AHB Shared Path Options

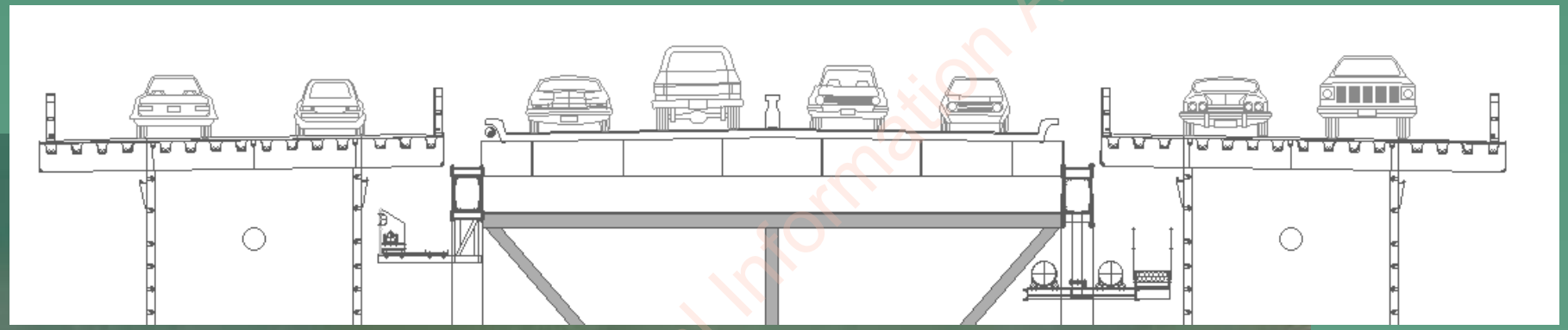
Interim Findings

Resolve GROUP

Purpose

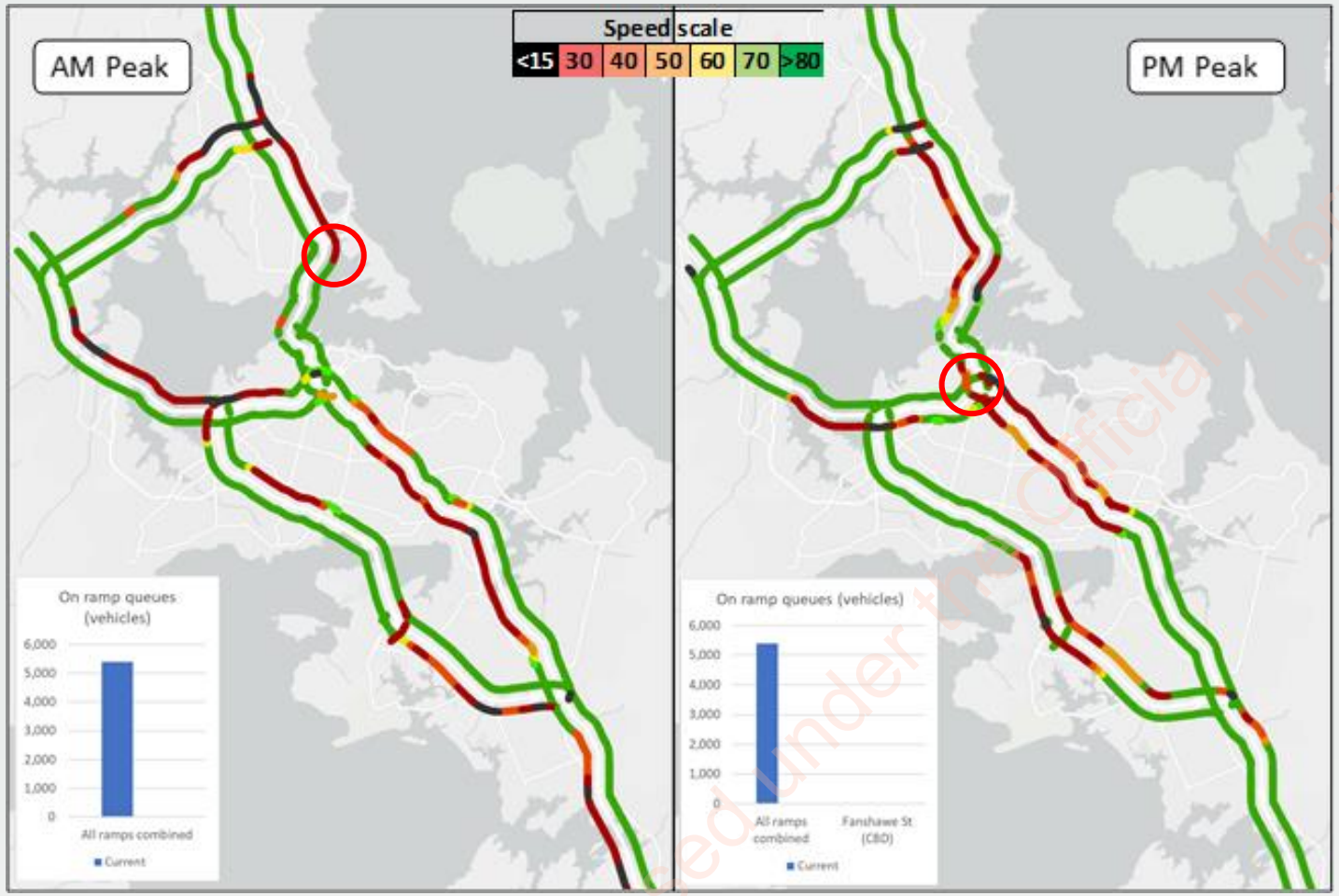
- Investigate feasible options to accommodate a shared path on the Auckland Harbour Bridge.
- Assess each option and determine impact on users, structure and wider Auckland network.
- Provide Waka Kotahi with comprehensive, unbiased analysis to inform decision making and/or further analysis.

AHB Overview

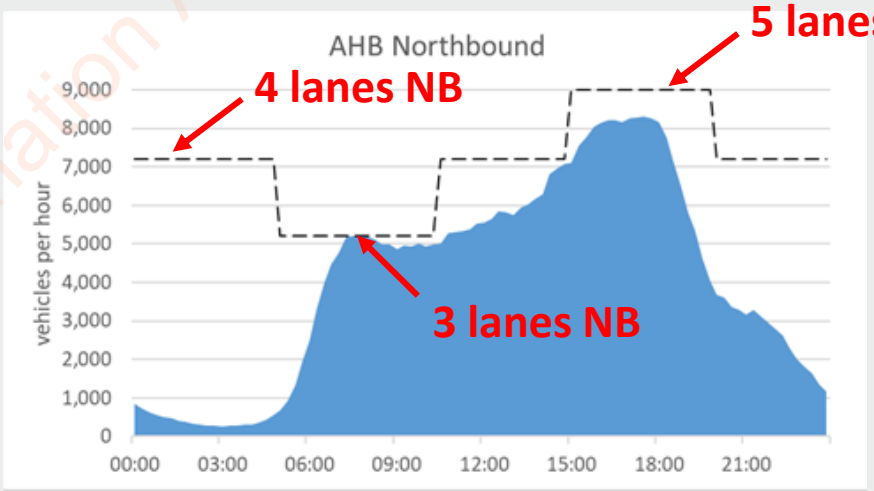


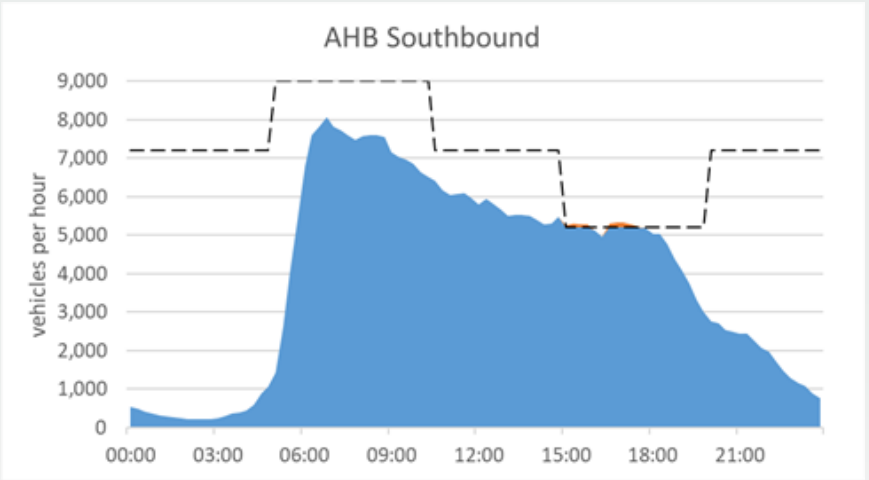
Resolve GROUP

Network Overview



Current network operating conditions - weekdays





RESOLVE GROUP

Process Overview

- Engaged Waka Kotahi SMEs, ASM and AT Public Transport
- Individual workstreams
  - Traffic Modelling
  - AT Public Transport
  - Operations
  - Structures
  - Safety
  - Legal
- Options workshop
- Risk workshop
- Cost workshop

Resolve GROUP

Option Development

- 11 options identified
- Considered scenarios based on:
  - Temporary/ Permanent
  - 1 lane and 2 lane
  - East, West and Centre

Option	Description	Temporary/ Permanent	Ramp Closures/ Modification	Traffic Configuration	Tidal Flow	Shared Path Width
1	East - 1 Lane	Temporary	Shelly Beach	4/3 (5/2)	Tidal	4m
2	East - 2 Lane	Temporary	Shelly Beach	3/3	None	8m
3	East - 1 Lane	Permanent	Shelly Beach	4/3 (5/2)	Tidal	4m
4	East - 2 Lane	Permanent	Shelly Beach	3/3	None	8m
5	West - 1 Lane	Temporary	Curran Street	4/3	Tidal	4m
6	West - 2 Lane	Temporary	Curran Street	3/3	None	8m
7	West - 1 Lane	Permanent	Curran Street	4/3	Tidal	4m
8	West - 2 Lane	Permanent	Curran Street	3/3	None	8m
9	Centre -1 Lane	Permanent	None	4N/3S	None	3m
10	Centre - 2 Lane	Permanent	None	3/3	None	6m
11	Both Sides	Permanent	Shelly Beach/ Curran Street	5/3	Tidal	2.5m/2.5m

