lane Use and Performance														
	DEM FLC [Total veh/h	AND WS HV] %	ARR FLC [Total veh/h	RIVAL DWS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast:	Ti Rak	au Driv	e (Eas	st)											
Lane 1 Lane 2 Lane 3 (B)	771 771 25	10.7 10.7 100.0	771 771 25	10.7 10.7 100.0	998 998 657	0.773 0.773 0.038	100 100 100	10.6 10.6 0.2	LOS B LOS B LOS A	12.2 ^{N4} 12.2 ^{N4} 0.0	93.5 ^{N4} 93.5 ^{N4} 0.1	Full Full Full	64 64 64	0.0 0.0 0.0	<mark>50.0</mark> 50.0 0.0
Approach	1567	12.1	1567	12.1		0.773		10.5	LOS B	12.2	93.5				
NorthWest:	Ti Rak	au Driv	ve (We	st)											
Lane 1 Lane 2 Lane 3 Lane 4 (B)	537 538 112 13	13.6 13.6 10.7 100.0	537 538 112 13	13.6 13.6 10.7 100.0	1783 1783 194 657	0.302 0.302 0.576 0.020	100 100 100 100	0.0 0.0 25.6 0.2	LOS A LOS A LOS C LOS A	0.0 0.0 2.1 0.0	0.0 0.0 16.0 0.1	Full Full Short Full	81 81 15 81	0.0 0.0 0.0 0.0	0.0 0.0 NA 0.0
Approach	1200	14.3	1200	14.3		0.576		2.4	LOS A	2.1	16.0				
Intersectio n	2767	13.0	2767	13.0		0.773		7.0	LOS A	12.2	93.5				

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.

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

Approach I	_ane F	lows (v	/eh/h)						
SouthEast: T	i Rakau	ı Drive (East)						
Mov. From SE To Exit:	T1 NW	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	771	771	10.7		998	0.773	100	NA	NA
Lane 2	771	771	10.7		998	0.773	100	NA	NA
Lane 3	25	25	100.0		657	0.038	100	NA	NA
Approach	1567	1567	12.1			0.773			
NorthWest: T	i Rakau	Drive ((West)						
Mov. From NW To Exit:	T1 SE	U NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	537	-	537	13.6	1783	0.302	100	NA	NA
Lane 2	538	-	538	13.6	1783	0.302	100	NA	NA
Lane 3	-	112	112	10.7	194	0.576	100	<mark>20.7</mark>	2
Lane 4	13	-	13	100.0	657	0.020	100	NA	NA
Approach	1088	112	1200	14.3		0.576			
	Total	%HV[Deg.Sat	tn (v/c)					
Intersection	2767	13.0		0.773					

Merge Analysis											
E La Numb	xit ne oer	Short Per Lane Opr Length I	rcent Op ng in Flo ₋ane	posing w Rate	Critical Gap	Follow-up Headway	Lane Flow Rate	Capacity	Deg. Satn	Min. Delay	Merge Delay
		111	70 VEH	n pcu/n	Sec	SEC	ven/n	ven/n	V/C	Sec	Sec
SouthEast Exit: Ti Rakau Merge Type: Not Applie	u Dri d	ive (East)									
Full Length Lane	1	Merge Ana	lysis not	applied.							
Full Length Lane	2	Merge Ana	Iysis not	applied.							
Full Length Lane	3	Merge Ana	lysis not	applied.							
NorthWest Exit: Ti Raka Merge Type: Not Applie	u Dr d	ive (West)									
	-										
Full Length Lane	1	Merge Ana	lysis not	applied.							
Full Length Lane	2	Merge Ana	lysis not	applied.							
Full Length Lane	3	Merge Ana	lysis not	applied.							

Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr (Site Folder: AM)]

Site Category: (None)

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

Lane Use	Lane Use and Performance DEMAND ARRIVAL Deg. Lane Aver. Level of 85% BACK OF Lane Lane Cap. Prob.														
	DEM		ARF	RIVAL	Can	Deg.	Lane	Aver.	Level of	85% B	ACK OF	Lane	Lane	Cap.	Prob.
	FLC [Total	HV1	FLC [Tota]	UNNS I HV 1	Cap.	Sath	Util.	Delay	Service	QU [Veh	EUE Dist 1	Config	Length	Adj.	BIOCK.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Fren	mantle	Place													
Lane 1	20	10.0	20	10.0	93	0.215	100	81.5	LOS F	1.3	10.0	Short	9	0.0	NA
Lane 2	21	4.8	21	4.8	98	0.213	100	79.0	LOS E	1.4	10.0	Full	285	0.0	0.0
Approach	41	7.3	41	7.3		0.215		80.2	LOS F	1.4	10.0				
East: Ti Ra	kau Dri	ive (Eas	st)												
Lane 1	769	10.6	769	10.6	796	0.967	100	77.1	LOS E	63.7	486.1	Full	636	0.0	0.0
Lane 2	739	10.8	739	10.8	764 ¹	0.967	100	76.8	LOS E	60.1	459.5	Full	636	0.0	0.0
Lane 3 (B)	28	100.0	28	100.0	204	0.137	100	34.7	LOS C	1.2	15.0	Short	60	0.0	NA
Lane 4	172	8.4	172	8.4	244	0.705	82 ⁶	73.4	LOS E	11.1	83.6	Short	150	0.0	NA
Lane 5	210	8.4	210	8.4	244	0.860	100	82.5	LOS F	14.9	111.9	Short	103	0.0	NA
Approach	1918	11.5	1918	11.5		0.967		76.6	LOS E	63.7	486.1				
North: Gos	samer	Drive													
Lane 1	359	9.5	359	9.5	365	0.982	100	101.3	LOS F	24.8	187.8	Short	150	0.0	NA
Lane 2	358	9.5	358	9.5	365 ¹	0.982	100	101.0	LOS F	24.8	187.6	Full	1010	0.0	0.0
Lane 3	41	14.6	41	14.6	124	0.330	100	77.5	LOS E	2.7	20.9	Short	28	0.0	NA
Approach	758	9.8	758	9.8		0.982		99.9	LOS F	24.8	187.8				
West: Ti Ra	akau Dr	ive (We	est)												
Lane 1	31	6.5	31	6.5	718	0.043	100	32.9	LOS C	1.2	8.8	Short	28	0.0	NA
Lane 2	505	13.7	505	13.7	542 ¹	0.932	100	74.5	LOS E	38.4	300.7	Full	479	0.0	0.0
Lane 3	473	13.7	473	13.7	507 ¹	0.932	100	74.4	LOS E	35.5	277.5	Full	479	0.0	0.0
Lane 4	53	7.5	53	7.5	194	0.274	100	69.3	LOS E	3.2	23.7	Short	23	0.0	NA
Lane 5 (B)	27	100.0	27	100.0	207	0.130	100	34.6	LOS C	1.1	14.4	Full	479	0.0	0.0
Approach	1089	15.3	1089	15.3		0.932		72.0	LOS E	38.4	300.7				
Intersectio n	3806	12.2	3806	12.2		0.982		80.0	LOS E	63.7	486.1				

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.

