Project Business Case

Thorndon Connections Transitional Project

WCC Project ID	6,698	**WCC Classification Tool Outcome**	Moderate
Senior Responsible Owner	Vida Christeller	**Business Owner**	Brad Singh
Funding sought by this Business Case	$3,163,609	**Cost Code (CC)**	2094
Funding Source	WCC with potential for funding assistance from Transport Choices (CERF) at up t0 90% FAR	**Recorded on Annual Plan**	Yes
Trove Folder Location	WCC Project Business Case MODERATE Thorndon Connections.docx	**Project Cost Code**	CAP00097988

Template Properties

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Template Name	Project Business Case (Moderate)
Template Owner	Project Governance, Legal & Risk
Template Version	V1.1 2020

Document Properties

This table describes the properties of the document.

Author	Renee Corlett
Project Manager	Renee Corlett
Location	WCC Project Business Case MODERATE Thorndon Connections.docx

Document History

This table provides a history of changes made when completing this document.

Version No.	Date	Summary of Changes
1	27/09/22	Initial Draft

Related Documents

This table lists the documents that support the Business Case (delete/add as applicable)

Document	Name and Link
Council Paper(s)	Paneke Pōneke: Bike Network Plan
Project Brief	Project Brief- Thorndon Connections.docx
Statement of Work (if applicable)	
Assurance Plan	

Authority Signatures

The SRO approves this document as the baseline for the project and grants approval to move to the Plan stage of the IDF.

Prepared by; Renee Corlett			
	Signature		
Please print;	Renee Corlett	Project lead	
	Name	Title	Date
Approved by;			
	Signature		
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	Name	Title	Date

Table of Contents

1. Purpose of this Document

The purpose of the Business Case is to enable a robust process that captures what the project (business problem or business need) is, what investment is required, what are the available options and associated costs to deliver the preferred solution.

The five sections used within this document are based on good practice in both central and local government and cover the following:

1. **The Case for Change**
   Reason for the project– provides supporting information as to why the project is required

2. **Options Analysis**
   Compare solutions – provides possible solution options and the preferred option

3. **Procurement Approach**
   Procurement strategy – provides options on how the solution will be obtained and from where

4. **Funding Approach**
   Funding arrangements – provides funding options, project/programme and ongoing costs

5. **Project Management Approach**
   Delivery plan – provides high level information as to how the project/programme is going to be managed and delivered

2. Executive Summary

This business case seeks formal approval to proceed with the Thorndon Connections transitional project beyond concept designs and on to completion of design, public consultation, and pending Council approval, installation evaluation and adaptation. .

The Thorndon Connections Transitional project is part of the transitional programme accelerating the installation of Paneke Pōneke – the Bike Network plan, ahead of the more permanent projects. This project will accelerate the delivery of benefits by 3-4 years as the Transformational project is not due for physical works completion until 2027.

The proposed cycle routes will connect into the Botanic Gardens to City transitional bike and bus improvements and Let's Get Wellington Moving projects: the Golden Mile, Thorndon Quay and Featherston Street upgrades.

The project seeks to address the following key problems:

- Low cycling uptake due to lack of infrastructure and slow delivery
- Low cycle mode share affecting carbon reduction and health
- Poor infrastructure and road user behaviour contributing to higher-than-average rates of harm to cyclists

The project will deliver the following key benefits:

- Improved safety and perception of safety for people on bikes and walking
- Increased numbers of people cycling
- Increased mode shift away from single occupancy vehicles resulting in reduced emissions

A monitoring and evaluation plan is in place to measure baselines and ensure ongoing evaluation of benefits post installation.

The project has worked through the following concept design process with the Future Group Consortium:

- Longlisting of options
- Shortlisting of options
- Multicriteria analysis of shortlist (including 2 rounds of review by internal programme squad and external working group)
- Concept designs

The preferred concepts and rationale are outlined in this business case.

The total we seek approval for with this business case is the total cost for design construction and installation: $3,163,609

The project has a BCR of 1.08 with total benefits of $234,064 over a 5 year period.

2.1. Recommendation

We recommend that the SRO approves this business case so that the project may proceed to 90% design, public consultation 100% design and construction.

3. Strategic Case/The Case for Change

3.1. Background/ context

There has been strong commitment by the Council to develop a safe and connected bike network for the city. *Paneke Pōneke - Bike Network Plan* was adopted on 10 March 2022. It sets the strategic direction for investment in a bike network, alongside multi-modal improvements. The objective is to improve safety and connectivity for pedestrians, cyclists, and other active travellers of all ages and abilities to create a city where people can move easily and freely without relying on private vehicle transport. This is vital to help reduce transport carbon emissions as part of *Te Atakura First to Zero*, the city's climate action plan.

The transitional programme uses interim installations to provide a 'first cut' of the whole route using adaptable materials. Following consultation with the community on the designs, the Council will gather further feedback on the changes once they are installed and can make improvements to things such as signs, street markings, parking and the position of dividers between the bike lanes and traffic. Using this process, we will develop and deliver key sections of the bike network in collaboration with the community over the next few years.

The first two transitional projects (Newtown to the City and Botanic Garden ki Paekākā) will have construction underway in 2022, with the next tranche of project design and development now underway for connections to Aro Valley, Ngaio, and Newtown to Island Bay.

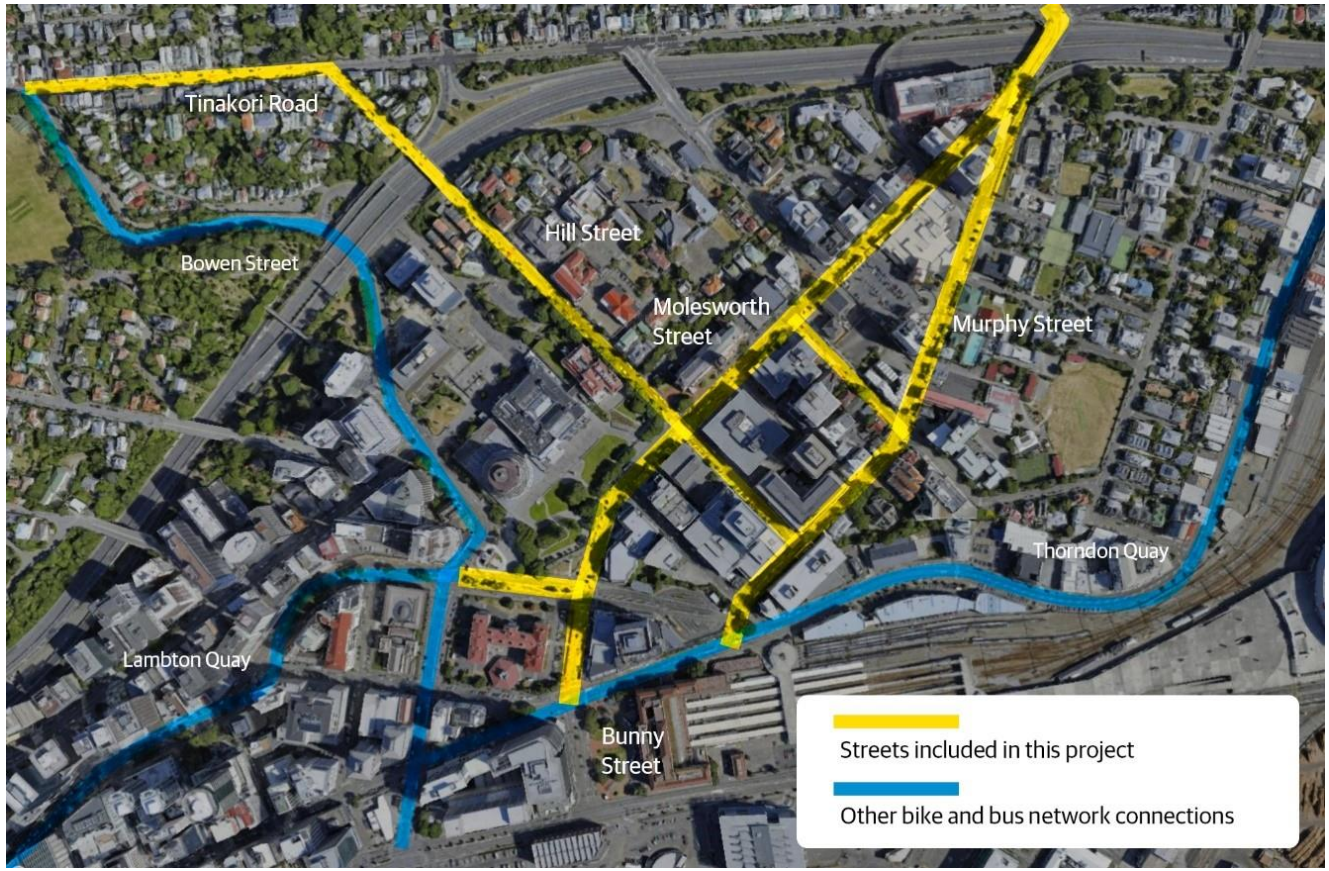
This project is about linking together existing infrastructure investments in the Thorndon/ CBD area (blue in the picture below) including the Botanic Garden to city cycleway, the Golden Mile and the Thorndon Quay/ Featherston Street cycleway. It includes the yellow routes below: Bowen Street west and Lambton Quay east , Hill Street and Tinakori Road and Molesworth, Mulgrave and Murphy Street, also Aitken Street and Pipitea Street.

