

# Te ArA Ki Uta Ki Tai- Glen Innes to Tamaki Drive Shared Path- Section 4 Alternatives Assessment

Prepared for

NZ TRANSPORT AGENCY AND AUCKLAND TRANSPORT

Report Date

July 2017



**MWH**®

now  
part of



**Stantec**



This document has been prepared for the benefit of the NZ Transport Agency and Auckland Transport. No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person.

This disclaimer shall apply notwithstanding that the report may be made available to Auckland Council and other persons for an application for permission or approval to fulfil a legal requirement.

## QUALITY STATEMENT

**PROJECT MANAGER**

Tarhata Lacerna

**PROJECT TECHNICAL LEAD**

Matt Turner

**PREPARED BY**

Karen Bell



07/08/2017

**CHECKED BY**

Matt Turner pp Tarhata Lacerna



07/08/2017

**REVIEWED BY**

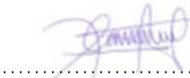
Matt Turner pp Tarhata Lacerna



07/08/2017

**Approved by**

Tarhata Lacerna



07/08/2017

**AUCKLAND**

MWH House Level 3, 111 Carlton Gore Road, Newmarket, Auckland 1023  
 PO Box 13-052, Armagh, Christchurch 8141  
 TEL +64 9 580 4500, FAX +64 9 580 7600

## Revision Schedule

Rev No.	Date	Description	Signature or Typed Name (documentation on file)			
			Prepared by	Checked by	Reviewed by	Approved by
1	October 2016	Working Draft	K Bell	A McDonald	G Stanton	G Stanton
2	July 2017	Updated following second MCA	K Bell	M Turner	M Turner	T Lacerna

## Executive Summary

As part of determining the route that Section 4 of the Glen Innes to Tamaki Drive Shared Path will follow from Orakei Train Station to Tamaki Drive, a number of route options have been considered at different times. The assessment process has utilised Multi Criteria Analysis (MCA) as a framework for evaluation of the options. The use of the MCA is considered to fulfil the requirements of the 4th Schedule and those of section 171 of the RMA if either Auckland Transport or the NZ Transport Agency decide to proceed with a Notice of Requirement for any part of the path on land.

The preferred option has evolved from a route located on the northern side of the existing rail line totally within the rail corridor (on land) a route that was required to travel at grade through the Outdoor Boating Club and the Council reserve before accessing Tamaki Drive. This change in alignment and consequential impact on the Outdoor Boating Club was the result of the requirement from Kiwi Rail to protect a future third track.

Following consultation with the Outdoor Boating Club and consideration of additional options the Project Control Board (PCB) decided that three options should be developed to the same level of detail and be subject to further assessment that included a second MCA. This process has resulted in a the route that follows the eastern shoreline of Hobson Bay and then ties into Ngapipi Road and from there to Tamaki Drive being rated the highest.

# Section 4 of Te Ara Ki Uta Ki Tai- Glen Innes to Tamaki Drive Shared Path- Alternatives Assessment

## CONTENTS

<b>Executive Summary</b> .....	<b>i</b>
<b>1 Introduction</b> .....	<b>1</b>
1.1 Project Background .....	1
1.2 Purpose of this Report .....	1
1.3 Project Objectives .....	2
1.4 Initial Scheme Assessment Options .....	3
1.4.1 Beca Assessment .....	3
1.4.2 Scheme Assessment .....	3
1.5 Multi-Criteria Analysis Tool .....	6
<b>2 Staged Process Followed</b> .....	<b>7</b>
2.1 First MCA .....	7
2.1.1 The Process .....	7
2.1.2 Discussion and Scoring at the MCA Workshop .....	8
2.1.2.1 Options .....	8
2.1.2.2 Criteria .....	10
2.1.2.3 Option Rating Process and Results .....	14
2.1.2.4 Follow Up Actions .....	16
2.2 Long List of Options .....	16
2.2.1 Background .....	16
2.2.2 Assessment of Long List .....	17
2.2.3 Short Listing .....	21
2.2.4 Second MCA .....	23
2.2.4.1 Option Rating Process and Results .....	28
2.3 Conclusions .....	29
<b>3 Consultation</b> .....	<b>31</b>
3.1 Mana Whenua .....	31
3.2 Other Parties .....	31
<b>4 Conclusion</b> .....	<b>32</b>

## LIST OF TABLES

Table 1-1 Objectives .....	3
Table 1-2: Options Identified in the Beca Assessment: .....	3
Table 2-1: Options Considered in October 2016 at MCA Workshop .....	7
Table 2-2: Criteria used at the First MCA and Weighting .....	11
Table 2-3: Evaluation Ratings .....	15
Table 2-4: Table 2-4 First MCA Analysis Results .....	16
Table 2-5: Long List Options 2017 .....	18
Table 2-6: Options Assessed in 2017 and Cost .....	19
Table 2-7: Short List Options .....	22
Table 2-8: MCA workshop discussion .....	24
Table 2-9: Results.....	28

## LIST OF FIGURES

Table 1-1 Objectives .....	3
Table 1-2: Options Identified in the Beca Assessment: .....	3
Table 2-1: Options Considered in October 2016 at MCA Workshop .....	7
Table 2-2: Criteria used at the First MCA and Weighting .....	11
Table 2-3: Evaluation Ratings .....	15
Table 2-4: Table 2-4 First MCA Analysis Results .....	16
Table 2-5: Long List Options 2017 .....	18
Table 2-6: Options Assessed in 2017 and Cost .....	19
Table 2-7: Short List Options .....	22
Table 2-8: MCA workshop discussion .....	24
Table 2-9: Results.....	28