6 Lane under-utilisation due to downstream effects

Approach	Lane Flo	ws (v	eh/h)							
South: Frem	antle Plac	e								
Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. S %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	20	-	-	20	10.0	93	0.215	100	<mark>24.7</mark>	2
Lane 2	-	10	11	21	4.8	98	0.213	100	NA	NA

Approach	20	10	11	41	7.3				0.215				
East: Ti Raka	au 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	15	754	-	769	10.6			796	0.967	100	NA	NA	
Lane 2	-	739	-	739	10.8			764 ¹	0.967	100	NA	NA	
Lane 3	-	28	-	28	100.0			204	0.137	100	0.0	2	
Lane 4	-	-	172	172	8.4			244	0.705	82 ⁶	0.0	2	
Lane 5	-	-	210	210	8.4			244	0.860	100	<mark>22.5</mark>	4	
Approach	15	1521	382	1918	11.5				0.967				
North: Gossa	mer Dr	ive											
Mov. From N	L2	T1	R2	Total	%HV			Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane	
To Exit:	E	S	W					ven/n	V/C	%	%	NO.	
Lane 1	359	-	-	359	9.5			365	0.982	100	<mark>35.6</mark>	2	
Lane 2	358	-	-	358	9.5			365	0.982	100	NA	NA	
Lane 3	-	10	31	41	14.6			124	0.330	100	0.0	2	
Approach	717	10	31	758	9.8				0.982				
West: Ti Raka	au Drive	e (West)											
Mov.	L2	T1	R2	U	Total	%HV			Deg.	Lane	Prob.	Ov.	
From W								Cap.	Satn	Util.	SL Ov.	Lane	
To Exit:	N	E	S	W				ven/n	V/C	%	%	NO.	
Lane 1	31	-	-	-	31	6.5		718	0.043	100	0.0	2	
Lane 2	-	505	-	-	505	13.7		542	0.932	100	NA	NA	
Lane 3	-	473	-	-	473	13.7		507 ¹	0.932	100	NA	NA	
Lane 4	-	-	10	43	53	7.5		194	0.274	100	<mark>17.7</mark>	3	
Lane 5	-	27	-	-	27	100.0		207	0.130	100	NA	NA	
Approach	31	1005	10	43	1089	15.3			0.932				
	Total	%HV D	eg.Sa	tn (v/c)									
Intersection	3806	12.2		0.982									

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	Percent Opng in Lane	Oppos Flow F	sing Rate ″	Critical Gap	Follow-up Headway	Lane (Flow Rate	Capacity	Deg. Satn I	Min. Delay	Merge Delay
	m	%۱	/en/n p	cu/h	sec	sec	ven/n	ven/n	V/C	sec	sec
South Exit: Fremantle Place Merge Type: Not Applied	e										
Full Length Lane 1	Merge	Analysis ı	not app	lied.							
East Exit: Ti Rakau Drive (E Merge Type: Not Applied	East)										
Full Length Lane 1	Merae	Analvsis ı	not app	lied.							
Full Length Lane 2	Merge	Analysis ı	not app	lied.							
North Exit: Gossamer Drive Merge Type: Zipper	•										
Exit Short Lane 1	150	50.0	105	109	2.50	2.00	213	1675	0.127	0.0	0.0
Merge Lane 2	-	50.0	107	111	2.50	2.00	210	1674	0.125	0.0	0.0
West Exit: Ti Rakau Drive (Merge Type: Not Applied	West)										

Full Length Lane	1	Merge Analysis not applied.
Full Length Lane	2	Merge Analysis not applied.
Full Length Lane	3	Merge Analysis not applied.

V Site: 2.1 [2.1 Pakuranga Plaza / Pakuranga Rd (Site Folder: AM)]

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

Lane Use	and P	erforı	nance												
	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	IVAL WS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Paku	ıranga F	Road (I	East)												
Lane 1	479 480	4.5 4 7	428 428	4.6 4 7	1879 1882	0.227	100 100	0.6		0.0	0.0	Full	121 121	0.0	0.0
Approach	959	4.6	856 ^{N1}	4.6	1002	0.227	100	0.3	NA	0.0	0.0	1 UII	121	0.0	0.0
West: Pak	uranga I	Road ((West)												
Lane 1	521	6.9	521	6.9	1856	0.281	100	0.0	LOS A	0.0	0.0	Full	108	0.0	0.0
Lane 2	347	6.9	347	6.9	1238	0.281	100	0.0	LOS A	0.0	0.0	Full	108	-33.3 ^{N3}	0.0
Approach	868	6.9	868	6.9		0.281		0.0	NA	0.0	0.0				
SouthWest	t: Pakura	anga F	Plaza												
Lane 1	46	4.3	46	4.3	87	0.527	100	48.9	LOS E	1.1	7.7	Full	196	<mark>-27.0</mark> N7	0.0
Approach	46	4.3	46	4.3		0.527		48.9	LOS E	1.1	7.7				
Intersectio n	1873	5.7	1770 ^N	6.0		0.527		1.4	NA	1.1	7.7				

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 L	ane Fl	ows (v	/eh/h)							
East: Pakurar	nga Roa	ad (Eas	st)							
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 Lane 2	52 -	376 428	428 428	4.6 4.7	1879 1882	0.227 0.227	100 100	NA NA	NA NA	
Approach	52	804	856	4.6		0.227				
West: Pakura	nga Ro	ad (We	est)							
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	521	521	6.9		1856	0.281	100	NA	NA	
Lane 2	347	347	6.9		1238	0.281	100	NA	NA	
Approach	868	868	6.9			0.281				
SouthWest: P	akuran	ga Plaz	a							

Mov. From SW To Exit:	L3 W	R1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. S %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	12	34	46	4.3	87	0.527	100	NA	NA	
Approach	12	34	46	4.3		0.527				
	Total	%HV[Deg.Sat	n (v/c)						
Intersection	1770	6.0		0.527						

Merge Analysis					
Exit Lane Number	Short Percent Opposing Lane Opng in Flow Rate Length Lane	Critical Gap	Follow-up Lane Capa Headway Flow Rate	acity Deg. Min. Satn Delay	Merge Delay
East Exit: Pakuranga Roac Merge Type: Not Applied	l (East)	360			350
Full Length Lane1Full Length Lane2	Merge Analysis not applied. Merge Analysis not applied.				
West Exit: Pakuranga Road Merge Type: Not Applied	d (West)				
Full Length Lane1Full Length Lane2	Merge Analysis not applied. Merge Analysis not applied.				
SouthWest Exit: Pakuranga Merge Type: Not Applied	a Plaza				
Full Length Lane 1	Merge Analysis not applied.				

Site: 3.0 [3.0 Pakuranga Highway / Pakuranga Rd (Site Folder: AM)]

Site Category: (None)

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

Lane Use	and F	Perforn	nance	;											
	DEN FLC [Total veb/b	IAND DWS HV] %	ARF FLC [Tota	RIVAL DWS I HV]	Cap.	Deg. Satn	Lane Util. %	Aver. Delay	Level of Service	85% B/ QU [Veh	ACK OF EUE Dist]	Lane Config	Lane Length	Cap. Adj. %	Prob. Block. %
East: Paku	ranga l	Road (E	East)	70	VCH/H	V/C	70	300				_		/0	70
Lane 1 (B)	28	100.0	28	100.0	665	0.042	100	17.8	LOS B	0.7	9.4	Short	24	0.0	NA
Lane 2	1057	5.1	1057	5.1	1070	¹ 0.988	100	74.8	LOS E	88.2	644.3	Full	183	0.0	<mark>100.0</mark>
Lane 3	1100	5.1	1100	5.1	1114	0.988	100	75.0	LOS E	94.9	693.1	Full	183	0.0	<mark>100.0</mark>
Lane 4	428	4.3	428	4.3	376	¹ 1.138	100	212.5	LOS F	54.4	394.9	Full	183	0.0	<mark>87.5</mark> ⁸
Lane 5	428	4.3	428	4.3	376	¹ 1.138	100	212.5	LOS F	54.4	394.9	Short	60	0.0	NA
Approach	3041	5.8	3041	5.8		1.138		113.1	LOS F	94.9	693.1				
NorthWest	Pakur	anga R	oad (V	Vest)											
Lane 1	313	5.6	313	5.6	708	0.442	100	26.4	LOS C	11.5	84.1	Full	121	0.0	0.0
Lane 2	313	5.6	313	5.6	708	0.442	100	26.4	LOS C	11.5	84.1	Full	121	0.0	<mark>33.3</mark> 8
Lane 3	288	9.4	288	9.4	346	0.832	100	73.3	LOS E	19.5	147.8	Short	98	0.0	NA
Approach	913	6.8	913	6.8		0.832		41.1	LOS D	19.5	147.8				
West: Paku	ıranga	Road E	Busway	/ Link (I	Northb	ound)									
Lane 1 (B)	9	100.0	9	100.0	454	0.020	100	30.7	LOS C	0.4	4.7	Full	215	0.0	0.0
Approach	9	100.0	9	100.0		0.020		30.7	LOS C	0.4	4.7				
SouthWest	: Flyov	er													
Lane 1	108	7.4	108	7.4	362	0.298	100	60.6	LOS E	6.0	44.9	Short	70	0.0	NA
Lane 2	388	4.9	388	4.9	644	¹ 0.603	100	42.9	LOS D	19.6	142.7	Full	1162	0.0	0.0
Lane 3	435	4.9	435	4.9	721	0.603	100	44.1	LOS D	22.6	165.1	Full	1162	0.0	0.0
Approach	931	5.2	931	5.2		0.603		45.5	LOS D	22.6	165.1				
Intersectio n	4894	6.0	4894	6.0		1.138		86.7	LOS F	94.9	693.1				

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.

