

LANE SUMMARY

Site: 5.4 [5.4 Reeves Rd / William Roberts Rd - Import (Site Folder: General)] Network: N101 [PM (Network Folder: General)]

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

Lane Use and Performance															
	DEMAND FLOWS [Total HV] veh/h %		ARRIVAL FLOWS [Total HV] veh/h %		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BACK OF QUEUE [Veh Dist] m		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: William Roberts Rd (South)															
Lane 1	315	8.0	314	8.0	1139	0.276	100	2.2	LOS A	0.9	6.4	Full	243	0.0	0.0
Approach	315	8.0	314 ^{N1}	8.0		0.276		2.2	LOS A	0.9	6.4				
East: Reeves Rd (East)															
Lane 1	57	8.8	57	8.8	1721	0.033	100	4.6	LOS A	0.0	0.0	Full	266	0.0	0.0
Lane 2	76	15.8	76	15.8	1643	0.046	100	4.7	LOS A	0.0	0.0	Short	13	0.0	NA
Approach	133	12.8	133	12.8		0.046		4.7	NA	0.0	0.0				
North: William Roberts Rd (North)															
Lane 1	80	5.0	80	5.0	1296	0.062	100	4.3	LOS A	0.1	1.1	Full	244	0.0	0.0
Approach	80	5.0	80	5.0		0.062		4.3	LOS A	0.1	1.1				
Intersection	528	8.7	527 ^{N1}	8.8		0.276		3.2	NA	0.9	6.4				

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

Lane LOS values are based on average delay per lane.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

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

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

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

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

Approach Lane Flows (veh/h)										
South: William Roberts Rd (South)										
Mov. From S To Exit:	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	N	E								
Lane 1	160	154	314	8.0	1139	0.276	100	NA	NA	
Approach	160	154	314	8.0		0.276				
East: Reeves Rd (East)										
Mov. From E To Exit:	L2	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	S	N								
Lane 1	57	-	57	8.8	1721	0.033	100	NA	NA	
Lane 2	-	76	76	15.8	1643	0.046	100	0.0	1	
Approach	57	76	133	12.8		0.046				
North: William Roberts Rd (North)										
Mov. From N To Exit:	L2	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	E	S								
Lane 1	12	68	80	5.0	1296	0.062	100	NA	NA	

Approach	12	68	80	5.0	0.062
Total %HV Deg.Satn (v/c)					
Intersection	527	8.8	0.276		

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

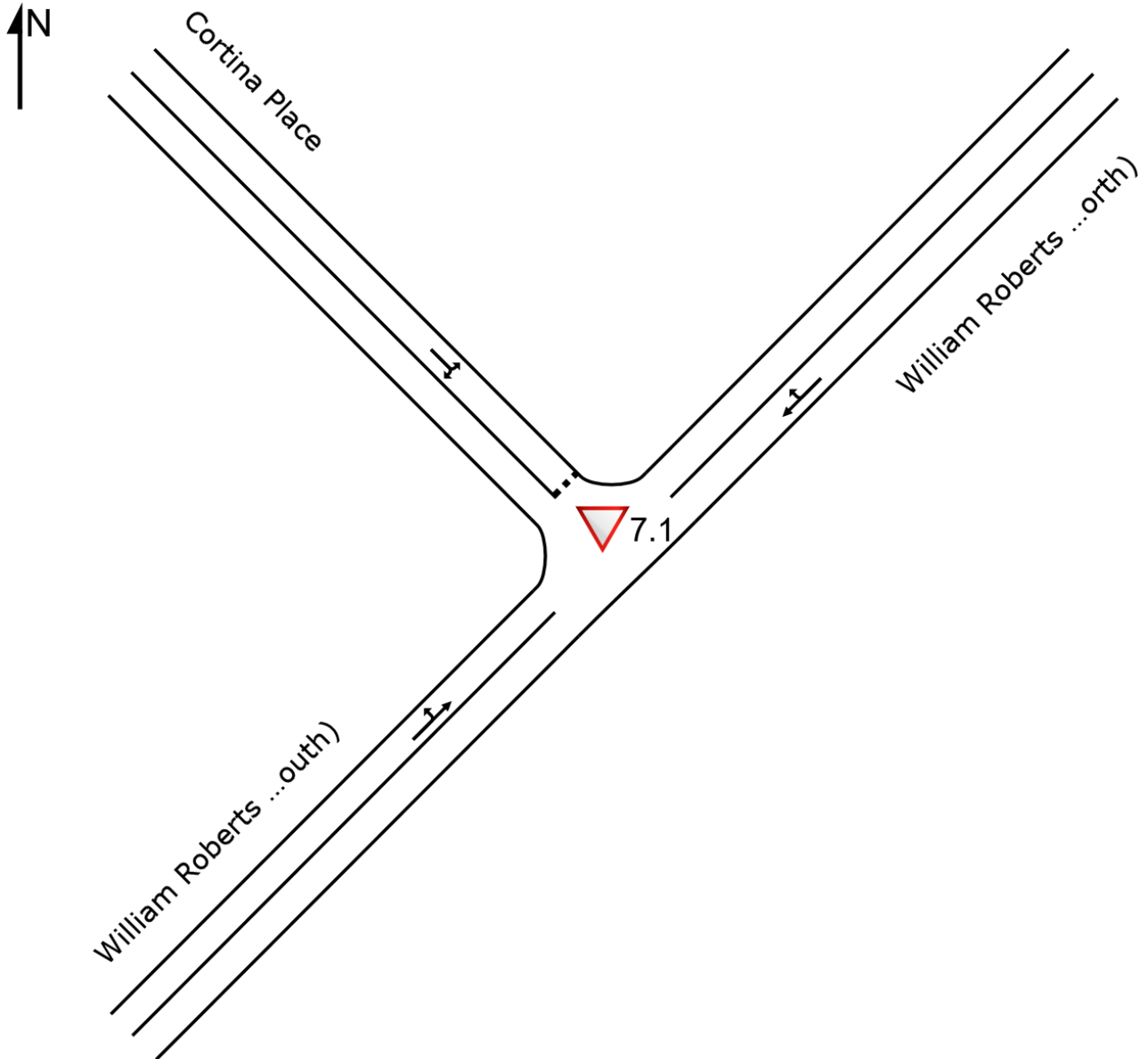
Merge Analysis											
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane % veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: William Roberts Rd (South)											
Merge Type: Not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

SITE LAYOUT

▽ Site: 7.1 [7.1 William Roberts Rd / Cortina PI - Import (Site Folder: General)]

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

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



LANE SUMMARY

Site: 7.1 [7.1 William Roberts Rd / Cortina PI - Import (Site Folder: General)]

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

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

Lane Use and Performance															
	DEMAND FLOWS [Total HV] veh/h %		ARRIVAL FLOWS [Total HV] veh/h %		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BACK OF QUEUE [Veh Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %	
NorthEast: William Roberts Road (North)															
Lane 1	116	5.2	116	5.2	1703	0.068	100	1.0	LOS A	0.1	1.0	Full	243	0.0	0.0
Approach	116	5.2	116	5.2		0.068		1.0	NA	0.1	1.0				
NorthWest: Cortina Place															
Lane 1	64	6.3	64	6.3	1112	0.058	100	3.2	LOS A	0.2	1.1	Full	177	0.0	0.0
Approach	64	6.3	64	6.3		0.058		3.2	LOS A	0.2	1.1				
SouthWest: William Roberts Road (South)															
Lane 1	276	8.4	275	8.4	1791	0.153	100	0.2	LOS A	0.0	0.0	Full	110	0.0	0.0
Approach	276	8.4	275 ^{N1}	8.4		0.153		0.2	NA	0.0	0.0				
Intersection	456	7.3	455 ^{N1}	7.3		0.153		0.8	NA	0.2	1.1				

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

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.

