

# WCC Transitional Cycleways Multi Criteria Analysis

Karori Connections – Botanic Garden ki Paekākā to Karori

22 August 2023



# Absolutely Positively Wellington City Council

Me Heke Ki Pōneke

Version	Date	Author	Approver
DRAFT	14/4/2023	FG/ CF	JK
FINAL	22/8/2023	FG/ CF	JK

# Contents

Introduction .....	3
Background .....	3
Project area .....	3
Multi criteria analysis process .....	5
Criteria, considerations and weightings .....	5
Scoring .....	5
Options considered in long list assessment .....	6
Multi criteria analysis outcomes .....	7
Section 1: Glenmore Road .....	7
Section 2: Chaytor Street .....	17
Section 3: Karori Road (Marsden Village) .....	23
Section 4: Karori Road (to South Karori Road) .....	29
Summary of outcomes .....	36

Appendix A – Long list to short list

Appendix B – Multi Criteria Analysis tables

# Introduction

## Background

The Transitional Cycleways Programme, led by Wellington City Council (WCC) alongside Let's Get Wellington Moving (LGWM), takes a new approach to community engagement and installation of cycleways to help increase the pace of change. By using lower-cost materials that can be adjusted once they are in place, WCC can install an interim bike network and gain feedback in real time. This will also inform future permanent changes while gaining benefits earlier.

This report sets out the options analysis process for the Karori Connections cycleway project from Botanic Gardens ki Paekākā to the Karori suburb of Wellington.

## Project area

The Karori Connections cycleway project comprises a network of proposed routes (Figure 1). This project area connects the Botanic Gardens to the City Centre Transitional Cycleway along Tinakori Road.

There is currently no provision of dedicated cycling facilities along this route, so people cycling are required to share traffic lanes with vehicles. Proving dedicated cycling facilities along the corridor, as well as bus improvements, will increase the safety and comfort for people that cycle and convenience for people walking and taking public transit. In addition, the project includes enhancement to pedestrian crossings in the retail areas of Marsden Village and Karori Town Centre.

For ease of assessment the route has been split into four sections to reflect the differing road environments shown in Figure 1. The sections are broken down further with sub-segments for the design options.

Figure 1: Project Scope



The sections are described in Table 1.

Table 1: Project Sections

Section	Description of environment
1. Glenmore Street (GS)	Glenmore Street from Botanic Gardens entrance to Karori Tunnel. Botanic Gardens to residential land-use, 30-50km/h speed limit, corridor width varies in locations, parking both sides, high traffic volumes.
2. Chaytor Street (CS)	Chaytor Street and Karori Road from Karori Tunnel to Standen Street shops.

	Residential and commercial land-use at shops; Destinations Appleton Park and Zealandia in this section. 50km/h speed limit, corridor width varies in locations, with parking both sides, moderate traffic volumes.
3. Karori Road (Marsden Village) (KR-MV)	Karori Road from Nottingham Street to Campbell Street. Residential and commercial land-use through the Marsden Village. 30km/h through Marsden Village and 50km/h speed limit rest of section, corridor width varies in locations with parking both sides, moderate traffic volumes.
4. Karori Road to South Karori Road (KR-SKR)	Karori Road from Campbell Street to South Karori Road, passing through Karori Town Centre. Residential land-use, 50km/h speed limit, corridor width varies in locations with parking one or both sides, moderate to high traffic volumes.

The project scope includes:

- Separated cycleways using adaptable materials
- Road re-marking
- Bus priority lanes
- Interim parking management schemes including enforcement (including immediate side streets)
- Place-making and artwork in newly acquired space
- Some enabling works (including upgraded grates, milling where necessary, light post relocation and kerb build out cuts)
- Traffic signal changes (some hardware and phasing)
- Raised pedestrian crossings

# Multi criteria analysis process

## Criteria, considerations and weightings

The multi criteria analysis (MCA) was developed by WCC utilising the design objectives and considerations developed for the Brooklyn Hill project with adjustment reflecting the WCC Parking policy 2020 and learning from the MCA criteria process used in previous transitional cycleway projects.

The project criteria are weighted based on relative importance, with the Criteria 1, the safety and convenience of cyclists, weighted the highest and Criteria 6, improved amenity being weighted the lowest. The individual considerations within each criterion were weighted in a similar fashion.

The objectives, considerations and their associated weightings are given in Table 2.

Table 2: Criteria, considerations, and weightings

Criteria	Weight	Consideration	Weight
1. Improve safety, accessibility and convenience for people cycling and using micro-mobility devices	40%	Improved safety	20%
		Improved convenience	20%
2. Improve safety, accessibility and convenience for people walking and using mobility devices	15%	Improved safety	10%
		Improved convenience	5%
3. Improve travel time of public transport	15%	Improved bus speed and reliability	15%
4. Provide high priority parking and mitigate parking impact	15%	Retain high priority parking (e.g., short term and loading followed by residential).	7.5%
		Mitigate parking impact (e.g., car share options, etc)	7.5%
5. Enable benefits to be delivered quickly with minimal disruption	10%	Alignment with other planned works in the road corridor	5%
		Ability to deliver quickly / less disruption compared to a typical project	5%
6. Improve place amenity in the area	5%	Provides opportunities for improved urban amenity	5%

## Scoring

A seven-point scale was used for the scoring, -3 to +3. The project team identified how each consideration would be assessed and the specific application of each score through a combination of qualitative and quantitative assessment.

## Options considered in long list assessment

The long list to short list analysis can be found in Appendix A. Options that were not considered appropriate for sections of this route and did not progress to the short list and MCA for reasons that include:

- **Do nothing:** There would be limited improvement to the existing situation which has been identified as requiring improvement for cyclists. For example, travel lanes shared between vehicles and bikes with sharrow painted markings only.
- **Bi-directional facility:** A bi-directional separated cycle lane was considered but not included in the short list options as the gradient in some sections exceed safe speed for two-way cycle lanes and it was considered inconsistent with sections before or after it.
- **Shared lanes – bus/bike:** Options that included a shared bus/bike lane in the uphill/outbound direction were not considered as they do not align with MetLink safety guidelines. Shared bus/bike lanes in the downhill/inbound direction were considered in the shortlist options.
- **Shared paths:** where the pathways are shared by people cycling and walking in both directions and were not considered due to high potential for conflicts between path users.
- **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. Minor site-specific buildouts or kerb changes will be regarded as traffic calming measures and crossing safety infrastructure.
- **Other:** Options that included separated cycle lanes below desired widths or options that included painted cycle lanes only (no separation/protection) were not considered for shortlist.

# Multi criteria analysis outcomes

Summary for each section is provided below. For detailed breakdown refer to scoring tables attached in Appendix B.

## Section 1: Glenmore Road

Glenmore St section is a 1.7km of the corridor from the Botanic Gardens to Karori Tunnel. It has four sub-segments as seen in Figure 2.



Figure 2: Glenmore St segments

### Glenmore St – Segment GS-1

Segment GS-1 is from the Botanic Gardens to Orangi Kaupapa Rd. Six options were assessed in the MCA and a summary of results is provided in **Error! Reference source not found.** The options considered were:

- GS-1A – Separated cycle lane one-way + shared bus/bike lane, parking removed (Figure 4)
- GS-1C – Separated cycle lane in both directions, parking removed (Figure 5)
- GS-1E – Shared path through Botanic Gardens + shared traffic lane (Figure 6)
- GS-1F – Shared path on existing footpath (Figure 7)
- GS-1G – Shared path through Botanic Gardens + separated cycle lane, parking one side (Figure 8)
- GS-1H - Shared path through Botanic Gardens + shared bus/bike lane, parking one side (Figure 9)
- GS-1J – Separated cycle lane + shared traffic lane, parking one side (Figure 10)

The current situation for Glenmore Street Segment 1 is shown in Figure 3.



