

Appendix H

Construction Scenario 3 – Phasing Diagrams

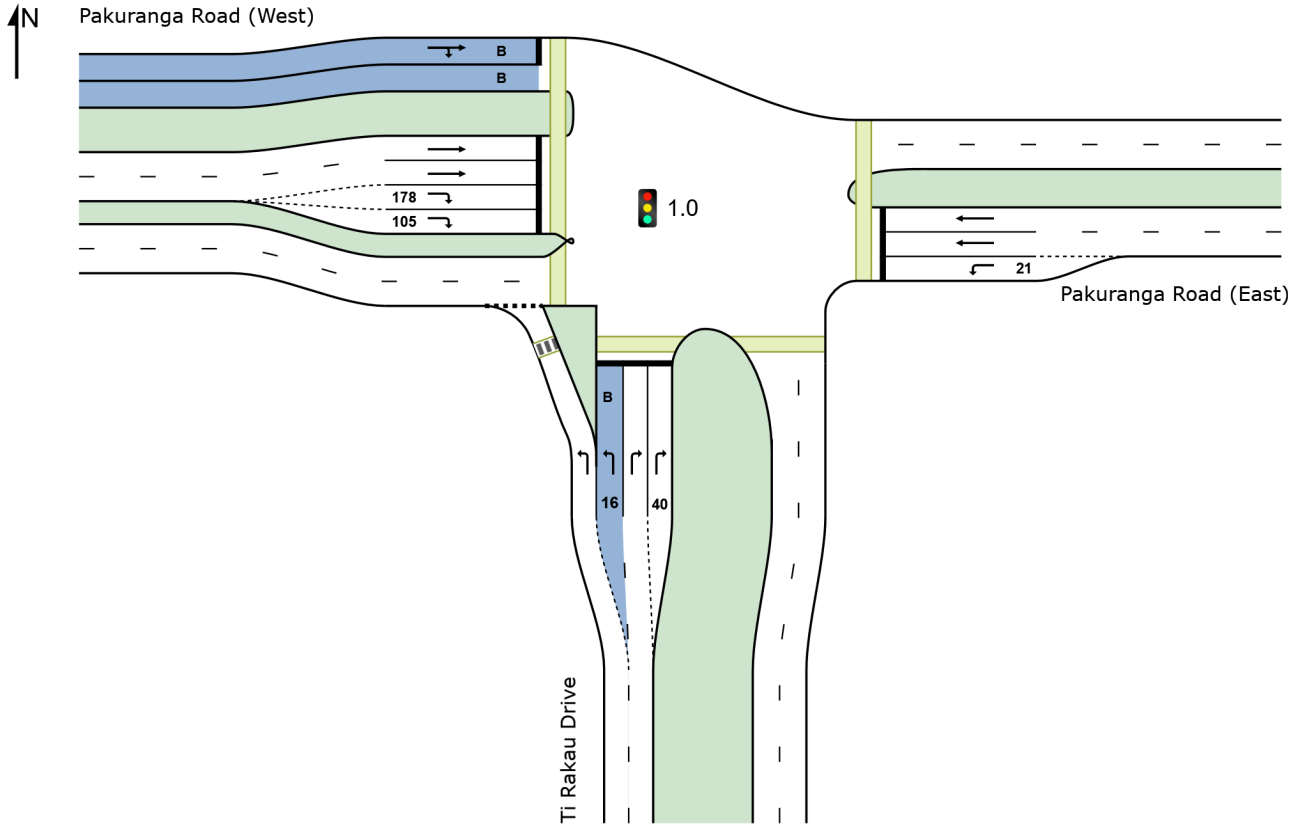
SITE LAYOUT

 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.

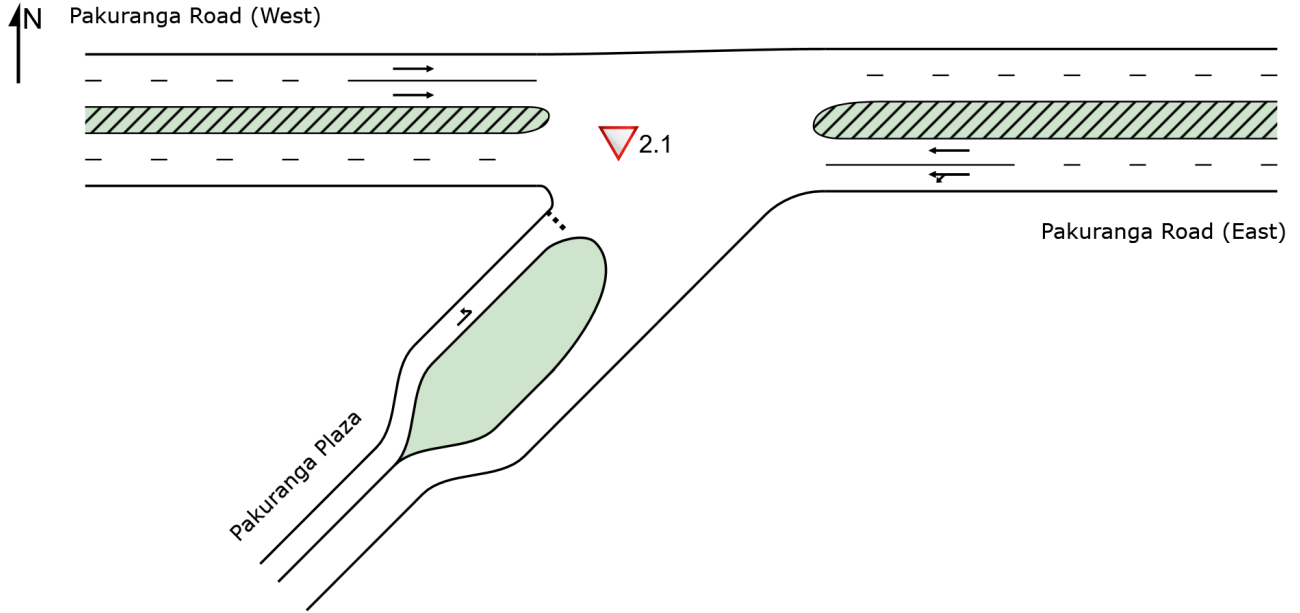


SITE LAYOUT

▽ 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.



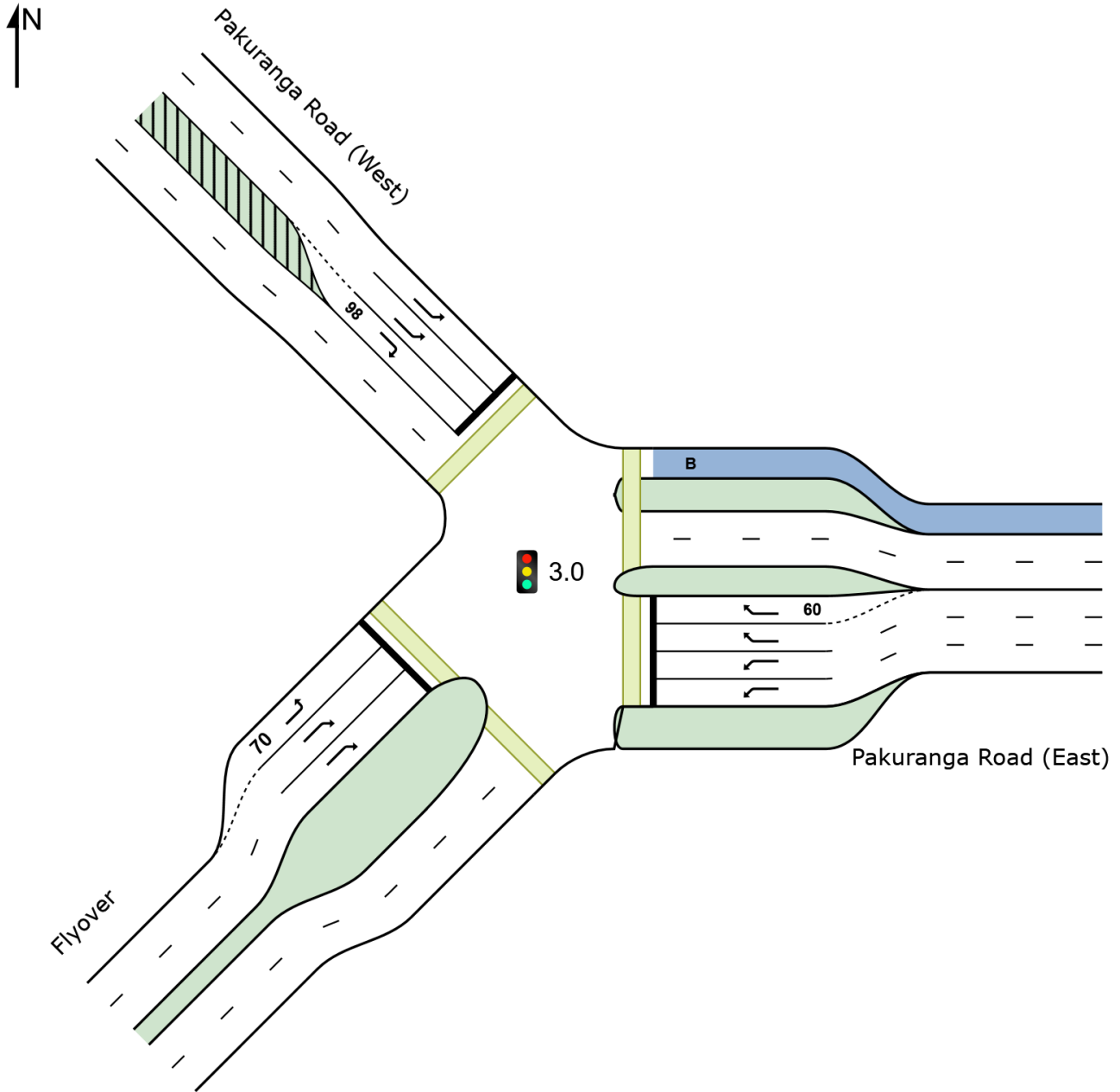
SITE LAYOUT

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.

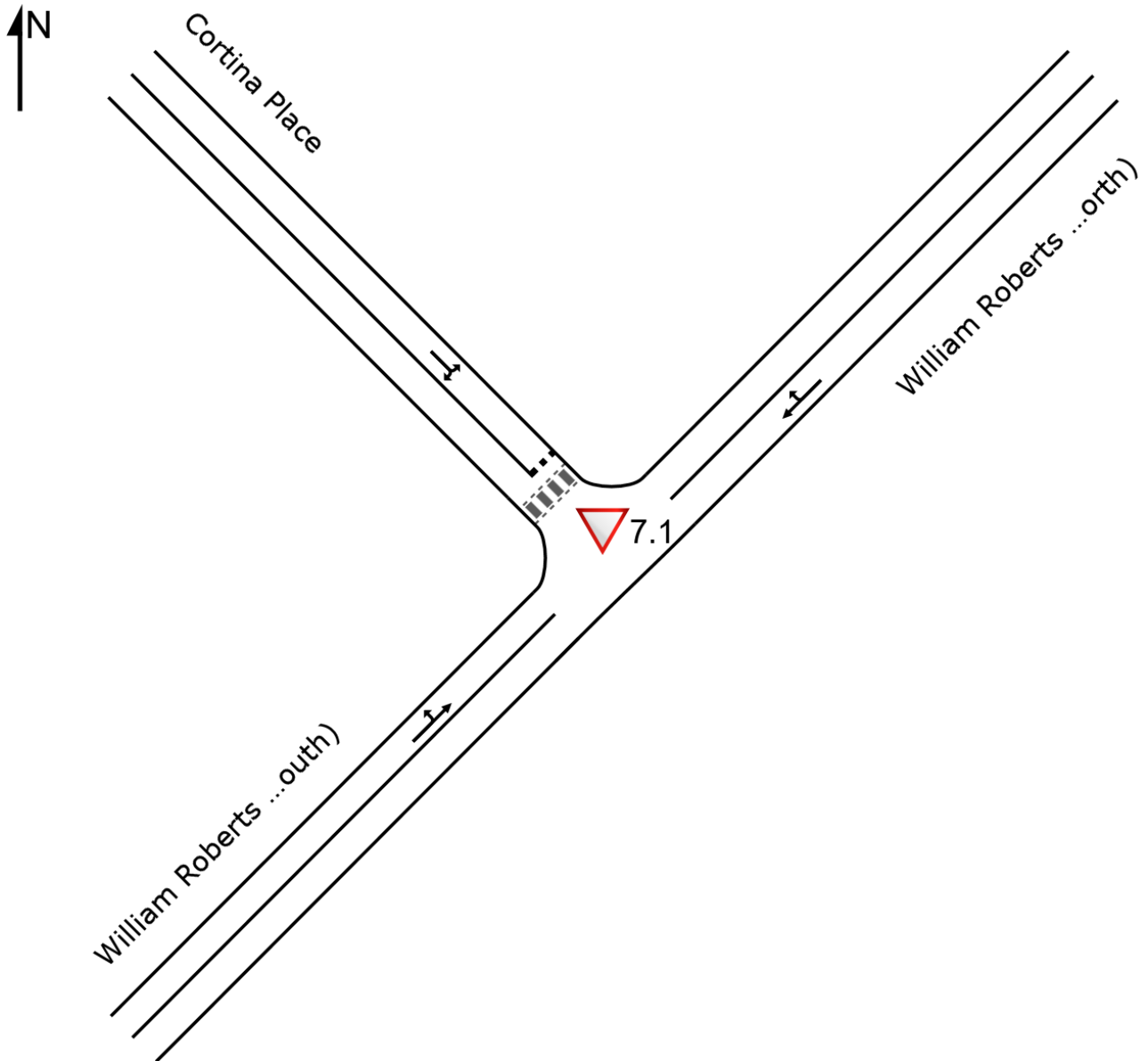


SITE LAYOUT

▽ 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.



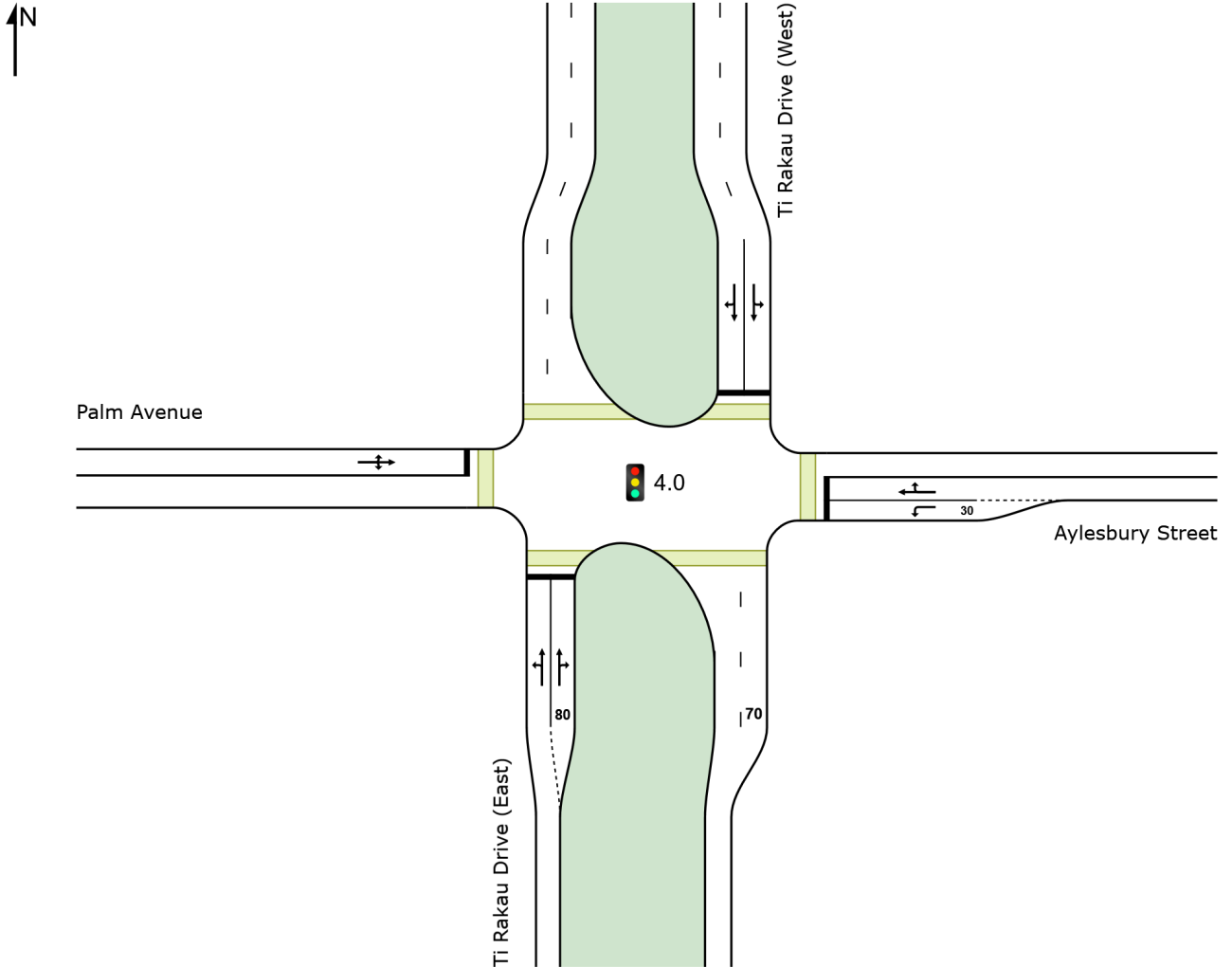
SITE LAYOUT

 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.



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Project: C:\Users\jacques.vandenneever\Downloads\2028 Construction 3 AM_40.sip9

SITE LAYOUT

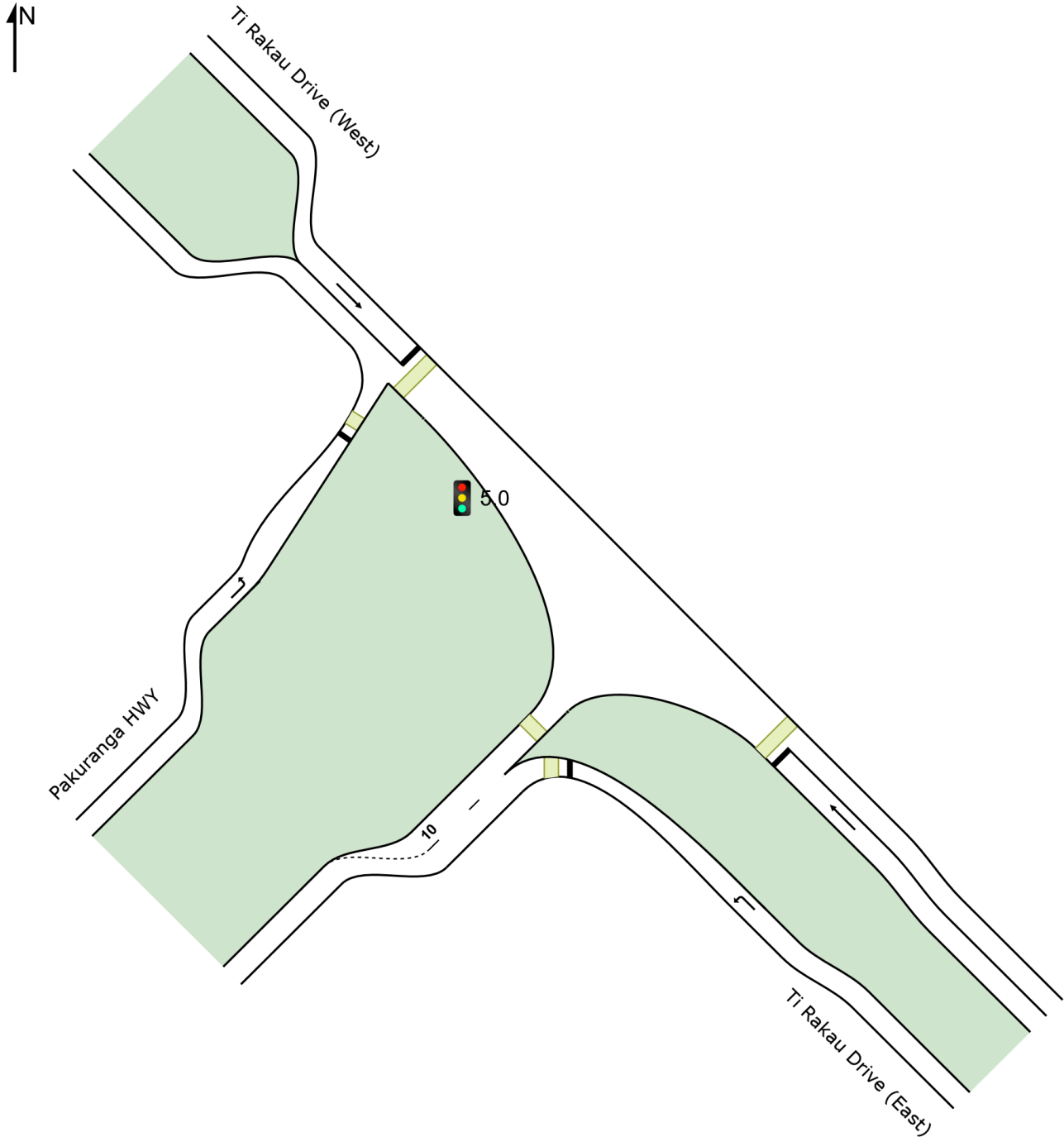
 Site: 5.0 [5.0 Pakuranga Highway/ Reeves Rd (Site Folder: AM)]

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.



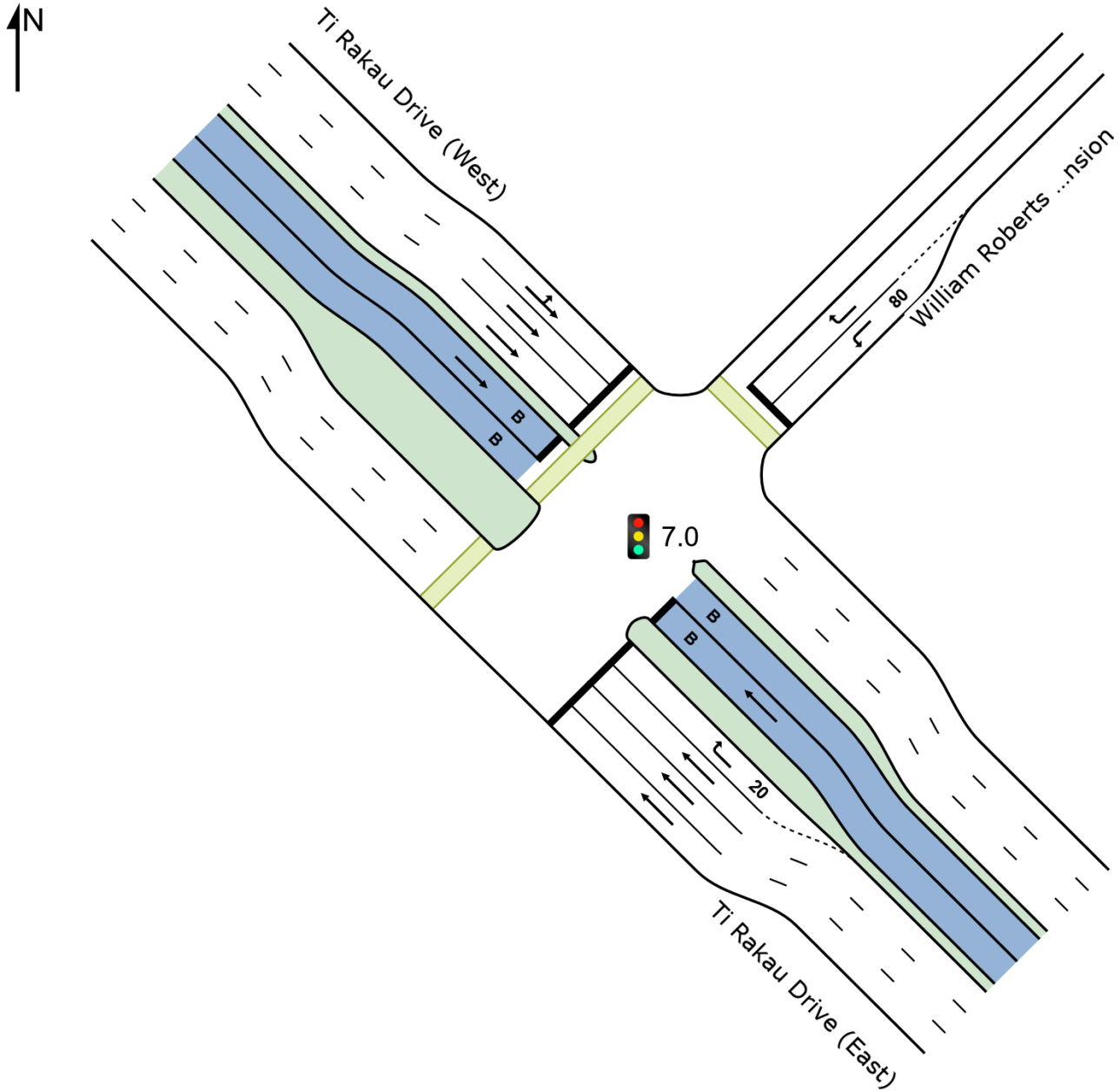
SITE LAYOUT

Site: 7.0 [7.0 William Roberts 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.