## Appendices

### Appendix A - MCA results and discussion

# 1 Introduction

## 1.1 Project Background

The NZ Transport Agency (the Transport Agency) and Auckland Transport (AT) are delivering a 'Cycle Metro' route in the Proposed Cycle Network (ACN). The route is called Te Ara Ki Uta Ki Tai - the Glen Innes to Tamaki Drive Shared Path and is comprised of four sections:

- Section 1: Merton Road (Glen Innes Train Station) to St Johns Road (construction completed); section 2: St Johns Road to Meadowbank Train Station;
- Section 3: Meadowbank Train Station to Orakei Road underpass; and the focus of this report,
- Section 4: Orakei Road underpass to Tamaki Drive.

## 1.2 Purpose of this Report

The purpose of this Report is to provide an outline of the alternatives assessed and the process followed in relation to Section 4. Section 4 begins at the southern end of the Orakei Road underpass, in the vicinity of the Orakei Road rail over bridge and the route needs to travel either across Hobson Bay or around it.



**Figure 1-1: Aerial of Hobson Bay – sourced from Auckland Council Geomaps 2017**

The term 'alternative' (as per the RMA terminology) is used interchangeably with the term 'option' throughout this Report. Section 171 and the Fourth Schedule (Clause 6 Assessment of Effects) of the Resource Management Act 1991 (RMA) requires that consideration is given to alternatives (locations, sites, routes or methods) in relation to any significant adverse effect on the environment, discharges of contaminants; and where the requiring authority does not have an interest in the land sufficient for undertaking the work.

Both organisations are Requiring Authorities under the RMA and are able to utilise designations to deliver parts of the project and works in the coastal marine area will need resource consent and works may require regional consent. The options being considered in relation to Section 4 either have potential adverse effects on the environment (in terms of impacts on significant ecological values; scheduled features or views identified in the Auckland Unitary Plan applying to the coastal marine area or land) or impact on private land. Some do both.

This report outlines the process undertaken to arrive at the preferred option and it also:

- Describes the results in the initial Scheme Assessment and fatal flaw assessment;
- Outlines the staged process MCA; long list and short list;
- Summarises the stakeholder engagement in the assessment of alternatives process; and
- Describes the results of the second and final 'MCA process.

### 1.3 Project Objectives

The project objectives for the shared path were developed for the Scheme Assessment Process were:

- A. To identify a preferred route for a shared path that:
  - o Connects the existing sections of the Auckland Cycle Network between Glen Innes and Tamaki Drive
  - o Provides for a Cycle Metro level of service for commuter cyclists in recognition of its function as part of the Auckland Cycle Network. AT has adopted the following definition for a Cycle Metro.

Cycle Metros take the highest priority as they target the highest number of potential users. They are high quality and traffic free segregated routes generally located within motorway corridors, rail corridors and on arterial or major collector roads. They offer a high level of safety connecting metropolitan / town centres, public transport interchanges and other key destinations. They can be shared off road paths along road corridors, rail corridors, through parks, reserves and esplanades or separated cycle facilities on road. The treatment is generally a 3m wide shared path or a one/two-way protected cycle lane or a buffer cycle lane.

- B. To develop a cost effective shared path whilst balancing the need to provide for a good standard of facility that is consistent with its function as a strategic component of the Auckland Cycle Network.
- C. To provide for a shared path that:
  - o Is safe, convenient and attractive path for walking and cycling
  - o Supports a variety of user types and confidence levels
  - o Promotes sustainability through the encouragement of walking and cycling as an alternative to motorised transport.

The objectives were refined during the development of the project and the refined objectives were included in the two NORs lodged for the path<sup>1</sup> and have been used in relation to this alternatives assessment process for Section 4. These objectives are set out in Table 1-1 below:

---

<sup>1</sup> Section 2 and 4 NoRs were lodged in April 2016.

**Table 1-1 Objectives**

Number	Objective
1	To construct, operate and maintain an off road shared path that: <ol style="list-style-type: none"> <li>Connects the existing sections of the Auckland cycle network between Tamaki Drive and Glen Innes;</li> <li>Provides new opportunities for connections with public transport nodes and other destinations;</li> <li>Provides for a cycle metro level of service for commuter cyclists in recognition of its function as part of the Auckland Cycle Network;</li> <li>Is cost effective whilst balancing the need to provide for a good standard of facility that is consistent with its function as a strategic component of the Auckland Cycle Network;</li> <li>Is safe, convenient and attractive path for walking and cycling;</li> <li>Supports a variety of user types and confidence levels; and</li> <li>Promotes sustainability through the encouragement of walking and cycling as an alternative transport mode.</li> </ol>
2	To improve walking and cycling accessibility and connectivity for the Tamaki, Meadowbank and Orakei communities.

## 1.4 Initial Scheme Assessment Options

### 1.4.1 Beca Assessment

The initial report that had identified and assessed options for linking Orakei Train Station to Tamaki Drive was the Hobson Bay Shared Path - Project Feasibility Report, prepared for Auckland Transport by Beca Carter Hollings and Ferner Ltd (Beca) 17 October 2012. This report identified five potential routes as set out in Table 1-2.