8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.

Approach L	ane Fl	ows (v	eh/h)								
East: Pakuran	nga Roa	ad (East)								
Mov. From E To Exit:	L2 S	L1 SW	R1 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	28	-	-	28	100.0	665	0.042	100	0.0	2	
Lane 2	-	1057	-	1057	5.1	1070 ¹	0.988	100	NA	NA	
Lane 3	-	1100	-	1100	5.1	1114	0.988	100	NA	NA	
Lane 4	-	-	428	428	4.3	376 ¹	1.138	100	NA	NA	
Lane 5	-	-	428	428	4.3	376 ¹	1.138	100	<mark>100.0</mark>	4	

Approach	28	2157	856	3041	5.8		1.138				
NorthWest: P	akuran	ga Roa	d (West	.)							
Mov. From NW To Exit:	L1 E	R2 SW	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	313	-	313	5.6		708	0.442	100	NA	NA	
Lane 2	313	-	313	5.6		708	0.442	100	NA	NA	
Lane 3	-	288	288	9.4		346	0.832	100	<mark>53.0</mark>	2	
Approach	625	288	913	6.8			0.832				
West: Pakura	inga Ro	ad Bus	way Lin	k (North	nbound)						
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	9	9	100.0			454	0.020	100	NA	NA	
Approach	9	9	100.0				0.020				
SouthWest: F	lyover										
Mov. From SW To Exit:	L2 NW	R1 E	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	108	-	108	7.4		362	0.298	100	0.0	2	
Lane 2	-	388	388	4.9		644 ¹	0.603	100	NA	NA	
Lane 3	-	435	435	4.9		721	0.603	100	NA	NA	
Approach	108	823	931	5.2			0.603				
	Total	%HVI	Deg.Sat	n (v/c)							
Intersection	4894	6.0		1.138							

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										
E> Lan Numbe	tit Short le Lane er Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h pcu/h	Critical Gap sec	Follow-up Headway sec	Lane C Flow Rate veh/h	apacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Pakuranga Ro Merge Type: Not Applied	oad Buswa I	y Link (So	outhbound)							
Full Length Lane	1 Merge	Analysis	not applied.							
East Exit: Pakuranga Roa Merge Type: Not Applied	ad (East) I									
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: Pakurang Merge Type: Not Applied	ga Road (V I	/est)								
Full Length Lane	1 Merge	Analysis	not applied.							
Full Length Lane	2 Merge	Analysis	not applied.							
SouthWest Exit: Flyover Merge Type: Not Applied	I									
Full Length Lane	1 Merge	Analysis	not applied.							
Full Length Lane	2 Merge	Analysis	not applied.							

Project: C:\Users\jacques.vandenheever\Downloads\2028 Final AM.sip9

Site: 4.0 [4.0 Palm Ave / Aylesbury St (Site Folder: AM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 144 seconds (Site User-Given Phase Times)

Lane Use	and F	Perforn	nance	;											
	DEM FLC [Total	IAND DWS HV]	ARF FLC [Tota	RIVAL DWS I HV]	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% B QU [Veh	ACK OF EUE Dist]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
0 // T D	veh/h	%	veh/h	%	veh/h	V/C	%	sec			m		m	%	%
South: II R	akau L	orive (Ea	ast)							NIA	NIA				
Lane 1	515	9.2	515	9.2	560	0.919	100	74.2	LOS E	21.3 ^{N4}	160.7 ^{N4}	Full	110	0.0	<mark>50.0</mark>
Lane 2	565	9.3	565	9.3	615	0.919	100	65.4	LOS E	21.3	160.7 ¹¹⁴	Full	110	0.0	<mark>50.0</mark>
Lane 3	33	6.1	33	6.1	135	0.244	100	74.4	LOS E	2.0	14.9	Short	86	0.0	NA
Lane 4 (B)	53	100.0	53	100.0	506	0.105	100	3.9	LOS A	0.4	4.6	Full	110	0.0	0.0
Approach	1166	13.3	1166	13.3		0.919		66.8	LOS E	21.3	160.7				
East: Ayles	bury S	treet													
Lane 1	76	9.2	76	9.2	115	0.658	100	76.5	LOS E	5.0	37.5	Short	30	<mark>-10.5</mark> ^{N3}	NA
Lane 2	137	9.5	137	9.5	184 ¹	0.746	100	70.2	LOS E	7.7 ^{N4}	58.4 ^{N4}	Full	40	0.0	<mark>50.0</mark>
Approach	213	9.4	213	9.4		0.746		72.5	LOS E	7.7	58.4				
North: Ti R	akau D	rive (W	est)												
Lane 1 (B)	23	100.0	23	100.0	506	0.045	100	3.8	LOS A	0.1	1.9	Full	174	0.0	0.0
Lane 2	148	17.6	146	17.7	205	0.712	100	73.3	LOS E	9.3	74.7	Short	100	0.0	NA
Lane 3	290	16.5	286	16.7	544	0.526	100	40.3	LOS D	14.3	114.5	Full	174	<mark>-10.5</mark> ^{N3}	0.0
Lane 4	278	16.5	274	16.7	522 ¹	0.526	100	39.9	LOS D	13.6	108.9	Full	174	<mark>-10.5</mark> ^{N3}	0.0
Lane 5	15	0.0	15	0.0	141	0.105	100	72.9	LOS E	0.9	6.2	Short	14	0.0	NA
Approach	754	19.0	<mark>744</mark> N1	19.1		0.712		46.1	LOS D	14.3	114.5				
West: Palm	n Avenu	le													
Lane 1	120	4.2	120	4.2	313	0.384	100	60.8	LOS E	6.7	48.6	Full	87	<mark>-4.0</mark> ^{N7}	0.0
Approach	120	4.2	120	4.2		0.384		60.8	LOS E	6.7	48.6				
Intersectio n	2253	14.3	2243 ^N	¹ 14.4		0.919		60.1	LOS E	21.3	160.7				

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.

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.
- 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 Flo	ows (v	eh/h)								
South: Ti Ra	kau Drive	e (East)									
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	120	395	-	515	9.2	560	0.919	100	NA	NA	
Lane 2	-	565	-	565	9.3	615 ¹	0.919	100	NA	NA	

Lane 3	-	-	33	33	6.1	135	0.244	100	0.0	2	
Lane 4	-	53	-	53	100.0	506	0.105	100	NA	NA	
Approach	120	1013	33	1166	13.3		0.919				
East: Aylesbu	ury Stre	et									
Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.	
From E						Cap.	Satn	Util.	SL OV.	Lane	
IO EXIL:	S	VV	N			VCH/H	v/C	70	70	NO.	
Lane 1	76	-	-	76	9.2	115	0.658	100	<mark>35.5</mark>	2	
Lane 2	-	10	127	137	9.5	184	0.746	100	NA	NA	
Approach	76	10	127	213	9.4		0.746				
North: Ti Rak	au Driv	e (West))								
Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.	
From N						Cap.	Satn	Util.	SL Ov.	Lane	
To Exit:	E	S	W			ven/n	V/C	70	%	NO.	
Lane 1	-	23	-	23	100.0	506	0.045	100	NA	NA	
Lane 2	146	-	-	146	17.7	205	0.712	100	0.0	3	
Lane 3	-	286	-	286	16.7	544	0.526	100	NA	NA	
Lane 4	-	274	-	274	16.7	522 ¹	0.526	100	NA	NA	
Lane 5	-	-	15	15	0.0	141	0.105	100	0.0	4	
Approach	146	583	15	744	19.1		0.712				
West: Palm A	venue										
Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.	
From W		_				Cap.	Satn	Util.	SL OV.	Lane	
TO EXIT:	N	E	S			Veni/II	v/C	70	70	NU.	
Lane 1	51	27	42	120	4.2	313	0.384	100	NA	NA	
Approach	51	27	42	120	4.2		0.384				
	Total	%HV D	eg.Sat	n (v/c)							
Intersection	2243	14.4		0.919							

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											
Ν	Exit Lane lumber	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 I v/c	Min. Delay sec	Merge Delay sec
South Exit: Ti Rakau Merge Type: Not Ap	ı Drive (I plied	East)		İ							
Full Length Lane Full Length Lane Full Length Lane	1 2 3	Merge Merge Merge	Analysis Analysis Analysis	not applied. not applied. not applied.							
East Exit: Aylesbury Merge Type: Not Ap	Street plied										
Full Length Lane	1	Merge	Analysis	not applied.							
North Exit: Ti Rakau Merge Type: Not Ap	Drive (V plied	Vest)									
Full Length Lane Full Length Lane Full Length Lane	1 2 3	Merge Merge Merge	Analysis Analysis Analysis	not applied. not applied. not applied.							
West Exit: Palm Ave Merge Type: Not Ap	nue plied										
Full Length Lane	1	Merge	Analysis	not applied.							