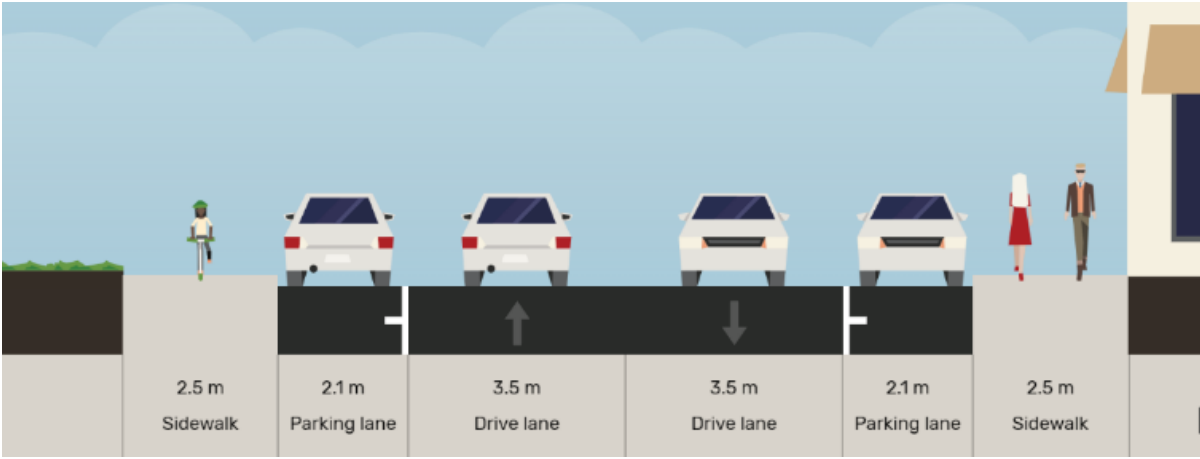


Figure 3: Glenmore St Segment 1 existing cross section

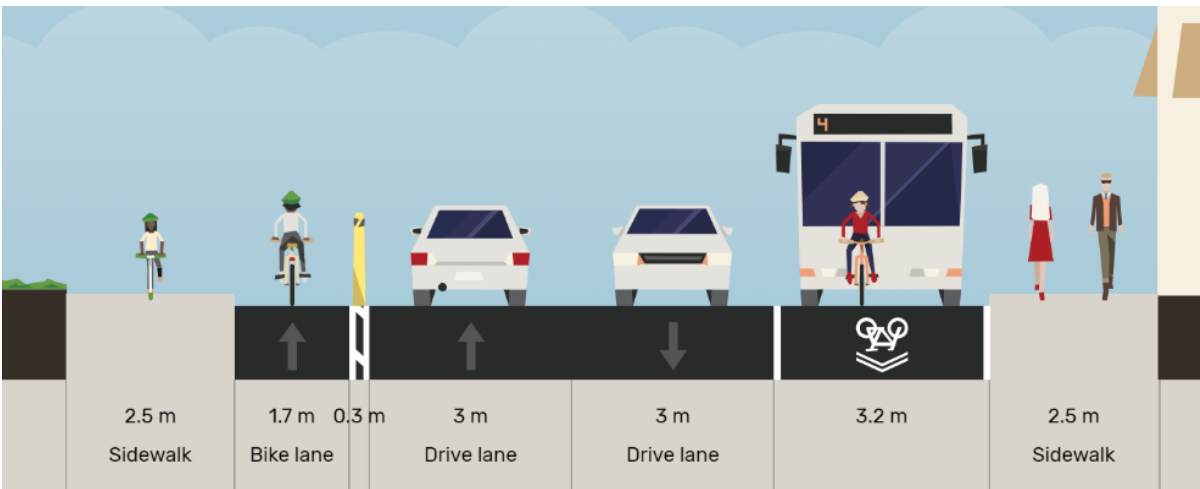


Figure 4: Option GS-1A separated cycle lane and bus/bike lane, parking removed



Figure 5: Option GS-1C separated cycle lanes both directions, parking removed

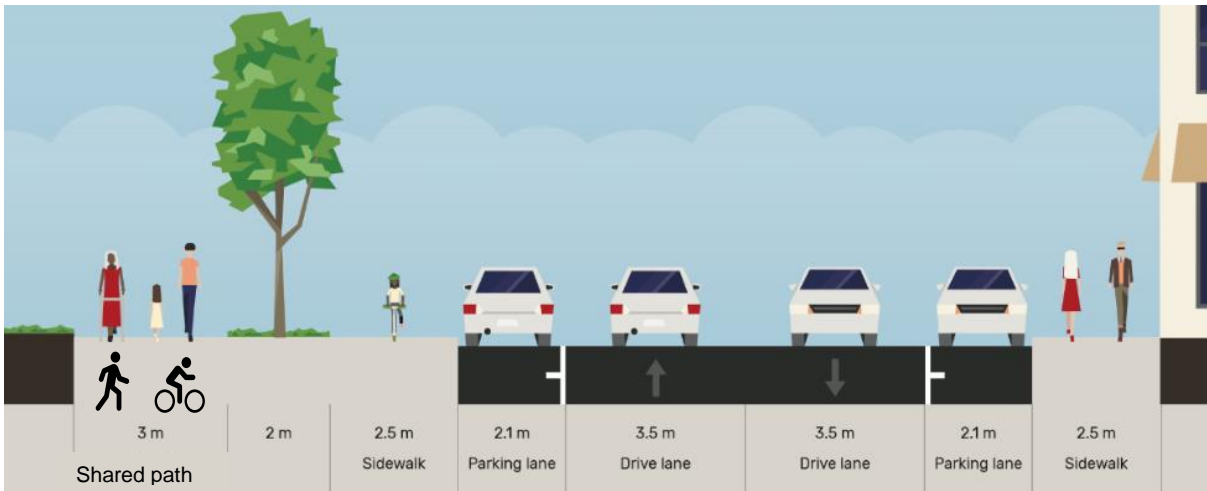


Figure 6: Option GS-1E Shared path through Botanic Gardens

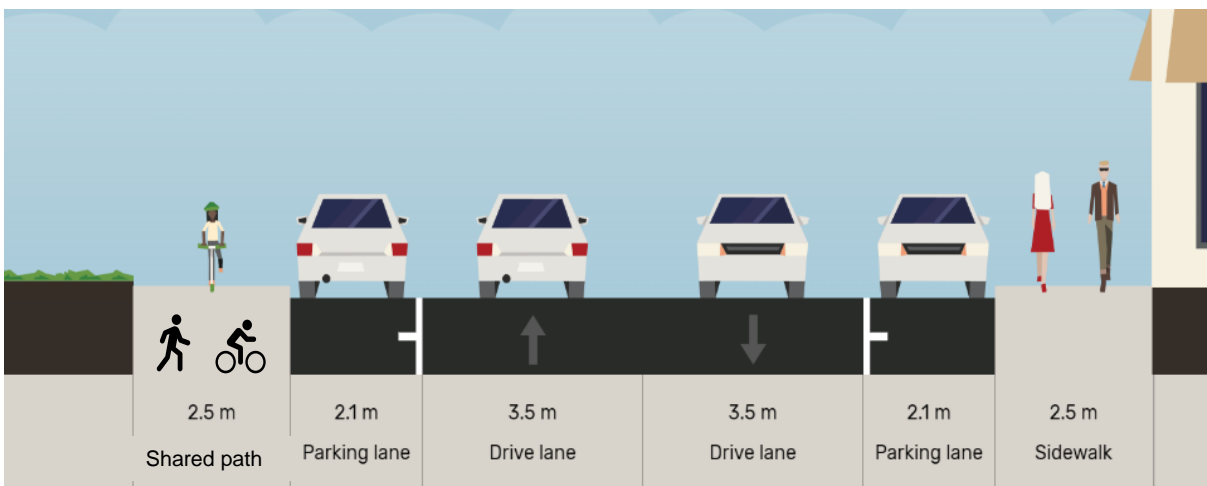


Figure 8: Option GS-1F Shared path on existing footpath

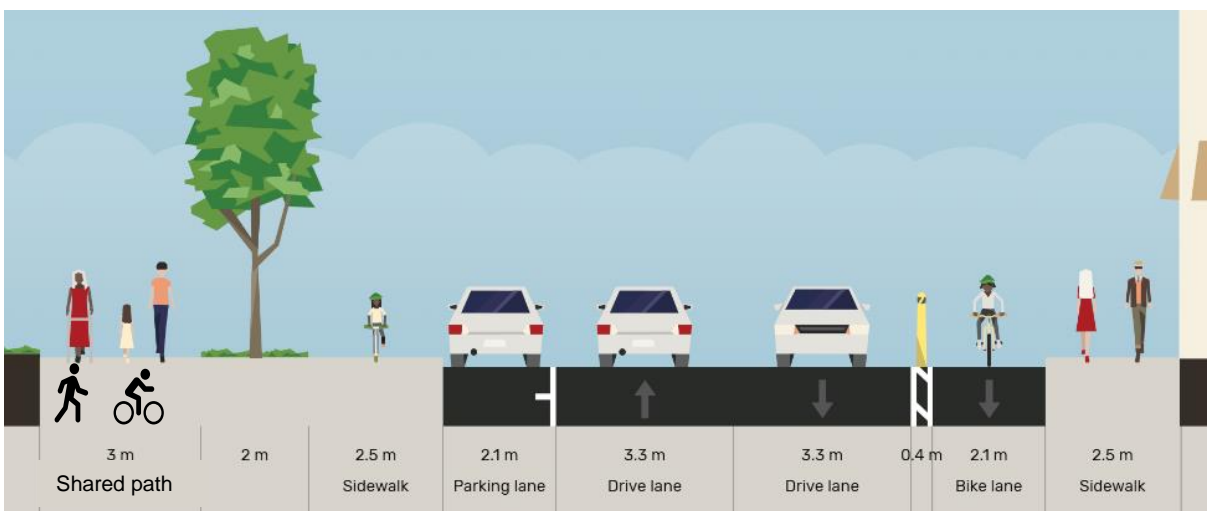


Figure 9: Option GS-1G Shared path in Botanic Gardens and separated cycle lane, parking one side

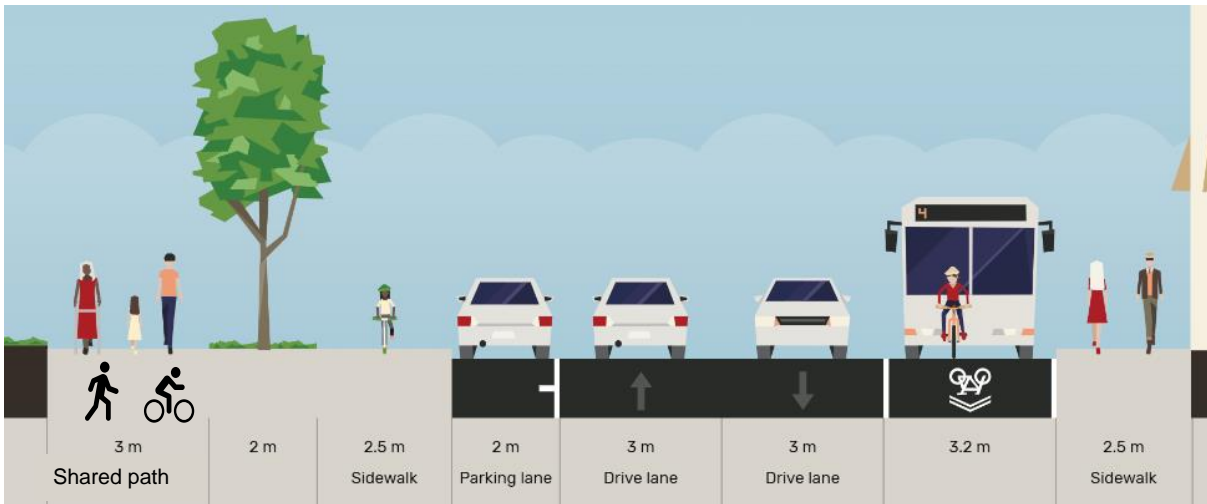


Figure 10: Option GS-1H Shared path in Botanic Gardens and shared bus/bike lane, parking one side

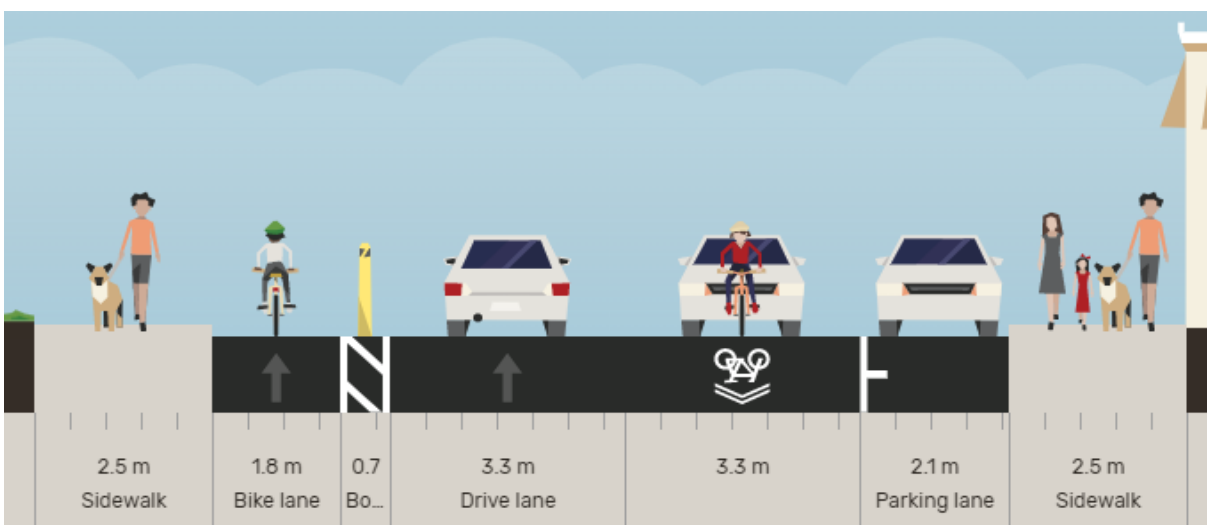


Figure 11: Option GS-1J Separated cycle lane and shared traffic lane, parking one side

Table 3: Glenmore St Segment 1 MCA Scores

	Option GS-1A	Option GS-1C	Option GS-1E	Option GS-1F	Option GS-1G	Option GS-1H	Option GS-1J
<b>Description</b>	Separated cycle lane one-way + shared bus/bike lane	Separated cycle lane in both directions	Shared path through Botanic Gardens + shared traffic lane	Shared path on existing footpath	Shared path through Botanic Gardens + separated cycle lane	Shared path through Botanic Gardens + shared bus/bike lane	Separated cycle lane + shared traffic lane
<b>Weighted Score</b>	1.23	1.13	0.55	0.80	0.95	0.75	1.15
<b>Rank</b>	1	3	7	5	4	6	2

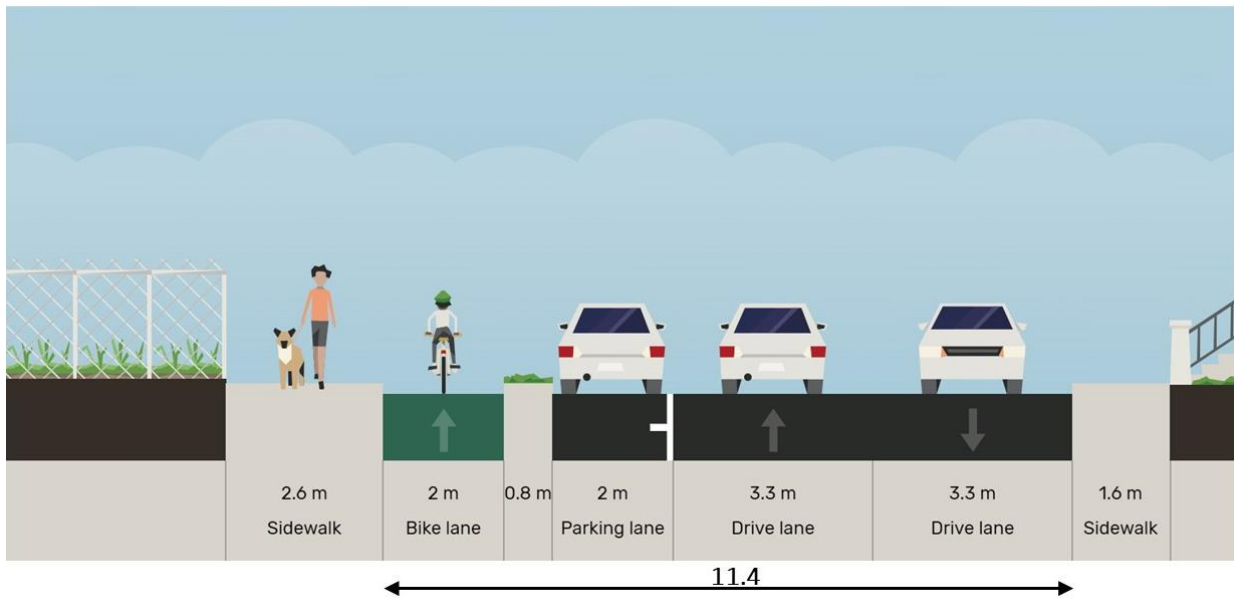
Option GS-1J received the second highest score during the MCA and is the preferred option to proceed to concept design along with a secondary option which is in development for this segment. While option 1A scored higher for improvements to public transit, it scored lower in terms of impact on priority parking. Option 1J maintains parking on one side of the street which is

preferred by WCC as this segment of Glenmore St has a high number of visitors to the Botanic Gardens that park on the street, as well as residential parking is in high demand in the area.

The second option under development (1K) is a shared path through the Gardens and will be refined through the concept and detailed design stage.

Following the MCA, WCC workshopped options for this segment of Glenmore St. This included measuring the road width to be completely clear on corridor constraints. WCC's conclusion is that due to a pinch point of 11.4m (kerb to kerb), a bus lane will not fit without considerable civil works. WCC also noted that there are more parking spaces outside the Botanic Gardens than on the other side of the road.

Therefore, the preferred option, which was not shown in the MCA, is an uphill separated cycleway with a 0.8m buffer, one parking lane on the Botanic Gardens side, and two traffic lanes (see below). This is essentially a mirror of GS-1J in terms of the parking provision.



Additional considerations during the concept design phase are width of footpath near the Botanic Gardens, parking retention and location of priority parking zones (e.g., tour bus, mobility).

The parking management plan for this area may be updated in the future.

## Glenmore St Segment GS-2

Segment GS-2 is from Orangi Kaupapa Rd to the Rigi (Governor Rd). Three options were assessed in the MCA and a summary of the results is provided in Table 4. The options considered were:

- GS-2A – Separated cycle lane one-way + general traffic lane, parking one side (Figure 13)
- GS-2C - Separated cycle lane in both directions, parking removed both sides (Figure 14)
- GS-2E – Separated cycle lane + shared bus/bike lane, parking removed both sides (Figure 15)

The current situation for Glenmore Street Segment 2 is shown in Figure 12.

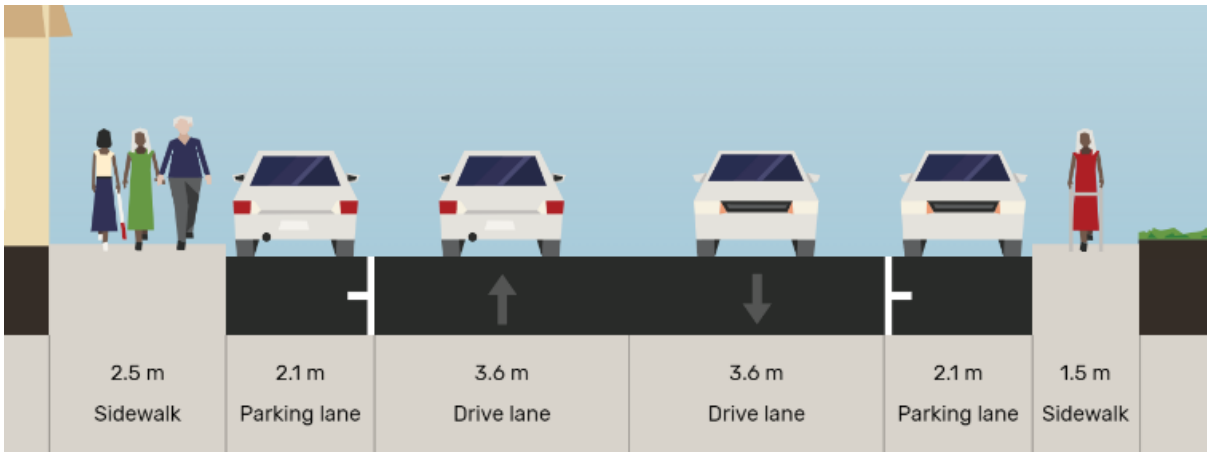


Figure 12: Glenmore St Segment 2 existing cross section

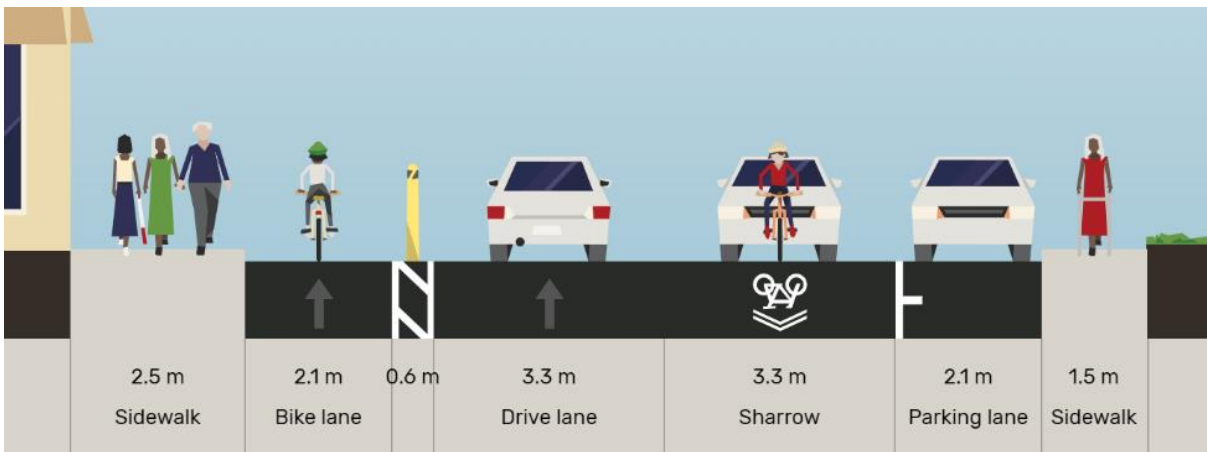


Figure 13: Option GS-2A separated cycle lane and general drive lane, parking one side

