

Wellington City Urban Cycleways Programme

Design Report: Thorndon

February 2018

**Absolutely Positively
Wellington City Council**
Me Heke Ki Pōneke

Table of contents

1		
1.	Introduction	3
1.1	Background	3
1.2	Project Objectives	3
1.3	Study Area.....	3
1.4	Purpose of this Report	5
2.	Community and Key Stakeholders	6
2.1	Working Group.....	6
3.	Issues, Constraints and Opportunities	7
3.1	Issues Paper Summary.....	7
4.	Cycle Route Development	8
4.1	Background	8
4.2	WCC Cycling Investment Objectives	8
5.	Cycleways Treatment Evaluation	9
5.1	Introduction	9
5.2	Treatment Options Identification (Long List).....	10
5.3	Treatment Options Assessment (Long List to Short List)	10
6.	Let's Get Wellington Moving.....	13
6.1	Revised Scope	13
6.2	Assessment of Revised Scope	15
7.	Safety Audit	19

Table index

No table of figures entries found.

Figure index

No table of figures entries found.

Appendices

Appendix A – Route Options

Appendix B – Localised Improvement Options

Appendix C – Area-wide Improvement Options

1. Introduction

1.1 Background

Over recent years Wellington City Council (the Council) has committed capital funding for cycleway development through its Long Term Plan and Annual Plan processes. The investments aim to contribute towards cycling becoming “safer and more convenient” (Cycling Policy Nov 2008) by increasing the level of service for people who use bikes.

The Urban Cycleways Programme (UCP) has provisionally allocated \$9.5 million to the Council for investment by 30 June 2019. When contributions from rates and the National Land Transport Fund (NLTF) are taken into account, \$37.5 million will be invested in cycling in Wellington by 30 June 2019, of which \$4.0 million has been allocated to the Northern Connection – Thorndon route (1 of 2 projects on the Northern Connection route).

This next phase of work is to identify and evaluate treatment types along the routes and will involve engagement with affected parties and wider stakeholders.

1.2 Project Objectives

The WCC investment objectives are as follows:

- Level of Service - Achieve a high level of service for cyclists within an integrated transport network.
- Network Efficiency - Improve cycling infrastructure and facilities so that cycling makes a much greater contribution to network efficiency, effectiveness and resilience.
- Cycling Uptake - Cycling is a viable and attractive transport choice.
- Cycle Safety - The crash rate, number and severity of crashes involving people on bikes is reduced.
- Wellington City Improvements - Provide transport choices by increasing the opportunity for people to ride bikes so as to improve the sustainability, liveability and attractiveness of Wellington.

The Thorndon Working Group Objectives are as follows:

- Improve the safety of road users
- Improve connections for pedestrians and cyclists
- Reduce the number of single occupancy commuter cars traveling on Thorndon Quay
- Minimise impact on businesses,
- Maintain or improve the consistency of bus journey times along Thorndon Quay
- Improve the sustainability, liveability, and attractiveness of Thorndon.
- Improve the level of service for cyclists
- Improve the level of service for pedestrians

1.3 Study Area

Figure 1 below shows the extent of the study area:

- Hutt Road from Aotea Quay to Tinakori Road;
- Thorndon Quay from Tinakori Road to Mulgrave Street;
- Featherston Street from Mulgrave Street to Bunny Street; and
- Bunny Street from Featherston St to Waterloo Quay.



Figure 1: Study Area

1.3.1 Existing Situation

The following cycle facilities are currently provided along the route:

- Shared path along the eastern side of Hutt Road between Aotea Quay and Tinakori Road;
- Cycle markings and AM peak clearway along Thorndon Quay (southbound direction);

- Southbound cycle lane on east side of Featherston Street between Mulgrave Street and Bunny Street (including provision for cyclists at the limit lines in both directions); and
- Eastbound cycle lane on the north side of Bunny Street (between Featherston Street and Waterloo Quay (including provision for cyclists at the limit lines in both directions).

1.4 **Purpose of this Report**

The purpose of this report is to document the design process used to identify options through the community working group.

2. Community and Key Stakeholders

2.1 Working Group

The stakeholder list was generated for the Thorndon Transport/Cycling Project through several meetings around stakeholder mapping with the cycling and transport teams at WCC and via selection from community volunteered applicants.

The project's Open Day (held on 6 March, Bridge Club, 17 Tinakori Road, 3pm-7:30pm) garnered much community attention and enthusiasm for inclusion in the working group, as did the letter drop mail-out announcing activation of the project.

The working group was comprised of the following stakeholders*:

- Living Streets (advocate) – 1
- Thorndon Residents Association (Residents Association) – 1
- Khandallah Residents Association (Residents Association) – 1
- Commuter (transport user) – 2
- Business Owner (business community) – 3
- Property Owner (property owner) – 3
- Port Nicholson Block (iwi) – 1
- Hutt Cycling Network (advocate) – 1
- Cycling Action Network (advocate) – 1
- Cycle Aware Wellington (advocate) – 1

*Representatives from NZTA and GWRC also shared the table with the working group, offering specialist perspective to questions that required a deeper knowledge of certain aspects of transport, like buses and cycling regulation and specification.

Once the working group was established, it met regularly at a room donated by Executive Director Paul Robinson of The Woolstore (262 Thorndon Quay) for the purpose of having a centrally located and convenient space in which to hold effective workshops around optioneering the route for Thorndon.

Meetings were held at least once a month, at 6pm to 8pm. The meeting schedule was:

- 29 March
- 19 April
- 11 May
- 21 June
- 5 July
- 26 July.

3. Issues, Constraints and Opportunities

3.1 Issues Paper Summary

The following key issues have been identified in the Issues report:

- Safety is an issue for all modes through this section of Wellington roading network.
- Very high pedestrian crossing demands are observed at the four southern-most intersections (Moore Street, Mulgrave Street, Bunny Street and Waterloo Quay).
- The LOS for pedestrians along Thorndon Quay is assessed as average.
- There is potential for increased pedestrian demands along / across the route.
- There are delays for vehicles (including bikes, buses and cars), especially at the Moore Street zebra crossing at peak periods.
- High (and growing) number of people on bikes (more than 500 in the morning peak) along the route (busiest route in Wellington).
- LOS for people on bikes along route is assessed as average.
- There is a high likelihood of increased bike demands along the route.
- There is a significant patronage and vehicle numbers of people using buses, with around 2,500 occupants in buses on the corridor during the 2 hour AM peak period.
- High bus stop demands occur at Capital Gateway and under the Motorway.
- Delays to people on buses northbound in the PM peak between the bus terminus and Capital Gateway.
- Significant delays to people on buses southbound in the AM peak between Davis Street and the bus terminus.
- High proportion (~60%) of single occupancy trips in the AM peak.
- The Waterloo Quay / Bunny Street intersection performs poorly during both weekday peak periods.
- The right turn out of Tinakori Road incurs significant delays in the AM peak but this is a low demand movement.
- There is a high proportion of long stay parking demand compared to the total demand on Thorndon Quay likely to be made up of commuters and employees of the businesses along this section of the corridor.

4. Cycle Route Development

4.1 Background

Over recent years Wellington City Council (the Council) has committed capital funding for cycleway development through its Long Term Plan and Annual Plan processes. The investments aim to contribute towards cycling becoming “safer and more convenient” (Cycling Policy Nov 2008) by increasing the level of service for people who use bikes.

The Urban Cycleways Programme (UCP) has provisionally allocated \$9.5 million to the Council for investment by 30 June 2019. When contributions from rates and the National Land Transport Fund (NLTF) are taken into account, \$37.5 million will be invested in cycling in Wellington by 30 June 2019, of which \$4.0 million has been allocated to the Northern Connection – Thorndon route (1 of 2 projects on the Northern Connection route).

