Absolutely Positively
Wellington City Council
Me Heke Ki Pōneke

WCC Transitional Cycleways Multi Criteria Analysis

Ngaio

23 June 2022

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Version	Date	Description	Author	Approver
1	27/05/2022	Draft for client review	B Rodenburg	A Head
2	23/06/2022	Final concept issue	B Rodenburg	A Head

1. Assessment Details

The Wellington City Council (WCC) Transitional Cycleways programme proposes interim transitional cycleways to quickly roll out the WCC cycleway network over months rather than years. These transitional cycleways will be formed with minimal physical works and temporary materials in an interim fashion.

The transitional programme has divided the proposed network into routes, with each route forming an individual project. This report relates to the Ngaio Transitional Cycleway shown below in Figure 1.

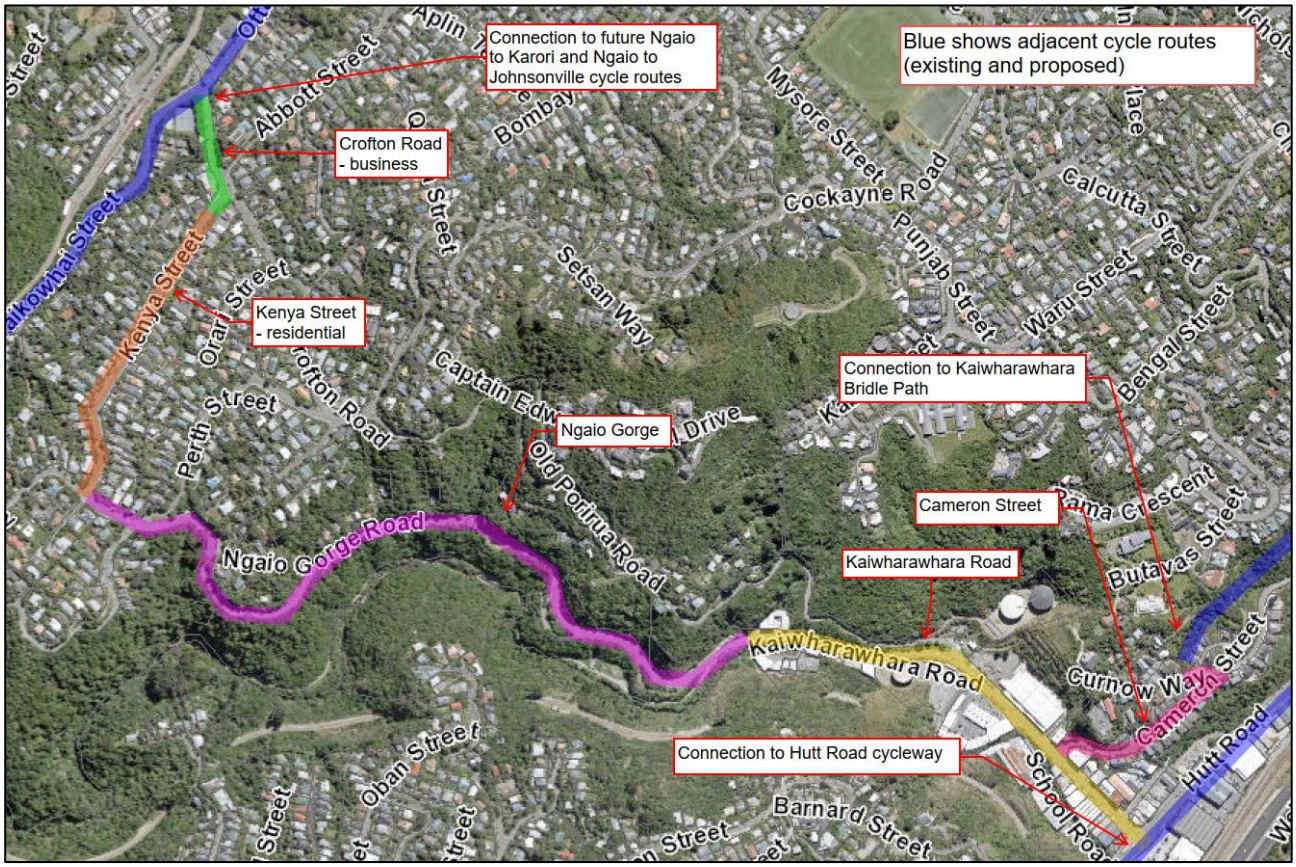


Figure 1 Project extents

The Ngaio Transitional Cycleway extends 2.7 kilometres along Kaiwharawhara Road, Ngaio Gorge Road, Kenya Street and Crofton Road between the Hutt Road Cycleway (providing a connection to Nga Ūranga and Thorndon) and Ngaio. It also includes a connection to the Kaiwharawhara Bridle Path via Cameron Street. This corridor is also a bus route.

There is currently no provision for people travelling by bike between Ngaio centre and Kaiwharawhara and Hutt Road. This route has been identified as a Primary Route in the Paneke Pōneke Bike Network Plan, and is a critical route for Ngaio, Crofton Downs, Khandallah and Johnsonville to the city centre. The route is highlighted in Figure 1 above.

There are currently no safe or comfortable cycleways along this route. The Council, following public consultation in December 2021, have included this Primary corridor in the list of transitional projects that require quick and cost-effective cycle infrastructure improvements.

The transitional programme uses interim installations to provide a ‘first cut’ of the whole route using adaptable materials. Once installed, the Council gathers feedback via consultation on the changes and can make improvements to things such as signs, street markings, parking and the position of dividers between the bike lanes and traffic.

The project scope includes:

- Connections to the Bridle Path
- Monitoring before and during implementation
- Evaluation
- Robust communications
- Integration with the Ngaio Gorge stabilisation project
- Interim pedestrian facility upgrades
- Interim bus facility improvements
- Considering where the cycle facility is within the road cross-section
- Coordination with other works on this corridor (e.g. scheduled maintenance)

The Ngaio Transitional project has been divided into five sections to reflect the differences in road layout, gradient, character and design along the route. These sub areas are;

- Kaiwharawhara Road
- Cameron Street
- Ngaio Gorge
- Kenya Street
- Crofton Road

This work has been undertaken in accordance with the StepChange Consortium proposal dated 22 April 2022.

2. Multi Criteria Analysis (MCA) Process

2.1 MCA Process

There were two major steps to the MCA process, identifying short list options and confirming the preferred solution.

Short list options were identified by reviewing constraints which limited the feasibility of long list options and assisted in eliminating options to arrive at the short list. This is described in Section 2.7, and specific assessment for each section provided in the relevant appendix.

The preferred option was confirmed through the scoring against the MCA criteria. The highest scoring option or options were confirmed as preferred. Summaries for each route section are provided in Section 3. For a detailed breakdown refer to Appendix A.

2.2 Criteria and considerations

The MCA applies criteria prepared for the transitional cycleway programme by WCC and provided to StepChange for this assessment. This has been based on the criteria used by WCC for the Brooklyn Hill cycleway project with adjustment reflecting learnings from the MCA criteria previously applied for the Newtown to City and Botanic Gardens to City transitional cycleways.

2.3 Scoring

The project team identified how each consideration would be assessed on a scale of –3 to +3. The scoring scale and descriptions are provided in Appendix A.

2.4 Scoring scale

The project criteria were given weighting depending on their perceived importance. The weighting for each consideration varies. The scoring scale is attached in Appendix A.

2.5 Types of cycle lanes/ways used for options

The options refer to cycle lanes, buffered cycle lanes and protected cycleways as different treatments. Specifically these are as follows;

Cycle lane/way	Description
Cycle lane	Up to 1.5m width. Markings comprise an edge line and cycle symbols at regular intervals. Coloured surfacing, no-stopping markings, and/or cycle lane signage may also be used at selected locations. The majority of interested but concerned are comfortable riding in cycle lanes at modest volumes and speeds. However, as traffic volumes, traffic speeds and provision/use of adjacent parking increase, cycle lanes become increasingly uncomfortable.
Buffered cycle lane	1.5 to 1.8m width. Markings as for cycle lanes plus a second edge line offset by 200mm to 300mm between the cycle lane and the traffic lane to encourage cyclists to ride in the centre of the lane with additional space from passing traffic The high-level cross-sections provided do not show pavement markings, refer to dimensions and descriptions for each option in the relevant appendix.

Separated cycle way	Greater than 1.8m width[1]. A facility exclusively for cycling with physical separation from motor traffic. The high-level cross-sections provided show an indicative bollard separation but not pavement markings. A raised concrete buffer is often perceived as a buffer for a separated cycleway, however this is not within scope for the transitional projects. Refer also to the dimensions and descriptions for each option in the relevant appendix.

2.6 Design dimensions

Local and national design guidance was referenced to identify design widths for the elements being considered in the options. Specifically, the guidance considered was:

- Waka Kotahi guidance[2]
- Austroads guidance, as referenced by Waka Kotahi guidance
- WCC guidance as described in the WCC Code of Practice for Land Development

Table 1 outlines the absolute minimum, desirable minimum, and desirable widths for relevant transport facilities, as noted in the reference guidelines.

Using a combination of these reference guidelines, best practice, and input from WCC, a list of minimum and desirable widths was identified for each of the design elements being considered on the Ngaio Transitional Cycleway. This list, provided in Table 2, was used as the basis for developing the options for the Ngaio Transitional Cycleway. Note that absolute minimums can only be used in certain situations as outlined in the relevant guidance.

Table 1 Design guidance recommended widths

Design element	Recommended widths			Reference
	Absolute minimum	Desirable minimum	Desirable	
Footpath	1.65m	1.8m	--	PNG[1]
	1.5m	--	2.0m	COP[2]
Cycle lane next to kerb	1.4m	1.6m		CNG[3]
	1.5m	--	2.2m	CF[4]
Cycle lane next to parallel parking		1.8		
Bi-directional cycle facility[5]	2.5m	3.0m	3.5m	CNG[3]
	2.5m	-	-	CF[4]
Protection buffer zone (between a cycle path/lane and a traffic lane)	0.3m	--	1.0m	CNG (refers to Austroads[6])
	0.6m	--	--	CF
Protection buffer zone (between a cycle path/lane and parallel parking)	0.7m	0.85	1.0m	CNG (refers to Austroads)
	--	1.0m	1.2m	CF
Traffic lane	3.0m	--	3.5m	SHGDM[7]
	--	--	3.5m	COP/CF
	--	3.2m	--	WCC[8]
Central traffic path[9]	2.2m			CROW manual[10]
Parallel parking	1.9m		2.0m	CNG[3]
		2.0m	2.5m	WCC[8]
Shared Path	2.5m	3.0m	1.5m footpath & 2.5m cycle path	CNG (refers to Austroads)

[1] WCC have advised that their maintenance contract has been updated to include a 1.4m wide sweeper (refer email between J Kennett and B Rodenburg dated 14/6/22). To accommodate this the minimum design width between separators (up to 0.3m wide) and the kerb face is 1.5m.

[2] https://www.nzta.govt.nz/walking-cycling-and-public-transport/cycling/cycling-standards-and-guidance/cycling-network-guidance/

Notes
1 – Waka Kotahi Pedestrian Network Guide
2 – WCC Code of Practice for Land Development – Part C: Road Design and Construction
3 – Waka Kotahi Cycle Network Guidance
4 – WCC Cycling Framework
5 – For up to 150 cyclists per hour during peak periods. As a comparison, cyclist volumes reported on the WCC Cycle count data website shows peak cycle volumes on Hutt Road and the Cobham Drive shared path as 135 and 70 cyclists respectively. Even allowing for growth the transitional cycleways feed into these routes and are unlikely to exceed 150 cyclists in the peak hour prior to the transformational projects being installed.
6 – Austroads Guide to Road Design, Part 3 and Part 6A
7 – Waka Kotahi State Highway Geometric Design Manual *DRAFT*
8 – Advice provided by WCC's Transport & Infrastructure team on the desirable minimum width of traffic lanes on bus routes.
9 – For low volume streets with two-way traffic, vehicles required to deliberately veer onto the cycle lane when encountering oncoming traffic
10 - CROW Design Manual for Bicycle Traffic 2016.

Table 2 Dimensions used in developing options for transitional cycleways

Design element		Width	
		Minimum	Desirable
Footpath		N/A[1]	N/A[1]
Cycle lane		1.5m	2.0m
Bi-directional cycle facility		2.5m	3.5m
Protection next to cycle facilities	Next to traffic lane	0.3m[2]	1.0m
	Next to parallel parking	0.7m	1.0m
	Next to angle parking	0.6m	>0.6m
Traffic lane[3]		3.0m	3.5m
Two-way traffic lane		5.5m	
Central traffic path[4]		3.0m	3.5m
Parallel parking		1.9m	2.0m
Shared path		2.5m	1.5m footpath & 2.5m cycle path

1 – Footpath widths are unchanged due to the transitional approach which excludes any options which require kerb changes
2 – Minimum dimension reduced for transitional cycleways to minimum for temporary kerb to be installed
3 – Desirable to accommodate large vehicles such as trucks and buses. Where shared with cyclists a traffic lane should be either less than 3.2m or greater than 4.2m to avoid unsafe overtaking as described in the Waka Kotahi Cycle Network Guidance
4 – Based on minimum and desirable width for a traffic lane

Where bus stops interact with the cycle facility, guidance in the Waka Kotahi Public Transport Design Guidelines applies. Separated and buffered cycle lanes will continue through the bus stop, and the stop will be raised and a different colour to promote shared use. This will likely be the same ZICLA[3] products being used in the Newtown to City and Botanic Gardens Ki Paekākā to City transitional cycleways.

