

## Long List MCA - Short Listed Options

<b>Date:</b>	16 May 2022	<b>Jacobs New Zealand Limited</b>
<b>Project name:</b>	Brooklyn Cycleway	Level 8, 1 Grey Street
<b>Project no:</b>	Z128800	Wellington, 6143
<b>Attention:</b>	Hilary Fowler	PO Box 10-283
<b>Company:</b>	Wellington City Council:	Wellington 6011
<b>Prepared by:</b>	Simon Cager / Marran Young	New Zealand
		T +64 4 473 4265
		F +64 4 473 3369
		www.jacobs.com

## Introduction

Wellington City Council have been trialling a 1.3km cycle lane on Brooklyn and Ohiro Roads under the Innovating Streets initiative and funding. The trial lane was made live on 11 June 2021. A condition of the funding from Waka Kotahi is that there is a pathway to permanence in place that will take the project from pilot to permanent. Further extensions to the physical scope including wider improvements to PT, pedestrian accessibility and intersection safety improvements are now to be considered creating a connected approach to the whole street and wider network travel choices.

## Multi Criteria Analysis (MCA)

As part of the process through to a preferred option, Jacobs have organised 3 workshops to date, these being:

- Workshop 1 (Initial Options) completed on 10<sup>th</sup> February 2022
- Workshop 2 (Long List Options) completed on 4<sup>th</sup> May 2022
- Workshop 2a (Long List Options: Intersections) completed on 11<sup>th</sup> May 2022

The project area has been split into 8 sections for MCA assessment purposes, these being:

Section 1: Victoria / Webb Street (Karo Drive to Willis Street)

Section 2: Willis Street (Webb Street to Nairn Street)

Section 3: Brooklyn Road (Nairn Street to Ohiro Road)

Section 4: Brooklyn Road / Ohiro Road Intersection

Section 5: Ohiro Road (Brooklyn Road to Cleveland Street)

Section 6: Ohiro Road / Tanera Crescent / Bretby Crescent Intersection

Section 7: Ohiro Road / Cleveland Street / Todman Street Intersection

Section 8: Cleveland Street

An initial scoring on all sections was completed by Jacobs and these scores were discussed and moderated by the participants at the Long List Workshops 2 & 2a to determine a final scoring and the proposed shortlisted options for concept development.

## Long List MCA Summary

### Section 1: Victoria / Webb Street (Karo Drive to Willis Street)

Five options were brought through and assessed from the Initial Options stage; these were:

Option 1a – Mixed traffic with sharrow markings (Do Minimum Option)

Option 1b – Mixed traffic with sharrow markings / speed calming measures

Option 1c – Roadspace reallocation for a kerbside cycle lane

Option 1d – Dedicated shared cycle / bus lane

Option 1e – Shared path on existing footpath

### Scoring & Weightings

Section 1 is considered a transitional section given it sits on the boundary with the LGWM City Streets programme and will need to link in with any future permanent network solutions.

The following weightings were agreed with the workshop participants for Section 1.

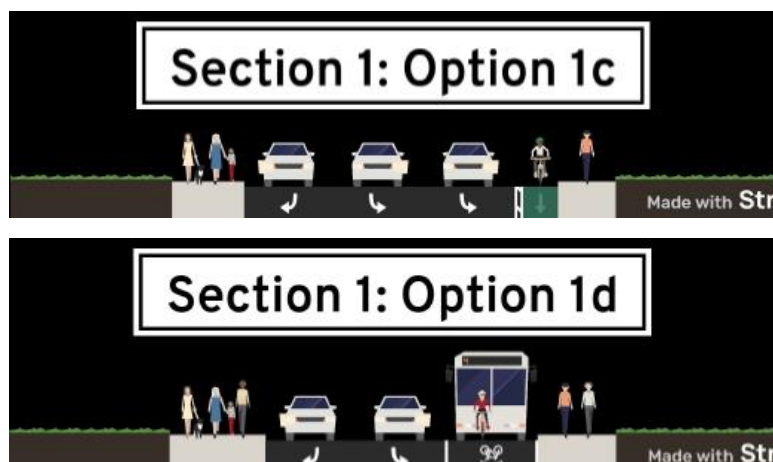
#### Objective weightings

Design objectives	Weight
Safety for people walking	15.0%
Convenience (level of service) for people walking	10.0%
Safety for people on bikes	20.0%
Convenience (level of service) for people on bikes	15.0%
Bus speed and reliability	20.0%
General road safety	10.0%
General traffic efficiency	10.0%
<b>Total weights</b>	<b>100%</b>