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

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

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

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

Approach Lane Flows (veh/h)										
NorthEast: William Roberts Road (North)										
Mov. From NE To Exit:	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	SW	NW								
Lane 1	91	25	116	5.2	1703	0.068	100	NA	NA	
Approach	91	25	116	5.2		0.068				
NorthWest: Cortina Place										
Mov. From NW To Exit:	L2	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	NE	SW								
Lane 1	45	19	64	6.3	1112	0.058	100	NA	NA	
Approach	45	19	64	6.3		0.058				
SouthWest: William Roberts Road (South)										
Mov. From SW To Exit:	L2	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	NW	NE								
Lane 1	29	246	275	8.4	1791	0.153	100	NA	NA	
Approach	29	246	275	8.4		0.153				
Total %HV Deg. Satn (v/c)										

Intersection	455	7.3	0.153
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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											
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
NorthEast Exit: William Roberts Road (North) Merge Type: Not Applied											
Full Length Lane	1										Merge Analysis not applied.
NorthWest Exit: Cortina Place Merge Type: Not Applied											
Full Length Lane	1										Merge Analysis not applied.
SouthWest Exit: William Roberts Road (South) Merge Type: Not Applied											
Full Length Lane	1										Merge Analysis not applied.

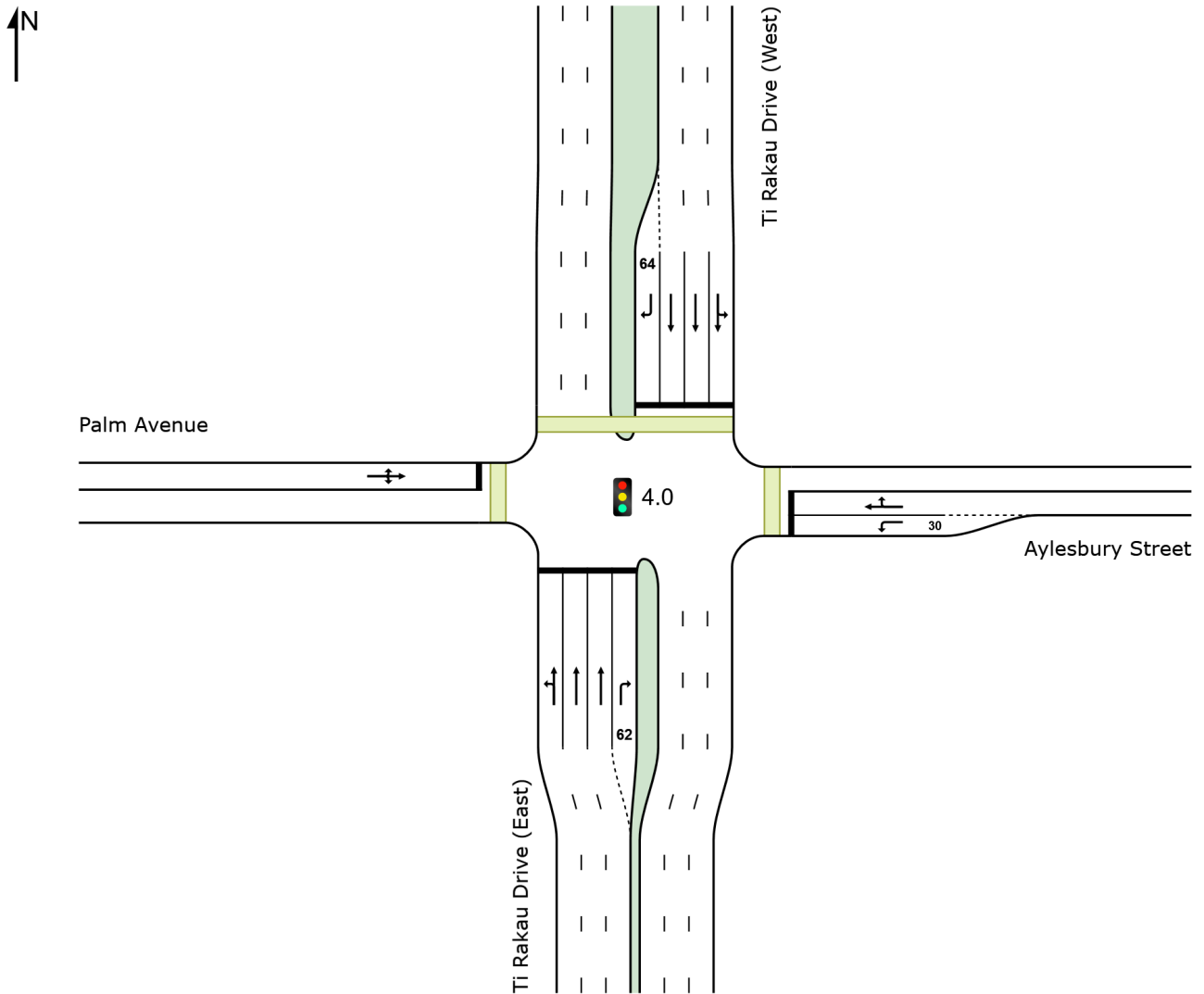
SITE LAYOUT

 Site: 4.0 [4.0 Palm Ave / Aylesbury St - Import (Site Folder: General)]

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



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Organisation: AECOM AUSTRALIA PTY LTD | Licence: NETWORK / Enterprise | Created: Wednesday, 15 February 2023 10:01:40 am
Project: C:\Users\jacques.vandenheever\Eastern Busway Alliance\PAA - 05 DESIGN MGMNT\12 Transport\3-3. Integrated Transport Assessment\ITA 2 - EB2,3R\Version 9 (Addendum)\AIMSUN and SIDRA\CS 1.4\CS 1.4 PM - V1.sip9

LANE SUMMARY

Site: 4.0 [4.0 Palm Ave / Aylesbury St - Import (Site Folder: General)] Network: N101 [PM (Network Folder: General)]

Site Category: (None)