[3] https://www.zicla.com/en/

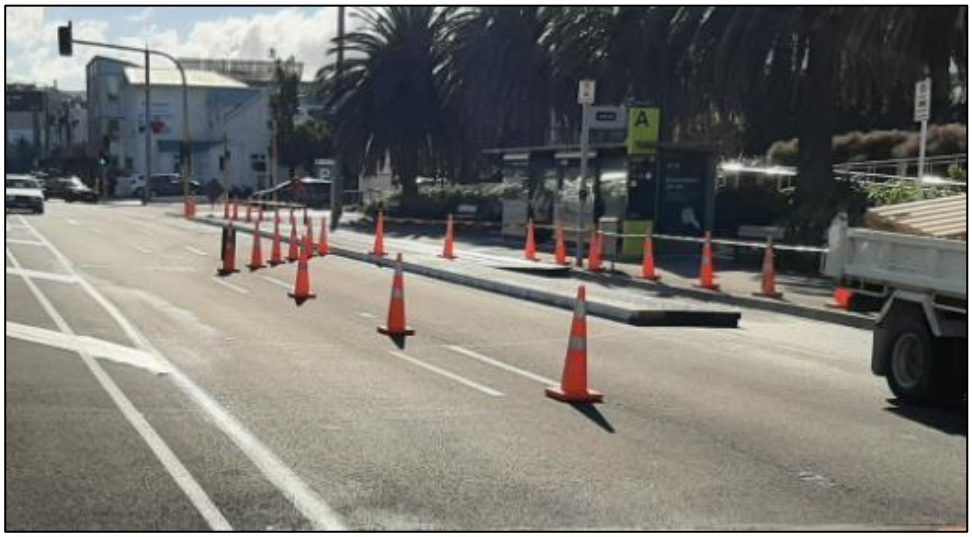


Figure 2 Zicla bus stop being installed outside the hospital for the Newtown to City Transitional Cycleway

2.7 Alternatives considered in long list assessment

The transitional cycleway approach limits the cycle facility options along the route. In general, the following considerations were applied to exclude options from the short list for the MCA. These are further detailed for each route section in the respective appendices (refer also to Section 3 below).

- Do nothing. There would be no improvement to the existing situation which has been identified as requiring improvement for cyclists through consultation on the Paneke Pōneke Bike Network Plan
- Alternate routes. These routes are identified in the Wellington Cycle Network Plan which has been consulted and approved in a separate process which considered alternate route options. Our assessment is not intended to repeat this
- Sealed shoulders. These are also not significantly different from cycle lanes (which could be considered sealed shoulders with cycle markings). Sealed shoulders may also be used for other purposes such as car parking which means that opportunity for a cyclist to use the space can be intermittent. This does not meet the Paneke Pōneke Bike Network Plan concept of a connected cycleway network
- Bidirectional paths where gradients exceed 4% and there is limited road width. As described in the Waka Kotahi Cycle Network Guidance this is the point at which uphill cyclists are likely to require extra width for wobbling, and downhill cyclists travel faster so require extra width for safe manoeuvring
- Shared paths. These routes are intended to form key parts of the cycle network with high cyclist volumes. Gradients on this route will also result in speed differential between cyclists and pedestrians. This is not compliant with Austroads and Waka Kotahi guidance for shared paths
- Change in road space through kerb realignment. The transitional cycleways are intended to require minimum physical works and ability to amend or reinstate if required
- Extensive kerb realignment or similar works will result in permanent changes not suitable for this programme
- Removing high priority parking where there are no alternative spaces nearby
- Bus lane removal due to the negative impact on public transport users
- Central traffic paths where traffic or heavy vehicle volumes mean a significant proportion of drivers will be required to pass opposing vehicles (indicatively around 1,000 vehicles per day). This results in significant delays and frequent encroachment into the cycle space.

2.8 Updates following stakeholder review of draft MCA

The draft MCA was issued for review on 27 May 2022. Council arranged reviews by various internal and external stakeholders including Waka Kotahi, Greater Wellington Regional Council, and cycling and walking representatives. A range of feedback was received, and this is reflected in the following updates;

- Update to scoring as required in response to feedback comments
- New Option 3 added for Kaiwharawhara Road which combines/adjusts Options 1 and 2 as per various suggestions
- Update to the naming for the 'Central Traffic Path' as shown on Cameron Street Options 2 and 3 to avoid confusion with a two-way traffic lane
- Updated plans to show clearer dimensions, the alignment of the preferred option, and opportunities for improved pedestrian connections and urban design improvements that will be considered in the detailed design phase

In addition a number of feedback responses related to specific improvements that should be considered. These included suggestions such as improved and new pedestrian crossing places, locations and types of cycle separators, appropriate cycle markings for different options, parking for various activities, identifying opportunities to provide/improve street furniture, and other urban design considerations. These are recorded and will be considered during detailed design and the development of the parking plan.

3. MCA Outcomes

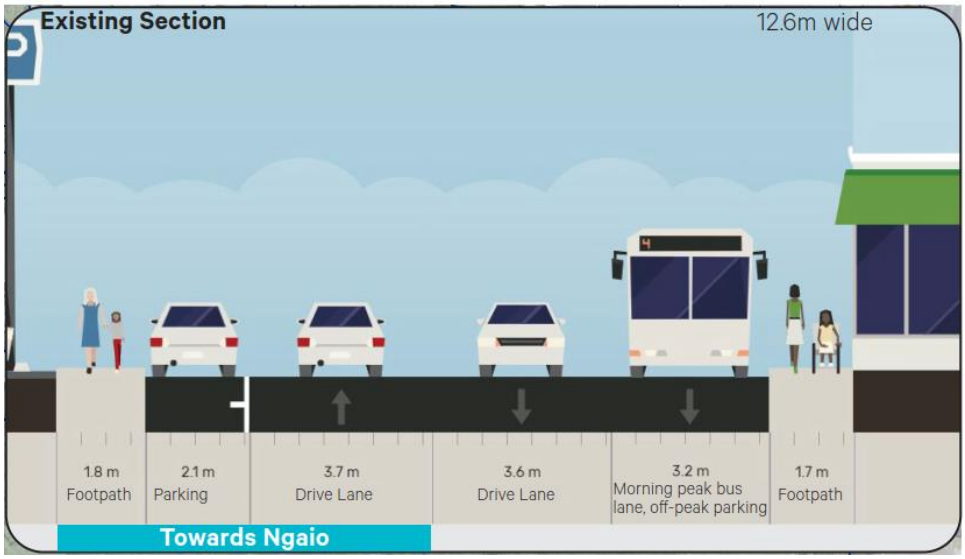
A summary of the assessment for each route is provided below. For a detailed breakdown refer to the scoring tables attached in the respective appendices.

The options assessed are what generally fits within the road along each section of the route. Specific pinch points such as pedestrian crossings, kerb buildouts, right turn bays and tight corners will be addressed during 30% design with specific compromise treatments that continues the preferred concept design option (for instance the cycle lane width could be reduced for a short distance, bollards stopped, or a short section of parking could be removed).

Other improvements such as pedestrian crossings, kerb ramps, bus stop locations, areas for street furniture/facilities, connection with parks and streams and priority parking generally equally apply across all of the concept options. These will therefore be included in the 30% designs for comment.

3.1 Kaiwharawhara Road

Kaiwharawhara Road is currently a two-lane road with parking on each side. On the northern side parking is only available off-peak, during the morning peak this is a bus lane.

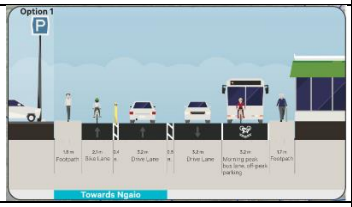
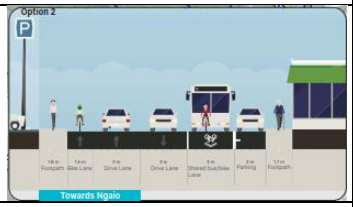
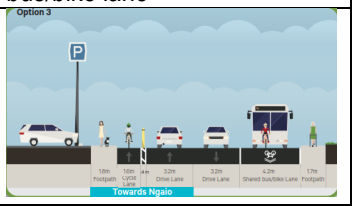


Key corridor information is included in Appendix A. Highlights for this section of the route include;

- Section length is approximately 700m
- Average carriageway width is 12.6m
- Five-day average daily traffic is approximately 12,500 vehicles
- Recorded 85th percentile speeds (53km/hr) exceed the posted speed limit (50 km/hr)
- Designated a Principal Road in the District Plan

Short listed options were limited by the corridor width, bus lane, limited parking on side streets and high-volume road environment. Specific options excluded from short list assessment are listed in Appendix B. The options assessed are discussed in Table 3 below.

Table 3 Kaiwharawhara Road MCA scores

	Option 1	Option 2	Option 3
Description	Separated cycleway towards Ngaio (uphill) and morning peak shared bike/bus lane towards City. Off-peak parking in shared bus/bike lane	Buffered cycle lane [Note 1] towards Ngaio (uphill) and full time shared bike/bus lane towards City. Parking on east side	Separated cycleway towards Ngaio (uphill) and morning peak shared bike/bus lane towards City. Off-peak parking and cycle space in shared bus/bike lane
Streetmix section			
Key differentiating factors	Protected facility for cyclists riding towards Ngaio, peak hour facility only for cyclists riding towards the city so potentially limited uptake Some parking demand not accommodated in remaining spaces, no parking during the morning peak period	Provides a continuous facility in both directions improving safety, also contributes to higher LOS and uptake Constrained lane widths.	Protected facility for cyclists riding towards Ngaio Provides a continuous facility in both directions improving safety, also contributes to higher LOS and uptake Some parking demand not accommodated in remaining spaces, no parking during the morning peak period
Weighted score	0.20	0.30	0.50
Rank	3	2	1

Notes

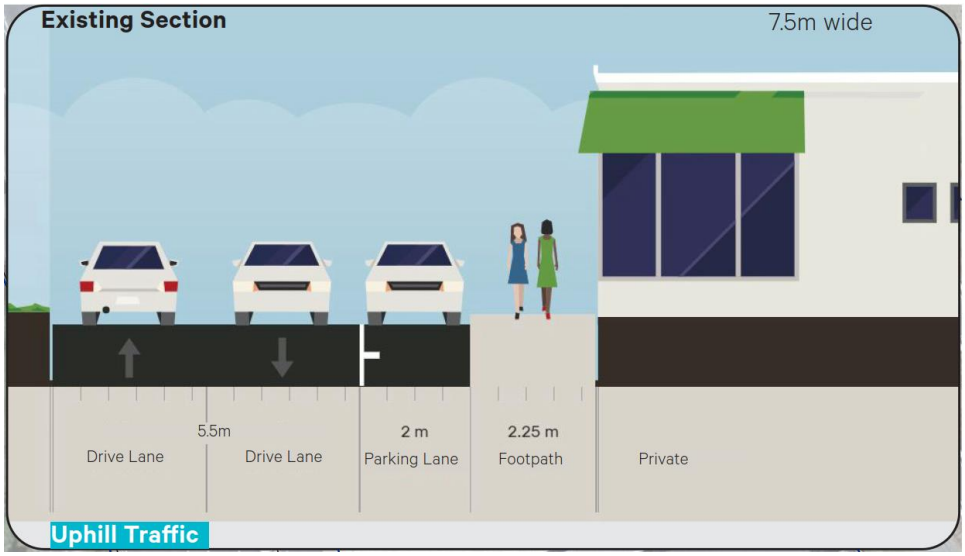
1. This is proposed as a 1.4m cycle lane and 0.2m buffer totalling 1.6m. This is the absolute minimum cycle lane width described in guidance (refer Section 2.5). It is considered acceptable as it only applies over 700m and is in the uphill direction, so cyclist speeds are lower.

Option 3 received the highest score during the MCA and was identified as the preferred option to proceed to 30% design.

Other opportunities identified for this section include pedestrian connections across Kaiwharawhara Road at Cameron Street and Old Porirua Road, traffic calming as city bound vehicles exit Ngaio Gorge, and sections of wider footpath on the south side of the road which could accommodate seating and/or bike racks.

3.2 Cameron Street

Cameron Street is currently a two-lane road with parking on the east side. It is a no-exit road providing access to an area of residential housing.