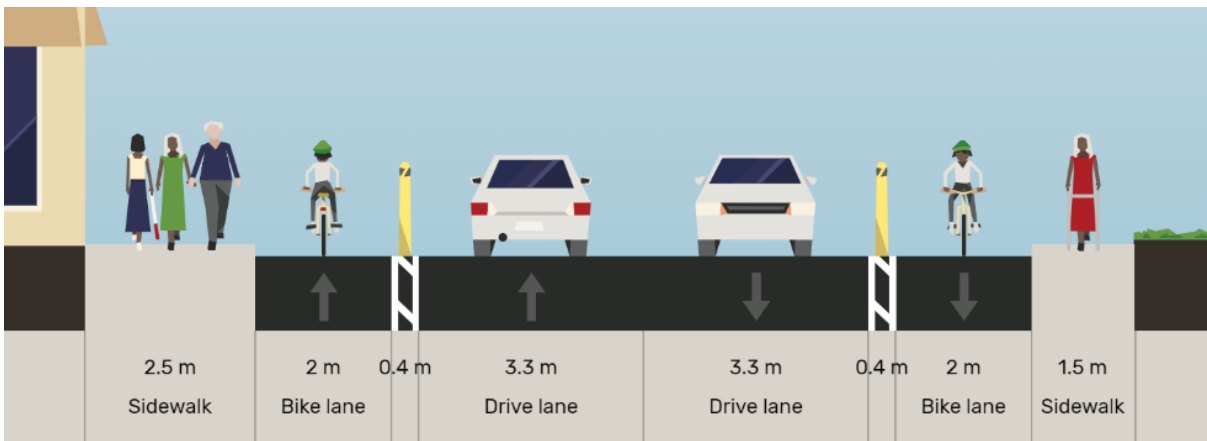


Figure 14: Option 2B separated cycle lanes both directions, parking removed both sides

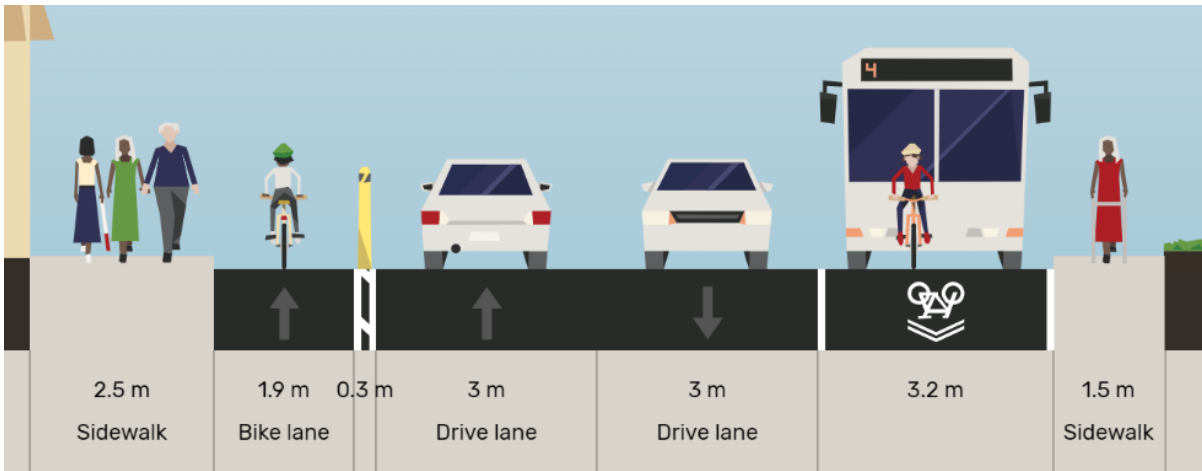


Figure 15: Option 2E separated cycle lane and shared bus/bike lane, parking removed both sides

Table 4: Glenmore St Segment 2 MCA Score

	Option GS-2A	Option GS-2C	Option GS-2E
<b>Description</b>	Separated cycle lane one-way + general traffic lane, parking one side	Separated cycle lane in both directions, parking removed both sides	Separated cycle lane + shared bus/bike lane, parking removed both sides
<b>Weighted Score</b>	1.16	1.13	1.19
<b>Rank</b>	2	3	1

Option GS-2A received the second highest score during the MCA and is the preferred option to proceed to concept design. Option 2E scored higher for improvements to public transit and alignment with other planned projects and included full removal of on-street parking.

Option 2A is selected as the scoring was close and it maintains residential parking in an area with a parking management plan. In the future the parking management plan may be updated.

### Glenmore St – Segement GS-3

Segment GS-3 is from the Rigi (Governor Rd) to Upland Rd. Three options were assessed in the MCA and a summary of the results is provided in Table 5. The options considered were:

- GS-3B+ – Separated cycle lane one-way + general traffic lane, parking removed both sides (Figure 17)
- GS-3C+ – Bus/bike shared lane + general traffic lane, parking removed both sides (Figure 18)

The current situation for Glenmore Street Segment 3 is shown in Figure 16.



Figure 16: Glenmore St Segment 3 existing cross section

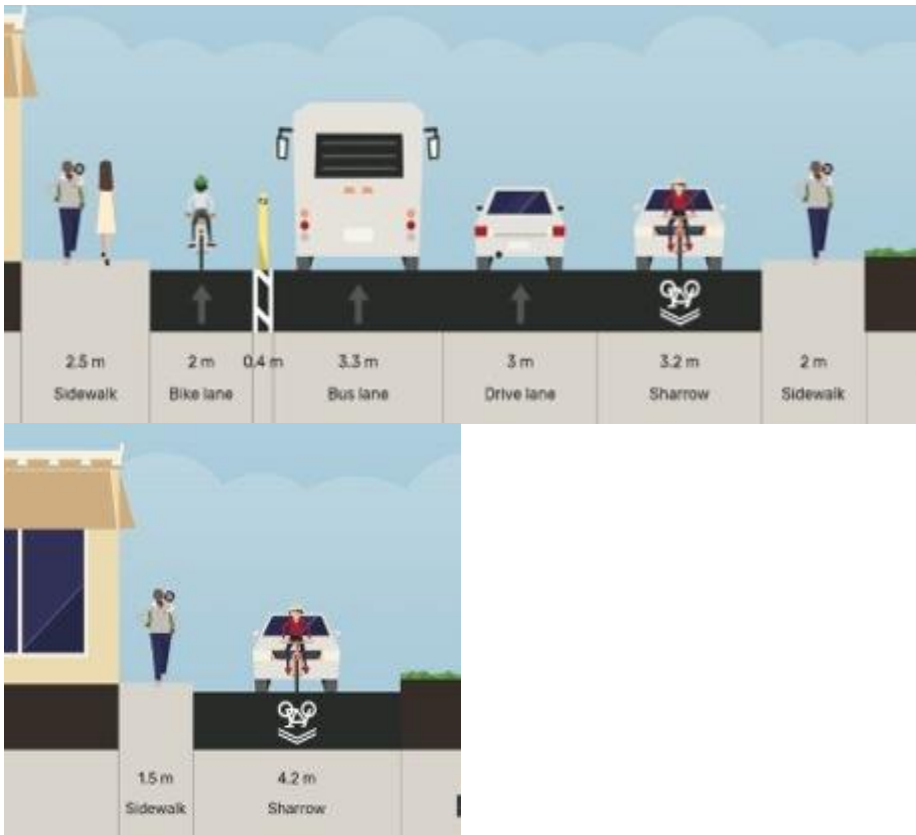


Figure 17: Option GS-3B+ Separated cycle lane and shared traffic lane (plus Rigi)



Figure 18: Option 3C+ Bus/bike lane and share traffic lane (plus Rigi)

Table 5: Glenmore St Segment 3 MCA Score

	Option GS-3B+	Option GS-3C+
<b>Description</b>	Separated cycle lane one-way + general traffic lane, parking removed both sides	Bus/bike shared lane + general traffic lane, parking removed both sides
<b>Weighted Score</b>	1.25	0.78
<b>Rank</b>	1	2

Option GS-3B+ received the highest score during the MCA and is the preferred option to proceed to concept design. Option 3B+ scored higher in safety and convenience for people cycling. During the MCA review process the WCC team advised to increase the general traffic lane width to accommodate buses where possible and to remove the separated cycle lane where necessary to accommodate bus movements. The location for widening and adjustments to the cycle lane will be resolved during the detailed design phase.

### Glenmore St - Segement GS-4

Segment GS-4 is a shorter and leads to the Karori Tunnel from Upland Rd. One option was assessed in the MCA and a summary of the results is provided in Table 6. The option considered was:

- GS-4A – Separated cycle lane one-way + general traffic lane (Figure 21)

The current situation for Glenmore Street Segment 4 is shown in Figure 20.

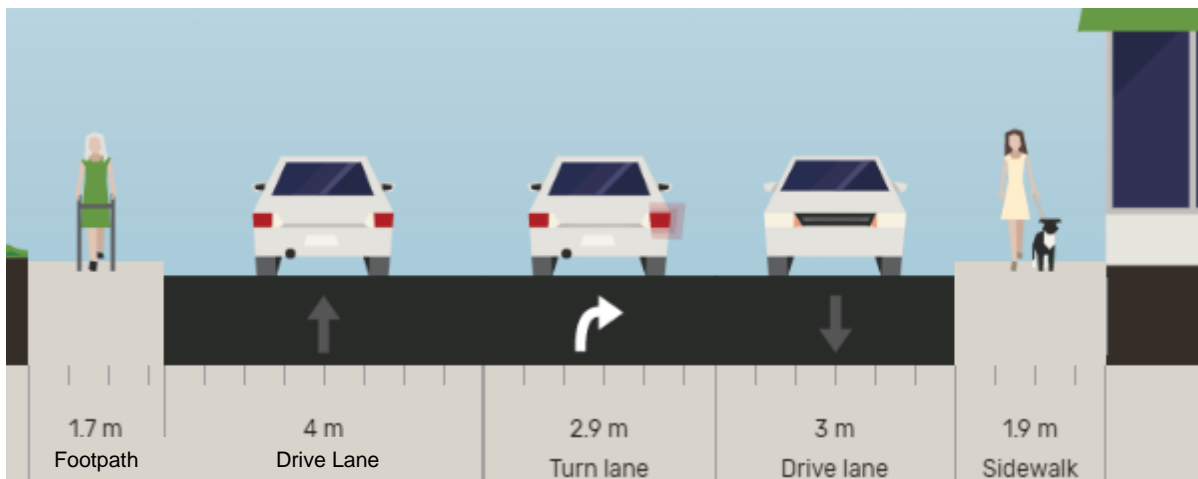


Figure 20: Glenmore St Segment 4 existing cross section

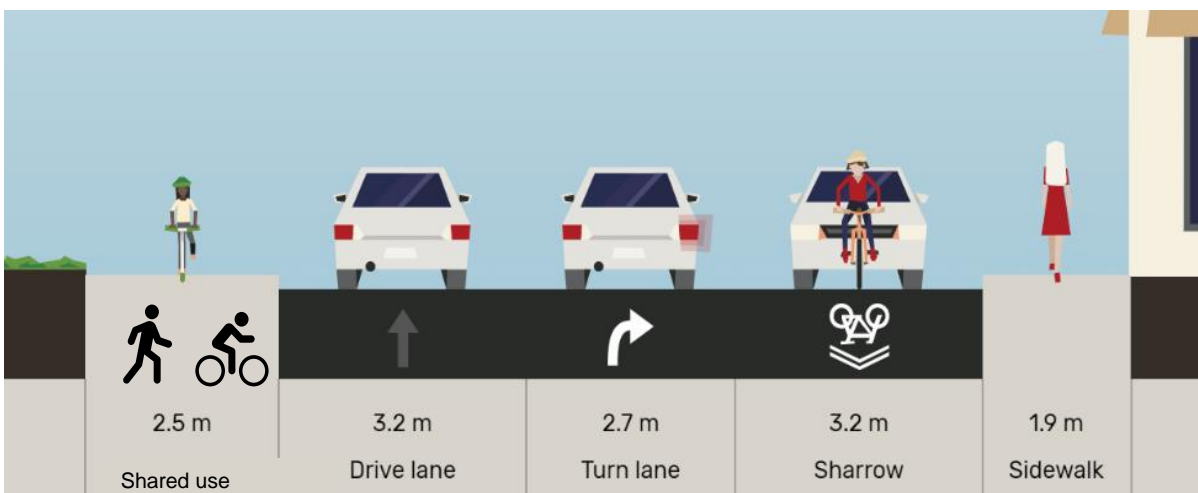


Figure 21: Option 4A shared use path and shared traffic lane



Table 6: Glenmore St Segment 4 MCA Score

	<b>Option GS-4A</b>
<b>Description</b>	Shared use path (uphill) + shared traffic lane with (downhill)
<b>Weighted Score</b>	0.63
<b>Rank</b>	1

Option GS-4A has been identified as the preferred option to proceed to concept design. Option GS-4A is the sole option for this segment of Glenmore St near the Karori Tunnel. The final design for this segment will include some widening of the existing shared path, with preference for widening into the bank with a retaining wall rather than moving or repairing the kerb.

## Section 2: Chaytor Street

This section of the corridor is 1km and passes Appleton Park and Zealandia. Chaytor Street has three sub-segments as seen in Figure 22.

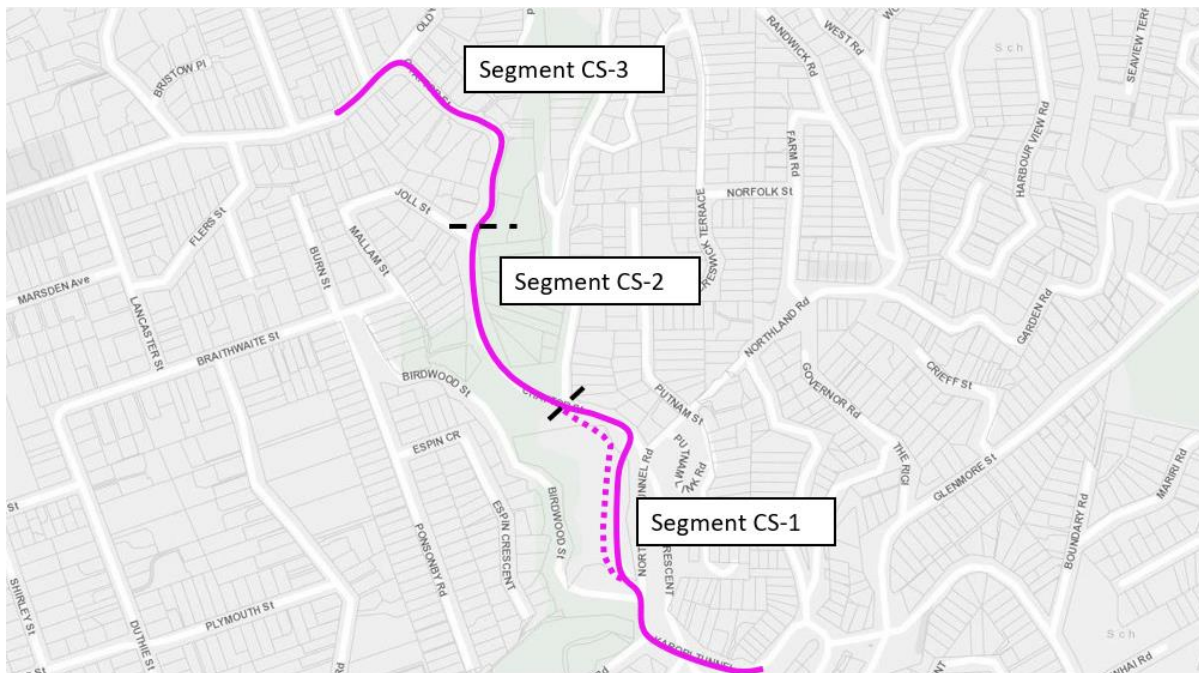


Figure 22: Chaytor St Segments

### Chaytor St – Segment CS-1

Segment CS-1 is from Karori Tunnel past Appleton Park to Curtis St. Two options were assessed in the MCA and a summary of results is provided in Table 7. The options considered were:

- CS-1A – Separated cycle lane + shared bus/bike lane, parking removed (Figure 24)
- CS-1C – Shared path through Appleton Park + shared bus/bike lane, parking one side (Figure 25)

The current situation for Chaytor Street Segment 1 is shown in Figure 23.