**Table 1-2: Options Identified in the Beca Assessment:**

Route 1 (Shore Road):	Connects existing shared path to the Tamaki Drive via Orakei Road, Shore Road, Brighton Road, St Stephens Avenue, Gladstone Road and The Strand;
Route 2 (South Side of Rail Embankment)	Connects existing shared path to Tamaki Drive via a crossing of Hobson Bay adjacent to the south side of the Eastern Railway Line embankment;
Route 3 (North Side of Rail Embankment):	Connects existing shared path to Tamaki Drive via a crossing of Hobson Bay adjacent to the north side of the Eastern Railway Line embankment
Route 4 (Ngapipi Coastline):	Connects existing shared path to Tamaki Drive via a coastal route alongside Ngapipi Road and Ngapipi Road;
Route 5 (Ngapipi Road):	Connects existing shared path to Tamaki Drive via Ngapipi Road

### 1.4.2 Scheme Assessment

MWH Global Ltd (now known as Stantec and referred to in this report as Stantec) was engaged by Auckland Transport to undertake the Scheme Assessment for the Glen Innes to Tamaki Drive Shared Path. The Scheme Assessment Report was prepared for Auckland Transport and a draft was provided to the client in January 2015. Although the report itself wasn't finalised in May 2016, the Scheme Assessment was used to confirm the alignments for Sections 1, 2 and 3.

The Scheme Assessment included an assessment of alternatives for Section 4. The Scheme Assessment was used by the Transport Agency when preparing and lodging a Notice of Requirement (NOR) to designate the land at each end of the preferred route (from the Scheme Assessment) for Section 4<sup>2</sup> to enable the construction, operation and maintenance of the path. The NOR's Assessment of Environmental Effects (AEE) noted that a resource consent application would also be required to authorise the portion of Section 4 within the Coastal Marine Area (CMA).

As part of the Scheme Assessment process, the route options for Section 4 identified in the Beca assessment had been reviewed by Stantec. Initially a 'fatal flaw assessment' was undertaken to determine if any of the routes did not warrant any further consideration. This resulted in Route 1, (the on- road option to connect via Orakei Road, Shore Road, Brighton Road, St Stephens Avenue, Gladstone Road and The Strand) being discarded. The reasons it was discarded included:

- Steep topography (on Shore Road and Brighton Road in particular);
- Busy traffic generators on Shore Road such as Kings Plant Barn, the schools (Saint Kentigern and Baradene located between Orakei Road and Victoria Avenue) and the playing fields of Thomas Bloodworth Park and Shore Road reserve (between Victoria Avenue and Brighton Road);
- Multiple vehicle crossings due to the residential development on Shore Road and along Brighton Road and St Stephens Road;
- The busy environment along Gladstone Road (Parnell Primary, motels and the Rose Garden and residential development); and
- The rail bridges and port related truck movements at the Strand between the end of Gladstone Road and Tamaki Drive.

Four of Beca's routes for Section 4 (Routes 2 – 5) were investigated through the Scheme Assessment phase by Stantec. These routes are shown in Figure 1-2.

A preferred route was identified in the Scheme Assessment that is based on Route 3 (as described in Table 1-2). The route differed slightly from that considered by Beca, as consultation with KiwiRail in relation to the whole Shared Path had identified KiwiRail's future plans to provide a third rail line. This meant that any route located on the northern side of the North Island Main Trunk rail line (NIMT) needed to be well clear of the third rail line. This also meant that any structure or path in Section 4 needed to be located away from the rail embankment in Hobson Bay. It also meant that the bridge over the NIMT from the southern route needed to cross the three lines.

The result was that the preferred route on the northern side of the NIMT now crossed the reclaimed land occupied by the Outdoor Boating Club (OBC) and to link to Tamaki Drive needed to travel through a council owned recreation reserve at 3 - 5 Tamaki Drive. Route 3 remained as the preferred route as it was considered that the topography and environment of Route 4 would result in heavy vehicle volumes and difficulty in providing a protected cycleway that would be attractive to all users. Route 3 also followed the designation for the Eastern Transport Corridor held by AT that also applies to the OBC land.

---

<sup>2</sup> The NOR for Section 4 was lodged on April 2016 at the same time the NOR for Section 2 and the resource consents to deliver Section 3 to show the full route. Sections 2 and 3 were both publically notified on 15 April 2016.

The spatial extent of the designation provided for in the Transport Agency’s NOR lodged for Section 4 affects land owned and/or managed by Auckland Council (reserve), Auckland Transport (road and Orakei Park and Ride) and the OBC marina located at 7A Tamaki Drive. After lodging the NOR consultation on Route 3 was undertaken with the three land owners and with Bike Auckland (BA). Mana whenua and the general public were also consulted.



Figure 1-2: Route Options Considered

Suggestions were received through the consultation in relation to changes in the form and location of the path. These included suggestions of variations to elevate the path over OBC’s land in consideration of the potential impacts on the club; and to continue the route parallel with the rail line and use land owned by the Council and leased to a mini golf operator to access Tamaki Drive. The impacts identified during consultation included the loss of income (OBC receives fees from the use of the land that the path was on for trailer and boat parking); the flow on effects in terms of OBC support of other community activities; the need to design the path to mitigate potential security issues.

On receipt of feedback from the organisations, a decision was made by the Project’s Control Group (PCG)<sup>3</sup> to undertake a further assessment to consider new refinements suggested for the options by the organisations<sup>4</sup> along with some of the original options considered in the Scheme Assessment. It was agreed that following a preliminary consideration of the design of these options, they would be subject to MCA. As the variations proposed were very similar, it was considered necessary to use the MCA process to evaluate and quantify the benefits and disbenefits.