Key corridor information is included in Appendix A. Highlights for this section of the route include;

- Section length is approximately 200m
- Average carriageway width is 7.5m
- Five-day average daily traffic is approximately 700 vehicles
- Approximately 13% gradient (uphill towards Khandallah)
- Recorded 85th percentile speeds (41 km/hr) are lower than the posted speed limit (50 km/hr)
- Designated a local Road in the District Plan

Short listed options were limited by the corridor width and gradient. Specific options excluded from short list assessment are listed in Appendix C. The options assessed are discussed in Table 4 below.

Table 4 Cameron Street MCA scores

	Option 1	Option 2	Option 3
Description	Buffered cycle lane towards Khandallah (uphill), Shared lane towards City (downhill), parking east side, central traffic path Note 1	Shared lanes both directions, parking east side	One-way buffered cycle lane on each side, remove all parking, central traffic path Note 1
Streetmix section			
Key differentiating factors	Continuous facility for cyclists riding towards Khandallah improving safety Low speed differential between vehicles and downhill cyclists in the shared lane reduces conflict for confident riders Lower volume local road reduces conflict between cyclists and drivers	Cyclists required to share road space with reduced safety and uptake Low speed differential between vehicles and downhill cyclists in the shared lane reduces conflict for confident riders Lower volume local road reduces conflict between cyclists and drivers	Provides a continuous cycle facility in both directions improving safety, also contributes to higher LOS and uptake Significant impact on parking
Weighted score	0.55	0.15	0.05
Rank	1	2	3

Notes

2. Opposing traffic would have to pull into the cycle lane or driveway to pass

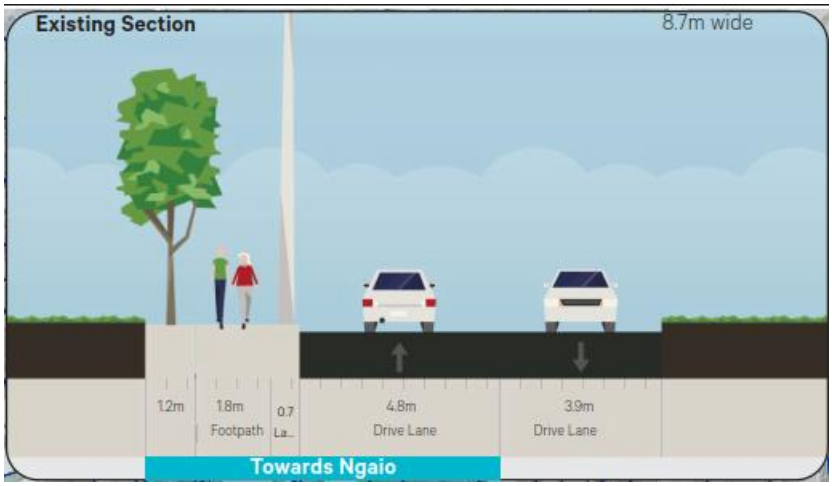
Option 1 received the highest score during the MCA and was identified as the preferred option to proceed to concept design.

Other opportunities identified for this section include traffic calming to encourage a slower speed environment.

3.3 Ngaio Gorge Road

Ngaio Gorge Road is currently a two-lane road with a shoulder in the northbound direction towards Ngaio. There are few formal parking restrictions, but the limited shoulder space means there is very little kerbside parking with most residents parking behind the kerb on flat parts of the berm.

Part of this section is currently under temporary traffic management for the Ngaio Gorge Slope Stabilisation Project. The short list options fit within the design for this project although may require the proposed line marking to be replaced with an updated design.

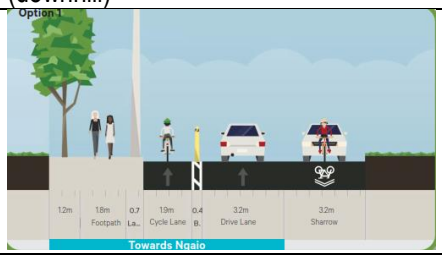
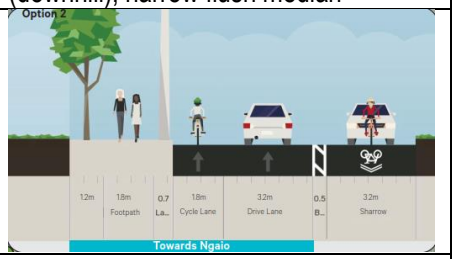


Key corridor information is included in Appendix A. Highlights for this section of the route include;

- Section length is approximately 1,200m
- Average carriageway width is 8.7m
- Five-day average daily traffic is approximately 10,000 vehicles
- Approximately 9% gradient (uphill towards Ngaio)
- Designated a Principal Road in the District Plan

Short listed options were limited by the corridor width, gradient and high-volume road environment. Specific options excluded from short list assessment are listed in Appendix D. The options assessed are discussed in Table 5 below.

Table 5 Ngaio Gorge Road MCA scores

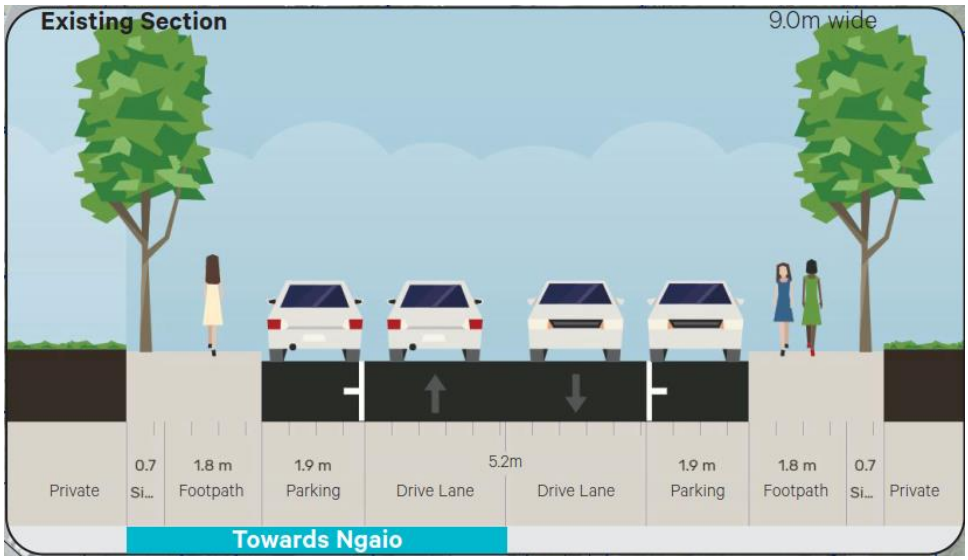
	Option 1	**Option 2**
Description	Separated cycleway towards Ngaio (uphill), Shared lane towards City (downhill)	On road cycle lane towards Ngaio (uphill), Shared lane towards City (downhill), narrow flush median
Streetmix section		
Key differentiating factors	Protected facility for cyclists riding towards Ngaio improving safety. Constrained traffic lane widths	Limited improvement for cyclists over existing sealed shoulder Aligns with Ngaio slope stabilisation design
Weighted score	0.50	0.40
Rank	1	2

Option 1 received the highest score during the MCA and was identified as the preferred option to proceed to concept design.

Other opportunities identified for this section include a pedestrian connection across Ngaio Gorge Road at Perth Street and improving pedestrian connections to Trelissick Park.

3.4 Kenya Street

Kenya Street currently operates as a two-lane road with parking on each side. However, the narrow road width means that one traffic lane is often required to give way to pass opposing traffic when vehicles are parked on both sides of the road.

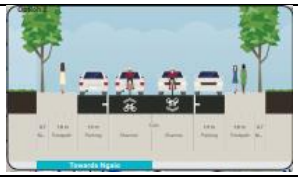
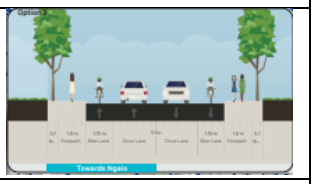


Key corridor information is included in Appendix A. Highlights for this section of the route include;

- Section length is approximately 500m
- Average carriageway width is 9.0m
- Recorded 85th percentile speeds (46 km/hr) are lower than the posted speed limit (50 km/hr)
- Approximately 4% gradient (downhill towards Ngaio)
- Designated a Principal Road in the District Plan

Short listed options were limited by the corridor width and gradient. Specific options excluded from short list assessment are listed in Appendix E. The options assessed are discussed in Table 6 below.

Table 6 Kenya Street MCA scores

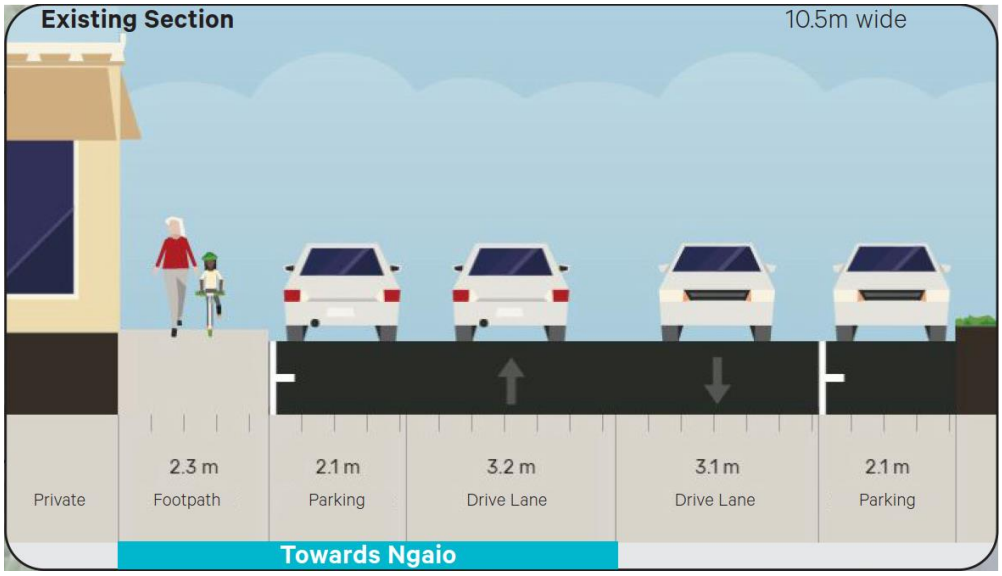
	Option 1	Option 2	Option 3
Description	Shared lane towards Ngaio (downhill), Cycle lane towards City (uphill), parking one side, in-line bus stops	Shared lanes both directions, parking both sides, traffic calming, reduced speed environment	One way buffered cycle lane on each side, remove all parking, in-line bus stops
Streetmix section			
Key differentiating factors	Continuous facility for cyclists riding towards the City improving safety, but facility in only one direction so potentially limited uptake Parking only on one side but parking demand is low so all of existing observed demand will be accommodated. Increase traffic lane width making it easier to pass opposing vehicles Low speed differential between vehicles and downhill cyclists in the shared lane reduces conflict for confident riders	Unprotected cyclists required to ride adjacent to traffic and in car door zone with reduced safety and uptake Improved safety for pedestrians Poor alignment with other road projects and transformational cycleway options No impact on parking	Provides a continuous facility in both directions improving safety, also contributes to higher LOS and uptake Increase traffic lane width making it easier to pass opposing vehicles Moderate impact on parking
Weighted score	0.60	0.50	0.45
Rank	1	2	3

Option 1 received the highest scores during the MCA and was identified as the preferred option to proceed to 30% design.

Other opportunities identified for this section include wider sections of the road corridor which may allow the cycle lane to be separated.

3.5 Crofton Road

Crofton Road is currently a two-lane road with parking on each side.



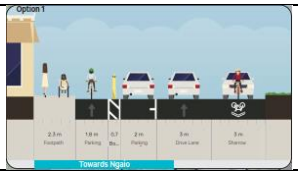
Key corridor information is included in Appendix A. Highlights for this section of the route include;

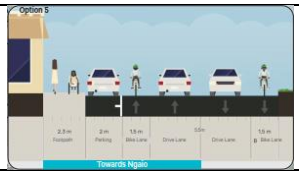
- Section length is approximately 200m
- Average carriageway width is 10.5m
- Inferred[4] 85th percentile speeds (46 km/hr) are lower than the posted speed limit (50 km/hr)
- Designated a Principal Road in the District Plan

Short listed options were limited by the corridor width and adjacent cycleway options. Specific options excluded from short list assessment are listed in Appendix F. The options assessed are discussed in Table 7 below.