This next phase of work is to identify and evaluate treatment types along the routes and will involve engagement with affected parties and wider stakeholders.

4.2 WCC Cycling Investment Objectives

The WCC investment objectives are as follows:

- Level of Service - Achieve a high level of service for cyclists within an integrated transport network.
- Network Efficiency - Improve cycling infrastructure and facilities so that cycling makes a much greater contribution to network efficiency, effectiveness and resilience.
- Cycling Uptake - Cycling is a viable and attractive transport choice.
- Cycle Safety - The crash rate, number and severity of crashes involving people on bikes is reduced.
- Wellington City Improvements - Provide transport choices by increasing the opportunity for people to ride bikes so as to improve the sustainability, liveability and attractiveness of Wellington.

5. Cycleways Treatment Evaluation

5.1 Introduction

The process followed by the working group to obtain a short list of options is shown in Figure 2 below.

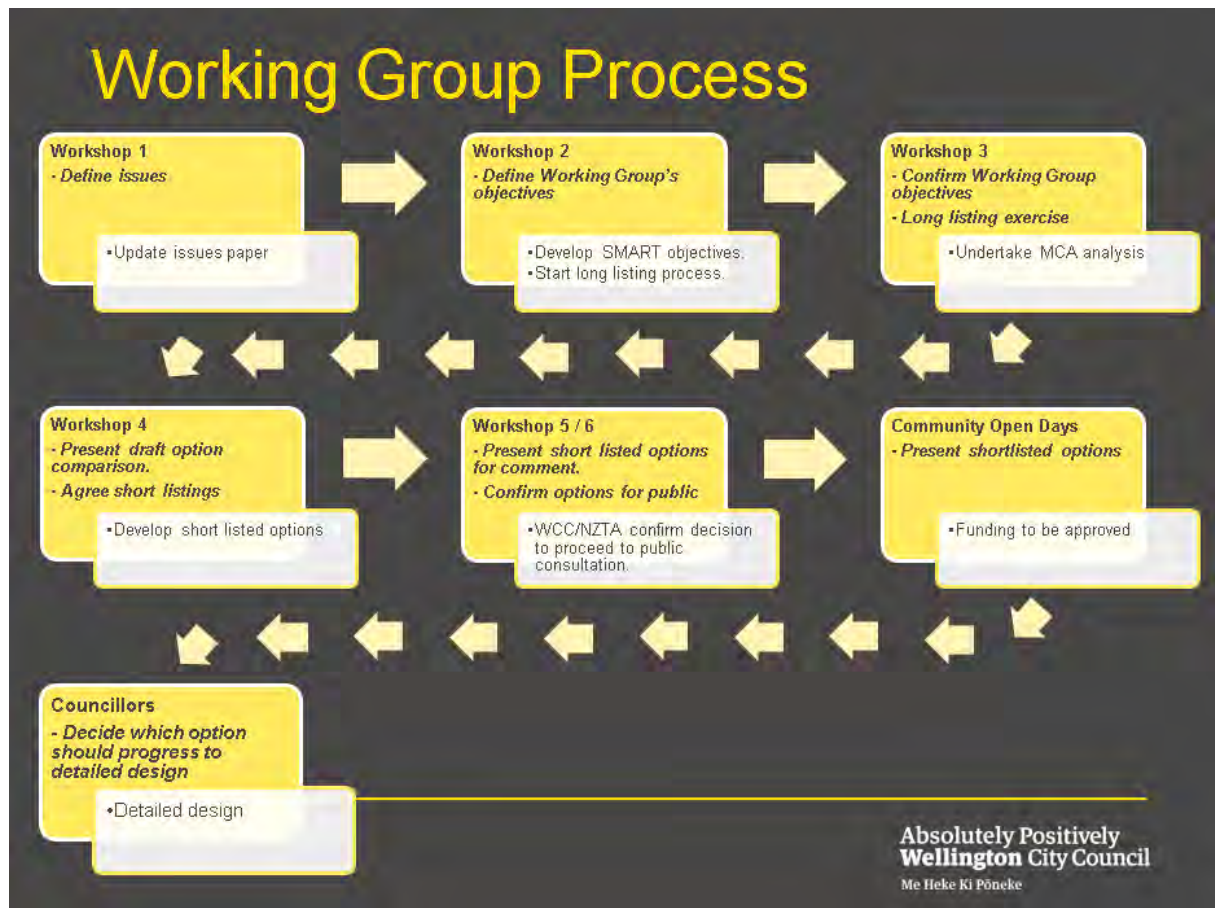


Figure 2: Working Group Process

5.1.1 Working Group

The working group was made up from representatives of the following organisations / groups:

- Port Nicholson Trust
- Thorndon Residents Association
- Cycle Aware Wellington
- Hutt Cycle Network
- Khandallah Residents Association
- Property / business owners
- Cycle Advocates Network
- Greater Wellington Regional Council
- Commuters
- NZ Transport Agency
- Living Streets Aotearoa

5.1.2 Community Objectives

The Thorndon Working Group Objectives are as follows:

- Improve the safety of road users
- Improve connections for pedestrians and cyclists
- Reduce the number of single occupancy commuter cars traveling on Thorndon Quay
- Minimise impact on businesses,
- Maintain or improve the consistency of bus journey times along Thorndon Quay
- Improve the sustainability, liveability, and attractiveness of Thorndon.
- Improve the level of service for cyclists
- Improve the level of service for pedestrians

5.2 Treatment Options Identification (Long List)

5.2.1 Route Options

27 long list route options were identified by the working group during workshop three and additional options were added post workshop by members of the working group and the design team.

The 27 options went through a preliminary screen to identify feasible options. Options that met one or more of the following criteria were not progressed:

- Removal of parking on one or both sides of road
- Within road corridor (property boundary)
- Central bus or bicycle lanes
- Unsafe provision for mode (e.g. lane too narrow)

Through this preliminary screen nine feasible options were identified (with variants).

The feasible and unfeasible options are shown in Appendix A.

5.2.2 Localised Improvement Options

18 localised improvement options were also identified by the working group.

One of these options was not considered feasible (closing Mulgrave Street to through traffic).

The feasible and unfeasible options are shown in Appendix B.

5.2.3 Area Wide Improvement Options

Nine area-wide improvements were also identified by the working group, all were considered feasible.

The options are shown in Appendix C.

5.3 Treatment Options Assessment (Long List to Short List)

The option assessment process has only been applied to route treatment, localised improvement options and area-wide improvement options.

Some of the options identified did not fit within the cross-section available (up to 1.5m wider). The design team has adjusted the widths available for different modes where they considered it appropriate and safe to do so.

A number of the options are very similar or are variants on a theme. All options have been through the assessment process.

The options all went through a fatal flaw and two objective screens (Council Objectives & Working Group Objectives) before being assessed using the Multi-Criteria-Assessment (MCA) guidance provided by the council.

5.3.1 Fatal Flaw Screen

No options were identified as fatally flawed.

5.3.2 Council Investment Objectives Screen

Alignment with the Council investment objectives was assessed using a five point scale as below:

--	High negative
-	Negative
0	Neutral
+	Positive
++	High positive

A number of the objectives use the same or very similar criteria.

All of the feasible options passed the screen.

5.3.3 Working Group Objectives Screen

Alignment with the Working Group objectives was assessed using the same five point scale as below:

--	High negative
-	Negative
0	Neutral
+	Positive
++	High positive

All of the feasible options passed the screen.