Tinakori Road and Hill Street are classified as secondary routes while Molesworth, Mulgrave, Murphy and Lambton are primary connecting Wadestown to the city. Aitken Street and Pipitea Street were not classified as part of the primary or secondary network in the Bike Network Plan but included within the scope of this project based on feedback from the working party through concept design phase and to ensure better connectivity through the area. This includes better connection to Wellington Girls College and a more direct route along Aitken Street to the bi-directional facility on Molesworth to the CBD along Lambton Quay. These streets will only receive minor improvements such as traffic calming and cycle sharrows, with reallocation of angled parks on Aitken Street.

Bunny Street East was originally included in scope at the project brief stage but has subsequently been removed due to the overlap with LGWM. Bunny Street East currently has some cycling provisions in place and transitional programme improvements were not deemed appropriate due to the large-scale pedestrian improvements and larger network planning work needed to be undertaken in this area.

Stats 2018 census data indicates 4.4% of people travel from Wadestown to work on bike, with 20.3% walking or jogging which is higher than the average for Wellington City and highlights the need for improvements to cycling and walking infrastructure within this area.

A project brief was endorsed by the Portfolio Investment Review Committee (previously TPPP) in May and was retrospectively approved by the SRO on Tuesday 11th October.



3.2. Strategic Context

The proposed investment in cycle routes in Thorndon aligns with national, regional, and local transport strategy and policy. Its core focus is on improved safety and enabling more people to walk and cycle so we can reduce the city's emissions and support healthy ways of getting around.

The project is part of the rapid roll-out of a bike network which is a Council priority in the Long Term Plan. It aligns with the following Wellington City Council (WCC) policies and plans:

- **Paneke Pōneke / the Bike Network Plan** was approved by Wellington City Councillors in March 2022. The objective of the plan is to improve safety and connectivity for pedestrians, cyclists, and users of scooters of all ages and abilities, and to reduce transport carbon emissions as part of **Te Atakura**, the city's climate action plan.
- The **Long-term Plan (LTP)** has an accelerated delivery focus for cycleways.
    - WCC has committed to investing $231 million to deliver the Cycling Master Plan over a 10-year period (assuming co-funding from Waka Kotahi of approximately half this amount). This included pulling $52 million forward into Years 1-3 to accelerate delivery through transitional cycleways.
    - Priority Objective 3 in the LTP is that the city's core transport infrastructure is a safe, resilient, reliable network that supports active and public transport choices, and an efficient, productive and an environmentally sustainable economy.
- **The Spatial plan** for Wellington City has a strategic imperative of enabling low-carbon transport options, aiming to provide better accessibility, safer environments for active modes of transport, and move more people around with fewer vehicles.
- **Climate Action Area**, that of better ways to move around the city, include the bike network, pedestrian safety, public transport and considering the city's growth.
- **District Plan** Objective 4.2.12 – Access; aims to improve access for all people, particularly people travelling by cycle.
- **Wellington Towards 2040**: Smart Capital (Strategic Plan) puts focus on having a connected and people-centred city.
- **The Parking Policy** objectives include supporting a shift in mode of transport used and supporting safe movement.
- **As part of the Social Wellbeing Framework**, Council recognizes its role in promoting cycling networks and active transport for personal safety and resilience, allowing people to live better lives and better contribute to the city.

In addition, these objectives align with the wider regional and national policies below:

- The **Wellington Regional Land Transport Plan** (RLTP) 2021-2031 has headline targets for carbon emissions, safety, and mode share.
- **Land Transport Management Act** (2013): The relevance of considering legislation is that all transport proposals are required to be assessed against the objectives and purpose of the LTMA (2003). The purpose of the LTMA is to "contribute to an effective, efficient, and safe land transport system in the public interest".
- **Government Policy Statement on Land Transport** 2021 includes strategic priorities of improved access to a range of transport choices, promoting mode shift, and safety.
- **Emissions Reduction Plan** - Path towards meeting long-term climate targets, and a low emissions future. An action is the preparation of a National Cycling Plan (see below),
- **Waka Kotahi National Cycling Plan** – a plan to accelerate delivery of urban cycle networks to activate mode-shift and drive down carbon emissions.
- **Waka Kotahi Toitū Te Taiao** – Our Sustainability Action Plan. A vision for a low carbon, safe and healthy land transport system.
- There is also consistency between the aim of the project and the target in the national **Climate Change Response Act** 2002 of net zero greenhouse gas emissions by 2050.
- **Waka Kotahi Road to Zero** – NZ's road safety strategy, two of the main focus areas of which are infrastructure improvements and road user choices.

Let's Get Wellington Moving (LGWM)

- The project is working closely with LGWM who are working on Golden Mile and Thorndon Quay cycleways providing useful connections into these proposed solutions.

Wider Programme of work

Transitional projects such as the Thorndon Connections are part of a strategic programme of work to fast track the realisation of benefits identified in the Bike Network Plan. The other projects are listed in the table below. The table lists the Transitional- and Transformational Projects indicating the timing for each project.

Project	Transitional Timing – Physical works completed	Transformational (or LGWM)
Botanic gardens – Waterfront (underway)	Feb 2023	Mar 2026 (LGWM)
Newtown - Waterfront (underway)	Feb 2023	2026 (LGWM)
Ngaio (underway)	Q1 23/24	Feb 2028
Aro Valley **(underway)**	Q1 23/24	Mar 2027
Kilbirnie Connections **(underway)**	Q2 23/24	May 2030
Thorndon Connections (underway)	**Q4 23/24**	**Dec 2027**
Newtown – Island Bay (underway)	Q2 23/24	Dec 2027 (LGWM)
Khandallah connection	Q4 23/24	Nov 2029
Ngaio – Johnsonville	Q1 24/25	Nov 2029
Salamanca Rd – Northland	Q1 24/25	Apr 2028
Eastern Package	Q1 24/25	Jan 2032
Newtown centre to zoo/SWIS	Q1 24/25	Mar 2029
Botanic – Karori	Q2 24/25	Jan 2031
Ngaio – Karori	Q2 24/25	Aug 2033
Thorndon – Wadestown	Q2 24/25	Aug 2033
Newlands connection	Q4 24/25	Jun 2034

3.3. Problem statement

The problems are aligned with the Investment Logic Mapping included in the Wellington Bike Network Plan (Paneke Pōneke) PBC (Appendix 1).

Problem: The lack of appropriate infrastructure and slow delivery to create a cohesive/ complete cycling network is reducing the uptake of cycling

There are currently significant gaps in the bike network in Thorndon. Connecting these will make it easier and safer to cycle to, from and around these suburbs including from Wadestown into the CBD.

Without the proposed Thorndon Connections cycle network there is no safe connection to key destinations in the area like the many schools, businesses, and workplaces as well as no safe connection from Wadestown to the CBD.

Permanent street changes in the area as part of the transformational cycleway programme are not scheduled to happen until 2027. This transitional project will aim to provide these connections 3-4 years ahead of transformational changes.

Problem: Low cycling mode share is negatively affecting carbon reduction and public health

Opportunities for a mode shift to more active modes of travel on these routes are currently limited, therefore delaying the goal of reducing transport emissions. A lack of connectivity can lead to suppressed uptake of cycling. 70% of people in Wellington said they would cycle more often if safe infrastructure was provided (Source: Cycling Demand Analysis, 2014).

Transformational projects in the area are not scheduled for implementation until 2027. This transitional project will deliver carbon reduction and public health benefits for an extra 3-4 years before the transformational project can make them permanent.

Problem: Poor road user behavior and poor quality infrastructure is resulting in harm to people on bikes and walking.

There have been 1 minor crash and 1 non-injury crash involving cyclists and 2 serious, 11 moderate and 1 non-injury involving pedestrians on the proposed routes in the last 5 years (CAS data).

There were also near miss incidents recorded through dangerspace.nz since 2019 shown in the map below. (Dangerspace.nz only has incidents on this corridor dating back to 2019)

3.4. Identified Benefits

The transitional programme aims to accelerate the delivery of the following benefits ahead of the permanent Paneke Pōneke - Bike Network Plan cycleway rollout. The transformational project for Thorndon is not scheduled to be complete until 2027 meaning that this project will accelerate the delivery of benefits by 3-4 years.

Key Bike Network Programme benefits, identified through the Bike Network PBC are:

- Improved safety for people on bikes
- Increased role of cycling in the transport network
- Increased mode shift from single occupancy vehicles resulting in reduced emissions
- Improved environmental and health outcomes

In addition, the transitional projects provide the following benefits to the bike network programme as a whole:

- An opportunity to take the public on a challenging journey using more adaptable materials and faster processes which can reduce resistance to change and lowers fears around making permanent changes. Interim changes are likely to build confidence in the deliverability of the permanent scheme and reduce delivery risks, by tackling the complicated road space re-allocation issues up front and providing evidence of the benefits and impacts.

Delivering interim improvements via the transitional approach offers an opportunity to refine designs in real-time and improve the quality of the final permanent solutions by testing bike, micro-mobility, pedestrian, and bus improvements.