<sup>3</sup> Comprised of Transport Agency and AT staff

<sup>4</sup> Orakei Local Board suggested taking the route through the miniput golf course located on council land and not exiting at the reserve and OBC while indicating it was opposed to the route suggested using an elevated structure over its land.

## 1.5 Multi-Criteria Analysis Tool

Multi Criteria Analysis is a powerful tool to assist in making decisions in uncertain situations. The MCA methodology provides a robust, objective and defensible framework for evaluation of the options.

The MCA process followed for the project is the generic MCA methodology used in the Decision Making Guidelines published by New Zealand Asset Management Support<sup>5</sup>. This methodology involves the identification of an agreed set of criteria and the attribution of scores to the criteria.

The scores are combined to produce an overall option score or rating which can be used to identify a preferred option. Each criterion is given a different weighting, the weighting reflects the importance of the criteria in the assessment. Criteria with a higher weighting will have a greater influence on the final rating.

The MCA process usually involves a structured, facilitated, recorded workshop process with client and expert participation; presentation and discussion of comprehensive relevant information; consensus approach to scoring and weighting (differences recorded); sensitivity analysis; and review after further information (if needed).

“MCA provides an open and traceable method of weighing up the advantages and disadvantages of the different options taking account of both tangible and intangible issues”<sup>6</sup>.

The process is an adaptable aid to decision making it does not on its own make a decision as other factors may over ride.

---

<sup>5</sup> A non-for-profit industry group that provides Leadership in Asset Management.

<sup>6</sup> Optimised Decision Making Guidelines – A Sustainable Approach to Managing Infrastructure. Pub. By NZ National Asset Management Steering (NAMS) Group, 2004

## 2 Staged Process Followed

### 2.1 First MCA

#### 2.1.1 The Process

A MCA workshop was held in October 2016 involving the same four route options from the scheme assessment with three new variations considered in relation to Route 2 (a total of seven options). The options considered are set out in Table 2-1. The alignments are shown in Figure 1-2 above.

**Table 2-1: Options Considered in October 2016 at MCA Workshop**

Option Identification Number	Option Description
1	South of rail line (red option) skirting the private development at Orakei Peninsula and a new structure on the southern side of the rail line requires a rail over bridge to cross over the rail line to the Council reserve on Tamaki Drive
<u>2aa</u>	North of rail line (blue option) at ground level through the Outdoor Boating Club and the Council reserve on Tamaki Drive.
<u>2ab</u>	North of rail line (blue option variation) at ground level through the Outdoor Boating Club joining Tamaki Dr via the mini golf / car park
<u>2ba</u>	North of rail line (blue option variation) and on an elevated structure through the Outdoor Boating Club and the Council reserve on Tamaki Drive
<u>2bb</u>	North of rail line (blue option variation) on an elevated structure through the Outdoor Boating Club and joining Tamaki Dr via the mini golf / car park
<u>3</u>	Ngapipi coastline (yellow option) bordering the outside edge of Hobson Bay requires a clip on structure on the Orakei Road Bridge and a boardwalk constructed around the bay.
<u>4</u>	Ngapipi Road (green) option is a separated facility along Ngapipi Road

The purpose of the workshop was to use the MCA process to bring together information to assist in identifying a preferred route option for Section 4. Those that attended the MCA workshop (refer Appendix A) were technical experts who had been involved in preparing the AEE for Section 2 and 3 and were familiar with the proposed basic form of the path; and project managers from the Transport Agency and from AT and their legal advisors. The non-technical experts did not provide scores but were involved in discussing the criteria and weighting.

Prior to the workshop the technical experts were engaged and briefed as to the scope and purpose of their investigations. The attendees were provided with the Beca Assessment 2012<sup>7</sup> report and were asked to undertake site visits to familiarise themselves with Section 4. The

<sup>7</sup> Hobson Bay Shared Path - Project Feasibility Report, Prepared for Auckland Transport by Beca Carter Hollings and Ferner Ltd (Beca) 17 October 2012

experts were asked to identify and advise on the key considerations in their areas of expertise for the four options.

The agenda was set for the workshop:

1. Brief outline of each option
2. Opportunity for questions for clarification
3. Weighting and criteria for Section 4 agreed
4. Rate each option independently
5. Rate each option collectively.

The workshop proceeded in accordance with the agenda.

### 2.1.2 Discussion and Scoring at the MCA Workshop

The following is a record of the discussion at the workshop, which took a little over five hours. Due to the time taken, a number of the attendees were required to leave and provided their specialist input before departing.

#### 2.1.2.1 Options

Andrew McDonald the Technical design lead from Stantec for the project provided a brief overview of each of the Options including provision of preliminary drawings. He then responded to the questions and discussion as the attendees sought to clarify details.

##### Option 1

- This route may exclude non-confident cyclists so why can't this route go directly to Hobson Bay instead of going south and then around the coast as it is crossing driveways? This option only affects either Auckland Council, Auckland Transport or KiwiRail owned land (no private land) and there was uncertainty when this option was identified in relation to the future Orakei Point development.
- The bridge across the rail line to the reserve at the Tamaki Drive end needs to be at least 6.5m high to the top of the riding surface. This 6.5m does not include the hand rails. The bridge is assumed to be perpendicular to the rail line as from a design perspective a perpendicular rail crossing to the reserve at the Tamaki Drive end is the most efficient but maybe not realistic.
- The pathway will be on a stand-alone structure and will not be attached to the railway structure across Hobson Bay. It will include 2 bridges of the existing channels mirroring the rail bridges at these locations.
- What is the timing for delivering this option as there could be an issue with a long lapse period as the existing environment could change over this time? Construction of Section 4 is expected to be completed by the end of 2018.