5.3.4 Multi-Criteria Analysis (MCA) Criteria

The MCA used a five point scale as below:

--	High negative
-	Negative
0	Neutral
+	Positive
++	High positive

The MCA included the following criteria which fit into three categories:

Effects

- ☐ Cycle Network Fit
- ☐ Transport Network Fit
- ☐ Pedestrian Effects
- ☐ Bus Users Effects
- ☐ Motorised Traffic Effects
- ☐ Parking Effects
- ☐ Property Effects

- Environmental Effects
- Cultural Effects

Feasibility

- Planning Feasibility
- Delivery Feasibility
- Funding Feasibility

Cost

- Total Cost

5.3.5 MCA Assessment of Long List

All of the feasible options passed the screen.

5.3.6 Long List to Short List

At workshop 4 the working group members each picked one preferred option, one second preferred option, and up to two options they didn't like.

There was a strong preference among working group members for the following three route options:

- 4B – protected one-way cycleways with full-time angle parking southbound and parallel parking other side
- 6B – protected one-way cycleways with clearway peak direction bus lanes / parallel parking both sides
- 7B – protected two-way cycleway with full time parallel parking both sides and wide footpath on the east side

There was also support for a discarded option which was, as existing with no clearways, a reduced speed limit and sharrows. This option was not progressed further as it had negative alignment with the Council Investment Objectives, a number of the Working Group Objectives, and does not align with Engineering Best Practice.

5.3.7 Short Listed Treatment Options

At workshop 5 three short listed options were presented:

- 6B – protected one-way cycleways with clearway peak direction bus lanes / parallel parking both sides
- 7B – protected two-way cycleway with full time parallel parking both sides and wide footpath on the east side
- 10 – protected two-way cycleway with clearway AM peak direction bus lane / angle parking southbound and full-time parallel parking other side

Option 10 was developed from Option 4B as Option 4B couldn't be safely achieved.

All three options included the majority of the area-wide improvement options and some of the localised improvement options.

6. Let's Get Wellington Moving

The Let's Get Wellington Moving (LGWM) scenarios announced in November 2017 included potential changes along Thorndon Quay. As such, the Council have decided that no significant improvements are to be implemented pending further certainty around the preferred scenario.

The Council has identified that it is possible to implement low cost / low impact cycle improvements on the southern section of the route that are not inconsistent with the adjacent network and provide flexibility for a higher quality facility in the future.

Cycle lanes already exist on the Featherston and Bunny Street sections of the route, so no work is proposed in those locations. Therefore for the purposes of this section of the report the southern section comprises Thorndon Quay from Mulgrave Street to Davis Street.

Further work to make Thorndon Quay even safer for people on bikes is possible in the future, but at this stage more significant changes are not proposed until it is clearer how the Kaiwharawhara to central city transport route and area may change in the future.

The long-term aim is to have better walking and biking facilities closer to the harbour, and planning for the Let's Get Wellington Moving project has provided a great opportunity to explore and progress this.

6.1 Revised Scope

The proposal for the southern section includes the following:

- No change to bus stop and parking on the west side of Thorndon Quay;
- No change to bus stop and parking on the east side of Thorndon Quay between Moore Street and opposite the southern boundary of the Marae;
- Removal of 11 on-street parks on the east side of Thorndon Quay between a point opposite the southern boundary of the Marae and Mulgrave Street;
- Conversion of on-street parking on the east side of Thorndon Quay between Davis Street and Moore Street to parallel parking (and conversion of all 10 hour parking to P120 parking), this would result in the 97 spaces currently provided being reduced to 45;
- Minor reconfiguration of the bus stop layby area adjacent to the Stadium spiral to accommodate an adjacent cycle lane;
- A northbound on-road cycle lane outside parking from the southern boundary of the Archives property to Davis Street, the width of the cycle lane varies with available road space from 2.0m to 2.4m;
- A southbound on-road cycle lane outside parking from Davis Street to Mulgrave Street, between Davis Street and Moore Street, the width of the cycle lane varies with available road space from 1.6m to 2.4m;
- The southbound median bus lane and second southbound traffic lane on approach to Mulgrave Street intersection are retained with minor tweaking of the alignment / lane width;
- The flush median is adjusted between Davis Street and Moore Street to accommodate the cycle lanes and traffic lanes are reduced to 3.5m;
- The southbound AM peak clearway is retained to limit the number of vehicles crossing the southbound cycle lane during the peak cycling period; and
- The pedestrian crossings at Moore Street and Davis Street remain as existing.

Figure 3 below shows an artist's impression of the proposed scheme.



Figure 3: Artists Impression of Proposed Scheme

6.2 Assessment of Revised Scope

The following sub-sections provide an assessment of the different sections against the assessment criteria.

6.2.1 Council Investment Objectives

The following table assesses the different sections against the Council Investment Objectives.

Objective	Southern	Northern
Level of Service - Achieve a high level of service for cyclists within an integrated transport network.	+ Dedicated cycle space	0 As existing
Network Efficiency - Improve cycling infrastructure and facilities so that cycling makes a much greater contribution to network efficiency, effectiveness and resilience.	0 No change in contribution to network without complete route	0 As existing
Cycling Uptake - Cycling is a viable and attractive transport choice.	0 Unlikely to attract new cyclists	0 As existing
Cycle Safety - The crash rate, number and severity of crashes involving people on bikes is reduced.	+ Dedicated cycle space	0 As existing
Wellington City Improvements - Provide transport choices by increasing the opportunity for people to ride bikes so as to improve the sustainability, liveability and attractiveness of Wellington.	0 Unlikely to attract new cyclists	0 As existing

- Southern section has positive alignment with some objectives

6.2.2 Working Group Objectives

The following table assesses the different sections against the Working Group Objectives.

Objective	Southern	Northern
Improve the safety of road users	+ Dedicated cycle space	0 As existing
Improve connections for pedestrians and cyclists	0 As existing	0 As existing
Reduce the number of single occupancy commuter cars traveling on Thorndon Quay	0 No aspects likely to create significant mode shift	0 As existing
Minimise impact on businesses,	- Some parking loss	0 As existing
Maintain or improve the consistency of bus journey times along Thorndon Quay	0 As existing	0 As existing
Improve the sustainability, liveability, and attractiveness of Thorndon.	0 No significant change	0 As existing
Improve the level of service for cyclists	+ Dedicated cycle space	0 As existing
Improve the level of service for pedestrians	0 As existing	0 As existing

- Southern section has positive alignment with some objectives and negative alignment with one objective

6.2.3 Multi-Criteria Analysis

The following table assesses the different sections against the Council Investment Objectives.

Objective	Southern	Northern
Cycle Network Fit	<p>+</p> <p>Contiguous with on road facilities to the south, but inconsistent with central section.</p>	<p>0</p> <p>As existing</p>
Transport Network Fit	<p>0</p> <p>As existing</p>	<p>0</p> <p>As existing</p>
Pedestrian Effects	<p>0</p> <p>As existing</p>	<p>0</p> <p>As existing</p>
Bus Users Effects	<p>0</p> <p>As existing</p>	<p>0</p> <p>As existing</p>
Motorised Traffic Effects	<p>0</p> <p>As existing</p>	<p>0</p> <p>As existing</p>
Parking Effects	<p>-</p> <p>Parking loss</p>	<p>0</p> <p>As existing</p>
Property Effects	<p>0</p> <p>No restrictions in access to business</p>	<p>0</p> <p>As existing</p>
Environmental Effects	<p>0</p> <p>As existing</p>	<p>0</p> <p>As existing</p>
Cultural Effects	<p>0</p> <p>As existing</p>	<p>0</p> <p>As existing</p>
Planning Feasibility	<p>0</p> <p>No significant risks identified</p>	<p>0</p> <p>As existing</p>
Delivery Feasibility	<p>0</p>	<p>0</p> <p>As existing</p>

	Very minor disruption to parking / businesses	
Funding Feasibility	0 Cost less than budget but may not receive full funding due to incomplete route	0 As existing
Cost	0 Low cost	0 As existing

- Southern section has positive alignment with one criteria and negative alignment with one criteria

7. Safety Audit

No safety audit has been undertaken at this stage of the design.