Following moderation and discussion at the workshop the total weighted scoring was calculated with the options 1c and 1d (highlighted in red in the table below) proposed to progress to the short list from Section 1.

#### Scoring

Option	Total Weighted Score	Rank	Shortlisted
Option 1a (Do Minimum)	0	4	N
Option 1b	33	3	N
Option 1c	80	1	Y
Option 1d	55	2	Y
Option 1e	F	F	N



## Section 2: Willis Street (Nairn Street to Webb Street)

Six options were brought through and assessed from the Initial Options stage; these were:

Option 2a – Minor Safety Improvements with sharrow markings both lanes kerbside (Do Minimum Option)

Option 2b – Separated cycle lanes uphill and downhill

Option 2c – Shared bus / cycle lane uphill and sharrow markings downhill

Option 2d – Shared bus / cycle lane uphill and sharrows downhill

Option 2e – Shared bus / cycle lane both uphill and downhill

Option 2f – Shared bus / cycle lane uphill and separated cycle lane downhill

### Scoring & Weightings

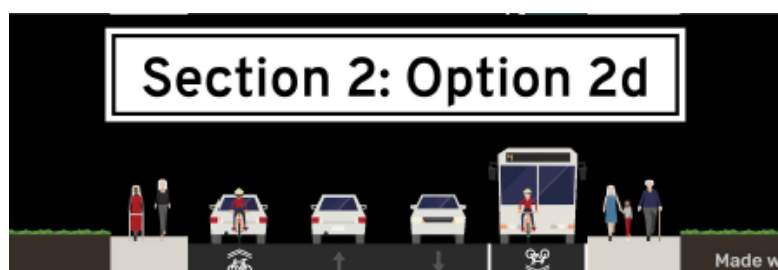
The following weightings were agreed with the workshop participants for Section 2.

Design objectives	Weight
Safety for people walking	15.0%
Convenience (level of service) for people walking	10.0%
Safety for people on bikes	20.0%
Convenience (level of service) for people on bikes	15.0%
Bus speed and reliability	20.0%
General road safety	10.0%
General traffic efficiency	10.0%
<b>Total weights</b>	<b>100%</b>

Following moderation and discussion at the workshop the total weighted scoring was calculated with the options 2d and 2f (highlighted in red in the table below) proposed to progress to the short list from Section 2.

**Scoring**

Option	Total Weighted Score	Rank	Shortlisted
Option 2a (Do Minimum)	0	6	N
Option 2b	7	5	N
Option 2c	13	4	N
Option 2d	55	1	Y
Option 2e	23	3	N
Option 2f	45	2	Y



**Section 3: Brooklyn Road (Webb Street to Ohiro Road)**

Eight options were brought through and assessed from the Initial Options stage; these were:

- Option 3a – Existing uphill trial formalised with minor improvements for permanence (Do Minimum Option)
- Option 3b – Enhanced fully separated uphill cycle lane (uni directional) and downhill sharrows
- Option 3c – Enhanced fully separated uphill cycle lane (uni directional) and unprotected downhill cycle lane
- Option 3d – Enhanced fully separated uphill and downhill cycle lanes (uni directional)
- Option 3e – Enhanced fully separated uphill cycle lane (uni directional) and downhill via Central Park route.
- Option 3f - Enhanced fully separated uphill cycle lane (uni directional) and downhill sharrows via Ohiro Road
- Option 3g – Enhanced fully separated cycle lane (bi-directional) – uphill side
- Option 3h – Enhanced fully separated cycle lane (bi-directional) – downhill side

Option 3a includes simple PT rationalisation with no improvements made to pedestrian connectivity whereas Options 3b to 3h all include the provision of a pedestrian footpath on both sides, improvements to PT and enhanced connectivity and accessibility for users, safety improvements for pedestrians.