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

Lane Use and Performance															
	DEMAND FLOWS		ARRIVAL FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BACK OF QUEUE		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist m]				
South: Ti Rakau Drive (East)															
Lane 1	595	4.9	584	4.8	1204	0.485	100	15.4	LOS B	17.7	129.1	Full	110	0.0	29.6
Lane 2	620	5.1	608	5.1	1254	0.485	100	14.0	LOS B	17.5	127.9	Full	110	0.0	28.8
Lane 3	611	5.1	599	5.1	1237 ¹	0.485	100	13.9	LOS B	17.1	125.2	Full	110	0.0	26.8
Lane 4	10	0.0	10	0.0	70	0.139	100	82.9	LOS F	0.7	4.6	Short	62	0.0	NA
Approach	1836	5.0	1800 ^{N1}	5.0		0.485		14.8	LOS B	17.7	129.1				
East: Aylesbury Street															
Lane 1	27	3.7	27	3.7	67	0.404	100	61.3	LOS E	1.6	11.9	Short	30	-50.0 ^{N3}	NA
Lane 2	20	0.0	20	0.0	72	0.278	100	81.3	LOS F	1.4	9.5	Full	40	0.0	0.0
Approach	47	2.1	47	2.1		0.404		69.8	LOS E	1.6	11.9				
North: Ti Rakau Drive (West)															
Lane 1	415	7.6	408	7.6	624	0.654	100	16.1	LOS B	14.3	106.7	Full	174	-49.4 ^{N3}	0.0
Lane 2	410	7.7	403	7.8	616	0.654	100	16.5	LOS B	14.3	107.1	Full	174	-50.0 ^{N3}	0.0
Lane 3	400	7.7	393	7.8	601 ¹	0.654	100	16.3	LOS B	13.7	102.3	Full	174	-50.0 ^{N3}	0.0
Lane 4	43	7.0	42	7.0	67	0.630	100	86.9	LOS F	3.0	22.1	Short	64	0.0	NA
Approach	1268	7.6	1247 ^{N1}	7.7		0.654		18.7	LOS B	14.3	107.1				
West: Palm Avenue															
Lane 1	95	4.2	95	4.2	112	0.852	100	89.2	LOS F	7.0	50.8	Full	87	-30.1 ^{N3}	0.0
Approach	95	4.2	95	4.2		0.852		89.2	LOS F	7.0	50.8				
Intersection	3246	6.0	3189 ^{N1}	6.1		0.852		19.3	LOS B	17.7	129.1				

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.

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

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

Approach Lane Flows (veh/h)										
South: Ti Rakau Drive (East)										
Mov. From S To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
	W	N	E							
Lane 1	63	521	-	584	4.8	1204	0.485	100	NA	NA
Lane 2	-	608	-	608	5.1	1254	0.485	100	NA	NA
Lane 3	-	599	-	599	5.1	1237 ¹	0.485	100	NA	NA
Lane 4	-	-	10	10	0.0	70	0.139	100	0.0	3

Approach	63	1728	10	1800	5.0		0.485				
East: Aylesbury Street											
Mov. From E To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	S	W	N								
Lane 1	27	-	-	27	3.7	67	0.404	100	0.0	2	
Lane 2	-	10	10	20	0.0	72	0.278	100	NA	NA	
Approach	27	10	10	47	2.1		0.404				
North: Ti Rakau Drive (West)											
Mov. From N To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	E	S	W								
Lane 1	10	398	-	408	7.6	624	0.654	100	NA	NA	
Lane 2	-	403	-	403	7.8	616	0.654	100	NA	NA	
Lane 3	-	393	-	393	7.8	601 ¹	0.654	100	NA	NA	
Lane 4	-	-	42	42	7.0	67	0.630	100	0.0	3	
Approach	10	1195	42	1247	7.7		0.654				
West: Palm Avenue											
Mov. From W To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	N	E	S								
Lane 1	44	10	41	95	4.2	112	0.852	100	NA	NA	
Approach	44	10	41	95	4.2		0.852				
Total %HV Deg. Satn (v/c)											
Intersection	3189	6.1		0.852							

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

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

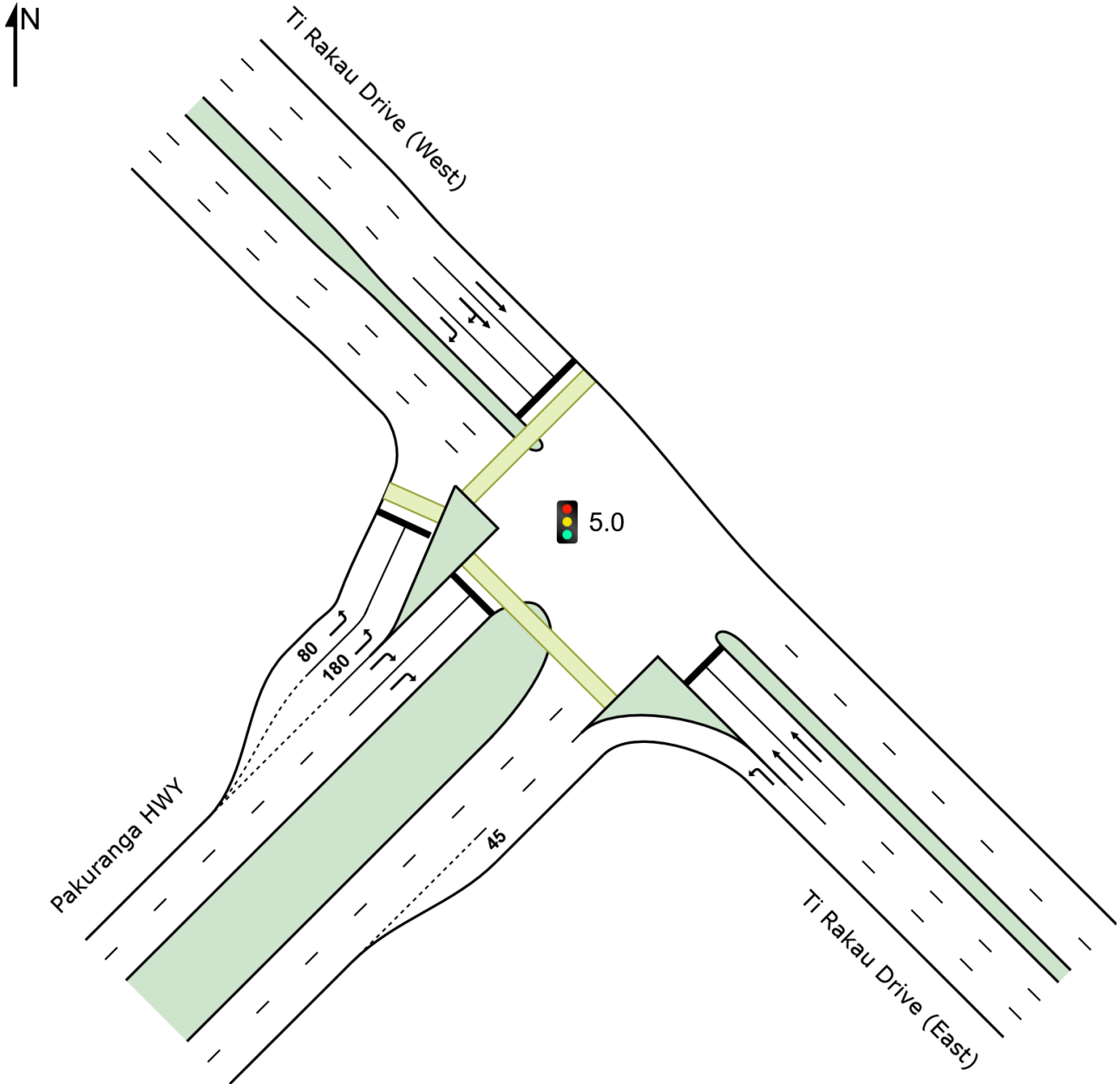
Merge Analysis												
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane % veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec	
South Exit: Ti Rakau Drive (East) Merge Type: Not Applied			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