[4] Refer Appendix A for discussion on how the 85th percentile speeds were inferred for Crofton Road

Table 7 Crofton Road MCA scores

	Option 1	Option 2	Option 3
Description	Separated cycleway towards Ngaio, shared lane towards city, parking one side	Shared lane towards Ngaio, Separated cycleway towards City, parking one side	Shared lanes both directions with reduced speed limit (with speed reduction measures) and placemaking, parking both sides
Streetmix section			
Key differentiating factors	Protected facility for cyclists riding towards Ngaio improving safety, but facility in only one direction so potentially limited uptake Low parking demand can be accommodated on one side of the road	Protected facility for cyclists riding towards the city improving safety, but facility in only one direction so potentially limited uptake Low parking demand can be accommodated on one side of the road	Slower speed environment improves safety for all road users including cyclists No impact to parking availability No specific cycling provision may reduce uptake for cyclists not confident to share with traffic
Weighted score	0.70	0.75	0.75
Rank	3	1	1

	Option 4	Option 5
Description	One way separated cycleway on each side, remove all parking	Painted cycle lanes (no buffer), parking one side, two-way traffic lane width reduced to 5m
Streetmix section		
Key differentiating factors	Provides a continuous protected facility in both directions improving safety, also contributes to higher LOS and uptake Significant impact on parking	Unprotected cyclists required to ride adjacent to traffic and in car door zone with reduced safety and uptake Low parking demand can be accommodated on one side of the road Increased delay for traffic (including buses) due to narrow lane width
Weighted score	0.55	0.10
Rank	4	5

Options 2 and 3 received the highest score during the MCA. A modified Option 2 (with threshold treatment, narrowed lanes and speed cushions to encourage the slower speed environment reflected in Option 3) was identified as the preferred option to proceed to concept design.

Other opportunities identified for this section include improvements to the pedestrian crossing across Crofton Road at Abbott Street, traffic calming, sections of wider footpath on the south side of the road which could accommodate seating and/or bike racks and considering pick up/ drop off Ngaio School.

4. Conclusions

This Multi Criteria Analysis (MCA) has been undertaken to assess the preferred option for the Ngaio Transitional Cycleway project.

To assist with scoring the route was broken into five sections to reflect the differences in road layout, gradient, character and design along the route.

A number of constraints such as road width, traffic volumes and gradient limited the feasibility of long list options and assisted in eliminating options to arrive at the short list.

Each short-listed option was scored in accordance with the MCA criteria and scoring scale. The preferred option was generally the highest scoring in the MCA, although for Crofton Road the preferred option is a combination of the two highest scoring options.

The preferred option identified by the MCA is;

- For cyclists towards Ngaio
    - Separated cycleway along Kaiwharawhara Road
    - Separated cycleway up Ngaio Gorge Road
    - Shared lane down Kenya Street and along Crofton Road (with reduced speed environment on Crofton Road)
- For cyclists to Khandallah
    - Separated cycleway along Kaiwharawhara Road
    - Buffered cycle lane up Cameron Street to the Kaiwharawhara Bridle Path
- For cyclists towards the City from Ngaio
    - Separated cycleway along Crofton Road with reduced speed environment
    - Cycle lane up Kenya Street
    - Shared lane down Ngaio Gorge Road
    - Shared bus/bike lane along Kaiwharawhara Road during the morning peak period, with cycle space adjacent to kerbside parking during the rest of the day
- For cyclists towards the City from Khandallah
    - Shared lane down Cameron Street
    - Shared bus/bike lane along Kaiwharawhara Road during the morning peak period, with cycle space adjacent to kerbside parking during the rest of the day

Subject to Council's confirmation this will be progressed to 30% design.

Appendix A – Assessment criteria

- Key corridor information
- Route and section layout showing existing road corridor
- MCA criteria and scoring application provided by WCC
- Scoring scale

Table 8 Key corridor information

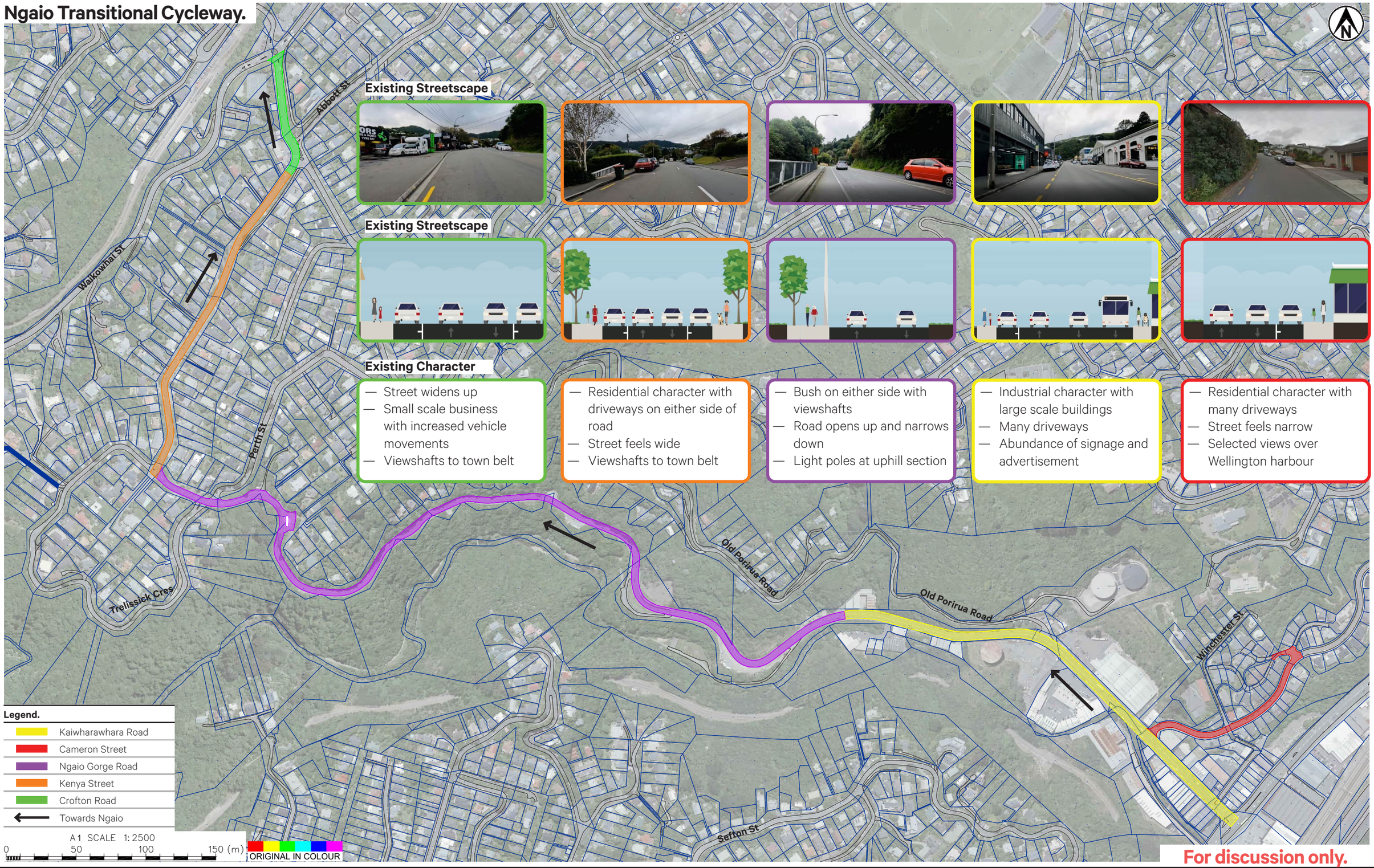
	Source	Kaiwharawhara Road	Cameron Street	Ngaio Gorge Road	Kenya Street	Crofton Road [Note 1]
Approximate section length	Measured on Google Maps	700m	300m	1,200m	500m	200m
ONF category	Megamaps	Currently being reviewed by Waka Kotahi. To be updated when available				
WCC Road Hierarchy	WCC District Plan Map 33	Principal Road	Local Road	Principal Road	Principal Road	Principal Road
Mean operating speed	Megamaps	Currently being reviewed by Waka Kotahi. To be updated when available				
Safe and Appropriate Speed	Megamaps	Currently being reviewed by Waka Kotahi. To be updated when available				
Recorded 85th Percentile speed (towards Ngaio/ Khandallah)	WCC Traffic counts	54.6 km/h	40.8 km/h	46.3 km/h	45.2 km/h	*45.2* km/h
Recorded 85th Percentile speed (towards City)	WCC Traffic counts	52.1 km/h	42.5 km/h	48.8 km/h	47.5 km/h	*47.5* km/h
Average gradient (towards Ngaio)	Measured on site	Slight uphill ~2%	approx. 13%	approx. 9%	approx. -4%	Slight downhill ~2%
Peak hour bus frequency (in each direction)	Metlink	7 per hour	Not a bus route	7 per hour	2 per hour	2 per hour
Average carriageway width	Measured on aerial photo	12.6m	7.5m	8.7m	9m	10.5m
Two way traffic volume (5-day ADT)	WCC Traffic counts	12,370	688	9,794	8,023	8,023
Heavy vehicle proportion	WCC Traffic counts	5.6%	6.4%	5.8%	4.5%	4.5%

Notes

1. Crofton Road speed, volume and heavy vehicle proportion estimated same as Kenya Street

C:\12dSynergy\data\ALBTCAD\Transitional Cycleways-Ngaio_J902_1100\CAD\DWG\1017985.0000-001-A1.dwg 2022-May-25 11:58:00 am Plotted By: CHARLIE LI

Ngaio Transitional Cycleway.



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REV	DESCRIPTION	CAD	CHK	DATE
1	DRAFT FOR DISCUSSION ONLY	CHLI	AH	25.05.2022

DESIGNED	FH	May.22	DRAWING STATUS
DRAWN	CHLI	May.22	DRAFT FOR DISCUSSION
DESIGN CHECKED	AH	May.22	PROJECT PHASE
DRAWING CHECKED	AH	May.22	CONCEPT DESIGN

NOT FOR CONSTRUCTION

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED

APPROVED DATE

CLIENT WELLINGTON CITY COUNCIL

PROJECT TRANSITIONAL CYCLEWAYS - NGAIO

TITLE ROUTE SECTION
SECTION PLAN

SCALE (A1) 1:2500 DWG No. 1017985.J902-CD-001 REV 1

MCA criteria and scoring application

Criteria	Consideration	Facilities Measure	Comment	Example of scoring application						
				-3	-2	-1	0	1	2	3
1. Improve safety, accessiblity and convenience for people cycling and using micro-mobility devices	Improved safety for people cycling and using micro-mobility devices	Austroads Safe Systems Assessment cycling product		Reduction in SSA of >36	Reduction in SSA of 17-35	Reduction in SSA of 4-16	No change	Improvement in SSA of 4-16	Improvement in SSA of 17-35	Improvement in SSA of >36
	Improved convenience for people cycling and using micro-mobility devices	Austroads LOS Framework for cyclists and extent of protcted facility and how well the type of facility aligns to any existing and planned adjacent cycle infrastructure (including access to facilities)		Less efficient route, more difficult to pass slow cyclists, significantly slower and less comfortable.			No change			Easier, faster, more enjoyable.
2. Improve safety, accessiblity and convenience for people walking and using mobility devices	Improved safety for people walking and using mobility devices	Austroads Safe Systems Assessment pedestrian product		Reduction in SSA of >36	Reduction in SSA of 17-35	Reduction in SSA of 4-16	No change	Improvement in SSA of 4-16	Improvement in SSA of 17-35	Improvement in SSA of >36
	Improved convenience for people walking and using mobility devices	Assessment of available pedestrian space		Removal of existing pedestrian path, removal of pedestrian crossing facility, shared bike and pedestrian paths		Bus stop bypasses impact footpath width at some locations	No change			Wider footpaths, increased pedestrian crossing priority and reduced delays at crossings
3. Improve bus speed and reliabilty	Improved travel time of PT compared with private vehicles	Traffic capacity relative to public transport. Improvements such as bus jumps at intersections, bus stop rationalisation, bus stop layout improvements, as well as changes that reduce traffic lanes and increase general traffic time. Where a cycle lane crosses through the bus stop this would likely reduce travel time as bus passengers take longer to alight and disembark.		Traffic capacity increased relative to PT			No change or equal reduction in travel time		Bus priority at intersections, reduced traffic capacity	Bus stop rationalisation, bus priority at intersections, reduced traffic capacity
4. Retain high priorty parking and mitigate parking impact	Retain high priority parking for businesses and residents where essential (e.g., mobility parking)	Alignment with WCC Parking policy primary and secondary success measures. Increase or decrease in loading provisions for businesses	Need to assess impact of different type of parking using hierachy from policy. Eg. Removing mobility parking worse than commuter parking	Significant loss of high priority parking.			No change			No essential parking removed.
	Mitigate parking impact (ie, provide car share, etc)	Provide alternatives.	Consider car park sharing, as well as car sharing parks, etc.	Nearest available parking for residents over 5 minutes walk away.			No change			Clear alternative options. No essential parking removed.
5. Enables benefits to be delivered quickly with minimal disruption	Alignment with other planned works in the road corridor, and/or reduced disruption during construction.	Considering current and upcoming planned works recorded in open Corridor Access Requests (CARs), within the Wellington Forward Works Viewer and references by the project team. Efficiency of people flow during construction with minimal impact on travel times		Cycle priority will have to be removed to allow implementation of other planned works along the corridor with no ability to retain continous cycle provision during construction	Closure of part-time transport facilities during construction (e.g. peak hour bus lanes)		No change			Changes will make it easier to implement other planned works along the corridor whilst maintaining good LOS for sustainable modes
	Ability to deliver quickly, or sequenced for elements to deliver early. Reduced civil works, signals changes and other major works.	Scale of works required, any consenting or external approval requirements, lead times for key components or contracting staff		Requires formal consultation or approval from other organisations. Significant signal changes. Specialist materials requiring long lead times.		Unable to be delivered in sections without creating connectivity issues for cyclists	No change	Able to be delivered in sections without creating connectivity issues for cyclists		No changes to signal infrastrucutre or bus stops, able to be delivered in sections without creating connectivity issues for cyclists
6. Improve the place amenity in the area	Improved urban amenity	Available space for place function enhancements such as street trees, seating, parklets, cycle parking (avoid hostile architecture) Separation of transportation modes (e.g. footpath, cycle lane, vehicle lane) Increase of biodiversity and habitat improvements for overall climate action response	Needs to be strategically assessed across entire CBD area and demographic development. "Place function enhancements" will differ from sub-urb to sub-urb, and the required space needing changes based on that	Reduction of available pedestrian space and footpaths, no use of sur-plus car-parks, increase of private vehicle use by increasing enabling structures (e.g. more car parks) and de-creasing public open spaces, increase of carbon footprint by not challenging "status quo", missed opportunities of community engagement and therefore loss of spatial quality	Identifying spatial opportunities (e.g. sur-plus car parks) but not following up on actions,	Identifying spatial opportunities (e.g. sur-plus car parks) but poorly executed spatial arrangement (e.g. min space requirement and accessibility standards) based on national and local govt regulations	No change	Find suitable spaces and improve their function/use and overall access, assess all existing functions, start creating an urban spatial network (e.g. key areas - what is missing, what is required for that space based on demographic and private/public use)	Link spatial elements, have a suite developed that identifies opportunities, Use of GNP (green network plan) and other strategic plans/policies (e.g. WSD, Wellington Design Manual)	Clear functional hierarchy of transportation modes (e.g. footpath, cycle lane, vehicle lane) and their intented use, widen footpaths/pedestrian areas to increase public open space, connect/link public spaces to create POI's, identify and use sur-plus vehicle areas to increase amenity spaces, provide exterior furniture elements for space enhancement, increase use of green elements (e.g. trees) with suitable foliage (provide shadow and cooling in summer, keep warmth during winter), assign clear functions to spaces, locate space enhancements in close proximity to public amenities (e.g. toilets, bus-stops), look at principles of the 15min city, look at principles of "livability"