## Scoring & Weightings

The following weightings were agreed with the workshop participants for Section 3.

Design objectives	Weight
Safety for people walking	20.0%
Convenience (level of service) for people walking	10.0%
Safety for people on bikes	20.0%
Convenience (level of service) for people on bikes	15.0%
Bus speed and reliability	15.0%
General road safety	10.0%
Parking	10%
<b>Total weights</b>	<b>100%</b>

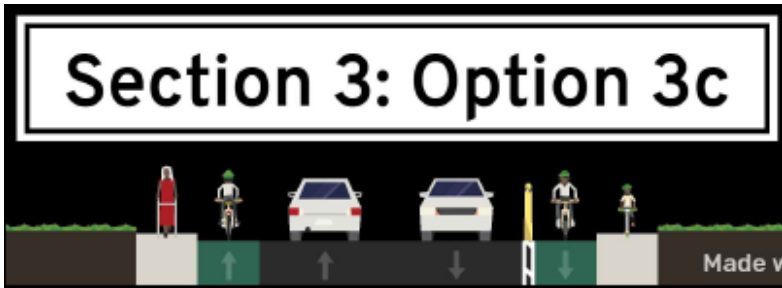
Following moderation and discussion at the workshop the total weighted scoring was calculated with the options 3b, 3c and 3f (highlighted in red in the table below) proposed to progress to the short list from Section 3.

### Scoring

Option	Total Weighted Score	Rank	Shortlisted
Option 3a (Do Minimum)	0	6	N
<b>Option 3b</b>	<b>115</b>	<b>5</b>	<b>Y</b>
<b>Option 3c</b>	<b>120</b>	<b>4</b>	<b>Y</b>
<b>Option 3d</b>	<b>130</b>	<b>1</b>	<b>Y</b>
Option 3e	F	3	N
<b>Option 3f</b>	<b>138</b>	<b>2</b>	<b>Y</b>
Option 3g	F	F	N
Option 3h	F	F	N



Option 3f is the same as 3b uphill (above) but the route downhill is via Ohiro Road.



### Section 4: Brooklyn Road / Ohiro Road Intersection

Four options were brought through and assessed from the Initial Options stage; these were:

- Option 4a – Intersection minor safety improvements (Do Minimum Option)
- Option 4b – Enhanced intersection safety improvements
- Option 4c – Fully signalised intersection
- Option 4d – Roundabout

Option 4a includes some intersection priority amendments along with safety improvements and minimal pedestrian upgrades whereas Options 4b to 4d all include the provision of a major safety improvements to the intersection alongside improved pedestrian and cycling safety.

### Scoring & Weightings

The following weightings were agreed with the workshop participants for Section 4.

Design objectives	Weight
Safety for people walking	20.0%
Convenience (level of service) for people walking	10.0%
Safety for people on bikes	15.0%
Convenience (level of service) for people on bikes	10.0%
Bus speed and reliability	10.0%
General road safety	15.0%
General traffic efficiency	10%
Place amenity of the area	5%
Parking	5%
<b>Total weights</b>	<b>100%</b>

Following moderation and discussion at the workshop the total weighted scoring was calculated with the options 4b and 4d (highlighted in red in the table below) proposed to progress to the short list from Section 4.