SITE LAYOUT

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

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

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



LANE SUMMARY

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

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

New Site

Site Category: (None)

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

Lane Use and Performance															
	DEMAND FLOWS		ARRIVAL FLOWS		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	85% BACK OF QUEUE		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total	HV]	[Total	HV]						[Veh	Dist]				
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m	m	%	%	
SouthEast: Ti Rakau Drive (East)															
Lane 1	840	7.7	798	7.4	1727	0.462	100	6.5	LOS A	0.0	0.0	Full	91	0.0	0.0
Lane 2	379	5.7	361	5.6	385	0.939	100	85.8	LOS F	18.1 ^{N4}	133.0 ^{N4}	Full	91	-29.6 ^{N3}	50.0
Lane 3	382	5.7	364	5.6	387	0.939	100	85.6	LOS F	18.1 ^{N4}	133.0 ^{N4}	Full	91	-28.8 ^{N3}	50.0
Approach	1601	6.7	1523 ^{N1}	6.5		0.939		44.2	LOS D	18.1	133.0				
NorthWest: Ti Rakau Drive (West)															
Lane 1	442	9.0	435	9.0	535	0.813	100	56.1	LOS E	21.3 ^{N4}	160.7 ^{N4}	Full	110	0.0	50.0
Lane 2	433	6.9	426	7.0	524	0.813	100	60.4	LOS E	21.7 ^{N4}	160.7 ^{N4}	Full	110	0.0	50.0
Lane 3	420	6.7	414	6.8	509	0.813	100	61.1	LOS E	21.7 ^{N4}	160.7 ^{N4}	Full	110	0.0	50.0
Approach	1295	7.6	1275 ^{N1}	7.6		0.813		59.2	LOS E	21.7	160.7				
SouthWest: Pakuranga HWY															
Lane 1	532	4.7	532	4.7	541 ¹	0.985	100	90.6	LOS F	40.1	292.3	Short	80	-29.6 ^{N3}	NA
Lane 2	536	4.7	536	4.7	544 ¹	0.985	100	90.4	LOS F	40.3	293.2	Short	180	-28.8 ^{N3}	NA
Lane 3	492	5.7	492	5.7	521	0.944	100	88.7	LOS F	39.1	286.8	Full	1650	0.0	0.0
Lane 4	497	5.7	497	5.7	526	0.944	100	88.5	LOS F	39.4	289.4	Full	1650	0.0	0.0
Approach	2057	5.2	2057	5.2		0.985		89.6	LOS F	40.3	293.2				
Intersection	4953	6.3	4855 ^{N1}	6.4		0.985		67.4	LOS E	40.3	293.2				

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.

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

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

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

Approach Lane Flows (veh/h)										
SouthEast: Ti Rakau Drive (East)										
Mov.	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL	Ov. Lane No.	Ov. Lane
From SE To Exit:	SW	NW		%						
Lane 1	798	-	798	7.4	1727	0.462	100	NA	NA	NA
Lane 2	-	361	361	5.6	385	0.939	100	NA	NA	NA
Lane 3	-	364	364	5.6	387	0.939	100	NA	NA	NA
Approach	798	725	1523	6.5		0.939				
NorthWest: Ti Rakau Drive (West)										
Mov.	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL	Ov. Lane	Ov. Lane
From NW				%						

To Exit:	SE	SW			veh/h	v/c	%	%	No.
Lane 1	435	-	435	9.0	535	0.813	100	NA	NA
Lane 2	38	388	426	7.0	524	0.813	100	NA	NA
Lane 3	-	414	414	6.8	509	0.813	100	NA	NA
Approach	473	802	1275	7.6		0.813			
SouthWest: Pakuranga HWY									
Mov.	L2	R2	Total	%HV		Deg.	Lane	Prob.	Ov.
From SW					Cap.	Satn	Util.	SL Ov.	Lane
To Exit:	NW	SE			veh/h	v/c	%	%	No.
Lane 1	532	-	532	4.7	541 ¹	0.985	100	100.0	2
Lane 2	536	-	536	4.7	544 ¹	0.985	100	60.3	4
Lane 3	-	492	492	5.7	521	0.944	100	NA	NA
Lane 4	-	497	497	5.7	526	0.944	100	NA	NA
Approach	1068	989	2057	5.2		0.985			
Total %HV Deg. Satn (v/c)									
Intersection	4855	6.4		0.985					