##### Option 2aa/2ab (at ground level)

- These options will make use of the existing Orakei Road Rail Over Bridge and might need to attach a clip on structure.
- The pathway will be on a stand-alone structure and will not be attached to the railway structure across Hobson Bay. The structure across Hobson Bay also includes 2 bridges over the existing channels.

- In response to the question; is the carpark at Orakei Station on a landfill? It was noted No, but it is located on the geological feature.
- It was noted that the mini golf course encroaches into KiwiRail land however Auckland Council owns the remainder of the land occupied by the mini golf course. It was suggested that the mini golf course could be argued as a value community asset. It was noted that representatives of the local board had suggested this option to avoid the reserve. Has the golf course operator been consulted? We haven't consulted the mini golf as it was unclear that they would be affected, but have consulted with the OBC.
- The meeting was advised that there are a few variation/connection options through the mini putt to the Tamaki Drive.
- There was a question; can the public currently get into the reserve? The reserve is fenced and gated and the OBC are understood to control access.
- Potentially may need to think about mitigation measures for the security of the boating club, like fencing the path.
- There may be tree loss within the reserve at Tamaki Drive.
- There are significant shellfish beds (cockle beds) close to the rail embankment which will be affected, particularly during construction.

#### Option 2ba /2bb (elevated)

- The boating club wants the elevated structure option as it ensures that boat parking loss will be minimised.
- The option will probably cause tree loss on the OBC land but it was noted that the trees are comparatively small.
- The question was asked if the boat club double stack their boats in the parking lot. There appears to be currently a lot of land in front of the parked boats. No one at the meeting knew. There was a follow up question; does the boat club need that much land? [Post script: The aerial in google maps indicate that double stacking does occur.]

#### Option 3

- There could be a safety issue as the path will need to cross the entrance to the Orakei Station park n ride.
- This option involves a clip on structure/bridge at Purewa Creek crossing and a structure ramping down to the coastline near Hobson Bay from Orakei Road, just before Ngapiipi Road intersection.
- It was noted that geotechnical ground conditions are better around the coastline.
- It was asked if there be temporary staging for construction. The construction expert advised that the construction method would either use a barge, similar to Section 3 or possibly construct as you go (however there would be a weight constraint of this method).
- What is the height of the structure? Need to take into account sea level rise. Will be a similar height to Orakei Basin (Section 3).
- The area is highly modified with rip rap along the coastline.

- There would be privacy issues with the option as there are private properties on Ngapipi Road that face out onto the Bay and the path would enclose the boat ramps that are on these properties.
- The road will need to be re-aligned near the boat sheds to minimise effects on their access but there is an access issue relating to the boat sheds due to conflict between access into the sheds and cyclists

#### Option 4

- There could be a safety issue as the path will need to cross the entrance to the Orakei Station Park and Ride.
- There will need to be a clip on structure/bridge at Purewa Creek Bridge crossing.
- The potential impact on trees on parts of Ngapipi Road could be reduced as it is possible to cantilever a structure over the trees as opposed to using retaining.
- This option cannot achieve the disability grade standard and will require land to be taken from the site on the northern side of the intersection with Ngaiwi Street to achieve a safer distance from the driveways on the eastern side of Ngapipi Road. However, this is still a big safety issue as the driveways are very steep and the cars exiting the sites won't be able to see the cyclists coming in both directions. High cyclist speeds in the downhill direction exacerbates the safety risk.
- The road will also need to be re-aligned near the boat sheds to minimise effects on access but there is an access issue relating to the boat sheds due to conflict between access into the sheds and cyclists
- The option is about 450 m extra distance travelled to get to the same point as the option 2. Count information at the Ngapipi Road / Tamaki Drive intersection indicated approximately 90% of cyclists were city bound.
- What impact will the option have at the bus stops along the route? Haven't got that level of detail yet. Will need to look into this potential conflict.
- Is the safety issue a fatal flaw? Which means that it doesn't need to go through the MCA process. It will come out in the scoring but this should be noted.

It was decided that each of the four key options and the variations to option 2 as described at the workshop would be assessed. It was decided not to consider the status quo option.

#### 2.1.2.2 Criteria

The criteria and the weightings established during the first workshop on 29/8/2014 for earlier sections was used for Section 4 to ensure consistency with the rest of the Scheme Assessment process. As the location of Section 4 was quite different from the earlier sections (nature of the marine environment) there was discussion about other matters that should be considered in relation to the MCA criteria and weighting. This included:

- Should effects on existing infrastructure such as KiwiRail and services be a new criteria or part of an existing one? It was agreed to add this in to effects on community facilities.
- How do people score? They were advised to make scoring relative to other criteria, taking into account but noting potential mitigation measures.