Resolve GROUP

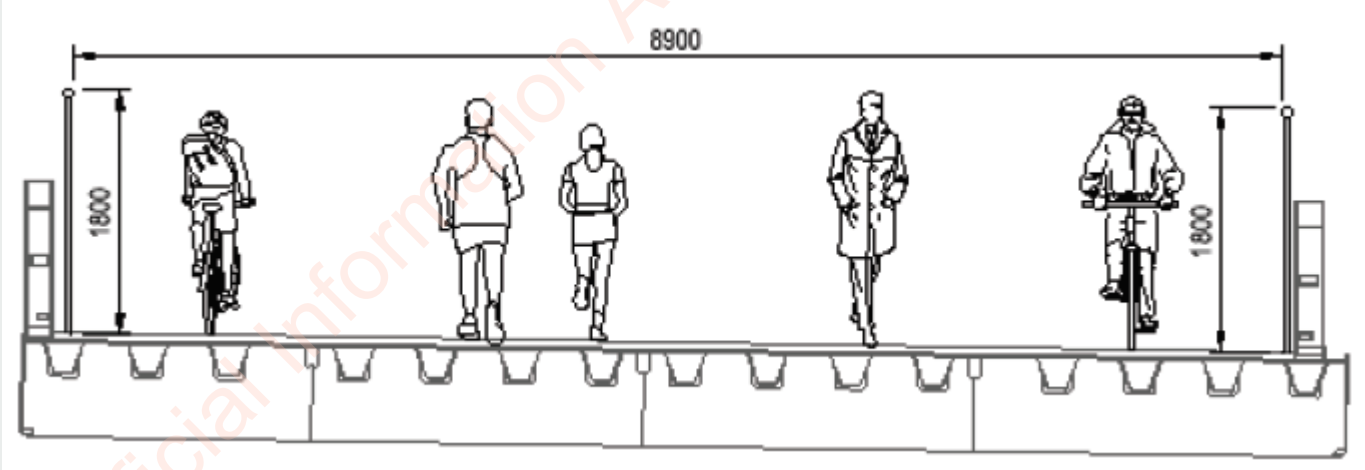
Overview - 2 lane options

Opportunities

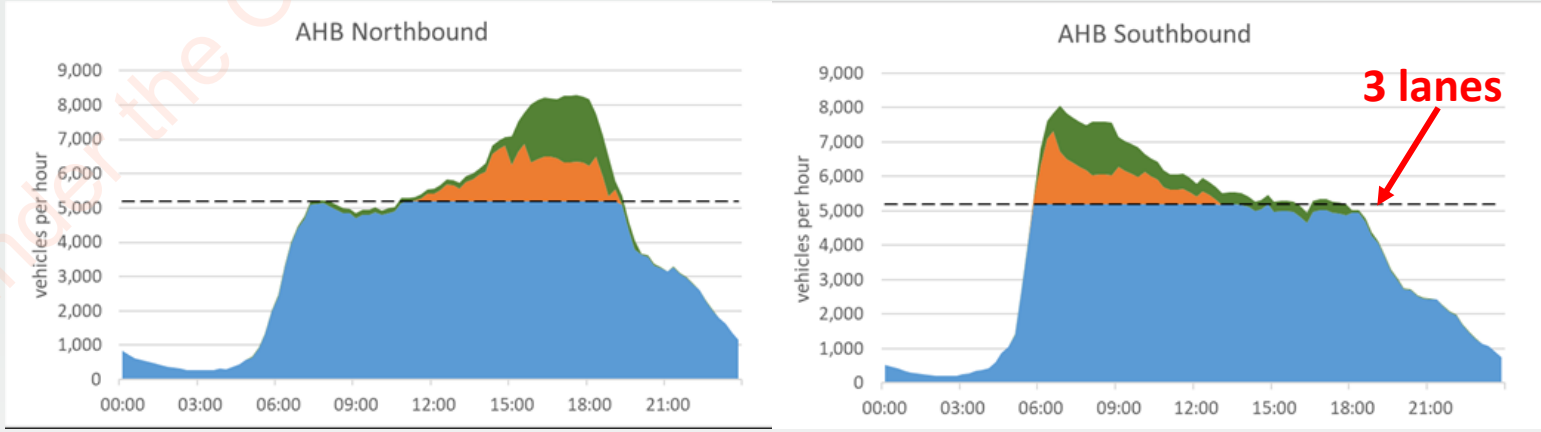
- 8.9m shared path width
- Ability to use steel barrier installed to AHB red chip