3.5. Measurable benefits from addressing specific problems on these routes:

Problem	Proposed change	Benefits	Benefits measures	How we will measure this
Lack of perceived and actual safety on the routes (10 reported cycle crashes in last 10 years)	Provide a higher level of service that aligns with design standards for people on bikes and micro-mobility devices	Improved safety for people on bikes	• Reduction in serious injury crashes • Improvement in perception of safety and ease of cycling.	• CAS data • Baseline Survey and post installation • Speed data
The lack of appropriate infrastructure and slow delivery to create a cohesive/ complete cycling network is reducing the uptake of cycling – in particular lack of connectivity between existing cycle routes and key destinations(Wadestown, schools, shops, CBD)	Improve uptake through improving connectivity between existing cycle routes and to key destinations in the area	Increased role of cycling in the transport network Increased mode shift resulting in reduced emissions	• Increase in number of people on bikes • Increase in cycling mode share • Number of people living within 500m of a high-quality cycling facility	• Cycle counter data (new one to be installed prior to cycle network installation) • On-street counts • Tube counts before and after install • Schools - survey trips to school before installation and after • Desktop analysis of distance from cycling infrastructure
Low cycling mode share is negatively affecting carbon reduction and public health		Improved environmental and health outcomes	• Physical health benefits from cycling • Reduction of CO_2 emissions.	• Longer term changes • Desktop analysis using Waka Kotahi methodology
Oversubscribed parking and traffic congestion around key facilities in the area	Provide safe connected routes in the suburb so	Mode shift from single occupancy private vehicles	• Shift in the number of users counted • Decrease for private vehicles. Increase for sustainable modes.	• ADT figures and cycle counters • Bus patronage • Survey

	that people consider alternative modes of transport to the car			
The lack of appropriate infrastructure and **slow delivery** to create a cohesive/ complete cycling network is reducing the uptake of cycling	Improve the time it takes to install the cycleway infrastructure through transitional approach and accelerate realisation of benefits	Spatial coverage	• Percentage completion of the strategic cycle network • Speed of completion of transitional project from project brief to completion of construction	• Point in time assessment at end of construction (for both measures)

4. Options Analysis

4.1. Options Summary

The sections

The seven routes in the table below are proposed for Thorndon Connections to connect the existing infrastructure and encourage mode shift from private motor vehicles to bicycles and micro-mobility devices such as scooters. These are moderately flat routes that would connect to the city-wide bike network.

Route	Distance
1. Tinakori Road - Bowen Street to Hill Street	280 metres
2. Hill street	500 metres
3. Aitken Street	160 metres
4. Pipitea Street	150 metres
5. Molesworth Street/ Mulgrave Street and Murphy Street	1530 metres
6. Bunny Street West	90 metres
7. Lambton Quay - Whitmore Street to Bunny Street	125 metres
	Total = 2.8km

The scope of this transitional project includes:

- The flexibility to adjust the interim solution and make further improvements throughout the lifespan.
- Installation of low-cost, adaptable bike network improvements such as non-permanent materials for hit sticks, placemaking and kerb build outs.
- Raised pedestrian crossings to support traffic calming, ensure pedestrian benefits are realised and the programme builds back better.
- Intersection changes to allow the transitional cycleway to operate safely until more permanent changes can occur.
- Minor speed limit changes
- The ability to prepare the way for permanent transformational works in 2027.

Long list options were identified following a site visit and discussions along the routes. These were then refined to a short list in an MCA workshop discussion. The long list included:

- One way separated cycleways on each side of the road;
- Two way separated cycleways on one side of the road
- Painted cycle lanes;
- Painted buffered cycle lanes
- Shared bus/cycle lanes;
- Shared paths; and
- Shared neighbourhood zones.

The following solutions are considered out of scope for the transitional cycleways programme due to cost and time to implementation:

- A permanent cycleway solution
- Land / property acquisition
- Relocation of utilities
- Lighting upgrades

- Road resurfacing
- Extensive kerb and channel relocation: The transitional cycleways are intended to require minimum physical works and ability to amend or reinstate if required

Other alternatives *not* considered appropriate for this route and not assessed as short list options include:

- Alternate routes: These routes are identified in the Wellington Cycle Network Plan which has been consulted and approved in a separate process which considered alternate route options. Our assessment is not intended to repeat this (except in this case adding Pipitea Street and Atkin Street as strong option presented itself to ensure connectivity.)
- Shared path where the existing footpath is not wide enough: The route is intended to form a key part of the cycle network with high cyclist volumes. A narrow shared path would not be compliant with Austroads and Waka Kotahi guidance due to the lack of adequate space for both pedestrians and cyclists.
- Sealed shoulders: These do not provide an adequate level of service or safety, and therefore do not generate significant uptake in cycling.

The short list was then taken to a full draft Multi Criteria Analysis by the Future Group consortium team. This was reviewed by the external Transitional programme working group and the WCC programme squad. (See section 7.3 for members of each group). Reviews from these groups were incorporated and final concept designs agreed upon and approved by the Transitional Programme Manager.

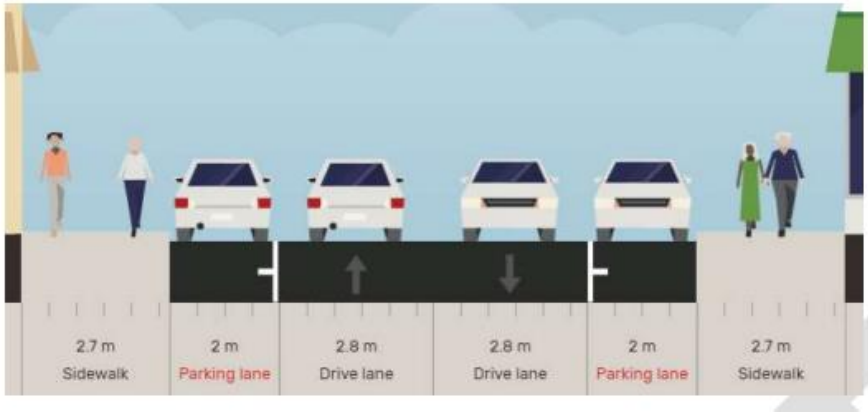
The MCA provides the evidence for recommending the preferred option. The criteria for the MCA can be found in Appendix One. The full MCA document can be found at Appendix 2.

The table in the next section summarises the shortlisted and preferred options for each route section. These preferred options will be further considered during 90% design. This includes the 5 proposed raised pedestrian crossings/ platforms along this corridor including Tinakori Road , Hill Street, Pipitea Street , Molesworth and Murphy Street. The raised pedestrian crossings were originally not in scope but have been included due to the significant safety benefits they provide to pedestrians and people on bikes by ensuring slower vehicle speeds and greater pedestrian visibility and accessibility. While temporary materials were considered to deliver these raised platforms, the associated costs and reduced quality and aesthetic of the result meant this option was discounted. Raised pedestrian crossings do not need to be tested, and tweaked – they are a standardised primary safety system interventions and have an assumed Death and Serious Injury reduction factor of 20% as outlined in the Waka Kotahi Standard safety intervention toolkit (nzta.govt.nz). Raised crossings are approximately $20,000 and take two weeks to install, therefore adding an additional $100,000 to construction cost already accounted for and 10 weeks (2.5 months) of construction time.

Minor speed limit changes are also identified within scope of this project as we have confirmed an approach with Waka Kotahi to make site specific speed limit changes as part of the consultation process. These speed limit changes will be inline with the proposed city wide plans that are currently being developed due for roll out in 2025, ensuring safety benefits can be reached in this area for a few years prior to that programme of work.

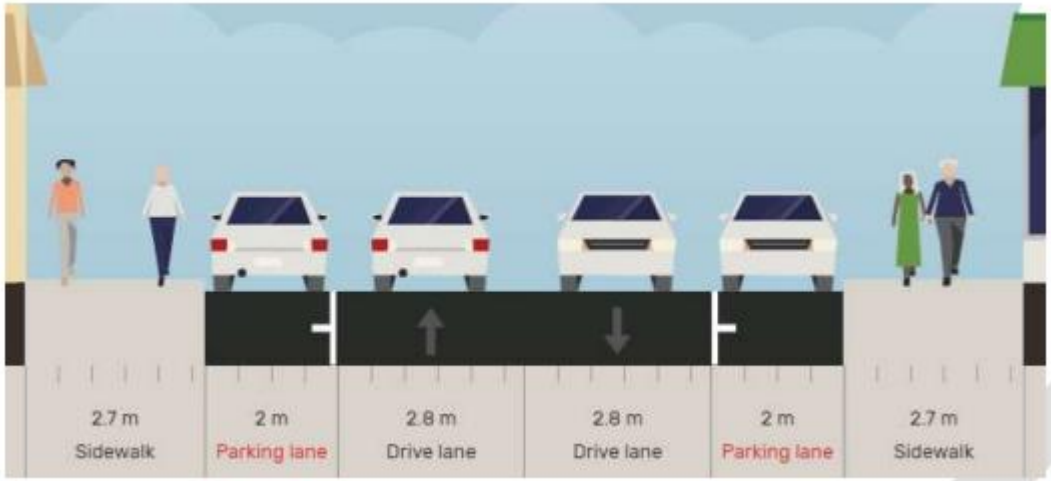
4.2. Options considered and preferred option

1.Tinakori Road (Bowen Street to Hill Street)