Figure 23: Chaytor St Segment 1 existing cross section

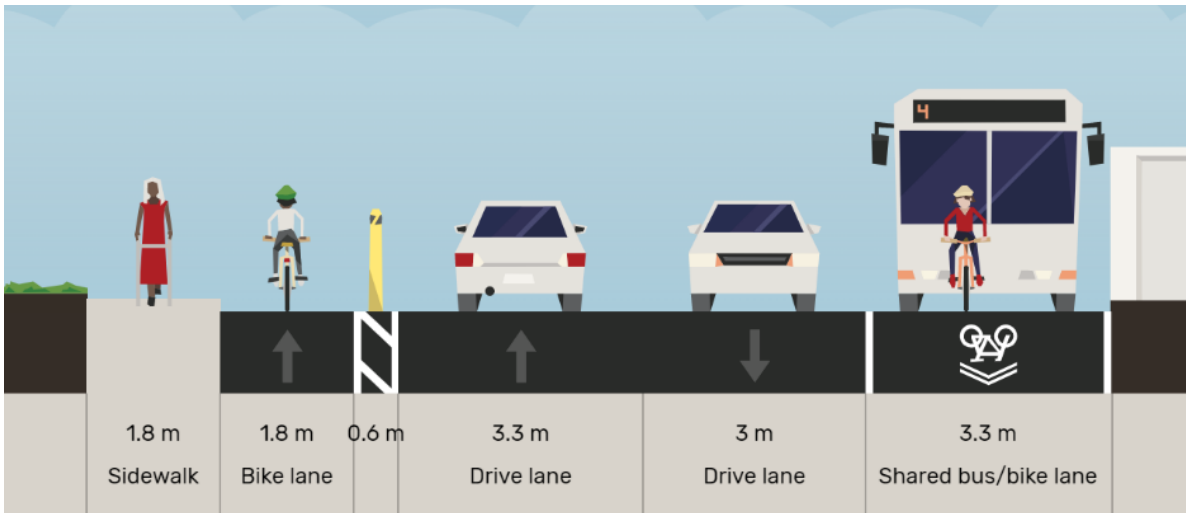


Figure 24: Option CS 1A separated cycle land and shared bus/bike lane

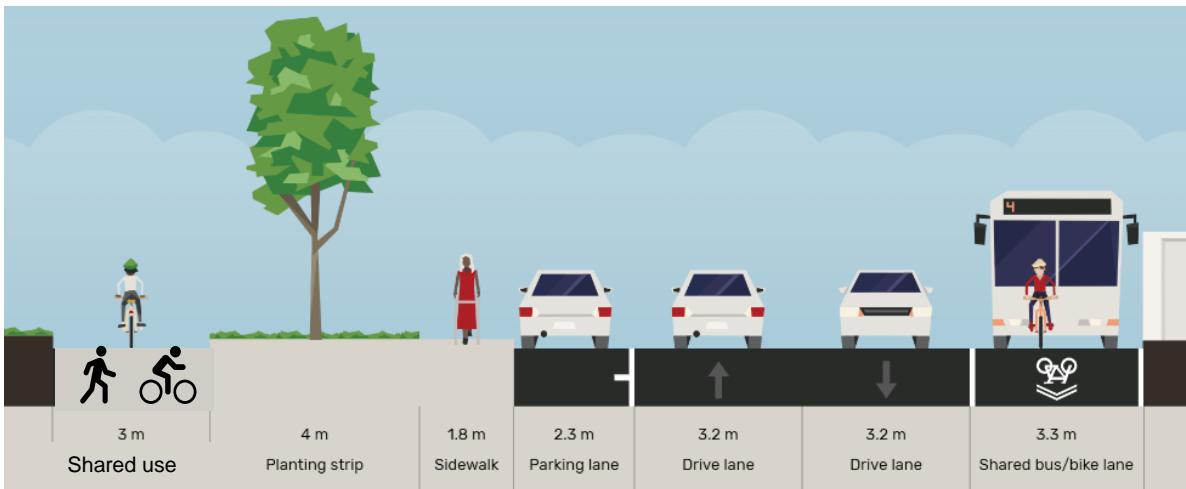


Figure 25: Option CS 1C Shared use path in Appleton Pk and shared bus/bike lane

Table 7: Chaytor St Segment 1 MCA Score

	Option CS-1A	Option CS-1C
<b>Description</b>	Separated cycle lane + shared bus/bike lane	Shared path through Appleton Park
<b>Weighted Score</b>	0.58	1.13
<b>Rank</b>	2	1

Option CS-1C received the highest score during the MCA and is the preferred option to proceed to concept design. Option 1C scored higher for convenience for people walking and cycling and improved amenity with a path through the park. Through the detailed design phase, special attention will be paid to trees and the entry and exit points of the shared use path through the park.

## Chaytor St – Segment CS-2

Segment CS-2 is from Appleton Park to Joll St. One option was assessed, and the MCA summary is provided in Table 8. The options considered is/was:

- CS-2C – Separated cycle lane (Figure 27)

The current situation for Chaytor Street Segment 2 is shown in Figure 26.

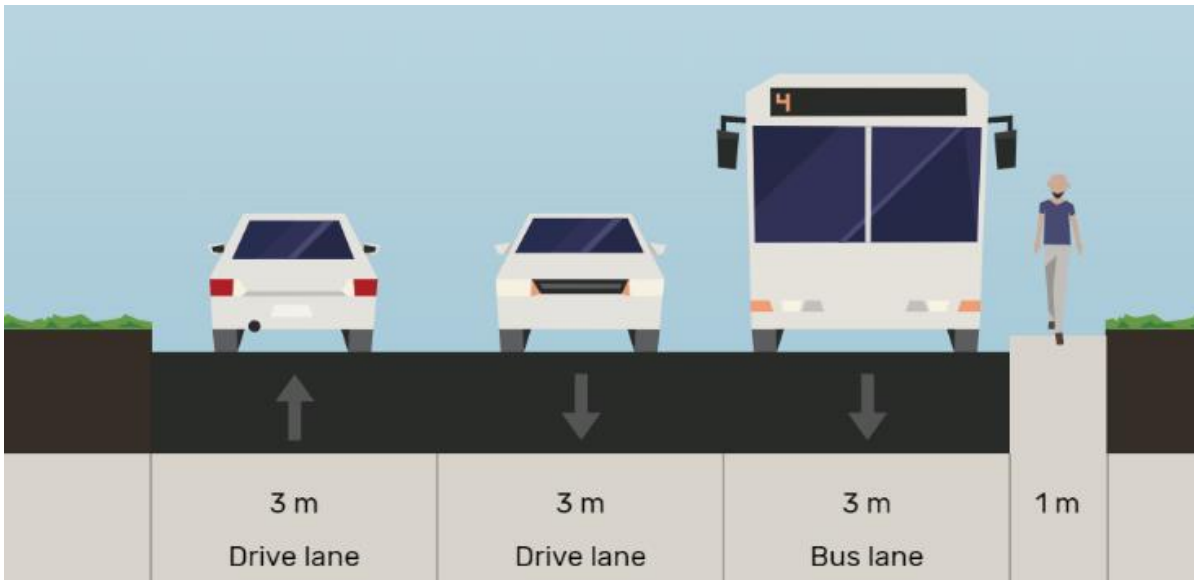


Figure 26: Chaytor St Segment 2 existing cross section

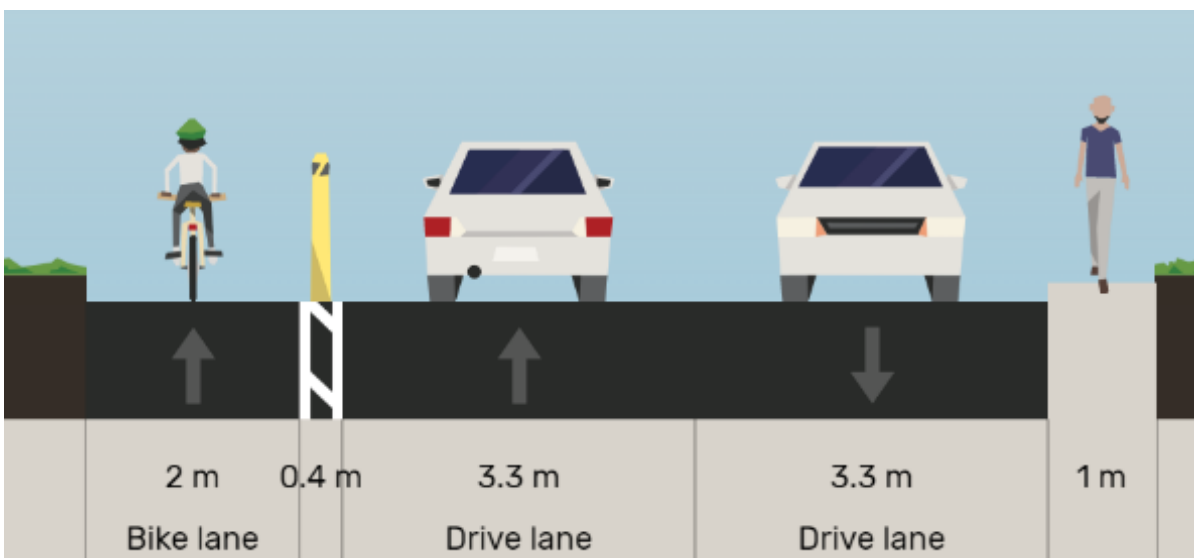


Figure 27: Option CS-2C separated cycle lane and shared drive lane

Table 8: Chaytor St Segment 2 MCA Score

<b>Option CS-2C</b>	
<b>Description</b>	Separated cycle lane and shared traffic lane
<b>Weighted Score</b>	0.65
<b>Rank</b>	1

Option CS-2C is identified as the preferred option in the MCA and will proceed to concept design. Option CS-2C is the sole option for this segment of Chaytor St and during the concept phase for this segment attention will be paid to retaining parking and bus lane.

Parking will be retained in areas where possible. The cross section for option CS-2C above may not accurately reflect the full design dimensions as the dimensions will be confirmed through

concept and detailed design. Note the revised cross section below illustrates some areas with parking retained. The dimensions for parking will vary from 1.9m at narrowest and 2.5m at widest.

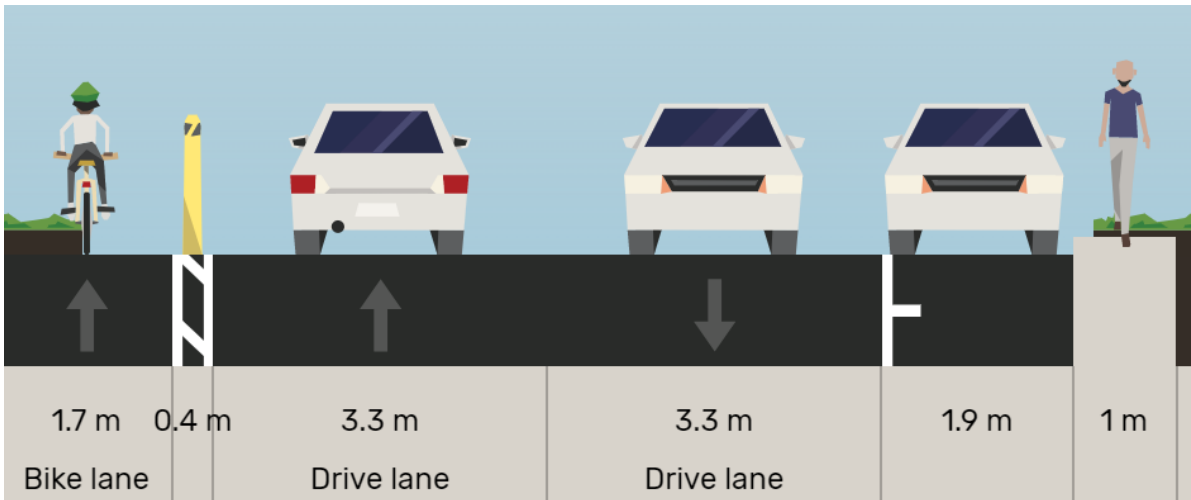


Figure 28: Sample cross section with parking retained for option CS-2C

### Chaytor St – Segment CS-3

Segment CS-3 is from Joll St to Lancaster St and passes through the Standen Street shops. Two options were assessed, and the MCA summary is provided in Table 9. The options considered were:

- CS-3A – Separated cycle lane leading to existing shared path + general traffic lane, parking removed (Figure 30)
- CS-3D – Painted cycle lane + general traffic lane, parking one side (Figure 31)

The current situation for Chaytor Street Segment 3 is shown in Figure 29.