Site: 5.0 [5.0 Pakuranga Highway / Reeves Rd (Site Folder: AM)]

Site Category: (None)

Single Point Interchange (Signals) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 146 seconds (Site User-Given Phase Times)

Lane Use	and F	Perform	nance)											
	DEN	IAND	ARF	RIVAL	Can	Deg.	Lane	Aver.	Level of	85% B/	ACK OF	Lane	Lane	Cap.	Prob.
	JLH Total	JWS HV 1)JH Total	JWS IHV1	Cap.	Satn	Util.	Delay	Service	QU [\/eh	EUE Dist 1	Config	Length	Adj.	Block.
	veh/h	%	veh/h	· · · · · · · · · · · · · · · · · · ·	veh/h	v/c	%	sec		[von	m		m	%	%
SouthEast:	Ti Rak	au Driv	ve (Eas	st)											
Lane 1	404	12.8	404	12.8	1229	0.328	100	12.3	LOS B	9.0	70.1	Short	50	0.0	NA
Lane 2	404	12.8	404	12.8	1229	0.328	100	12.3	LOS B	9.0	70.1	Full	90	0.0	0.0
Lane 3	474	9.1	474	9.1	464	1.020	100	121.3	LOS F	17.4 ^{N4}	131.5 ^{N4}	Full	90	<mark>-50.0</mark> ^{N3}	<mark>50.0</mark>
Lane 4	474	9.1	474	9.1	464	1.020	100	121.3	LOS F	17.4 ^{N6}	131.5 ^{N6}	Full	90	<mark>-50.0</mark> ^{N3}	<mark>50.0</mark>
Lane 5 (B)	25	100.0	25	100.0	155	0.161	100	32.9	LOS C	0.8	10.1	Full	90	0.0	0.0
Approach	1779	12.0	1779	12.0		1.020		70.6	LOS E	17.4	131.5				
NorthEast:	Reeve	s Road													
Lane 1 (B)	28	100.0	28	100.0	368	0.076	100	23.3	LOS C	0.8	10.0	Full	50	0.0	0.0
Approach	28	100.0	28	100.0		0.076		23.3	LOS C	0.8	10.0				
NorthWest:	Ti Rak	kau Driv	/e (We	st)											
Lane 1 (B)	22	100.0	22	100.0	184	0.120	100	31.8	LOS C	0.6	8.4	Full	110	0.0	0.0
Lane 2	271	17.2	268	17.3	609	0.440	100	39.0	LOS D	13.0	104.7	Full	110	0.0	<mark>10.5</mark>
Lane 3	271	17.2	268	17.3	609	0.440	100	39.0	LOS D	13.0	104.7	Full	110	0.0	<mark>10.5</mark>
Lane 4	100	7.0	99	7.1	217	0.456	100	70.2	LOS E	6.0	44.5	Short	71	0.0	NA
Approach	664	18.4	657 ^{N1}	18.5		0.456		43.4	LOS D	13.0	104.7				
SouthWest	: Pakur	ranga ⊦	lighwa	у											
Lane 1	132	10.6	132	10.6	263	0.502	100	41.8	LOS D	6.1	46.4	Short	72	-50.0 ^{N3}	NA
Lane 2	248	12.3	248	12.3	294	0.844	100	78.0	LOS E	16.7	129.1	Short	143	0.0	NA
Lane 3	259	12.3	259	12.3	307	0.844	100	78.2	LOS E	17.5	135.7	Short	240	0.0	NA
Lane 4	259	12.3	259	12.3	307	0.844	100	78.2	LOS E	17.5	135.7	Full	623	0.0	0.0
Approach	899	12.0	899	12.0		0.844		72.8	LOS E	17.5	135.7				
Intersectio n	3370	14.0	<mark>3363</mark> ^ 1	14.0		1.020		65.5	LOS E	17.5	135.7				

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.

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.

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.

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 La	ne Flo	ws (v	/eh/h)		
SouthEast: Ti F	Rakau D	rive (East)		
Mov. From SE	L2	T1	Total	%HV	Deg. Lane Prob. Ov. Cap. Satn Util. SL Ov. Lane

To Exit:	SW	NW				veh/h	v/c	%	%	No.	
Lane 1	404	-	404	12.8		1229	0.328	100	<mark>46.1</mark>	2	
Lane 2	404	-	404	12.8		1229	0.328	100	NA	NA	
Lane 3	-	474	474	9.1		464	1.020	100	NA	NA	
Lane 4	-	474	474	9.1		464	1.020	100	NA	NA	
Lane 5	-	25	25	100.0		155	0.161	100	NA	NA	
Approach	807	972	1779	12.0			1.020				
NorthEast: R	eeves l	Road									
Mov.	R2	Total	%HV				Deg.	Lane	Prob.	Ov.	
From NE						Cap.	Satn	Util.	SL Ov.	Lane	
To Exit:	NW					ven/m	V/C	70	70	INO.	
Lane 1	28	28	100.0			368	0.076	100	NA	NA	
Approach	28	28	100.0				0.076				
NorthWest: T	i Rakaı	u Drive	(West)								
Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.	
From NW						Cap.	Satn	Util.	SL Ov.	Lane	
To Exit:	NE	SE	SW			ven/h	V/C	%	%	No.	
Lane 1	9	13	-	22	100.0	184	0.120	100	NA	NA	
Lane 2	-	268	-	268	17.3	609	0.440	100	NA	NA	
Lane 3	-	268	-	268	17.3	609	0.440	100	NA	NA	
Lane 4	-	-	99	99	7.1	217	0.456	100	0.0	3	
Approach	9	549	99	657	18.5		0.456				
SouthWest: F	Pakurar	nga Hig	hway								
Mov.	L2	R2	Total	%HV			Deg.	Lane	Prob.	Ov.	
From SW						Cap.	Satn	Util.	SL Ov.	Lane	
To Exit:	NW	SE				ven/n	V/C	%	%	NO.	
Lane 1	132	-	132	10.6		263	0.502	100	0.0	2	
Lane 2	-	248	248	12.3		294 ¹	0.844	100	<mark>5.7</mark>	3	
Lane 3	-	259	259	12.3		307	0.844	100	0.0	4	
Lane 4	-	259	259	12.3		307	0.844	100	NA	NA	
Approach	132	767	899	12.0			0.844				
	Total	%HV	Deg.Sat	:n (v/c)							
linto no o oti - r-	2202	11.0		1.000							
Intersection	3363	14.0		1.020							

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 I Lane (Length	Percent Opng in Lane	Opposing Flow Rate	Critical Gap	Follow-up Headway	Lane (Flow Rate	Capacity	Deg. Satn I	Min. Delay	Merge Delay
	· (=)	/0		360	360	VEH/H	Ven/m	V/C	360	360
Merge Type: Not Applied	rive (East)									
Full Length Lane 1	Merge A	nalysis	not applied.							
Full Length Lane 2	Merge A	nalysis	not applied.							
Full Length Lane 3	Merge A	nalysis	not applied.							
Full Length Lane 4	Merge A	nalysis	not applied.							
NorthEast Exit: Reeves Ro Merge Type: Not Applied	ad									
Full Length Lane 1	Merge A	nalysis	not applied.							
NorthWest Exit: Ti Rakau D Merge Type: Not Applied	rive (West))								
Full Length Lane 1	Merge A	nalysis	not applied.							