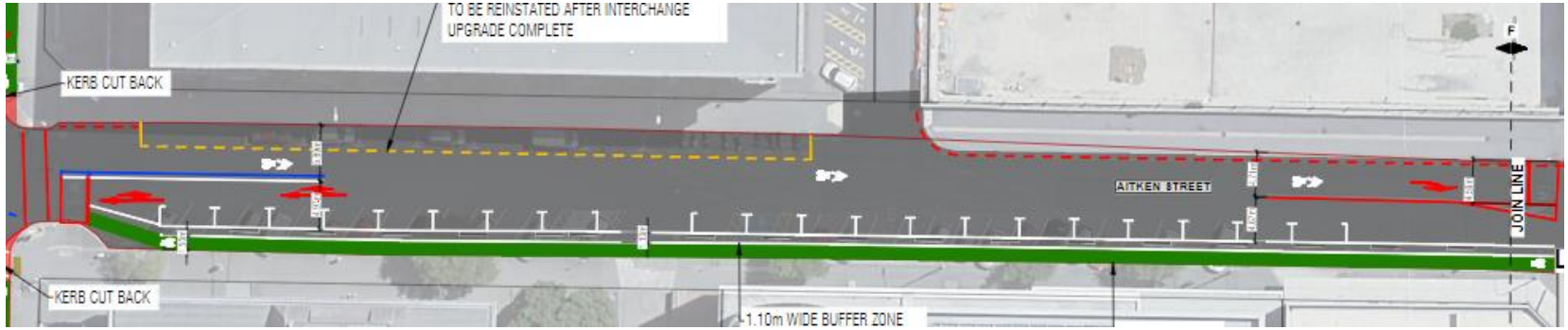
Nature of the road	Shortlist	Preferred Option	Reasons
Town Centre ADT: 12,841 vehicles Narrow corridor, 9.4m	1. Uni-directional protected cycle lane on each side (All parks removed) **2.** Uphill protected cycleway (50% parks removed) **3. Minor Safety improvements only, including parklets, kerb build outs, raised pedestrian crossing and extending the 30km/hr speed limit.**	Minor Safety improvements only, with transformation team looking to make more significant changes in the future. Reducing vehicle speeds through traffic calming measures such as kerb build outs and extending 30km/hr limit. Pedestrian improvements with raised pedestrian crossing. Parklets opportunities to increase bike parking and amenities.	Uni-directional protected cycle lanes which ranked highest will provide a better outcome for people on bikes, however it will have a significant impact on local businesses in an area which has a high place function and an existing speed limit of 30kph. The proposed treatment for other transitional cycleway projects with a similar village / town-centre section such as Aro Valley is to retain the parking and reduce speeds (current average operating speed ~30km/h) as much as possible. This section of the proposed network is also identified as a secondary route with the primary route running down Bowen Street. For the reasons set out above, the preferred option is 3 (minor safety improvements)

2. Hill Street



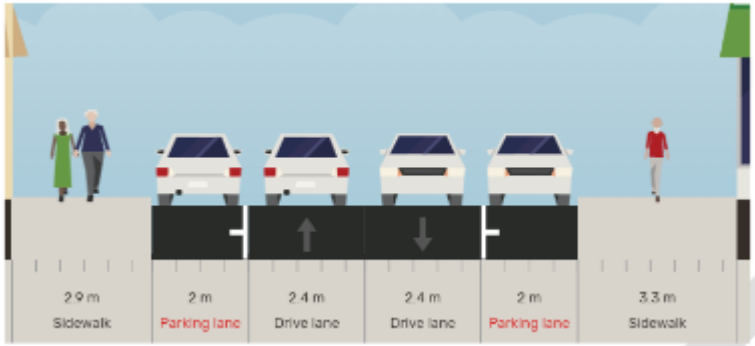
Nature of the road	Considered/shortlisted	Preferred Option	Reasons
Mostly residential use and school ADT: 2,677 Vehicles Narrow corridor, 9.7m wide road.	1. Uphill protected cycleway (50% parks removed) 2. **Minor safety improvements only including parklets, kerb build outs, raised pedestrian crossing and extending the 30km/hr speed limit.**	Minor Safety improvements only, with transformation team looking to make more significant changes in the future. Reducing vehicle speeds through traffic calming measures such as kerb build outs and extending 30km/hr limit. Pedestrian improvements with raised pedestrian crossing. Parklets opportunities to increase bike parking and amenities	Due to the lower traffic volumes using this section and the opportunity to leverage off existing traffic calming measures the preferred option is 2 (minor safety improvements). Minor safety improvements for Hill St also aligns with the preferred option for Tinakori Road with both Hill St and Tinakori Road being secondary cycling routes and reflects the narrower corridor width being well placed for a traffic calming approach.

3. Aitken Street



Nature of the road	Considered/shortlisted	Preferred Option	Reasons
Angle parked cars, low volume commercial zone. ADT: 2,585 Vehicles 12m wide road.	**1. Buffered cycle lane outside parking** 2. Protected cycle lane both sides 3. Minor safety improvements only	Buffered cycleway outside parking. Relocating the angled parking to parallel parking removing some parking spaces. Ensuring design is consistent and doesn't impend on the temporary bus layover spaces.	Due to the lower traffic volumes and speeds (~25km/h average operating speed) on this section of the route and the need to accommodate bus layover spaces, Option 1 (buffered cycle lane outside parking) is proposed to be taken forward to concept design. This street was not originally identified as part of the Wellington Bike Network but through more detailed network planning analysis has shown to be an important connector into the city.

4. Pipitea Street



Nature of the road	Considered/shortlisted	Preferred Option	Reasons
Commercial, parallel parks ADT: 2,891 Vehicles 9.43 metres wide	1. Painted uni-directional cycle lanes 2. Protected bi-directional bike lane + convert to one-way road 3**.Minor Safety improvements only**	Minor Safety improvements only. Reducing vehicle speeds through traffic calming measures. Pedestrian improvements with new raised pedestrian crossing. Sharrows to highlight cyclists to drivers.	Due to the low traffic volumes and narrow cross-section on this section of the route, Option 3 (minor safety improvements only) is proposed to be taken forward to concept design. This will ensure better connectivity and is inline with the approach to similar streets eg Hill Street. This street was not originally identified as part of the Wellington Bike Network but through more detailed network planning analysis has shown to be an important connector into the city

5.Molesworth, Mulgrave, and Murphy Street

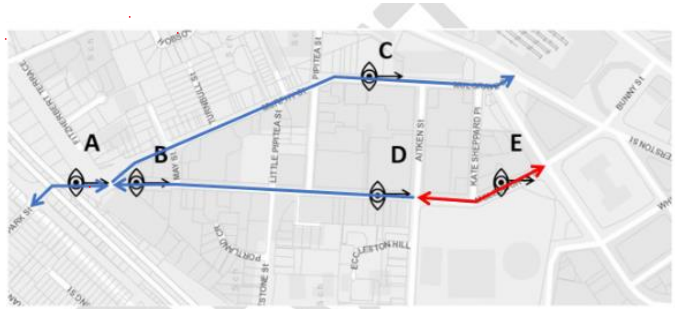


Figure 21: Option NS-2UA/3UB/3BA protected cycle lanes both directions with bidirectional facility on part of Molesworth Street

Red indicating bi-directional facility and blue uni directional. Eyes indicate direction of street mixes perspective.

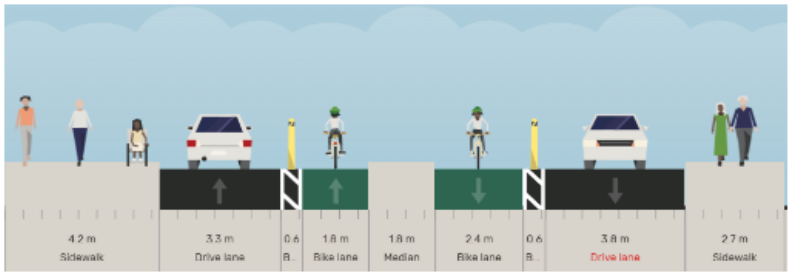


Figure 31: NS-2UA/3UB/3BA Cross section A (looking south)

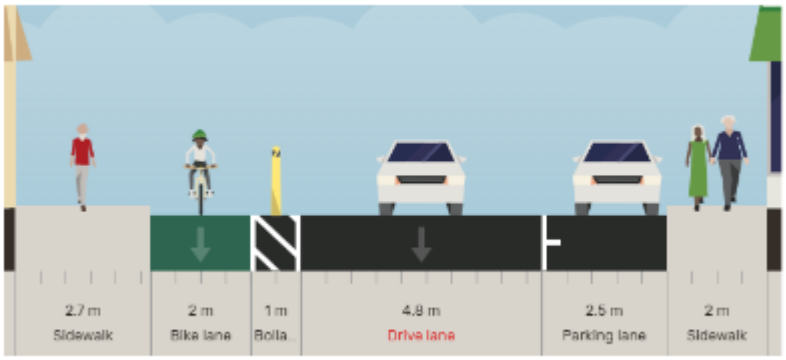


Figure 32: NS-2UA/3UB/3BA Cross section B (looking south)