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

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

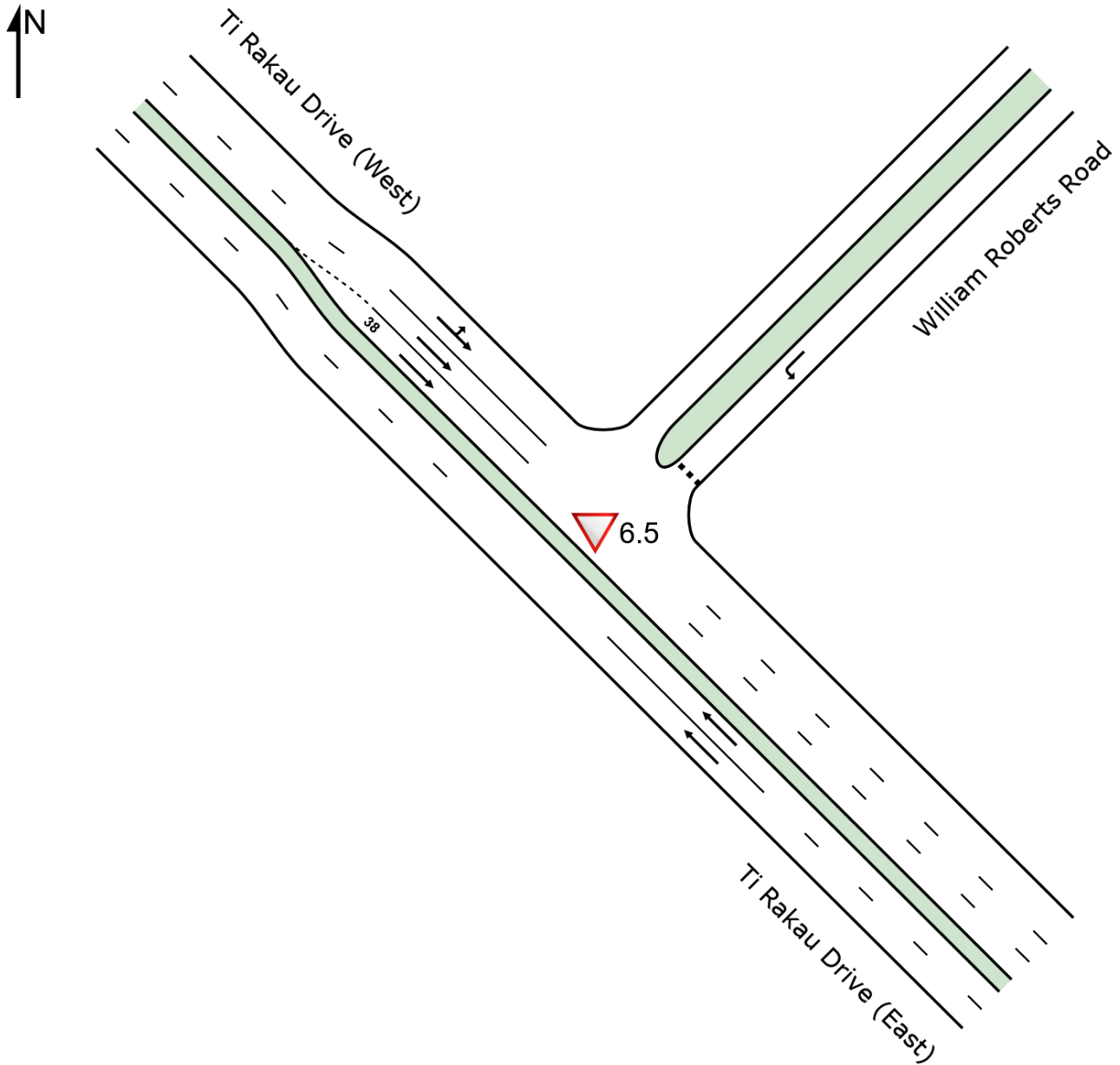
Merge Analysis												
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec	
SouthEast Exit: Ti Rakau Drive (East)												
Merge Type: Not Applied												
Full Length Lane	1											
Full Length Lane	2											
NorthWest Exit: Ti Rakau Drive (West)												
Merge Type: Not Applied												
Full Length Lane	1											
Full Length Lane	2											
Full Length Lane	3											
SouthWest Exit: Pakuranga HWY												
Merge Type: Priority												
Exit Short Lane	1	45	0.0	388	401	3.00	2.00	798	1390	0.574	0.6	2.0
Merge Lane	2	-	100.0					388	1800	0.216	0.0	0.0

SITE LAYOUT

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

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

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



LANE SUMMARY

Site: 6.5 [6.5 William Roberts Rd / Ti Rakau Dr - Import (Site Folder: General)] Network: N101 [PM (Network Folder: General)]

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

Lane Use and Performance															
	DEMAND FLOWS		ARRIVAL FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BACK OF QUEUE		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist m]				
SouthEast: Ti Rakau Drive (East)															
Lane 1	835	6.4	792	6.2	1826	0.434	100	0.0	LOS A	0.0	0.0	Full	18	0.0	0.0
Lane 2	826	6.4	784	6.2	1807	0.434	100	0.0	LOS A	0.0	0.0	Full	18	0.0	0.0
Approach	1661	6.4	1576 ^{N1}	6.2		0.434		0.0	NA	0.0	0.0				
NorthEast: William Roberts Road															
Lane 1	110	3.6	110	3.6	486	0.226	100	3.4	LOS A	0.3	2.2	Full	110	-50.0 ^{N7}	0.0
Approach	110	3.6	110	3.6		0.226		3.4	LOS A	0.3	2.2				
NorthWest: Ti Rakau Drive (West)															
Lane 1	565	7.3	562	7.3	1869	0.301	100	2.3	LOS A	0.0	0.0	Full	97	0.0	0.0
Lane 2	546	6.2	543	6.3	1806	0.301	100	0.0	LOS A	4.5 ^{N5}	33.4 ^{N5}	Full	97	0.0	0.0
Lane 3	350	6.2	348	6.3	1158	0.301	100	0.0	LOS A	0.0	0.0	Short	38	-35.9 ^{N3}	NA
Approach	1461	6.7	1454 ^{N1}	6.7		0.301		0.9	NA	4.5	33.4				
Intersection	3232	6.4	3140 ^{N1}	6.6		0.434		0.5	NA	4.5	33.4				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- N1** Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
- N3** Capacity Adjustment due to downstream lane blockage determined by the program.
- N5** Continuous Lane results determined by Back of Queue values of downstream lanes (proportional to lane movement flows).
- N7** The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)									
SouthEast: Ti Rakau Drive (East)									
Mov. From SE To Exit:	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	792	792	6.2	1826	0.434	100	NA	NA	
Lane 2	784	784	6.2	1807	0.434	100	NA	NA	
Approach	1576	1576	6.2		0.434				
NorthEast: William Roberts Road									
Mov. From NE To Exit:	L2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	110	110	3.6	486	0.226	100	NA	NA	

Approach	110	110	3.6			0.226				
NorthWest: Ti Rakau Drive (West)										
Mov. From NW To Exit:	L2 NE	T1 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.	
Lane 1	275	288	562	7.3	1869	0.301	100	NA	NA	
Lane 2	-	543	543	6.3	1806	0.301	100	NA	NA	
Lane 3	-	348	348	6.3	1158	0.301	100	0.0	2	
Approach	275	1179	1454	6.7		0.301				
Total %HV Deg. Satn (v/c)										
Intersection	3140	6.6		0.434						