Challenges

- Traffic impact
- Ramp impacts



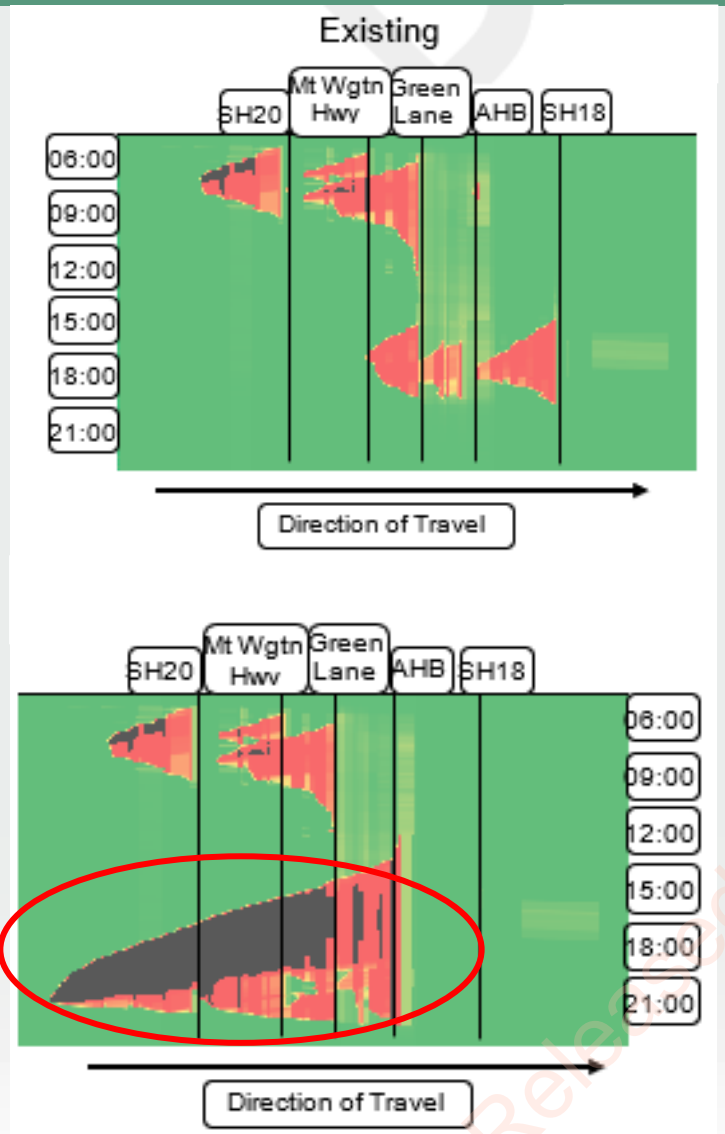
2 lane shared path cross-section

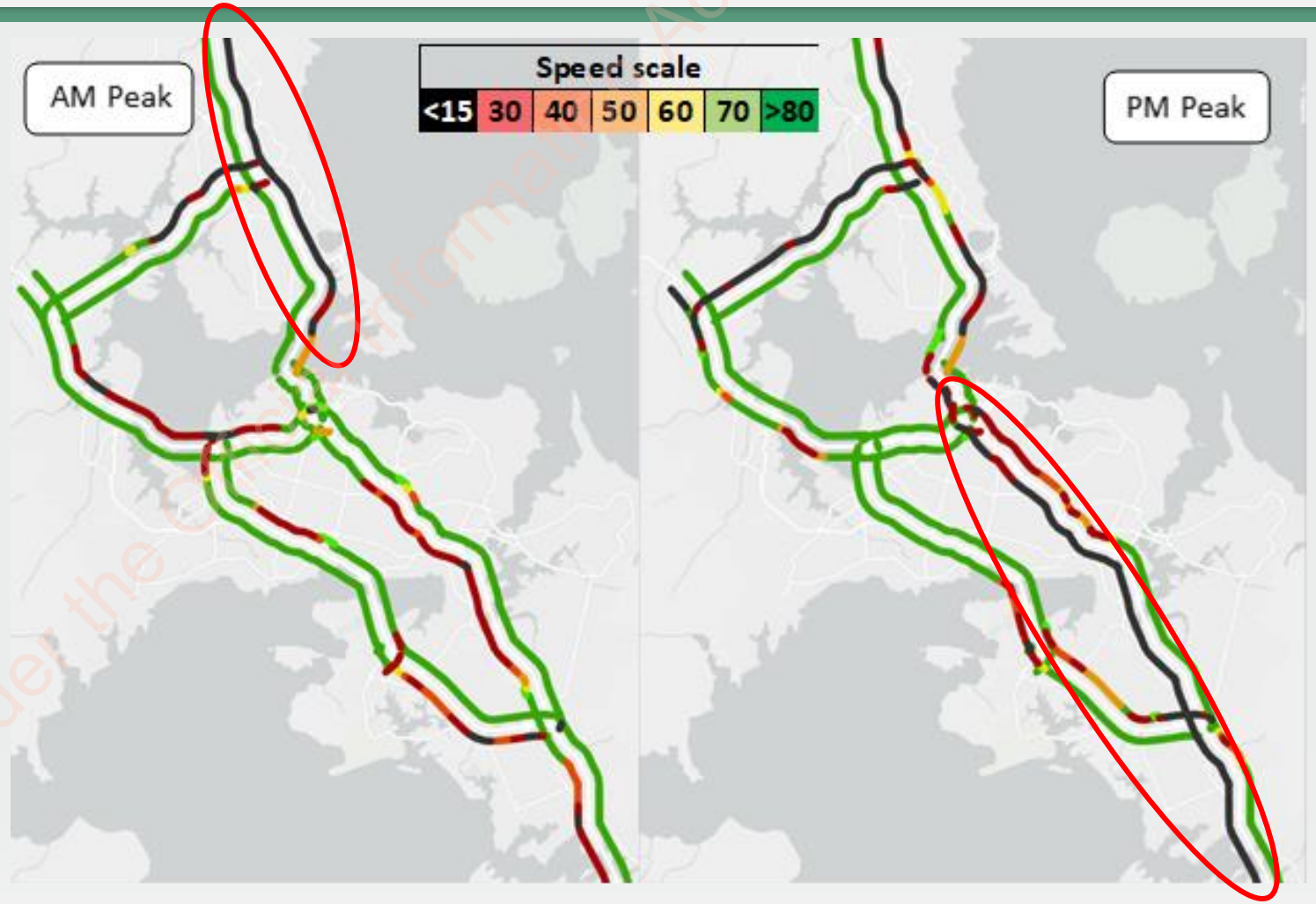


AHB weekday operating conditions – 3 lane capacity

Resolve GROUP

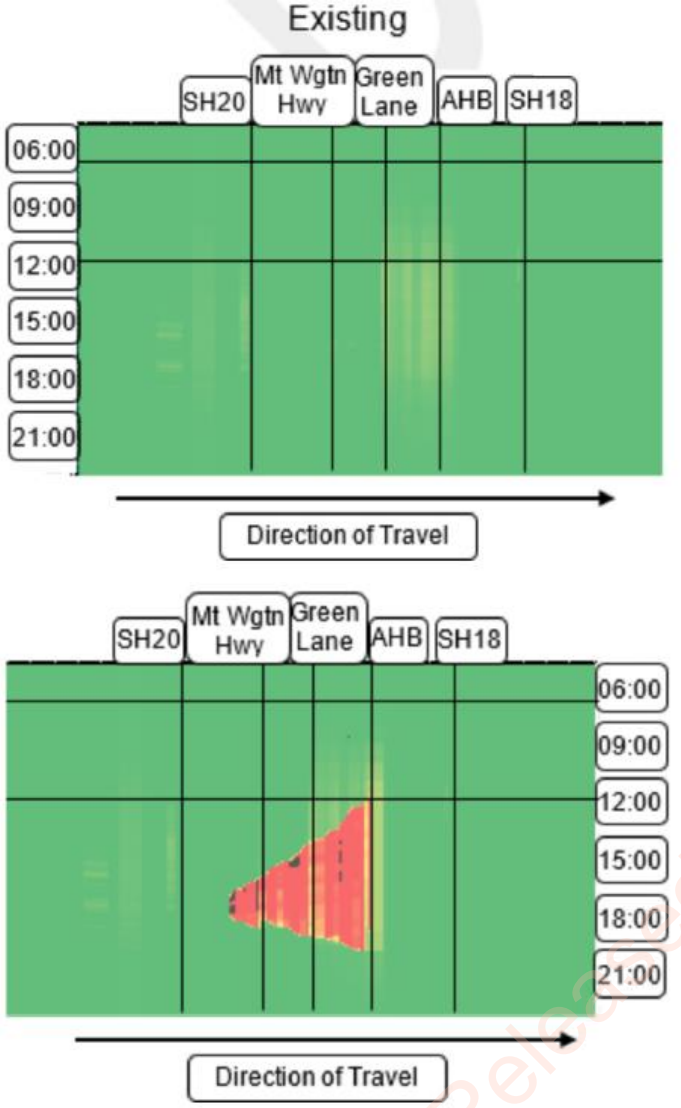
Weekday impact – 2 lane permanent

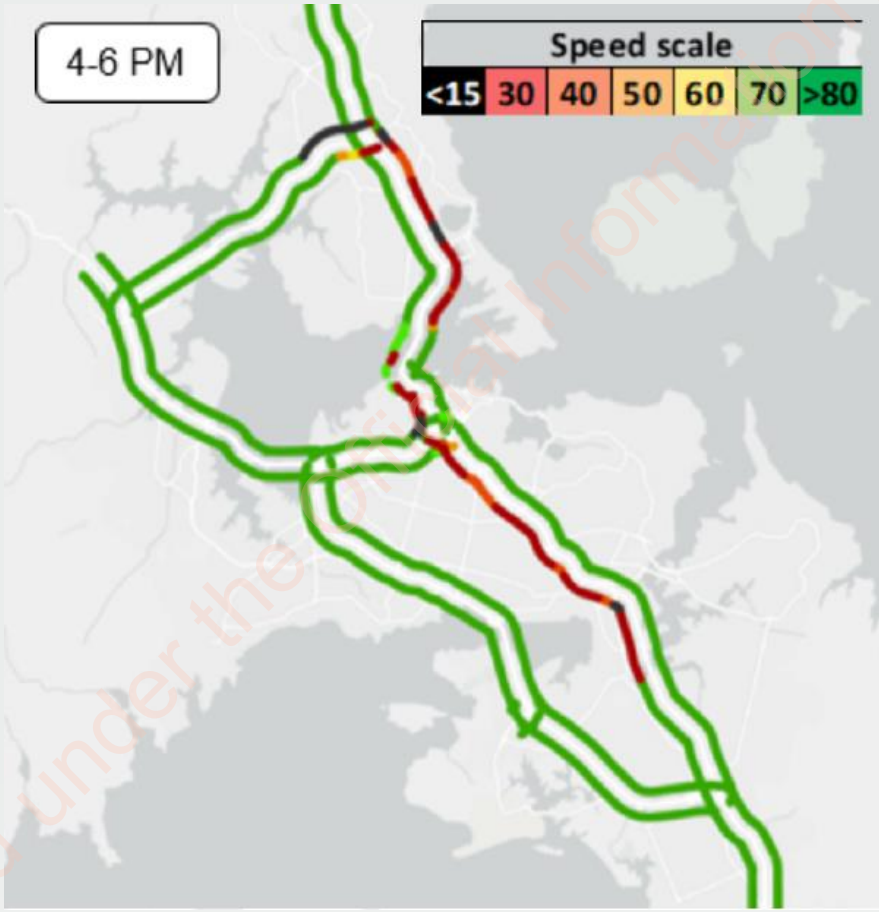


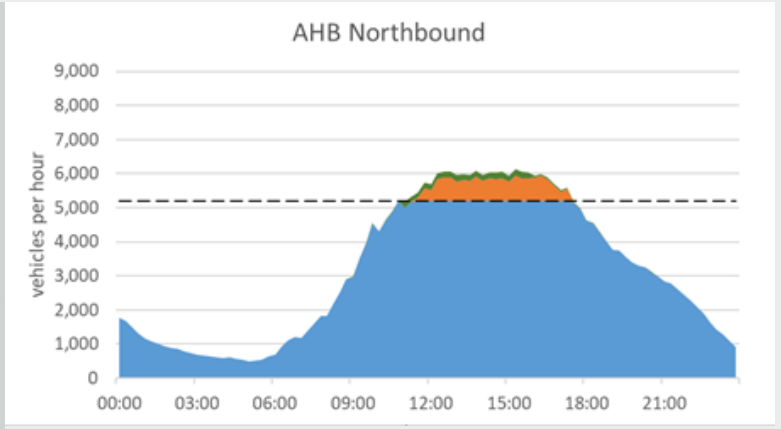


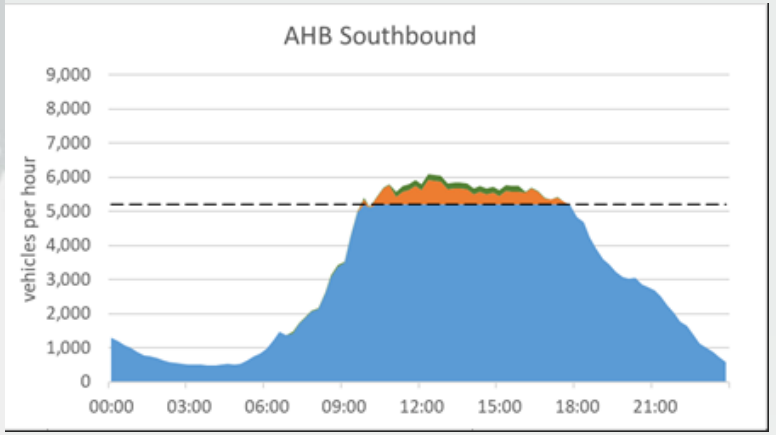
Network operating conditions - weekdays

Weekend impact – 2 lane temporary







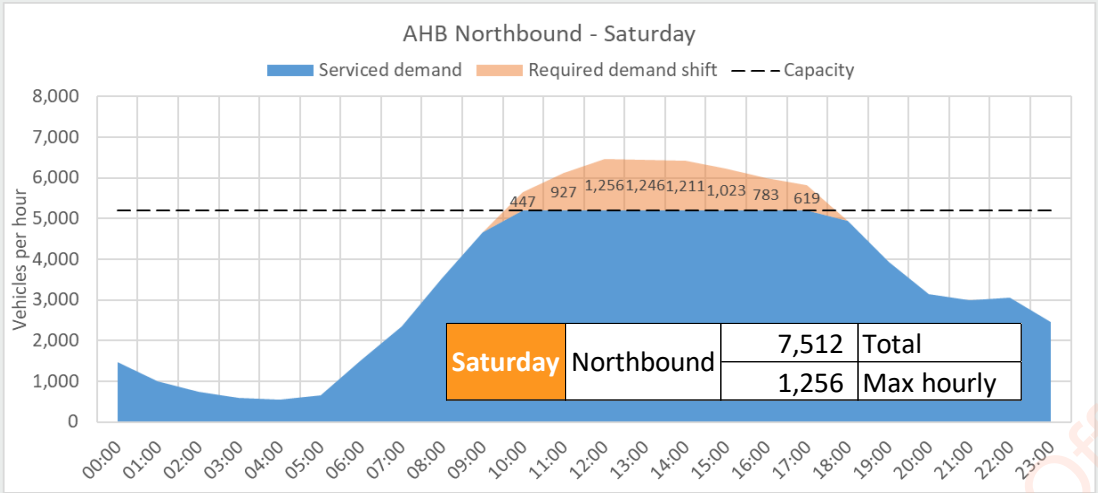


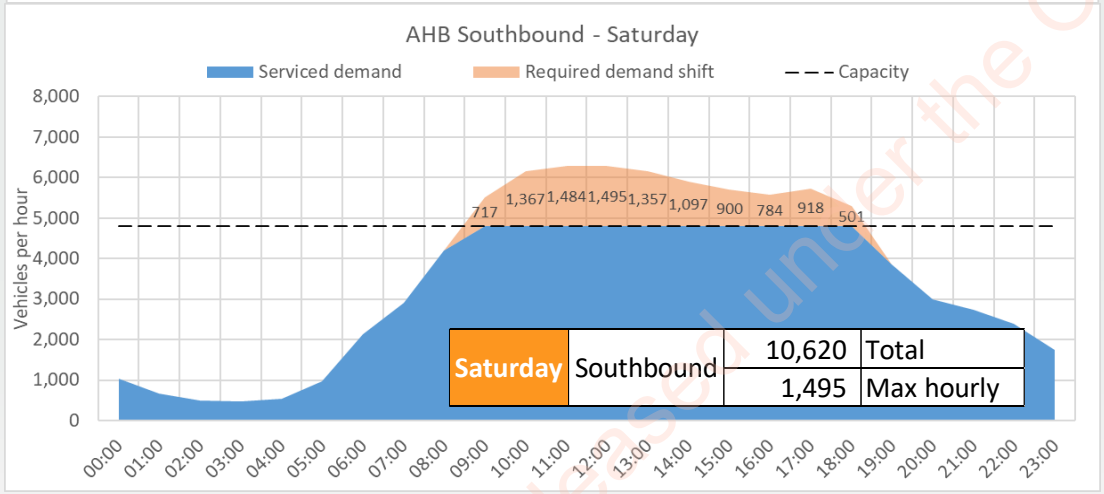
Network operating conditions - weekends

Resolve GROUP

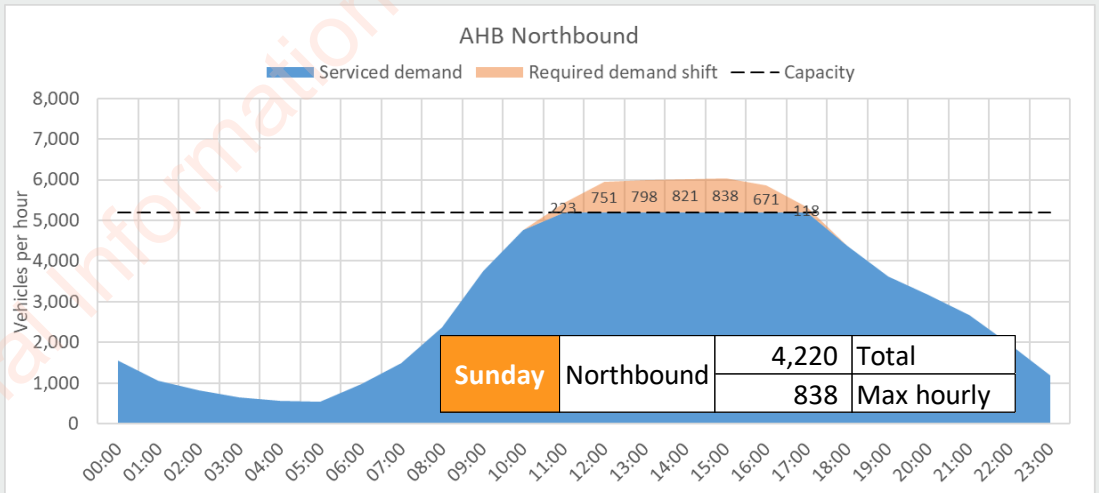
Weekend impact – 2 lane temporary

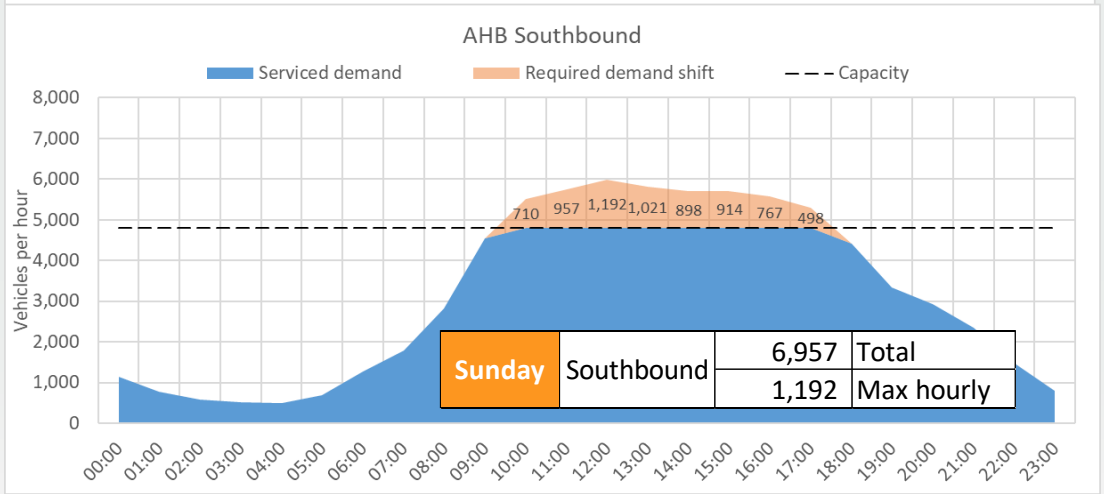
Saturday





Sunday





Option 2 weekend impact – required demand shift

Resolve GROUP

Option Summary

Option	Description	Temporary/ Permanent	Ramp Closures/ Modification	Traffic Configuration	Tidal Flow	Shared Path Width	Key Issue
1	East - 1 Lane	Temporary	Shelly Beach	4/3 (5/2)	Tidal	4m	
2	East - 2 Lane	Temporary	Shelly Beach	3/3	None	8m	
3	East - 1 Lane	Permanent	Shelly Beach	4/3 (5/2)	Tidal	4m	
4	East - 2 Lane	Permanent	Shelly Beach	3/3	None	8m	Traffic Impact
5	West - 1 Lane	Temporary	Curran Street	4/3	Tidal	4m	
6	West - 2 Lane	Temporary	Curran Street	3/3	None	8m	East preferred
7	West - 1 Lane	Permanent	Curran Street	4/3	Tidal	4m	
8	West - 2 Lane	Permanent	Curran Street	3/3	None	8m	Traffic Impact
9	Centre -1 Lane	Permanent	None	4N/3S	None	3m	
10	Centre - 2 Lane	Permanent	None	3/3	None	6m	
11	Both Sides	Permanent	Shelly Beach/ Curran Street	5/3	Tidal	2.5m/2.5m	