- Should there be just three broad criteria being, effects, design principles, and safety? It was decided for consistency with the other sections of the shared path to keep the same base criteria and to not reduce to three broad criteria.
- Should the criteria be amended further as the existing criteria were developed for the previous sections that were totally off road, however for Section 4 we are assessing routes that are partially on road? It was decided to capture these issues within the criteria.
- It was noted that there are impacts on private property and it was asked if this be included as a criterion. It was noted that while this is governed by the Public Works Act rather than the Resource Management Act so compensation will be given, this criterion is more about the impact of how the site is used and that it should apply to both commercial and private land. It was however agreed that we should not assess encroachments on to the road etc. by activities. As the Public Works Act deals with compensation it was agreed that weighting will be assessed as 4.
- Do all of these options meet the project objectives? If they don't should they be excluded now? It was noted that Option 4 doesn't meet the objectives as well as the others. Decided to include Option 4 noting feedback on the Ngapipi Road/ Tamaki Drive intersection has supported this option.
- Changes to weighting to bring in Part 2 of the Act were agreed and it was noted that as there are three criteria which come under Section 6 of the Act they need to be balanced and were given the same weighting.

As a result of the discussion the wording of a number of the criterion was changed to reflect the different context. A new criterion related to direct impact on private land was also included and the weighting of a number of options was revisited due to the context of Section 4.

These changes are shown with underlined text in Table 2-2 below which sets out the final set of criteria and weightings from the Section 4 workshop. The weighting runs in a scale from 1 to 10.



Table 2-2: Criteria used at the First MCA and Weighting

Ref	Criteria	Description	Weight	October 2016
CR-1	Extent of amenity effects	The number of third party properties (residential, commercial etc.) and people potentially affected by the Project.	2	The weight of amenity effects was lowered as the collective view was that we should not let this adversely affect a preferred option as mitigations can be developed
CR-2	Scale of amenity affects	The scale of effects on amenity values for residents of third party property. Effects include:	5	The scale of amenity effects is weighted higher than the extent as it had a

Ref	Criteria	Description	Weight	October 2016
		<ul style="list-style-type: none"> <li>Noise</li> <li>Vibration</li> <li>Visual</li> <li>Dust</li> <li>Privacy</li> </ul>		wider impact. But as above should not adversely affect a preferred option
CR-3	Effects on community facilities (Inc. public open space) <u>and on public infrastructure</u>	<p>The effects on people's ability to use and enjoy:</p> <ul style="list-style-type: none"> <li>existing community facilities, including private facilities</li> <li>areas of public open space</li> </ul> <p><u>The effects on existing and known future infrastructure and services</u></p>	7	An important part of the project is creating facilities for the public and community to enjoy.
CR-4	Effects on water bodies <u>including coast/CMA</u> or any sites of ecological significance	<p>Whether the proposed route passes through and/or affects water bodies or any sites of ecological significance.</p> <p>*Refer to District Plan and PAUP planning maps</p>	5 <u>6</u>	Considered likely that any potential adverse effects will be able to be adequately avoided or mitigated
CR-5	Effects on vegetation	The amount and significance of any vegetation alteration/removal required for the proposed route	5	Considered likely that any potential adverse effects will be able to be adequately avoided or mitigated.
CR-6	Effects on sites of cultural significance / <u>effects on cultural value</u>	<p>Whether the proposed route passes through and/or affects sites of cultural significance / <u>effects on cultural value</u></p> <p>*Refer to District Plan and PAUP planning maps</p>	5 <u>6</u>	Important to demonstrate significance of cultural sites <u>and understanding of cultural values in Section 4 area.</u>
CR-7	Effects on sites of <u>natural and</u> historic heritage/archaeological value	<p>Whether the proposed route passes through and/or affects sites of <u>natural</u> /heritage /archaeological significance *Refer to District Plan and PAUP planning maps/NZAA database</p>	5 <u>6</u>	Considered likely that any potential adverse effects will be able to be adequately avoided or mitigated.

Ref	Criteria	Description	Weight	October 2016
CR-8	Cost	The likely financial cost of the proposed route.	6	Important to demonstrate a financial feasibility although acknowledging the strategic importance of the route.
CR-9	Safety	<p>Whether the proposed route provides a safe environment for pedestrians and cyclists by for example, minimising interaction with roads. The degree to which the proposed route implements Crime Prevention Through Environmental Design principles. Includes personal and perceived safety.</p> <ul style="list-style-type: none"> <li>• Path and road User conflict</li> <li>• Cyclist speeds</li> <li>• Non-slip surface</li> <li>• Visibility</li> <li>• Road crossings</li> <li>• Good lighting</li> <li>• High level of user activity</li> <li>• Options to avoid confrontation</li> </ul>	9	The overall safety of the route was deemed to be of high importance
CR-10	Comfort	<p>The degree to which the proposed route avoids significant slopes, complicated manoeuvres and exposure to the elements.</p> <ul style="list-style-type: none"> <li>• Surface</li> <li>• Gradients</li> <li>• Complicated manoeuvres</li> <li>• Protection from the elements</li> </ul>	7	The comfort of the route will be important for both commuter and recreational cyclists so was weighted slightly higher than directness and attractiveness
CR-11	Directness	The degree to which the proposed route constitutes a direct path for users wanting to travel to a destination	6	Directness is likely to be more important for commuter cyclists and attractiveness more important for recreational cyclists.

Ref	Criteria	Description	Weight	October 2016
				Therefore, both criteria were weighted the same and slightly lower than comfort
CR-12	Attractiveness	<p>The degree to which the proposed route constitutes an attractive route for potential users to get from A to B.</p> <ul style="list-style-type: none"> <li>Variety of experiences / environments</li> <li>Variety of views</li> <li>Integrates with the surrounding environment</li> <li>Contributes to social interaction (e.g. ability to ride 2 abreast)</li> <li>Passes places of interest</li> </ul>	6	See comment above
CR-13	Connectivity	The degree to which the proposed route provides opportunity for connections to residential areas, public open spaces, commercial areas and other land uses.	8	Important to provide connections or to create the opportunity for future connections to potential users, and destination.
CR-14	<u>Impact on private land</u>	<u>The impact on use (scale, extent, severance) on use of private land – in terms of their direct use of land</u>	4	<u>there is a Public Works Act process in addition to the RMA process to address this impact</u>

### 2.1.2.3 Option Rating Process and Results

Each of the seven options was then rated against each of the criterion. The rating (refer Table 2-3) given was between +2 and -2 depending on how positively or negatively the option supports the criteria or the how positive or negative the effect is.