Scoring scale

Score	Benefits/disbenefits
3	Significantly achieves
2	Moderately achieves
1	Slightly achieves
0	Neutral
-1	Slightly reduces
-2	Moderately reduces
-3	Significantly reduces

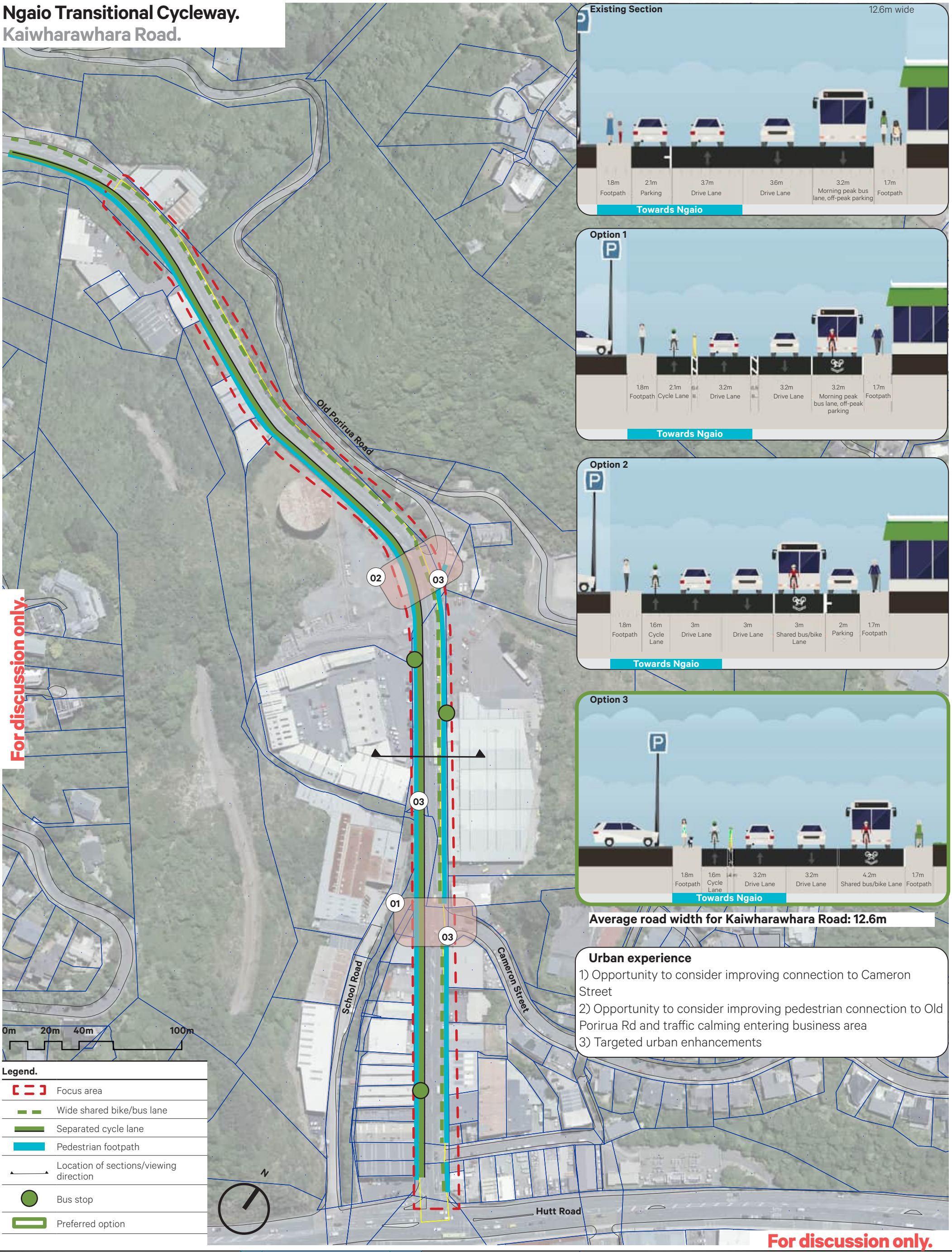
Objective weightings

Criteria	Consideration	Weight	Weight
1. Improve safety, accessiblity and convenience for people cycling and using micro-mobility devices	Improved safety	20%	30%
	Improved convenience	10%	
2. Improve safety, accessiblity and convenience for people walking and using mobility devices	Improved safety	15%	20%
	Improved convenience	5%	
3. Improve bus speed and reliabilty	Improved bus speed and reliablity	15%	15%
4. Retain high priorty parking and mitigate parking impact	Retain high priorty parking (e.g., short term and loading followed by residential).	10%	20%
	Mitigate parking impact (e.g., car share options, etc)	10%	
5. Enables benefits to be delivered quickly with minimal disruption	Alignment with other planned works in the road corridor	5%	10%
	Reduced civil works, signals changes and other major changes	5%	
6. Improve the place amenity in the area	Placemaking and urban design options	5%	5%
	Total weights	**100%**	**100%**

Appendix B – Kaiwharawhara Road options and MCA table

- Options
- Options excluded from the shortlist
- MCA Ranking

Ngaio Transitional Cycleway.
Kaiwharawhara Road.



Existing Section 12.6m wide

Option 1

Option 2

Option 3

Average road width for Kaiwharawhara Road: 12.6m

Urban experience

1) Opportunity to consider improving connection to Cameron Street
2) Opportunity to consider improving pedestrian connection to Old Porirua Rd and traffic calming entering business area
3) Targeted urban enhancements

Legend.

- Focus area
- Wide shared bike/bus lane
- Separated cycle lane
- Pedestrian footpath
- Location of sections/viewing direction
- Bus stop
- Preferred option

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Abley

Isthmus.

REV	DESCRIPTION	DATE	APPROVED	DATE
1	DRAFT FOR CLIENT REVIEW	27.05.22		
2	FINAL CONCEPT ISSUE	23.06.22		

PROJECT No.	1017985.J902-CD	
DESIGNED	FH	Jun.22
DRAWN	CHLI	Jun.22
CHECKED	AH	Jun.22

CLIENT **WELLINGTON CITY COUNCIL**

PROJECT **TRANSITIONAL CYCLEWAYS - NGAIO**

TITLE KAIWHARAWHARA ROAD SECTION
SECTION PLAN

SCALE (A3) 1:2000 FIG No. 1017985.J902-CD-002 REV 2

Kaiwharawhara Road options excluded from short list assessment

Long list opportunities	Reason for exclusion from short list
Do Nothing	Refer Section 2.4.
Alternate routes	Refer Section 2.4
Sealed shoulders	Refer Section 2.4
Speed reductions	Kaiwharawhara Road provides a key movement function for high traffic volumes. Adjacent speed environments are currently at 50 km/hr or higher. Not considered appropriate for this section of the route.
Bidirectional path	Insufficient width to accommodate this within the road corridor while maintaining traffic lanes and the bus lane
Remove bus lane	Considered fatal flaw for significant impact on bus priority
Remove parking on both sides of the road	Considered a fatal flaw as no way to provide high priority short stay business parking (side streets Old Porirua Road, Cameron Street, Pickering Street and Westminster Street have limited capacity, no other capacity available within five minute walk)
Shared path	This route is intended to form key parts of the cycle network with high cyclist volumes. Gradients on this route will also result in speed differential between cyclists and pedestrians. This is not compliant with Austroads and Waka Kotahi guidance for shared paths.
Change in road space through kerb realignment.	The transitional cycleways are intended to require minimum physical works and ability to amend or reinstate if required. This excluded cycle lanes on both sides, protected cycle lanes, and retaining parking on both sides of the road (as Do Nothing is also excluded).
Reduced traffic lane width below 3.0m	Kaiwharawhara Road provides a key movement function for high traffic volumes. Reduced traffic lane widths considered a fatal flaw as opposing large vehicles generated by surrounding land use (NZ Couriers, etc) would be unable to easily turn in/out as well as pass each other causing significant delay to all road users
Central traffic path	Considered fatal flaw as high traffic volumes mean a significant proportion of drivers will be required to pass opposing vehicles. This results in significant delays and frequent encroachment into the cycle space.