**Scoring**

Option	Total Weighted Score	Rank	Shortlisted
Option 4a (Do Minimum)	0	6	N
Option 4b	85	5	Y
Option 4c	45	4	N
Option 4d	130	1	Y

## Section 5: Ohiro Road (Brooklyn Road to Cleveland Street)

Five options were brought through and assessed from the Initial Options stage; these were:

Option 5a – Minor safety improvements with sharrow markings on both sides (Do Minimum Option)

Option 5b – Separated cycle lane on both sides

Option 5c – Separated cycle lane to Brooklyn and sharrows on other side

Option 5d – Separated cycle lane from Brooklyn and sharrows on the other side

Option 5e – Separated cycle lane from Brooklyn and new footpath on other side

Option 5a includes minor safety improvements for pedestrians, cyclists and PT to the existing road layout including the extension of the 30kph speed zone whereas Options 5b to 5e all include the provision of major safety improvements, including the extension of the 30kph speed zone, to the existing road layout coupled with improved connectivity and accessibility for PT and active modes.

### Scoring & Weightings

The following weightings were agreed with the workshop participants for Section 5.

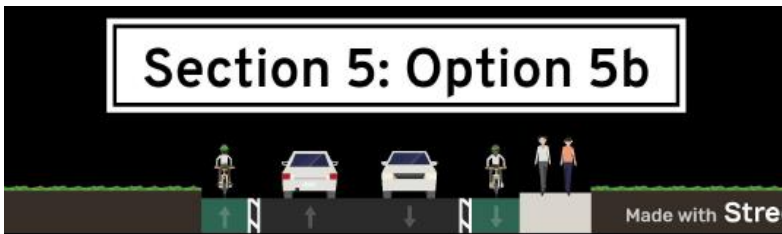
Design objectives	Weight
Safety for people walking	20.0%
Convenience (level of service) for people walking	10.0%
Safety for people on bikes	25.0%
Convenience (level of service) for people on bikes	15.0%
Bus speed and reliability	10.0%
General road safety	10.0%
Parking	10%
<b>Total weights</b>	<b>100%</b>

Following moderation and discussion at the workshop the total weighted scoring was calculated with the top two options 5b and 5e proposed to progress to the short list for Section 5.

Following moderation and discussion at the workshop the total weighted scoring was calculated with the options 5b and 5e (highlighted in red in the table below) proposed to progress to the short list from Section 5.

**Scoring**

Option	Total Weighted Score	Rank	Shortlisted
Option 5a (Do Minimum)	0	5	N
<b>Option 5b</b>	<b>85</b>	<b>1</b>	<b>Y</b>
Option 5c	23	3	N
Option 5d	8	4	N
<b>Option 5e</b>	<b>68</b>	<b>2</b>	<b>Y</b>



**Section 6: Ohiro Road / Tanera Crescent / Bretby Crescent Intersection**

Five options were brought through and assessed from the Initial Options stage; these were:

- Option 6a – Intersection minor safety improvements and minor pedestrian upgrades (Do Minimum Option)
- Option 6b – Enhanced intersection safety improvements
- Option 6c – Closure of Tanera Crescent between Helen Street and Ohiro Road
- Option 6d – Tanera Crescent made one way from Ohiro Road to Helen Street
- Option 6e – Tanera Crescent made one way towards Ohiro Road from Helen Street

Option 6a includes minor safety improvements to the existing intersection and minor upgrades to crossing points for pedestrians whereas Options 6b to 6e all include the provision of a major safety improvements to the existing intersection alongside improved pedestrian and cycling safety, connectivity, and accessibility for users.



## Scoring & Weightings

The following weightings were agreed with the workshop participants for Section 6.

Design objectives	Weight
Safety for people walking	15.0%
Convenience (level of service) for people walking	10.0%
Safety for people on bikes	15.0%
Convenience (level of service) for people on bikes	10.0%
Bus speed and reliability	10.0%
General road safety	15.0%
General traffic efficiency	15%
Place amenity of the area	10%
<b>Total weights</b>	<b>100%</b>

Following moderation and discussion at the workshop the total weighted scoring was calculated with the options 6b and 6c (highlighted in red in the table below) proposed to progress to the short list from Section 6.