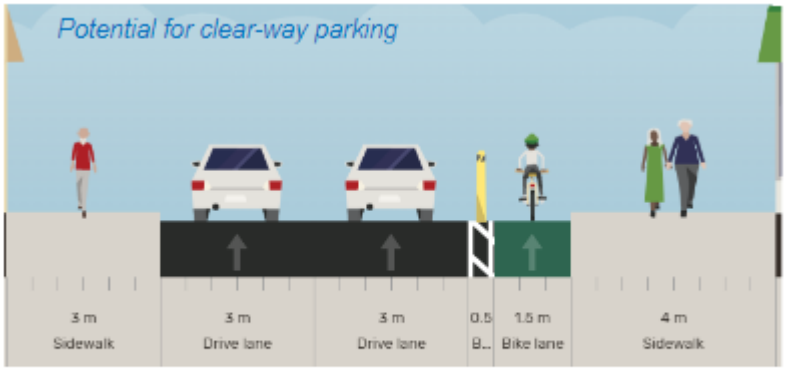


Figure 33: NS-2UA/3UB/3BA Cross section C (looking south)

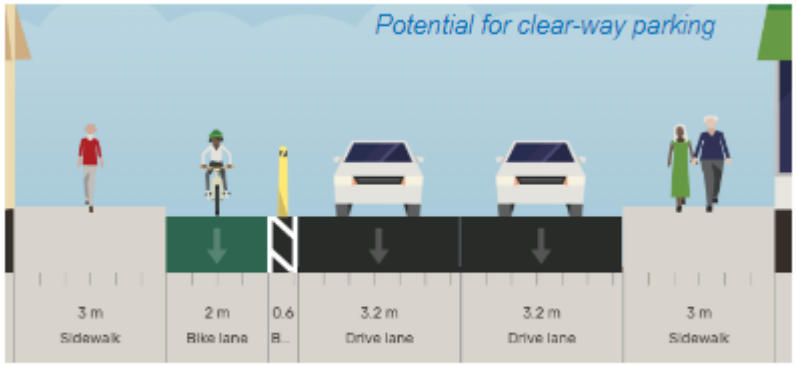


Figure 34: NS-2UA/3UB/3BA Cross section D (looking south)

Note this section is now proposed to be reduced to one lane to allow loading zone at 61 Molesworth Street

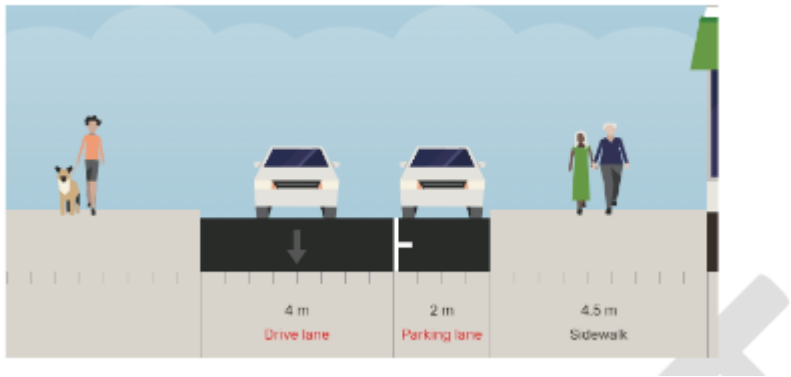
Figure 35: NS-2UA/3UB/3BA Cross section E (looking south)

Proposed raised crossings

Nature of the road	Considered/shortlisted	Preferred Option	Reasons
High volume connection to SH1 ADT: 9,079 Molesworth 8,582 Murphy Street 9.5 meters wide	4. Protected cycle lane in each direction (Molesworth uphill and Mulgrave downhill) 5. Bi-directional cycle facility on Molesworth Street full-length 6. Protected cycle lanes both directions with bidirectional facilities on part of Molesworth Street	• Protected cycle lanes in both directions on Molesworth and Murphy Street. • Raised pedestrian crossing at the top of Murphy Street in order to slow vehicles where there is insufficient space for a cycle facility. • Bi-directional cycle facility **on** Molesworth Street between Lambton Quay and Aitken Street	The preferred option to be taken forward to concept design is option 3 (Protected cycle lanes both directions with bidirectional facility on part of Molesworth Street). Option 3 offers the following advantages over option 1 (Protected cycle lane in each direction): • Greater cycling network connectivity with the bi-directional cycleway on lower Molesworth Street allowing cyclists to take a shorter route to Lambton Quay and The Terrace • Insufficient traffic lane width on upper Murphy Street (3.8m) to provide a protected cycleway section of bi-directional cycleway on Molesworth St between Murphy St and May was considered in order to provide a connection to the Ministry of Health. However, this sub-option was discounted due

			to the compromised legibility of changing from uni-directional to bi-directional and back to uni-directional.

6. Bunny Street West



Nature of the road	Considered/shortlisted	Preferred Option	Reasons
Shared space, low volume only access to 5 Mobility parking spaces and Victoria University Loading zone ADT: 479 vehicles Narrow road: 6.4m wide	**1. Retain existing shared street** 2. Shared lane westbound, narrow painted cycle lane eastbound 3. Shared lane westbound, protected cycle lane eastbound.	Retain existing shared street, improve shared space with roadway art	The preferred option for Bunny Street west is to retain the existing shared street due to the low traffic volumes and speeds. Bunny Street west currently allows cyclists to travel in the eastbound direction with Victoria University, buses and cyclists allowed to travel in the westbound direction. In discussions with Metlink it was agreed that access for buses to Bunny Street in the westbound direction needed to be retained to allow buses to reposition via Bunny Street west. Potential improvements to the existing layout to be investigated include road art and relocating the bus layout space.

7. Lambton Quay (Whitmore Street to Bunny Street)

Figure 41: Option NS-6BA – bi-directional cycle facility east side

Nature of the road	Considered/shortlisted	Preferred Option	Reasons
Limited parking, school bus stops ADT: 8,761 vehicles Wide road: 23.4m	1. Protected cycle lane northbound, shared lane southbound **2. Bi- directional cycle facility east side** 3. Bi-directional cycle facility west side	Bi-directional cycle facility east side connecting with the Golden Mile facility.	Option 2 is the preferred option because it seamlessly ties into the proposed bi-directional cycling facility on Lambton Quay south of Whitmore St. This is because it is logical for cyclists to be able to continue along Lambton Quay on a continuous bi-directional cycleway rather than needing to change facility types at Whitmore St. In discussions with the Golden Mile project team, it was confirmed that construction of Thorndon Transitional Cycleways programme implementation dates could be aligned with the Golden Mile avoiding the need for an interim layout.

5. Procurement Approach

5.1. What is our procurement approach?

Implementation will be approved by the Senior Responsible Owner with final design signoff from the asset owner.

All procurement on the programme is coordinated by WCC's Commercial Partnerships team. Four main services that we have procured/are procuring:

- Design Services,
- Road Safety- and Accessibility- auditing Services,
- Engagement Services, and
- Construction Contractor Services.

Design

The Transitional Programme is using WCC's Master Services contract for design services with two design consortia which has been setup to deliver design to the LGWM and the Transitional Programme. The benefit is that these consortia work in the same geographical areas. The consortium working on this project is the Future Group consortium including WSP and Stantec.

Road Safety and Accessibility Auditing services

We have procured ViaStrada appointed through a closed RFQ with a focus on smaller providers with experience in the urban multi-modal realm.

Engagement services

The transitional programme is currently running a competitive tender to procure these services with the support of the Commercial Partnerships team.

Construction services

The Transport and Place Planning Delivery team will implement, and project manage the construction of the proposed transitional cycleways. The team is establishing a panel of suitably skilled and qualified providers who have the range of skills that will be required. WCC has a strong broader outcomes agenda that will look to specifically target this work using local suppliers within the Greater Wellington Region.

6. Funding Approach

6.1. Funding Arrangement

Funding for the transitional cycleways has been approved as part of the Bike Network plan.

Estimated costs based on concept designs are $2,676,900 - $3,163,609 based on a 30% contingency as outlined below to allow for risk and uncertainty at this stage of design. Link in Appendix 10.

Molesworth-Mulgrave COST ESTIMATES		
Staff costs	$	190,000.00
Design consultants	$	335,000.00
Diagram costs	$	50,000.00
Road Safety Audits	$	20,000.00
Manawhenua engagement	$	10,000.00
M&E	$	50,000.00
Activation costs	$	10,000.00
Comms costs	$	60,000.00
Placemaking art + furniture	$	150,000.00
Parking sensor/ meter removal costs	$	12,000.00
Construction	$	1,405,950.91
Adaptation	$	140,595.09
Total:	**$**	**2,433,546.00**
10% contingency	***$***	***2,676,900.60***
30% contingency	***$***	***3,163,609.80***
	3% of CAPEX:	
OPEX costs per year	$	42,178.53

6.2. Operational/Post Project Funding

Post project funding arrangements include 3-4% of the project construction budget to allow for maintenance of the proposed cycleways.