Kaiwharawhara Road MCA ranking

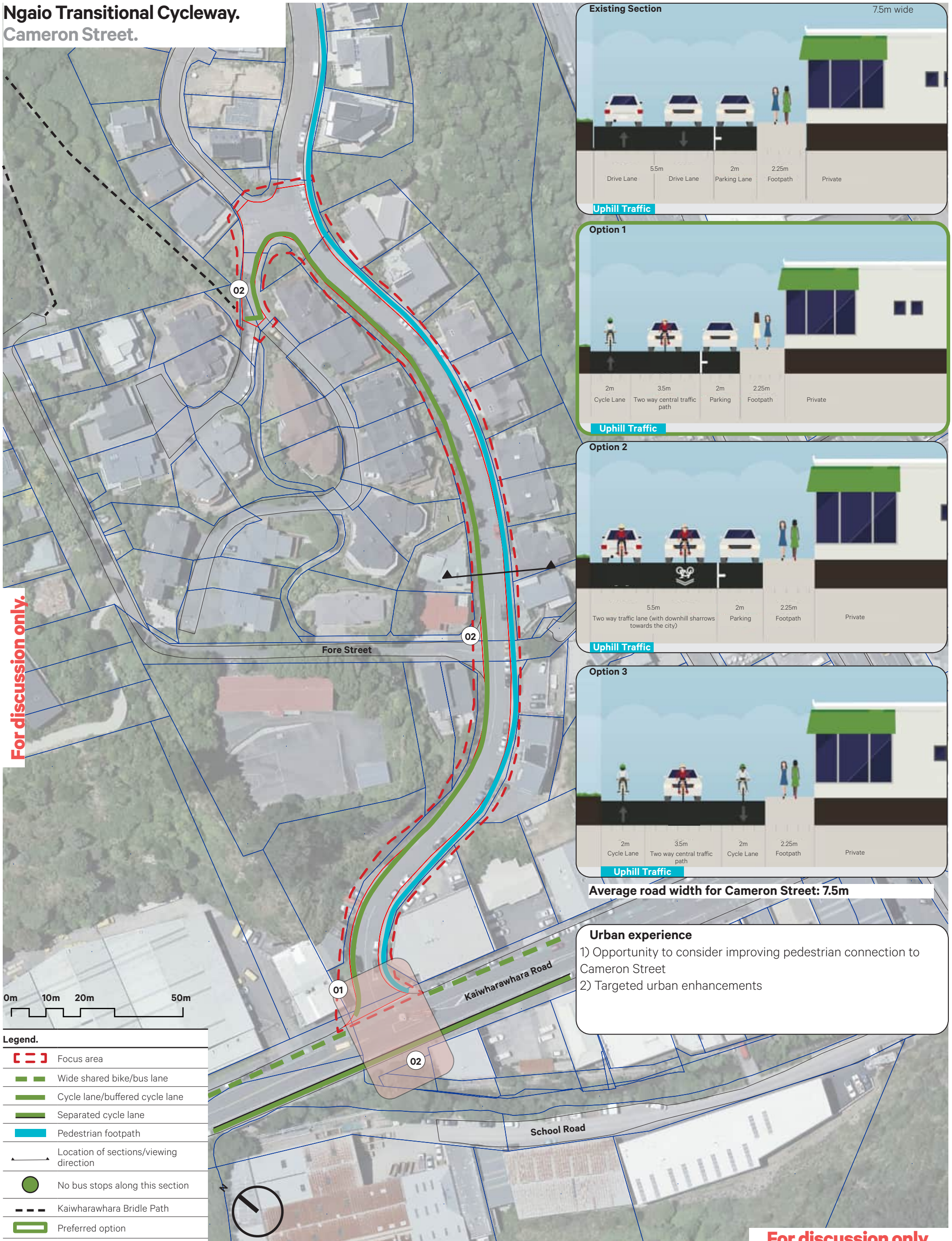
Criteria	Consideration	Option 1	Option 2	Option 3	Comments
Description		Separated cycleway towards Ngaio (uphill) and morning peak shared bike/bus lane towards City. Off-peak parking in bus lane	Buffered cycle lane towards Ngaio (uphill) and full time shared bike/bus lane towards City. Parking on east side	Separated cycleway towards Ngaio (uphill) and morning peak shared bike/bus lane towards City. Off-peak parking and cycle space in bus lane	
Dimensions (from left to right towards Ngaio, 12.6m total)		Separated cycleway (2.5m), traffic lane (3.2m), flush median (0.5m), traffic lane (3.2m), shared bike/bus lane (3.2m)	Cycle lane (1.6m), traffic lane (3.0m), traffic lane (3.0m), shared bike/bus lane (3.0m), parking (2.0m)	Separated cycleway (2.0m), traffic lane (3.2m), traffic lane (3.2m), shared bike/bus lane (4.2m)	
1. Improve safety, accessiblity and convenience for people cycling and using micro-mobility devices	Improved safety for people cycling and using micro-mobility devices	1	1	2	Refer SSA
	Improved convenience for people cycling and using micro-mobility devices	1	2	2	Options 2 and 3 provide full time cycle facility in both directions
2. Improve safety, accessiblity and convenience for people walking and using mobility devices	Improved safety for people walking and using mobility devices	0	0	0	Refer SSA
	Improved convenience for people walking and using mobility devices	0	0	0	No change to footpath width
3. Improve bus speed and reliabilty	Improved travel time of PT compared with private vehicles	0	0	0	Option 2 changes peak hour bus lane towards city to full time, however limited delay currently experienced during off-peak periods
4. Retain high priorty parking and mitigate parking impact	Retain high priority parking for businesses and residents where essential (e.g., mobility parking)	-2	-1	-2	All options can reallocate parking spaces to priority parking as required, Options 1 and 3 don't provide any parking during morning peak period
	Mitigate parking impact (ie, provide car share, etc)	-2	-2	-2	No clear parking alternatives available, on street parking becomes time restricted for high priority business parking
5. Enables benefits to be delivered quickly with minimal disruption	Alignment with other planned works in the road corridor, and/or reduced disruption during construction.	2	1	2	All options align with vision for protected cycle lanes. Option 2 has minimum widths limiting future reallocation of road space
	Ability to deliver quickly, or sequenced for elements to deliver early. Reduced civil works, signals changes and other major works.	3	3	3	Markings, signage and bollards only required
6. Improve the place amenity in the area	Improved urban amenity	1	0	1	All options contribute to urban spatial framework, Option 2 has constrained widths
	Weighted Score	0.20	0.30	0.50	
	Rank	3	2	1	

Appendix C – Cameron Street options and MCA table

- Options
- Options excluded from the shortlist
- MCA Ranking

Ngaio Transitional Cycleway.

Cameron Street.



Existing Section 7.5m wide

Option 1

Option 2

Option 3

Average road width for Cameron Street: 7.5m

Urban experience

1) Opportunity to consider improving pedestrian connection to Cameron Street
2) Targeted urban enhancements

Legend.

- Focus area
- Wide shared bike/bus lane
- Cycle lane/buffered cycle lane
- Separated cycle lane
- Pedestrian footpath
- Location of sections/viewing direction
- No bus stops along this section
- Kaiwharawhara Bridle Path
- Preferred option

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REV	DESCRIPTION	DATE
1	DRAFT FOR CLIENT REVIEW	27.05.22
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APPROVED DATE

CLIENT WELLINGTON CITY COUNCIL
PROJECT TRANSITIONAL CYCLEWAYS - NGAIO
TITLE CAMERON STREET SECTION
SECTION PLAN
SCALE (A3) 1:1000 FIG No. 1017985.J902-CD-003 REV 2

Cameron Street options excluded from short list assessment

Long list opportunities	Reason for exclusion from short list
Do Nothing	Refer Section 2.4.
Alternate routes	Refer Section 2.4
Sealed shoulders	Refer Section 2.4
Bidirectional path	Insufficient width to accommodate this within the road corridor while maintaining traffic lanes
Shared path	This route is intended to form key parts of the cycle network with high cyclist volumes. Gradients on this route will also result in speed differential between cyclists and pedestrians. This is not compliant with Austroads and Waka Kotahi guidance for shared paths.
Change in road space through kerb realignment.	The transitional cycleways are intended to require minimum physical works and ability to amend or reinstate if required. This excluded protected cycle lanes, 3.0m or greater traffic lanes, and retaining parking on both sides of the road (as Do Nothing is also excluded).

Cameron Street MCA ranking

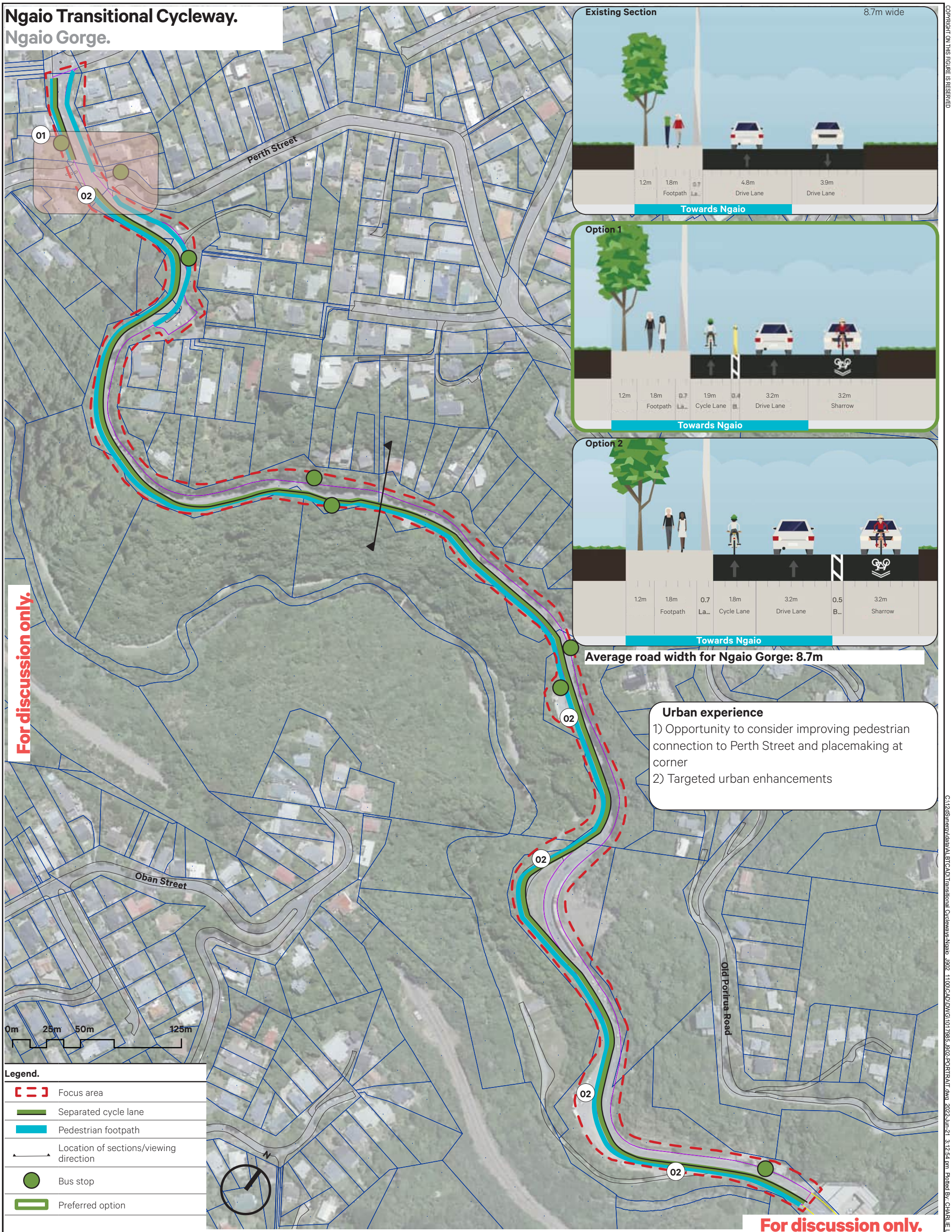
Criteria	Consideration	Option 1	Option 2	Option 3	Comments
	Description	Buffered cycle lane towards Khandallah (uphill), Shared lane towards City (downhill), parking east side, central traffic path	Shared lanes both directions, parking east side	One-way buffered cycle lane on each side, remove all parking, central traffic path	
	Dimensions (from left to right towards Khandallah, 7.5m total)	Cycle lane (2.0m), central traffic path (3.5m), parking (2.0m)	Two way shared lane (5.5m), parking (2.0m)	Cycle lane (2.0m), central traffic path (3.5m), cycle lane (2.0m)	
1. Improve safety, accessiblity and convenience for people cycling and using micro-mobility devices	Improved safety for people cycling and using micro-mobility devices	1	0	1	Refer SSA report
	Improved convenience for people cycling and using micro-mobility devices	1	0	1	Options 1 and 3 provide space for uphill cyclists, downhill cyclists currently travel at similar speed as traffic
2. Improve safety, accessiblity and convenience for people walking and using mobility devices	Improved safety for people walking and using mobility devices	0	0	0	
	Improved convenience for people walking and using mobility devices	0	0	0	No change to footpath width
3. Improve bus speed and reliabilty	Improved travel time of PT compared with private vehicles	0	0	0	N/A - not a bus route
4. Retain high priorty parking and mitigate parking impact	Retain high priority parking for businesses and residents where essential (e.g., mobility parking)	0	0	-3	Option 3 removes all carparks including priority parking, other options don't significantly change parking availability
	Mitigate parking impact (ie, provide car share, etc)	0	0	-2	Parking for option 3 partially available on side streets, other options don't significantly change parking availability
5. Enables benefits to be delivered quickly with minimal disruption	Alignment with other planned works in the road corridor, and/or reduced disruption during construction.	1	0	1	Connections to Kaiwharawhara Road and Bridle Path, otherwise no known projects
	Ability to deliver quickly, or sequenced for elements to deliver early. Reduced civil works, signals changes and other major works.	3	3	3	Markings, signage and bollards only required
6. Improve the place amenity in the area	Improved urban amenity	1	0	1	Options 1 and 3 contribute to urban spatial framework, Option 2 has limited change to existing
	Weighted Score	0.55	0.15	0.05	
	Rank	1	2	3	

Appendix D – Ngaio Gorge Road options and MCA table

- Options
- Options excluded from the shortlist
- MCA Ranking

Ngaio Transitional Cycleway.

Ngaio Gorge.



Existing Section 8.7m wide

Option 1

Option 2

Average road width for Ngaio Gorge: 8.7m

Urban experience

1) Opportunity to consider improving pedestrian connection to Perth Street and placemaking at corner
2) Targeted urban enhancements

Legend.

- Focus area
- Separated cycle lane
- Pedestrian footpath
- Location of sections/viewing direction
- Bus stop
- Preferred option

For discussion only.