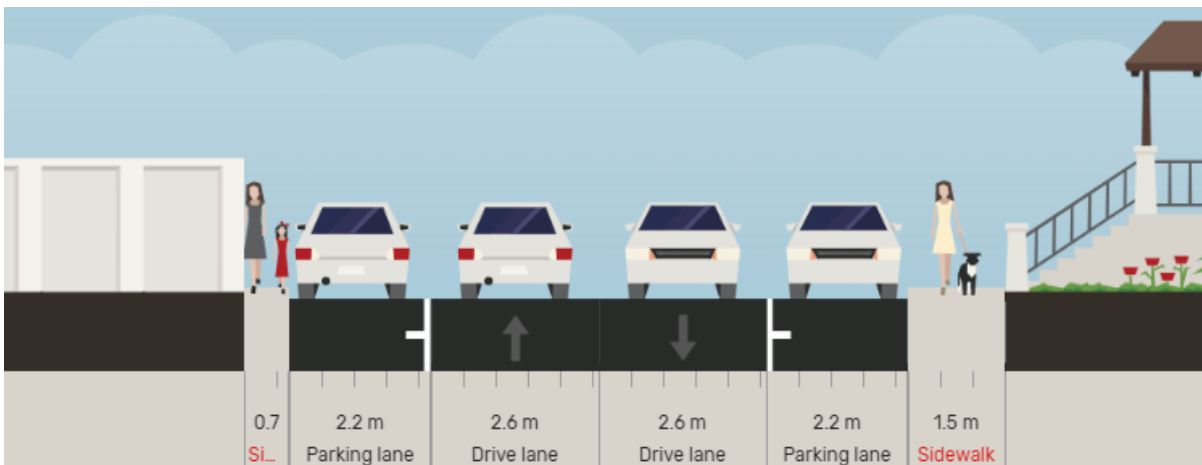


Figure 29: Chaytor St Segment 3 existing cross section

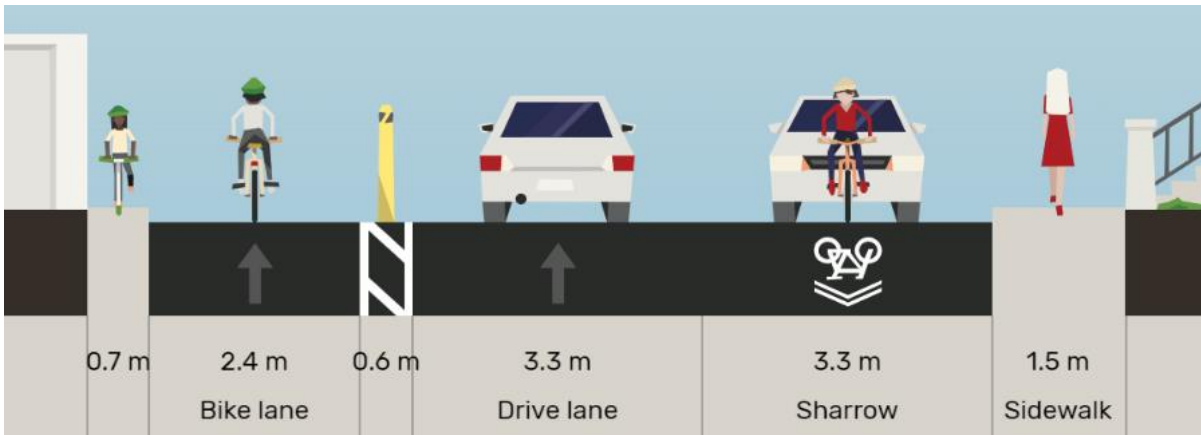


Figure 30: Option 3A separated cycle lane leading to shared use path and shared drive lane

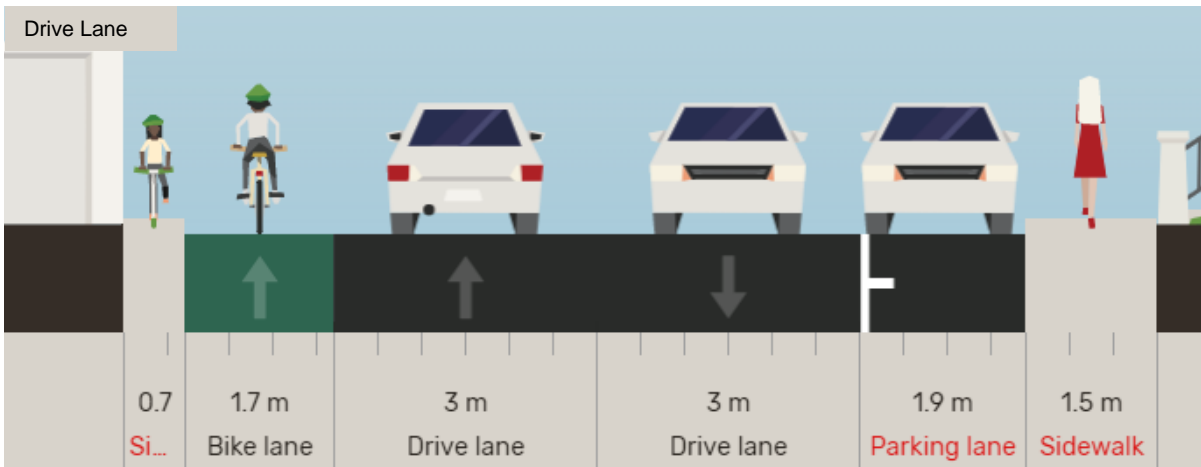


Figure 31: Option 3D painted cycle lane and general drive lane

Table 9: Chaytor St Segment 3 MCA Score

	Option CS-3A	Option CS-3D
<b>Description</b>	Separated cycle lane leading to existing shared path + general traffic lane	Painted cycle lane one direction and shared traffic lane
<b>Weighted Score</b>	0.80	0.48
<b>Rank</b>	1	2

Option CS-3A scored the highest in the MCA and is the preferred option to proceed to concept design. This segment passes through the Standen Street shops and through the concept design phase and parking study, the amount of parking that can be maintained will be clarified.

Parking will be retained in areas where possible. The cross section for option CS-3A above may not accurately reflect the full design dimensions as the dimensions will be confirmed through concept and detailed design. Note the revised cross section below illustrates some areas with parking retained.

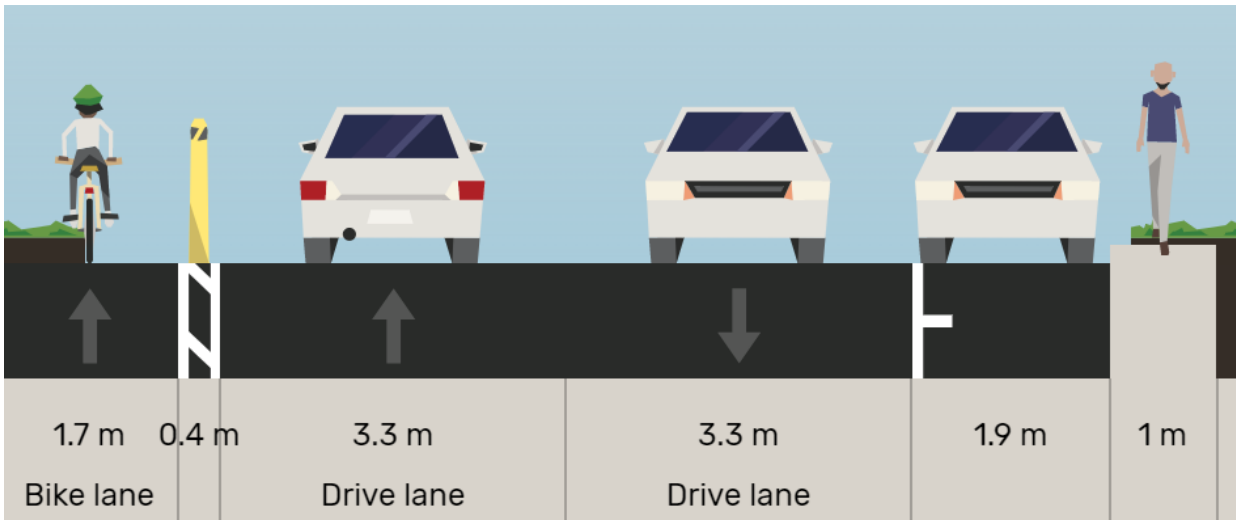


Figure 32: Sample cross section with parking retained for option CS-3A

## Section 3: Karori Road (Marsden Village)

This section along Karori Road is 1km from Nottingham Street to Campbell Street, passing through Marsden Village which has a 30 km/h speed limit. Karori Road has three sub-segments as seen in Figure 33.



Figure 33: Karori Road Segment 1

### Karori Road – Segement KR-MV-1

Segment KR-MV-1 is from Nottingham Street to Lancaster Street. Two options were assessed in the MCA and a summary of results is provided in Table 10. The options considered were:

- KR-MV-1A – Separated cycle and shared drive lane (Figure 35)
- KR-MV-1D – Separated cycle lane and painted cycle lane (Figure 36)

The current situation for Karori Rd (MV) Segment 1 is shown in Figure 34.

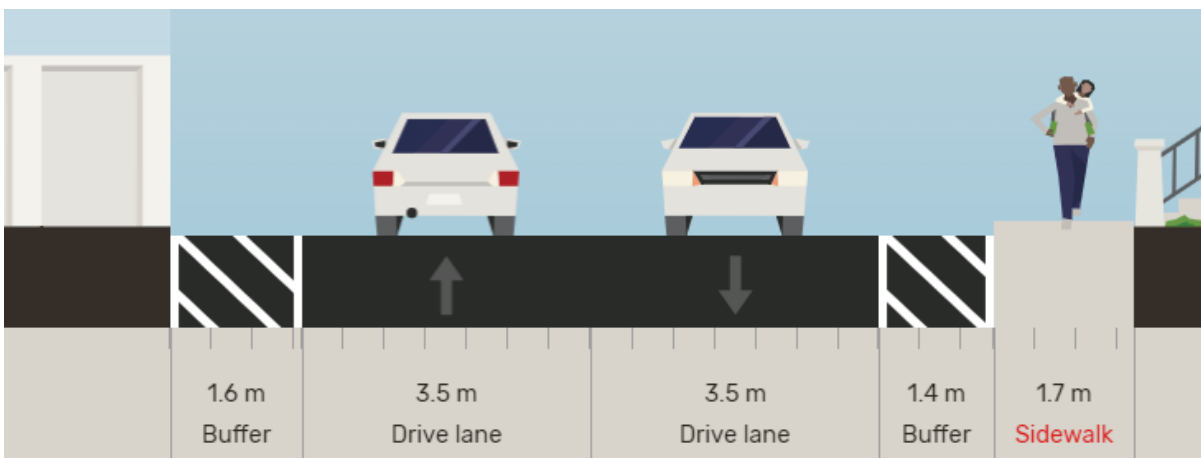


Figure 34: Karori Rd Segment 1 existing cross section



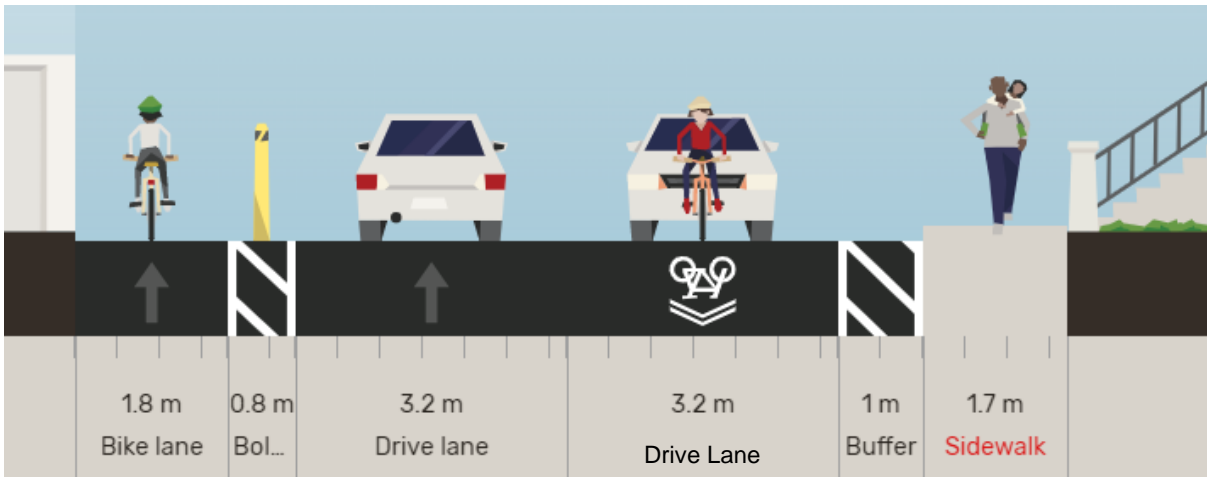


Figure 35: Option KR-MV 1A separated cycle lane and general traffic lane

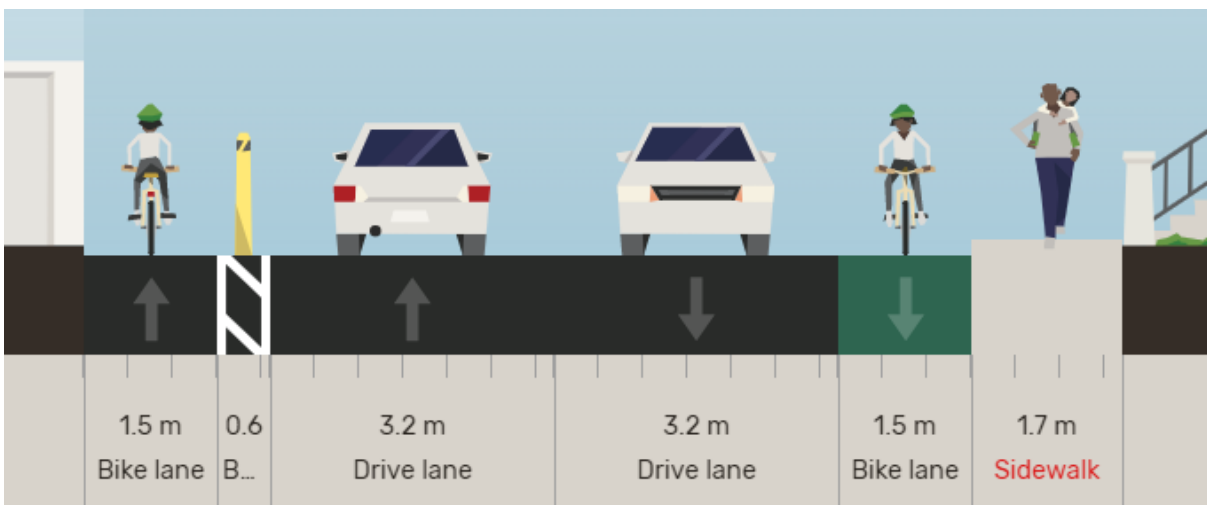


Figure 36: Option KR-MV 1D separated cycle lane and painted cycle lane

Table 10: Karori Rd (MV) Segment 1 MCA Score

	Option KR-MV-1A	Option KR-MV-1D
<b>Description</b>	Separated cycle lane (uphill) and shared traffic lane (downhill)	Separated cycle lane (uphill), painted cycle lane (downhill)
<b>Weighted Score</b>	0.66	0.69
<b>Rank</b>	2	1

Option KR-MV-1A scored the second highest in the MCA and is the preferred option to proceed to concept design. Option 1A provides a separated cycle lane and has ability to retain parking outside of shop and in the downhill direction.

## Karori Road – Segment KR-MV-2

Segment KR-MV-2 is from Lancaster St through Marsden Village to Fancourt St. Three options were assessed in the MCA and a summary of results is provided in Table 11. The options considered were:

- KR-MV-2A – Separated cycle and shared drive lane, parking one side (Figure 38)
- KR-MV-2C – Separated cycle lanes both directions, parking removed both sides (Figure 39)
- KR-MV-2D – Shared drive lanes with sharrows, parking both sides (Figure 40)

The current situation for Karori Rd (MV) Segment 2 is shown in Figure 37.