Full Length Lane Full Length Lane	2 3	Merge An Merge An	alysis i alysis i	not ap not ap	oplied. oplied.						
SouthWest Exit: Pakura Merge Type: Zipper	anga	Highway									
Exit Short Lane	1	280	50.0	251	266	2.50	2.00	404	1477 0.273	0.0	0.2
Merge Lane	2	-	50.0	202	215	2.50	2.00	502	1545 0.325	0.0	0.1
SouthWest Exit: Pakura Merge Type: Zipper	anga	Highway									
Exit Short Lane	3	10	50.0	202	215	2.50	2.00	99	1545 0.064	0.0	0.1
Merge Lane	2	-	50.0	49	51	2.50	2.00	404	1743 0.232	0.0	0.0

CCG LANE SUMMARY

□ Common Control Group: CCG3 [Aylesbury/ WR/ Reeves Rd]

■ Network: N101 [AM (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 112 seconds (CCG User-Given Phase Times)

Lane Use	and P	erforn	nance	(CCG))										
	DEN FLC [Total veh/h	IAND DWS HV] %	ARR FLC [Total veh/h	NVAL WS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
Site: 5.2v [5	5.2 Ayle	esbury s	St/ Ree	eves Rd	/ Busv	vay Linl	k signal	lised]							
SouthEast:	Reeve	s Road	l (East)												
Lane 1	136	8.1	136	8.1	330	0.412	100	14.9	LOS B	2.4	18.0	Full	27	<mark>-8.6</mark> N7	0.0
Approach	136	8.1	136	8.1		0.412		14.9	LOS B	2.4	18.0				
East: Pakur	ranga F	Rd Bus	way Lir	nk (Sou	thbour	nd)									
Lane 1 (B)	28	100.0	28	100.0	142	0.197	100	54.1	LOS D	1.3	16.8	Full	203	0.0	0.0
Approach	28	100.0	28	100.0		0.197		54.1	LOS D	1.3	16.8				
NorthWest:	Aylest	oury Str	eet												
Lane 1	21	0.0	21	0.0	141	0.149	100	51.4	LOS D	1.0	6.8	Full	284	-31.1 ^{N7}	0.0
Approach	21	0.0	21	0.0		0.149		51.4	LOS D	1.0	6.8				
SouthWest	Reeve	es Road	d (Sout	h)											
Lane 1	116	22.5	115	22.6	193	0.596	100	48.0	LOS D	5.4	45.1	Full	180	<mark>-42.6</mark> N7	0.0
Approach	116	22.5	115 ^{N1}	22.6		0.596		48.0	LOS D	5.4	45.1				
Intersectio n	301	21.6	300 ^{N1}	21.7		0.596		33.8	LOS C	5.4	45.1				
Site: 7.3v [7	7.3 Will	iam Ro	berts F	Rd / Ree	eves R	d signa	lised]								
SouthEast:	Reeve	s Rd (E	East)												
Lane 1	303	8.3	303	8.3	321	0.943	100	76.2	LOS E	18.7	140.1	Full	810	0.0	0.0
Lane 2	108	7.4	108	7.4	376	0.287	100	43.4	LOS D	4.5	33.6	Short	45	0.0	NA
Approach	411	8.0	411	8.0		0.943		67.6	LOS E	18.7	140.1				
NorthWest:	Reeve	es Rd (V	Nest)												
Lane 1	107	15.0	107	15.0	464	0.230	100	43.1	LOS D	4.8	37.9	Full	27	0.0	<mark>46.2</mark>
Approach	107	15.0	107	15.0		0.230		43.1	LOS D	4.8	37.9				
SouthWest	: Willia	m Robe	erts Ro	ad (Sou	ıth)										
Lane 1	333	12.3	332	12.3	351	0.947	100	75.2	LOS E	21.0	162.3	Full	223	0.0	0.0
Approach	333	12.3	332 ^{N1}	12.3		0.947		75.2	LOS E	21.0	162.3				
Intersectio n	851	10.6	<mark>849</mark> ^{N1}	10.6		0.947		67.5	LOS E	21.0	162.3				

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).

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.

N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach	h Lane	e Flows	s (CCG	i) (veh/l	h)							
Site: 5.2v	[5.2 Ay	lesbury	St/ Ree	ves Rd/	Buswa	y Link s	ignalise	d]				
SouthEast	: Reev	es Road	d (East)									
Mov. From SE	L2	T1	Total	%HV			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
To Exit:	404	25	400	0.4			220	0.440	100	NIA	NIA	
Approac	101	35	136	8.1			330	0.412	100	NA	NA	
h	101	00	100	0.1				0.112				
East: Paku	ıranga	Rd Bus	way Lin	k (South	nbound)							
Mov. From E To Exit:	L1 SW	Total	%HV				Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	28	28	100.0				142	0 197	100	NA	NA	
Approac h	28	28	100.0				172	0.197	100			
NorthWest	·· Avles	bury St	reet									
Mov.	T1	R2	Total	%HV				Deg.	Lane	Prob.	Ov.	
From	05	0.04					Cap. veh/h	Satn v/c	Util. %	SL Ov.	Lane No	
To Exit:	SE	SW					VON/II	0,0	70	,0	110.	
Lane 1	11	10	21	0.0			141	0.149	100	NA	NA	
Approac h	11	10	21	0.0				0.149				
SouthWes	t: Reev	/es Roa	d (Soutl	h)								
Mov. From	L2	T1	R2	Total	%HV		Cap.	Deg. Satn	Lane Util	Prob. SI Ov	Ov. Lane	
SW To Exit:	NW	NE	SE				veh/h	v/c	%	%	No.	
Lane 1	12	9	95	115	22.6		193	0.596	100	NA	NA	
Approac h	12	9	95	115	22.6			0.596				
	Total	%HV	Deg.Sat	tn (v/c)								
Intersec tion	300	21.7		0.596								
Site: 7.3v	[7.3 Wi	illiam Ro	oberts R	d / Ree	ves Rd :	signalis	ed]					
SouthEast	: Reev	es Rd (I	East)									
Mov.	L2	T1	Total	%HV		Can	Deg. Satn	Lane	Prob.	Ov.		
SE	SW	NW				veh/h	v/c	%	%	No.		
lo Exit:	303		303	83		321 ¹	0 943	100	NA	NA		
Lane 2	-	108	108	7.4		376	0.287	100	0.0	1		
Approac h	303	108	411	8.0			0.943					
NI41-\A/ 4			A/+									
Mov	T1	es Ru (R2	Total	%HV/			Dea	Lane	Proh	Ov		
From NW	SE	SW	Total	/0110		Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.		
lo Exit:	05	20	107	15.0		161	0.330	100	NIA	NIA		
Approac	00 85	22	107	15.0		404	0.230	100	NA	ΝA		
h	00	22	107	10.0			0.200					
SouthWest	t: Willia	am Robe	erts Roa	ad (Sout	h)							
Mov.	L2	R2	Total	%HV		Can	Deg. Sate	Lane	Prob.	Ov.		
SW To Exit:	NW	SE				veh/h	V/C	%	%	No.		

Lane 1	25	307	332	12.3	351	0.947	100	NA	NA	
Approac h	25	307	332	12.3		0.947				
	Total	%HV C	0eg.Sati	n (v/c)						
Intersec tion	849	10.6		0.947						

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 Percent Opposing Lane Opng in Flow Rate Length Lane m %veh/h pcu/h	Critical Gap sec	Follow-up Lane Ca Headway Flow Rate sec veh/h	apacity De Sa veh/h	eg. Min. atn Delay //c sec	Merge Delay sec
Site: 5.2v [5.2 Aylesbury St/	/ Reeves Rd/ Busway Link sigr	alised]				
SouthEast Exit: Reeves Roa Merge Type: Not Applied	ad (East)					
Full Length Lane 1	Merge Analysis not applied.					
NorthEast Exit: Pakuranga Merge Type: Not Applied	Rd Busway Link (Northbound)					
Full Length Lane 1	Merge Analysis not applied.					
NorthWest Exit: Aylesbury S Merge Type: Not Applied	Street					
Full Length Lane 1	Merge Analysis not applied.					
SouthWest Exit: Reeves Ro Merge Type: Not Applied	oad (South)					
Full Length Lane 1	Merge Analysis not applied.					
Site: 7.3v [7.3 William Robe	erts Rd / Reeves Rd signalised]				
SouthEast Exit: Reeves Rd Merge Type: Not Applied	(East)					
Full Length Lane 1	Merge Analysis not applied.					
NorthWest Exit: Reeves Rd Merge Type: Not Applied	l (West)					
Full Length Lane 1	Merge Analysis not applied.					
SouthWest Exit: William Ro Merge Type: Not Applied	berts Road (South)					
Full Length Lane 1	Merge Analysis not applied.					