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

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

SITE LAYOUT

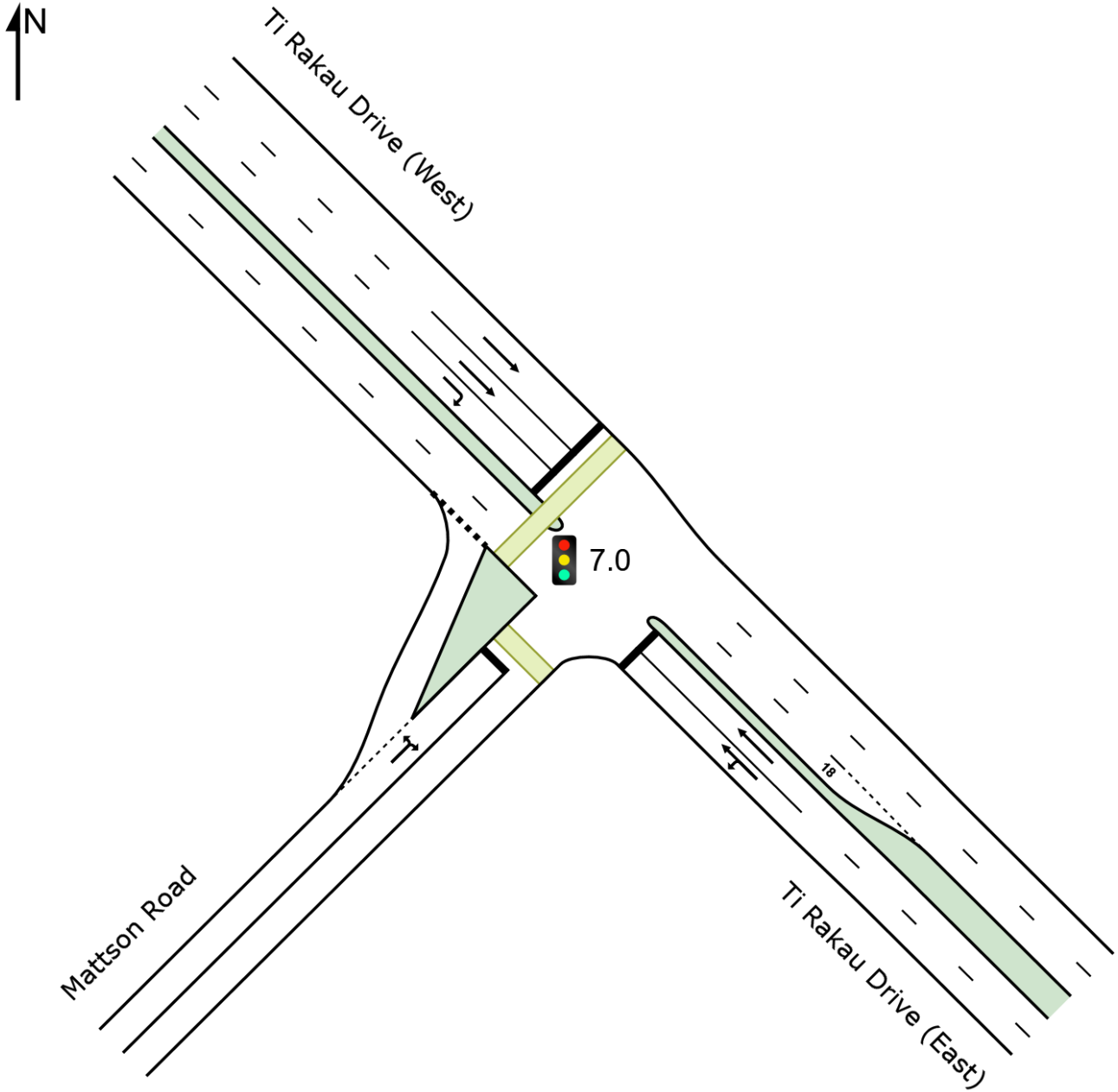
 Site: 7.0 [7.0 Mattson Rd/ Ti Rakau Dr (Site Folder: General)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



From SW To Exit:	NW	SE			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	23	48	71	1.4	405	0.175	100	NA	NA
Approach	23	48	71	1.4		0.175			
Total %HV Deg. Satn (v/c)									
Intersection	2954	6.4		0.887					

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

Merge Analysis												
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
SouthEast Exit: Ti Rakau Drive (East) Merge Type: Priority												
Exit Short Lane	3	18	0.0	578	595	3.00	2.00	48	1186	0.040	1.1	1.3
Merge Lane	2	-	100.0	Merge Lane is not Opposed				578	1800	0.321	0.0	0.0
NorthWest Exit: Ti Rakau Drive (West) Merge Type: Not Applied												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
SouthWest Exit: Mattson Road Merge Type: Not Applied												
Full Length Lane	1	Merge Analysis not applied.										

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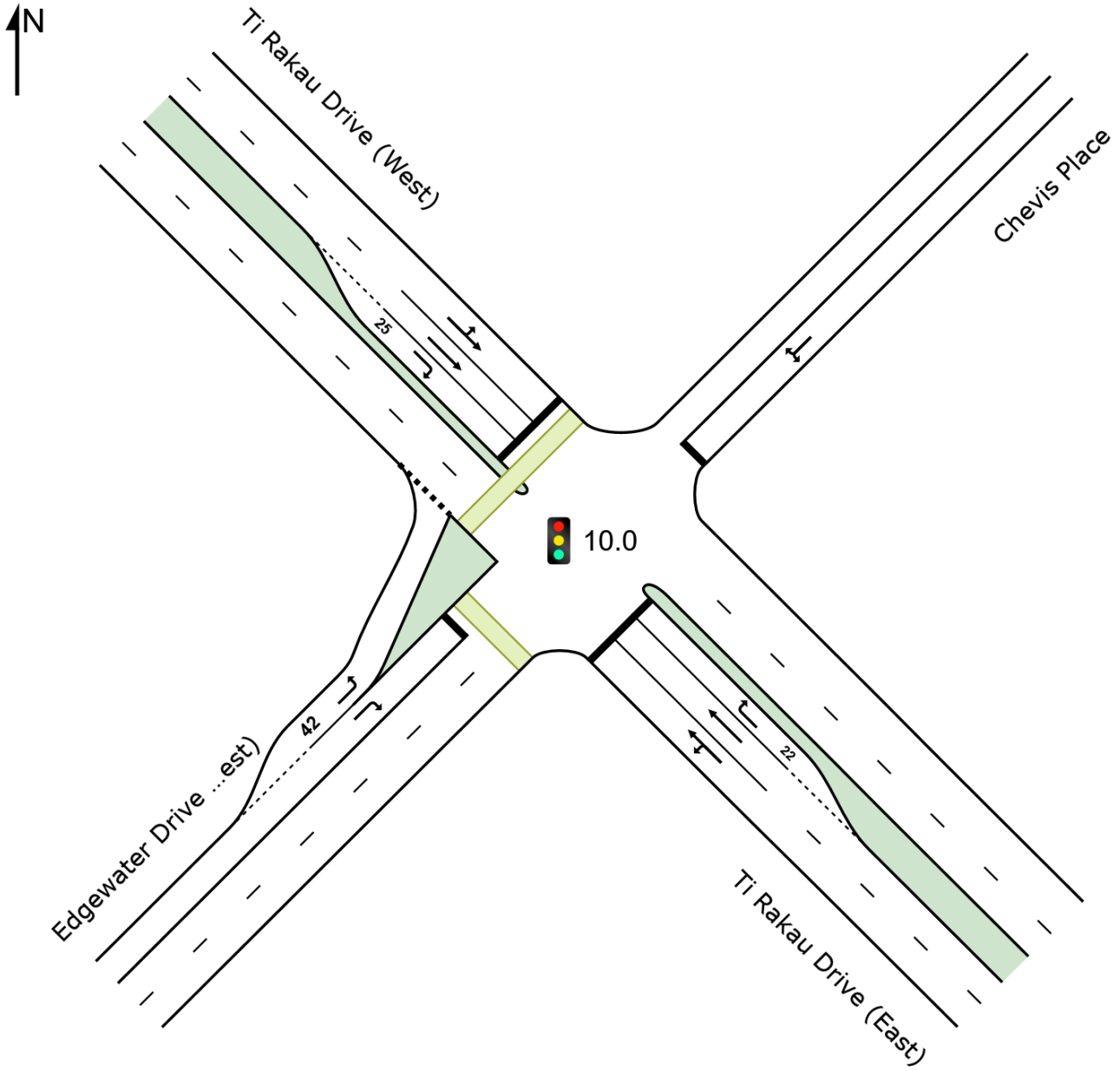
Organisation: AECOM AUSTRALIA PTY LTD | Licence: NETWORK / Enterprise | Processed: Tuesday, 7 February 2023 3:26:49 pm
Project: C:\Users\jacques.vandenheever\Eastern Busway Alliance\PAA - 05 DESIGN MGMNT\12 Transport\3-3. Integrated Transport Assessment\ITA 2 - EB2,3R\Version 9 (Addendum)\AIMSUN and SIDRA\CS 1.4\CS 1.4 PM - V1.sip9