Resolve GROUP

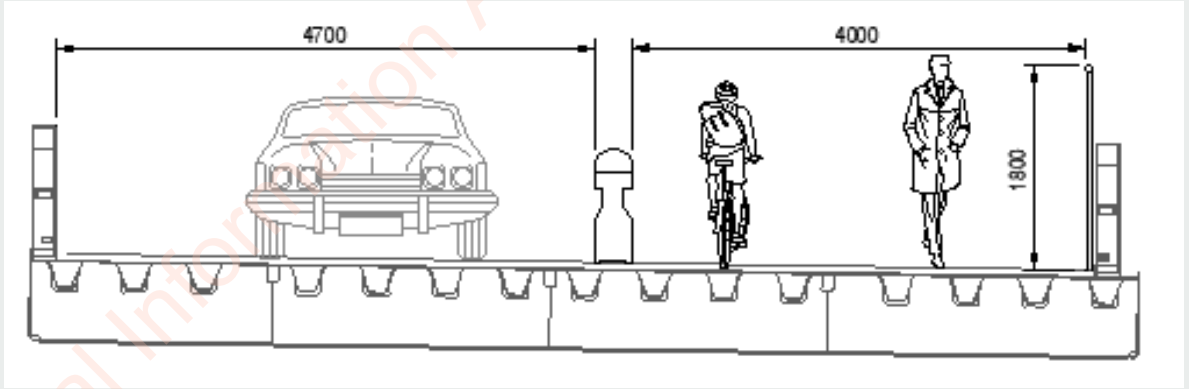
Overview - 1 lane options

Opportunities

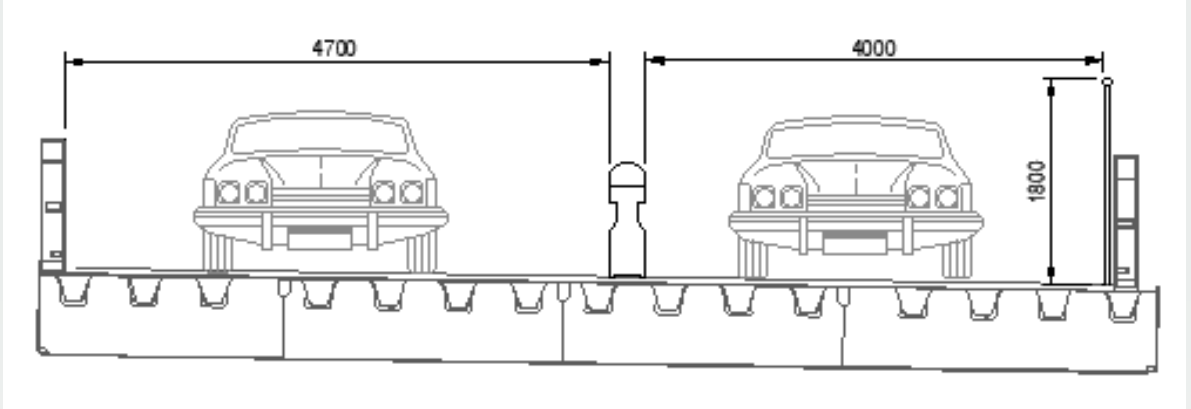
- Less traffic impact

Challenges

- Shared path width
- Barrier selection
- Restriction on vehicles >3.5t



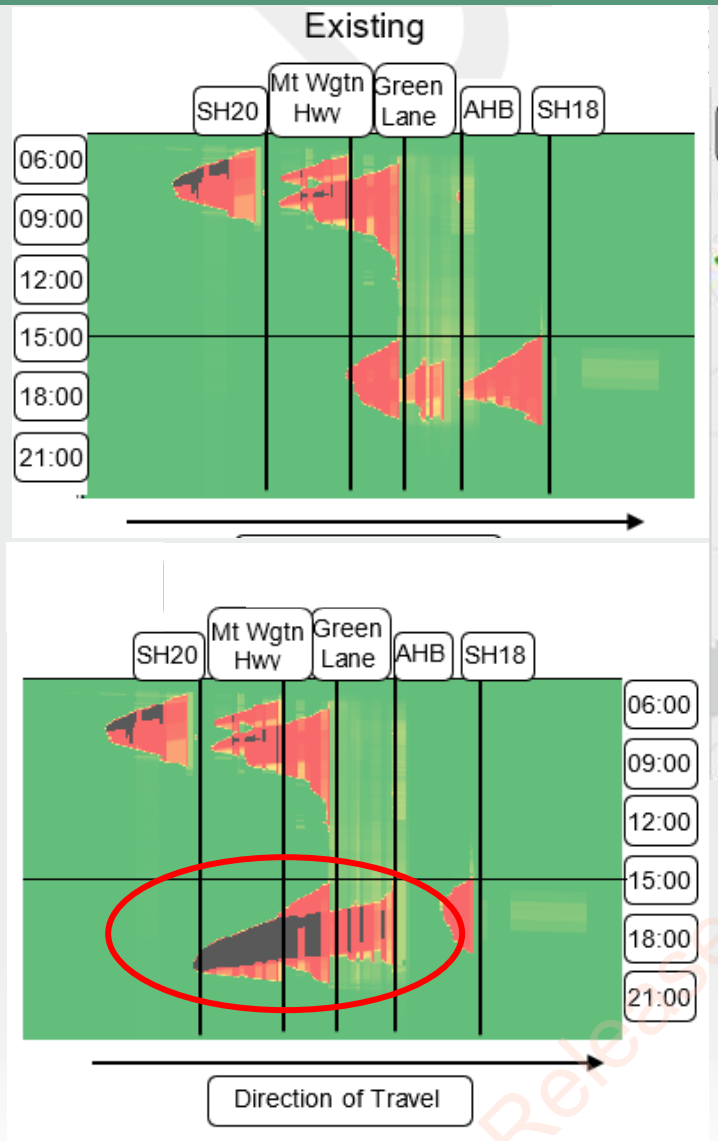
1 lane shared path cross-section (permanent)

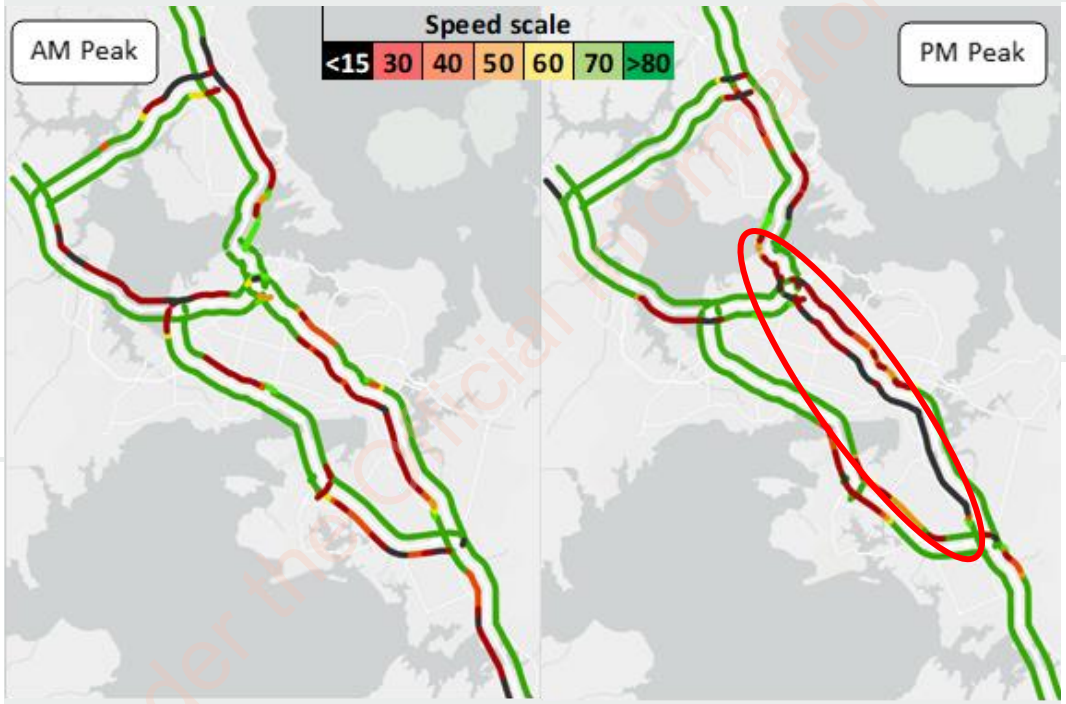


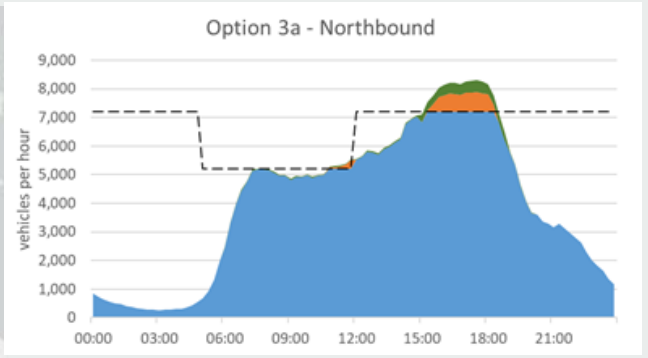
1 lane shared path cross-section (temp variation)