CCG LANE SUMMARY

□ Common Control Group: CCG2 [WRR / Mattson]

■■ Network: N101 [AM (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (CCG User-Given Phase Times)

Lane Use and Performance (CCG)															
	DEN	IAND	ARF	RIVAL	Can	Deg.	Lane	Aver.	Level of	85% B	ACK OF	Lane	Lane	Cap.	Prob.
	FLC Total	HV 1	FLC Total	JVVS I HV 1	Gap.	Sath	Util.	Delay	Service	QU [Veh	EUE Dist 1	Config	Length	Adj.	BIOCK.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr]															
SouthEast:	Ti Rak	au Driv	/e (Eas	st)											
Lane 1	535	11.2	535	11.2	953	0.561	100	5.7	LOS A	7.1	54.7	Full	60	0.0	<mark>6.7</mark>
Lane 2	535	11.2	535	11.2	953	0.561	100	1.1	LOS A	1.6	12.3	Full	60	0.0	0.0
Lane 3	442	11.2	442	11.2	788	0.561	100	1.1	LOS A	1.3	10.1	Full	60	<mark>-17.4</mark> ``'	0.0
Lane 4	96	8.3	96	8.3	123	0.778	100	58.9	LOS E	4.8	36.3	Short	20	0.0	NA
Lane 5 (B)	25	100.0	25	100.0	630	0.040	100	0.6	LOSA	0.0	0.3	Full	60	0.0	0.0
Approach	1633	12.4	1633	12.4		0.778		6.0	LOSA	7.1	54.7				
NorthEast: William Roberts Road Extension															
Lane 1	165	10.3	165	10.3	313	0.527	100	46.9	LOS D	7.3	56.0	Short	80	0.0	NA
Lane 2	167	8.4	167	8.4	183	0.910	100	70.4	LOS E	9.7	73.0	Full	110	<mark>-17.4</mark> ^{N7}	0.0
Approach	332	9.3	332	9.3		0.910		58.7	LOS E	9.7	73.0				
North West: Ti Bakey Drive (West)															
	250	11 C	250	11 6	706	0 507	100	22.6	108.0	10.0	02.0	E.JII	107	0.0	0.0
	359 474	11.0	300 472	11.0	030	0.507	100	23.0		10.9	03.0 117.6	Full	107	0.0	0.0 21.2
Lane 3	474	15.2	472	15.3	930	0.507	100	17.9		14.5	114.0	Full	107	0.0	21.3 21.3
Lane 4 (B)	13	100.0	13	100.0	630	0.021	100	0.6	LOSA	0.0	0.2	Full	107	0.0	0.0
Approach	1320	15.1	1314 ^N	15.1		0.507		19.3	LOS B	14.5	114.6			0.0	0.0
			1												
Intersectio	3285	13.2	3279 ^N	13.2		0.910		16.7	LOS B	14.5	114.6				
n	0200	10.2	1	10.2		0.010		10.1	200 5	11.0					
Site: 7.5 [7	.5 Matt	son Rd	/ Ti Ral	kau Dr]											
SouthEast:	Ti Rak	au Driv	/e (Eas	st)											
Lane 1	256	10.4	256	10.4	285	0.898	100	73.0	LOS E	15.3	116.8	Short	25	-46.3 ^{N3}	NA
Lane 2	472	11.1	472	11.1	525 ¹	0.898	100	40.5	LOS D	21.2	162.6	Full	143	-1.5 ^{N7}	<mark>26.7</mark>
Lane 3	857	11.1	857	11.1	954	0.898	100	37.0	LOS D	27.3 ^{N4}	209.0 ^{N4}	Full	143	0.0	<mark>50.0</mark>
Lane 4 (B)	25	100.0	25	100.0	620	0.040	100	13.3	LOS B	0.6	7.4	Full	143	0.0	0.0
Approach	1609	12.4	1609	12.4		0.898		43.4	LOS D	27.3	209.0				
NorthWest	Ti Rak	au Driv	/e (We	st)											
Lane 1	131	14.4	131	14.5	935	0 140	27 ⁶	28.8	10S C	58	45.7	Full	60	0.0	0.0
Lane 2	482	14.4	480	14.5	935	0.513	100	4.4	LOSA	4.8	38.0	Full	60	0.0	0.0
Lane 3	482	14.4	480	14.5	935	0.513	100	1.0	LOSA	1.2	9.8	Full	60	0.0	0.0
Lane 4	26	15.4	26	15.4	303	0.086	100	52.9	LOS D	1.2	9.8	Short	25	0.0	NA
Lane 5 (B)	13	100.0	13	100.0	620	0.021	100	1.5	LOS A	0.0	0.4	Full	60	0.0	0.0
Approach	1134	15.4	<mark>1130</mark> ^N	15.5		0.513		6.9	LOS A	5.8	45.7				
			1												
SouthWest	: Matts	on Roa	ıd												
Lane 1	54	7.4	54	7.4	160	0.338	100	49.2	LOS D	2.4	17.8	Full	282	<mark>-50.0</mark> ^{N3}	0.0
Lane 2	25	12.0	25	12.0	217	0.115	100	51.5	LOS D	1.1	8.4	Full	282	0.0	0.0
Approach	79	8.9	79	8.9		0.338		50.0	LOS D	2.4	17.8				
Intersectio	2022	10 5	2040	12 5		0 000		20.0	102.0	07.0	200.0				
n	2822	13.5	2018 1	13.5		0.898		28.9	LUSC	21.3	209.0				

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.
- 6 Lane under-utilisation due to downstream effects
- 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: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr]										
SouthEas	t: Ti Ral	kau Driv	/e (East	t)						
Mov.	T1	R2	Total	%HV	0	Deg.	Lane	Prob.	. Ov.	
From					Cap. veb/b	Satn	Util.	SL Ov.	Lane	
SE To Exit:	NW	NE			VC11/11	V/C			NO.	
Lane 1	535	-	535	11.2	953	0.561	100	NA	NA	
Lane 2	535	-	535	11.2	953	0.561	100	NA	NA	
Lane 3	442	-	442	11.2	788	0.561	100	NA	NA	
Lane 4	-	96	96	8.3	123 ¹	0.778	100	<mark>70.7</mark>	3	
Lane 5	25	-	25	100.0	630	0.040	100	NA	NA	
Approac	1537	96	1633	12.4		0.778				
h										
NorthEast	t: Williar	n Robei	rts Roa	d Exten	sion					
Mov.	L2	R2	Total	%HV		Deg.	Lane	Prob.	Ov.	
From					Cap.	Satn	Util.	SL Ov.	Lane	
NE To Evit:	SE	NW			ven/n	V/C	%	%	NO.	
Lane 1	165		165	10.3	313	0 527	100	0.0	2	
Lane 2	-	167	167	8.4	183	0.910	100	NA	NA	
Approac	165	167	332	9.3	100	0.910	100			
h			001	0.0		0.0.0				
NorthWes	st: Ti Ral	kau Driv	/e (Wes	st)						
Mov.	L2	T1	Total	%HV		Dea.	Lane	Prob.	Ov.	
From					Cap.	Satn	Util.	SL Ov.	Lane	
NW .	NE	SE			veh/h	v/c	%	%	No.	
TO EXIT:	247	10	250	11.6	706	0 507	100	ΝΙΑ	NIA	
Lane 2	347	10	300 172	15.3	700	0.507	100			
	-	472	472	15.3	930	0.507	100			
	-	472	13	100.0	930 630	0.007	100		NΔ	
Approac	347	967	131/	15.1	030	0.021	100	INA	INA	
h	547	907	1314	13.1		0.307				
	T ()	0/11)/1								
	Iotal	%HV I	Deg.Sa	tn (v/c)						
Intersec	3279	13.2		0.910						
tion										
Site: 7.5 [7.5 Mat	tson Rd	/ Ti Rał	kau Dr]						
SouthEas	t: Ti Ral	kau Driv	ve (East	t)						
Mov.	L2	T1_	Total	%HV		Deg.	Lane	Prob.	Ov.	
From	~				Cap.	Satn	Util.	SL Ov.	Lane	
To Exit:	SW	NW				- v/C	70	70	- NO.	
Lane 1	35	221	256	10.4	285	0.898	100	<mark>100.0</mark>	2	