SITE LAYOUT

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

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

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



LANE SUMMARY

Site: 10.0 [10.0 Edgewater Dr (West) / Chevis Pl (Site Folder: Network: N101 [PM (Network General)]) Folder: General]]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 105 seconds (Site Practical Cycle Time)

Lane Use and Performance															
	DEMAND FLOWS		ARRIVAL FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BACK OF QUEUE		Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
	[Total veh/h	HV %	[Total veh/h	HV %						[Veh	Dist] m				
SouthEast: Ti Rakau Drive (East)															
Lane 1	888	6.5	876	6.4	981	0.893	100	35.7	LOS D	37.6 ^{N4}	277.6 ^{N4}	Full	190	0.0	50.0
Lane 2	872	6.4	860	6.4	964 ¹	0.893	100	34.8	LOS C	37.6 ^{N4}	277.6 ^{N4}	Full	190	0.0	50.0
Lane 3	11	9.1	11	9.0	96	0.113	100	58.4	LOS E	0.5	3.8	Short	22	0.0	NA
Approach	1772	6.5	1747 ^N ₁	6.4		0.893		35.4	LOS D	37.6	277.6				
NorthEast: Chevis Place															
Lane 1	20	0.0	20	0.0	140	0.143	100	55.6	LOS E	0.9	6.3	Full	138	0.0	0.0
Approach	20	0.0	20	0.0		0.143		55.6	LOS E	0.9	6.3				
NorthWest: Ti Rakau Drive (West)															
Lane 1	540	2.5	524	2.5	1030	0.509	100	17.4	LOS B	13.9 ^{N4}	99.4 ^{N4}	Full	68	0.0	50.0
Lane 2	428	2.5	415	2.6	815 ¹	0.509	100	16.3	LOS B	11.5	82.6	Full	68	0.0	32.8
Lane 3	89	7.1	87	7.3	98	0.889	100	70.0	LOS E	4.7	34.7	Short	25	0.0	NA
Approach	1057	2.9	1026 ^N ₁	3.0		0.889		21.4	LOS C	13.9	99.4				
SouthWest: Edgewater Drive (West)															
Lane 1	102	5.2	102	5.2	627	0.163	100	19.1	LOS B	2.4	17.5	Short	42	0.0	NA
Lane 2	55	9.6	55	9.6	232	0.236	100	50.8	LOS D	2.3	17.5	Full	500	0.0	0.0
Approach	157	6.7	157	6.7		0.236		30.2	LOS C	2.4	17.5				
Intersection	3006	5.2	2951 ^N ₁	5.3		0.893		30.4	LOS C	37.6	277.6				

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

Lane LOS values are based on average delay per lane.

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

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

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

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

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

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

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

Approach Lane Flows (veh/h)										
SouthEast: Ti Rakau Drive (East)										
Mov. From SE To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.
	SW	NW	NE							
Lane 1	152	725	-	876	6.4	981	0.893	100	NA	NA
Lane 2	-	860	-	860	6.4	964 ¹	0.893	100	NA	NA
Lane 3	-	-	11	11	9.0	96	0.113	100	0.0	2
Approach	152	1585	11	1747	6.4		0.893			
NorthEast: Chevis Place										
Mov.	L2	R2	Total	%HV		Deg.	Lane	Prob.	Ov.	
						v/c	Util.	SL	Lane	No.

From NE To Exit:	SE	NW				Cap. veh/h	Satn v/c	Util. %	SL %	Ov. %	Lane No.
Lane 1	10	10	20	0.0		140	0.143	100	NA	NA	
Approach	10	10	20	0.0			0.143				
NorthWest: Ti Rakau Drive (West)											
Mov. From NW To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. %	Ov. Lane No.
Lane 1	10	515	-	524	2.5	1030	0.509	100	NA	NA	
Lane 2	-	415	-	415	2.6	815 ¹	0.509	100	NA	NA	
Lane 3	-	-	87	87	7.3	98	0.889	100	45.3		2
Approach	10	930	87	1026	3.0		0.889				
SouthWest: Edgewater Drive (West)											
Mov. From SW To Exit:	L2	R2	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. %	Ov. Lane No.
Lane 1	102	-	102	5.2		627	0.163	100	0.0		2
Lane 2	-	55	55	9.6		232	0.236	100	NA	NA	
Approach	102	55	157	6.7			0.236				
Total %HV Deg.Satn (v/c)											
Intersection	2951	5.3		0.893							