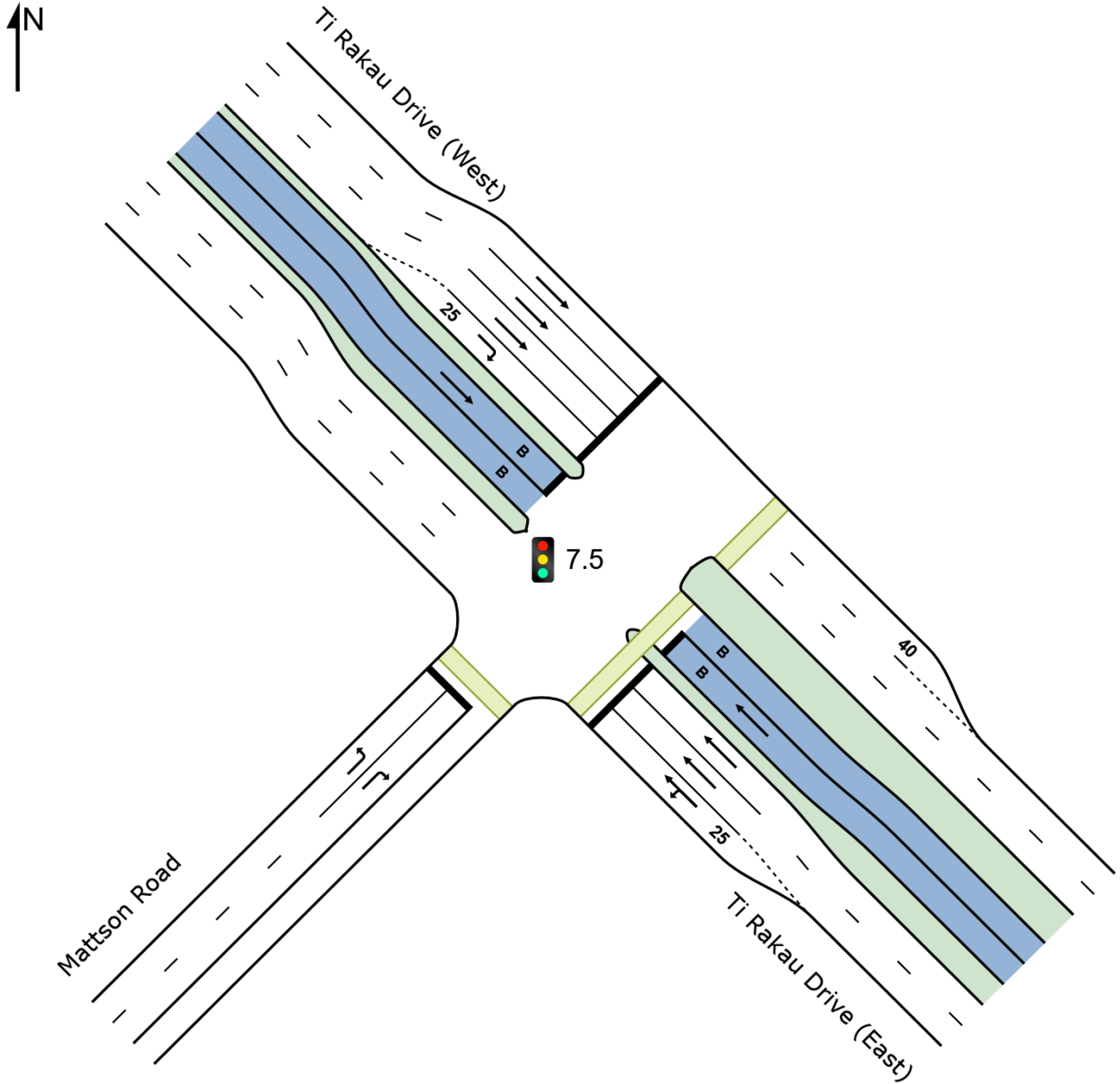
SITE LAYOUT

Site: 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.



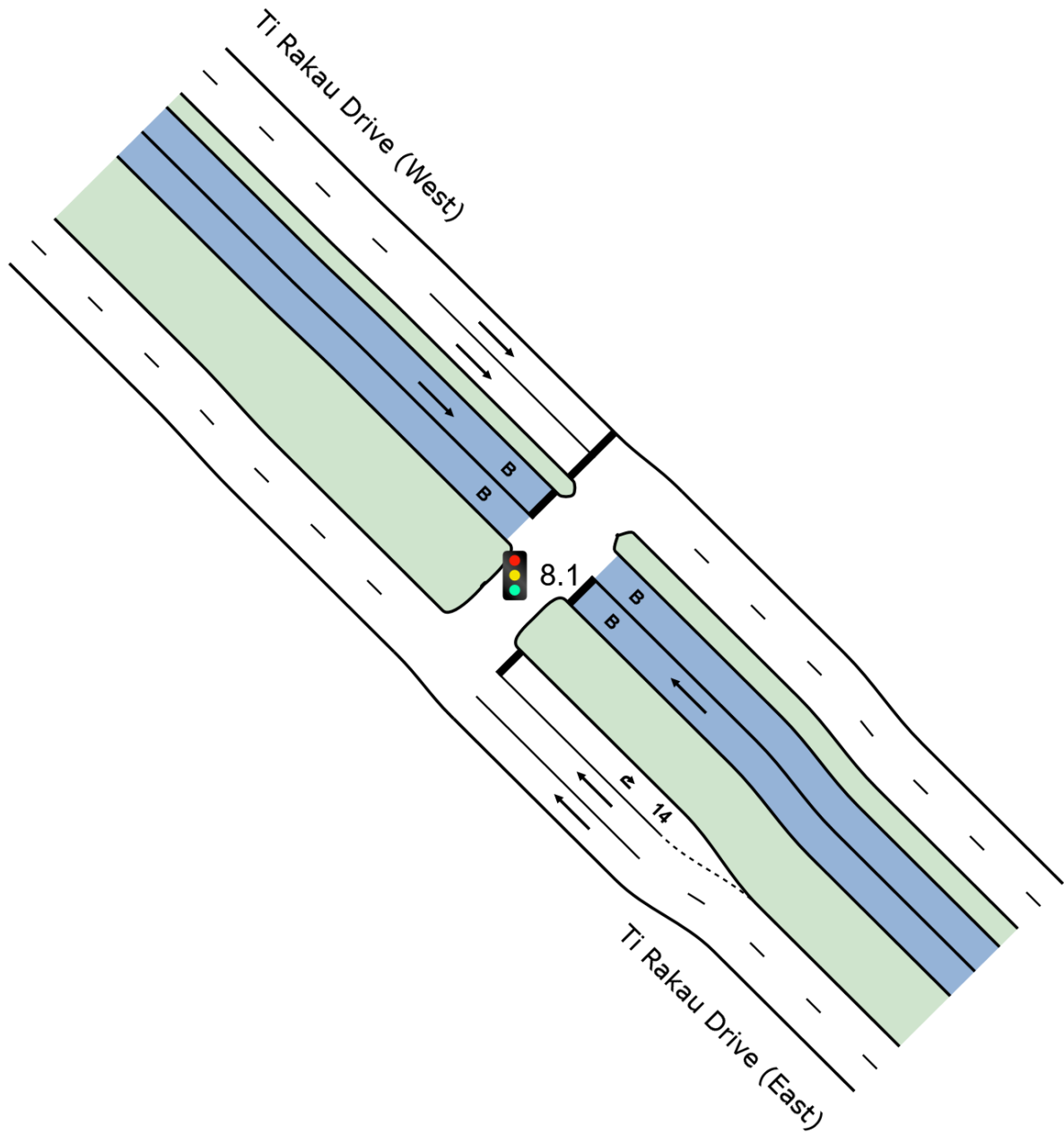
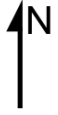
SITE LAYOUT

 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.

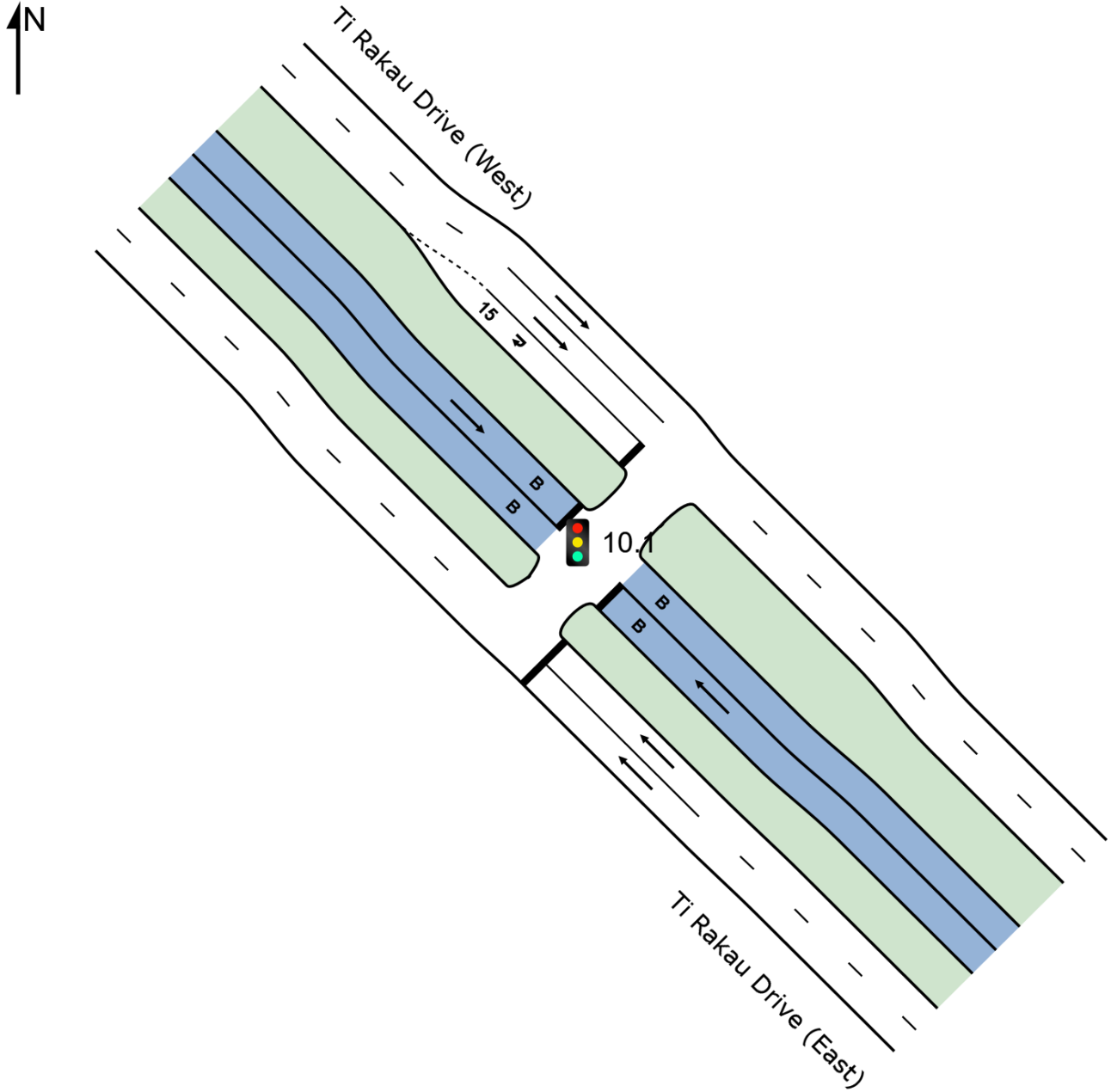


SITE LAYOUT

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.

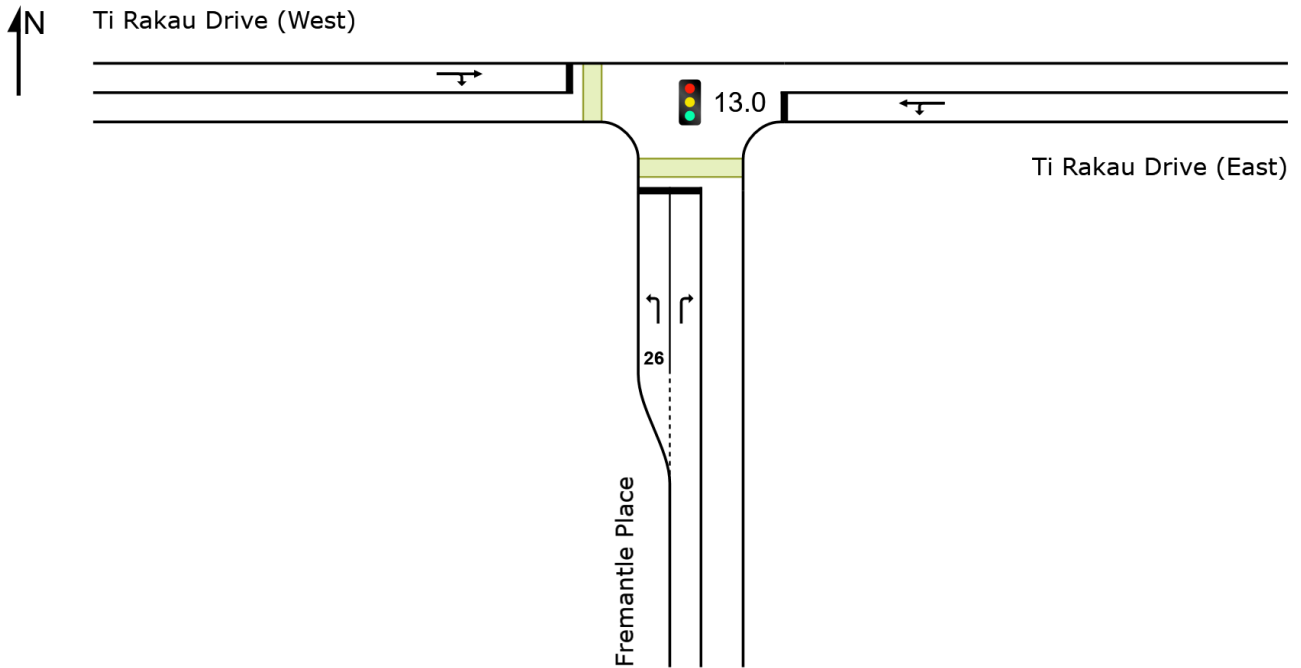


SITE LAYOUT

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.



PHASING SUMMARY

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

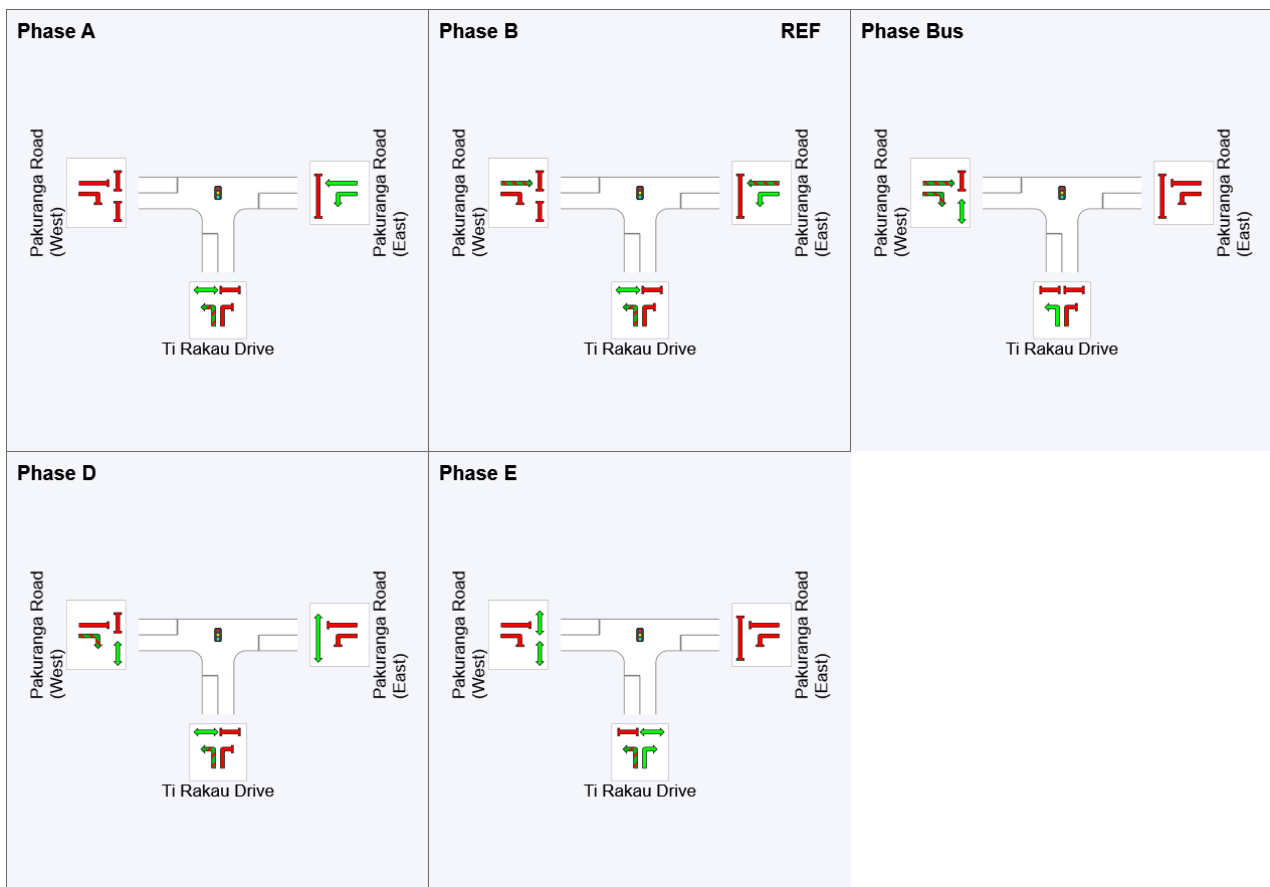
Output Phase Sequence: A, B, Bus, D, E

Phase Timing Summary

| Phase | A | B | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

PHASING SUMMARY

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

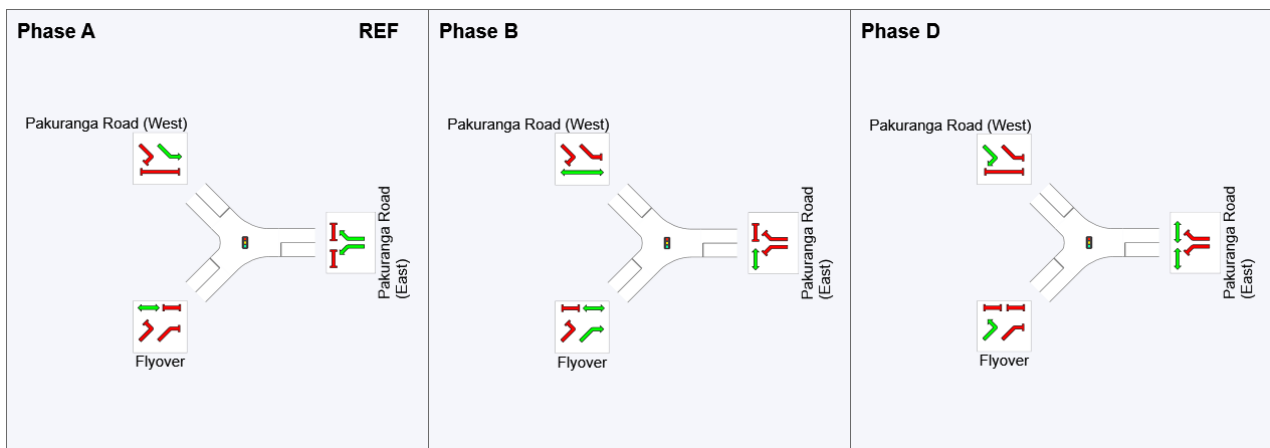
Output Phase Sequence: A, B, D

Phase Timing Summary

| Phase | A | B | 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



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

PHASING SUMMARY

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

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

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

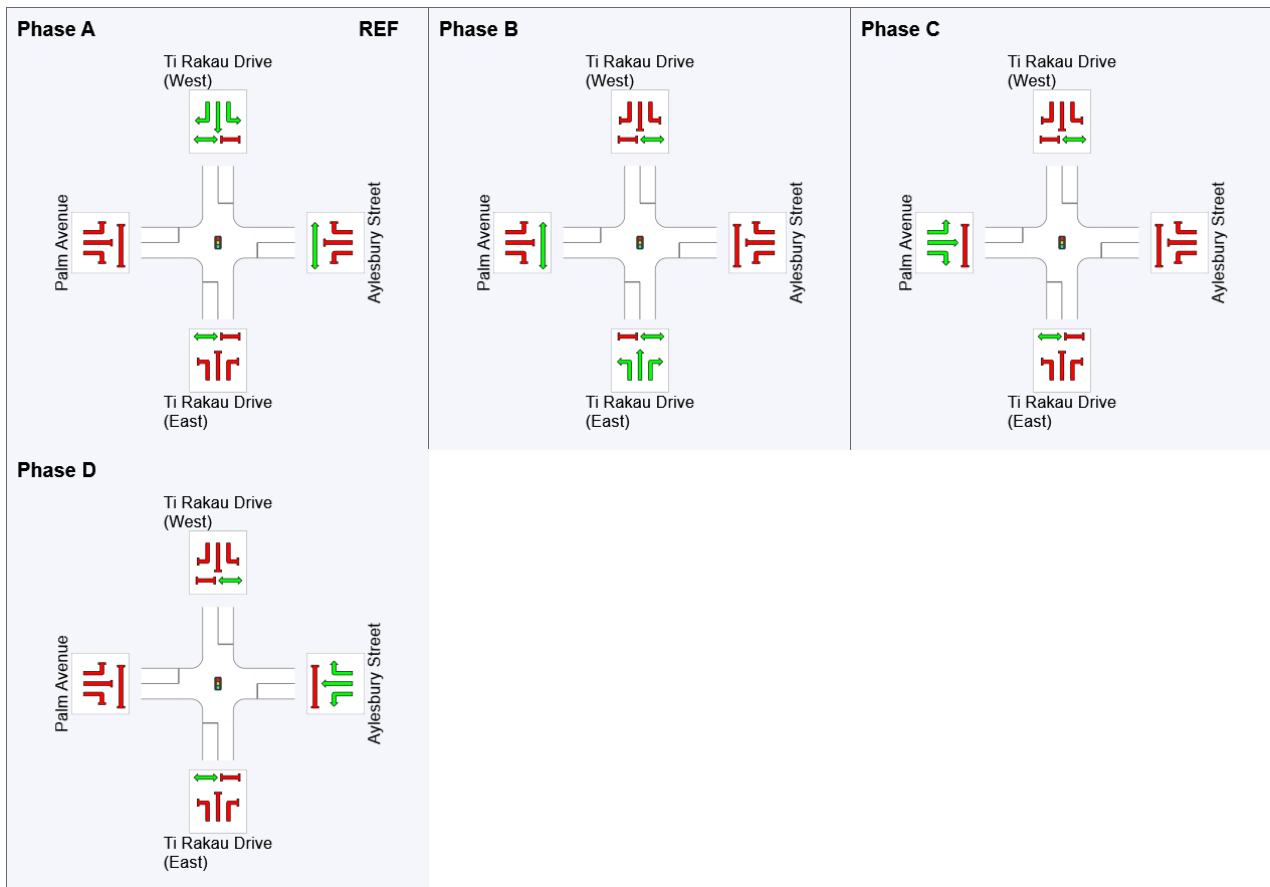
Output Phase Sequence: A, B, C, D

Phase Timing Summary

| Phase | A | B | C | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

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 Project: C:\Users\jacques.vandenneever\Downloads\2028 Construction 3 AM_40.sip9

PHASING SUMMARY

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

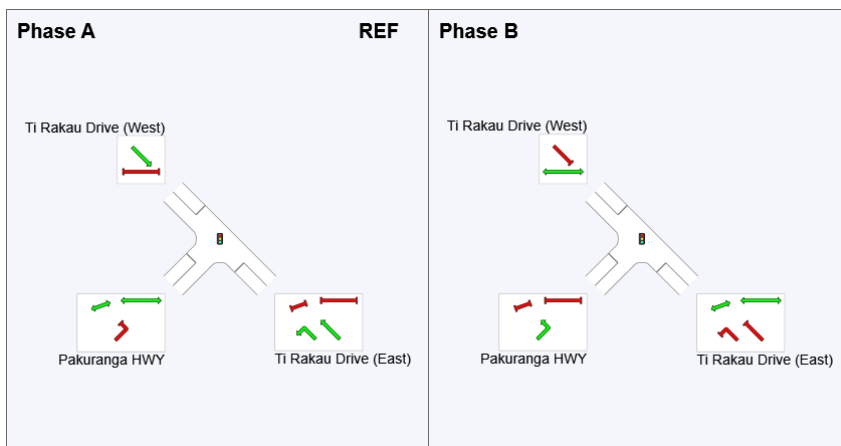
Output Phase Sequence: A, B

Phase Timing Summary

| Phase | A | B |
|-------------------------|-----|-----|
| Phase Change Time (sec) | 0 | 35 |
| Green Time (sec) | 29 | 9 |
| Phase Time (sec) | 35 | 15 |
| 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%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

PHASING SUMMARY

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

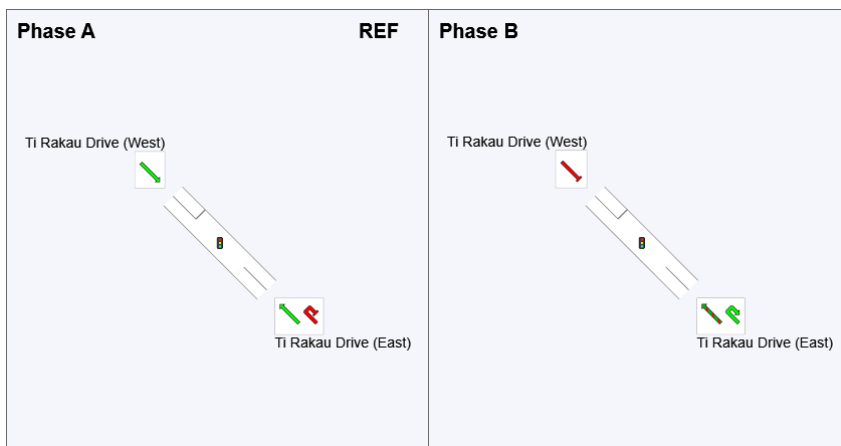
Output Phase Sequence: A, B

Phase Timing Summary

| Phase | A | B |
|-------------------------|-----|-----|
| 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%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

PHASING SUMMARY

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

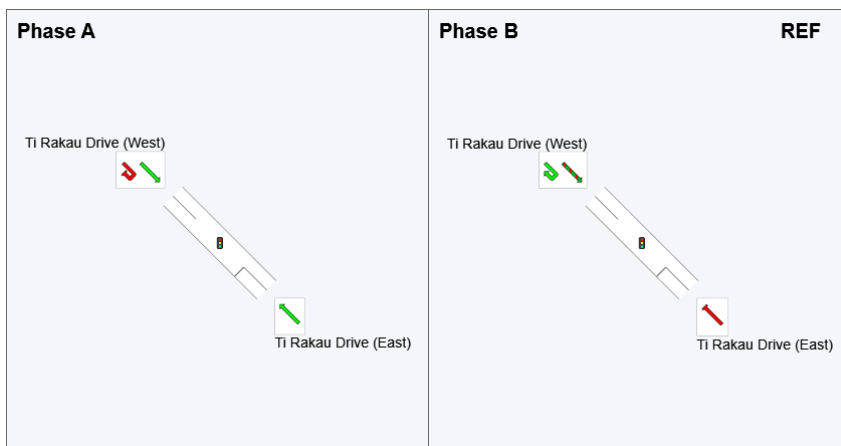
Output Phase Sequence: A, B

Phase Timing Summary

| Phase | A | B |
|-------------------------|-----|-----|
| 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%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