Lane 2	-	472	472	11.1	525 ¹	0.898	100	NA	NA
Lane 3	_	857	857	11 1	954	0.898	100	NA	NA
Lane 4	-	25	25	100.0	620	0.040	100	NΔ	NA
Approac	- 25	1574	1600	12 /	020	0.040	100	11/71	
h	35	1574	1009	12.4		0.090			
NorthWest: Ti Rakau Drive (West)									
Mov.	T1	R2	Total	%HV	~	Deg.	Lane	Prob.	Ov.
From					Cap.	Satn	Util. S	SL Ov.	Lane
NVV To Exit	SE	SW			VCII/II	V/C	70	70	INU.
Lane 1	131	_	131	14 5	035	0 140	276	NΔ	NΔ
Lane 2	101	-	180	14.5	900	0.140	100	NA	NΔ
	400	-	400	14.5	930	0.513	100		
	400	-	400	14.0	935	0.013	100		NA 2
Lane 4	-	26	26	15.4	303	0.086	100	0.0	3
Lane 5	13	-	13	100.0	620	0.021	100	NA	NA
Арргоас	1104	26	1130	15.5		0.513			
n									
SouthWes	st: Matts	son Roa	d						
Mov.	L2	R2	Total	%HV		Deg.	Lane	Prob.	Ov.
From					Cap.	Satn	Util. S	SL Ov.	Lane
SW	NW	SE			ven/n	v/c	%	%	No.
IO EXIT:	F 4					0.000	100	N1.6	
Lane 1	54	-	54	1.4	160	0.338	100	NA	NA
Lane 2	-	25	25	12.0	217	0.115	100	NA	NA
Approac	54	25	79	8.9		0.338			
n									
	Total	%HV I	Deg.Sa	tn (v/c)					
Intersec	2818	13.5		0.898					
tion									

- 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 (CCG)						
Ex Lan Numbe	t Short Percent Opposing e Lane Opng in Flow Rate r Length Lane m %veh/h pcu/h	Critical Gap sec	Follow-up Lan Headway Flo Rat sec veh/	ne Capacity w te /h veh/h	Deg. Min. Satn Delay v/c sec	Merge Delay sec
Site: 7.0 [7.0 William Rob	erts Rd / Ti Rakau Dr]					
SouthEast Exit: Ti Rakau Merge Type: Not Applied	Drive (East)					
Full Length LaneFull Length LaneFull Length LaneFull Length LaneNorthEast Exit: William RoMerge Type: Not Applied	Merge Analysis not applied. Merge Analysis not applied. Merge Analysis not applied. Merge Analysis not applied. berts Road Extension					
Full Length Lane	Merge Analysis not applied.					
NorthWest Exit: Ti Rakau Merge Type: Not Applied	Drive (West)					
Full Length Lane Full Length Lane Full Length Lane Full Length Lane	 Merge Analysis not applied. Merge Analysis not applied. Merge Analysis not applied. Merge Analysis not applied. 					

Site: 7.5 [7.5 Mattson Rd/ Ti Rakau Dr]											
SouthEast Exit: Ti Rakau Drive (East) Merge Type: Priority											
Exit Short Lane	1	40	0.0	480	515	3.00	2.00	131	1271 0.103	0.9	1.1
Merge Lane	2	-	100.0	Ме	erge Lane	is not Opp	osed	480	1800 0.267	0.0	0.0
NorthWest Exit: Ti Rakau Drive (West) Merge Type: Not Applied											
Full Length Lane	1	Merge Ar	nalysis r	not ap	oplied.						
Full Length Lane	2	Merge Ar	nalysis r	not ap	oplied.						
Full Length Lane	3	Merge Ar	nalysis r	not ap	oplied.						
Full Length Lane	4	Merge Ar	nalysis r	not ap	oplied.						
SouthWest Exit: Mattson Road Merge Type: Not Applied											
Full Length Lane	1	Merge Ar	nalysis r	not ap	oplied.						
LANE SUMMARY

V Site: 7.1 [7.1 William Roberts Rd / Cortina PI (Site Folder: AM)]

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

Lane Use and Performance															
	DEM FLO [Total veh/h	AND WS HV] %	ARR FLC [Total veh/h	IVAL WS HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BA QUI [Veh	ACK OF EUE Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
NorthEast: William Roberts Road (North)															
Lane 1	368	8.7	368	8.7	1593	0.231	100	1.9	LOS A	0.7	5.1	Full	223	0.0	0.0
Approach	368	8.7	368	8.7		0.231		1.9	NA	0.7	5.1				
NorthWest	NorthWest: Cortina Place														
Lane 1	92	13.0	92	13.1	740	0.124	100	5.3	LOS A	0.3	2.7	Full	177	0.0	0.0
Approach	92	13.0	92	13.1		0.124		5.3	LOS A	0.3	2.7				
SouthWest	: Williar	n Rob	erts Ro	ad (So	uth)										
Lane 1	447	11.0	445	11.0	1740	0.256	100	0.7	LOS A	0.0	0.0	Full	110	0.0	0.0
Approach	447	11.0	<mark>445</mark> ^{N1}	11.0		0.256		0.7	NA	0.0	0.0				
Intersectio n	907	10.3	905 ^{N1}	10.3		0.256		1.7	NA	0.7	5.1				

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 L	Approach Lane Flows (veh/h)									
NorthEast: W	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	284	84	368	8.7	1593	0.231	100	NA	NA	
Approach	284	84	368	8.7		0.231				
NorthWest: C	ortina P	lace								
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	29	63	92	13.1	740	0.124	100	NA	NA	
Approach	29	63	92	13.1		0.124				
SouthWest: W	Villiam F	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	149	296	445	11.0	1740	0.256	100	NA	NA	
Approach	149	296	445	11.0		0.256				
	Total	%HV D)eg.Sat	n (v/c)						

Intersection	905	10.3	0.256
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Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis								
Ex Lan Numbe	t Short e Lane r Length	Percent Opposing Opng in Flow Rate Lane	Critical Gap	Follow-up Headway	Lane Capacity Flow Rate	Deg. Satn D	Min.)elay	Merge Delay
	m	% ven/n pcu/n	sec	sec	ven/n ven/n	V/C	sec	sec
NorthEast Exit: William Roberts Road (North) Merge Type: Not Applied								
Full Length Lane	l Merge	Analysis not applied						
NorthWest Exit: Cortina P Merge Type: Not Applied	ace							
Full Length Lane	l Merge	Analysis not applied						
SouthWest Exit: William Roberts Road (South) Merge Type: Not Applied								
Full Length Lane	l Merge	Analysis not applied						

CCG PHASING SUMMARY

□ Common Control Group: CCG2 [WRR / Mattson]

■ Network: N101 [AM (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (CCG User-Given Phase Times)

Timings based on settings in the Network Timing dialog Phase Times determined by the program Downstream Iane blockage effects included in determining phase times Green Split Priority has been specified Phase Sequence: CCG Phasing Reference Phase: Phase A1 Input Phase Sequence: A1, A2*, B, C, D Output Phase Sequence: A1, B, C, D (* Variable Phase)

Phase Timing Summary (CCG)									
Phase	A1	В	С	D					
Phase Change Time (sec)	0	38	64	84					
Green Time (sec)	32	20	14	20					
Phase Time (sec)	38	26	20	26					
Phase Split	35%	24%	18%	24%					

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)