Projected costs		Financial year					
		22/23	**23/24**	**24/25**	**25/26**	**26/27**	**Total**
Capital expenditure		$2,000,000	$1,163,609				**$3,163,609**
Operating expenditure				$42,178 - $56,238	$42,178 - $56,238	$42,178 - $56,238	**$126,534 - $168,714**
Total expenditure		$2,000,000	$1,163,609	$42,178 - $56,238	$42,178 - $56,238	$42,178 - $56,238	**$3,290,143 - $3,332,323**

6.3. BCR

We have done a BCR calculation which returned a BCR of 1.08 over the first five years based on the estimated cost with 20% contingency. A 20% contingency was used for the calculation as this is what is recommended in Waka Kotahi guidance however, we are requesting funding up to 30% contingency due to the transitional nature of these projects which increases uncertainty

Sensitivity analysis has been done below on what adding a 10% and 20% increase on top of this would do to the BCR. The duration of benefits that will be accrued from this project will depend on the outcome of the Transformational team business case.

Project	Total over project life (all numbers discounted)
Cycle facility benefits	$203,945
Cycle health benefits	$337,842
Increased cycle safety	$54,554
Increased pedestrian safety	$7,268
Increased car safety	$219,198
Total benefits	$3,249,244
Total costs (@20% contingency)	$3,015,180
Net benefit	$234,064
BCR	1.08

OBJ

Sensitivity Analysis on this BCR is as follows: OBJ

Sensitivity	BCR
Increased Cost by 10%	1.04
Increased cost by 20%	1.00
Decreased Cost by 10%	1.12
Decreased Discount to 3%	1.10
Increased Discount to 6%	1.03
The rise in cycling numbers is decreased to 4 %	1.01
The rise in cycling numbers is increased to 10 %	1.14
Project lasts 10 years (Transformation programme does not go ahead)	2.37

The BCR calculation can be found at Appendix 4.

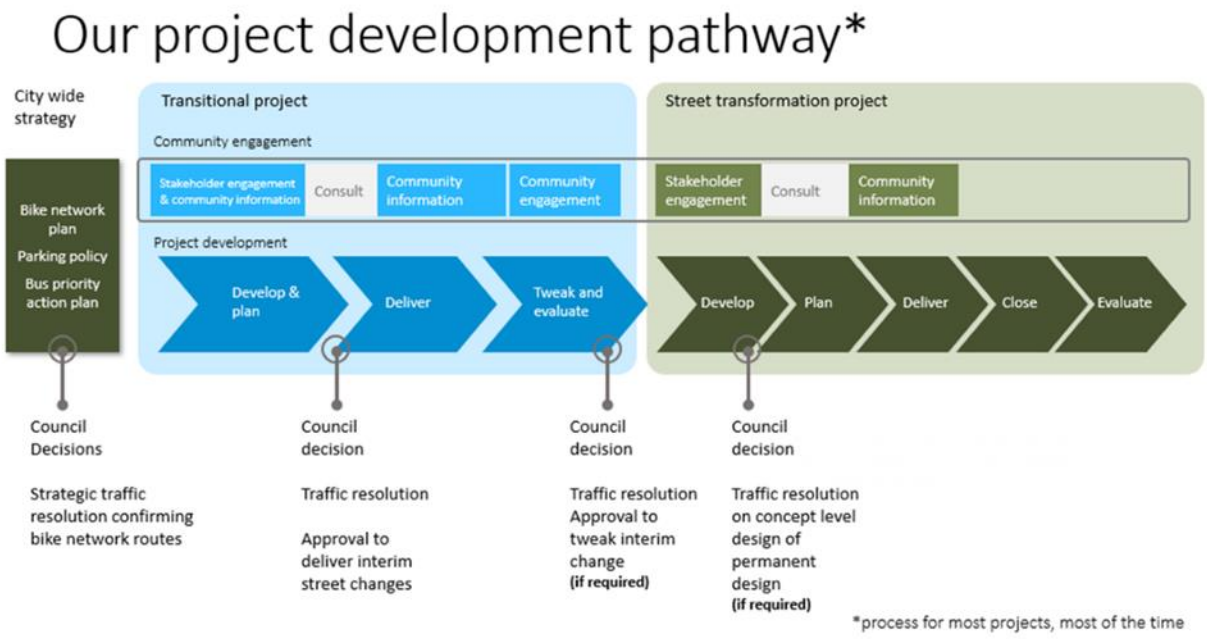
7. Project Management Approach

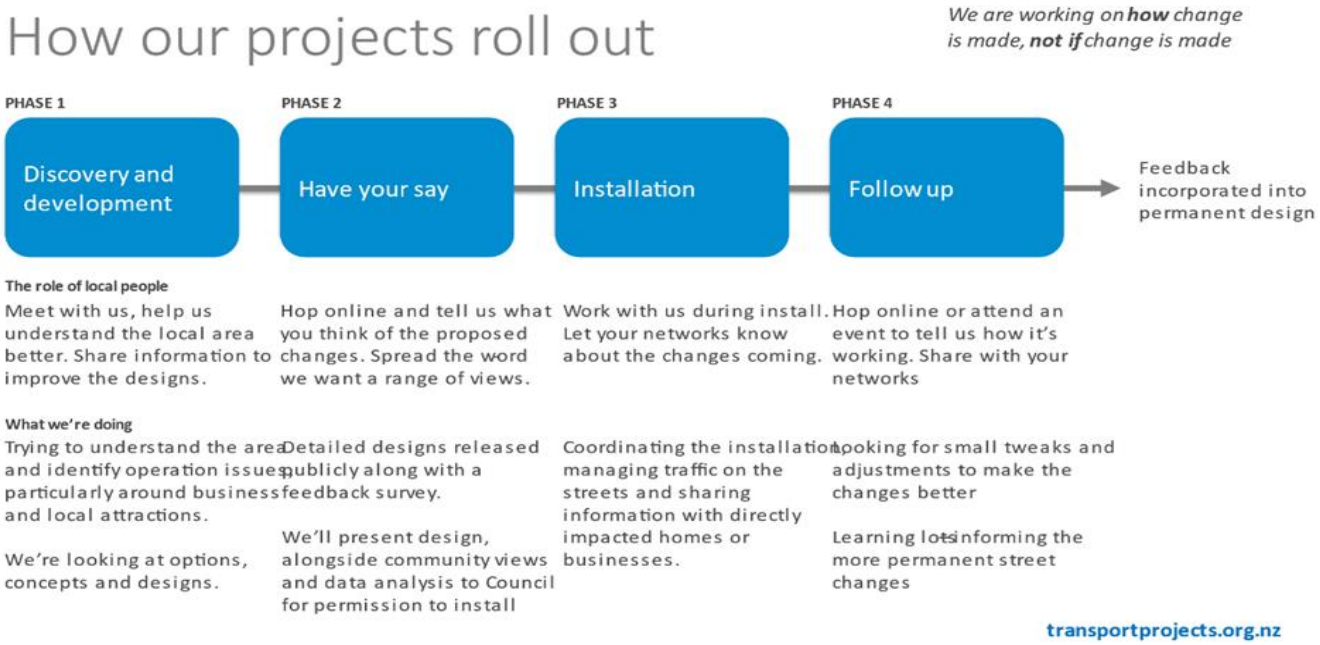
7.1. Project Approach

The transitional street changes are intended to be an interim solution before permanent upgrades seeking the same objectives are delivered. The project will adapt based on public consultation and findings where necessary, there may be unforeseeable circumstances that lead to removal of the transitional cycleway, but these will be managed at the time, in consultation with stakeholders. The project is being delivered using temporary and quick install materials so any changes made are low cost and can be arranged relatively quickly. The data and other evidence gathered will also help with the adaptation of the bus and bike improvements.

Specific councillor support for the Thorndon Connections Transitional Cycleway will be confirmed again during the Traffic Resolution process.

The adaptive approach of the project is explained in the diagram below.





7.2. Implementation Plan

Following the WCC Investment Delivery Framework process, upon approval of business case, the project manager will be accountable for planning, coordinating and overseeing the project implementation as well as coordinating and overseeing all pre-implementation activities.

Pre-implementation activities include ensuring the completion of the detailed design package, stakeholder management and engagement including the traffic resolution process, risk management and procurement of construction services.

The engineer contract will follow standard 3910 construction contract administration protocols including, but not limited to, issuing and responding to notices to/from contractor, responding to requests for information and conducting field inspection for quality control and to ensure conformance with design drawings and relevant standards.