PHASING SUMMARY

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

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

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

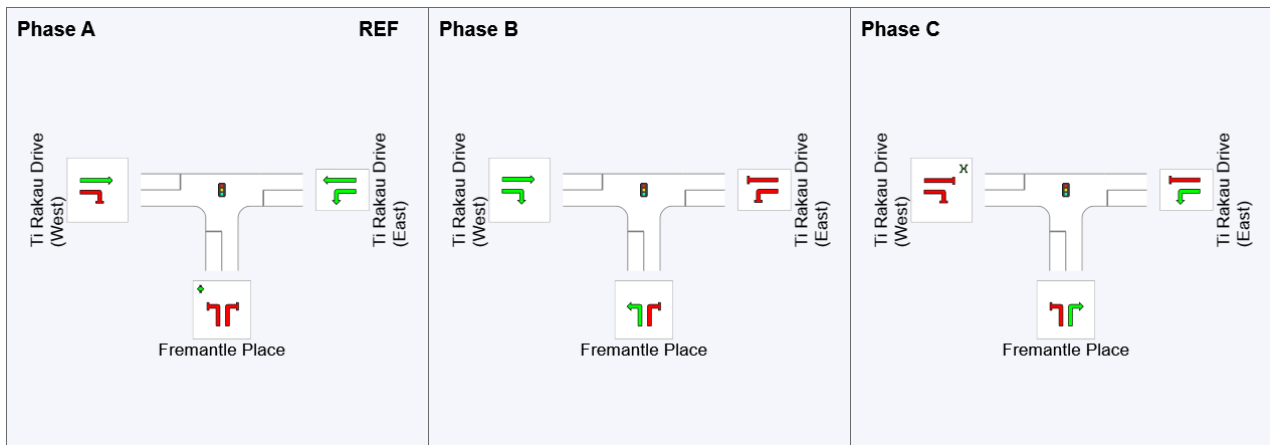
Output Phase Sequence: A, B, C

Phase Timing Summary

| Phase | A | B | C |
|-------------------------|-----|-----|-----|
| Phase Change Time (sec) | 0 | 105 | 135 |
| Green Time (sec) | 99 | 24 | 9 |
| Phase Time (sec) | 105 | 30 | 15 |
| Phase Split | 70% | 20% | 10% |

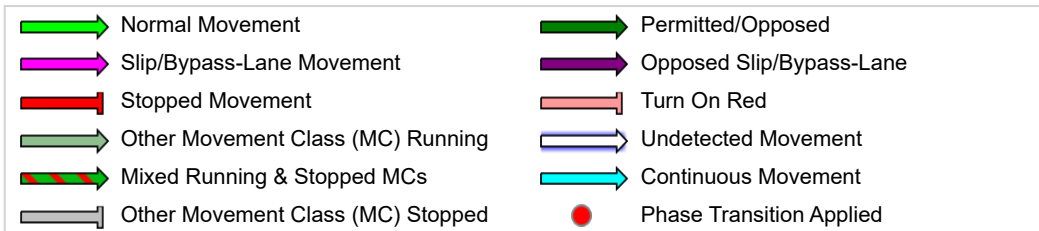
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

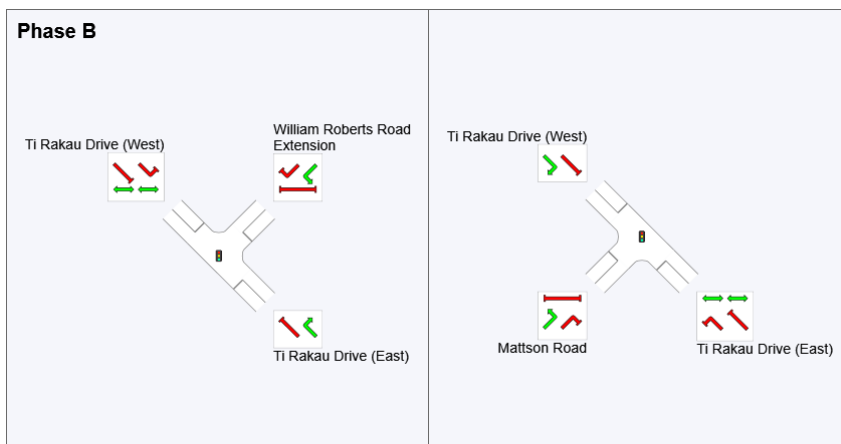
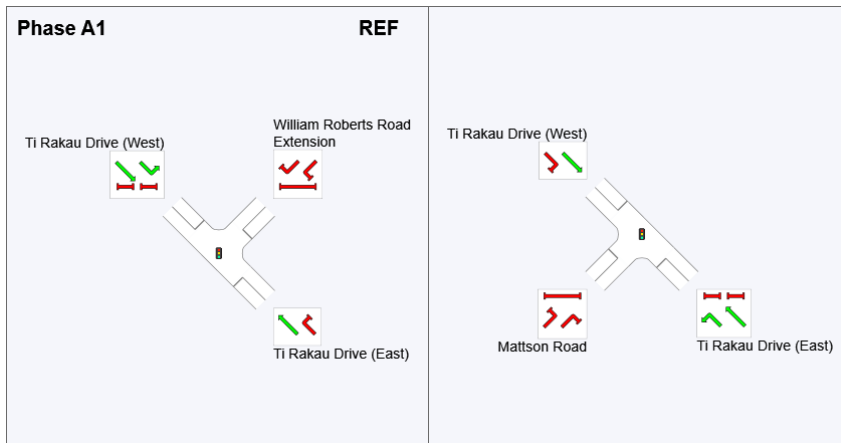
Output Phase Sequence: A1, B, C, D

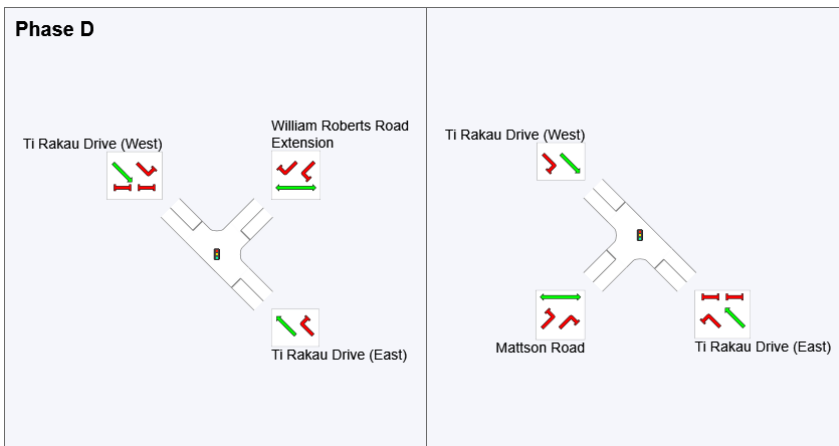
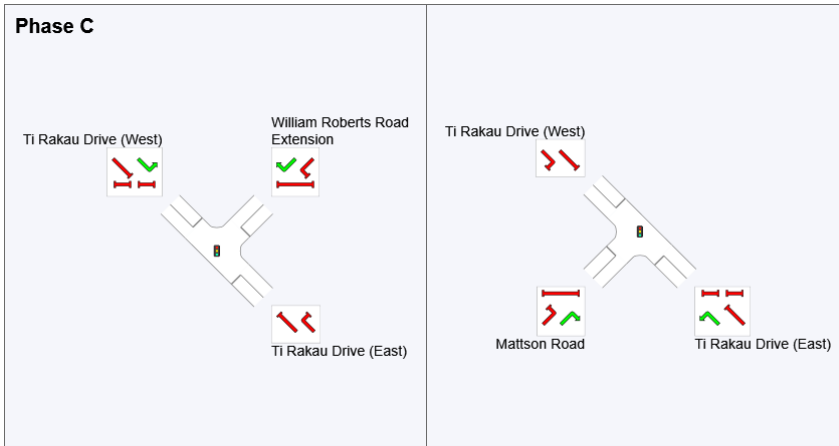
Phase Timing Summary (CCG)

| Phase | A1 | B | C | 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% |

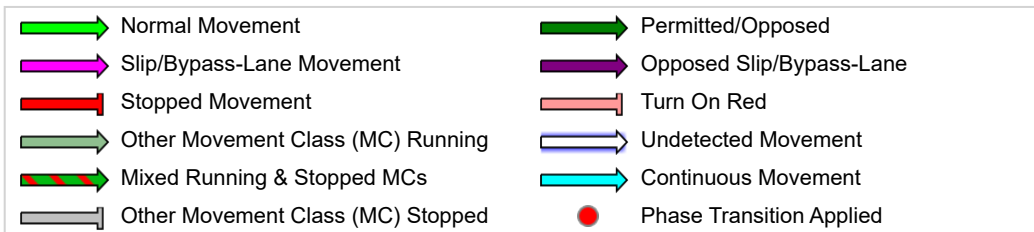
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence (CCG)





REF: Reference Phase
 VAR: Variable Phase



PHASING SUMMARY

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

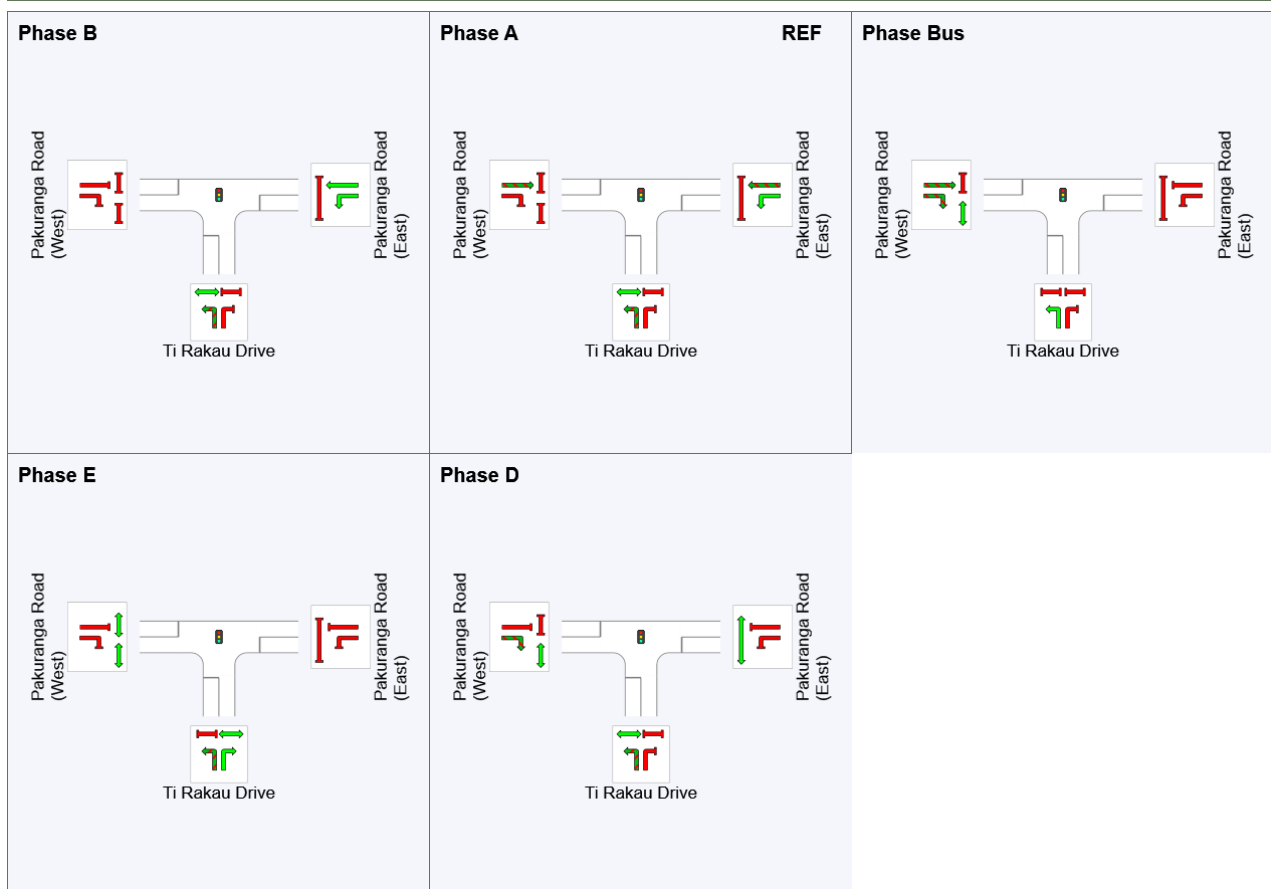
Output Phase Sequence: B, A, Bus, E, D

Phase Timing Summary

| Phase | B | A | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

PHASING SUMMARY

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

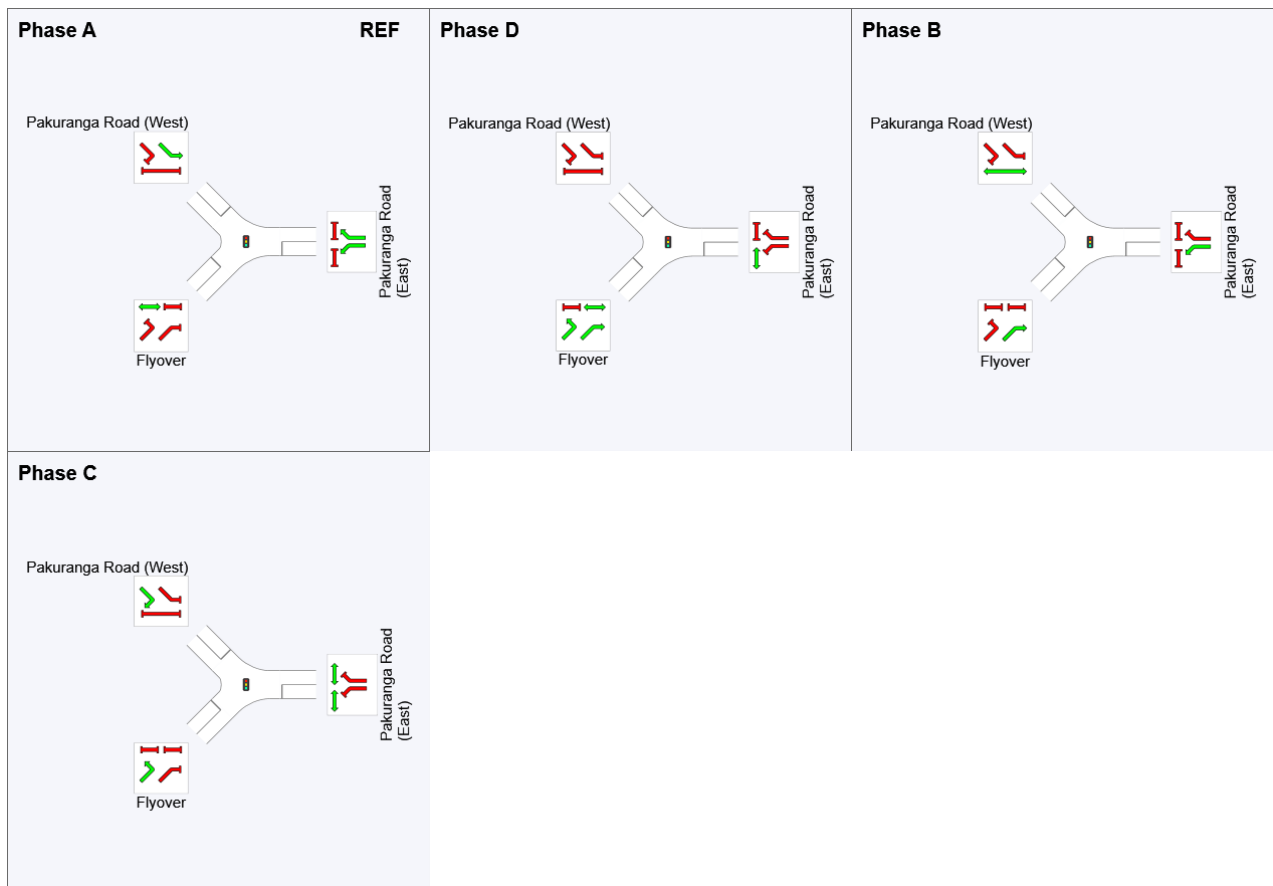
Output Phase Sequence: A, D, B, C

Phase Timing Summary

| Phase | A | D | B | C |
|-------------------------|-----|-----|-----|-----|
| 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

PHASING SUMMARY

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

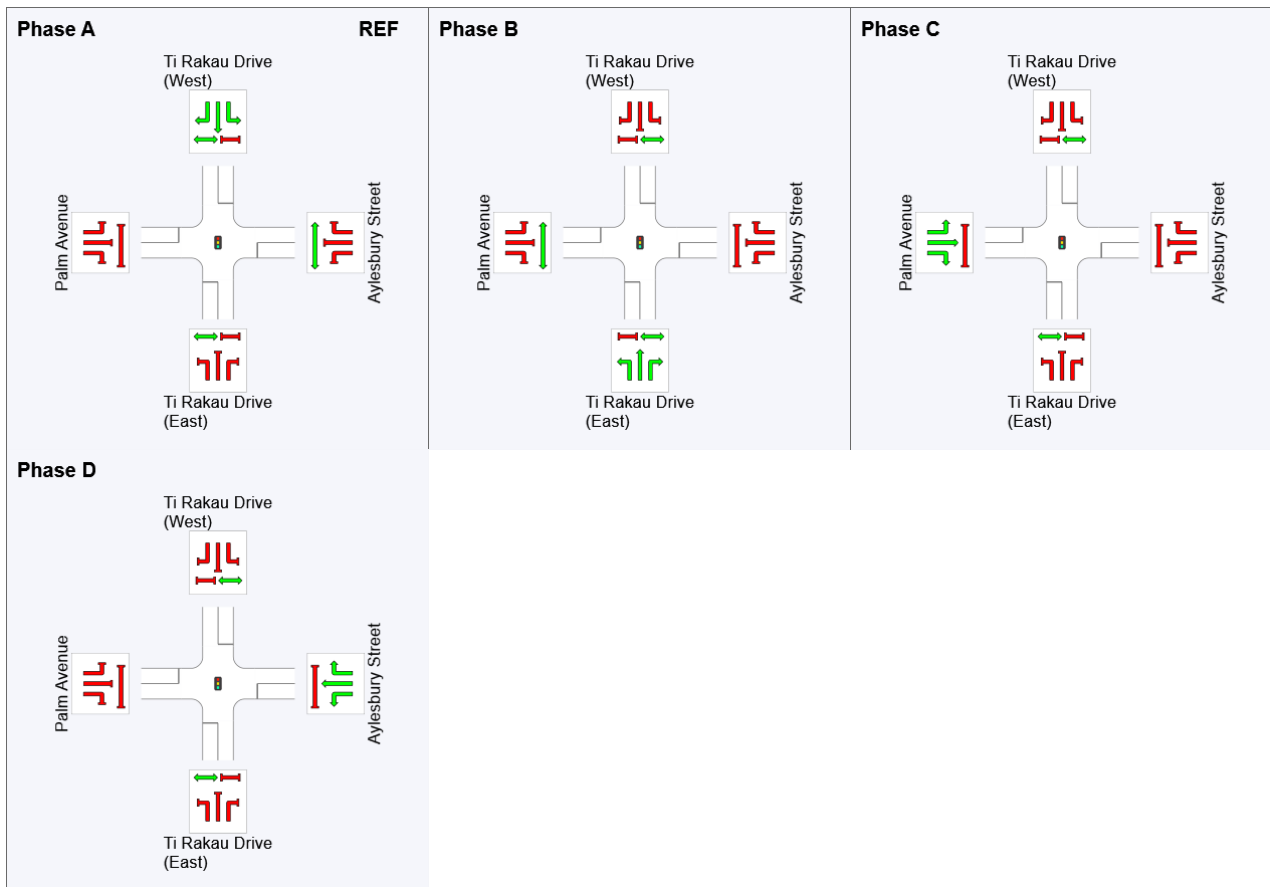
Output Phase Sequence: A, B, C, D

Phase Timing Summary

| Phase | A | B | C | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

PHASING SUMMARY

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

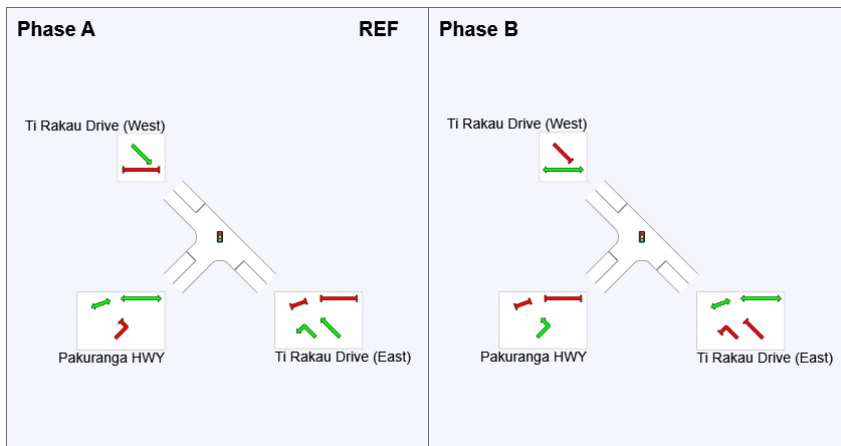
Output Phase Sequence: A, B

Phase Timing Summary

| Phase | A | B |
|-------------------------|-----|-----|
| 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%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

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

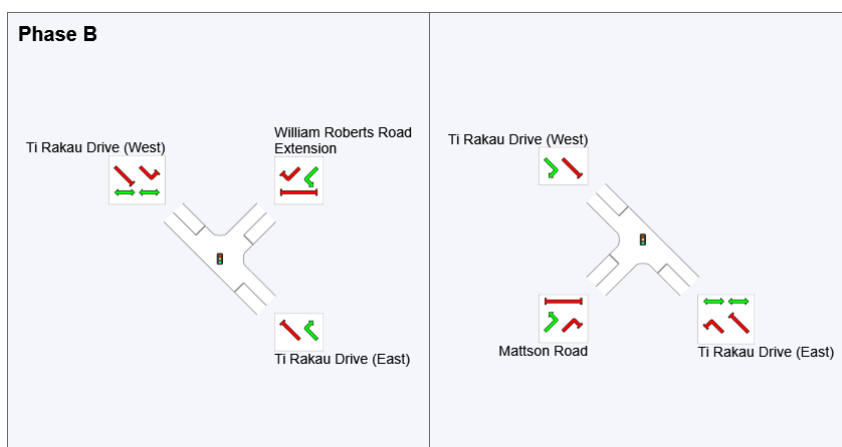
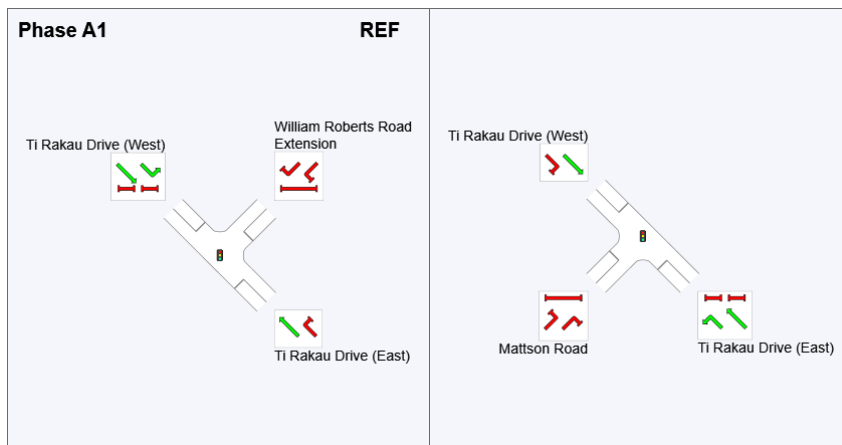
Output Phase Sequence: A1, B, C, D

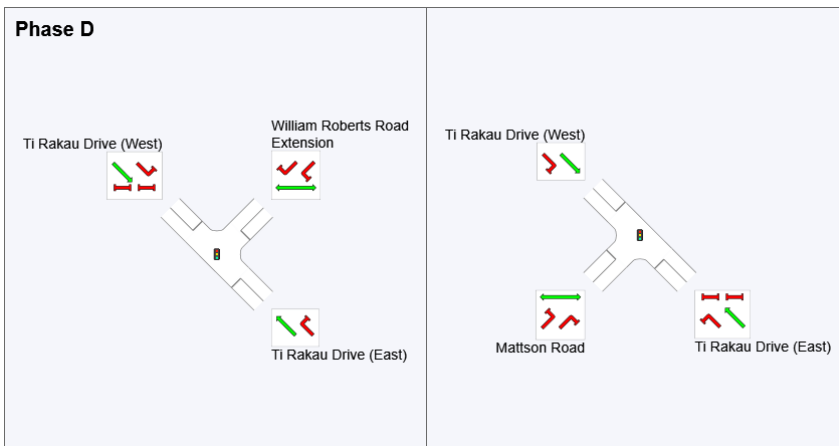
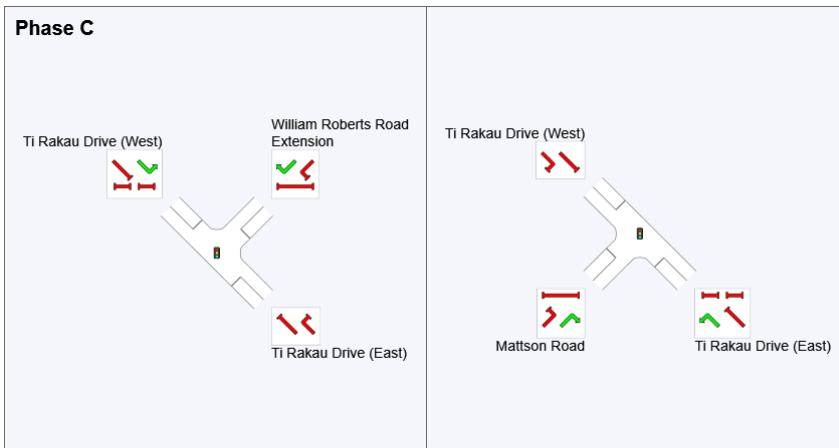
Phase Timing Summary (CCG)

| Phase | A1 | B | C | 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% |

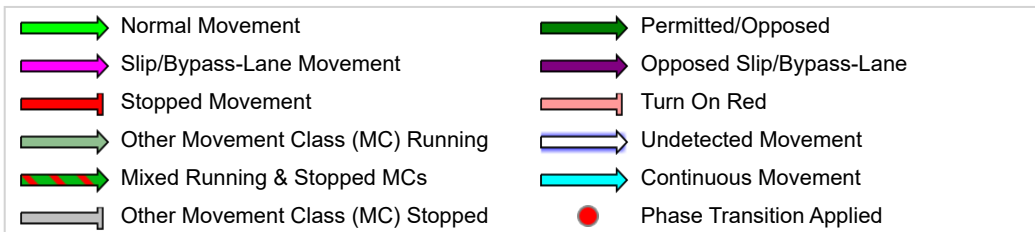
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence (CCG)





REF: Reference Phase
 VAR: Variable Phase



PHASING SUMMARY

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

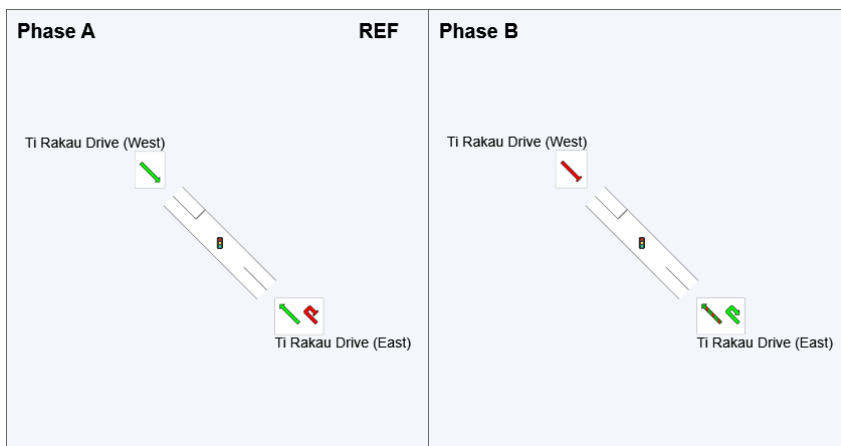
Output Phase Sequence: A, B

Phase Timing Summary

| Phase | A | B |
|-------------------------|-----|-----|
| 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%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