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

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

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

SITE LAYOUT

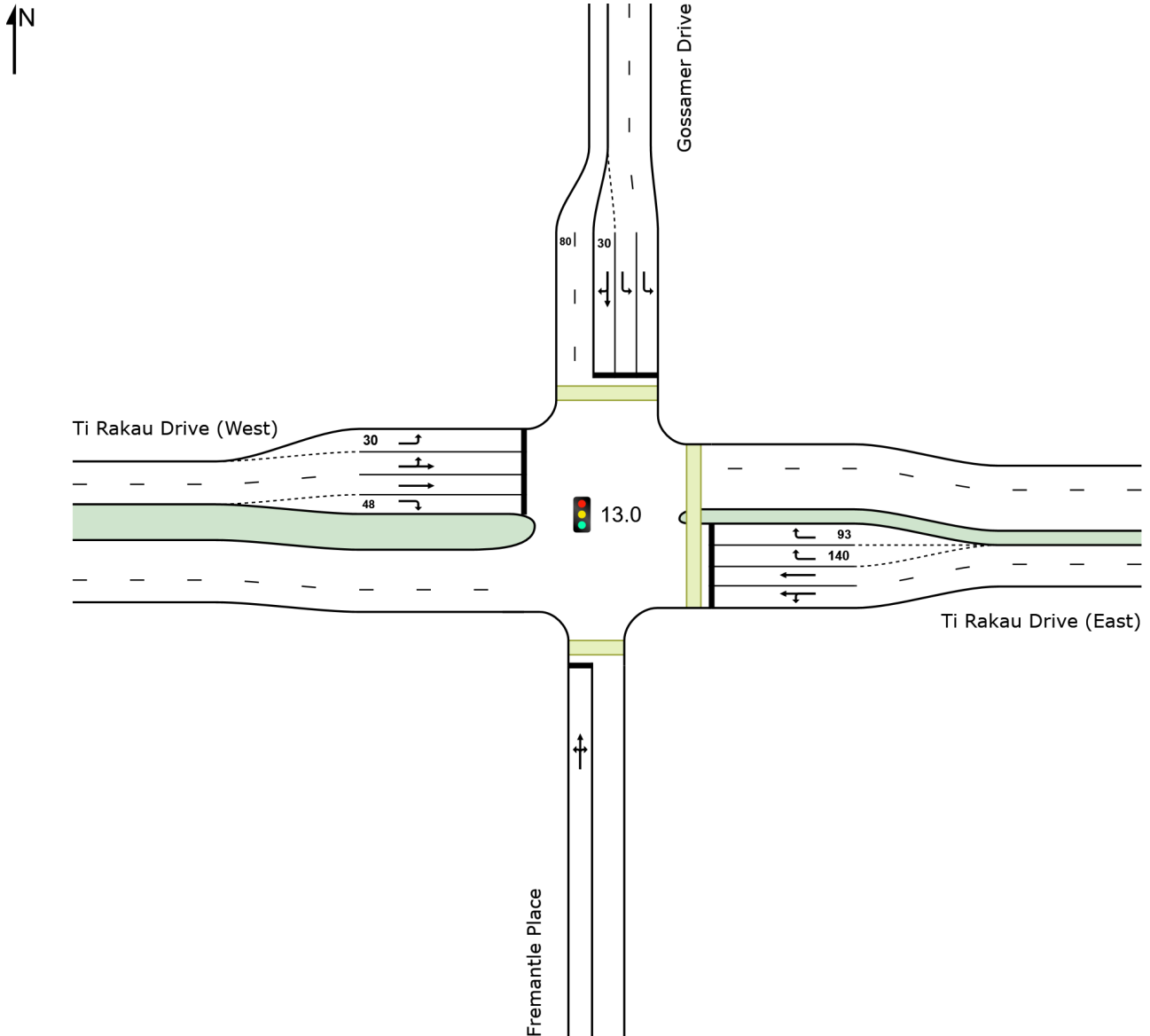
Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr (Site Folder: General)]

Scheme Design

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



LANE SUMMARY

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

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

Scheme Design

Site Category: (None)

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

Lane Use and Performance															
	DEMAND FLOWS [Total HV] veh/h %		ARRIVAL FLOWS [Total HV] veh/h %		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	85% BACK OF QUEUE [Veh Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %	
South: Fremantle Place															
Lane 1	40	5.0	40	5.0	97	0.413	100	81.6	LOS F	2.7	19.6	Full	285	0.0	0.0
Approach	40	5.0	40	5.0		0.413		81.6	LOS F	2.7	19.6				
East: Ti Rakau Drive (East)															
Lane 1	906	6.5	906	6.5	901	1.005	100	77.9	LOS E	71.7	530.0	Full	636	0.0	0.0
Lane 2	775	6.6	775	6.6	771 ¹	1.005	100	98.9	LOS F	73.5	543.3	Full	636	0.0	0.8
Lane 3	258	8.6	258	8.6	505	0.511	47 ⁶	29.7	LOS C	8.4	62.8	Short	140	0.0	NA
Lane 4	548	8.6	548	8.6	505	1.084	100	141.5	LOS F	45.1	338.5	Short	93	0.0	NA
Approach	2487	7.2	2487	7.2		1.084		93.5	LOS F	73.5	543.3				
North: Gossamer Drive															
Lane 1	259	17.8	259	17.8	757	0.342	100	22.2	LOS C	8.2	66.2	Full	1010	0.0	0.0
Lane 2	246	17.8	246	17.8	719 ¹	0.342	100	22.0	LOS C	7.7	62.2	Full	1010	0.0	0.0
Lane 3	61	4.9	61	4.9	238	0.256	100	67.3	LOS E	3.6	26.5	Short	30	0.0	NA
Approach	566	16.4	566	16.4		0.342		26.9	LOS C	8.2	66.2				
West: Ti Rakau Drive (West)															
Lane 1	170	0.6	165	0.6	822	0.200	28 ⁵	19.3	LOS B	4.1	29.1	Short	30	0.0	NA
Lane 2	348	3.3	337	3.4	464 ¹	0.726	100	44.2	LOS D	17.9	129.2	Full	479	0.0	0.0
Lane 3	445	3.3	432	3.4	595 ¹	0.726	100	47.3	LOS D	24.7	177.6	Full	479	0.0	0.0
Lane 4	13	0.0	13	0.0	312	0.040	100	59.7	LOS E	0.7	4.8	Short	48	0.0	NA
Approach	976	2.8	946 ^{N1}	2.9		0.726		41.5	LOS D	24.7	177.6				
Intersection	4069	7.4	4039 ^{N1}	7.5		1.084		71.8	LOS E	73.5	543.3				

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.

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

⁵ Lane under-utilisation found by the program

⁶ Lane under-utilisation due to downstream effects

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

Approach Lane Flows (veh/h)											
South: Fremantle Place											
Mov. From S To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Ov. %	Ov. Lane No.
Lane 1	13	10	17	40	5.0	97	0.413	100	NA	NA	
Approach	13	10	17	40	5.0		0.413				
East: Ti Rakau Drive (East)											

Mov. From E To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	23	883	-	906	6.5	901	1.005	100	NA	NA
Lane 2	-	775	-	775	6.6	771 ¹	1.005	100	NA	NA
Lane 3	-	-	258	258	8.6	505	0.511	47 ⁶	98.9	2
Lane 4	-	-	548	548	8.6	505	1.084	100	100.0	3
Approach	23	1658	806	2487	7.2		1.084			
North: Gossamer Drive										
Mov. From N To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	259	-	-	259	17.8	757	0.342	100	NA	NA
Lane 2	246	-	-	246	17.8	719 ¹	0.342	100	NA	NA
Lane 3	-	12	49	61	4.9	238	0.256	100	3.8	2
Approach	505	12	49	566	16.4		0.342			
West: Ti Rakau Drive (West)										
Mov. From W To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	165	-	-	165	0.6	822	0.200	28 ⁵	12.4	2
Lane 2	-	337	-	337	3.4	464 ¹	0.726	100	NA	NA
Lane 3	-	432	-	432	3.4	595 ¹	0.726	100	NA	NA
Lane 4	-	-	13	13	0.0	312	0.040	100	0.0	3
Approach	165	769	13	946	2.9		0.726			
Total %HV Deg. Satn (v/c)										
Intersection	4039	7.5		1.084						

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

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

Merge Analysis												
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane % veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Capacity veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec	
South Exit: Fremantle Place Merge Type: Not Applied												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Ti Rakau Drive (East) Merge Type: Not Applied												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Gossamer Drive Merge Type: Zipper												
Exit Short Lane	1	80	50.0	258	269	2.50	2.00	423	1474	0.287	0.0	0.2
Merge Lane	2	-	50.0	211	217	2.50	2.00	515	1542	0.334	0.0	0.1
West Exit: Ti Rakau Drive (West) Merge Type: Not Applied												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										