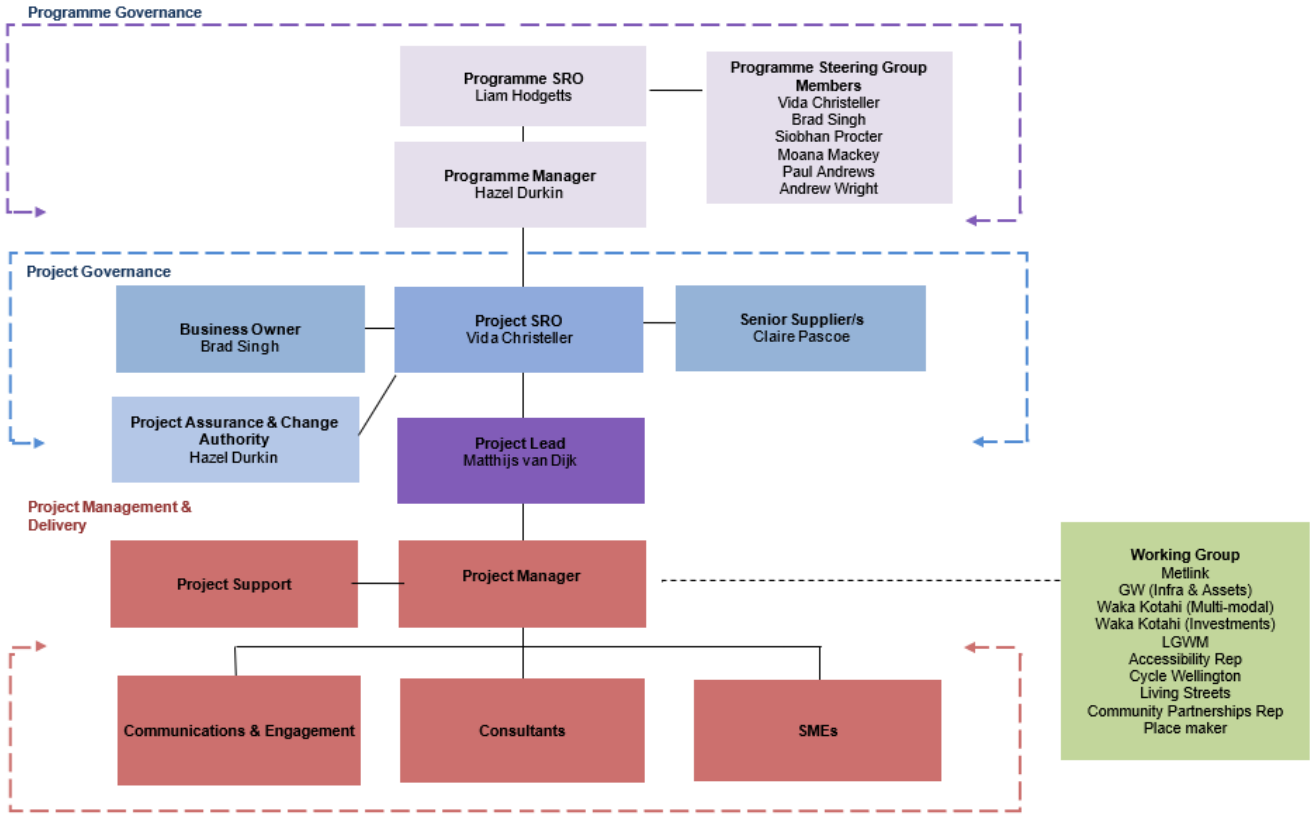
There will be monthly reporting to the SRO.

Implementation will be approved by the SRO with final design signoff from the asset owner.

The programme squad (internal stakeholders who have a role in reviewing and making recommendations) and working group are kept up to date with project progress fortnightly. They are project advisors who provide formal feedback into each of the design stages.

The project falls under the wider Bike Network programme which is managed by Hazel Durkin, Bike Network programme manager.

7.3. Transitional projects governance structure



The following internal programme squad are consulted at each step of the design process and provide review input:

- Traffic Engineer - Dennis Davis
- Signals Engineer – Haydn Wardley
- Principal Transport Engineer – Daniel Cairncross
- Delivery specialist – Stephen Harte and Dale Bowman
- Urban Designer – Paige Boyd
- Traffic Signals Specialist – Tim Kirby
- Behaviour Change Specialist – Georgia Halley
- Network Manager – Denise Beazley
- Evandro Scherer, Peter Hamilton and Kylie Hook
- Parking Services Specialist – Renee Reedy and Karan Parkinson

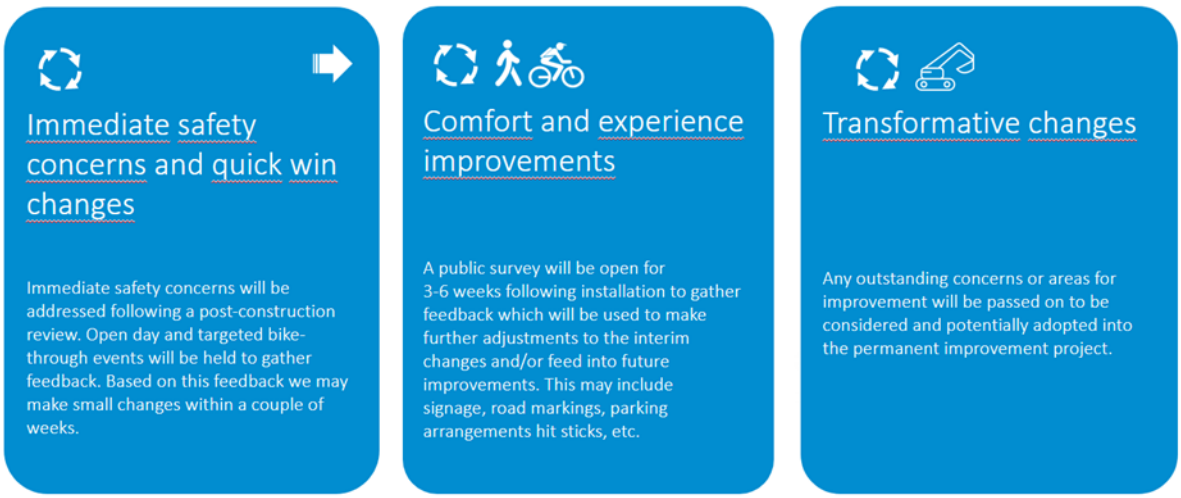
7.4. Risk and Assurance Planning

Risk information		
Describe the risk *(including cause and impact)*	**Risk rating**	**Risk treatment/ mitigation**
If we do not coordinate projects and communications with the other WCC and wider transport projects including LGWM and construction sites in this area we could create disconnected network and upset residents and businesses and lose the goodwill of the community.	High	*Early communication with other projects including the bus interchange, reworking designs to ensure limited rework of intersection. Early communications with 61 Molesworth Street to determine if TMP can incorporate cycleway. Business readiness engagement can encompass the wider picture. Ongoing*

		communication between projects and alignment of timelines to minimise disruption for residents and businesses.
The visibility of the project to embassy parliament staff might mean the project's profile is easily elevated to national levels (both +ve and -ve) meaning increased scrutiny and time to manage that.	**High**	*Brief local MP and connect with parliamentary services to ensure early engagement and to promote awareness of project. Understand any concerns that arise early to provide response and communicate clear story with key messages.*
If the scope of work desired is too great for interim solutions, we will need to compromise design which could lead to safety issues and cycle uptake.	**High**	*Undertake Road Safety Audits at 30% and 90% designs to identify safety issues. Focus on the Moderate and Severe risks and look at options to alleviate through design. Work closely with Transformation team for next step improvements*
If the loss of parking leads to more push back by businesses, residents, and other stakeholders this could lead to compromised cycleway infrastructure.	**Medium**	*Balancing this in decision making informed by comprehensive on and offstreet parking assessments at the MCA stage and seeking alternative solutions or phased approaches.* *Production of a Parking Management Plan in accordance with the Parking Policy and specific engagement strategy with Businesses, Residents Association, Schools and Community groups.*
If the Traffic resolution prior to install is not supported by elected members this will lead to redesign or halt to the project	**Medium**	*Regular briefings and updates to councillors, show how the community has fed into the design process and how it continues after the TR and install. Be clear what has been considered and what hasn't and why. Be clear about what we will monitor*
If unable to implement protected cycleways and public expectations too high, it could result in lower uptake and reputational impact	**Medium**	*Communication plan with the public to provide context of transitional cycleways to manage expectations.*
If there isn't enough behavioural 'how-to' work to complement delivery, the cycleway on the right hand side may confuse people and be opposed	**Medium**	*Ensure communication is clear and activations raise awareness of new road layouts.*
If contractor resources are constrained, then it leads to delay in implementation and reputational damage	**Medium**	*Early contractor procurement to commit resources.*
If material availability is delayed, then it will delay the delivery timelines leading to reputational damage	**Medium**	*Early procurement of materials that require freighting or manufacturing i.e. hit posts*
If costs of the project are perceived as high given permanent planned works, then the project can lose public support / reputational damage.	**Medium**	*Communication and engagement through our comms channels*
If the shortage of parking enforcement staff leads to insufficient enforcement, some of the cycleways/lanes will be used as parking leading to safety & reputational issues	**Medium**	*Provide clear comms through our usual channels, consider visual signs (VMS) at sections that have this risk*

If the project team reaches capacity due to the number of projects happening concurrently. This could mean that there is an overwhelming stakeholder or communication load that isn't effectively managed, creating reputational risks	**Medium**	*Comms and engagement planning. Identify when extra capacity is needed early, and bring in resource (from within WCC or contactor) when required*
If using in-lane bus stops, this could have significant impact to emergency responders and network operations, the programme reputation will be damaged	**Low**	*Engagement with emergency responders and key stakeholders to understand requirements and incorporate into the design. Using adaptable materials that can be changed.*
If the accessibility is compromised through design, then sections of the community will be excluded through the new infrastructure	**Low**	*Accessibility Audits at 30% and 90% designs to identify critical issues and resolve through design.*
Position responsible for any escalated risks	Chief Planning Officer Chief Infrastructure Officer	
Project assurance processes in place	1. Risks are managed and monitored by the assigned project manager in the Project Control book 8. The project's weekly WIP meeting is a platform for the project team to discuss/update/raise risks 9. Significant project risks (as earmarked by the project manager) are included in the Project Control Book (Appendix 6) 10. All risks are assigned to an owner who is responsible for monitoring specific risks 11. Significant project risks are raised during the monthly programme board meeting	
Risk allocation	All risks will be managed by Wellington City Council	

The process and response hierarchy for post implementation changes



7.5. Change Management Approach

Once the business case is agreed any changes to project scope will be fully documented with reasoning in a change register. If the project starts to deviate from approved project cost, time or scope we will use the change request processes provided by the PMO and seek board approval.