PHASING SUMMARY

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

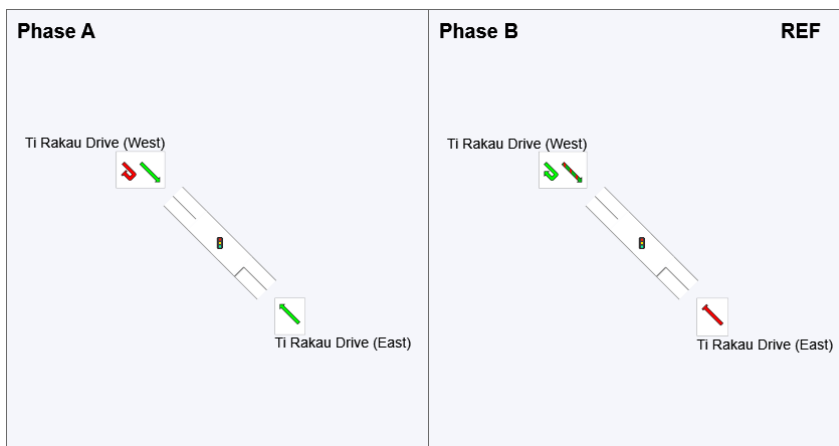
Output Phase Sequence: A, B

Phase Timing Summary

| Phase | A | B |
|-------------------------|-----|-----|
| 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%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

PHASING SUMMARY

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

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

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

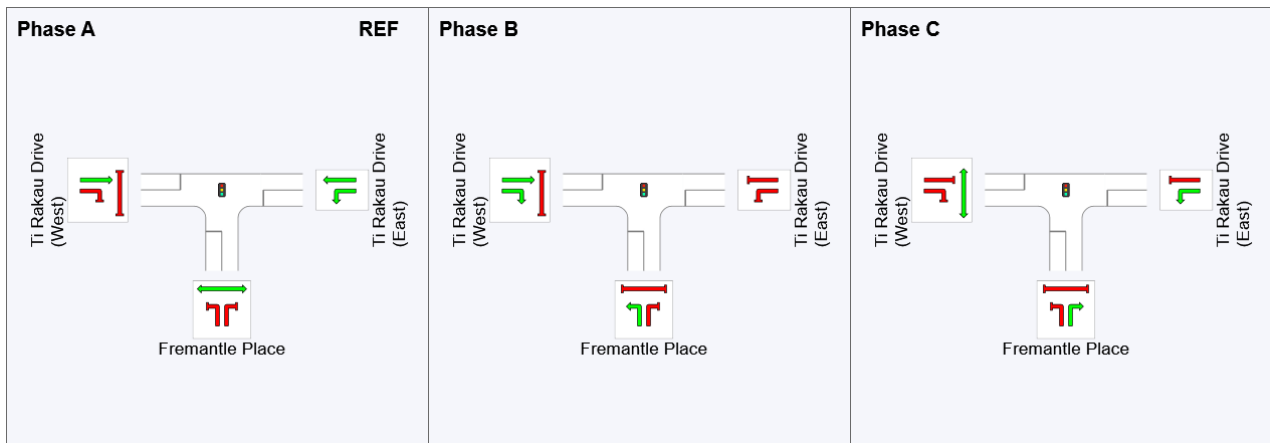
Output Phase Sequence: A, B, C

Phase Timing Summary

| Phase | A | B | C |
|-------------------------|-----|-----|-----|
| 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

| From E To Exit: | S | W | | | Cap. veh/h | Satn v/c | Util. % | SL Ov. % | Lane No. |
|-----------------------------|---------|---------|-------|-------|------------------|---------------------|--------------------|----------------------|--------------------|
| Lane 1 | 275 | - | 275 | 8.0 | 381 ¹ | 0.722 | 100 | 100.0 | 2 |
| Lane 2 | - | 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: Pakuranga Road (West) | | | | | | | | | |
| Mov. From W To Exit: | T1 E | R2 S | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 9 | 15 | 24 | 100.0 | 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. Satn (v/c) | | | | | | | | | |
| Intersection | 2279 | 10.7 | | 0.826 | | | | | |

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 | | | | | | | | | | | | |
| 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. |

LANE SUMMARY

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

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

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] | [HV] | [Total] | [HV] | | | | | | [Veh] | [Dist] | | | | |
| East: Pakuranga Road (East) | | | | | | | | | | | | | | | |
| Lane 1 | 592 | 9.8 | 592 | 9.8 | 1813 | 0.327 | 100 | 0.9 | LOS A | 0.0 | 0.0 | Full | 121 | 0.0 | 0.0 |
| Lane 2 | 609 | 6.3 | 609 | 6.3 | 1864 | 0.327 | 100 | 0.0 | LOS A | 0.0 | 0.0 | Full | 121 | 0.0 | 0.0 |
| Approach | 1201 | 8.0 | 1201 | 8.0 | | 0.327 | | 0.5 | NA | 0.0 | 0.0 | | | | |
| West: Pakuranga 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: Pakuranga 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 | | | | |
| Intersection | 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 Flows (veh/h) | | | | | | | | | | |
|-----------------------------|-----|-------|-------|------------|---------------|---------------|----------------|----------------|--------------|--|
| East: Pakuranga Road (East) | | | | | | | | | | |
| Mov. From E To Exit: | L1 | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane 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: Pakuranga Road (West) | | | | | | | | | | |
| Mov. From W To Exit: | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane 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 | | | | | |
| SouthWest: Pakuranga Plaza | | | | | | | | | | |
| Mov. From SW To Exit: | L3 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | | |
| Lane 1 | 27 | 27 | 3.7 | 822 | 0.033 | 100 | NA | NA | | |

| | | | | |
|--------------------------|------|-----|-------|-------|
| Approach | 27 | 27 | 3.7 | 0.033 |
| Total %HV Deg.Satn (v/c) | | | | |
| Intersection | 1734 | 8.0 | 0.327 | |

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 |
| 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. |
| SouthWest Exit: Pakuranga Plaza | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. |

LANE SUMMARY

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)

| 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 | | | | |
| East: Pakuranga Road (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: Pakuranga Road (West) | | | | | | | | | | | | | | | |
| 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 | | | | |
| SouthWest: Flyover | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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 Flows (veh/h) | | | | | | | | | | |
|----------------------------------|------|-----|-------|------|------------|---------------|--------------|----------------|--------------|--|
| East: Pakuranga Road (East) | | | | | | | | | | |
| Mov. From E To Exit: | L1 | R1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| | SW | NW | | | | | | | | |
| Lane 1 | 598 | - | 598 | 5.5 | 671 | 0.890 | 100 | NA | NA | |
| Lane 2 | 598 | - | 598 | 5.5 | 671 | 0.890 | 100 | NA | NA | |
| Lane 3 | - | 453 | 453 | 8.1 | 660 | 0.685 | 100 | NA | NA | |
| Lane 4 | - | 453 | 453 | 8.1 | 660 | 0.685 | 100 | 39.9 | 3 | |
| Approach | 1195 | 905 | 2100 | 6.6 | | 0.890 | | | | |
| NorthWest: Pakuranga Road (West) | | | | | | | | | | |
| Mov. From NW To Exit: | L1 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| | E | SW | | | | | | | | |
| Lane 1 | 188 | - | 188 | 10.9 | 648 | 0.290 | 100 | NA | NA | |
| Lane 2 | 193 | - | 193 | 6.5 | 667 | 0.290 | 100 | NA | NA | |
| Lane 3 | - | 130 | 130 | 5.4 | 356 | 0.365 | 100 | 0.0 | 2 | |

| | | | | | | | | | | |
|---------------------------|----------|---------|-------|-------|---------------|------------------|-----------------|---------------|-----------------|--|
| Approach | 381 | 130 | 511 | 7.8 | | 0.365 | | | | |
| SouthWest: Flyover | | | | | | | | | | |
| Mov. From SW To Exit: | L2 NW | R1 E | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL % | Ov. Lane No. | |
| Lane 1 | 304 | - | 304 | 7.9 | 361 | 0.843 | 100 | 13.4 | 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. Satn (v/c) | | | | | | | | | | |
| Intersection | 3344 | 6.9 | | 0.890 | | | | | | |

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 pcu/h | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec | |
| East Exit: Pakuranga Road (East) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | |
| Full Length Lane | 3 | | | | | | | | | | | |
| NorthWest Exit: Pakuranga Road (West) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | |
| SouthWest Exit: Flyover | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | |

LANE SUMMARY

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

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

Site Category: (None)

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

| 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: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| 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: Aylesbury Street | | | | | | | | | | | | | | | |
| 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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 Avenue | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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 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. Lane No. | |
| 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 Street | | | | | | | | | | | |
| Mov. From E To Exit: | L2 | T1 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL % | Ov. Lane No. | |
| Lane 1 | 26 | - | - | 26 | 3.8 | 150 | 0.173 | 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 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. |
|----------------------------|------|------|----|-------|------|---------------|---------------------|--------------------|----------------------|--------------------|
| 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 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. |
| Lane 1 | 58 | 10 | 24 | 92 | 3.3 | 158 | 0.582 | 100 | NA | NA |
| Approach | 58 | 10 | 24 | 92 | 3.3 | | 0.582 | | | |
| Total %HV Deg. Satn (v/c) | | | | | | | | | | |
| Intersection | 1097 | 11.9 | | 0.690 | | | | | | |

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

6 Lane under-utilisation due to downstream effects

| Merge Analysis | | | | | | | | | | | | |
|-----------------------------------|------------------------|------------------------------|---------------------------------------|--------------------------------|------------------------|-----------------------------|-------------------------------|-------------------|---------------------|----------------------|-----------------------|-----|
| | Exit Lane Number | Short Lane Length m | Percent Opng in Lane % 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: Zipper | | | | | | | | | | | | |
| 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: Aylesbury Street | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| North Exit: Ti Rakau Drive (West) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| West Exit: Palm Avenue | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |

LANE SUMMARY

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)

| 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 | 895 | 9.1 | 895 | 9.1 | 1007 | 0.889 | 100 | 26.9 | LOS C | 17.4 ^{N4} | 131.5 ^{N4} | Full | 90 | 0.0 | 50.0 |
| 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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: Pakuranga HWY | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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 Lane Flows (veh/h) | | | | | | | | | | |
|----------------------------------|-----|-------|-------|------------|---------------|---------------|----------------|----------------|--------------|--|
| SouthEast: Ti 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. | |
| Lane 1 | 895 | - | 895 | 9.1 | 1007 | 0.889 | 100 | NA | NA | |
| Lane 2 | - | 379 | 379 | 12.4 | 1041 | 0.364 | 100 | NA | NA | |
| Approach | 895 | 379 | 1274 | 10.0 | | 0.889 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. From NW To Exit: | T1 | 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: Pakuranga HWY | | | | | | | | | | |
| Mov. From SW To Exit: | L2 | 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. Satn (v/c) | | | | | | | | | | |

Intersection 1852 11.2 0.889

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. | | | | | | | | | | |
| NorthWest Exit: Ti Rakau Drive (West) Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| SouthWest Exit: Pakuranga HWY Merge Type: Priority | | | | | | | | | | | | |
| 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 | Merge Lane is not Opposed | | | | 895 | 1800 | 0.497 | 0.0 | 0.0 |

LANE SUMMARY

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

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

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

| 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/h | v/c | % | sec | | [Veh | Dist] | | m | % | % |
| NorthEast: William Roberts Road (North) | | | | | | | | | | | | | | | |
| 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 Place | | | | | | | | | | | | | | | |
| 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: William Roberts Road (South) | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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.

| Approach Lane Flows (veh/h) | | | | | | | | | | |
|---|-----|----|-------|-----|------------|-----------|------------|----------|----------|--|
| NorthEast: William Roberts Road (North) | | | | | | | | | | |
| Mov. | T1 | R2 | Total | %HV | | Deg. Satn | Lane Util. | Prob. SL | Ov. Lane | |
| From NE | | | | | Cap. veh/h | v/c | % | % | No. | |
| To Exit: | SW | NW | | | | | | | | |
| Lane 1 | 121 | 10 | 131 | 4.6 | 1860 | 0.070 | 100 | NA | NA | |
| Approach | 121 | 10 | 131 | 4.6 | | 0.070 | | | | |
| NorthWest: Cortina Place | | | | | | | | | | |
| Mov. | L2 | R2 | Total | %HV | | Deg. Satn | Lane Util. | Prob. SL | Ov. Lane | |
| From NW | | | | | Cap. veh/h | v/c | % | % | No. | |
| To Exit: | NE | SW | | | | | | | | |
| Lane 1 | 19 | 18 | 37 | 5.4 | 1249 | 0.030 | 100 | NA | NA | |
| Approach | 19 | 18 | 37 | 5.4 | | 0.030 | | | | |
| SouthWest: William Roberts Road (South) | | | | | | | | | | |
| Mov. | L2 | T1 | Total | %HV | | Deg. Satn | Lane Util. | Prob. SL | Ov. Lane | |
| From SW | | | | | Cap. veh/h | v/c | % | % | No. | |
| To Exit: | NW | NE | | | | | | | | |
| Lane 1 | 23 | 64 | 87 | 6.9 | 1793 | 0.049 | 100 | NA | NA | |
| Approach | 23 | 64 | 87 | 6.9 | | 0.049 | | | | |
| Total %HV Deg. Satn (v/c) | | | | | | | | | | |

| | | | |
|--------------|-----|-----|-------|
| Intersection | 255 | 5.5 | 0.070 |
|--------------|-----|-----|-------|

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. |

LANE SUMMARY

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)

| 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 | 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. From SE To Exit: | T1 | U | 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: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. From NW To Exit: | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | 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. Satn (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 | | | | | | | | | | | |
|---------------------------------------|------------------|-----------------------------|------------------------|--------------------------|------------------|-----------------------|----------------------|---------------------|---------------|----------------|-----------------|
| | 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 | Lane Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
| SouthEast Exit: Ti Rakau Drive (East) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | |
| NorthWest Exit: Ti Rakau Drive (West) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | |

LANE SUMMARY

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)

| 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 | 580 | 8.8 | 580 | 8.8 | 734 | 0.790 | 100 | 12.4 | LOS B | 8.4 | 63.0 | Full | 64 | 0.0 | 13.6 |
| Lane 2 | 580 | 8.8 | 580 | 8.8 | 734 | 0.790 | 100 | 12.4 | LOS B | 8.4 | 63.0 | Full | 64 | 0.0 | 13.6 |
| 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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 ^N ₁ | 10.1 | | 0.377 | | 1.5 | LOS A | 1.3 | 9.4 | | | | |
| Intersection | 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: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. | T1 | Total | %HV | | Deg. Satn | Lane Util. | Prob. SL Ov. | Ov. Lane No. | | |
| From SE To Exit: | NW | | | Cap. veh/h | v/c | % | % | | | |
| 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. | T1 | U | Total | %HV | | Deg. Satn | Lane Util. | Prob. SL Ov. | Ov. Lane No. | |
| From NW To Exit: | SE | NW | | | Cap. veh/h | v/c | % | % | | |
| 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 %HV Deg. Satn (v/c) | | | | | | | | | | |
| Intersection | 2427 | 10.5 | | 0.790 | | | | | | |

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 |
| SouthEast Exit: Ti Rakau Drive (East) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | |
| NorthWest Exit: Ti Rakau Drive (West) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | |

LANE SUMMARY

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

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

Site Category: (None)

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

| Lane Use and Performance | | | | | | | | | | | | | | | |
|-----------------------------|---------------------------|------|--------------------------------|------|-------|-----------|------------|-------------|------------------|--------------------------------|-------|-------------|-------------|-----------|--------------|
| | DEMAND FLOWS [Total HV] | | ARRIVAL FLOWS [Total HV] | | Cap. | Deg. Satn | Lane Util. | Aver. Delay | Level of Service | 85% BACK OF QUEUE [Veh Dist] | | Lane Config | Lane Length | Cap. Adj. | Prob. Block. |
| | veh/h | % | veh/h | % | veh/h | v/c | % | sec | | | m | | m | % | % |
| South: Fremantle Place | | | | | | | | | | | | | | | |
| Lane 1 | 23 | 0.0 | 23 | 0.0 | 299 | 0.077 | 100 | 62.0 | LOS E | 1.3 | 8.9 | Short | 26 | 0.0 | NA |
| Lane 2 | 12 | 8.3 | 12 | 8.3 | 106 | 0.113 | 100 | 79.1 | LOS E | 0.8 | 5.8 | Full | 285 | 0.0 | 0.0 |
| Approach | 35 | 2.9 | 35 | 2.9 | | 0.113 | | 67.9 | LOS E | 1.3 | 8.9 | | | | |
| East: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| Lane 1 | 1135 | 10.3 | 1135 | 10.3 | 1199 | 0.946 | 100 | 40.2 | LOS D | 72.9 | 555.2 | Full | 636 | 0.0 | 2.7 |
| Approach | 1135 | 10.3 | 1135 | 10.3 | | 0.946 | | 40.2 | LOS D | 72.9 | 555.2 | | | | |
| West: Ti Rakau Drive (West) | | | | | | | | | | | | | | | |
| Lane 1 | 1214 | 10.2 | 1201 | 10.2 | 1317 | 0.912 | 100 | 21.8 | LOS C | 66.0 | 502.2 | Full | 479 | 0.0 | 19.3 |
| Approach | 1214 | 10.2 | 1201 ^N ₁ | 10.2 | | 0.912 | | 21.8 | LOS C | 66.0 | 502.2 | | | | |
| Intersection | 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: Fremantle Place | | | | | | | | | | |
| Mov. From S To Exit: | L2 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| | W | E | | | | | | | | |
| Lane 1 | 23 | - | 23 | 0.0 | 299 | 0.077 | 100 | 0.0 | 2 | |
| Lane 2 | - | 12 | 12 | 8.3 | 106 | 0.113 | 100 | NA | NA | |
| Approach | 23 | 12 | 35 | 2.9 | | 0.113 | | | | |
| East: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. From E To Exit: | L2 | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| | S | W | | | | | | | | |
| Lane 1 | 10 | 1125 | 1135 | 10.3 | 1199 | 0.946 | 100 | NA | NA | |
| Approach | 10 | 1125 | 1135 | 10.3 | | 0.946 | | | | |
| West: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. From W To Exit: | T1 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| | E | S | | | | | | | | |
| Lane 1 | 1191 | 10 | 1201 | 10.2 | 1317 | 0.912 | 100 | NA | NA | |
| Approach | 1191 | 10 | 1201 | 10.2 | | 0.912 | | | | |

| | Total | %HV | Deg.Satn (v/c) |
|--------------|-------|------|----------------|
| Intersection | 2371 | 10.2 | 0.946 |

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: 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. | | | | | | | | |
| West Exit: Ti Rakau Drive (West) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| 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 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] | | | | |
| Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr] | | | | | | | | | | | | | | | |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| 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: William Roberts Road Extension | | | | | | | | | | | | | | | |
| 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 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | | | | | | |
| Lane 1 | 109 | 12.5 | 109 | 12.5 | 341 | 0.319 | 100 | 23.1 | LOS C | 2.2 | 17.2 | Full | 107 | 0.0 | 0.0 |
| Lane 2 | 217 | 12.8 | 217 | 12.8 | 681 | 0.319 | 100 | 12.1 | LOS B | 3.4 | 26.7 | Full | 107 | 0.0 | 0.0 |
| Lane 3 | 217 | 12.8 | 217 | 12.8 | 681 | 0.319 | 100 | 12.1 | LOS B | 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 | LOS A | 0.1 | 0.9 | Full | 107 | 0.0 | 0.0 |
| Approach | 556 | 14.7 | 556 | 14.7 | | 0.319 | | 14.1 | LOS B | 3.4 | 26.7 | | | | |
| Intersection | 1923 | 11.1 | 1923 | 11.1 | | 0.551 | | 10.2 | LOS B | 5.8 | 43.6 | | | | |
| Site: 7.5 [7.5 Mattson Rd/ Ti Rakau Dr] | | | | | | | | | | | | | | | |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| 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 ¹ | 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 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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 | | | | |
| SouthWest: Mattson Road | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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

| Approach Lane Flows (CCG) (veh/h) | | | | | | | | | | |
|--|------|------|-------|-------|------------------|---------------|--------------|----------------|--------------|--|
| Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr] | | | | | | | | | | |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. From SE To Exit: | T1 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| 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 | |
| Approach | 1167 | 61 | 1228 | 10.2 | | 0.551 | | | | |
| NorthEast: William Roberts Road Extension | | | | | | | | | | |
| Mov. From NE To Exit: | L2 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| 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 | |
| Approach | 86 | 53 | 139 | 5.0 | | 0.341 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. From NW To Exit: | L2 | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| 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 | |
| Approach | 26 | 530 | 556 | 14.7 | | 0.319 | | | | |
| Total | | | | %HV | Deg.Satn (v/c) | | | | | |
| Intersection | 1923 | 11.1 | | 0.551 | | | | | | |
| Site: 7.5 [7.5 Mattson Rd/ Ti Rakau Dr] | | | | | | | | | | |
| SouthEast: Ti 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. | |
| Lane 1 | 11 | 245 | 256 | 9.0 | 332 | 0.771 | 100 | 82.2 | 2 | |
| Lane 2 | - | 405 | 405 | 9.0 | 525 ¹ | 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 | |
| Approach | 11 | 1204 | 1215 | 10.3 | | 0.771 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | |

| Mov. From NW To Exit: | T1 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|--------------------------|------|------|-------|-------|------------|---------------|-----------------|----------------|--------------|
| 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 |
| Approach | 594 | 16 | 610 | 13.3 | | 0.372 | | | |
| SouthWest: Mattson Road | | | | | | | | | |
| 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 | 27 | - | 27 | 3.7 | 252 | 0.107 | 100 | NA | NA |
| Lane 2 | - | 38 | 38 | 5.3 | 214 | 0.178 | 100 | NA | NA |
| Approach | 27 | 38 | 65 | 4.6 | | 0.178 | | | |
| Total %HV Deg.Satn (v/c) | | | | | | | | | |
| Intersection | 1890 | 11.1 | | 0.771 | | | | | |

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

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

| Merge Analysis (CCG) | | | | | | | | | | | | | |
|--|------------------|---------------------|------------------------|----------------------------|-------|------------------|-----------------------|----------------------|----------------|---------------|----------------|-----------------|--|
| | Exit Lane Number | Short Lane Length m | Percent Opng in Lane % | Opposing Flow Rate % veh/h | pcu/h | Critical Gap sec | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec | |
| Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr] | | | | | | | | | | | | | |
| SouthEast Exit: Ti Rakau Drive (East) | | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | | |
| Full Length Lane | 3 | | | | | | | | | | | | |
| Full Length Lane | 4 | | | | | | | | | | | | |
| NorthEast Exit: William Roberts Road Extension | | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | | |
| NorthWest Exit: Ti Rakau Drive (West) | | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | | |
| Full Length Lane | 3 | | | | | | | | | | | | |
| Full Length Lane | 4 | | | | | | | | | | | | |
| 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 | 256 | 270 | 3.00 | 2.00 | 70 | 1526 | 0.046 | 0.4 | 0.5 | |
| Merge Lane | 2 | - | 100.0 | Merge Lane is not Opposed | | | | 256 | 1800 | 0.142 | 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. |
| Full Length Lane | 3 | Merge Analysis not applied. |
| Full Length Lane | 4 | Merge Analysis not applied. |

SouthWest Exit: Mattson Road

Merge Type: Not Applied

| | | |
|------------------|---|-----------------------------|
| Full Length Lane | 1 | Merge Analysis not applied. |
|------------------|---|-----------------------------|

LANE SUMMARY

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)

| 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 | | | | | | | | | | | | | | | |
| 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: Pakuranga Road (East) | | | | | | | | | | | | | | | |
| 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 | 50.0 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 | 1.9 |
| Approach | 948 | 6.1 | 948 | 6.1 | | 0.872 | | 40.2 | LOS D | 19.4 | 143.2 | | | | |
| West: Pakuranga 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 | -22.7 ^{N3} | NA |
| Approach | 1301 | 9.2 | 1301 | 9.2 | | 0.778 | | 47.1 | LOS D | 22.6 | 165.8 | | | | |
| Intersection | 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 Lane Flows (veh/h) | | | | | | | | | | |
|-----------------------------|-----|-----|-------|-------|-------------------|---------------|--------------|------------|--------------|--|
| South: Ti Rakau Drive | | | | | | | | | | |
| Mov. From S To Exit: | L2 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL % | Ov. Lane No. | |
| | W | E | | | | | | | | |
| 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 | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|------------------------------------|------|-----|-------|-------|------------------|---------------|--------------|----------------|--------------|
| | S | W | | | | | | | |
| Lane 1 | 497 | - | 497 | 6.4 | 570 ¹ | 0.872 | 100 | 100.0 | 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: Pakuranga Road (West) | | | | | | | | | |
| Mov. From W To Exit: | T1 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| | E | S | | | | | | | |
| 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. Satn (v/c) | | | | | | | | | |
| Intersection | 2800 | 8.0 | | 0.872 | | | | | |

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 pcu/h | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec | |
| South Exit: Ti Rakau Drive | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | |
| East Exit: Pakuranga Road (East) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | |
| West Exit: Pakuranga Road (West) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | |
| Full Length Lane | 3 | | | | | | | | | | | |