The process involved each of the technical specialists using expert judgement to choose which criteria to rate. This was to obtain an expert view of the importance of the different criteria and to ensure that the rating came from the subject expert's perspective. Each expert was asked to assume there will be mitigation, noting that this may need to be re-assessed if something changes in the future and the assumed mitigations are taken away.

Following each expert completing the scoring independently the scores and reasons were shared with the group and where there were differences in rating were given in criteria where

more than one person scored it, all attendees were able to discuss the criteria in respect to each of the route options. A collective rating was then agreed.

Following completion of the workshop the ratings agreed for each of the criterion the final weightings were assigned and an outcome was obtained that ranked each of the options considered. As there was still no significant difference in scores between the first two options it was considered that a sensitivity analysis should be undertaken to test the sensitivity of the results to changes in weighting of criteria.

This involved removing the weighting from the criteria. The sensitivity analysis resulted in the same ranking.

**Table 2-3: Evaluation Ratings**

Evaluation	Rating
1. Strongly supports criteria <u>or</u> 2. Significant Potential Positive Effect	+2
1. Supports criteria or 2. Potential Positive Effect	+1
1. Limited support of criteria or neutral to this criteria or 2. No more than Minor Potential Adverse Effect (with opportunities to remedy or mitigate)	0
1. Not supportive of criteria or 2. Potential Adverse Environmental Effect (with limited opportunities to remedy or mitigate)	-1
1. Strongly not supportive of criteria or 2. Significant Potential Adverse Effect (with little or no opportunities to mitigate)	-2

The outcome is set out in Table 2-4 below. The preferred option at the completion of the first MCA process was Option 2aa (blue option as shown in Figure 1-2 above) located north of rail line and travelling at grade through the OBC and the Council reserve before accessing Tamaki Drive. To test the outcome the weighting was also removed. There was no change to the ranking.

**Table 2-4: Table 2-4 First MCA Analysis Results**

Ref No.	Option	Weighted Sum of Scores	Sensitivity Analysis - Weighting Removed	Option Rank(weighted)	Option Rank (un weighted)
1	South of rail line	-0.10	-3.00	5	5
2aa	North of rail line at ground level through Council reserve	0.48	4.00	1	1
2ab	North of rail line at ground level through mini golf	0.42	3.00	2	2
2ba	North of rail line elevated structure through Council reserve	0.20	0.00	3	3=
2bb	North of rail elevated structure through mini golf	0.20	0.00	3=	3=
3	Ngapipi coastline	-0.34	-6.00	6	6
4	Ngapipi Road	-0.76	-12.00	7	7

### 2.1.2.4 Follow Up Actions

Following completion of the workshop further information was sought on:

- Land ownership at Orakei Peninsula in the absence of progress on the Orakei Point development where AT walking and cycling representative asked to relook at the ability to go straight through Orakei Peninsula rather than travel to the south around the private properties. The site in question is 236 Orakei Road. Refer Section 3
- Encroachments on Orakei Road to determine if they have a license from AT to occupy road. The sites are 242 (car park created on road) and 244 Orakei Road
- It was also agreed to undertake further consultation with iwi to understand the values present in the Bay. During the workshop there had been discussion about the need to consult with mana whenua and have input from mana whenua in relation to the criteria specifically but not solely CR-6 Effects on sites of cultural significance / effects on cultural value. Refer Section 3

## 2.2 Long List of Options

### 2.2.1 Background

In late 2016 and during consultation undertaken in early 2017 it became apparent, due to a range of factors, including representations to find an alternative route from OBC and the Local Board, and discussions with Bike Auckland and an appreciation of increased costs and

planning factors relating to working in a marine environment, that it would be necessary to reconsider the option selection for Section 4.

The process for reconsidering the options is set out in the following section.

### 2.2.2 Assessment of Long List

The long list options selected for assessment included the original four options considered as part of the Scheme Assessment, and three new options:

- South of the railway line through to Gladstone Road;
- North of the railway line but turning northwards to Tamaki Drive at the south eastern corner of the OBC site; and
- An eastern coast boardwalk option that would return to Ngapipi Road south of the Boat sheds

Boat sheds

Stantec was asked to investigate the feasibility of the three options at a concept level to ensure the new routes were feasible. Stantec were then asked to prepare a summary evaluation of all the route options, an assessment of costs and a ranking of the routes in accordance with a multi-criteria analysis using the same criteria as for the assessment of the routes assessed previously for the purposes of consistency. The description of each route and costs are set out in Table 2-6 and the options are shown in Figure 2-1.

All of the documentation prepared by Stantec was reviewed by the PCG.