Appendix A – Route Options

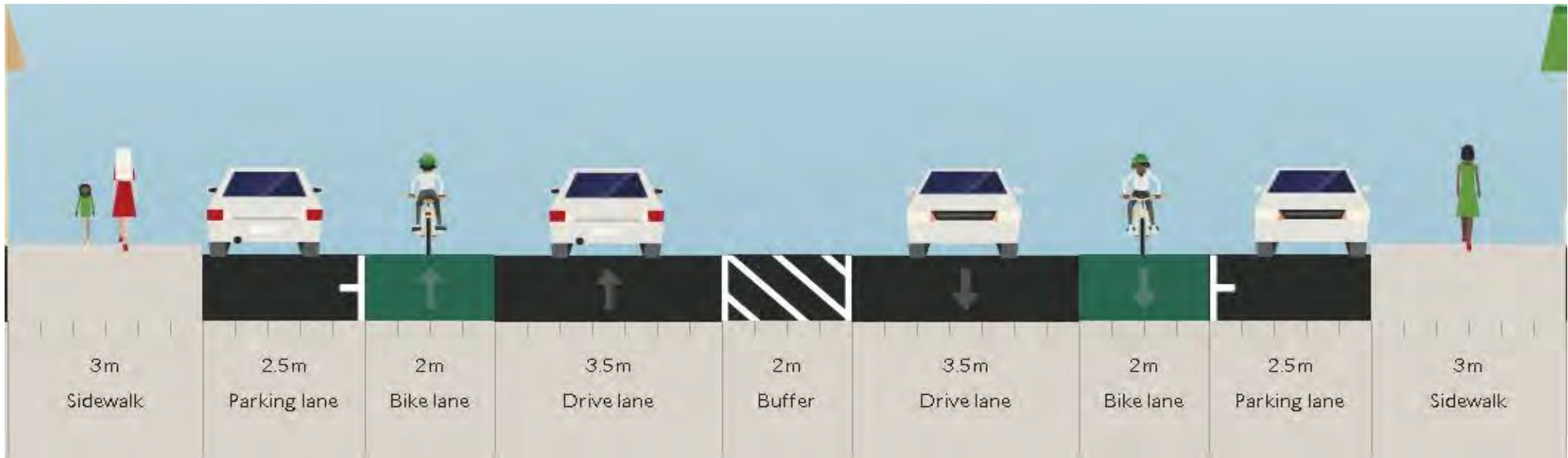
Feasible Route Options

1



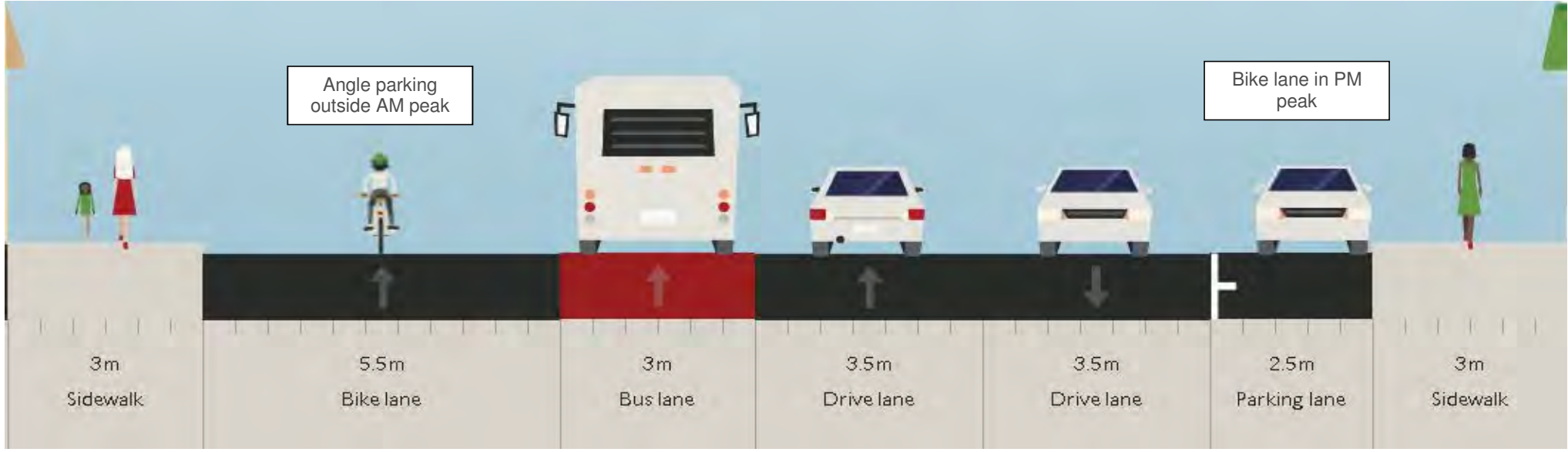
Some positive alignment with WCC objectives
Overall neutral with working group objectives
Minor negative MCA effects
Low cost, easy to implement

2



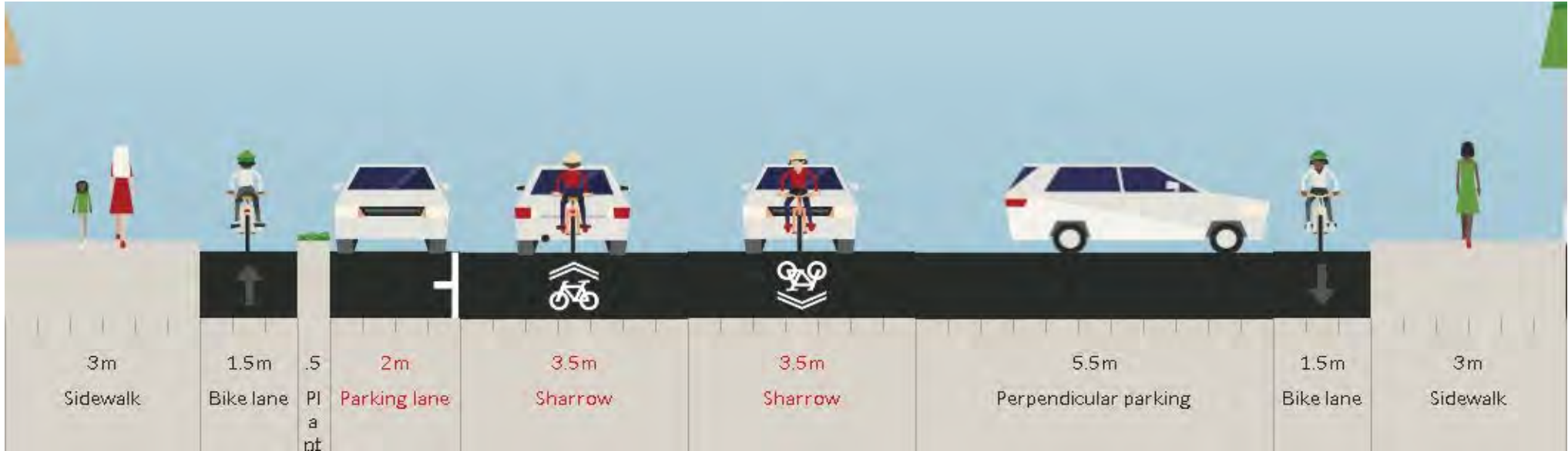
Some positive alignment with WCC objectives
Overall neutral with working group objectives - high positive for access to businesses
Overall postive MCA effects - high positive for access to businesses
Moderate feasibility / cost

3



Some positive alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Moderate feasibility / cost

4A



Some positive alignment with WCC objectives
Overall postive with working group objectives
Overall neutral MCA effects
High disruption / cost