### Scoring

Option	Total Weighted Score	Rank	Shortlisted
Option 6a (Do Minimum)	0	5	N
Option 6b	90	2	Y
Option 6c	95	1	Y
Option 6d	20	4	N
Option 6e	43	3	N

## Section 7: Ohiro Road / Cleveland Street / Todman Street Intersection

Four options were brought through and assessed from the Initial Options stage; these were:

Option 7a – Intersection minor safety improvements and minor pedestrian upgrades (Do Minimum Option)

Option 7b – Enhanced intersection safety improvements

Option 7c – Roundabout

Option 7d – Traffic Signal Improvements

Following discussion on this section it became clear that there were several initiatives underway within WCC to improve this intersection, these ranged from minor safety improvements to traffic signal improvements. It was acknowledged that the intersection was highly constrained and that Option 7c wouldn't work without potentially acquiring property.

It was therefore agreed not to complete the scoring and further liaise with WCC on their initiatives to develop a workable solution that improves safety and accessibility for active modes and PT.

## Section 8: Cleveland Street (Ohio Road to Washington Avenue)

Five options were brought through and assessed from the Initial Options stage; these were:

Option 8a – Existing Sharrow markings (Do nothing)

Option 8b – Minor safety improvements

Option 8c – Cycle lanes on both sides

Option 8d – Cycle lane towards Washington Avenue and sharrow markings (existing) towards Ohio Road

Option 8e – Sharrow markings (existing) towards Washington Avenue and cycle lane towards Ohio Road

Option 8a retains the current status quo in the section which is the existing sharrow markings in both directions whereas Options 8b to 8e all include the provision of improvements to pedestrian and cycling safety.

### Scoring & Weightings

The following weightings were agreed with the workshop participants for Section 8.

Design objectives	Weight
Safety for people walking	15.0%
Convenience (level of service) for people walking	10.0%
Safety for people on bikes	10.0%
Convenience (level of service) for people on bikes	10.0%
Bus speed and reliability	5.0%
General road safety	5.0%
Place amenity of the area	15%
Parking	30%
<b>Total weights</b>	<b>100%</b>

Following moderation and discussion at the workshop the total weighted scoring was calculated with the option 8b (highlighted in red in the table below) proposed to progress to the short list from Section 8.

#### Scoring

Option	Total Weighted Score	Rank	Shortlisted
Option 8a (Do Nothing)	0	5	N
<b>Option 8b</b>	<b>10</b>	<b>1</b>	<b>Y</b>
Option 8c	-70	4	Y
Option 8d	-30	2	N
Option 8e	-35	3	N

## Shortlisted Options Connectivity

Following the completion of the scoring process a check was undertaken on the connectivity between the proposed shortlisted options and their adjacent sections.

We only noted one potential conflict with connectivity which related to the proposed shortlisted options for Sections 1 and 2.

For Section 1, Option 1c conflicts with the both the Section 2 options, 2d and 2f. Other compatible options such as Option 2c scored low in the MCA assessment and were not proposed to be carried through to the short list.

We would not recommend taking Option 1c into the short list due to this incompatibility.

## Shortlisted Options Summary

The following options are therefore recommended to move into the shortlist.

- Section 1: Option 1d – Dedicated shared cycle / bus lane
- Section 2: Option 2d – Shared bus / cycle lane uphill and sharrows downhill  
Option 2f – Shared bus / cycle lane uphill and separated cycle lane downhill
- Section 3: Option 3b – Enhanced fully separated uphill cycle lane (uni-directional) and downhill sharrows  
Option 3c – Enhanced fully separated uphill cycle lane (uni-directional) and unprotected downhill cycle lane  
Option 3d – Enhanced fully separated uphill and downhill cycle lanes (uni-directional)  
Option 3f - Enhanced fully separated uphill cycle lane (uni-directional) and downhill sharrows via Ohiro Road
- Section 4: Option 4b – Enhanced intersection safety improvements  
Option 4d – Roundabout
- Section 5: Option 5b – Separated cycle lane on both sides  
Option 5e – Separated cycle lane from Brooklyn and new footpath on other side
- Section 6: Option 6b – Enhanced intersection safety improvements  
Option 6c – Closure of Tanera Crescent between Helen Street and Ohiro Road
- Section 7: No options marked / under discussion with WCC
- Section 8: Option 8b – Minor safety improvements