LANE SUMMARY

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

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

| 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/h | v/c | % | sec | | [Veh | Dist] | | m | % | % |
| | veh/h | % | veh/h | % | | | | | | | m | | | | |
| East: Pakuranga Road (East) | | | | | | | | | | | | | | | |
| Lane 1 | 472 | 6.8 | 472 | 6.8 | 1850 | 0.255 | 100 | 0.7 | LOS A | 0.0 | 0.0 | Full | 121 | 0.0 | 0.0 |
| Lane 2 | 479 | 5.0 | 479 | 5.0 | 1879 | 0.255 | 100 | 0.0 | LOS A | 0.0 | 0.0 | Full | 121 | 0.0 | 0.0 |
| Approach | 951 | 5.9 | 951 | 5.9 | | 0.255 | | 0.4 | NA | 0.0 | 0.0 | | | | |
| West: Pakuranga 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: Pakuranga 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 | | | | |
| Intersection | 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 Flows (veh/h) | | | | | | | | | | |
|-----------------------------|------|-------|-------|-----|-------|-------|-------|-------|-----|------|
| East: Pakuranga Road (East) | | | | | | | | | | |
| Mov. | L1 | T1 | Total | %HV | | Deg. | Lane | Prob. | Ov. | |
| From E | | | | | Cap. | Satn | Util. | SL | Ov. | Lane |
| To Exit: | SW | W | | | veh/h | v/c | % | % | % | No. |
| Lane 1 | 63 | 409 | 472 | 6.8 | 1850 | 0.255 | 100 | NA | NA | |
| Lane 2 | - | 479 | 479 | 5.0 | 1879 | 0.255 | 100 | NA | NA | |
| Approach | 63 | 888 | 951 | 5.9 | | 0.255 | | | | |
| West: Pakuranga Road (West) | | | | | | | | | | |
| 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 | 531 | 531 | 7.2 | | 1853 | 0.287 | 100 | NA | NA | |
| Lane 2 | 531 | 531 | 7.2 | | 1853 | 0.287 | 100 | NA | NA | |
| Approach | 1063 | 1063 | 7.2 | | | 0.287 | | | | |
| SouthWest: Pakuranga Plaza | | | | | | | | | | |
| 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 | 52 | 52 | 5.8 | 883 | 0.059 | 100 | NA | NA |
| Approach | 52 | 52 | 5.8 | 0.059 | | | | |
| Total %HV Deg.Satn (v/c) | | | | | | | | |
| Intersection | 2066 | 6.6 | 0.287 | | | | | |

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 |
| 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. | | | | | | | | | |
| SouthWest Exit: Pakuranga Plaza | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |

LANE SUMMARY

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 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/h | v/c | % | sec | | [Veh | Dist] | | m | % | % |
| | veh/h | % | veh/h | % | | | | | | | m | | | | |
| East: Pakuranga Road (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: Pakuranga Road (West) | | | | | | | | | | | | | | | |
| 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 | 50.0 |
| Lane 2 | 482 | 4.5 | 482 | 4.5 | 521 ¹ | 0.924 | 100 | 71.4 | LOS E | 24.3 ^{N4} | 176.8 ^{N4} | Full | 121 | 0.0 | 50.0 |
| 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: Flyover | | | | | | | | | | | | | | | |
| Lane 1 | 554 | 6.0 | 554 | 6.0 | 628 ¹ | 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 ¹ | 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 | | | | |
| Intersection | 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: Pakuranga Road (East) | | | | | | | | | | |
| Mov. | L1 | R1 | Total | %HV | Cap. | Deg. Satn | Lane Util. | Prob. SL | Ov. | Ov. |
| From E | | | | | veh/h | v/c | % | % | Lane | No. |
| To Exit: | SW | NW | | | | | | | | |
| Lane 1 | 215 | - | 215 | 6.3 | 734 | 0.293 | 100 | NA | NA | |
| Lane 2 | 215 | - | 215 | 6.3 | 734 | 0.293 | 100 | NA | NA | |
| Lane 3 | - | 200 | 200 | 5.8 | 546 | 0.366 | 100 | NA | NA | |
| Lane 4 | - | 200 | 200 | 5.8 | 546 | 0.366 | 100 | 25.4 | 3 | |
| Approach | 430 | 399 | 829 | 6.0 | | 0.366 | | | | |
| NorthWest: Pakuranga Road (West) | | | | | | | | | | |
| Mov. | L1 | R2 | Total | %HV | Cap. | Deg. Satn | Lane Util. | Prob. SL | Ov. | Ov. |
| From NW | | | | | veh/h | v/c | % | % | Lane | No. |
| To Exit: | E | SW | | | | | | | | |
| 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: Flyover | | | | | | | | | |
| Mov. From SW To Exit: | L2 | R1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| | NW | E | | | | | | | |
| Lane 1 | 554 | - | 554 | 6.0 | 628 ¹ | 0.882 | 100 | 100.0 | 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. Satn (v/c) | | | | | | | | | |
| Intersection | 4061 | 6.1 | | 0.982 | | | | | |

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 | |
| East Exit: Pakuranga Road (East) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | |
| Full Length Lane | 3 | | | | | | | | | | | |
| NorthWest Exit: Pakuranga Road (West) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | |
| SouthWest Exit: Flyover | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | |

LANE SUMMARY

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

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

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 | 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 Place | | | | | | | | | | | | | | | |
| 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: William Roberts Road (South) | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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.

| 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. | |
| Lane 1 | 142 | 10 | 152 | 3.3 | 1852 | 0.082 | 100 | NA | NA | |
| Approach | 142 | 10 | 152 | 3.3 | | 0.082 | | | | |
| 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. | |
| Lane 1 | 19 | 45 | 64 | 6.3 | 1039 | 0.062 | 100 | NA | NA | |
| Approach | 19 | 45 | 64 | 6.3 | | 0.062 | | | | |
| 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. | |
| Lane 1 | 48 | 173 | 221 | 5.9 | 1809 | 0.122 | 100 | NA | NA | |
| Approach | 48 | 173 | 221 | 5.9 | | 0.122 | | | | |
| Total %HV Deg. Satn (v/c) | | | | | | | | | | |

| | | | |
|--------------|-----|-----|-------|
| Intersection | 437 | 5.0 | 0.122 |
|--------------|-----|-----|-------|

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 |
| NorthEast Exit: William Roberts Road (North) Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |
| NorthWest Exit: Cortina Place Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |
| SouthWest Exit: William Roberts Road (South) Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |

LANE SUMMARY

Site: 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)

| 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 HV] | % | [Total HV] | % | | | | | | [Veh] | [Dist] | | | | |
| South: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| 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: Aylesbury Street | | | | | | | | | | | | | | | |
| 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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 | -26.5 ^{N3} | 27.1 |
| Approach | 849 | 9.5 | 849 | 9.5 | | 0.866 | | 30.8 | LOS C | 26.2 | 198.7 | | | | |
| West: Palm Avenue | | | | | | | | | | | | | | | |
| Lane 1 | 63 | 6.3 | 63 | 6.3 | 101 | 0.622 | 100 | 58.7 | LOS E | 3.0 | 21.8 | Full | 87 | -6.7 ^{N3} | 0.0 |
| Approach | 63 | 6.3 | 63 | 6.3 | | 0.622 | | 58.7 | LOS E | 3.0 | 21.8 | | | | |
| Intersection | 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 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. Lane No. | |
| Lane 1 | 38 | 210 | - | 248 | 9.0 | 299 | 0.831 | 100 | NA | NA | |
| Lane 2 | - | 222 | 35 | 257 | 9.2 | 309 | 0.831 | 100 | 27.5 | 1 | |
| Approach | 38 | 432 | 35 | 505 | 9.1 | | 0.831 | | | | |
| 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. 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 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. |
| 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 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. |
| 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 Deg. Satn (v/c) | | | | | | | | |
| Intersection | 1543 | 8.9 | 0.866 | | | | | | | |

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

6 Lane under-utilisation due to downstream effects

| Merge Analysis | | | | | | | | | | | | |
|---|------------------|-----------------------------|------------------------|----------------------------|-------|------------------|-----------------------|----------------------|----------------|---------------|----------------|-----------------|
| | Exit Lane Number | Short Lane Length m | Percent Opng in Lane % | Opposing Flow Rate % veh/h | 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: Zipper | | | | | | | | | | | | |
| 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 Street Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| North Exit: Ti Rakau Drive (West) Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| West Exit: Palm Avenue Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |

LANE SUMMARY

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)

| 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. % |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| Lane 1 | 857 | 9.6 | 857 | 9.6 | 1020 | 0.840 | 100 | 14.7 | LOS B | 16.6 | 125.8 | Full | 110 | 0.0 | 27.3 |
| Approach | 857 | 9.6 | 857 | 9.6 | | 0.840 | | 14.7 | LOS B | 16.6 | 125.8 | | | | |
| SouthWest: Pakuranga HWY | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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 Lane Flows (veh/h) | | | | | | | | | | |
|----------------------------------|-----|-------|-------|------------|---------------|---------------|----------------|----------------|--------------|--|
| SouthEast: Ti 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. | |
| | SW | NW | | | | | | | | |
| Lane 1 | 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: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. From NW To Exit: | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | | |
| | SE | | | | | | | | | |
| Lane 1 | 857 | 857 | 9.6 | 1020 | 0.840 | 100 | NA | NA | | |
| Approach | 857 | 857 | 9.6 | | 0.840 | | | | | |
| SouthWest: Pakuranga HWY | | | | | | | | | | |
| Mov. From SW To Exit: | L2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | | |
| | NW | | | | | | | | | |
| Lane 1 | 66 | 66 | 9.1 | 260 | 0.254 | 100 | NA | NA | | |
| Approach | 66 | 66 | 9.1 | | 0.254 | | | | | |
| Total %HV Deg. Satn (v/c) | | | | | | | | | | |

Intersection 1842 9.6 0.840

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. | | | | | | | | | | |
| NorthWest Exit: Ti Rakau Drive (West) Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| SouthWest Exit: Pakuranga HWY Merge Type: Priority | | | | | | | | | | | | |
| 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 | Merge Lane is not 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 and Performance (CCG) | | | | | | | | | | | | | | | |
|--|-----------------|----------|-----------------|----------|------------------|---------------|-----------------|-----------------|------------------|-------------------|------------|-------------|---------------|-------------|----------------|
| | 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] | | | | |
| Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr] | | | | | | | | | | | | | | | |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| 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 Roberts Road Extension | | | | | | | | | | | | | | | |
| 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 2097 | 8.5 | 2097 | 8.5 | | 0.580 | | 14.9 | LOS B | 6.5 | 48.4 | | | | |
| Site: 7.5 [7.5 Mattson Rd/ Ti Rakau Dr] | | | | | | | | | | | | | | | |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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: Mattson Road | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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

| Approach Lane Flows (CCG) (veh/h) | | | | | | | | | | |
|--|------|------|-------|-------|------------------|---------------|--------------|----------------|--------------|--|
| Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr] | | | | | | | | | | |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. From SE To Exit: | T1 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| 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 | - | 155 | 155 | 2.6 | 363 | 0.427 | 100 | 36.7 | 3 | |
| Lane 5 | 13 | - | 13 | 100.0 | 382 | 0.034 | 100 | NA | NA | |
| Approach | 897 | 155 | 1052 | 8.6 | | 0.500 | | | | |
| NorthEast: William Roberts Road Extension | | | | | | | | | | |
| Mov. From NE To Exit: | L2 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| 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 | |
| Approach | 123 | 64 | 187 | 3.2 | | 0.341 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. From NW To Exit: | L2 | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| 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 | |
| Approach | 67 | 791 | 858 | 9.7 | | 0.580 | | | | |
| Total | | | | %HV | Deg.Satn (v/c) | | | | | |
| Intersection | 2097 | 8.5 | | 0.580 | | | | | | |
| Site: 7.5 [7.5 Mattson Rd/ Ti Rakau Dr] | | | | | | | | | | |
| SouthEast: Ti 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. | |
| Lane 1 | 20 | 165 | 185 | 7.8 | 229 | 0.807 | 100 | 55.2 | 2 | |
| Lane 2 | - | 386 | 386 | 7.5 | 478 ¹ | 0.807 | 100 | 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 | |
| Approach | 20 | 1041 | 1061 | 8.7 | | 0.807 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | |

| Mov. From NW To Exit: | T1 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|--------------------------|------|-----|-------|-------|------------|---------------|-----------------|----------------|--------------|
| Lane 1 | 100 | - | 100 | 6.9 | 594 | 0.169 | 27 ⁶ | 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 |
| Approach | 855 | 60 | 915 | 8.5 | | 0.621 | | | |
| SouthWest: Mattson Road | | | | | | | | | |
| 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 | 13 | - | 13 | 7.7 | 350 | 0.037 | 100 | NA | NA |
| Lane 2 | - | 26 | 26 | 3.8 | 216 | 0.120 | 100 | NA | NA |
| Approach | 13 | 26 | 39 | 5.1 | | 0.120 | | | |
| Total %HV Deg.Satn (v/c) | | | | | | | | | |
| Intersection | 2015 | 8.5 | | 0.807 | | | | | |

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

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

| Merge Analysis (CCG) | | | | | | | | | | | | | |
|--|------------------|---------------------|------------------------------|---------------------------|------------------|-----------------------|----------------------|----------------|---------------|----------------|-----------------|-----|--|
| | 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 | | |
| Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr] | | | | | | | | | | | | | |
| SouthEast Exit: Ti Rakau Drive (East) | | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | | |
| Full Length Lane | 3 | | | | | | | | | | | | |
| Full Length Lane | 4 | | | | | | | | | | | | |
| NorthEast Exit: William Roberts Road Extension | | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | | |
| NorthWest Exit: Ti Rakau Drive (West) | | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | | | |
| Full Length Lane | 2 | | | | | | | | | | | | |
| Full Length Lane | 3 | | | | | | | | | | | | |
| Full Length Lane | 4 | | | | | | | | | | | | |
| 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 | 369 | 382 | 3.00 | 2.00 | 100 | 1410 | 0.071 | 0.6 | 0.7 | |
| Merge Lane | 2 | - | 100.0 | Merge Lane is not Opposed | | | | 369 | 1800 | 0.205 | 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. |
| Full Length Lane | 3 | Merge Analysis not applied. |
| Full Length Lane | 4 | Merge Analysis not applied. |

SouthWest Exit: Mattson Road

Merge Type: Not Applied

| | | |
|------------------|---|-----------------------------|
| Full Length Lane | 1 | Merge Analysis not applied. |
|------------------|---|-----------------------------|

LANE SUMMARY

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)

| 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 | 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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 Lane Flows (veh/h) | | | | | | | | | | |
|----------------------------------|------|-------|-------|------------|---------------|---------------|----------------|----------------|--------------|--|
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. From SE To Exit: | T1 | U | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| | NW | SE | | | | | | | | |
| 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 | 29.8 | 2 | |
| Lane 4 | 13 | - | 13 | 100.0 | 438 | 0.030 | 100 | NA | NA | |
| Approach | 1071 | 173 | 1244 | 8.1 | | 0.551 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. From NW To Exit: | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | | |
| | SE | | | | | | | | | |
| 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. Satn (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 | | | | | | | | | | | | |
|---------------------------------------|------------------|-----------------------------|------------------------|--------------------------|-------|------------------|-----------------------|----------------------|----------------|---------------|----------------|-----------------|
| | Exit Lane Number | Short Lane Length m | Percent Opng in Lane % | Opposing Flow Rate veh/h | pcu/h | Critical Gap sec | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
| SouthEast Exit: Ti Rakau Drive (East) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | | |
| NorthWest Exit: Ti Rakau Drive (West) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | | |

LANE SUMMARY

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)

| 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. % |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| Lane 1 | 572 | 7.2 | 572 | 7.2 | 741 | 0.772 | 100 | 11.7 | LOS B | 8.0 | 59.3 | Full | 64 | 0.0 | 8.1 |
| Lane 2 | 572 | 7.2 | 572 | 7.2 | 741 | 0.772 | 100 | 11.7 | LOS B | 8.0 | 59.3 | Full | 64 | 0.0 | 8.1 |
| Lane 3 (B) | 13 | 100.0 | 13 | 100.0 | 478 | 0.027 | 100 | 2.1 | LOS A | 0.0 | 0.5 | Full | 64 | 0.0 | 0.0 |
| Approach | 1157 | 8.2 | 1157 | 8.2 | | 0.772 | | 11.6 | LOS B | 8.0 | 59.3 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | | | | | | |
| Lane 1 | 550 | 7.7 | 550 | 7.7 | 1847 | 0.298 | 100 | 0.0 | LOS A | 0.0 | 0.0 | Full | 81 | 0.0 | 0.0 |
| Lane 2 | 550 | 7.7 | 550 | 7.7 | 1847 | 0.298 | 100 | 0.0 | LOS A | 0.0 | 0.0 | Full | 81 | 0.0 | 0.0 |
| Lane 3 | 109 | 5.5 | 109 | 5.5 | 268 | 0.407 | 100 | 18.6 | LOS B | 1.4 | 10.2 | Short | 15 | 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 | 81 | 0.0 | 0.0 |
| Approach | 1226 | 8.8 | 1226 | 8.8 | | 0.407 | | 1.7 | LOS A | 1.4 | 10.2 | | | | |
| Intersection | 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 Lane Flows (veh/h) | | | | | | | | | | |
|----------------------------------|------|-------|-------|-------|---------------|---------------|----------------|----------------|--------------|--|
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. From SE To Exit: | T1 | Total | %HV | | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | | |
| | NW | | | | | | | | | |
| 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: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. From NW To Exit: | T1 | U | Total | %HV | | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| | SE | NW | | | | | | | | |
| 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 %HV Deg. Satn (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 | | | | | | | | | | | |
|---------------------------------------|------------------|-----------------------------|------------------------|--------------------------|------------------|-----------------------|----------------------|---------------------|---------------|----------------|-----------------|
| | 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 | Lane Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
| SouthEast Exit: Ti Rakau Drive (East) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | |
| NorthWest Exit: Ti Rakau Drive (West) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | |

LANE SUMMARY

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

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

Site Category: (None)

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

| 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/h | v/c | % | sec | | [Veh | Dist] | | m | % | % |
| | veh/h | % | veh/h | % | | | | | | | m | | | | |
| South: Fremantle Place | | | | | | | | | | | | | | | |
| Lane 1 | 10 | 0.0 | 10 | 0.0 | 312 | 0.032 | 100 | 60.4 | LOS E | 0.5 | 3.8 | Short | 26 | 0.0 | NA |
| Lane 2 | 11 | 0.0 | 11 | 0.0 | 112 | 0.098 | 100 | 78.6 | LOS E | 0.7 | 4.9 | Full | 285 | 0.0 | 0.0 |
| Approach | 21 | 0.0 | 21 | 0.0 | | 0.098 | | 69.9 | LOS E | 0.7 | 4.9 | | | | |
| East: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| Lane 1 | 1164 | 8.1 | 1164 | 8.1 | 1204 | 0.967 | 100 | 51.4 | LOS D | 84.1 | 629.2 | Full | 636 | 0.0 | 14.0 |
| Approach | 1164 | 8.1 | 1164 | 8.1 | | 0.967 | | 51.4 | LOS D | 84.1 | 629.2 | | | | |
| West: Ti Rakau Drive (West) | | | | | | | | | | | | | | | |
| Lane 1 | 1102 | 9.3 | 1102 | 9.3 | 1163 | 0.948 | 100 | 45.5 | LOS D | 78.4 | 592.7 | Full | 479 | 0.0 | 34.5 |
| Approach | 1102 | 9.3 | 1102 | 9.3 | | 0.948 | | 45.5 | LOS D | 78.4 | 592.7 | | | | |
| Intersection | 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 Lane Flows (veh/h) | | | | | | | | | | |
|-----------------------------|------|------|-------|-----|-------|-----------|------------|----------|-----|----------|
| South: Fremantle Place | | | | | | | | | | |
| Mov. | L2 | R2 | Total | %HV | Cap. | Deg. Satn | Lane Util. | Prob. SL | Ov. | Ov. Lane |
| From S | | | | | veh/h | v/c | % | % | % | No. |
| To Exit: | W | E | | | | | | | | |
| Lane 1 | 10 | - | 10 | 0.0 | 312 | 0.032 | 100 | 0.0 | 2 | |
| Lane 2 | - | 11 | 11 | 0.0 | 112 | 0.098 | 100 | NA | NA | |
| Approach | 10 | 11 | 21 | 0.0 | | 0.098 | | | | |
| East: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. | L2 | T1 | Total | %HV | Cap. | Deg. Satn | Lane Util. | Prob. SL | Ov. | Ov. Lane |
| From E | | | | | veh/h | v/c | % | % | % | No. |
| To Exit: | S | W | | | | | | | | |
| Lane 1 | 10 | 1154 | 1164 | 8.1 | 1204 | 0.967 | 100 | NA | NA | |
| Approach | 10 | 1154 | 1164 | 8.1 | | 0.967 | | | | |
| West: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. | T1 | R2 | Total | %HV | Cap. | Deg. Satn | Lane Util. | Prob. SL | Ov. | Ov. Lane |
| From W | | | | | veh/h | v/c | % | % | % | No. |
| To Exit: | E | S | | | | | | | | |
| Lane 1 | 1085 | 17 | 1102 | 9.3 | 1163 | 0.948 | 100 | NA | NA | |
| Approach | 1085 | 17 | 1102 | 9.3 | | 0.948 | | | | |
| Total %HV Deg. Satn (v/c) | | | | | | | | | | |

| | | | |
|--------------|------|-----|-------|
| Intersection | 2287 | 8.6 | 0.967 |
|--------------|------|-----|-------|

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 |
| 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. |
| West Exit: Ti Rakau Drive (West) Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. |

Appendix J

EB2/EB3R Final Scenario – Phasing Diagrams

LANE SUMMARY

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)

| 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 | % | % | |
| South: Ti Rakau Drive | | | | | | | | | | | | | | | |
| 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: Pakuranga Road (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 ¹ | 0.801 | 100 | 40.8 | LOS D | 14.3 | 104.0 | Full | 98 | 0.0 | 20.4 |
| Lane 3 | 438 | 4.3 | 393 | 4.4 | 490 | 0.801 | 100 | 41.5 | LOS D | 17.3 | 126.0 | Full | 98 | 0.0 | 38.0 |
| Approach | 904 | 4.5 | 810 ^{N1} | 4.6 | | 0.801 | | 40.6 | LOS D | 17.3 | 126.0 | | | | |
| West: Pakuranga 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 | | | | |
| Intersection | 3356 | 11.0 | 3262 ^{N1} | 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 Lane Flows (veh/h) | | | | | | | | | | |
|-----------------------------|-----|-----|-------|-------|------|-----------|------------|--------------|--------------|--|
| South: Ti Rakau Drive | | | | | | | | | | |
| Mov. From S To Exit: | L2 | R2 | Total | %HV | Cap. | Deg. Satn | Lane Util. | Prob. SL Ov. | Ov. Lane No. | |
| | W | E | | | | | | | | |
| 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: Pakuranga Road (East) | | | | | | | | | | |
| Mov. | L2 | T1 | Total | %HV | Deg. | Lane | Prob. | Ov. | | |

| From E To Exit: | S | W | | | Cap. veh/h | Satn v/c | Util. % | SL Ov. % | Lane No. |
|-----------------------------|------|------|-------|-------|------------------|---------------|--------------|----------------|--------------|
| Lane 1 | 84 | - | 84 | 6.4 | 459 | 0.183 | 100 | 16.0 | 2 |
| Lane 2 | - | 333 | 333 | 4.4 | 416 ¹ | 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: Pakuranga Road (West) | | | | | | | | | |
| Mov. From W To Exit: | T1 E | R2 S | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | - | 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 | 25.4 | 4 |
| Approach | 592 | 660 | 1252 | 13.7 | | 0.810 | | | |
| Total %HV Deg. Satn (v/c) | | | | | | | | | |
| Intersection | 3262 | 11.3 | | 0.810 | | | | | |

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 pcu/h | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec | |
| South Exit: Ti Rakau Drive | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. | |
| Full Length Lane | 2 | | | | | | | | | | Merge Analysis not applied. | |
| Full Length Lane | 3 | | | | | | | | | | 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. | |

LANE SUMMARY

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)

| 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 | 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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 Lane Flows (veh/h) | | | | | | | | | | |
|----------------------------------|------|-------|-------|------------|---------------|---------------|----------------|----------------|--------------|--|
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. From SE To Exit: | T1 | U | 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: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. From NW To Exit: | T1 | 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. Satn (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 | | | | | | | | | | | |
|---------------------------------------|------------------|-----------------------------|------------------------|--------------------------|------------------|-----------------------|----------------------|---------------------|---------------|----------------|-----------------|
| | 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 | Lane Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
| SouthEast Exit: Ti Rakau Drive (East) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | |
| NorthWest Exit: Ti Rakau Drive (West) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | |

LANE SUMMARY

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)

| Lane Use and Performance | | | | | | | | | | | | | | | |
|----------------------------------|------------------------------|-------|-------------------------------|-------|-------|-----------|------------|-------------|------------------|-----------------------------------|--------------------|-------------|-------------|-----------|--------------|
| | DEMAND FLOWS [Total HV] | | ARRIVAL FLOWS [Total HV] | | Cap. | Deg. Satn | Lane Util. | Aver. Delay | Level of Service | 85% BACK OF QUEUE [Veh Dist] | | Lane Config | Lane Length | Cap. Adj. | Prob. Block. |
| | veh/h | % | veh/h | % | veh/h | v/c | % | sec | | | m | | m | % | % |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| Lane 1 | 771 | 10.7 | 771 | 10.7 | 998 | 0.773 | 100 | 10.6 | LOS B | 12.2 ^{N4} | 93.5 ^{N4} | Full | 64 | 0.0 | 50.0 |
| Lane 2 | 771 | 10.7 | 771 | 10.7 | 998 | 0.773 | 100 | 10.6 | LOS B | 12.2 ^{N4} | 93.5 ^{N4} | Full | 64 | 0.0 | 50.0 |
| Lane 3 (B) | 25 | 100.0 | 25 | 100.0 | 657 | 0.038 | 100 | 0.2 | LOS A | 0.0 | 0.1 | Full | 64 | 0.0 | 0.0 |
| Approach | 1567 | 12.1 | 1567 | 12.1 | | 0.773 | | 10.5 | LOS B | 12.2 | 93.5 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | | | | | | |
| Lane 1 | 537 | 13.6 | 537 | 13.6 | 1783 | 0.302 | 100 | 0.0 | LOS A | 0.0 | 0.0 | Full | 81 | 0.0 | 0.0 |
| Lane 2 | 538 | 13.6 | 538 | 13.6 | 1783 | 0.302 | 100 | 0.0 | LOS A | 0.0 | 0.0 | Full | 81 | 0.0 | 0.0 |
| Lane 3 | 112 | 10.7 | 112 | 10.7 | 194 | 0.576 | 100 | 25.6 | LOS C | 2.1 | 16.0 | Short | 15 | 0.0 | NA |
| Lane 4 (B) | 13 | 100.0 | 13 | 100.0 | 657 | 0.020 | 100 | 0.2 | LOS A | 0.0 | 0.1 | Full | 81 | 0.0 | 0.0 |
| Approach | 1200 | 14.3 | 1200 | 14.3 | | 0.576 | | 2.4 | LOS A | 2.1 | 16.0 | | | | |
| Intersection | 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 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. | |
| | NW | | | | | | | | | |
| 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: Ti Rakau Drive (West) | | | | | | | | | | |
| Mov. From NW To Exit: | T1 | U | Total | %HV | | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| | SE | NW | | | | | | | | |
| 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 | 20.7 | 2 |
| Lane 4 | 13 | - | 13 | 100.0 | | 657 | 0.020 | 100 | NA | NA |
| Approach | 1088 | 112 | 1200 | 14.3 | | | 0.576 | | | |
| Total %HV Deg. Satn (v/c) | | | | | | | | | | |
| Intersection | 2767 | 13.0 | | | | 0.773 | | | | |