4B



High positive alignment with WCC objectives
Overall postive with working group objectives - high positive for cycle safety
Overall positive MCA effects
High disruption / cost

5A



Some positive alignment with WCC objectives
Overall postive with working group objectives
Overall neutral MCA effects
High disruption / cost

5B



Some positive alignment with WCC objectives
Overall postive with working group objectives
Overall postivie MCA effects
High disruption / cost

6A



High positive alignment with WCC objectives
Overall postive with working group objectives
Overall positive MCA effects
High disruption / cost

6B



High positive alignment with WCC objectives
Overall postive with working group objectives - high positive for cycle safety
Overall neutral MCA effects
High disruption / cost

Feasible Route Options

7A



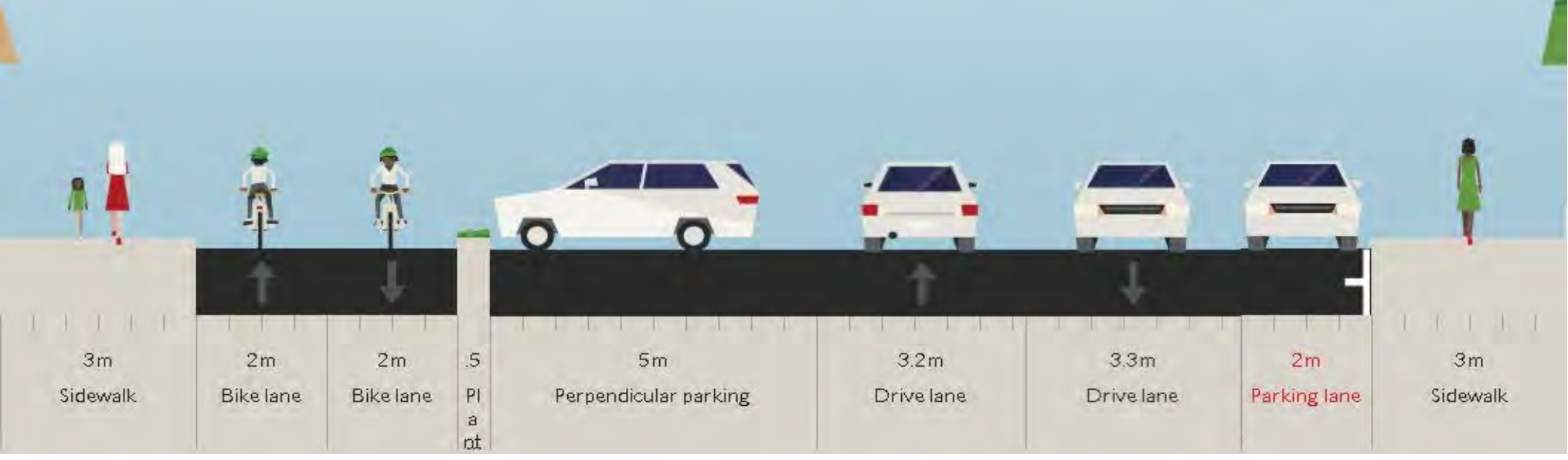
High positive alignment with WCC objectives
Overall positive with working group objectives
Overall positive MCA effects - high positive for consistency with Hutt Road
High disruption / cost

7B



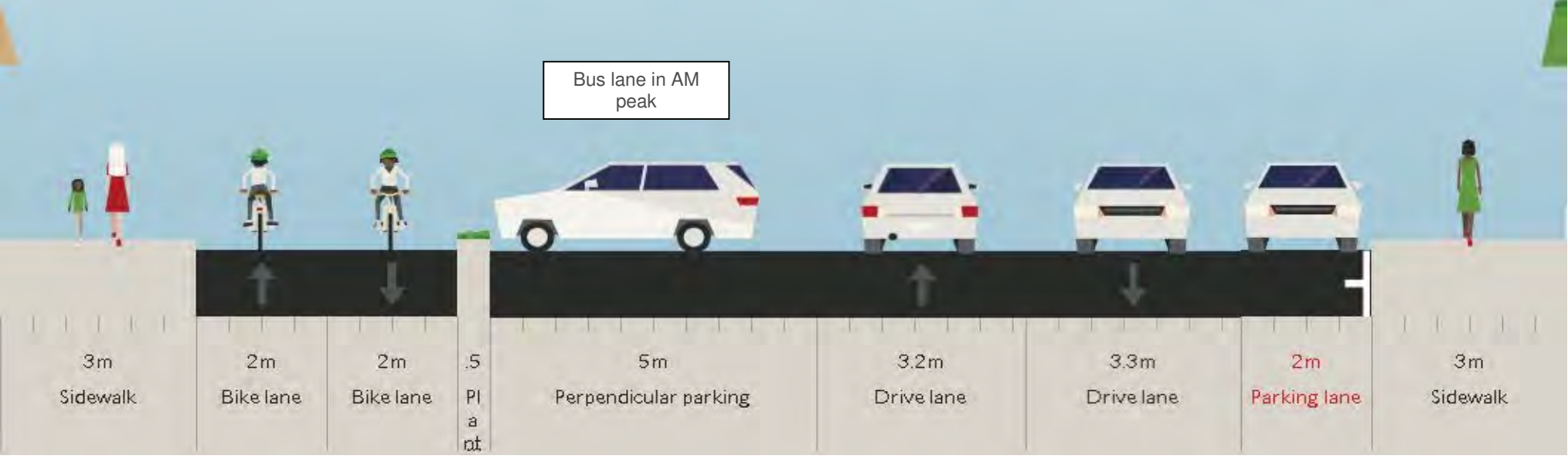
High positive alignment with WCC objectives
Overall positive with working group objectives
Overall positive MCA effects - high positive for consistency with Hutt Road
High disruption / cost

8A



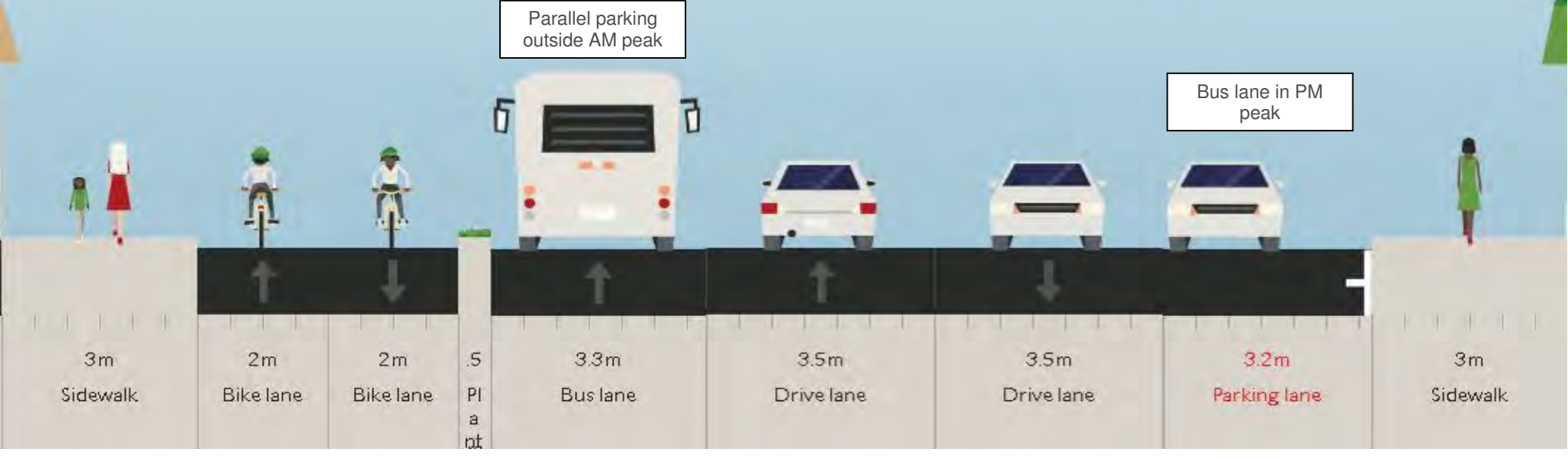
High positive alignment with WCC objectives
Overall positive with working group objectives
Overall positive MCA effects - high positive for consistency with Hutt Road
High disruption / cost