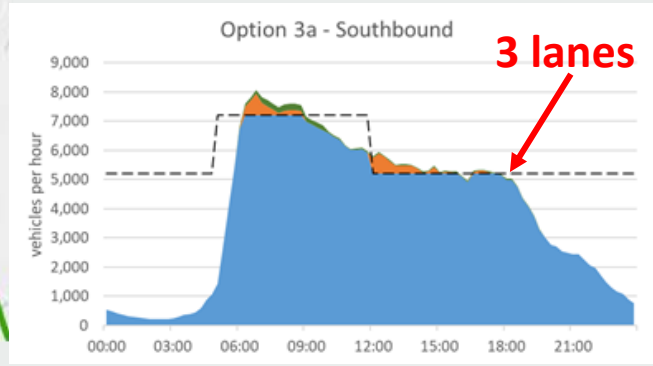
RESOLVE GROUP

Weekday impact – 1 lane permanent





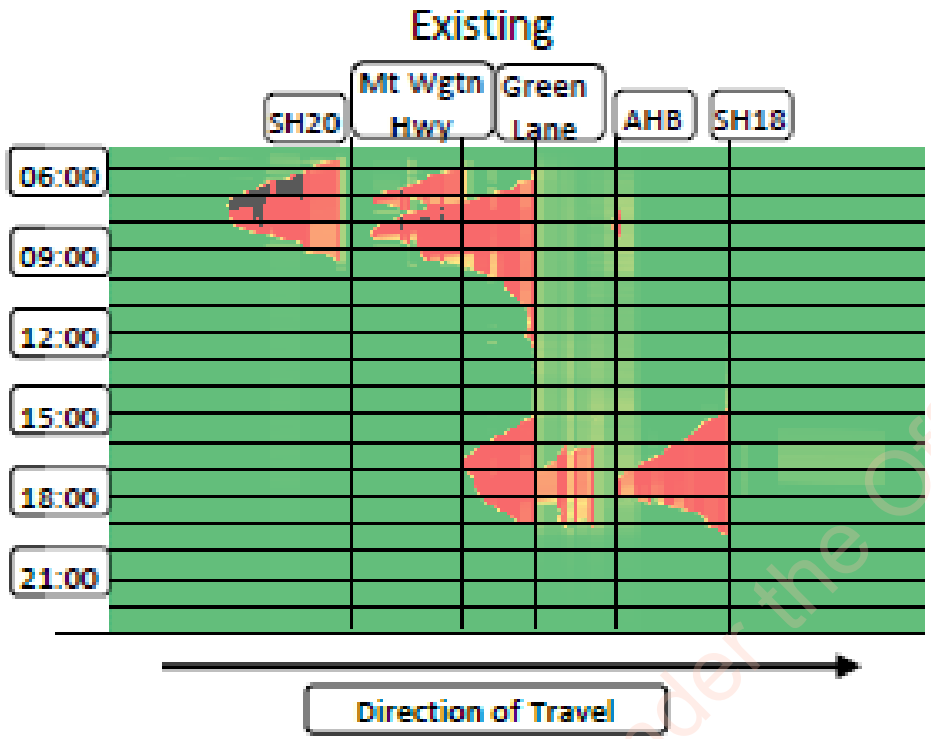


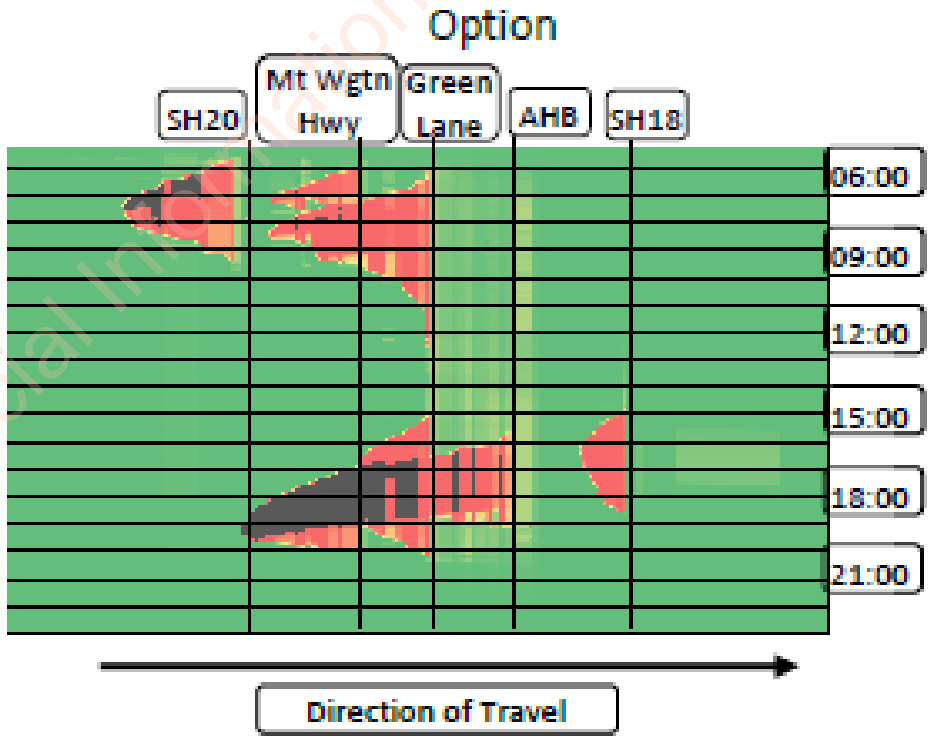


Network operating conditions - weekdays

Resolve GROUP

Demand Management

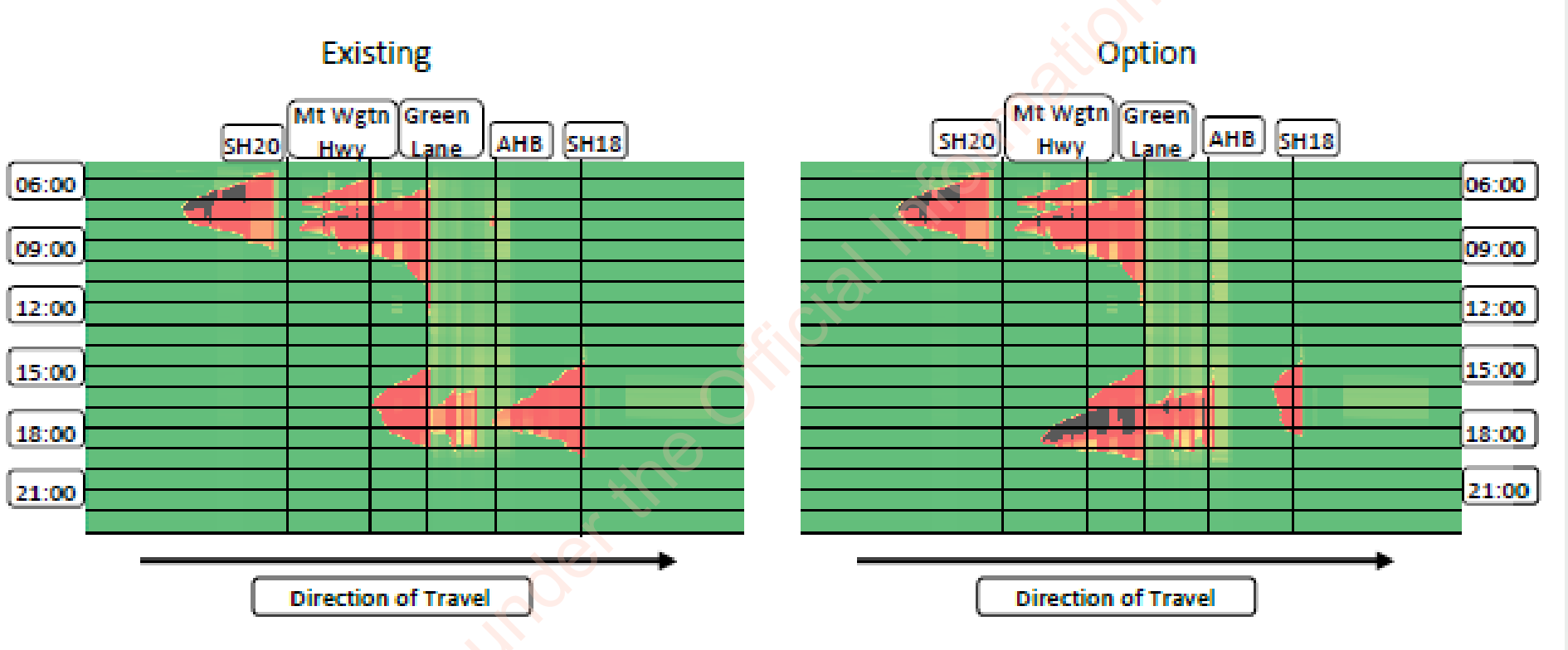




AHB weekday demand change		Daily	Peak hr
Low	cyclists + pedestrians (people)	1,000	42
	PT mode shift (people)	2,000	285
	Re-routing (vehicles)	0	0

Resolve GROUP

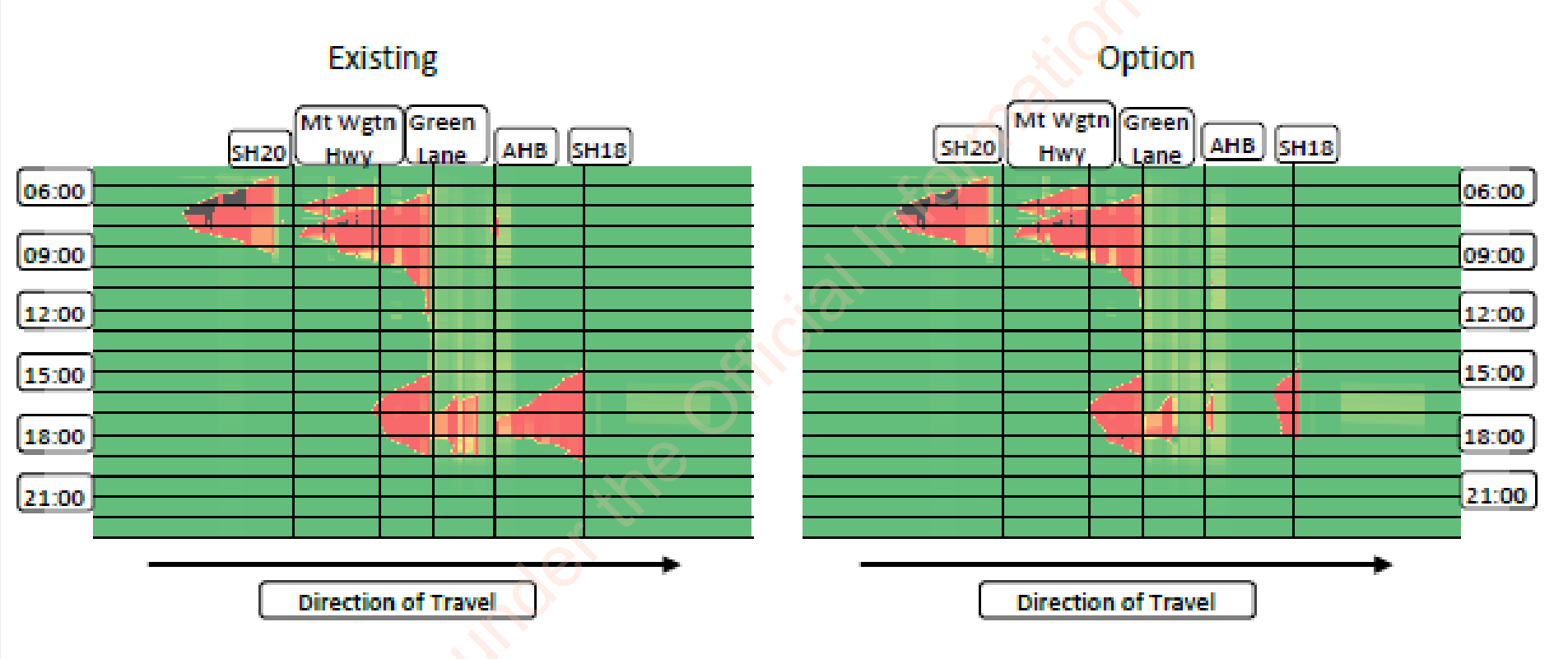
Demand Management



AHB weekday demand change		Daily	Peak hr
Medium	cyclists + pedestrians (people)	2,500	118
	PT mode shift (people)	5,500	725
	Re-routing (vehicles)	1,435	248

Resolve GROUP

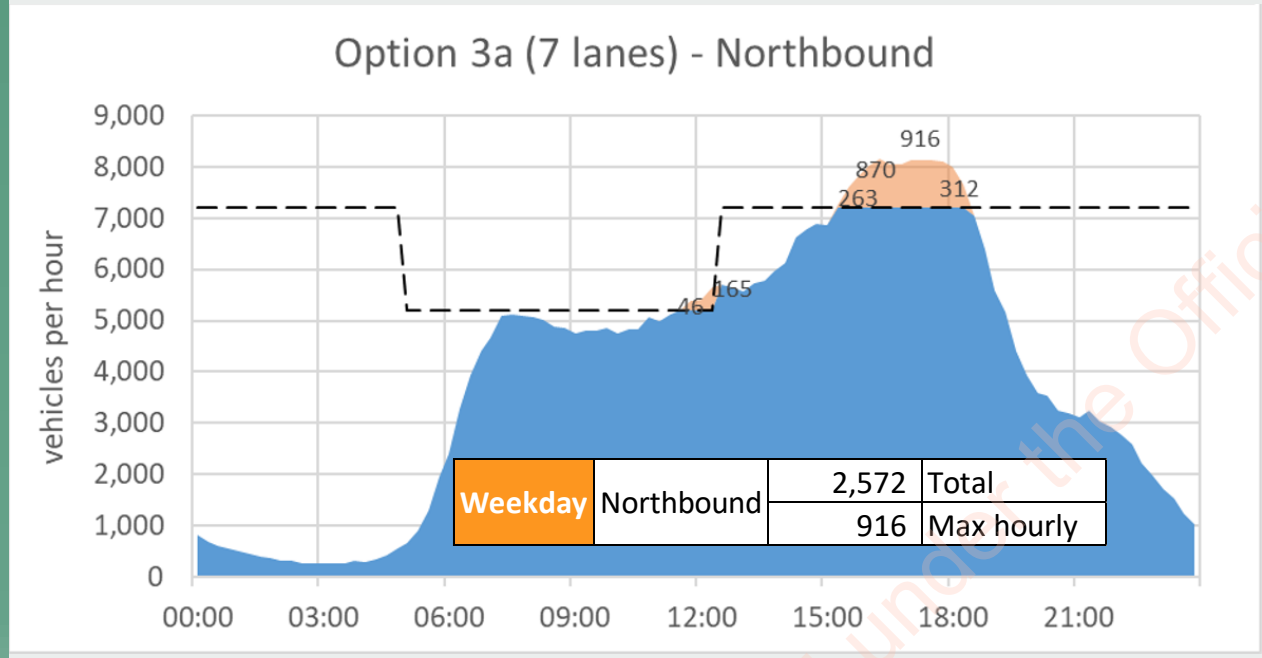
Demand Management

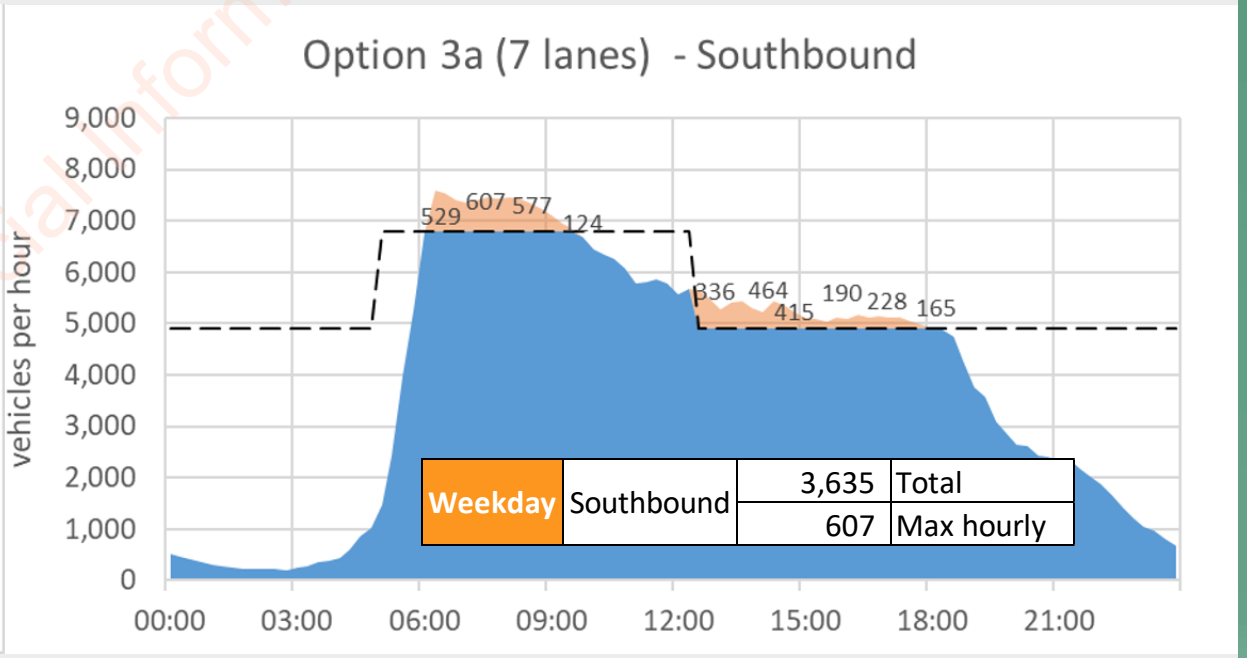


AHB weekday demand change		Daily	Peak hr
High	cyclists + pedestrians (people)	3,000	125
	PT mode shift (people)	11,000	1,600
	Re-routing (vehicles)	4,850	650