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

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

LANE SUMMARY

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

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

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. 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] | [HV] | [Total] | [HV] | | | | | | [Veh] | [Dist] | | | | |
| South: Fremantle 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 Rakau Drive (East) | | | | | | | | | | | | | | | |
| 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: Gossamer 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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 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. Lane No. |
| | W | N | E | | | | | | | | | | |
| Lane 1 | 20 | - | - | - | 20 | 10.0 | | 93 | 0.215 | 100 | 24.7 | 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 Rakau Drive (East) | | | | | | | | | | | |
| Mov. | L2 | T1 | R2 | Total | %HV | | | | | | |
| From E | | | | | | Cap. | Deg. | Lane | Prob. | Ov. | |
| To Exit: | S | W | N | | | veh/h | v/c | Util. | SL 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 | 22.5 | 4 | |
| Approach | 15 | 1521 | 382 | 1918 | 11.5 | | | | | | 0.967 |
| North: Gossamer Drive | | | | | | | | | | | |
| Mov. | L2 | T1 | R2 | Total | %HV | | | | | | |
| From N | | | | | | Cap. | Deg. | Lane | Prob. | Ov. | |
| To Exit: | E | S | W | | | veh/h | v/c | Util. | SL Ov. | Lane | |
| | | | | | | | | % | % | No. | |
| Lane 1 | 359 | - | - | 359 | 9.5 | 365 | 0.982 | 100 | 35.6 | 2 | |
| Lane 2 | 358 | - | - | 358 | 9.5 | 365 ¹ | 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 Rakau Drive (West) | | | | | | | | | | | |
| Mov. | L2 | T1 | R2 | U | Total | %HV | | | | | |
| From W | | | | | | | | | | | |
| To Exit: | N | E | S | W | | | Cap. | Deg. | Lane | Prob. | Ov. |
| | | | | | | | veh/h | v/c | Util. | SL Ov. | Lane |
| | | | | | | | | | % | % | No. |
| Lane 1 | 31 | - | - | - | 31 | 6.5 | 718 | 0.043 | 100 | 0.0 | 2 |
| Lane 2 | - | 505 | - | - | 505 | 13.7 | 542 ¹ | 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 | 17.7 | 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 Deg. Satn (v/c) | | | | | | | | | | | |
| Intersection | 3806 | 12.2 | | | | | | | | | 0.982 |

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

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

| Merge Analysis | | | | | | | | | | | | |
|----------------------------------|------------------|-----------------------------|------------------------|--------------------------|------------------|-----------------------|---------------------|---------------|----------------|-----------------|-----|-----|
| | Exit Lane Number | Short Lane Length m | Percent Opng in Lane % | Opposing Flow Rate veh/h | Critical Gap sec | Follow-up Headway sec | Lane 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 | 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 (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. |

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LANE SUMMARY

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

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

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] | | | | |
| East: Pakuranga Road (East) | | | | | | | | | | | | | | | |
| Lane 1 | 479 | 4.5 | 428 | 4.6 | 1879 | 0.227 | 100 | 0.6 | LOS A | 0.0 | 0.0 | Full | 121 | 0.0 | 0.0 |
| Lane 2 | 480 | 4.7 | 428 | 4.7 | 1882 | 0.227 | 100 | 0.0 | LOS A | 0.0 | 0.0 | Full | 121 | 0.0 | 0.0 |
| Approach | 959 | 4.6 | 856 ^{N1} | 4.6 | | 0.227 | | 0.3 | NA | 0.0 | 0.0 | | | | |
| West: Pakuranga 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: Pakuranga Plaza | | | | | | | | | | | | | | | |
| Lane 1 | 46 | 4.3 | 46 | 4.3 | 87 | 0.527 | 100 | 48.9 | LOS E | 1.1 | 7.7 | Full | 196 | -27.0 ^{N7} | 0.0 |
| Approach | 46 | 4.3 | 46 | 4.3 | | 0.527 | | 48.9 | LOS E | 1.1 | 7.7 | | | | |
| Intersection | 1873 | 5.7 | 1770 ^{N1} | 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 Lane Flows (veh/h) | | | | | | | | | | |
|-----------------------------|-----|-------|-------|------------|---------------|---------------|----------------|----------------|--------------|--|
| East: Pakuranga Road (East) | | | | | | | | | | |
| Mov. From E To Exit: | L1 | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| | SW | W | | | | | | | | |
| Lane 1 | 52 | 376 | 428 | 4.6 | 1879 | 0.227 | 100 | NA | NA | |
| Lane 2 | - | 428 | 428 | 4.7 | 1882 | 0.227 | 100 | NA | NA | |
| Approach | 52 | 804 | 856 | 4.6 | | 0.227 | | | | |
| West: Pakuranga Road (West) | | | | | | | | | | |
| Mov. From W To Exit: | T1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | | |
| | E | | | | | | | | | |
| 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: Pakuranga Plaza | | | | | | | | | | |

| Mov. From SW To Exit: | L3 W | R1 E | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | 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.Satn (v/c) | | | | | | | | | |
| Intersection | 1770 | 6.0 | | 0.527 | | | | | |

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 Capacity Flow Rate veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
| East Exit: Pakuranga Road (East) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. |
| Full Length Lane | 2 | | | | | | | | | | Merge Analysis not applied. |
| 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. |
| SouthWest Exit: Pakuranga Plaza | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. |

LANE SUMMARY

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 = 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 | | | | |
| East: Pakuranga Road (East) | | | | | | | | | | | | | | | |
| 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 | 100.0 |
| Lane 3 | 1100 | 5.1 | 1100 | 5.1 | 1114 | 0.988 | 100 | 75.0 | LOS E | 94.9 | 693.1 | Full | 183 | 0.0 | 100.0 |
| 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 | 87.5 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: Pakuranga Road (West) | | | | | | | | | | | | | | | |
| 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 | 33.3 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: Pakuranga Road Busway Link (Northbound) | | | | | | | | | | | | | | | |
| 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: Flyover | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 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 Lane Flows (veh/h) | | | | | | | | | | | |
|-----------------------------|----|------|-----|-------|-------|-------------------|---------------|--------------|------------|--------------|--|
| East: Pakuranga Road (East) | | | | | | | | | | | |
| Mov. From E To Exit: | L2 | L1 | R1 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL % | Ov. Lane No. | |
| | S | SW | NW | | | | | | | | |
| 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 | 100.0 | 4 | |

| | | | | | | | | | | |
|---|------|-------|-------|-------|-----|------------------|---------------|--------------|----------------|--------------|
| Approach | 28 | 2157 | 856 | 3041 | 5.8 | | 1.138 | | | |
| NorthWest: Pakuranga Road (West) | | | | | | | | | | |
| Mov. From NW To Exit: | L1 | R2 | Total | %HV | | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| | E | SW | | | | | | | | |
| 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 | 53.0 | 2 |
| Approach | 625 | 288 | 913 | 6.8 | | | 0.832 | | | |
| West: Pakuranga Road Busway Link (Northbound) | | | | | | | | | | |
| Mov. From W To Exit: | T1 | Total | %HV | | | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| | E | | | | | | | | | |
| Lane 1 | 9 | 9 | 100.0 | | | 454 | 0.020 | 100 | NA | NA |
| Approach | 9 | 9 | 100.0 | | | | 0.020 | | | |
| SouthWest: Flyover | | | | | | | | | | |
| Mov. From SW To Exit: | L2 | R1 | Total | %HV | | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| | NW | E | | | | | | | | |
| 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 %HV Deg. Satn (v/c) | | | | | | | | | | |
| Intersection | 4894 | 6.0 | | 1.138 | | | | | | |

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: Pakuranga Road Busway Link (Southbound) Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| East Exit: Pakuranga Road (East) Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | | |
| NorthWest Exit: Pakuranga Road (West) Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | 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. | | | | | | | | | | |

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LANE SUMMARY

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

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

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 144 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] | [HV] | [Total] | [HV] | | | | | | [Veh] | [Dist] | | | | |
| South: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| 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 | 50.0 |
| Lane 2 | 565 | 9.3 | 565 | 9.3 | 615 ¹ | 0.919 | 100 | 65.4 | LOS E | 21.3 ^{N4} | 160.7 ^{N4} | Full | 110 | 0.0 | 50.0 |
| 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: Aylesbury Street | | | | | | | | | | | | | | | |
| Lane 1 | 76 | 9.2 | 76 | 9.2 | 115 | 0.658 | 100 | 76.5 | LOS E | 5.0 | 37.5 | Short | 30 | -10.5 ^{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 | 50.0 |
| Approach | 213 | 9.4 | 213 | 9.4 | | 0.746 | | 72.5 | LOS E | 7.7 | 58.4 | | | | |
| North: Ti Rakau Drive (West) | | | | | | | | | | | | | | | |
| 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 | -10.5 ^{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 | -10.5 ^{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 | 744 ^{N1} | 19.1 | | 0.712 | | 46.1 | LOS D | 14.3 | 114.5 | | | | |
| West: Palm Avenue | | | | | | | | | | | | | | | |
| Lane 1 | 120 | 4.2 | 120 | 4.2 | 313 | 0.384 | 100 | 60.8 | LOS E | 6.7 | 48.6 | Full | 87 | -4.0 ^{N7} | 0.0 |
| Approach | 120 | 4.2 | 120 | 4.2 | | 0.384 | | 60.8 | LOS E | 6.7 | 48.6 | | | | |
| Intersection | 2253 | 14.3 | 2243 ^{N1} | 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 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. Lane No. |
| | W | N | E | | | | | | | | | | |
| 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: 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 | 76 | - | - | 76 | 9.2 | 115 | 0.658 | 100 | 35.5 | 2 |
| Lane 2 | - | 10 | 127 | 137 | 9.5 | 184 ¹ | 0.746 | 100 | NA | NA |
| Approach | 76 | 10 | 127 | 213 | 9.4 | | 0.746 | | | |
| 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 | - | 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 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 | 51 | 27 | 42 | 120 | 4.2 | 313 | 0.384 | 100 | NA | NA |
| Approach | 51 | 27 | 42 | 120 | 4.2 | | 0.384 | | | |
| Total %HV Deg. Satn (v/c) | | | | | | | | | | |
| Intersection | 2243 | 14.4 | | | | | 0.919 | | | |

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 Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec | |
| South Exit: Ti Rakau Drive (East) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. |
| Full Length Lane | 2 | | | | | | | | | | Merge Analysis not applied. |
| Full Length Lane | 3 | | | | | | | | | | Merge Analysis not applied. |
| East Exit: Aylesbury Street | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. |
| North Exit: Ti Rakau Drive (West) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. |
| Full Length Lane | 2 | | | | | | | | | | Merge Analysis not applied. |
| Full Length Lane | 3 | | | | | | | | | | Merge Analysis not applied. |
| West Exit: Palm Avenue | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. |

| To Exit: | SW | NW | | | veh/h | v/c | % | % | No. | | |
|----------------------------------|------|-------|-------|-------|------------------|-------|-------|-------|-------|-------|------|
| Lane 1 | 404 | - | 404 | 12.8 | 1229 | 0.328 | 100 | 46.1 | 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: Reeves Road | | | | | | | | | | | |
| Mov. | R2 | Total | %HV | | Cap. | Deg. | Lane | Prob. | Ov. | | |
| From NE | | | | | veh/h | Satn | Util. | SL | Lane | | |
| To Exit: | NW | | | | | v/c | % | % | No. | | |
| Lane 1 | 28 | 28 | 100.0 | | 368 | 0.076 | 100 | NA | NA | | |
| Approach | 28 | 28 | 100.0 | | 0.076 | | | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | | |
| Mov. | L2 | T1 | R2 | Total | %HV | | Cap. | Deg. | Lane | Prob. | Ov. |
| From NW | | | | | | | veh/h | Satn | Util. | SL | Lane |
| To Exit: | NE | SE | SW | | | | | 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: Pakuranga Highway | | | | | | | | | | | |
| Mov. | L2 | R2 | Total | %HV | | Cap. | Deg. | Lane | Prob. | Ov. | |
| From SW | | | | | | veh/h | Satn | Util. | SL | Lane | |
| To Exit: | NW | SE | | | | | 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 | 5.7 | 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.Satn (v/c) | | | | | | | | | | | |
| Intersection | 3363 | 14.0 | 1.020 | | | | | | | | |

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 Capacity Flow Rate 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. | | | | | | | | | |
| Full Length Lane | 4 | Merge Analysis not applied. | | | | | | | | | |
| NorthEast Exit: Reeves 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. | | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | | |
| SouthWest Exit: Pakuranga Highway | | | | | | | | | | | | |
| Merge Type: Zipper | | | | | | | | | | | | |
| 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: Pakuranga Highway | | | | | | | | | | | | |
| Merge Type: Zipper | | | | | | | | | | | | |
| 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 Performance (CCG) | | | | | | | | | | | | | | | |
|--|-----------------|----------|-------------------|----------|------------------|---------------|--------------|-----------------|------------------|-------------------|----------|-------------|---------------|---------------------|----------------|
| | 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] | | | | |
| Site: 5.2v [5.2 Aylesbury St/ Reeves Rd/ Busway Link signalised] | | | | | | | | | | | | | | | |
| SouthEast: Reeves Road (East) | | | | | | | | | | | | | | | |
| Lane 1 | 136 | 8.1 | 136 | 8.1 | 330 | 0.412 | 100 | 14.9 | LOS B | 2.4 | 18.0 | Full | 27 | -8.6 ^{N7} | 0.0 |
| Approach | 136 | 8.1 | 136 | 8.1 | | 0.412 | | 14.9 | LOS B | 2.4 | 18.0 | | | | |
| East: Pakuranga Rd Busway Link (Southbound) | | | | | | | | | | | | | | | |
| 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: Aylesbury Street | | | | | | | | | | | | | | | |
| 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: Reeves Road (South) | | | | | | | | | | | | | | | |
| Lane 1 | 116 | 22.5 | 115 | 22.6 | 193 | 0.596 | 100 | 48.0 | LOS D | 5.4 | 45.1 | Full | 180 | -42.6 ^{N7} | 0.0 |
| Approach | 116 | 22.5 | 115 ^{N1} | 22.6 | | 0.596 | | 48.0 | LOS D | 5.4 | 45.1 | | | | |
| Intersection | 301 | 21.6 | 300 ^{N1} | 21.7 | | 0.596 | | 33.8 | LOS C | 5.4 | 45.1 | | | | |
| Site: 7.3v [7.3 William Roberts Rd / Reeves Rd signalised] | | | | | | | | | | | | | | | |
| SouthEast: Reeves Rd (East) | | | | | | | | | | | | | | | |
| Lane 1 | 303 | 8.3 | 303 | 8.3 | 321 ¹ | 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: Reeves Rd (West) | | | | | | | | | | | | | | | |
| Lane 1 | 107 | 15.0 | 107 | 15.0 | 464 | 0.230 | 100 | 43.1 | LOS D | 4.8 | 37.9 | Full | 27 | 0.0 | 46.2 |
| Approach | 107 | 15.0 | 107 | 15.0 | | 0.230 | | 43.1 | LOS D | 4.8 | 37.9 | | | | |
| SouthWest: William Roberts Road (South) | | | | | | | | | | | | | | | |
| 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 | | | | |
| Intersection | 851 | 10.6 | 849 ^{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 Lane Flows (CCG) (veh/h) | | | | | | | | | | |
|--|-------|-------|-------|------------|------------------|---------------|----------------|----------------|----------------|--------------|
| Site: 5.2v [5.2 Aylesbury St/ Reeves Rd/ Busway Link signalised] | | | | | | | | | | |
| SouthEast: Reeves Road (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 | 101 | 35 | 136 | 8.1 | 330 | 0.412 | 100 | NA | NA | |
| Approach | 101 | 35 | 136 | 8.1 | | 0.412 | | | | |
| East: Pakuranga Rd Busway Link (Southbound) | | | | | | | | | | |
| 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 | | |
| Approach | 28 | 28 | 100.0 | | 0.197 | | | | | |
| NorthWest: Aylesbury Street | | | | | | | | | | |
| Mov. From NW To Exit: | T1 SE | R2 SW | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| Lane 1 | 11 | 10 | 21 | 0.0 | 141 | 0.149 | 100 | NA | NA | |
| Approach | 11 | 10 | 21 | 0.0 | | 0.149 | | | | |
| SouthWest: Reeves Road (South) | | | | | | | | | | |
| Mov. From SW To Exit: | L2 NW | T1 NE | R2 SE | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 12 | 9 | 95 | 115 | 22.6 | 193 | 0.596 | 100 | NA | NA |
| Approach | 12 | 9 | 95 | 115 | 22.6 | | 0.596 | | | |
| Total | | | | | | | | | | |
| Intersec | | 300 | | 21.7 | | 0.596 | | | | |
| Site: 7.3v [7.3 William Roberts Rd / Reeves Rd signalised] | | | | | | | | | | |
| SouthEast: Reeves Rd (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 | 303 | - | 303 | 8.3 | 321 ¹ | 0.943 | 100 | NA | NA | |
| Lane 2 | - | 108 | 108 | 7.4 | 376 | 0.287 | 100 | 0.0 | 1 | |
| Approach | 303 | 108 | 411 | 8.0 | | 0.943 | | | | |
| NorthWest: Reeves Rd (West) | | | | | | | | | | |
| Mov. From NW To Exit: | T1 SE | R2 SW | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| Lane 1 | 85 | 22 | 107 | 15.0 | 464 | 0.230 | 100 | NA | NA | |
| Approach | 85 | 22 | 107 | 15.0 | | 0.230 | | | | |
| SouthWest: William Roberts Road (South) | | | | | | | | | | |
| Mov. From SW To Exit: | L2 NW | R2 SE | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |

| | | | | | | | | | |
|--------------------------|-----|------|-----|-------|-----|-------|-----|----|----|
| Lane 1 | 25 | 307 | 332 | 12.3 | 351 | 0.947 | 100 | NA | NA |
| Approach | 25 | 307 | 332 | 12.3 | | 0.947 | | | |
| Total %HV Deg.Satn (v/c) | | | | | | | | | |
| Intersection | 849 | 10.6 | | 0.947 | | | | | |

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

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

| Merge Analysis (CCG) | | | | | | | | | | | | |
|--|------------------|---------------------|------------------------------|--------------------------|------------------|-----------------------|----------------------|----------------|---------------|----------------|-----------------------------|--|
| | Exit Lane Number | Short Lane Length m | Percent Opng in Lane % veh/h | Opposing Flow Rate pcu/h | Critical Gap sec | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec | |
| Site: 5.2v [5.2 Aylesbury St/ Reeves Rd/ Busway Link signalised] | | | | | | | | | | | | |
| SouthEast Exit: Reeves Road (East) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. | |
| NorthEast Exit: Pakuranga Rd Busway Link (Northbound) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. | |
| NorthWest Exit: Aylesbury Street | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. | |
| SouthWest Exit: Reeves Road (South) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. | |
| Site: 7.3v [7.3 William Roberts Rd / Reeves Rd signalised] | | | | | | | | | | | | |
| SouthEast Exit: Reeves Rd (East) | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. | |
| NorthWest Exit: Reeves Rd (West) | | | | | | | | | | | | |
| 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. | |

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) | | | | | | | | | | | | | | | |
|--|-----------------|----------|--------------------------------|----------|------------------|---------------|-----------------|-----------------|------------------|--------------------|---------------------|-------------|---------------|---------------------|----------------|
| | 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 | | | | |
| Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr] | | | | | | | | | | | | | | | |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| Lane 1 | 535 | 11.2 | 535 | 11.2 | 953 | 0.561 | 100 | 5.7 | LOS A | 7.1 | 54.7 | Full | 60 | 0.0 | 6.7 |
| 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 | -17.4 ^{N7} | 0.0 |
| Lane 4 | 96 | 8.3 | 96 | 8.3 | 123 ¹ | 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 | LOS A | 0.0 | 0.3 | Full | 60 | 0.0 | 0.0 |
| Approach | 1633 | 12.4 | 1633 | 12.4 | | 0.778 | | 6.0 | LOS A | 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 | -17.4 ^{N7} | 0.0 |
| Approach | 332 | 9.3 | 332 | 9.3 | | 0.910 | | 58.7 | LOS E | 9.7 | 73.0 | | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | | | | | | | |
| Lane 1 | 359 | 11.6 | 358 | 11.6 | 706 | 0.507 | 100 | 23.6 | LOS C | 10.9 | 83.8 | Full | 107 | 0.0 | 0.0 |
| Lane 2 | 474 | 15.2 | 472 | 15.3 | 930 | 0.507 | 100 | 17.9 | LOS B | 14.5 | 114.6 | Full | 107 | 0.0 | 21.3 |
| Lane 3 | 474 | 15.2 | 472 | 15.3 | 930 | 0.507 | 100 | 17.9 | LOS B | 14.5 | 114.6 | Full | 107 | 0.0 | 21.3 |
| Lane 4 (B) | 13 | 100.0 | 13 | 100.0 | 630 | 0.021 | 100 | 0.6 | LOS A | 0.0 | 0.2 | Full | 107 | 0.0 | 0.0 |
| Approach | 1320 | 15.1 | 1314 ^N ₁ | 15.1 | | 0.507 | | 19.3 | LOS B | 14.5 | 114.6 | | | | |
| Intersection | 3285 | 13.2 | 3279 ^N ₁ | 13.2 | | 0.910 | | 16.7 | LOS B | 14.5 | 114.6 | | | | |
| Site: 7.5 [7.5 Mattson Rd/ Ti Rakau Dr] | | | | | | | | | | | | | | | |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | | | | | | |
| 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} | 26.7 |
| 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 | 50.0 |
| 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 Rakau Drive (West) | | | | | | | | | | | | | | | |
| Lane 1 | 131 | 14.4 | 131 | 14.5 | 935 | 0.140 | 27 ⁶ | 28.8 | LOS C | 5.8 | 45.7 | Full | 60 | 0.0 | 0.0 |
| Lane 2 | 482 | 14.4 | 480 | 14.5 | 935 | 0.513 | 100 | 4.4 | LOS A | 4.8 | 38.0 | Full | 60 | 0.0 | 0.0 |
| Lane 3 | 482 | 14.4 | 480 | 14.5 | 935 | 0.513 | 100 | 1.0 | LOS A | 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 | 1130 ^N ₁ | 15.5 | | 0.513 | | 6.9 | LOS A | 5.8 | 45.7 | | | | |
| SouthWest: Mattson Road | | | | | | | | | | | | | | | |
| Lane 1 | 54 | 7.4 | 54 | 7.4 | 160 | 0.338 | 100 | 49.2 | LOS D | 2.4 | 17.8 | Full | 282 | -50.0 ^{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 | | | | |
| Intersection | 2822 | 13.5 | 2818 ^N ₁ | 13.5 | | 0.898 | | 28.9 | LOS C | 27.3 | 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] | | | | | | | | | | |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. From SE To Exit: | T1 NW | R2 NE | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane 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 | 70.7 | 3 | |
| Lane 5 | 25 | - | 25 | 100.0 | 630 | 0.040 | 100 | NA | NA | |
| Approach | 1537 | 96 | 1633 | 12.4 | | 0.778 | | | | |
| NorthEast: William Roberts Road Extension | | | | | | | | | | |
| Mov. From NE To Exit: | L2 SE | R2 NW | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| Lane 1 | 165 | - | 165 | 10.3 | 313 | 0.527 | 100 | 0.0 | 2 | |
| Lane 2 | - | 167 | 167 | 8.4 | 183 | 0.910 | 100 | NA | NA | |
| Approach | 165 | 167 | 332 | 9.3 | | 0.910 | | | | |
| 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. % | Ov. Lane No. | |
| Lane 1 | 347 | 10 | 358 | 11.6 | 706 | 0.507 | 100 | NA | NA | |
| Lane 2 | - | 472 | 472 | 15.3 | 930 | 0.507 | 100 | NA | NA | |
| Lane 3 | - | 472 | 472 | 15.3 | 930 | 0.507 | 100 | NA | NA | |
| Lane 4 | - | 13 | 13 | 100.0 | 630 | 0.021 | 100 | NA | NA | |
| Approach | 347 | 967 | 1314 | 15.1 | | 0.507 | | | | |
| Total %HV Deg.Satn (v/c) | | | | | | | | | | |
| Intersection | 3279 | 13.2 | | 0.910 | | | | | | |
| Site: 7.5 [7.5 Mattson Rd/ Ti Rakau Dr] | | | | | | | | | | |
| SouthEast: Ti Rakau Drive (East) | | | | | | | | | | |
| Mov. From SE To Exit: | L2 SW | T1 NW | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. | |
| Lane 1 | 35 | 221 | 256 | 10.4 | 285 | 0.898 | 100 | 100.0 | 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 | NA | NA |
| Approach | 35 | 1574 | 1609 | 12.4 | | 0.898 | | | |
| NorthWest: Ti Rakau Drive (West) | | | | | | | | | |
| Mov. From NW To Exit: | T1 SE | R2 SW | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL % | Ov. Lane No. |
| Lane 1 | 131 | - | 131 | 14.5 | 935 | 0.140 | 27 ⁶ | NA | NA |
| Lane 2 | 480 | - | 480 | 14.5 | 935 | 0.513 | 100 | NA | NA |
| Lane 3 | 480 | - | 480 | 14.5 | 935 | 0.513 | 100 | NA | NA |
| 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 |
| Approach | 1104 | 26 | 1130 | 15.5 | | 0.513 | | | |
| SouthWest: Mattson Road | | | | | | | | | |
| Mov. From SW To Exit: | L2 NW | R2 SE | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL % | Ov. Lane No. |
| Lane 1 | 54 | - | 54 | 7.4 | 160 | 0.338 | 100 | NA | NA |
| Lane 2 | - | 25 | 25 | 12.0 | 217 | 0.115 | 100 | NA | NA |
| Approach | 54 | 25 | 79 | 8.9 | | 0.338 | | | |
| Total %HV Deg.Satn (v/c) | | | | | | | | | |
| Intersection | 2818 | 13.5 | | 0.898 | | | | | |

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

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

| Merge Analysis (CCG) | | | | | | | | | | | |
|--|------------------|---------------------|------------------------|--------------------------|------------------|-----------------------|-------------------------------|---------------|----------------|-----------------|-----------------------------|
| Site: | Exit Lane Number | Short Lane Length m | Percent Opng in Lane % | Opposing Flow Rate pcu/h | Critical Gap sec | Follow-up Headway sec | Lane Capacity Flow Rate veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec | |
| Site: 7.0 [7.0 William Roberts Rd / Ti Rakau Dr] | | | | | | | | | | | |
| 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. |
| Full Length Lane | 4 | | | | | | | | | | Merge Analysis not applied. |
| NorthEast Exit: William Roberts Road Extension | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. |
| NorthWest Exit: Ti Rakau Drive (West) | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | |
| Full Length Lane | 1 | | | | | | | | | | Merge Analysis not applied. |
| Full Length Lane | 2 | | | | | | | | | | Merge Analysis not applied. |
| Full Length Lane | 3 | | | | | | | | | | Merge Analysis not applied. |
| Full Length Lane | 4 | | | | | | | | | | 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 | Merge Lane is not Opposed | | | | 480 | 1800 | 0.267 | 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. | | | | | | | | | | |
| Full Length Lane | 3 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 4 | Merge Analysis not applied. | | | | | | | | | | |
| SouthWest Exit: Mattson Road | | | | | | | | | | | | |
| Merge Type: Not Applied | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |

LANE SUMMARY

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

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

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 | 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: 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: William Roberts Road (South) | | | | | | | | | | | | | | | |
| 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 | 445 ^{N1} | 11.0 | | 0.256 | | 0.7 | NA | 0.0 | 0.0 | | | | |
| Intersection | 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 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. Lane No. | |
| | SW | NW | | | | | | | | |
| Lane 1 | 284 | 84 | 368 | 8.7 | 1593 | 0.231 | 100 | NA | NA | |
| Approach | 284 | 84 | 368 | 8.7 | | 0.231 | | | | |
| NorthWest: Cortina Place | | | | | | | | | | |
| Mov. From NW To Exit: | L2 | R2 | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL % | Ov. Lane No. | |
| | NE | SW | | | | | | | | |
| Lane 1 | 29 | 63 | 92 | 13.1 | 740 | 0.124 | 100 | NA | NA | |
| Approach | 29 | 63 | 92 | 13.1 | | 0.124 | | | | |
| 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. Lane No. | |
| | NW | NE | | | | | | | | |
| Lane 1 | 149 | 296 | 445 | 11.0 | 1740 | 0.256 | 100 | NA | NA | |
| Approach | 149 | 296 | 445 | 11.0 | | 0.256 | | | | |
| Total %HV Deg. Satn (v/c) | | | | | | | | | | |

| | | | |
|--------------|-----|------|-------|
| Intersection | 905 | 10.3 | 0.256 |
|--------------|-----|------|-------|

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. | | | | | | | | |

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 lane 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)

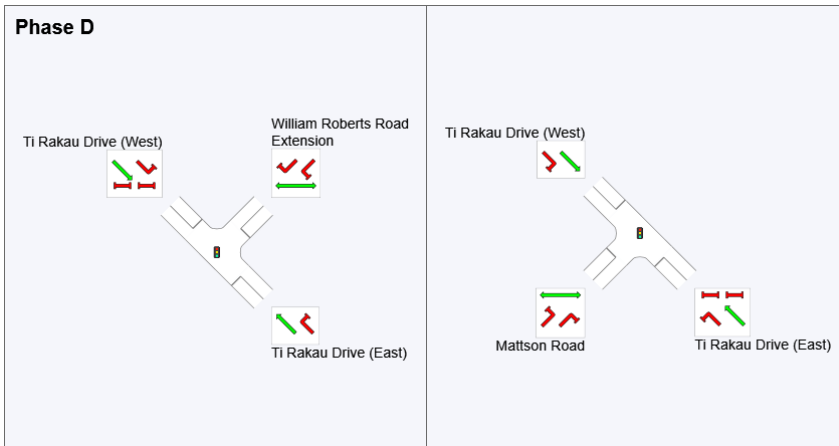
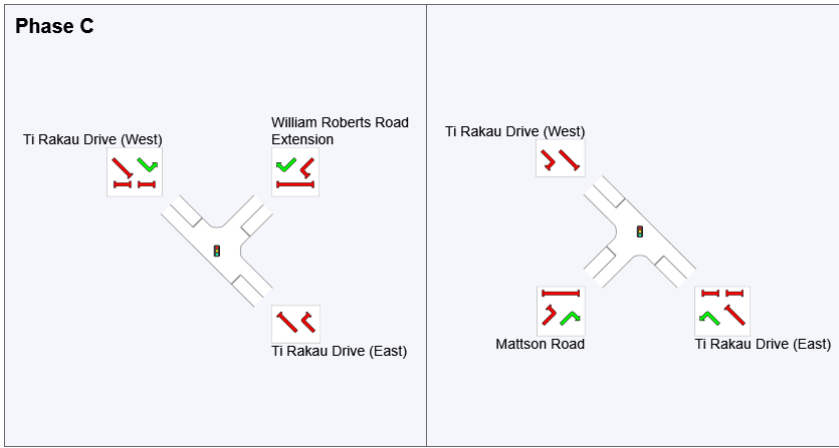
Phase Timing Summary (CCG)

| Phase | A1 | B | C | 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)





REF: Reference Phase
 VAR: Variable Phase



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

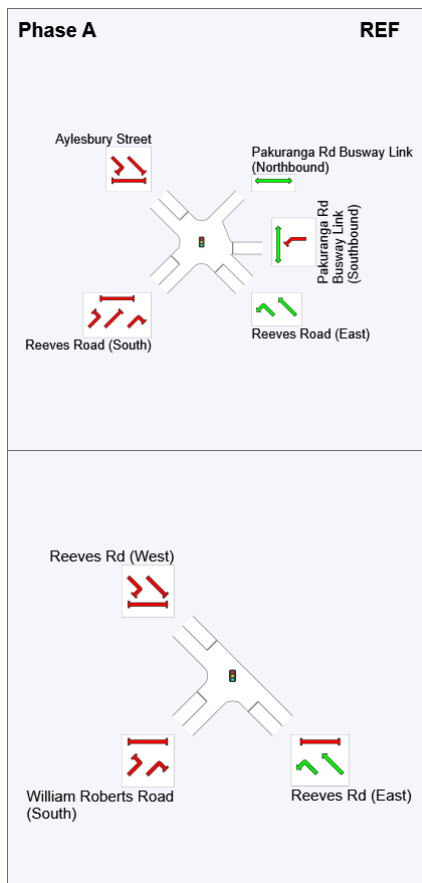
Output Phase Sequence: A, B, C, C2, D

Phase Timing Summary (CCG)

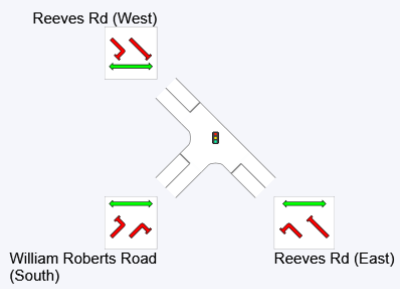
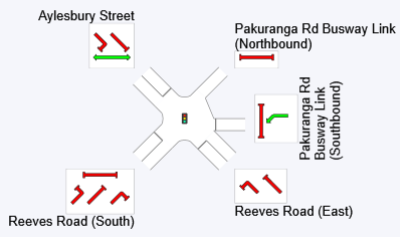
| Phase | A | B | C | C2 | D |
|-------------------------|-----|-----|-----|-----|-----|
| Phase Change Time (sec) | 0 | 29 | 49 | 67 | 84 |
| Green Time (sec) | 23 | 14 | 12 | 11 | 23 |
| Phase Time (sec) | 29 | 20 | 18 | 16 | 29 |
| Phase Split | 26% | 18% | 16% | 14% | 26% |

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%.

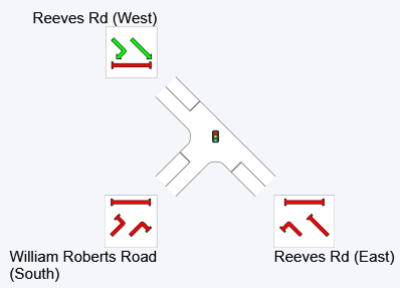
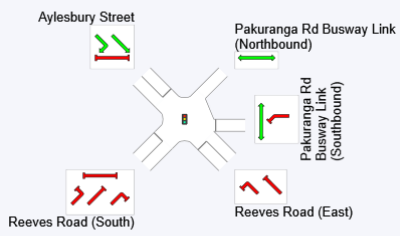
Output Phase Sequence (CCG)



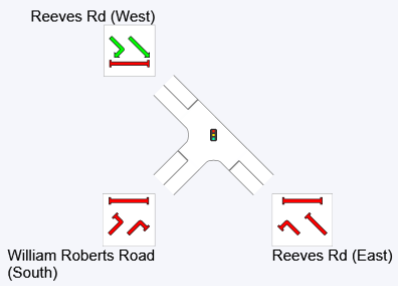
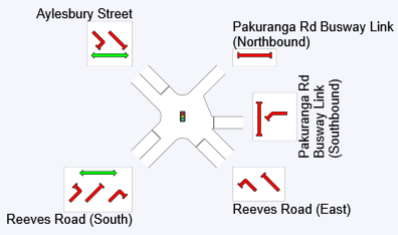
Phase B



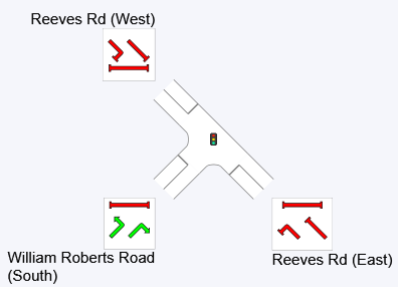
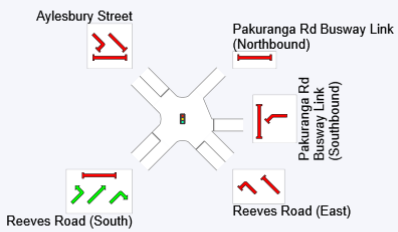
Phase C













Phase C2



Phase D



REF: Reference Phase
VAR: Variable Phase

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

PHASING SUMMARY

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

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

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 | A | B | C | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

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

PHASING SUMMARY

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

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

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

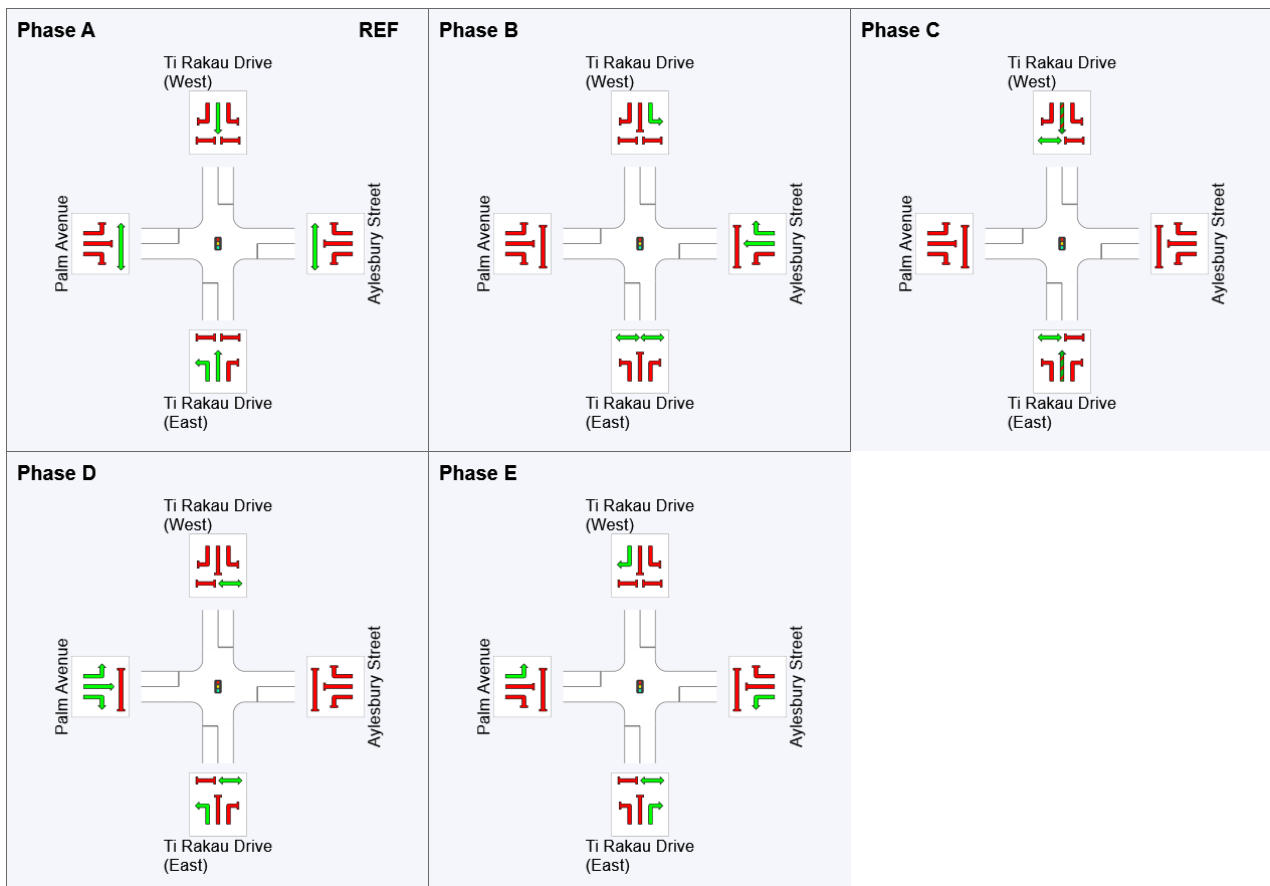
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

| Phase | A | B | C | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

PHASING SUMMARY

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 = 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

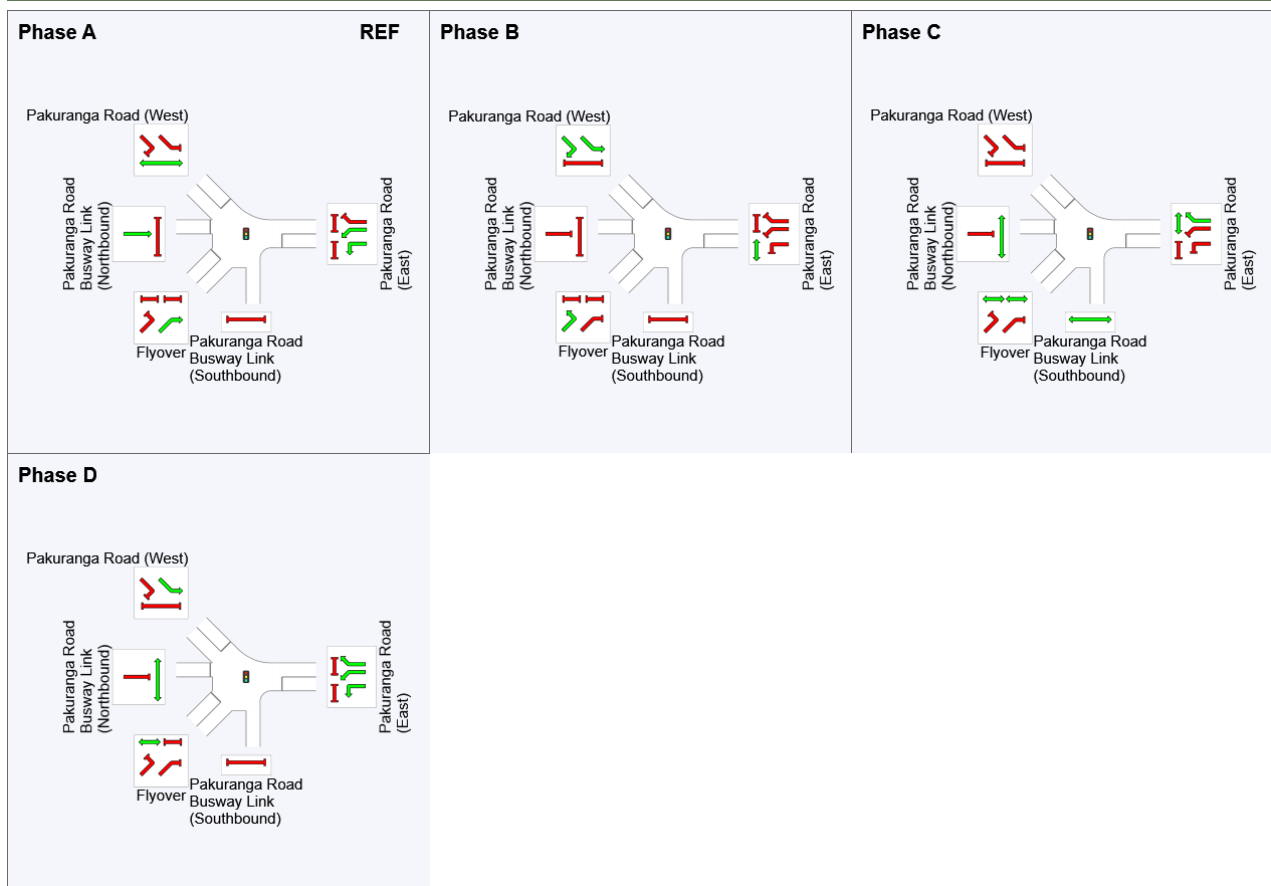
Output Phase Sequence: A, B, C, D

Phase Timing Summary

| Phase | A | B | C | 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

VAR: Variable Phase

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

PHASING SUMMARY

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 lane blockage effects included in determining phase times

Phase Sequence: Variable Phasing

Reference Phase: Phase A

Input Phase Sequence: A, B, C

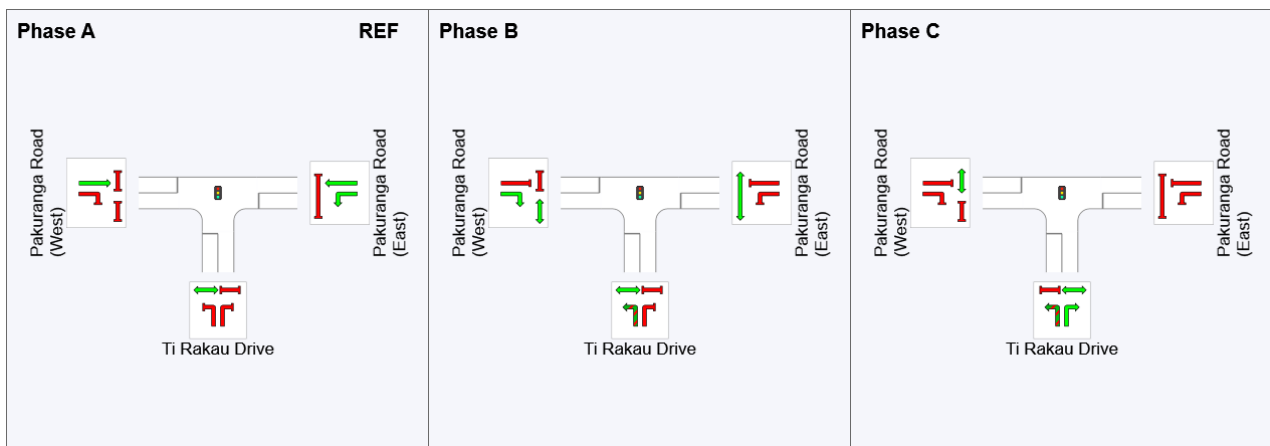
Output Phase Sequence: A, B, C

Phase Timing Summary

| Phase | A | B | C |
|-------------------------|-----|-----|-----|
| Phase Change Time (sec) | 0 | 32 | 62 |
| Green Time (sec) | 26 | 24 | 32 |
| Phase Time (sec) | 32 | 30 | 38 |
| Phase Split | 32% | 30% | 38% |

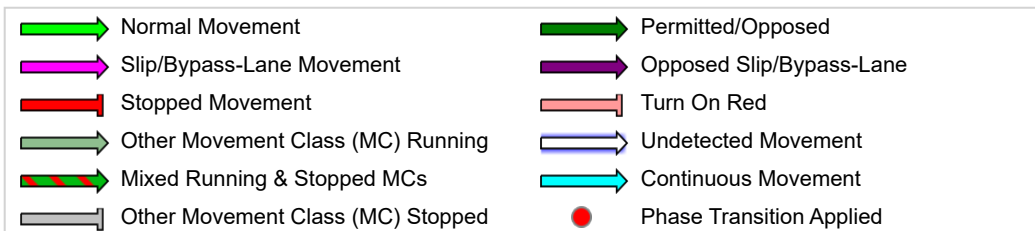
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase



PHASING SUMMARY

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

Network: N101 [AM
(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

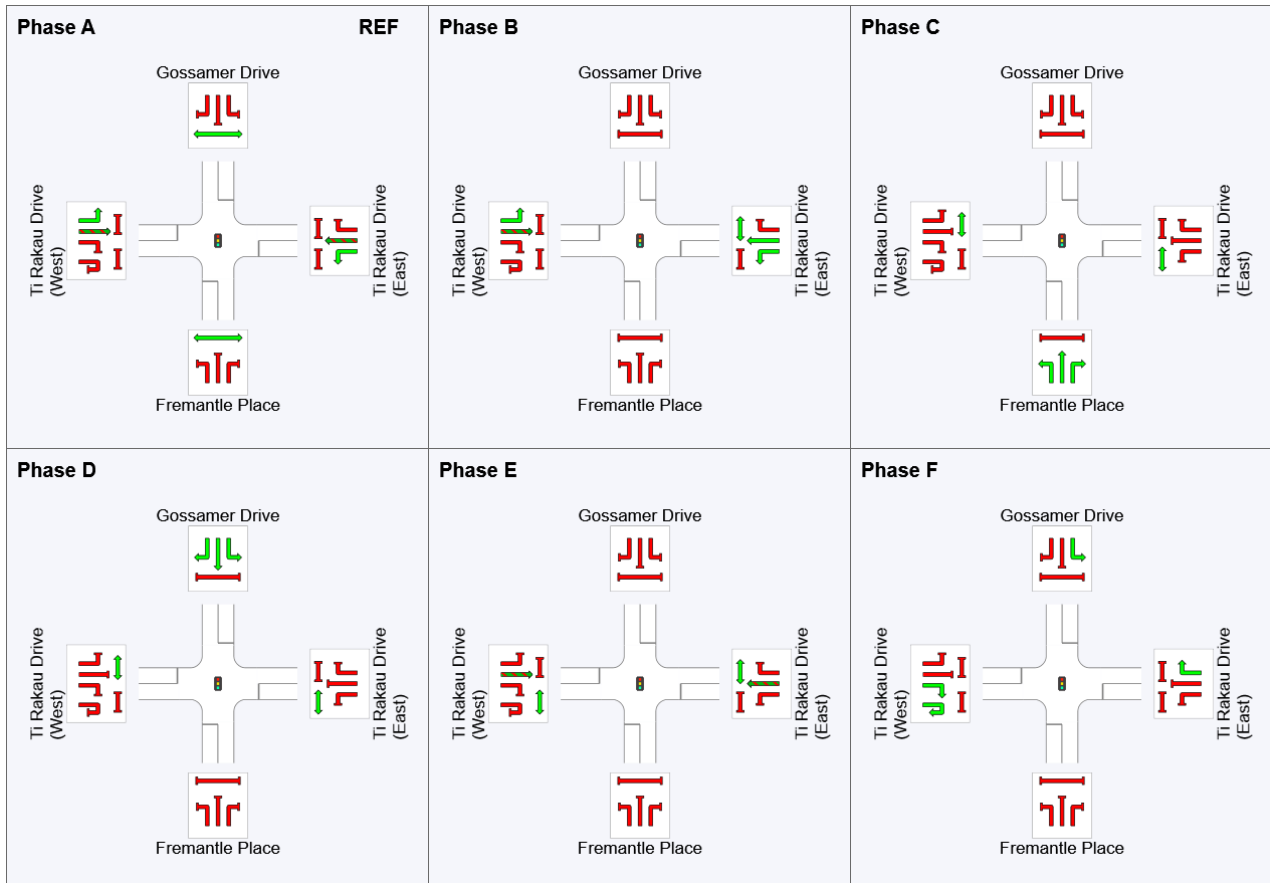
Output Phase Sequence: A, B, C, D, E, F

Phase Timing Summary

| Phase | A | B | C | D | E | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

PHASING SUMMARY

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

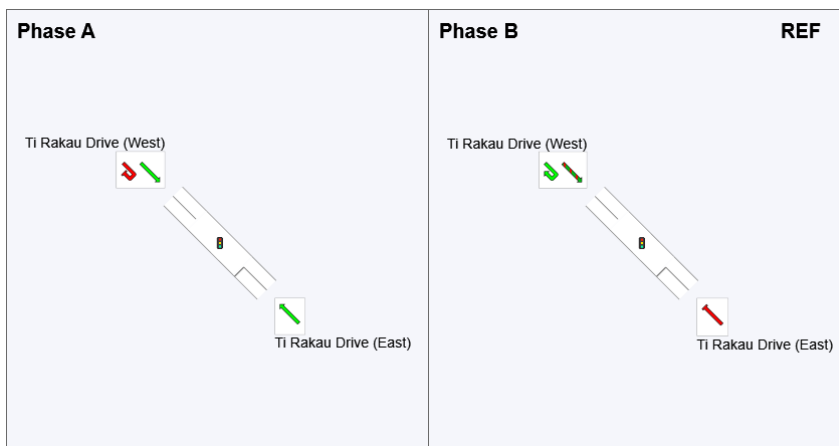
Output Phase Sequence: A, B

Phase Timing Summary

| Phase | A | B |
|-------------------------|-----|-----|
| 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%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

PHASING SUMMARY

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

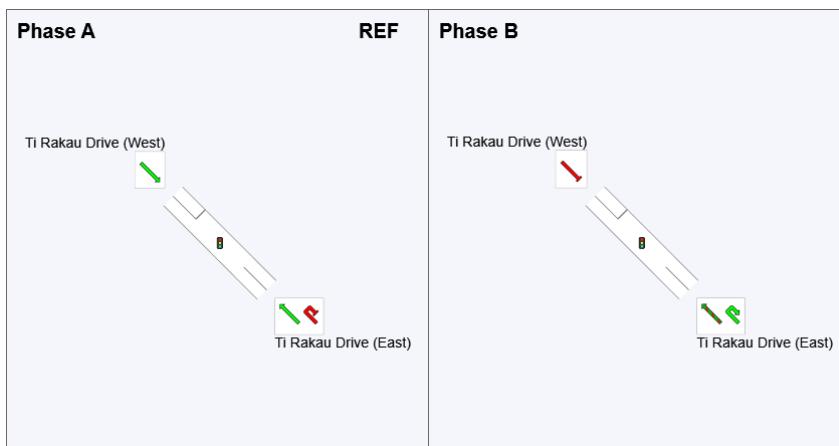
Output Phase Sequence: A, B

Phase Timing Summary

| Phase | A | B |
|-------------------------|-----|-----|
| 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%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

PHASING SUMMARY

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

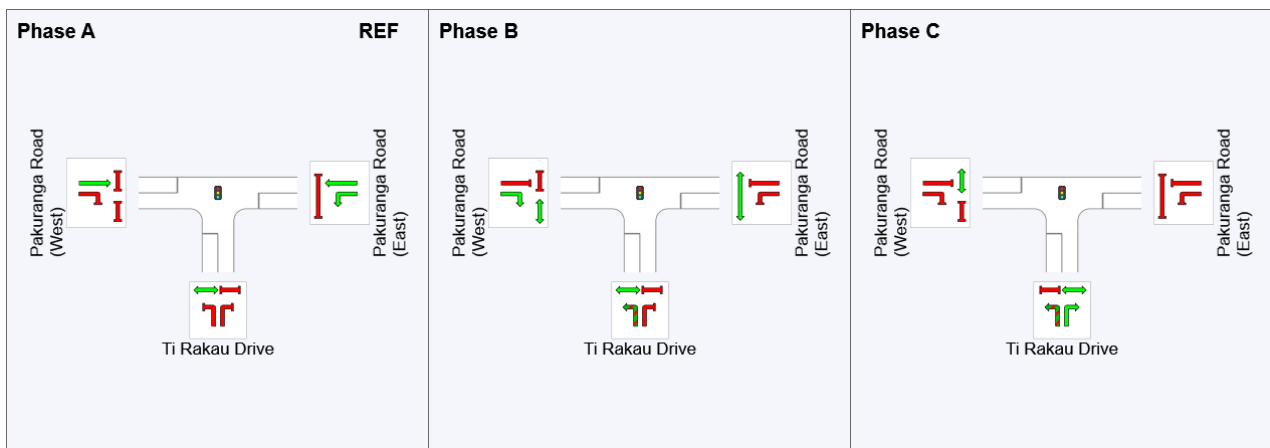
Output Phase Sequence: A, B, C

Phase Timing Summary

| Phase | A | B | C |
|-------------------------|-----|-----|-----|
| Phase Change Time (sec) | 0 | 35 | 67 |
| Green Time (sec) | 29 | 26 | 27 |
| Phase Time (sec) | 35 | 32 | 33 |
| Phase Split | 35% | 32% | 33% |