8B



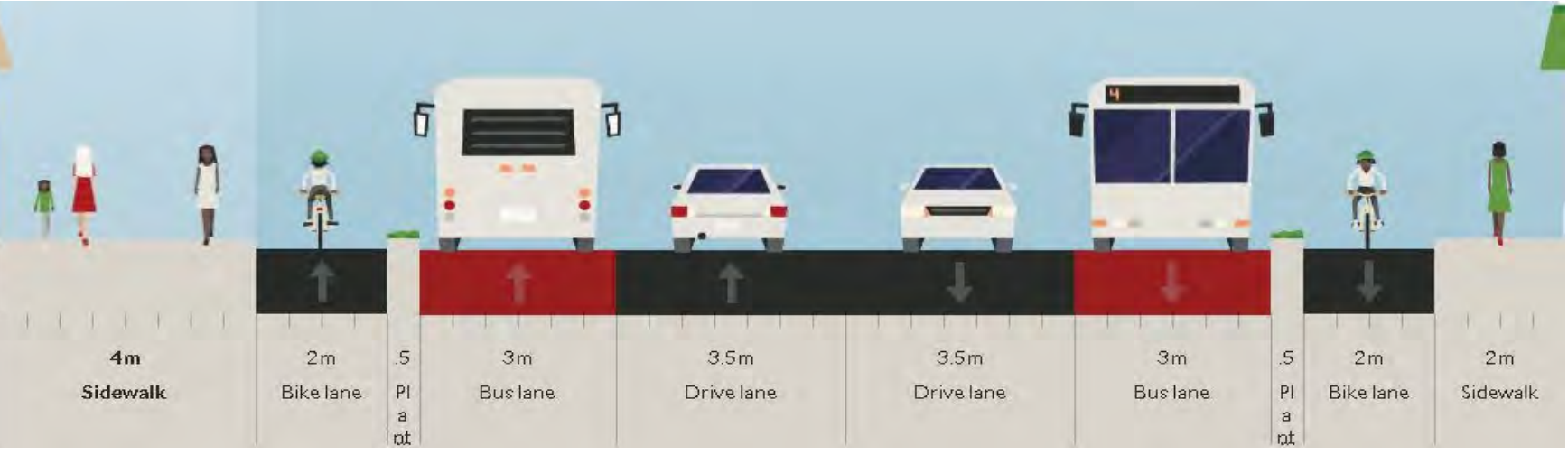
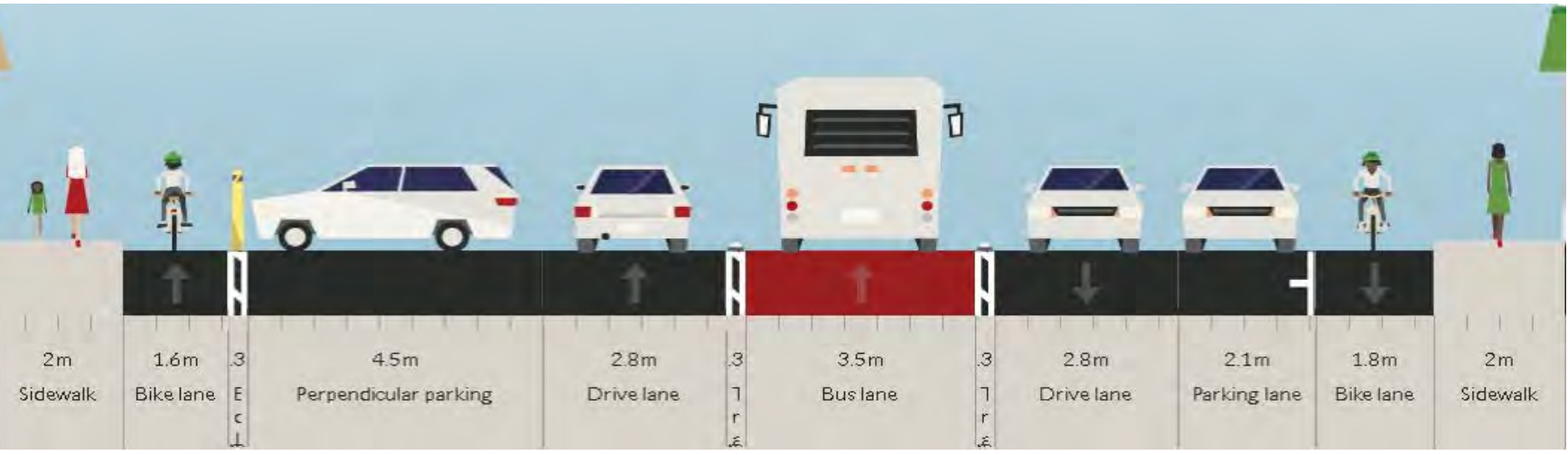
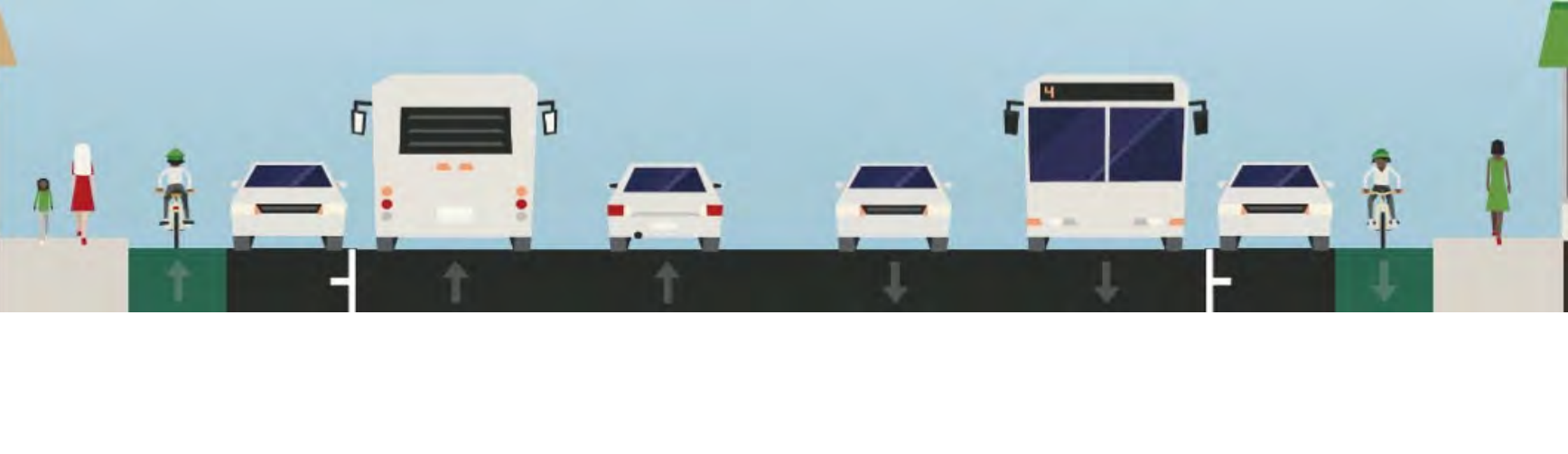
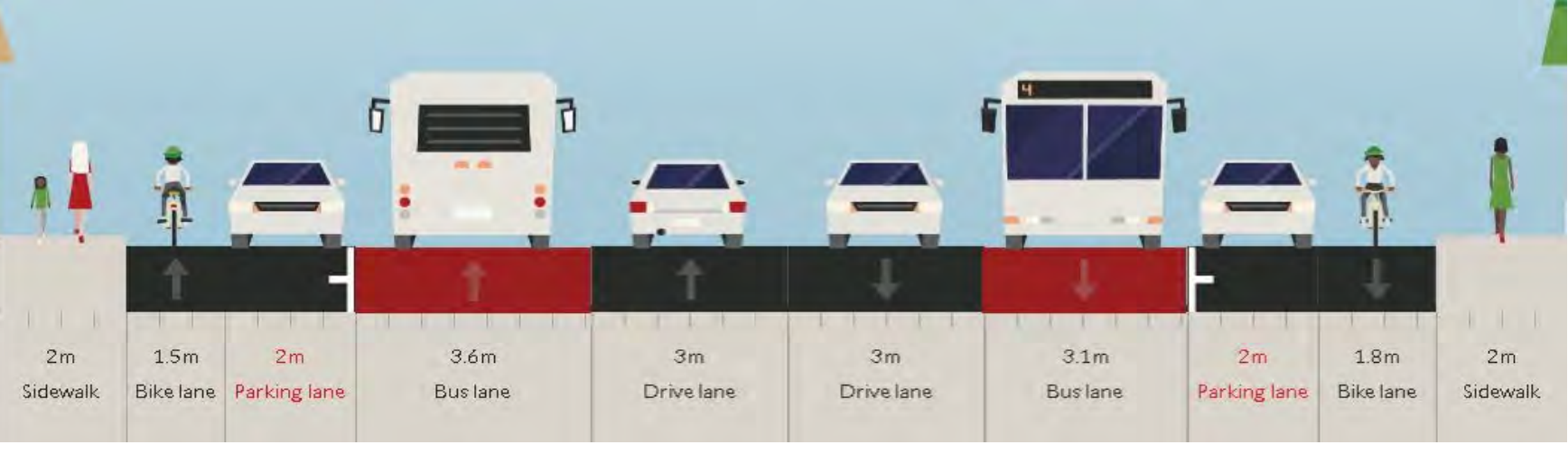
High positive alignment with WCC objectives
Overall positive with working group objectives
Overall positive MCA effects - high positive for consistency with Hutt Road
High disruption / cost