Resolve GROUP

Weekday impact – 1 lane temporary

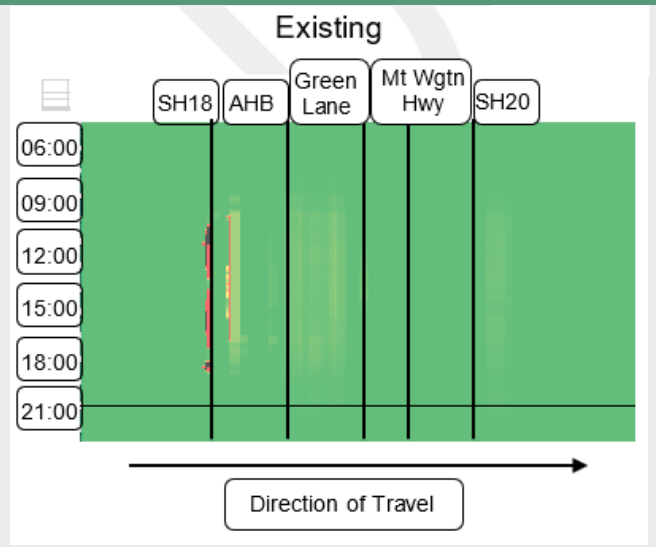


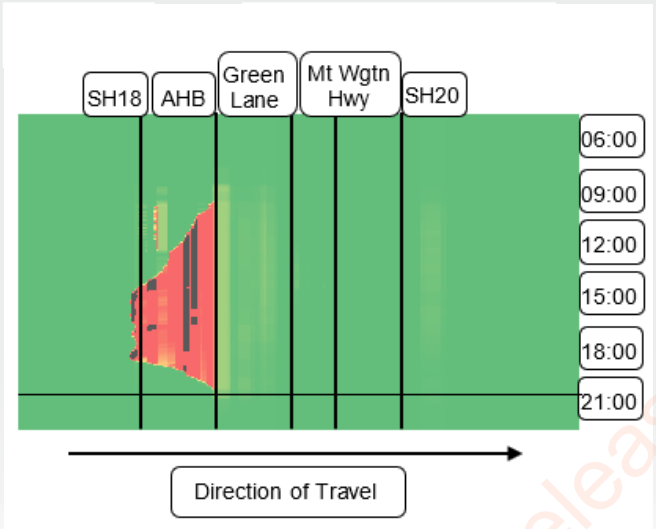


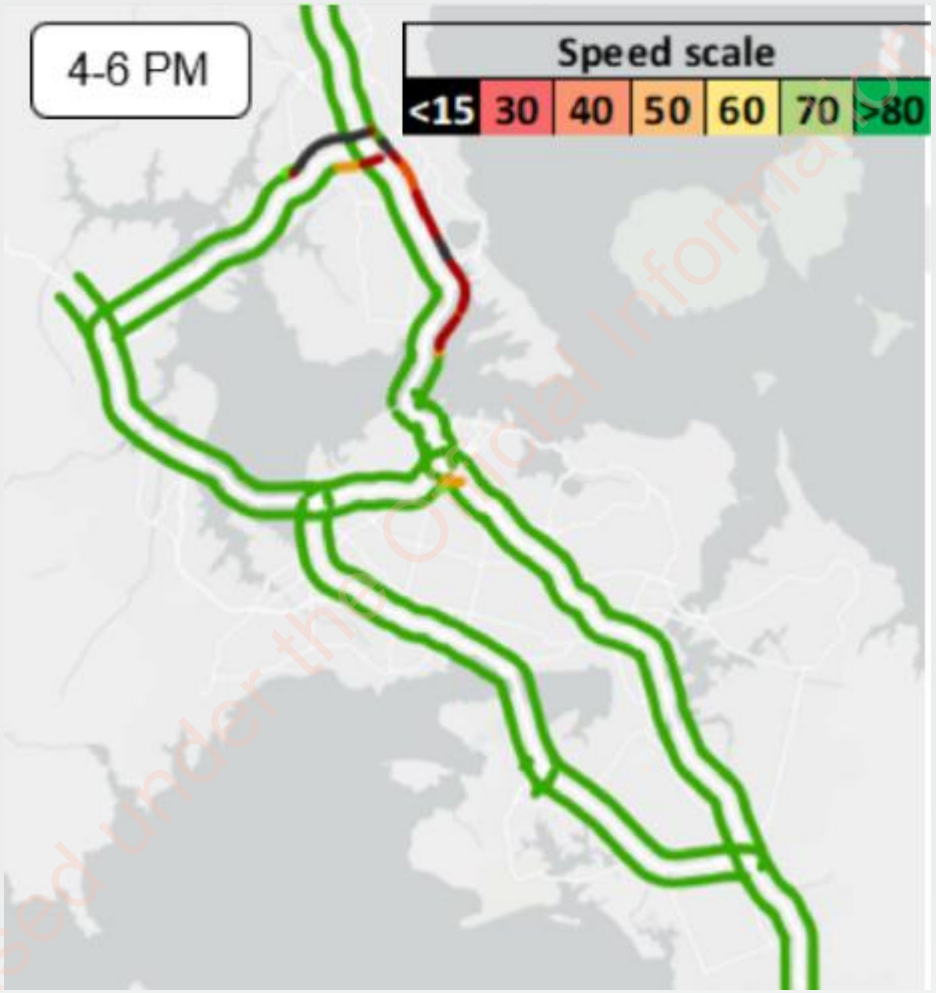
Option 3 weekday impact – required demand shift