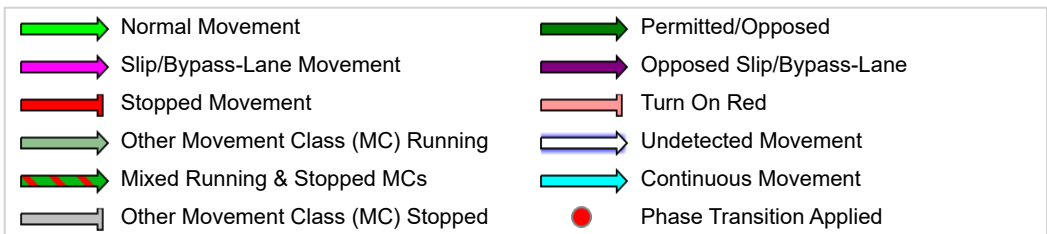
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase



PHASING SUMMARY

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

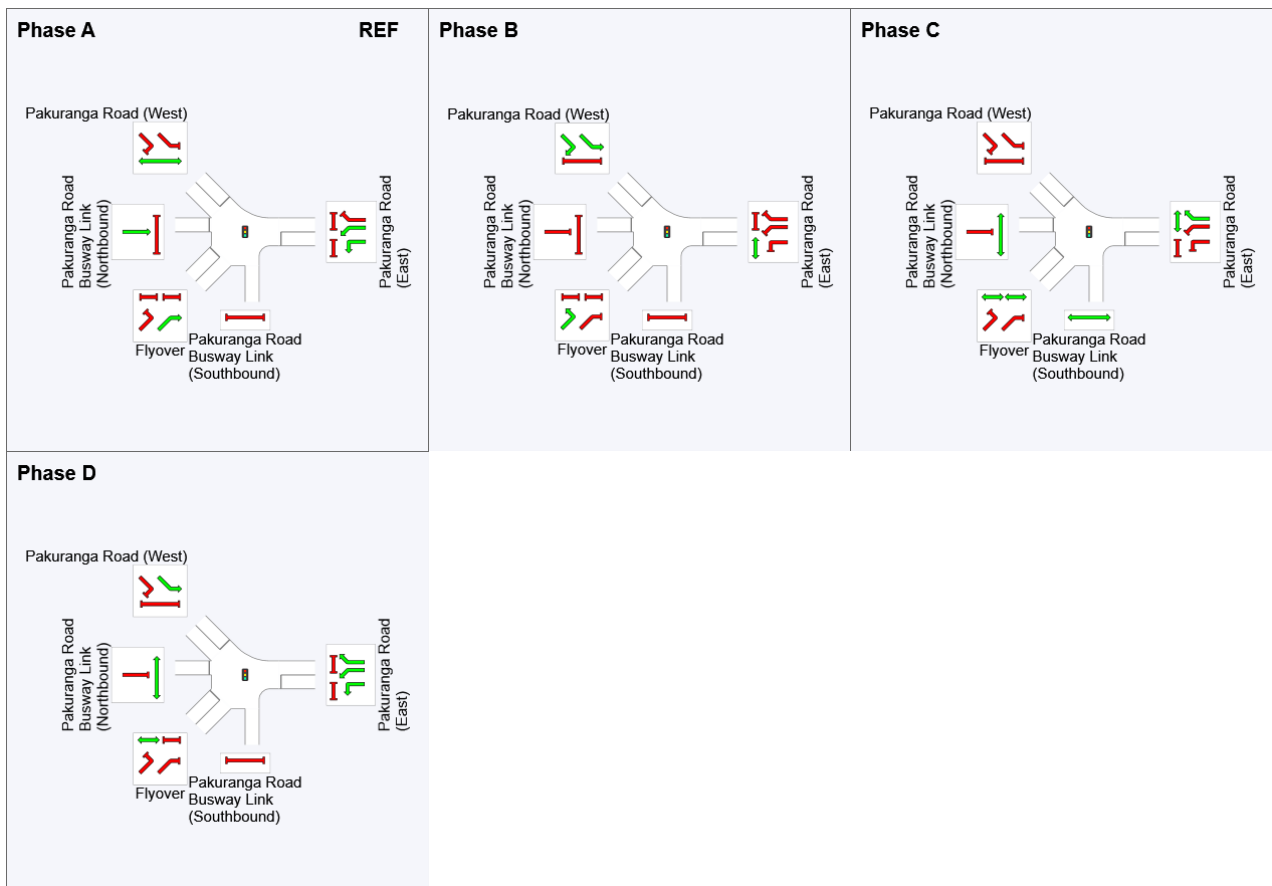
Output Phase Sequence: A, B, C, D

Phase Timing Summary

| Phase | A | B | C | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

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

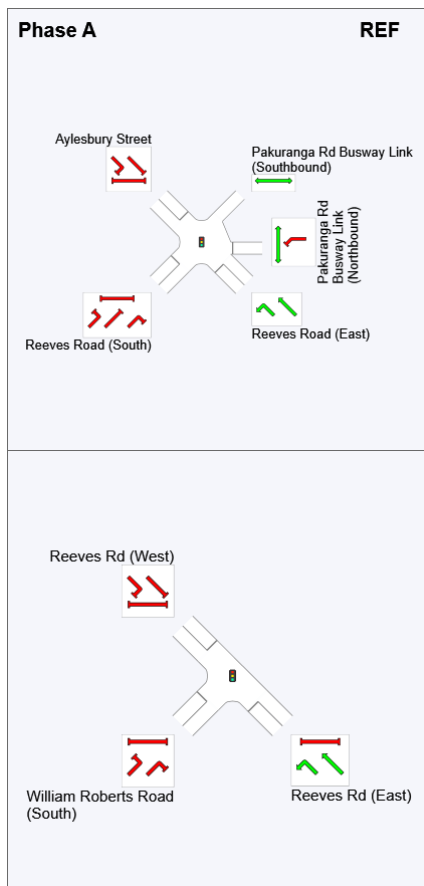
Output Phase Sequence: A, B, C, C2, D

Phase Timing Summary (CCG)

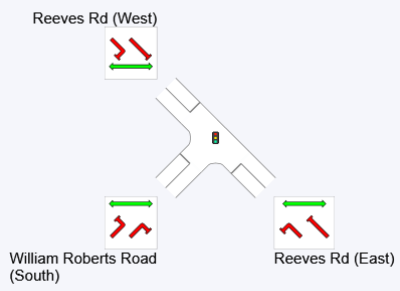
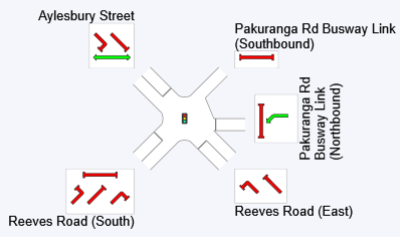
| Phase | A | B | C | C2 | D |
|-------------------------|-----|-----|-----|-----|-----|
| Phase Change Time (sec) | 0 | 18 | 35 | 58 | 73 |
| Green Time (sec) | 12 | 11 | 19 | 9 | 31 |
| Phase Time (sec) | 18 | 15 | 25 | 13 | 37 |
| Phase Split | 17% | 14% | 23% | 12% | 34% |

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%.

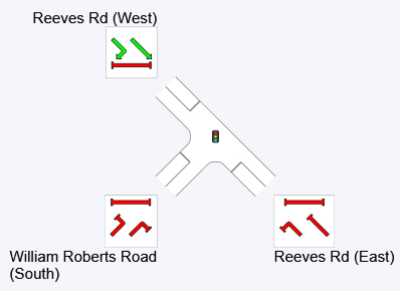
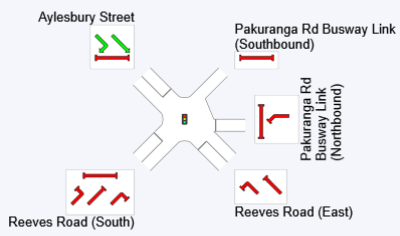
Output Phase Sequence (CCG)



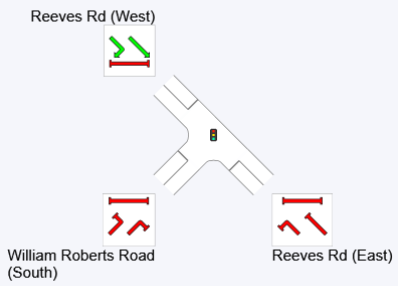
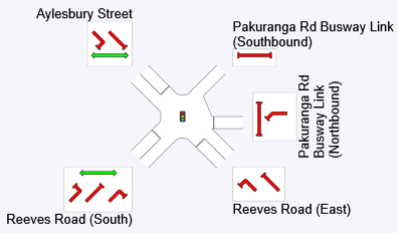
Phase B



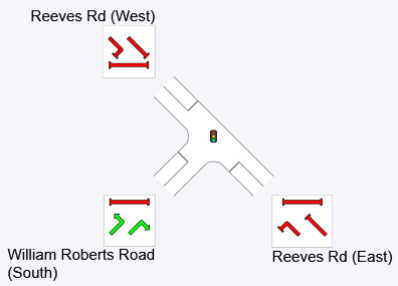
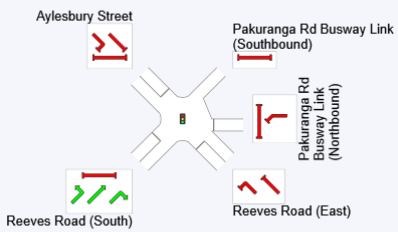
Phase C















Phase C2



Phase D



REF: Reference Phase
VAR: Variable Phase

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

PHASING SUMMARY

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) 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

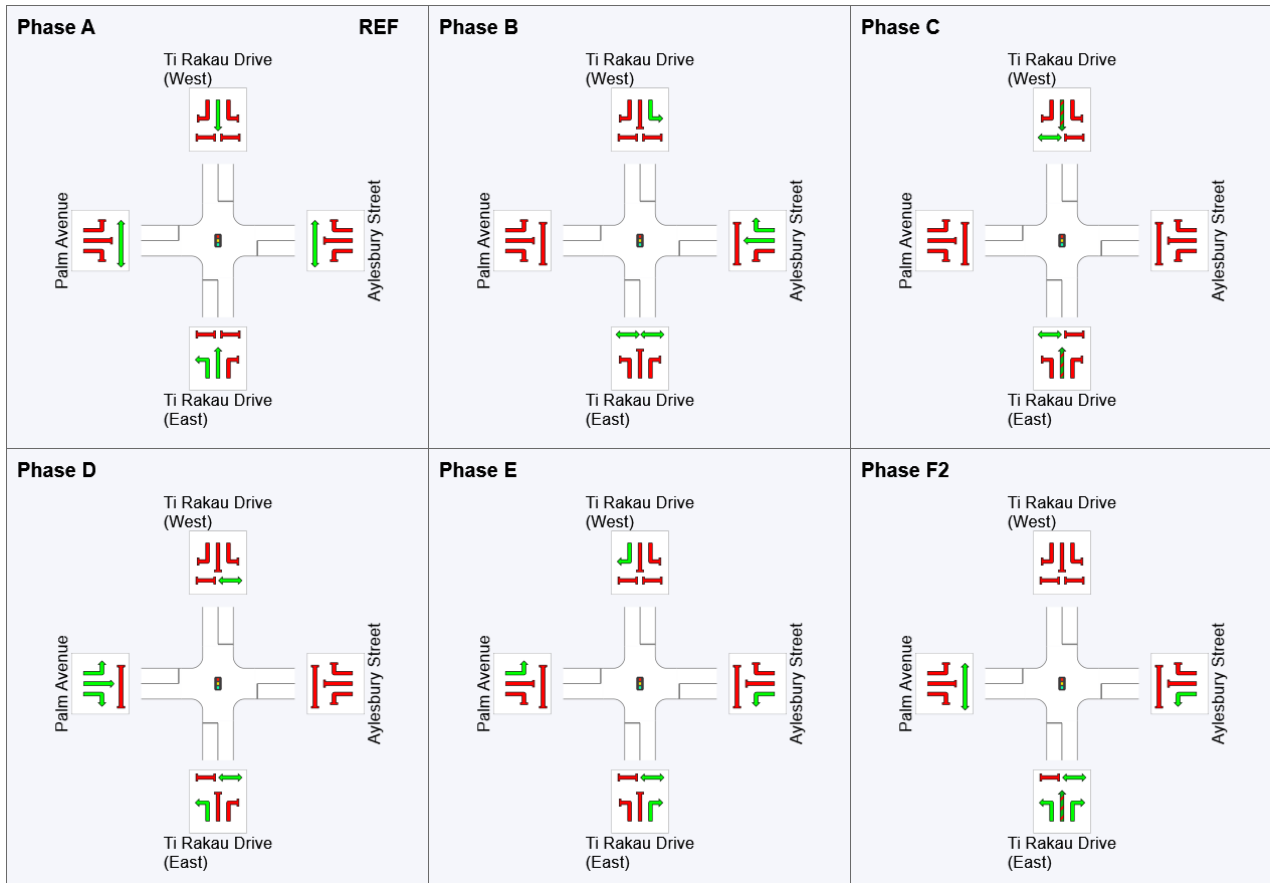
Output Phase Sequence: A, B, C, D, E, F2

Phase Timing Summary

| Phase | A | B | C | D | E | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

PHASING SUMMARY

Site: 5.0 [5.0 Pakuranga Highway / Reeves Rd (Site Folder: PM)] Network: N101 [PM (Network 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 | A | B | C | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |

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

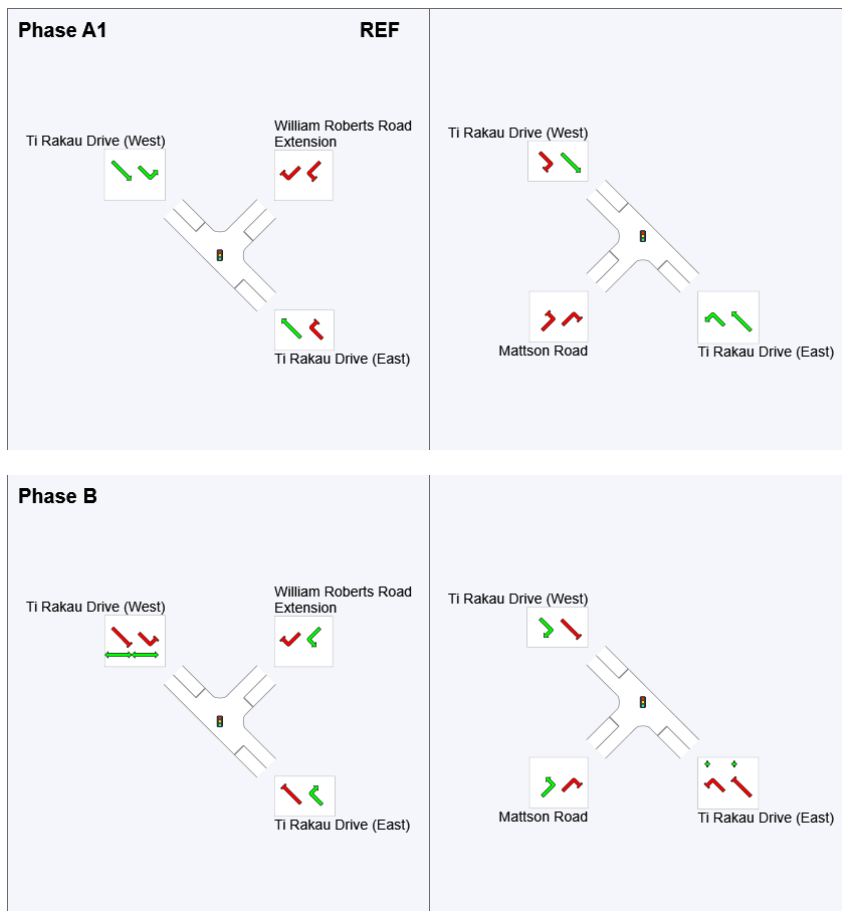
Output Phase Sequence: A1, B, C, D

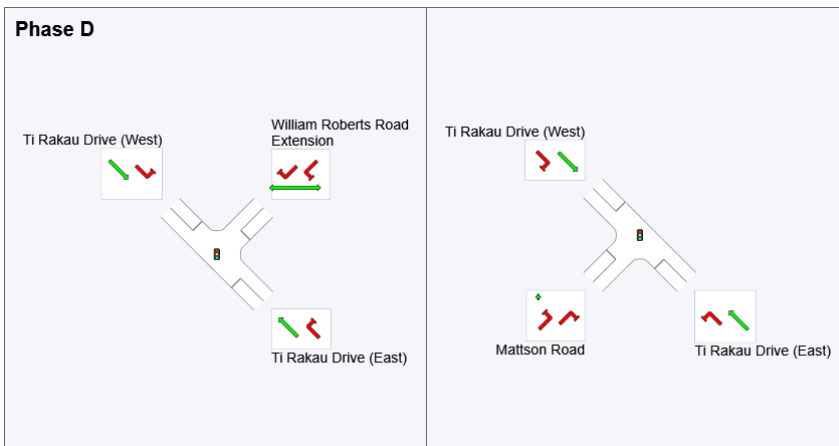
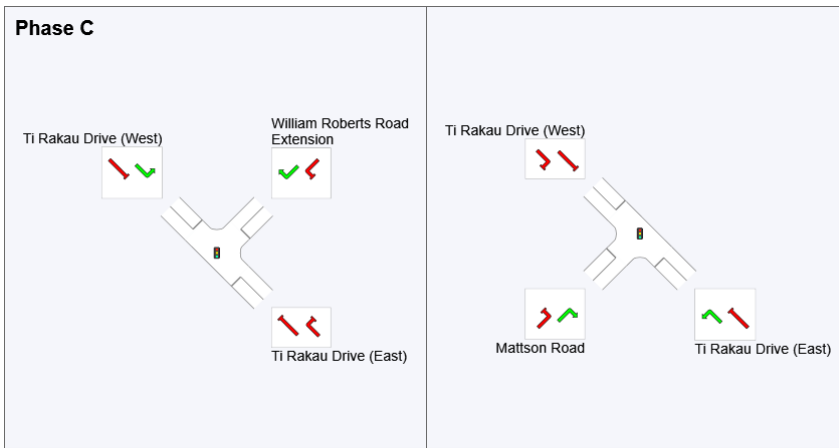
Phase Timing Summary (CCG)

| Phase | A1 | B | C | 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% |

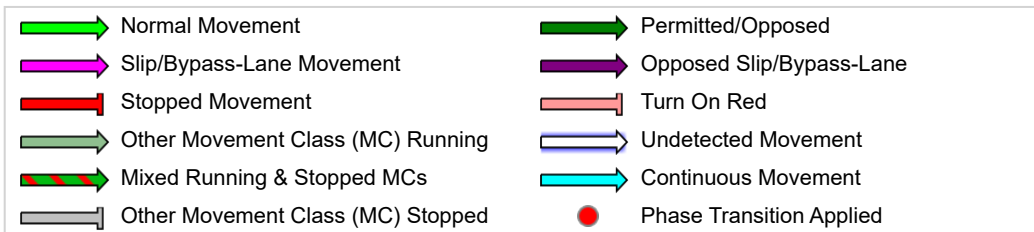
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence (CCG)





REF: Reference Phase
 VAR: Variable Phase



PHASING SUMMARY

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

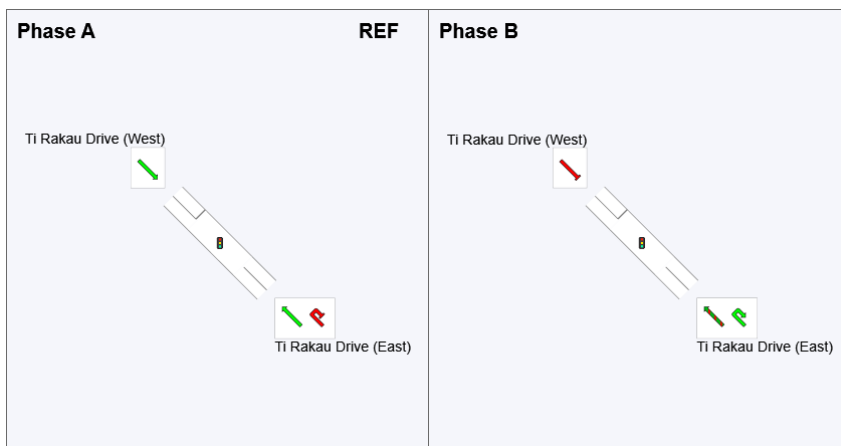
Output Phase Sequence: A, B

Phase Timing Summary

| Phase | A | B |
|-------------------------|-----|-----|
| 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%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

PHASING SUMMARY

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

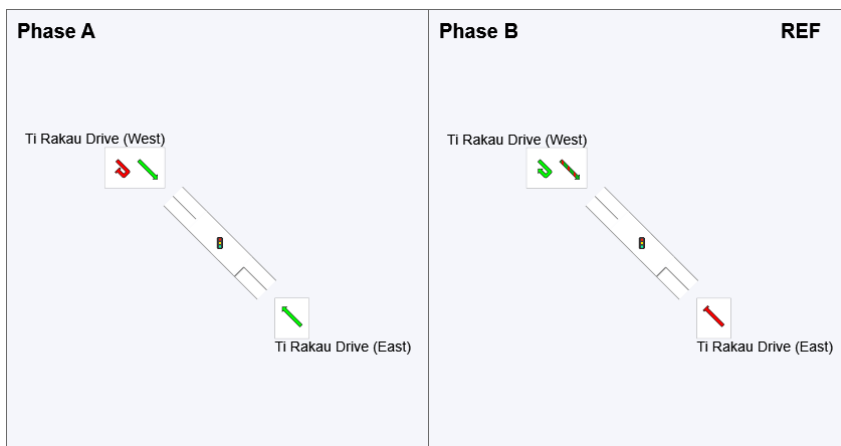
Output Phase Sequence: A, B

Phase Timing Summary

| Phase | A | B |
|-------------------------|-----|-----|
| 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%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

| | | | |
|--|-----------------------------------|--|--------------------------|
| | Normal Movement | | Permitted/Opposed |
| | Slip/Bypass-Lane Movement | | Opposed Slip/Bypass-Lane |
| | 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 |

PHASING SUMMARY

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

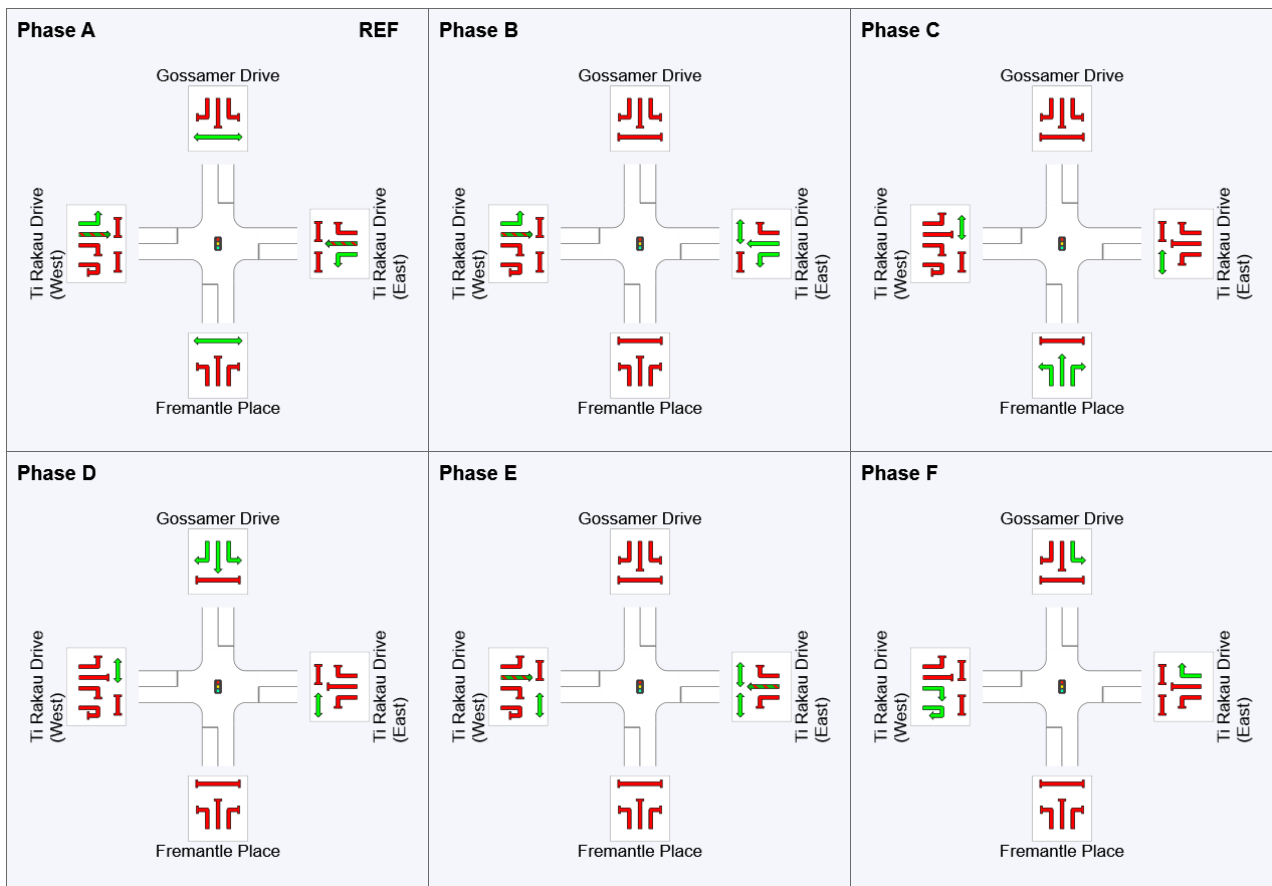
Output Phase Sequence: A, B, C, D, E, F

Phase Timing Summary

| Phase | A | B | C | D | E | 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

| | | | |
|---|-----------------------------------|---|--------------------------|
|  | Normal Movement |  | Permitted/Opposed |
|  | Slip/Bypass-Lane Movement |  | Opposed Slip/Bypass-Lane |
|  | 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 |