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CLIENT **WELLINGTON CITY COUNCIL**

PROJECT **TRANSITIONAL CYCLEWAYS - NGAIO**

TITLE NGAIO ROAD SECTION
SECTION PLAN

SCALE (A3) 1:2500 FIG No. 1017985.J902-CD-004 REV 2

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Ngaio Gorge Road options excluded from short list assessment

Long list opportunities	Reason for exclusion from short list
Do Nothing	Refer Section 2.4.
Alternate routes	Refer Section 2.4
Sealed shoulders	Refer Section 2.4
Speed reductions	Ngaio Gorge Road provides a key movement function for high traffic volumes. Adjacent speed environments are currently at 50 km/hr or higher. Not considered appropriate for this section of the route.
Bidirectional path	Insufficient width to accommodate this within the road corridor while maintaining traffic lanes
Shared path	This route is intended to form key parts of the cycle network with high cyclist volumes. Gradients on this route will also result in speed differential between cyclists and pedestrians. This is not compliant with Austroads and Waka Kotahi guidance for shared paths.
Change in road space through kerb realignment.	The transitional cycleways are intended to require minimum physical works and ability to amend or reinstate if required. This excluded cycle lanes on both sides, bidirectional path, and retaining parking (as Do Nothing is also excluded).
Reduced traffic lane width below 3.0m	Ngaio Gorge Road provides a key movement function for high traffic volumes. Reduced traffic lane widths considered a fatal flaw as opposing large vehicles would be unable to traverse the winding alignment without unsafely crossing into the opposing lane. Additional widening to accommodate vehicle tracking will be assessed during 30% design
Central traffic path	Considered fatal flaw as high traffic volumes mean a significant proportion of drivers will be required to pass opposing vehicles. This results in significant delays and frequent encroachment into the cycle space.

Ngaio Gorge Road MCA ranking

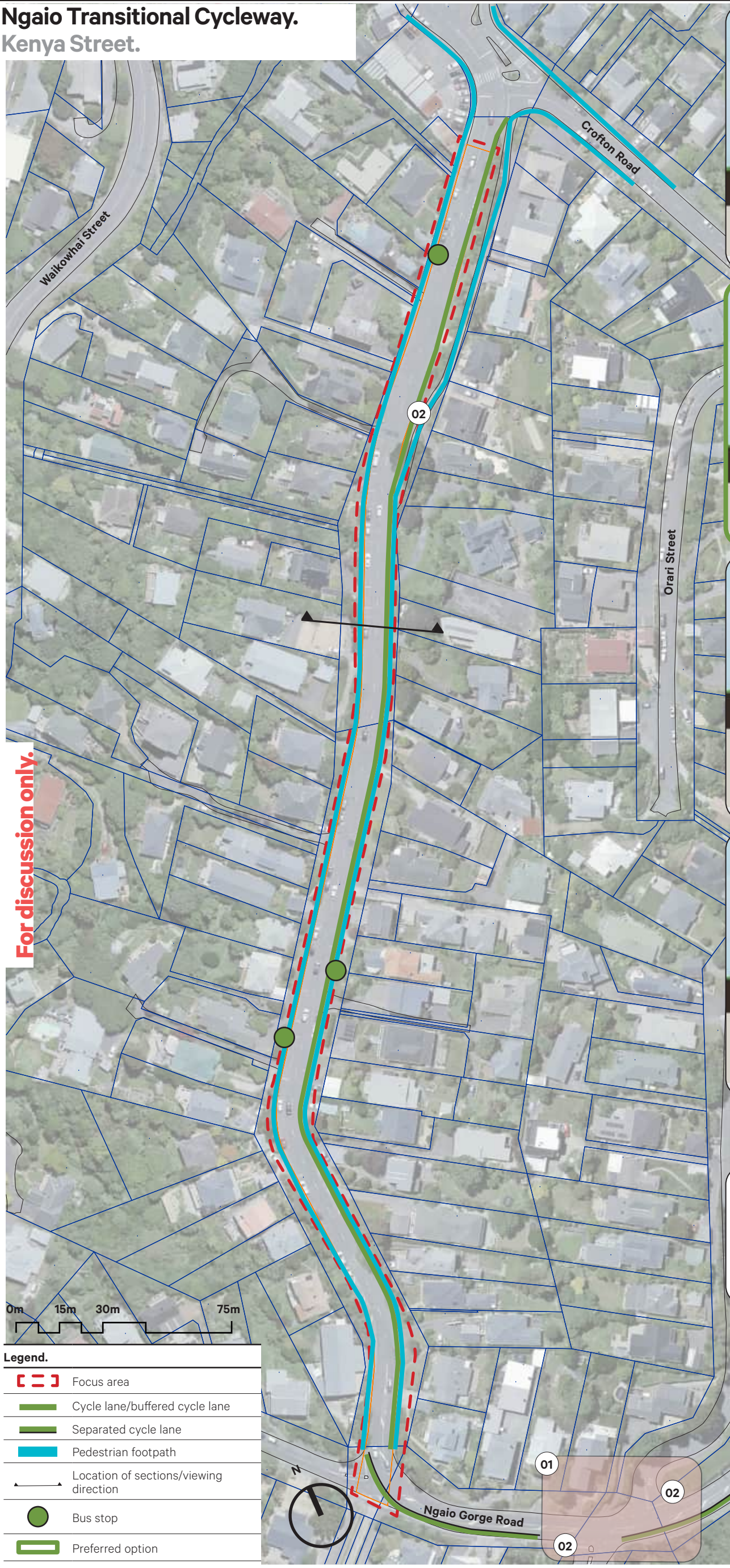
Criteria	Consideration	Option 1	Option 2	Comments
Description		Separated cycleway towards Ngaio (uphill), Shared lane towards City (downhill)	On road cycle lane towards Ngaio (uphill), Shared lane towards City (downhill), narrow flush median	
Dimensions (from left to right towards Ngaio, 8.7m total)		Separated cycleway (2.3m), traffic lane (3.2m), shared lane (3.2m)	Cycle lane (1.8m), traffic lane (3.2m), flush median (0.5m), shared lane (3.2m)	
1. Improve safety, accessiblity and convenience for people cycling and using micro-mobility devices	Improved safety for people cycling and using micro-mobility devices	1	0	Refer SSA. Option 2 changes existing shoulder to cycle lane, as there is no change in space or protection for cyclists there is no change to the SSA score
	Improved convenience for people cycling and using micro-mobility devices	1	1	Both options provide space for uphill cyclists, downhill cyclists currently travel at similar speed as traffic
2. Improve safety, accessiblity and convenience for people walking and using mobility devices	Improved safety for people walking and using mobility devices	0	0	
	Improved convenience for people walking and using mobility devices	0	0	No change to footpath width
3. Improve bus speed and reliabilty	Improved travel time of PT compared with private vehicles	0	0	No change
4. Retain high priorty parking and mitigate parking impact	Retain high priority parking for businesses and residents where essential (e.g., mobility parking)	0	0	No existing high priority parking and loading on this section, no additional high priority parking and loading proposed in either option
	Mitigate parking impact (ie, provide car share, etc)	0	0	No impact, existing residents parking in off-street bays
5. Enables benefits to be delivered quickly with minimal disruption	Alignment with other planned works in the road corridor, and/or reduced disruption during construction.	1	2	Ngaio slope stabilisation works have an uphill cycle lane and downhill shared traffic lane. Cyclists likely to transfer between cycle lane and shared lane at Kenya Street
	Ability to deliver quickly, or sequenced for elements to deliver early. Reduced civil works, signals changes and other major works.	3	3	Markings, signage and bollards only required for both options
6. Improve the place amenity in the area	Improved urban amenity	0	1	Both options contribute to urban spatial framework, Option 1 has constrained traffic lane widths
	Weighted Score	0.50	0.40	
	Rank	1	2	

Appendix E – Kenya Street options and MCA table

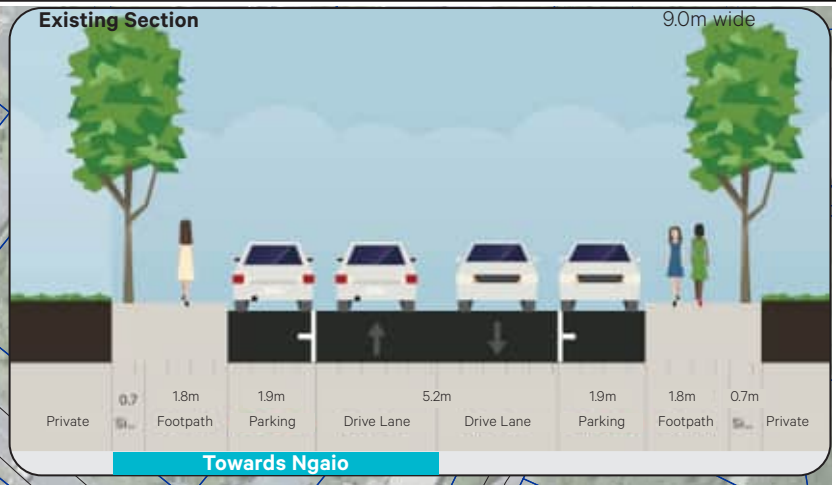
- Options
- Options excluded from the shortlist
- MCA Ranking

Ngaio Transitional Cycleway.

Kenya Street.



Existing Section 9.0m wide



Option 1

Option 2

Option 3

Average road width for Kenya Street: 9m

Urban experience

1) Opportunity to consider improving pedestrian connection to Perth Street and placemaking at corner
2) Targeted urban enhancements

Legend.

- Focus area
- Cycle lane/buffered cycle lane
- Separated cycle lane
- Pedestrian footpath
- Location of sections/viewing direction
- Bus stop
- Preferred option

For discussion only.

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REV	DESCRIPTION	DATE
1	DRAFT FOR CLIENT REVIEW	27.05.22
2	FINAL CONCEPT ISSUE	23.06.22

PROJECT No.	1017985.J902-CD		
DESIGNED	FH	Jun.22	
DRAWN	CHLI	Jun.22	
CHECKED	AH	Jun.22	
APPROVED		DATE	

CLIENT **WELLINGTON CITY COUNCIL**

PROJECT **TRANSITIONAL CYCLEWAYS - NGAIO**

TITLE KENYA STREET SECTION
SECTION PLAN

SCALE (A3) 1:1500 FIG No. 1017985.J902-CD-005 REV 2

Kenya Street options excluded from short list assessment

Long list opportunities	Reason for exclusion from short list
Do Nothing	Refer Section 2.4.
Alternate routes	Refer Section 2.4
Sealed shoulders	Refer Section 2.4
Bidirectional path	Insufficient width to accommodate this within the road corridor while maintaining traffic lanes
Shared path	This route is intended to form key parts of the cycle network with high cyclist volumes. Gradients on this route will also result in speed differential between cyclists and pedestrians. This is not compliant with Austroads and Waka Kotahi guidance for shared paths.
Change in road space through kerb realignment.	The transitional cycleways are intended to require minimum physical works and ability to amend or reinstate if required.
Central traffic path	Considered fatal flaw as traffic volumes mean a significant proportion of drivers will be required to pass opposing vehicles. This results in significant delays and frequent encroachment into the cycle space.