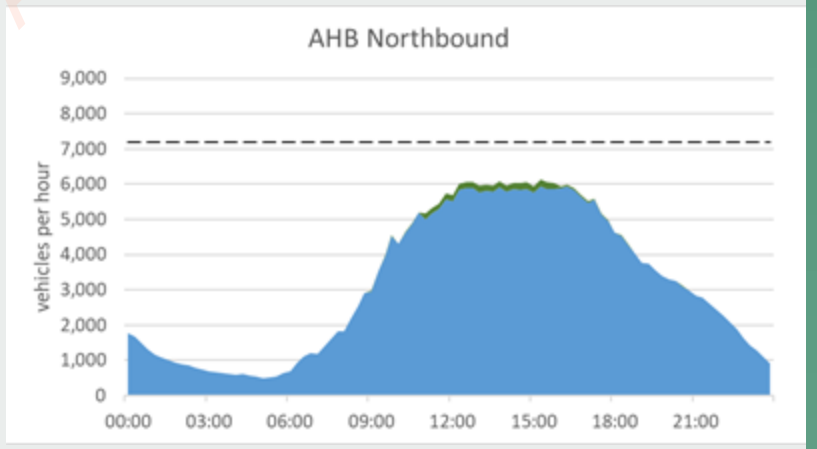
Resolve GROUP

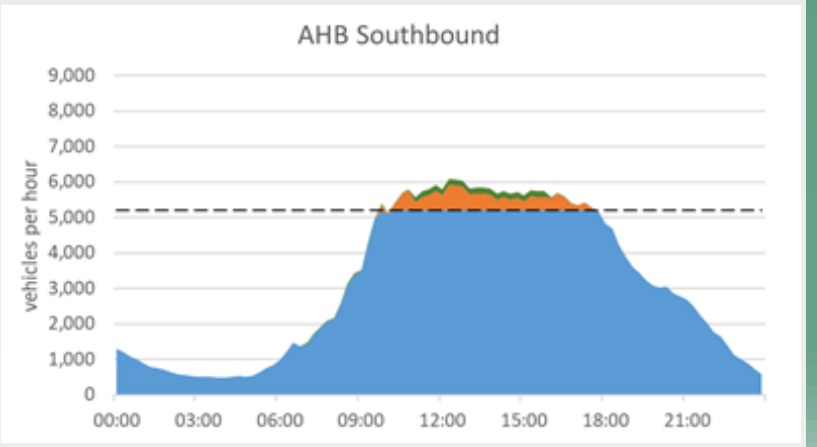
Weekend impact – 1 lane temporary









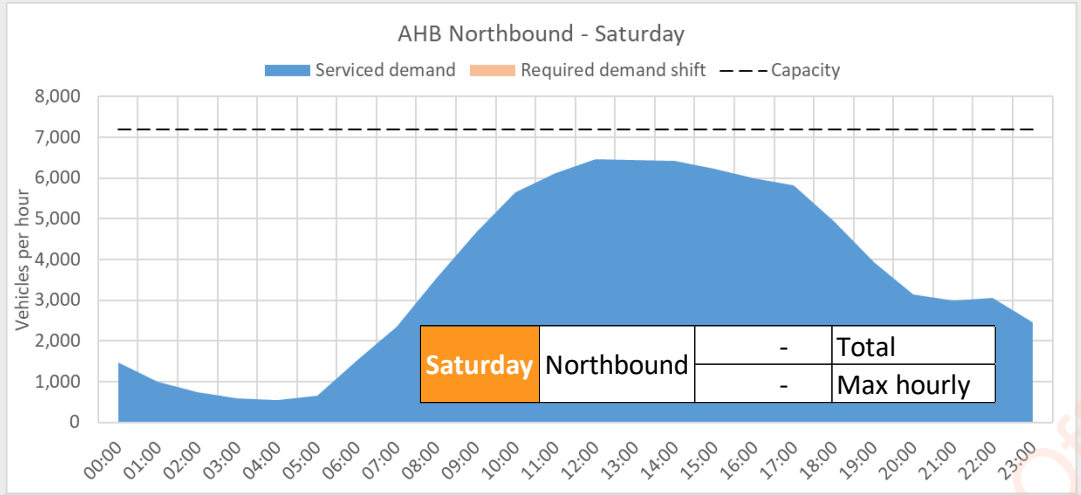


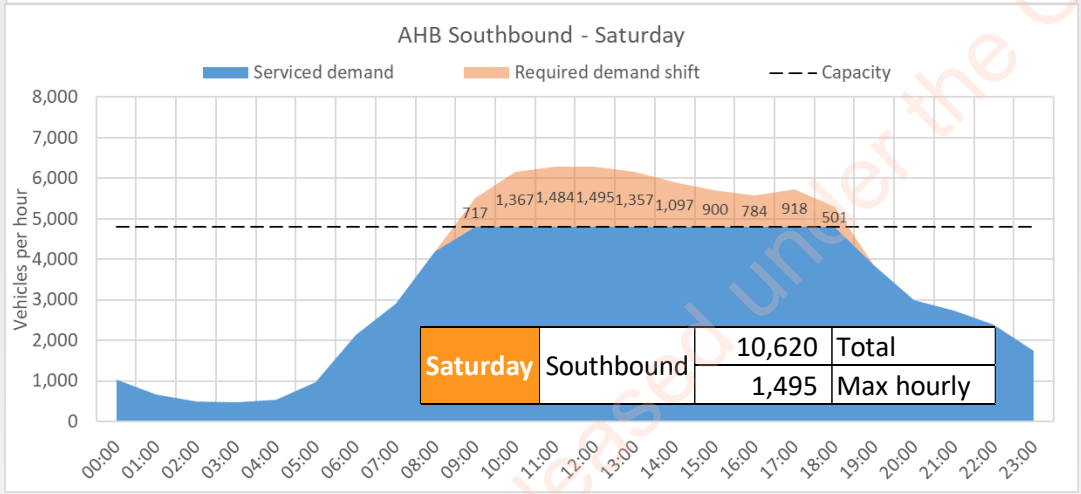
Network operating conditions - weekends

Resolve GROUP

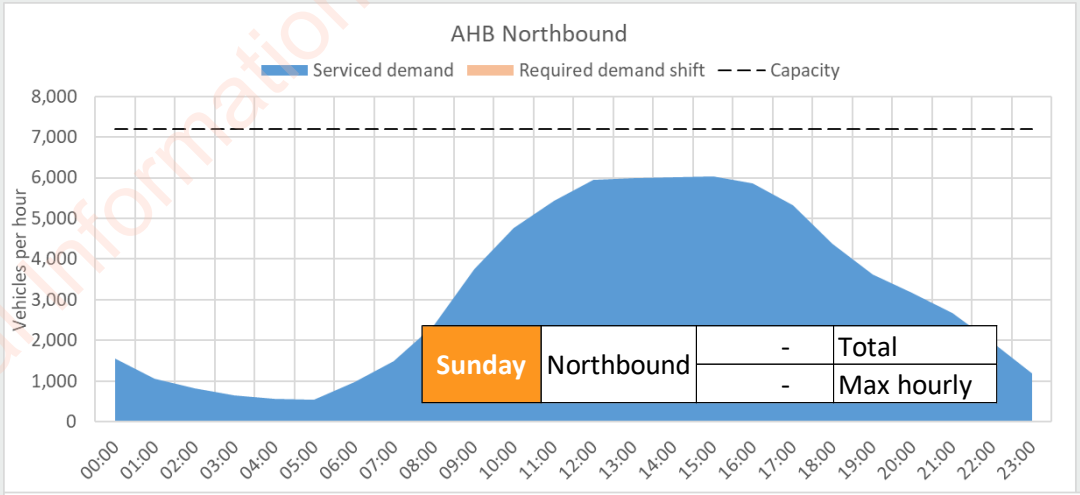
Weekend impact – 1 lane temporary

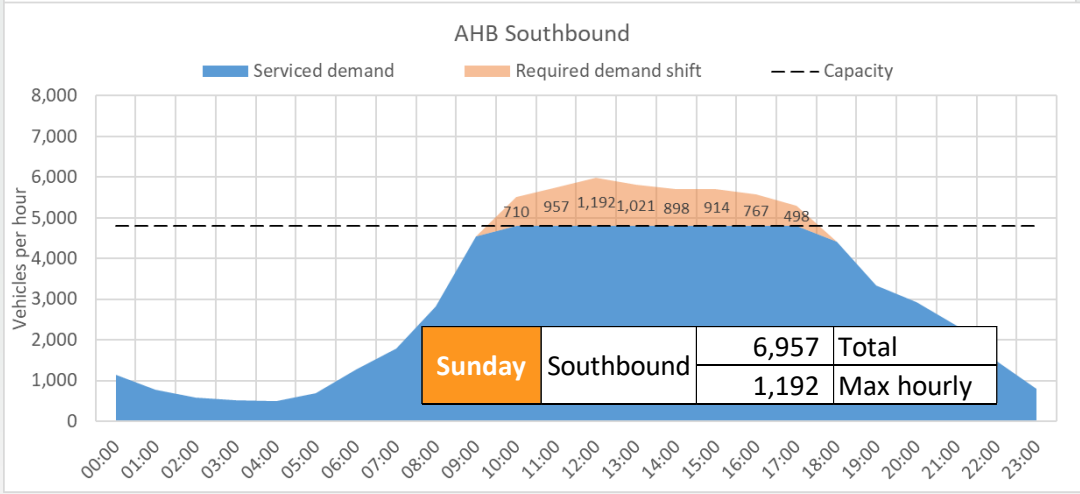
Saturday





Sunday





Option 1 weekend impact – required demand shift

Option Summary

Option	Description	Temporary/ Permanent	Ramp Closures/ Modification	Traffic Configuration	Tidal Flow	Shared Path Width	Key Issue
1	East - 1 Lane	Temporary	Shelly Beach	4/3 (5/2)	Tidal	4m	
2	East - 2 Lane	Temporary	Shelly Beach	3/3	None	8m	
3	East - 1 Lane	Permanent	Shelly Beach	4/3 (5/2)	Tidal	4m	
4	East - 2 Lane	Permanent	Shelly Beach	3/3	None	8m	Traffic Impact
5	West - 1 Lane	Temporary	Curran Street	4/3	Tidal	4m	East preferred
6	West - 2 Lane	Temporary	Curran Street	3/3	None	8m	East preferred
7	West - 1 Lane	Permanent	Curran Street	4/3	Tidal	4m	East preferred
8	West - 2 Lane	Permanent	Curran Street	3/3	None	8m	Traffic Impact
9	Centre -1 Lane	Permanent	None	4N/3S	None	3m	
10	Centre - 2 Lane	Permanent	None	3/3	None	6m	
11	Both Sides	Permanent	Shelly Beach/ Curran Street	5/3	Tidal	2.5m/2.5m	

Resolve GROUP

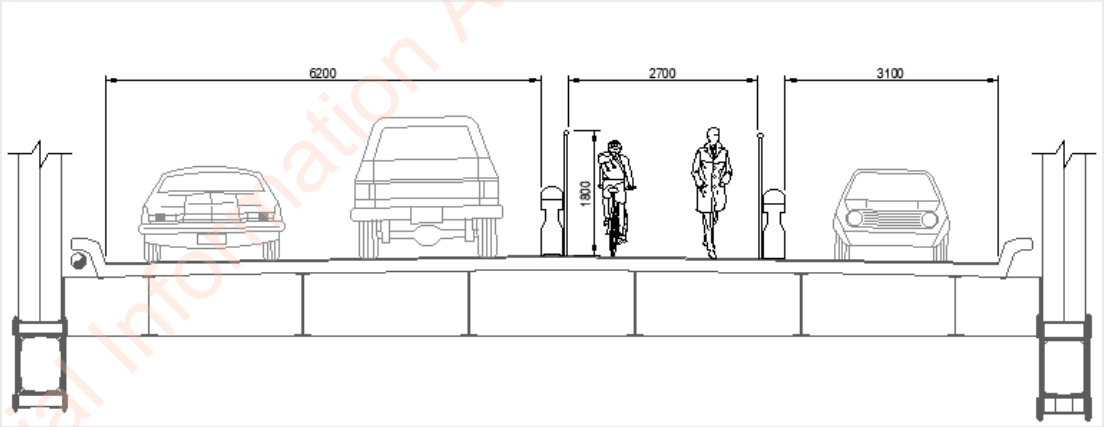
Overview – Centre options

Opportunities

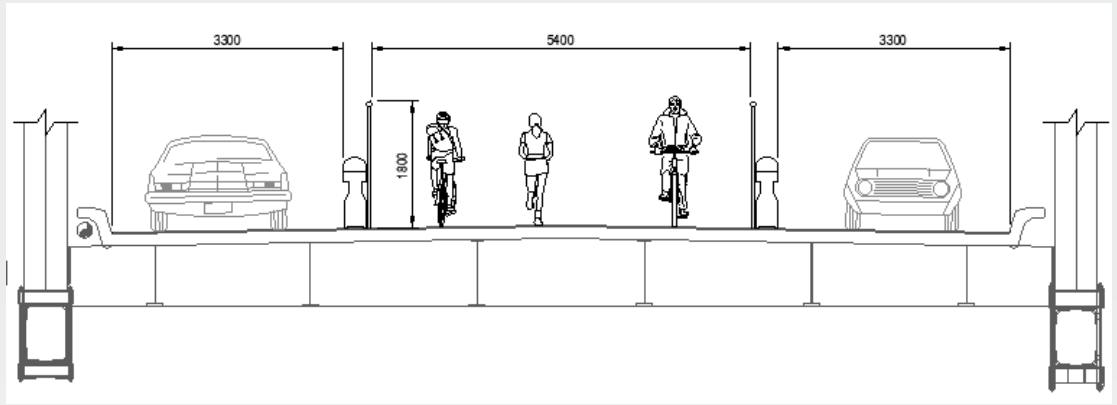
- No ramp impacts

Challenges

- No ability for tidal flow
- Permanent options only
- Limited shared path widths
- North access via Tennyson Street subway



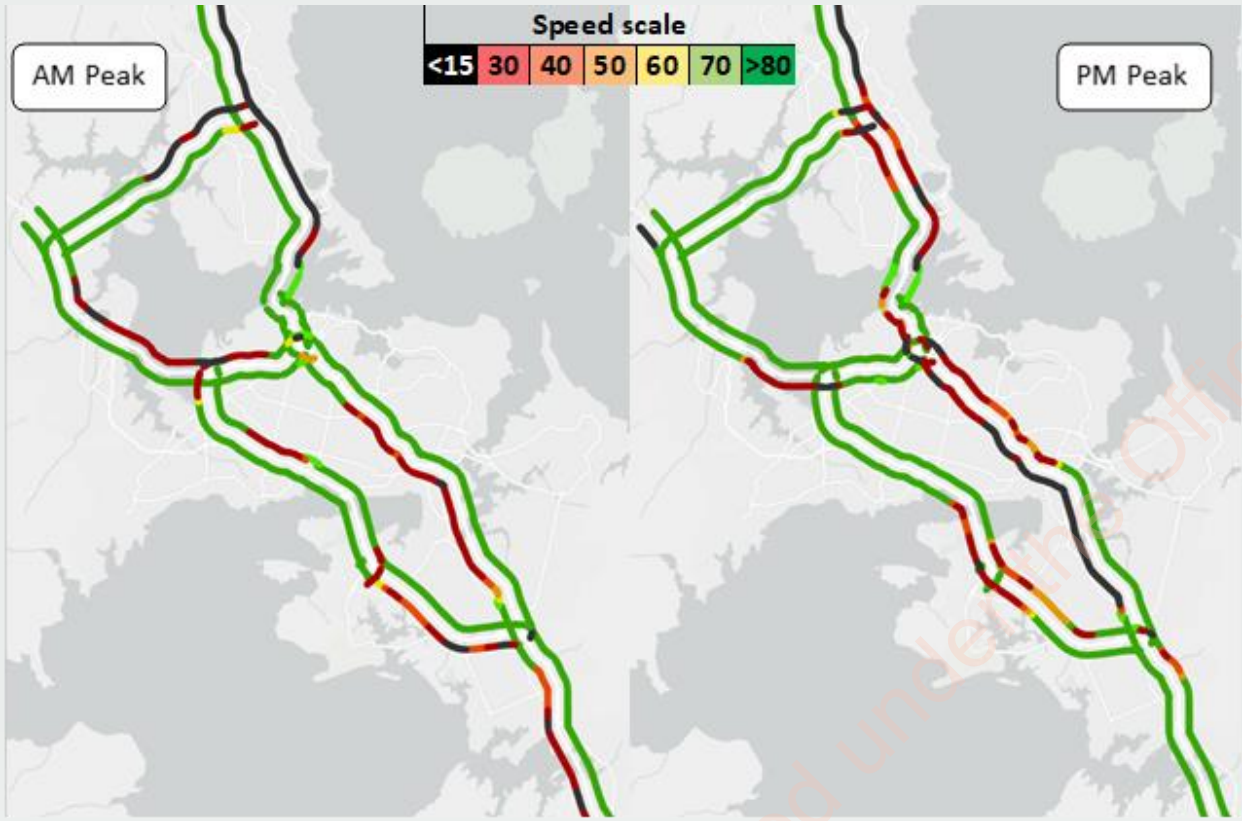
1 lane shared path cross-section (permanent)