CCG PHASING SUMMARY

□ Common Control Group: CCG3 [Aylesbury/ WR/ Reeves Rd]

■ Network: N101 [AM (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 112 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, B, C, C2, D Output Phase Sequence: A, B, C, C2, D

Phase Timing Summary (CCG)	

Phase	Α	В	С	C2	D
Phase Change Time (sec)	0	29	49	67	84
Green Time (sec)	23	14	12	11	23
Phase Time (sec)	29	20	18	16	29
Phase Split	26%	18%	16%	14%	26%

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: 5.0 [5.0 Pakuranga Highway / Reeves Rd (Site Folder: AM)]

Site Category: (None)

Single Point Interchange (Signals) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 146 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, F Output Phase Sequence: A, B, C, D, E, F

Phase Timing Summary									
Phase	Α	В	С	D	E	F			
Phase Change Time (sec)	0	32	51	79	111	123			
Green Time (sec)	27	13	22	26	6	18			
Phase Time (sec)	33	19	28	32	11	23			
Phase Split	23%	13%	19%	22%	8%	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: 4.0 [4.0 Palm Ave / Aylesbury St (Site Folder: AM)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 144 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	Α	В	С	D	E			
Phase Change Time (sec)	0	56	80	97	127			
Green Time (sec)	50	18	11	24	11			
Phase Time (sec)	56	24	17	30	17			
Phase Split	39%	17%	12%	21%	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: 3.0 [3.0 Pakuranga Highway / Pakuranga Rd (Site Folder: AM)]

■ Network: N101 [AM (Network Folder: General)]

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Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 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 Output Phase Sequence: A, B, C, D

Phase Timing Summary								
Phase	Α	В	С	D				
Phase Change Time (sec)	0	63	99	118				
Green Time (sec)	57	30	13	28				
Phase Time (sec)	63	36	17	34				
Phase Split	42%	24%	11%	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

(Southbound)

VAR: Variable Phase



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

■ Network: N101 [AM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated 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 Iane blockage effects included in determining phase times Phase Sequence: Variable Phasing Reference Phase: Phase A Input Phase Sequence: A, B, C Output Phase Sequence: A, B, C

Phase Timing Summary	,		
Phase	Α	В	C
Phase Change Time (sec)	0	32	62
Green Time (sec)	26	24	32
Phase Time (sec)	32	30	38

32%

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%.

38%

30%

Output Phase Sequence

Phase Split





Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr (Site Folder: AM)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 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, F Output Phase Sequence: A, B, C, D, E, F

Phase Timing Summary									
Phase	Α	В	С	D	Е	F			
Phase Change Time (sec)	0	54	72	86	103	123			
Green Time (sec)	48	12	8	11	14	21			
Phase Time (sec)	54	18	14	17	20	27			
Phase Split	36%	12%	9%	11%	13%	18%			

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: 10.1 [10.1 U-turn - East of Edgewater Dr (West) (Site Folder: AM)]

■ Network: N101 [AM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated 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: Opposed Turns Reference Phase: Phase B Input Phase Sequence: A, B Output Phase Sequence: A, B

Phase Timing Summary					
Phase	Α	В			
Phase Change Time (sec)	12	0			
Green Time (sec)	22	6			
Phase Time (sec)	28	12			
Phase Split	70%	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%.





Site: 8.1 [8.1 U-turn - West of Marriot Rd (Site Folder: AM)]

■ Network: N101 [AM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 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: Opposed Turns Reference Phase: Phase A Input Phase Sequence: A, B Output Phase Sequence: A, B

Phase Timing Summary						
Phase	Α	В				
Phase Change Time (sec)	0	18				
Green Time (sec)	12	6				
Phase Time (sec)	18	12				
Phase Split	60%	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%.





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

■ Network: N101 [PM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated 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 Output Phase Sequence: A, B, C

Phase Timing Summary			
Phase	Α	В	
Phase Change Time (sec)	0	35	
Croon Time (coo)	20	26	

 Phase Change Time (sec)
 0
 35
 67

 Green Time (sec)
 29
 26
 27

 Phase Time (sec)
 35
 32
 33

 Phase Split
 35%
 32%
 33%

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%.

С

Output Phase Sequence





Site: 3.0 [3.0 Pakuranga Highway / Pakuranga Rd (Site Folder: ■■ Network: N101 [PM (Network PM)] Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 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 Output Phase Sequence: A, B, C, D

Phase Timing Summary								
Phase	Α	В	С	D				
Phase Change Time (sec)	0	72	97	120				
Green Time (sec)	66	19	17	24				
Phase Time (sec)	72	25	23	30				
Phase Split	48%	17%	15%	20%				

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



CCG PHASING SUMMARY

□ Common Control Group: CCG3 [Aylesbury/ WR/ Reeves Rd] ■ Network: N101 [PM (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 108 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, B, C, C2, D Output Phase Sequence: A, B, C, C2, D

Phase Timing Summary (CCG)								
Phase	Α	В	С	C2	D			
Phase Change Time (sec)	0	18	35	58	73			
Green Time (sec)	12	11	19	9	31			
Phase Time (sec)	18	15	25	13	37			
Phase Split	17%	14%	23%	12%	34%			

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: 4.0 [4.0 Palm Ave / Aylesbury St (Site Folder: PM)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 149 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, F2 Output Phase Sequence: A, B, C, D, E, F2

Phase Timing Summary							
Phase	Α	В	С	D	Е	F2	
Phase Change Time (sec)	0	29	64	86	114	129	
Green Time (sec)	23	29	16	22	9	14	
Phase Time (sec)	29	35	22	28	15	20	
Phase Split	19%	23%	15%	19%	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



REF: Reference Phase

VAR: Variable Phase



I Site: 5.0 [5.0 Pakuranga Highway / Reeves Rd (Site Folder: ■■ Network: N101 [PM (Network PM)] Folder: General)]

Site Category: (None)

Single Point Interchange (Signals) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 131 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, F Output Phase Sequence: A, B, C, D, E, F

Phase Timing Summary							
Phase	Α	В	С	D	E	F	
Phase Change Time (sec)	0	17	30	54	91	103	
Green Time (sec)	11	7	18	31	6	23	
Phase Time (sec)	17	13	24	37	11	29	
Phase Split	13%	10%	18%	28%	8%	22%	

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



CCG PHASING SUMMARY

□□ Common Control Group: CCG2 [WRR / Mattson]

■ Network: N101 [PM (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 69 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 A1 Input Phase Sequence: A1, B, C, D Output Phase Sequence: A1, B, C, D

Phase Timing Summary (CCG)PhaseA1BPhase Change Time (sec)013

Phase	A1	В	С	D
Phase Change Time (sec)	0	13	37	48
Green Time (sec)	8	18	5	16
Phase Time (sec)	14	24	10	21
Phase Split	20%	35%	14%	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 (CCG)







Site: 8.1 [8.1 U-turn - West of Marriot Rd (Site Folder: PM)]

■ Network: N101 [PM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated 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: Opposed Turns Reference Phase: Phase A Input Phase Sequence: A, B Output Phase Sequence: A, B

Phase Timing Summary						
Phase	Α	В				
Phase Change Time (sec)	0	28				
Green Time (sec)	22	6				
Phase Time (sec)	28	12				
Phase Split	70%	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%.



Site: 10.1 [10.1 U-turn - East of Edgewater Dr (West) (Site Folder: PM)]

■ Network: N101 [PM (Network Folder: General)]

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated 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: Opposed Turns Reference Phase: Phase B Input Phase Sequence: A, B Output Phase Sequence: A, B

Phase Timing Summary						
Phase	Α	В				
Phase Change Time (sec)	12	0				
Green Time (sec)	22	6				
Phase Time (sec)	28	12				
Phase Split	70%	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%.



Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr (Site Folder: PM)] 🛛 💵 Network: N101 [PM (Network

Folder: General)

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 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, F Output Phase Sequence: A, B, C, D, E, F

Phase Timing Summary							
Phase	Α	В	С	D	Е	F	
Phase Change Time (sec)	0	57	78	91	102	122	
Green Time (sec)	51	15	7	6	15	22	
Phase Time (sec)	57	21	12	11	21	28	
Phase Split	38%	14%	8%	7%	14%	19%	

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