9



High positive alignment with WCC objectives
Overall positive with working group objectives
Overall positive MCA effects - high positive for consistency with Hutt Road
High disruption / cost

Discarded Route Options

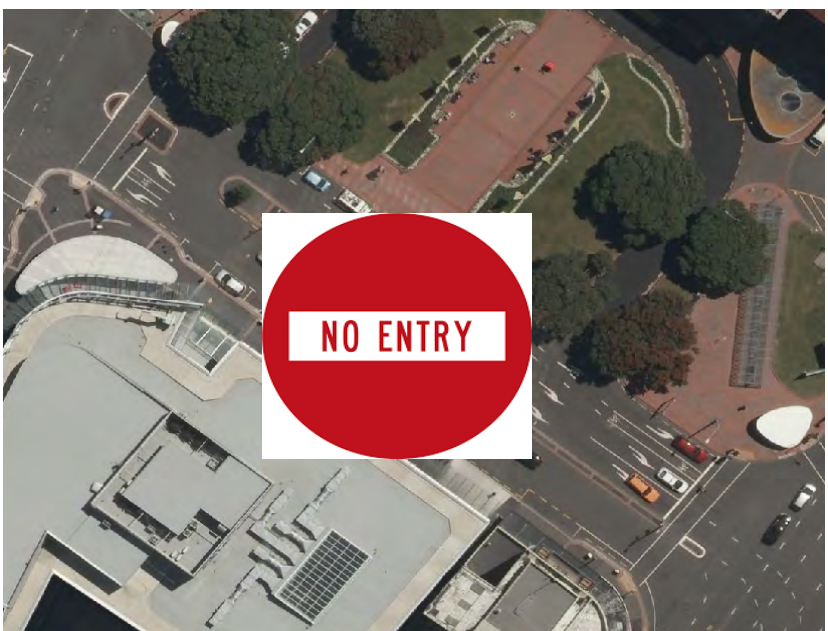


Appendix B – Localised Improvement Options

Localised Improvement Options

1

Ban through vehicle traffic from Bunny Street (between Featherston Street and Waterloo Quay)



Positive alignment with WCC objectives
Overall postive with working group objectives - high positive for pedestrian / cycling connectivity and reducing crashes
Overall negative MCA effects - high positive for reduced crashes, high negative for reduced network resilience / route choice
Moderate cost, high approval risk

2

Signalise Moore Street pedestrian crossing



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Moderate cost, easy to implement

3

Provide bus parking outside the Marae



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

4

Beautification (including cycle wheel ramps beside stairs, seating and improved lighting) of pedestrian walkway from Hobson Street to Thorndon Quay (under Motorway)



Postivie alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

5

Signalise Tinakori Road / Thorndon Quay intersection (including pedestrian crossings)



Positive alignment with WCC objectives
Overall postive with working group objectives - high positive for pedestrian / cycling connectivity and reducing crashes
Overall negative MCA effects - high positive for reduced crashes improved connection to Hutt Road path
Moderate cost / disruption

6

Beautification (seating, landscaping etc.) of area under Pohutukawa trees between Tinakori Road and Thorndon Quay



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

7

Improvements to path from Tinakori Road to Thorndon Quay (new surfacing, cycle wheel ramps beside stairs)



Positive alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

8

Crossing for pedestrians / cyclists near Aotea Quay overbridge



Positive alignment with WCC objectives
Overall postive with working group objectives - high positive for pedestrian / cycling connectivity and reducing crashes
Overall neutral MCA effects
Moderate cost / disruption

9

Separate pedestrians and cyclists on Hutt Road (assume using encroachment land)



Positive alignment with WCC objectives
Overall postive with working group objectives
Overall neutral MCA effects
Moderate cost / disruption

Localised Improvement Options

10

Provide a “gateway” to Thorndon Quay area at northern end



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

11

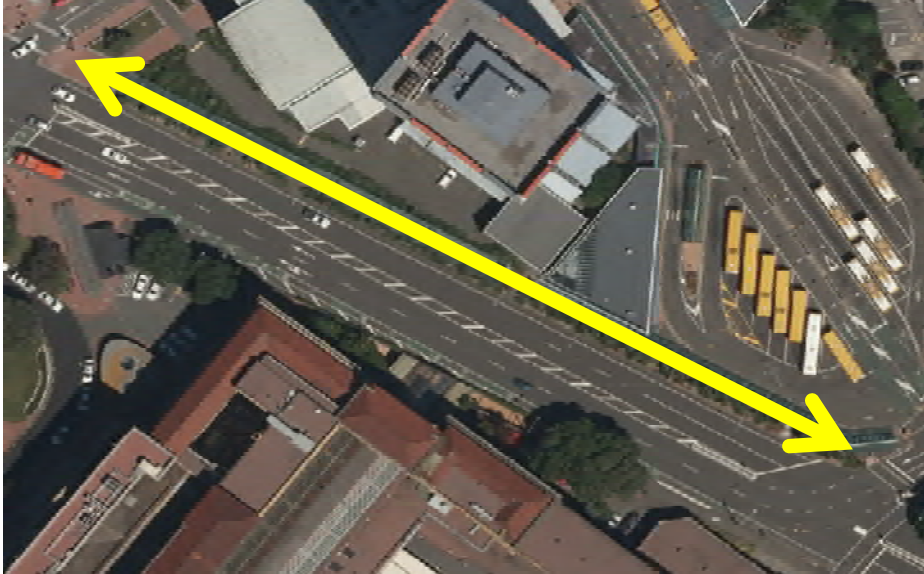
Re-purpose unused areas of rail corridor (for landscaping, seating and amenity)