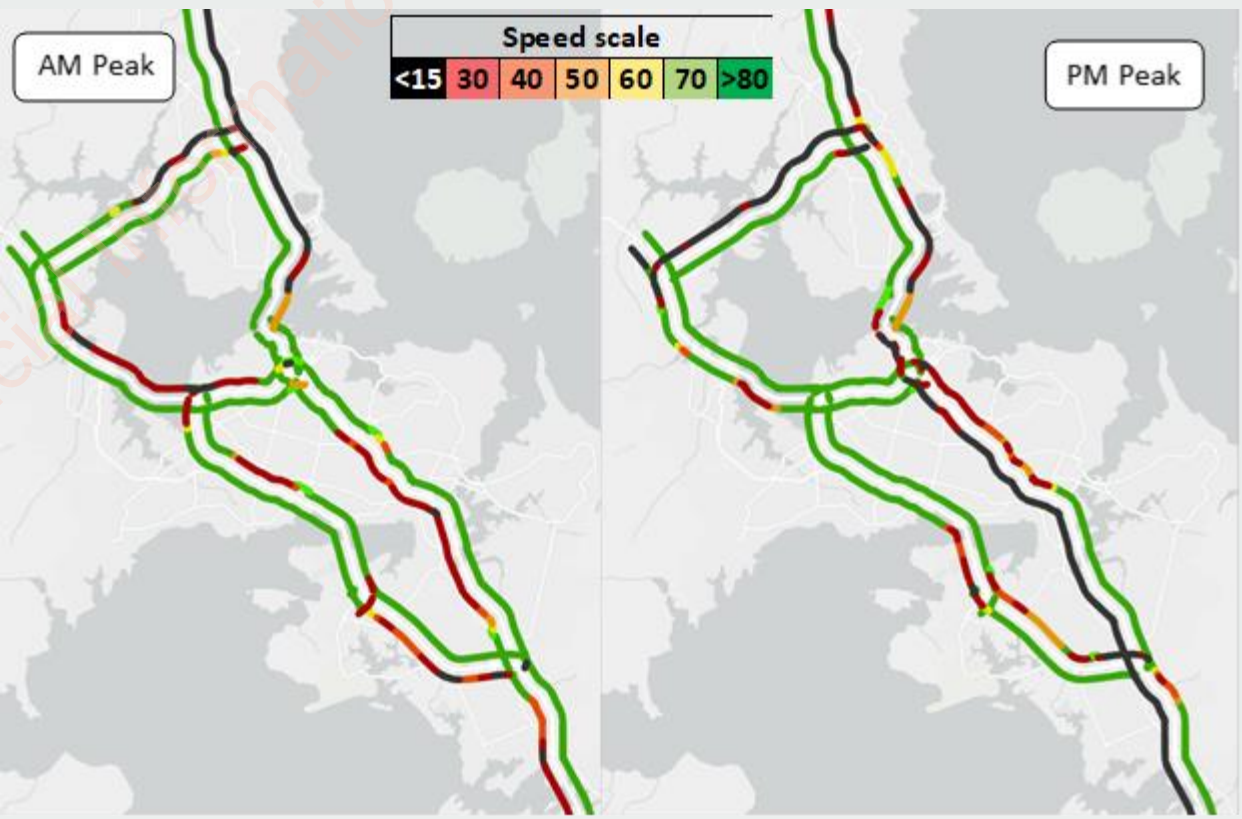
2 lane shared path cross-section (permanent)

RESOLVE GROUP

Weekday impact - Centre Options



Network operating conditions – 1 lane option



Network operating conditions – 2 lane option

Resolve GROUP

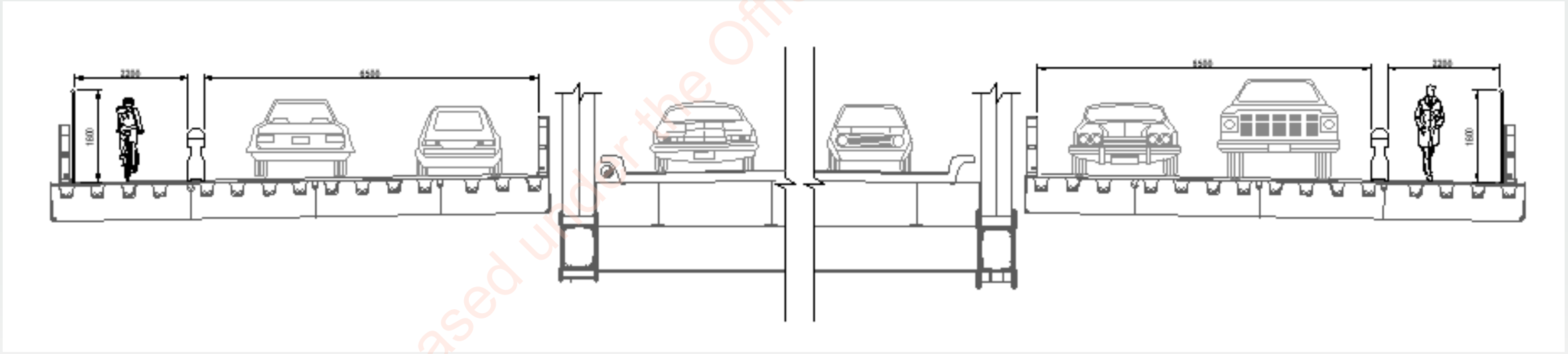
Overview – Both Sides

Opportunities

- Least traffic impact
- Single direction shared paths

Challenges

- Structural feasibility
- Decreased speed of traffic on extensions



Both side shared path option (permanent)

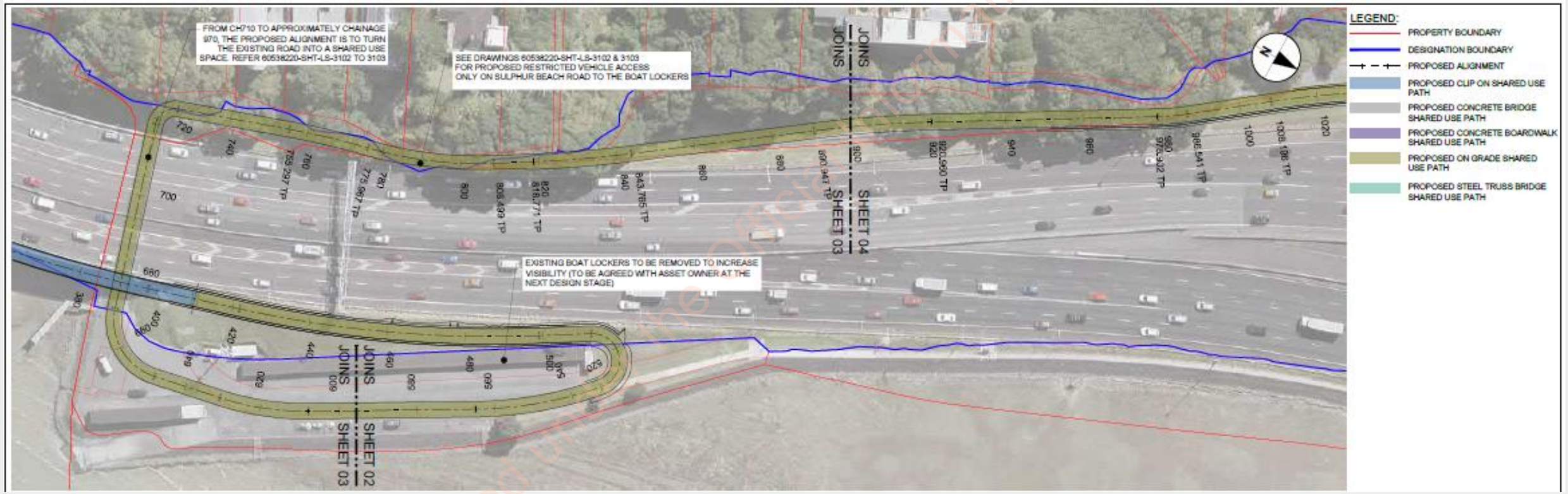
RESOLVE GROUP

Option Summary

Option	Description	Temporary/ Permanent	Ramp Closures/ Modification	Traffic Configuration	Tidal Flow	Shared Path Width	Key Issue
1	East - 1 Lane	Temporary	Shelly Beach	4/3 (5/2)	Tidal	4m	
2	East - 2 Lane	Temporary	Shelly Beach	3/3	None	8m	
3	East - 1 Lane	Permanent	Shelly Beach	4/3 (5/2)	Tidal	4m	
4	East - 2 Lane	Permanent	Shelly Beach	3/3	None	8m	Traffic Impact
5	West - 1 Lane	Temporary	Curran Street	4/3	Tidal	4m	East preferred
6	West - 2 Lane	Temporary	Curran Street	3/3	None	8m	East preferred
7	West - 1 Lane	Permanent	Curran Street	4/3	Tidal	4m	East preferred
8	West - 2 Lane	Permanent	Curran Street	3/3	None	8m	Traffic Impact
9	Centre -1 Lane	Permanent	None	4N/3S	None	3m	Traffic Impact
10	Centre - 2 Lane	Permanent	None	3/3	None	6m	Traffic Impact
11	Both Sides	Permanent	Shelly Beach/ Curran Street	5/3	Tidal	2.5m/2.5m	Structural feasibility

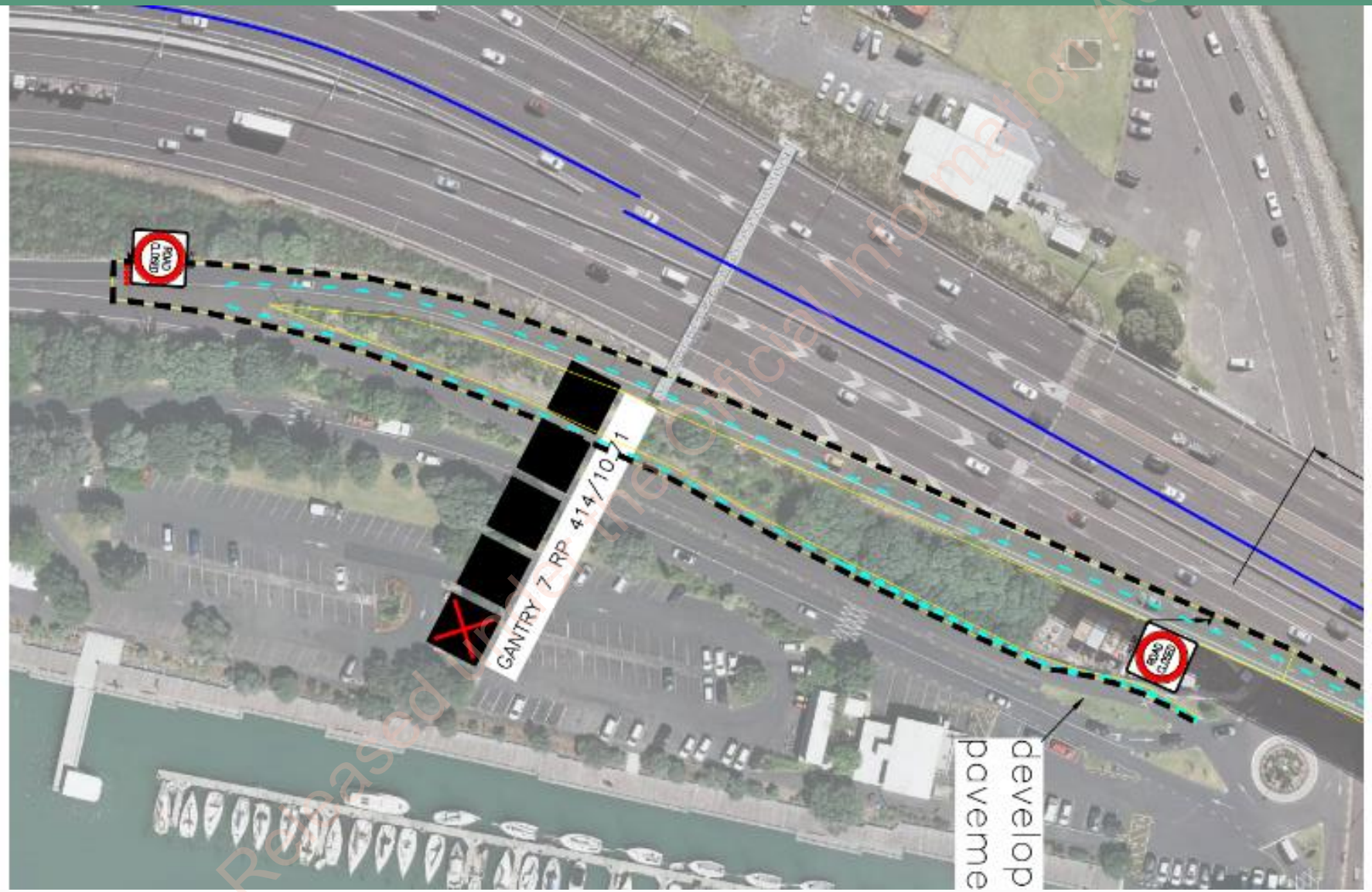
Resolve GROUP

North access – East options



Resolve GROUP

South access – East options



Resolve GROUP

Cost and programme

Programme

- Concrete barrier supply and construction of north and south approach infrastructure

Option			Cost		Programme
			Capex ($)	Opex ($/year)	
1	East - 1 Lane	Temporary	$14M - $16M	$1M - $2M	12 Months
2	East - 2 Lanes	Temporary	$5M - $7M	$2M - $3M	12 Months
3	East - 1 Lane	Permanent	$9M - $11M	$3M - $5M	12 Months

Report and Next Steps

- Report 80% complete including further detail
- A3 sheets available summarising each option
- Next steps to be agreed