7.6. Benefits Management Approach

The programme will have a 0.5 FTE dedicated to assisting the project managers with the monitoring and evaluation on these projects.

The programme has a comprehensive monitoring and evaluation plan which starts by baselining before implementation and ensuring ongoing measurement. We have a wider programme of work focussed on rolling out more cycle counters on planned routes well ahead of implementation which will allow us to gather good baseline data as well as show the impact of the transitional cycleways.

Our monitoring and evaluation of benefits has a close connection with communications and engagement. We are using a baseline survey to help with engagement. Statistics from this survey help to inform our key messages and communications during the project and after.

The monitoring and evaluation framework can be found at Appendix 5.

7.7. Project Management Planning

Please refer to Appendix 6 for the Project Control book.

Key Project Milestone	Description	Approximate Date
Procurement	Procurement of professional services.	Completed
Project brief	Approval gained.	Completed
Discovery/Readiness engagement starts	Commence discussions with local businesses and resident groups to understand their needs and support levels	Completed
Concept design	Optioneering from shortlist to concept design of preferred option completed	– Completed
Approval of Business Case by WCC	Seek approval to proceed with project	October 2022
30% Designs	Preferred option	October 2022
RSA on 30% Designs	Scheduled in	October 2022
90% Designs	Scheduled in	December 2022
RSA on 90% Designs		January 2022
Asset owner approval of 90% Designs	Seeking approval for construction to commence.	December 2022
Traffic Resolution consultation completed	Active business and community engagement	April 2022
Approval of Traffic Resolution by Planning & Environment Committee		May 2022
100% designs signed off		May 2022
Pre-implementation commences		June 2022
Installation commences	Installation of the activity aim to commence in 2023 and completed by 2024	Q1 23/24
Installation completed		Q4 23/24
Post implementation alterations and tweaks	Adaptability to make tweaks based on feedback post installation.	Ongoing as sections completed July 2023 – June 2024

7.8. Next Steps

The team are working on a baseline survey for circulation on 31 October. The survey will ask questions about how they currently experience the route and the suburb. A letter drop to the area will support this to advise residents and businesses of the changes coming to the suburb and provide them with a link to the survey. Analysis of survey feedback will feed into 90% designs in December.
Following the approval of the Business Case the project will proceed to 30% design on the preferred concepts and we will seek further internal project team and external working group feedback as well as safety and accessibility audits on the proposed designs. Once 30% designs are complete engagement will focus on awareness in the area and further discussions with key groups.

The designs then proceed to 90% and preparation will begin for the traffic resolution consultation. Consultation on a traffic resolution for these sections is expected to take place in March 2023.

8. Recommendations

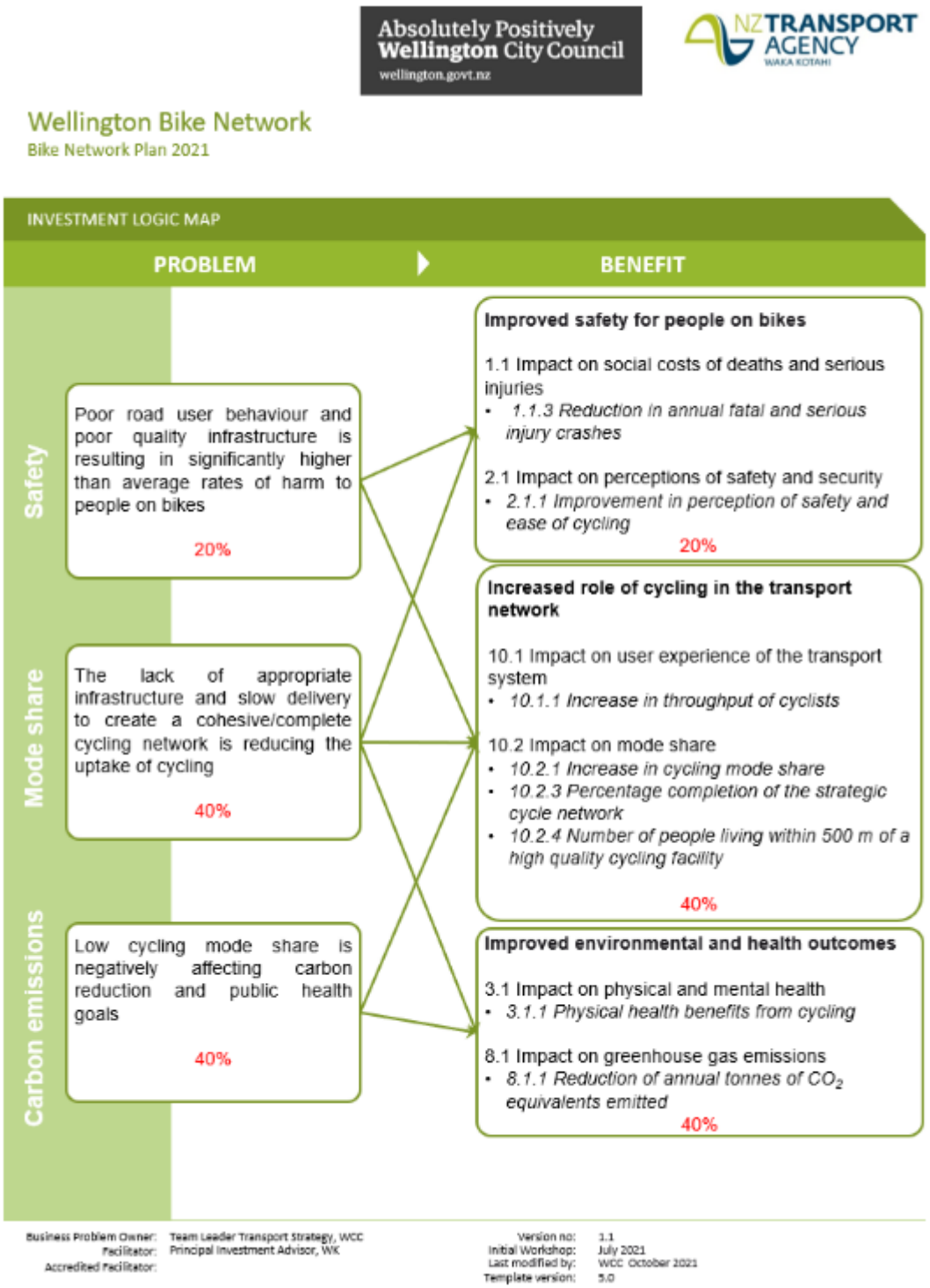
It is recommended that the SRO approves this Business Case and the recommended preferred option presented above.

Approve:

Name	Title	Date

Note any comments made by the governance board, if any.

Appendix 1. Investment Logic Map



Taken from the Updated Bike Network Plan PBC:

Appendix 2. Multi Criteria Analysis Criteria and Scoring Scale

2022-10-10_FINAL_Transitional Cycleways Multi Criteria Analysis - MM_with appendix.pdf

Scoring scale

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

Design Objectives

Objectives	Consideration	Weight	Weight
1. Improve safety, accessiblity and convenience for people cycling and using micro-mobility devices	Improved safety for people cycling and using micro-mobility devices	20%	40%
	Improved convenience for people cycling and using micro-mobility devices	20%	
2. Improve safety, accessiblity and convenience for people walking and using mobility devices	Improved safety for people walking and using mobility devices	10.0%	15.0%
	Improved convenience for people walking and using mobility devices	5.0%	
3. Improve travel time of public transport	Improved travel time of PT compared with private vehicles	15%	15%
4. Provide high priorty parking and mitigate parking impact	Retain high priority parking for businesses and residents where essential (e.g., mobility parking)	7.5%	15.0%
	Mitigate parking impact (ie, provide car share, etc)	7.5%	
5. Enable benefits to be delivered quickly with minimal disruption	Alignment with other planned works in the road corridor	5%	10%
	Ability to deliver quickly / less disruption compared to a typical project	5%	
6. Improve the place amenity in the area	Improved urban amenity	5.0%	5%
	Total weights	100%	100%

Notes: Consideration should be given to fatal flaws, such as removing bus lanes, or causing significant safety issues.

Appendix 3. 30% Concept Designs

5-C3880.32_C30-C40(A) (General Layout).pdf

5-C3880.32_C105-C106 (Molesworth St - Hill St - Aitken signals) C105-C106.pdf

Appendix 4. BCR calculation

Thorndon BCR calculations (003).xlsx

Appendix 5. Monitoring and Evaluation Plan

M&E for Thorndon Connections .xlsx

Appendix 6. Project Control Book

Thorndon Connections Project Control Book.xlsm

Appendix 7. Communication Plan

Thorndon Connections - Communication and Engagement Plan.docx

Appendix 8. Project Schedule

Thorndon Connections project schedule .mpp

Appendix 9. Cost breakdown

Thorndon Connections Cost Estimates.xlsx