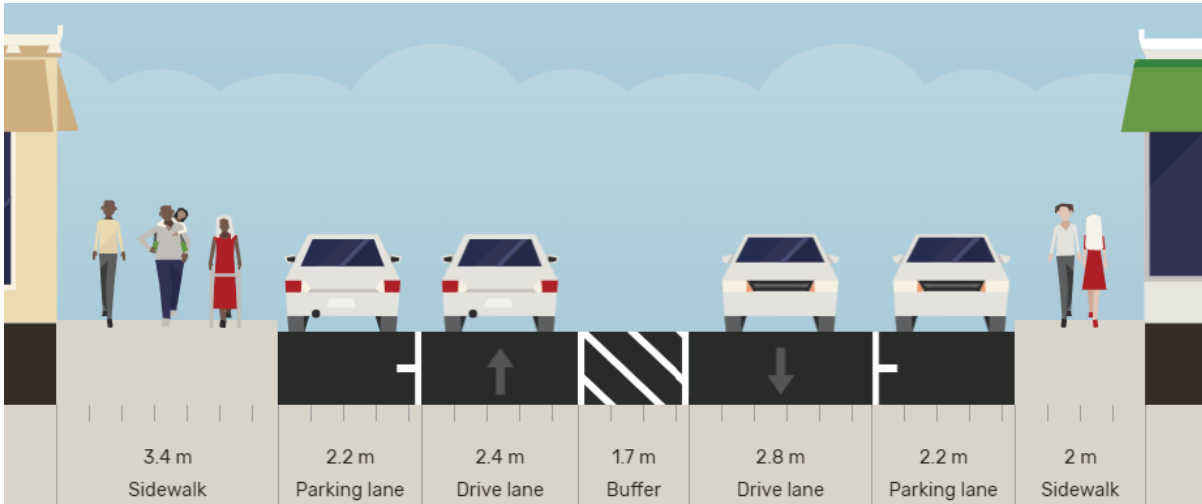


Figure 37: Karori Rd (MV) Segment 2 existing cross section

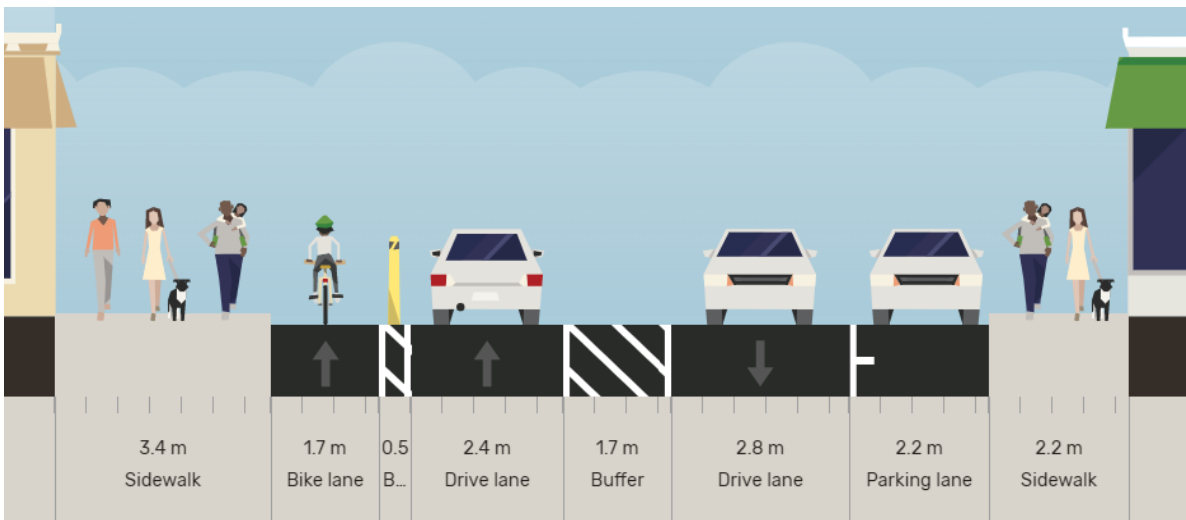


Figure 38: Option KR-MV 2A separated cycle lane and shared drive lane, parking one side

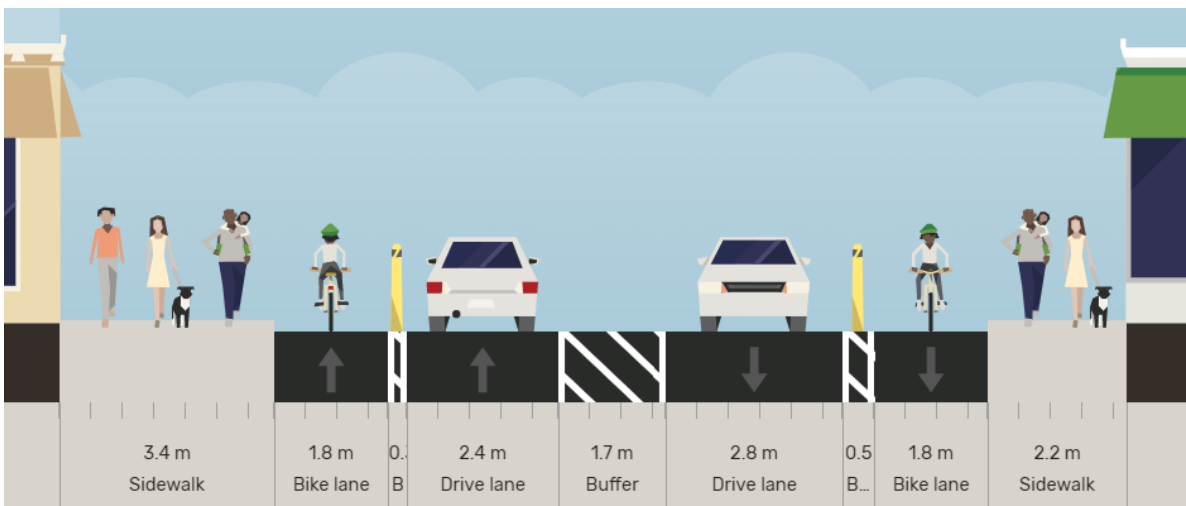


Figure 39: Option KR-MV 2C separated cycle lane both directions, parking removed

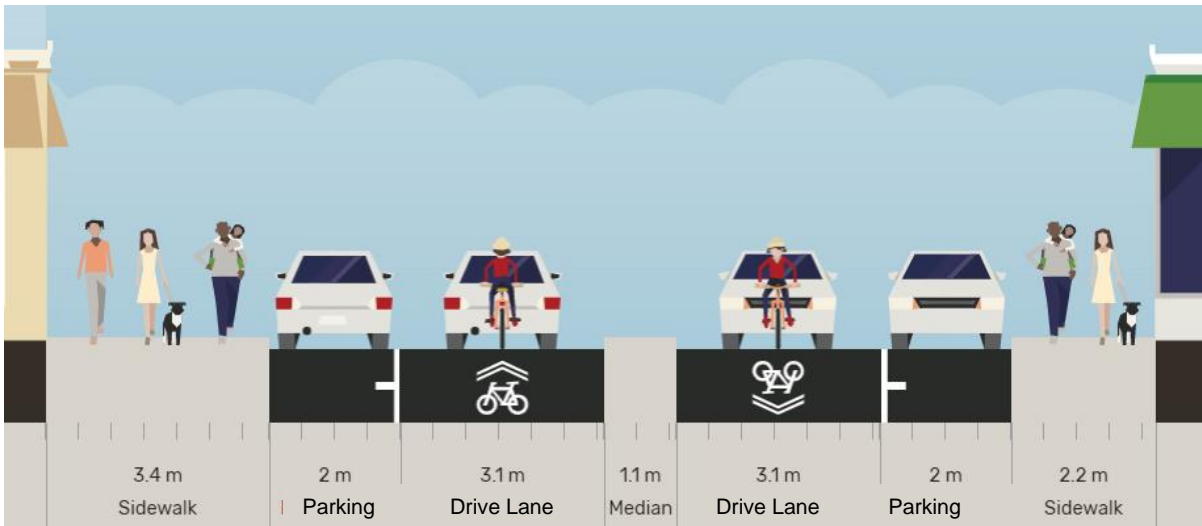


Figure 40: Option KR-MV 2D shared drive lanes with sharrows

Table 11: Karori Rd Segment 2 MCA Score

	Option KR-MV 2A	Option KR-MV 2C	Option KR-MV 2D
<b>Description</b>	Separated cycle lane and shared traffic lane	Separated cycle lanes in both directions	Shared traffic lanes
<b>Weighted Score</b>	0.76	1.08	1.24
<b>Rank</b>	3	2	1

Option KR-MV-2D scored the highest in the MCA and is the preferred option to proceed to concept design. Option 2D passes through the Marsden Village retail area which is a low-speed environment so people cycling and people driving can share the traffic lane. This option is consistent with town centre treatments in other parts of the Transitional Cycleway network, retaining parking around the shops and commercial area. Through the detailed design process bus stops will be adjusted and lengthened.

### Karori Road – Segement KR-MV-3

Segment KR-MV-3 is from Fancourt St to Campbell St and passes the Karori Normal School. Three options were assessed in the MCA and a summary of results is provided in Table 12. The options considered were:

- KR-MV-3A – Shared drive lane with sharrow and separated cycle lane (Figure 42)
- KR-MV-2C – Shared drive lane without sharrow and separated cycle lane (Figure 43)
- KR-MV-2D – Separated cycle lanes both direction (Figure 44)

The current situation for Karori Rd (MV) Segment 3 is shown in Figure 41.

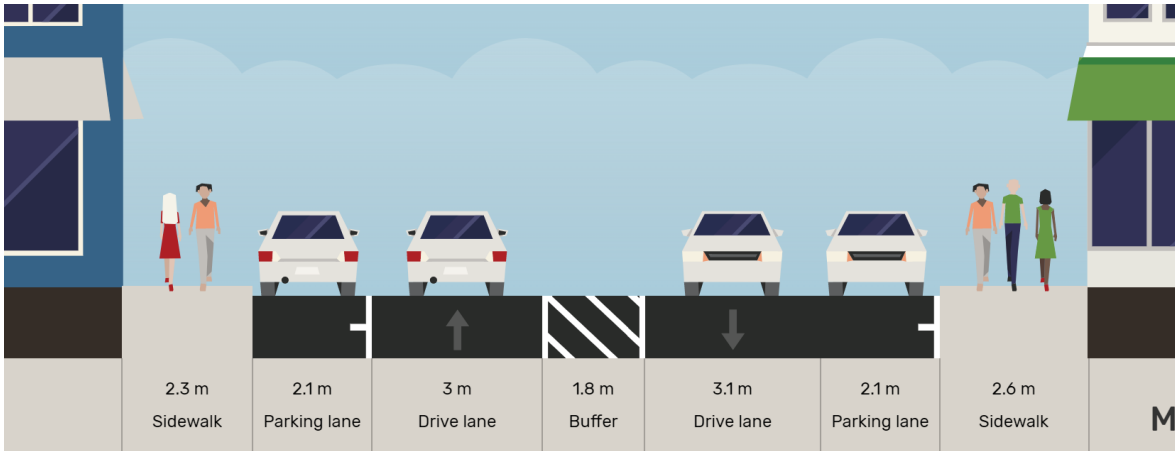


Figure 41: Karori Rd Segment 3 existing cross section

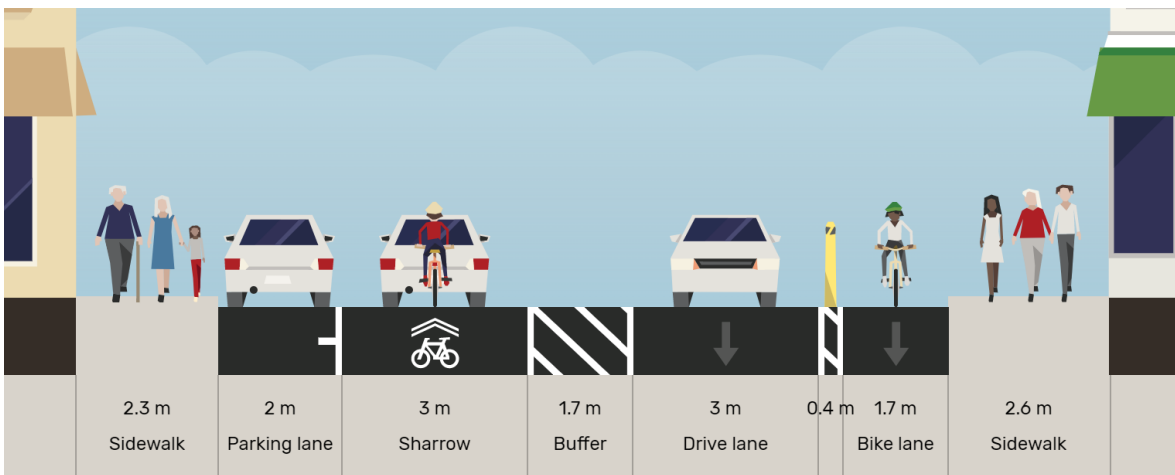


Figure 42: Option KR-MV-3A Shared traffic lane (downhill) and separated cycle lane (uphill), parking one side

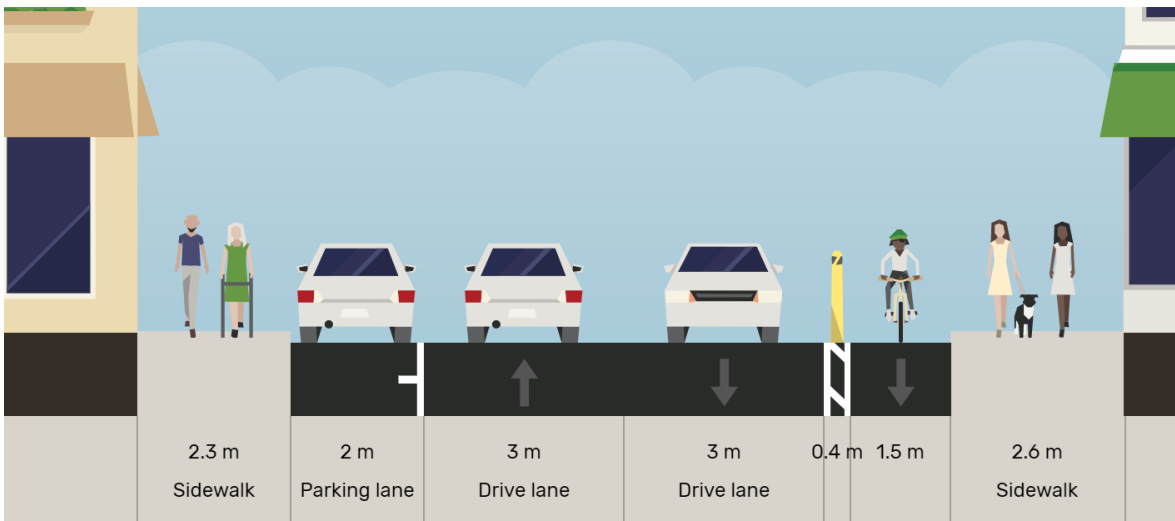


Figure 43: Option KR-MV-3C Separated cycle lane (uphill) and reduction in central median

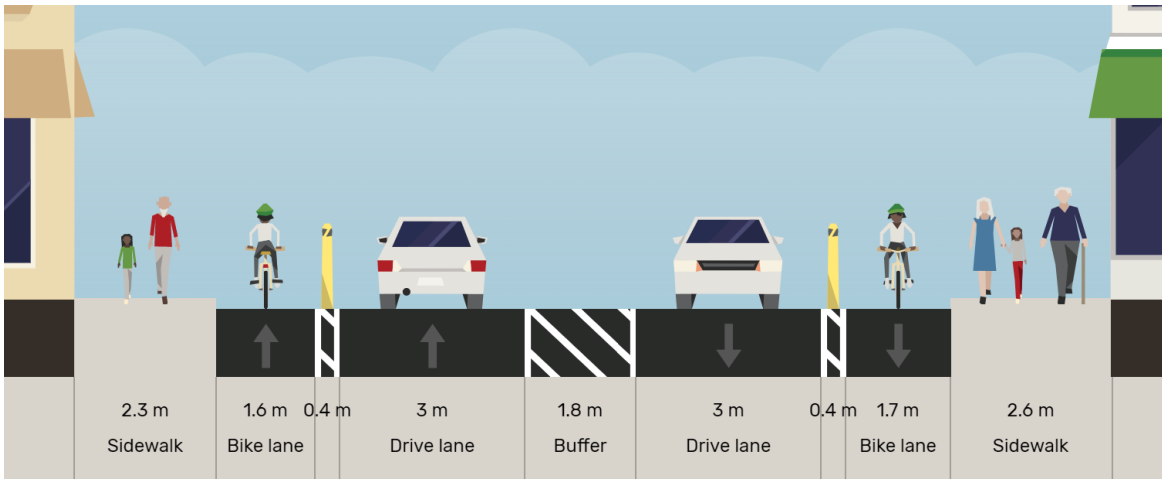


Figure 44: Option KR-MV-3D separated cycle lanes both direction, parking removed

Table 12: Karori Rd MV Segment 3 MCA Score

	Option KR-MV 3A	Option KR-MV 3C	Option KR-MV 3D
<b>Description</b>	Shared traffic lane (downhill) and separated cycle lane (uphill)	Separated cycle lane (uphill) and reduction in central median	Separated cycle lane in both directions
<b>Weighted Score</b>	1.00	0.33	0.93
<b>Rank</b>	1	3	2

Option KR-MV 3A scored the highest and identified in the MCA and is the preferred option to proceed to concept design. Option 3A includes a separated cycle lane and maintains parking on one side of the street which will enable parents a quick drop-off zone adjacent to the school.