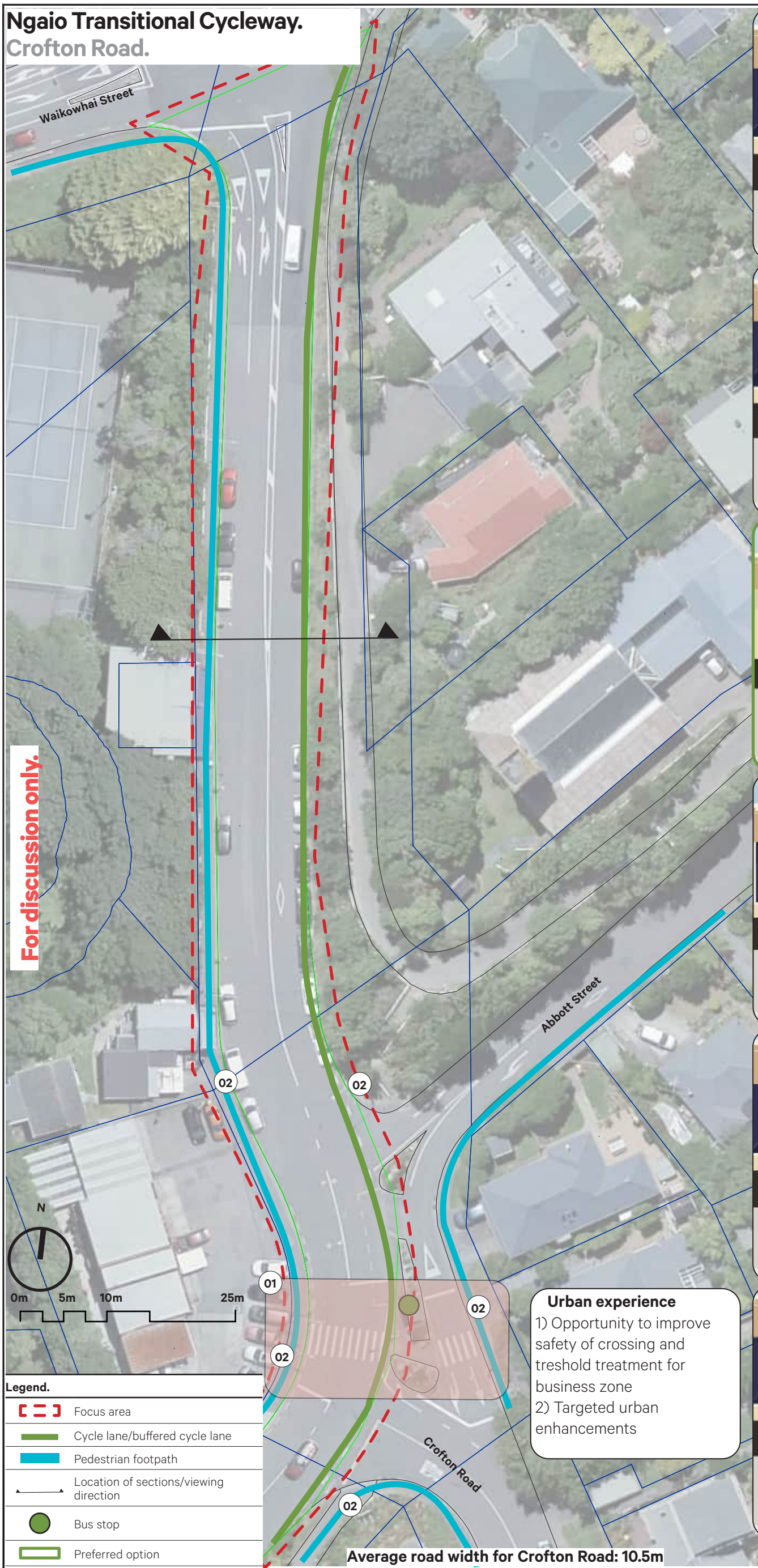
Kenya Street MCA ranking

Criteria	Consideration	Option 1	Option 2	Option 3	Comments
	Description	Shared lane towards Ngaio (downhill), Cycle lane towards City (uphill), parking one side, in-line bus stops	Shared lanes both directions, parking both sides, traffic calming, reduced speed environment	One way buffered cycle lane on each side, remove all parking, in-line bus stops	
	Dimensions (from left to right towards Ngaio, 9.0m total)	Parking (2.0m), two way traffic lane (5.5m), cycle lane (1.5m)	Parking (1.9m), two way shared lane (5.2m), parking (1.9m)	Cycle lane (1.75m), two way traffic lane (5.5m), cycle lane (1.75m)	
1. Improve safety, accessiblity and convenience for people cycling and using micro-mobility devices	Improved safety for people cycling and using micro-mobility devices	1	1	2	Refer SSA
	Improved convenience for people cycling and using micro-mobility devices	1	0	1	Options 1 and 3 separate uphill cyclists from traffic, downhill cyclists currently travel at similar speed as traffic
2. Improve safety, accessiblity and convenience for people walking and using mobility devices	Improved safety for people walking and using mobility devices	0	1	0	
	Improved convenience for people walking and using mobility devices	0	0	0	No change to footpath width
3. Improve bus speed and reliabilty	Improved travel time of PT compared with private vehicles	1	0	1	Options 1 and 3 increase road width and reduce side friction making it easier for buses to pass opposing traffic (currently one traffic lane is required to give way to pass parked vehicles)
4. Retain high priorty parking and mitigate parking impact	Retain high priority parking for businesses and residents where essential (e.g., mobility parking)	-1	0	-3	Option 3 removes all carparks with priority parking partially relocated to side roads, other options can reallocate parking spaces to priority parking as required
	Mitigate parking impact (ie, provide car share, etc)	0	0	-2	Parking surveys show parking demand can be accomodated with parking along one side of the road only (Options 1 and 2)
5. Enables benefits to be delivered quickly with minimal disruption	Alignment with other planned works in the road corridor, and/or reduced disruption during construction.	1	0	2	Option 3 continues likely Option for Ngaio Gorge Road, Option 1 requires transition into shared lanes at either end
	Ability to deliver quickly, or sequenced for elements to deliver early. Reduced civil works, signals changes and other major works.	3	3	3	Markings, signage and bollards only required
6. Improve the place amenity in the area	Improved urban amenity	1	0	1	Options 1 and 3 contribute to urban spatial framework, Option 2 has limited change to existing
	Weighted Score	0.60	0.50	0.45	
	Rank	1	2	3	

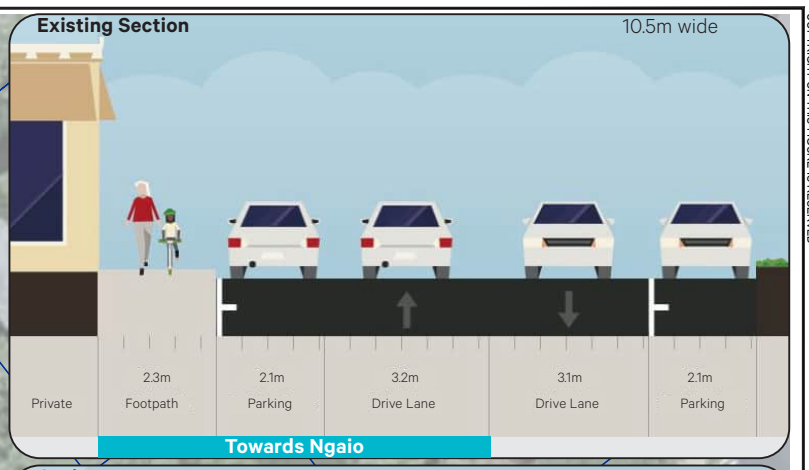
Appendix F – Crofton Road options and MCA table

- Options
- Options excluded from the shortlist
- MCA Ranking

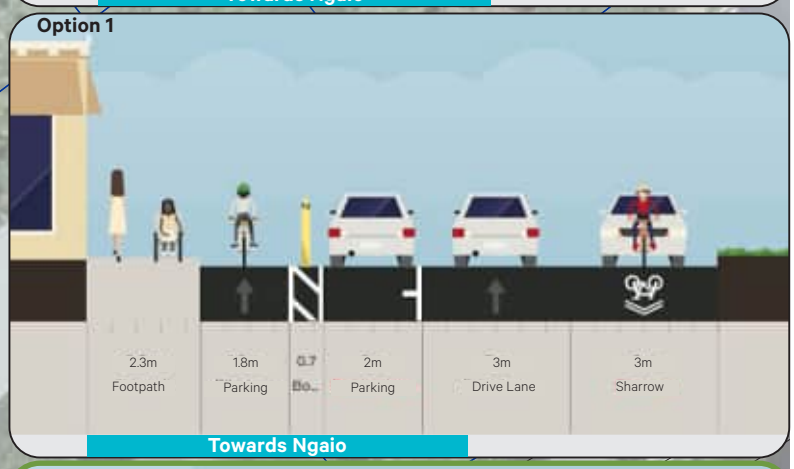
Ngaio Transitional Cycleway.
Crofton Road.



Existing Section 10.5m wide



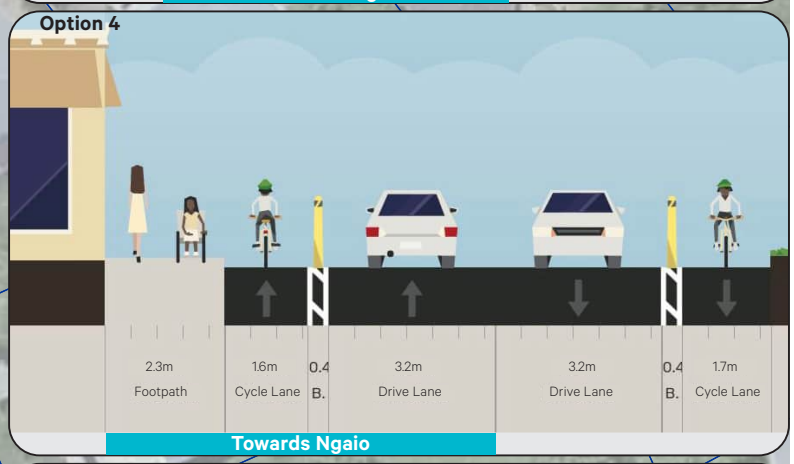
Option 1



Option 2

Option 3

Option 4



Option 5

Urban experience

1) Opportunity to improve safety of crossing and treshold treatment for business zone
2) Targeted urban enhancements

Legend.

- Focus area
- Cycle lane/buffered cycle lane
- Pedestrian footpath
- Location of sections/viewing direction
- Bus stop
- Preferred option

Average road width for Crofton Road: 10.5m

For discussion only.

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REV	DESCRIPTION	DATE
1	DRAFT FOR CLIENT REVIEW	27.05.22
2	FINAL CONCEPT ISSUE	23.06.22

PROJECT No.	1017985.J902-CD	
DESIGNED	FH	Jun.22
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APPROVED DATE

CLIENT WELLINGTON CITY COUNCIL
PROJECT TRANSITIONAL CYCLEWAYS - NGAIO
TITLE CROFTON ROAD SECTION
SECTION PLAN

SCALE (A3) 1:500 FIG No. 1017985.J902-CD-006 REV 2

Crofton Road options excluded from short list assessment

Long list opportunities	Reason for exclusion from short list
Do Nothing	Refer Section 2.4.
Alternate routes	Refer Section 2.4
Sealed shoulders	Refer Section 2.4
Bidirectional path	Considered a fatal flaw as this is a short section of the route (150m), and it would be different to option at either end of the section.
Shared path	This route is intended to form key parts of the cycle network with high cyclist volumes.
Change in road space through kerb realignment.	The transitional cycleways are intended to require minimum physical works and ability to amend or reinstate if required.
Central traffic path	Considered fatal flaw as traffic volumes mean a significant proportion of drivers will be required to pass opposing vehicles. This results in significant delays and frequent encroachment into the cycle space.

Crofton Road MCA ranking

Criteria	Consideration	Option 1	Option 2	Option 3	Option 4	Option 5	Comments
	Description	Separated cycleway towards Ngaio, shared lane towards city, parking one side	Shared lane towards Ngaio, Separated cycleway towards City, parking one side	Shared lanes both directions with reduced speed limit and placemaking, parking both sides	One way separated cycleway on each side, remove all parking	Painted cycle lanes (no buffer), parking one side, two-way traffic lane width reduced	
	Dimensions (from left to right towards Ngaio, 10.5m total)	Separated cycleway (1.8m), buffer (0.7m), parking (2.0m), traffic lane (3.0m), shared lane (3.0m)	Parking (2.0m), shared lane (3.2m), traffic lane (3.2m), separated cycleway (2.1m)	Parking (2.1m), shared lane (3.2m), shared lane (3.2m), parking (2.0m)	Separated cycleway (2.0m), traffic lane (3.2m), traffic lane (3.2m), separated cycleway (2.1m)	Parking (2.0m), cycle lane (1.5m), two way traffic lane (5.5m), cycle lane (1.5m)	
1. Improve safety, accessiblity and convenience for people cycling and using micro-mobility devices	Improved **safety** for people cycling and using micro-mobility devices	1	1	2	2	0	Refer SSA
	Improved **convenience** for people cycling and using micro-mobility devices	1	1	0	2	0	Option 4 separates cyclists from traffic in both directions. Options 3 does not provide any separation from traffic. Option 5 scores no change because the cycle lane between parking and traffic lane is too narrow to provide separation.
2. Improve safety, accessiblity and convenience for people walking and using mobility devices	Improved **safety** for people walking and using mobility devices	1	1	1	1	1	All options remove parking from north side of road where there is no footpath (pedestrians currently required to cross road to access parked vehicles). Option 3 also includes a reduced speed limit which improves safety for pedestrians crossing the road and accomodates opportunity to raise the pedestrian crossing, but this does not have a significant enough impact on the SSA score to increase to 2.
	Improved **convenience** for people walking and using mobility devices	0	0	0	0	0	No change to footpath width
3. Improve bus speed and reliabilty	Improved travel time of PT compared with private vehicles	0	0	0	0	-1	Option 5 reduces road width making it hard for buses to pass opposing traffic (likely that one traffic lane will be required to give way to pass parked vehicles)
4. Retain high priorty parking and mitigate parking impact	Retain high priority parking for businesses and residents where essential (e.g., mobility parking)	0	0	0	-3	0	Option 4 removes all carparks with priority parking partially relocated to side roads, other options can reallocate parking spaces to priority parking as required
	Mitigate parking impact (ie, provide car share, etc)	0	0	0	-2	0	Parking surveys show parking demand can be accommodated with parking along one side of the road only (Options 1, 2 and 5)
5. Enables benefits to be delivered quickly with minimal disruption	Alignment with other planned works in the road corridor, and/or reduced disruption during construction.	1	2	-1	2	0	Options 2 and 4 continue likely option for Kenya Street, Option 1 similar treatement to Kenya Street but requires transition into shared lanes at either end. Option 3 doesn't align with adjacent treatments or side roads
	Ability to deliver quickly, or sequenced for elements to deliver early. Reduced civil works, signals changes and other major works.	3	3	3	3	3	Markings, signage and bollards only required
6. Improve the place amenity in the area	Improved urban amenity	1	1	2	1	-1	Options 1, 2 and 4 contribute to urban spatial framework. Option 3 provides good opportunity to improve the spatial arrangement and function of this corridor. Option 5 has contrained widths and poor spatial arrangement.
	Weighted Score	**0.70**	**0.75**	**0.75**	**0.55**	**0.10**	
	Rank	**3**	**1**	**2**	**4**	**5**	

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https://wellington.govt.nz/parking-roads-and-transport/transport/cycling