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Moderate cost, high approval risk

12

Provide footpath on north side of Featherston Street



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Moderate cost

13

Beautification (seating, landscaping etc.) of area under Pohutukawa trees at the end of Mulgrave Street



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

14

Improved pedestrian crossing at Mulgrave Street intersection



Positive alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

15

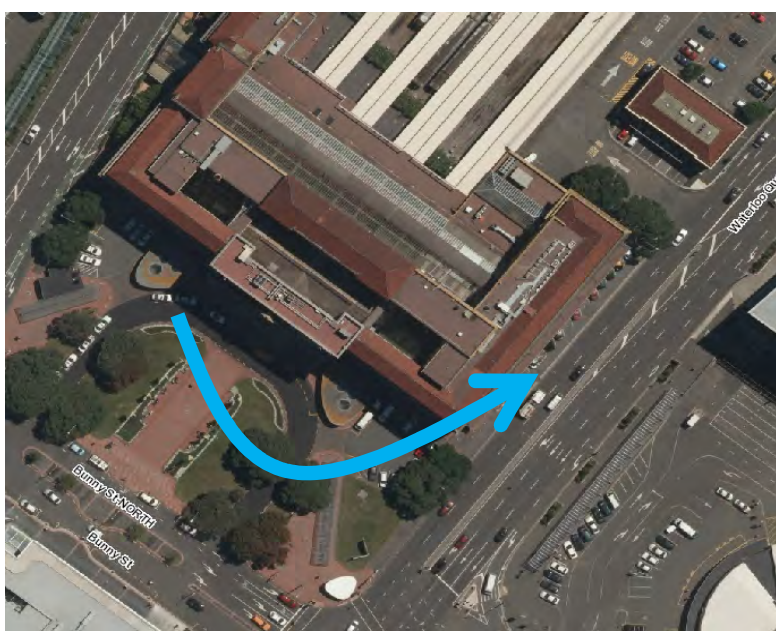
Improved pedestrian crossing at Bunny Street intersection



Positive alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

16

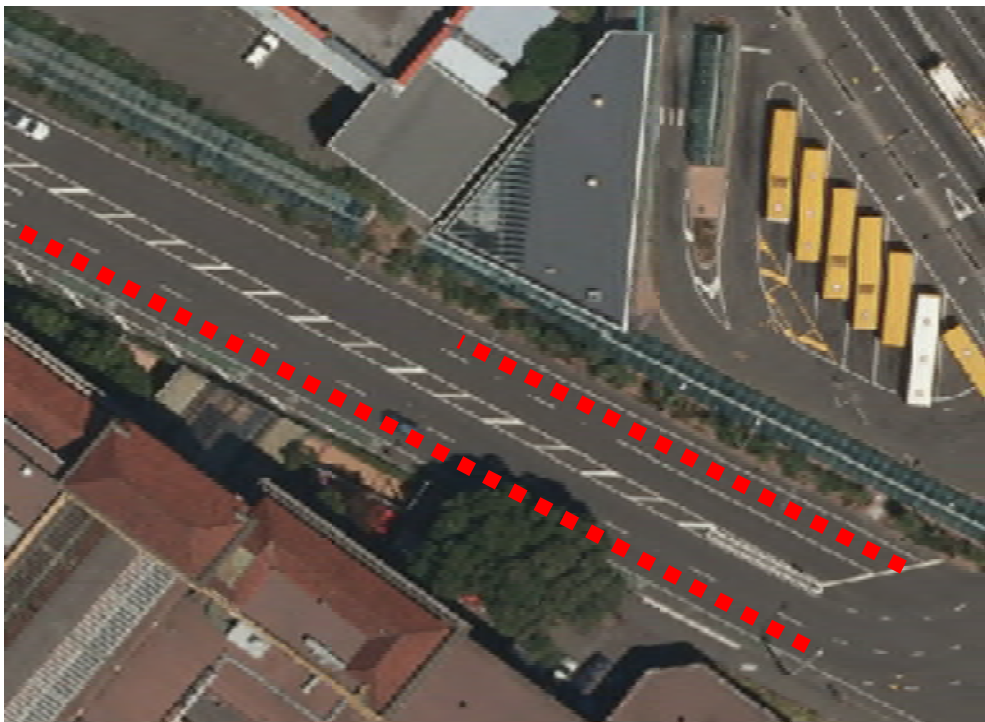
Move taxi pick-up and drop-off from south side of station to east side (Waterloo Quay)



Positive alignment with WCC objectives
Overall postive with working group objectives
Overall negative MCA effects
Moderate cost, high approval risk (KiwiRail property)

17

Reduce number of traffic lanes between Bunny Street and Mulgrave Street



Positive alignment with WCC objectives
Overall postive with working group objectives
Overall negative MCA effects - high negative effects on network fit bus efficiency and traffic efficiency
Moderate cost and approval risk

Discarded Option

Ban traffic travelling from Mulgrave Street to Featherston Street



Positive alignment with WCC objectives
Overall postive with working group objectives - high positive for pedestrian / cyclcing connections and bus efficiency
Overall positive MCA effects - high negative effects on network fit and traffic efficiency, high positive effects on pedestrians and buses
High cost, disruption, funding and approval risk

Appendix C – Area-wide Improvement Options

Area Wide Improvement Options

1

Bike racks / bike parking



Positive alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

2

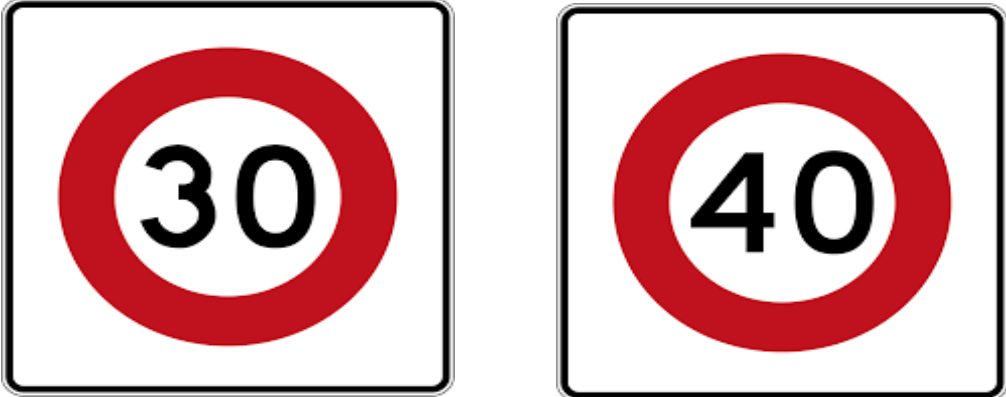
Remove all long-term parks (10 hour parks) and replace with shorter term parking or other improvements



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

3

Reduce posted speed limit to 30km/h or 40km/h



Positive alignment with WCC objectives
Overall postive with working group objectives - high positive for reducing vehicle speeds
Overall negative MCA effects
Low cost, minor approval risk

4

Improve ability to cross street



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

5

Beautify area (art, seating, landscaping etc.)



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

6

Wayfinding signage



Positive alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Low cost, easy to implement

7

Provision of public toilets



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects
Moderate cost

8

Bus stop rationalisation



Positive alignment with WCC objectives
Overall postive with working group objectives - high positive for improving bus reliability
Overall postive MCA effects - high positive for bus effects
Moderate cost and approval risk

9

Highlight the cultural and heritage values of the area



Neutral alignment with WCC objectives
Overall postive with working group objectives
Overall postive MCA effects - high positive for cultural impact
Low cost, easy to implement