## Section 4: Karori Road (to South Karori Road)

This section along Karori Road is 1.45km from Campbell Street to South Karori Road and passes the Karori Town Centre. Karori Road (SKR) has three sub-segments as seen in Figure 45.



Figure 45: Karori Rd (SKR) segments

### Karori Road/ South Karori Road – Segement KR-SKR-1

Segment KR-SKR-1 is from Campbell Street to Chamberlain Road through the Karori Shops. This retail Town Centre has a 30kph low speed environment. Four options were assessed in the MCA and a summary of results is provided in Table 13. The options considered were:

- KR-SKR-1B – Shared traffic lane and separated cycle lane (Figure 47)
- KR-SKR-1C – Separated cycle lane both directions (Figure 48)
- KR-SKR 1D- Shared traffic lanes with sharrows both directions (Figure 49)
- KR-SKR 1E – Shared traffic lane and separated cycle lane (Figure 50)

The current situation for Karori Rd/SKR Segment 1 is shown in Figure 46.

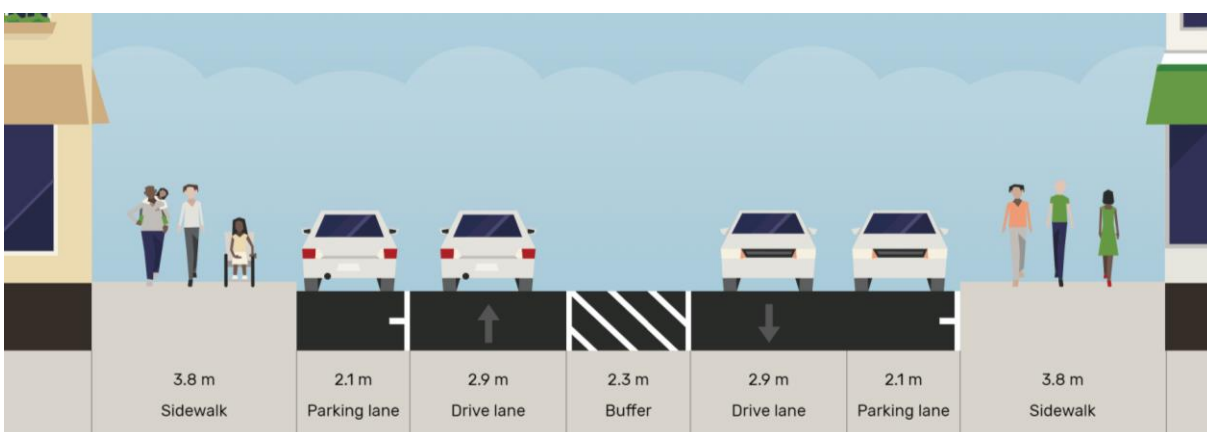


Figure 46: Karori Rd section 4 existing cross section



Figure 47: Option KR-SKR-1B shared traffic lane and separated cycle lane



Figure 48: Option KR-SKR-1C separated cycles lanes both direction

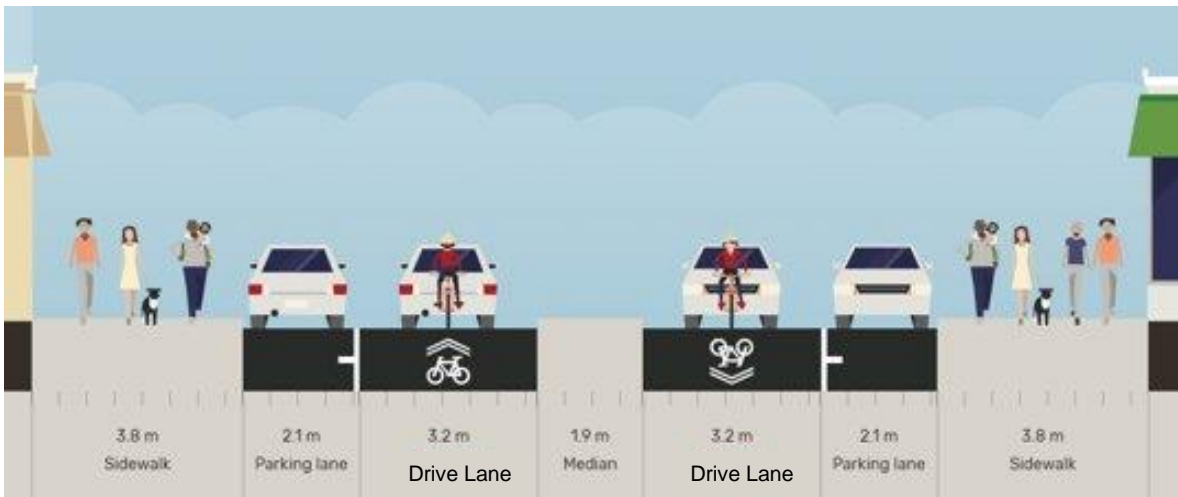


Figure 49: Option KR-SKR-1D shared drive lane both directions with sharrow

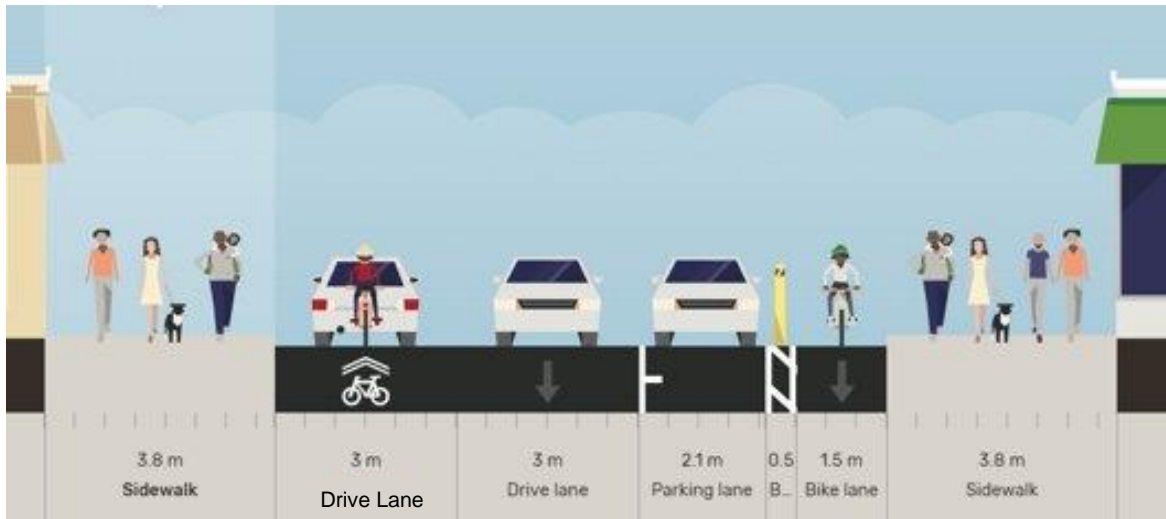


Figure 50: Option Kr-SKR-1E shared drive lane with sharrows and separated cycle lane

Table 13: Karori Rd SKR Segment 1 MCA Score

	Option KR-SKR-1B	Option KR-SKR-1C	Option KR-SKR 1D	Option KR-SKR 1E
<b>Description</b>	Shared traffic lane and separated cycle lane	Separated cycle lane both directions	Shared traffic lanes both directions	Shared traffic lane and separated cycle lane
<b>Weighted Score</b>	0.83	1.03	1.08	0.48
<b>Rank</b>	3	2	1	4

Option KR-SKR 1D received the best score during the MCA and will proceed to concept design phase. Option 1D passes through the Kaori Rd shop which is a low-speed environment so people cycling and people driving can share the traffic lane. This option is consistent with town centre treatments in other parts of the Transitional Cycleways network, and retains parking around the commercial area. Through the detailed design process, some parking will be removed to allow bus stops to be adjusted and lengthened.

## Karori Road/ South Karori Road – Segement KR-SKR-2

Segment KR-SKR-2 is from Chamberlain Road to Morely Street describes the segment west of shops. Two options were assessed in the MCA and a summary of results is provided in Table 14. The options considered were:

- KR-SKR-2B – Shared traffic lane and separated cycle lane, parking one side (Figure 52)
- KR-SKR-2C – Painted cycle lanes both directions (Figure 53)

The current situation for Karori Rd/SKR Segment 2 is shown in Figure 51.



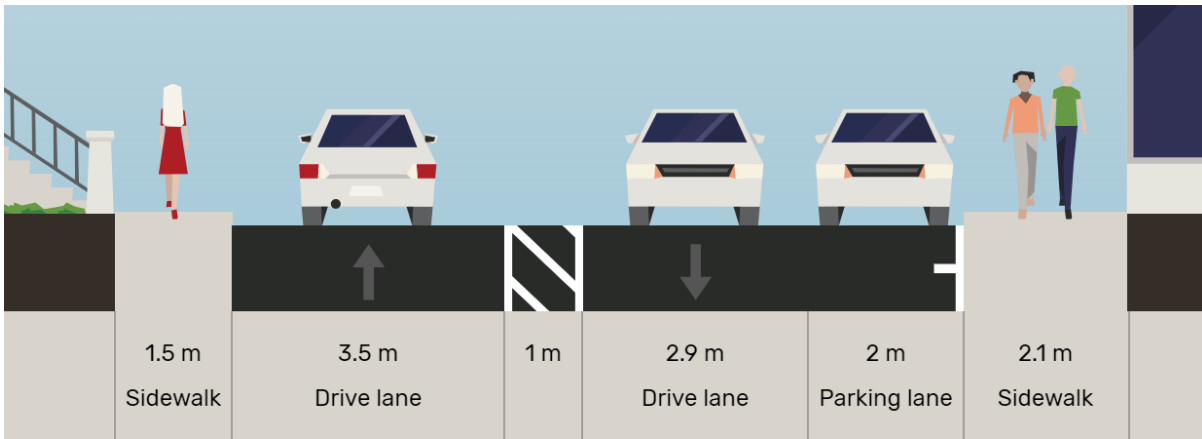


Figure 51: Karori Rd/SKR Segment 2 existing cross section

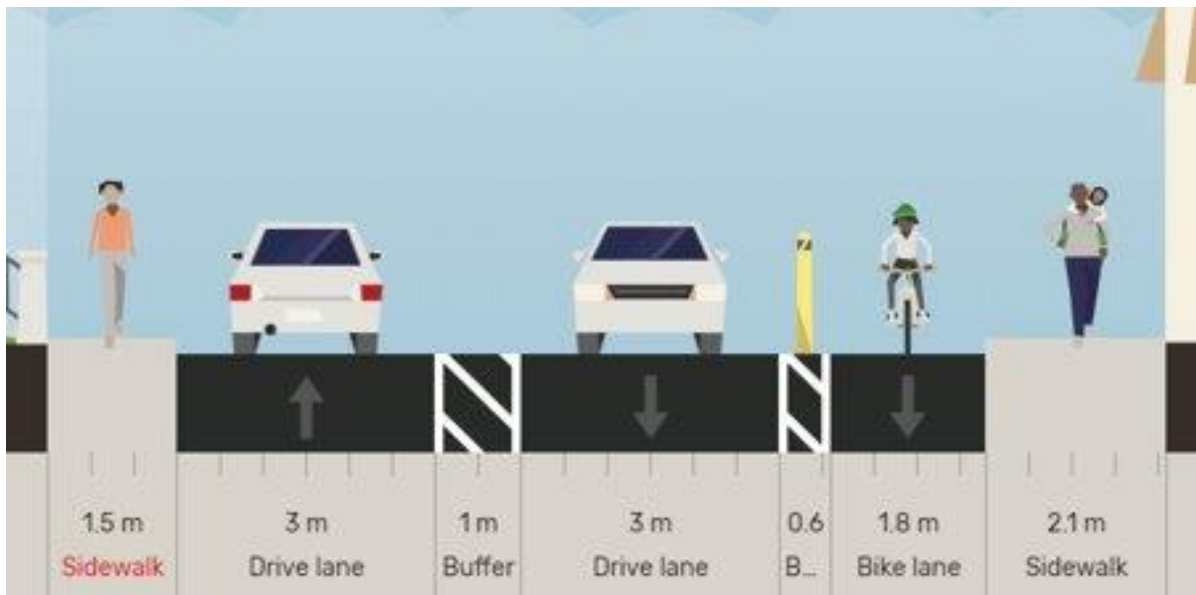


Figure 52: Option KR-SKR 2B – Shared drive lane and separated cycle lane

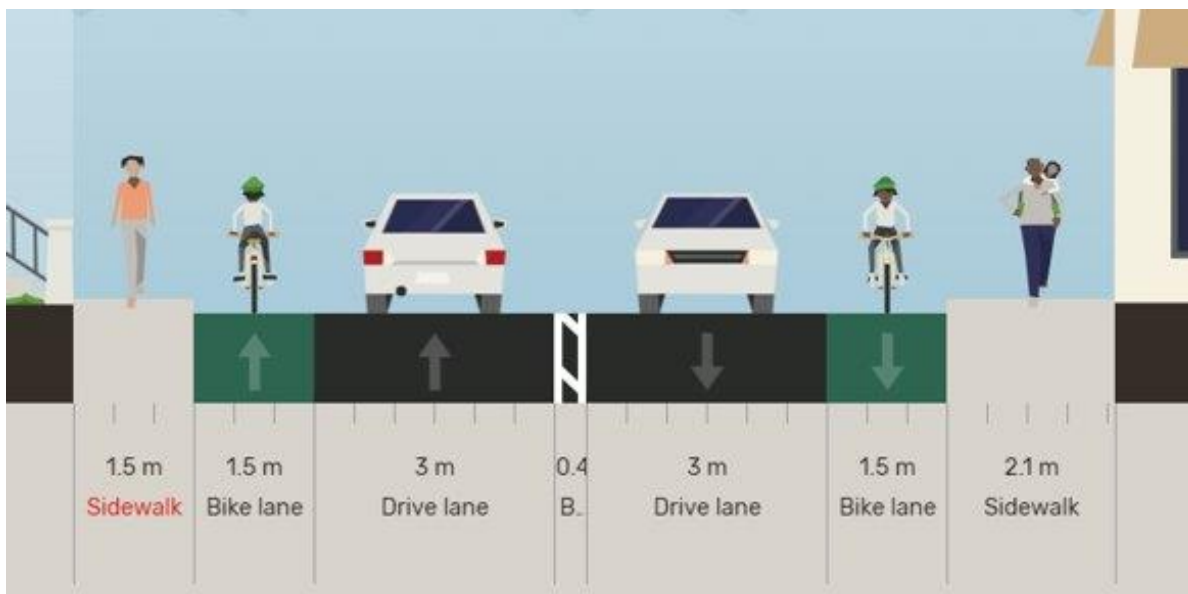


Figure 53: Option KR-SKR 2C – painted cycle lanes both sides

Table 14 Karori Rd SKR Segment 2 MCA Score

	Option KR-SKR-2B	Option KR-SKR-2C
<b>Description</b>	Shared traffic lane and separated cycle lane	Painted cycle lanes both directions
<b>Weighted Score</b>	0.63	0.50
<b>Rank</b>	1	2

Option KR-SKR 2B scored higher in the MCA and is selected to proceed to concept design phase. Plans for this segment maybe be staged as increased bus capacity is a priority to provide improved service to the Karori community and separated cycle lanes will be implemented later.

### Karori Road/ South Karori Road – Segement KR-SKR-3

Segment KR-SKR-3 is from Morely Street to South Karori Road and passes Karori Park. Four options were assessed in the MCA and a summary of results is provided in Table 15. The options considered were:

- KR-SKR 3B – Separated cycle lane (uphill), parking one side (Figure 55)
- KR-SKR 3E – Separated cycle lane in both directions , parking one side median removed (Figure 56)
- KR-SKR 3F – Separated cycle lane in both directions (Figure 57)
- KR-SKR 3G – Bi-directional cycle lane (Figure 58)

The current situation for Karori Rd/SKR Segment 3 is shown in Figure 54.



Figure 54: Karori Rd/SKR Segment 3 existing cross section



Figure 55: Option KR-SKR-3B separated cycle lane, parking one side

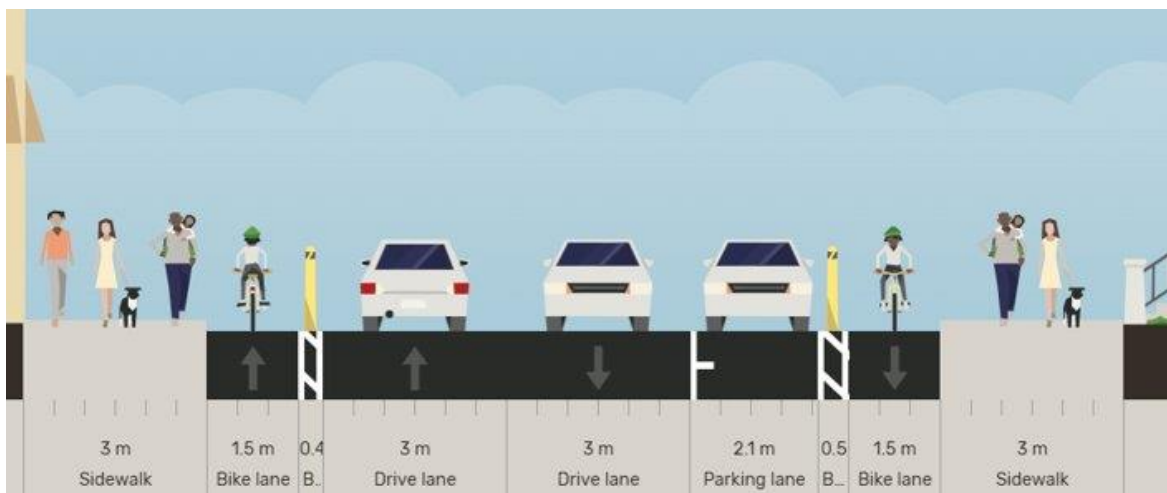


Figure 56: Option KR-SKR-3E separated cycle lane in both directions, parking one side

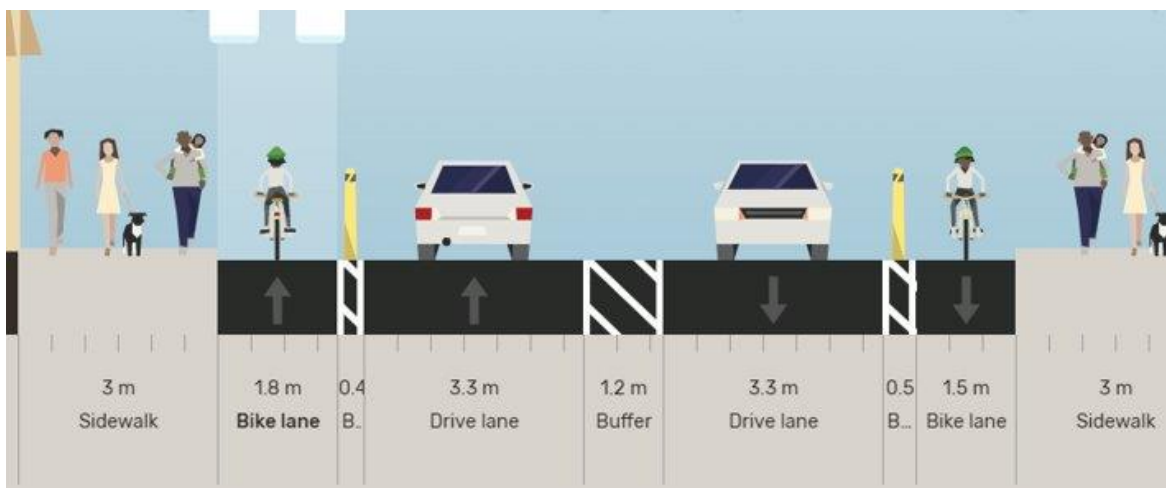


Figure 57: Option KR-SKR-3F separated cycle lane in both directions, parking removed

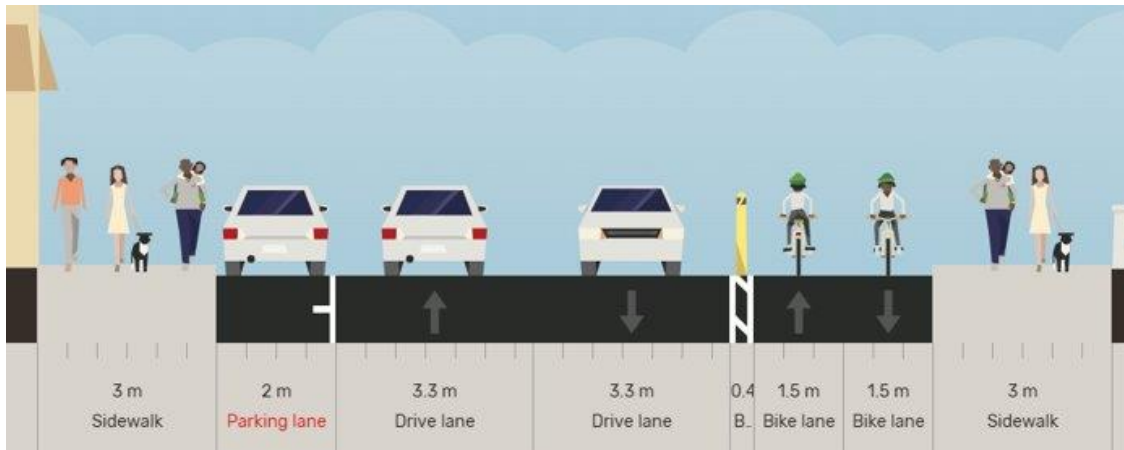


Figure 58: Bi-directional cycle lane

Table 15: KR South Karori Rd Segment 3 MCA Score

	Option KR-SKR 3B	Option KR-SKR 3E	Option KR-SKR 3F	Option KR-SKR 3G
<b>Description</b>	Separated cycle lane (uphill)	Separated cycle lane in both directions with parking one side	separated cycle lane in both directions with centre median	Bi-directional cycle lane
<b>Weighted Score</b>	1.21	1.18	1.18	0.91
<b>Rank</b>	1	2	2	4

Option KR-SKR 3B scored the highest during the MCA and proceeds to concept design phase. Option 3B maintains parking on one side with the addition of a separated cycle lane. This option may need to be staged and balanced with the bus priority and service in the area to Karori Park for special events.

## Summary of Outcomes

Table 16 provides a summary of the preferred options from the MCA.

*Table 16: Summary of multi criteria analysis outcomes*

	<b>Preferred option</b>
GS-1	Separated cycle lane and shared traffic lane
GS-2	Separated cycle lane and shared traffic lane
GS-3	Separated cycle lane and shared traffic lane
GS-4	Shared use path (uphill) and shared traffic lane (downhill)
CS-1	Shared path through Appleton Park
CS-2	Separated cycle lane and shared traffic lane
CS-3	Separated cycle lane leading to existing shared path and shared traffic lane
KR-MV-1	Separated cycle lane (uphill) and shared traffic lane (downhill)
KR-MV-2	Shared traffic lanes both directions through retail area
KR-MV-3	Shared traffic lanes (downhill) and separated cycle lane (uphill)
KR-SKR-1	Shared traffic lanes both directions through retail area
KR-SKR-2	Shared traffic lane and separated cycle lane
KR-SKR-3	Separated cycle lane (uphill) parking one side

# **Appendix A – Long list to short list**

<b>Section</b>	<b>Long list option</b>	<b>Progressed to short list and MCA?</b>
Glenmore St (GS-1)	GS-1A Separated cycleway	Yes
	GS-1B Shared bus/bike lane (uphill)	No – Shared bus/bike lane doesn't align with Metlink / safety guidelines
	GS-1C Separated cycle way in both directions	Yes
	GS-1D Shared path through Botanic Gardens (bi-directional/both ways)	No – Discounted due to potential conflict with people walking in Gardens and higher speed with downhill cycling
	GS-1E Shared path through Botanic Gardens	Yes
	GS-1F Shared path on existing footpath	Yes
	GS-1G Shared path through Botanic Gardens and separated cycle lane	Yes
	GS-1H Shared path through Botanic Gardens and shared bus/bike lane	Yes
	GS-1I Bi-directional cycle lanes	No – Gradient exceeds safe speed for bi-directional cycle lane; Preference for separated cycle lane; Issues with connection through network
	GS-1J Separated cycle lane and shared traffic lane	Yes
Glenmore St (GS-2)	GS-2A Separated cycle lane and shared traffic lane	Yes
	GS-2B Shared bus/bike lane and shared traffic lane	No – Speed differential between buses and bikes uphill makes it unsuitable for shared lane
	GS-2C Separated cycle lane both directions	Yes
	GS-2D Bi-directional cycles lanes	No - Gradient exceeds safe speed for bi-directional cycle lane
	GS-2E Separated cycle lane and shared bus/bike lane	Yes
Glenmore St (GS-3)	GS-3A Shared bus/bike lane and separated cycle lane	No – Speed differential between buses and bikes uphill makes it unsuitable for shared lane
	GS-3B+ Separated cycle lane and shared traffic lane with 30kph	Yes
	GS-3C+ Widened bus/bike lane and share traffic lane with 30kph	Yes

Glenmore St (GS-4)	GS-4A Shared path and speed reduction measures for tunnel	Yes
	GS-4B Sharrow in both direction	No – Sharrows not suitable in both directions due to high traffic volumes
Chaytor St (CS-1)	CS-1A Separate cycle lane and shared bus/bike lane	Yes
	CS-1B Sharrows in traffic lane	No – not enough benefit for cycling and not suitable for traffic volumes
	CS-1C Shared path through Appleton Park	Yes
Chaytor St (CS-2)	CS-2A Separated cycle lane and shared bus/bike lane	No – widths below required standard
	CS-2B Shared path and shared bus/bike lane	No – widths below required standard
	CS-2C Separated cycle lane and remove bus lane	Yes
Chaytor St (CS-3)	CS-3A Separated cycle lane and shared traffic lane	Yes
	CS-3B Sharrows on traffic lane both directions	No – no improvement for people cycling and high traffic volumes
	CS-3C Shared bus/bike lane	No – Speed differential between buses and bikes uphill makes it unsuitable for shared lane
	CS-3D Painted cycle lane to share path	Yes
Karori Rd (Marsden Village) (KR-MV-1)	KR-MV-1A Separated cycle lane (uphill) and shared traffic lane	Yes
	KR-MV-1B Shared traffic lane and separated cycle lane (downhill)	No – Inconsistent with options for other segments; Separation preferred for uphill direction
	KR-MV-1C Painted cycle lanes in both directions	No – no safety improvement for people cycling and high traffic volumes
	KR-MV-1D Separated cycle lane and painted cycle lane	Yes
Karori Rd (Marsden Village) (KR-MV-2)	KR-MV-2A Separated cycle lane (westbound) and shared traffic lane	Yes
	KR-MV-2B Shared traffic lane (westbound) and separated cycle lane (eastbound)	No - Inconsistent with options for other segments; Separation preferred for uphill direction
	KR-MV-2C Separated cycle lanes both directions	Yes
	KR-MV-2D Shared traffic lanes	Yes



Karori Rd (Marsden Village) (KR-MV-3)	KR-MV-3A Shared traffic lane and separated cycle lane	Yes
	KR-MV-3B Separated cycle lane and shared traffic lane	No – Protection for people cycling appropriate for other direction
	KR-MV-3C Shared traffic lane and separated cycle lane	Yes
	KR-MV-3D Separated cycle lanes both direction	Yes
Karori Rd (South Karori Rd) (KR-SKR-1)	KR-SKR-1A Separated cycle lane (westbound) and shared traffic lane	No – protection for people cycling appropriate for other direction
	KR-SKR-1B Separated cycle lane (westbound)	Yes
	KR-SKR-1C Separated cycle lanes both directions	Yes
	KR-SKR-1D Shared traffic lanes with reduced speed	Yes
	KR-SKR-1E Shared traffic lane and separated cycle lane	Yes
Karori Rd (South Karori Rd) (KR-SKR-2)	KR-SKR-2A Separated cycle lane (downhill) and share traffic lane	No – inconsistent with other segment designs
	KR-SKR-2B Shared traffic lane and separated cycle lane (uphill)	Yes
	KR-SKR-2C Painted cycle lanes both directions	Yes
Karori Rd (South Karori Rd) (KR-SKR-3)	KR-SKR-3A Separated cycle lane (downhill) and share traffic lane	No - protection for people cycling appropriate for other direction
	KR-SKR-3B Shared traffic lane and separated cycle lane (uphill)	Yes
	KR-SKR-3C Separated cycle lane (downhill) and shared traffic lane	No – preference for separated cycle lane in other direction
	KR-SKR-3D Shared traffic lane and separated cycle lane (uphill)	No – not enough width for separation in this direction
	KR-SKR-3E Separated cycle lanes both direction, parking retained one direction	Yes
	KR-SKR-3F Separated cycle lanes both direction,	Yes
	KR-SKR-3G Bi-directional cycle lanes both direction	Yes

# Appendix B – Multi criteria analysis tables

- Section GS1 – Glenmore St Botanic Gardens
- Section GS2 – Glenmore St Central 1
- Section GS3 – Glenmore St Central 2
- Section GS4 – Glenmore St Karori Tunnel
- Section CS1 – Chaytor St Appleton Park
- Section CS2 – Chaytor St Central
- Section CS3 – Chaytor St Kaori Rd
- Section KR-MV1 – Karori Rd East End
- Section KR-MV2 – Karori Rd Marsden Village
- Section KR-MV3 – Karori Rd School Zone
- Section KR-SKR1 – Karori Rd Karori Shops
- Section KR-SKR2 – Karori Rd West of Shops
- Section KR-SKR3 – Kaori Rd Karori Park

**Absolutely Positively  
Wellington City Council**

Me Heke Ki Pōneke

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