Figure 2-1: New Options Assessed in 2017 Following Further Consultation



Figure 2-2: Long List Options 2017

**Table 2-5: Options Assessed in 2017 and Cost**

Long List Option Name 2017	Previous Reference	Description of Route	Cost (Million)
Option A	Route 1	<p>The route starts from under the Orakei Road Bridge then travels south on Orakei Road before turning right into the Orakei Basin Reserve and heading onto Hobson Bay. The proposed path will connect onto this prior to bridging across Hobson Bay. The bridge will then continue across the CMA running south of the railway corridor passing OBC and the crossing over the rail tracks to the council reserve where it ramps down to connect to Tamaki Drive.</p>	\$65
Option B		<p>The route starts from under the Orakei Road Bridge then travels south on Orakei Road before turning right into the Orakei Basin Reserve and heads onto Hobson Bay. The proposed path will connect onto this prior to bridging across Hobson Bay. The bridge will then continue across the CMA running in a parallel route on the southern side of the railway corridor passing OBC, Lilliput Mini Golf, Parnell Baths, through Judges Bay to then ramp up on a structure onto Dove- Myer Robinson Park and connect onto Gladstone Road.</p>	\$98
Options C1 and C2	Routes 2aa and 2ab	<p>The path starts from under the Orakei Road Bridge then travels north on Orakei Road before turning left into the Orakei Train Station car park. The shared path will be ramped down via a bridge structure at the western end of the car park and this continues on the north side of the rail line parallel to the railway corridor across Hobson Bay.</p> <p>The route (C1) continues parallel to the railway corridor across the OBC land at ground level to connect to Tamaki Drive via the council reserve.</p> <p>A sub option (C2) was also considered that had the route crossing the OBC land at ground level and then continuing parallel to the railway corridor through the reserve to connect to Tamaki Drive via the Lilliput course (This is referred to as Option C2)</p>	\$40
Option D1 and D2	Route 2ba and 2bb	<p>The path starts from under the Orakei Road Bridge then travels north on Orakei Road before turning left into the Orakei Train Station car park. The shared path will be ramped down via a bridge structure to the western end of the car park and this continues on the north side of the rail line parallel to the railway corridor across Hobson Bay.</p> <p>The option(D1) continues parallel to the railway corridor across the OBC land on a 3.5 m high structure before ramping down to connect to Tamaki Drive via the council reserve.</p> <p>A sub option of D2 was also considered. This route crossed the OBC land at ground level and then continuing parallel to the</p>	\$55

Long List Option Name 2017	Previous Reference	Description of Route	Cost (Million)
		railway corridor through the reserve to connect to Tamaki Drive via the Lilliput course. This is referred to as Option D2	
Option E		The path starts from under the Orakei Road Bridge then travels north on Orakei Road before turning left into the Orakei Train Station car park. The shared path will be ramped down via a bridge structure to the western end of the car park and then continues on the north side of the rail line parallel to the railway corridor across Hobson Bay before turning right to run parallel to the OBC reclamation and marina in a structure that then bridges the access to the marina, before connecting to the western abutment of the Ngapipi Bridge by ramping down onto the existing cycleway on Tamaki Drive.	\$56
Option F		The path starts from under the Orakei Road Bridge then travels north on Orakei Road before turning left into the Orakei Train Station car park. The shared path will be ramped down via a bridge structure to the western end of the car park and continues across Hobson Bay (CMA) on a structure towards the boat sheds on Ngapipi Road. The structure ends to the south of (before) the boat sheds by ramping down onto Ngapipi Road. The route connects onto an existing shared path on the seaward side of this road before ending north of (past) the boat sheds. The second part of the route is a short section across Ngapipi Bridge which will likely be upgraded to have 2.5 m wide clip on structures on both sides. This short section then connects up with the existing cycleway on Tamaki Drive.	\$43
Option G	Route 3	The path starts from under the Orakei Road Bridge then travels north on Orakei Road, along a clip on bridge or adjacent bridge to Purewa Creek Bridge and continues around the boundary of Hobson Bay before ramping down to Ngapipi Road and ending just to the north of the boat sheds. The second part of the route is a short section across Ngapipi Bridge which will likely be upgraded to have 2.5 m wide clip on structures on both sides. This short section then connects up with the existing cycleway on Tamaki Drive.	\$42
Option H	Route 4	The on-road path starts from under the Orakei Road Bridge then travels north along Orakei Road then along a clip on bridge or adjacent bridge to Purewa Creek Bridge. The path then turns right and travels west along Ngapipi Road via a cantilevered structure up to Ngaiwi Road, and ending just to the north of the boat sheds. The second part of the route is a short section across Ngapipi Bridge which will likely be upgraded to have 2.5 m wide clip on structures on both sides. This short section then connects up with the existing cycleway on Tamaki Drive.	\$18

### 2.2.3 Short Listing

On 3 May 2017 the PCG met with the purpose of considering the Long List and to agree a short list of options for consideration and decision of the meeting of the May Project Control Board (PCB) with the intention that the short list would be taken forward for further investigation.

Each route was assessed to consider whether the route should be omitted from the long list of options to create a short list for further consideration and decision by the PCB.

It was considered that the work carried out by Stantec in preparing the initial MCA spreadsheet and the comments justifying each score was a sound start-point for the assessment.

It was considered that Options A and B should be omitted because they are high cost and score poorly leading to a low ranking 7 & 8 out of 10. CPTED issues were noted due to the long length and inability to exit the path. It was noted that both options required significant bridge structures to cross the rail line or to make connections to the end-points. There is an effective "doubling of facilities" along part of Tamaki Drive in the case of option B because it runs in parallel for some length.

The C1, C2, D1 and D2 options were retained (on the basis that C1 and D1 did not include tree removal) because they were ranked high despite a relatively high cost. However, it was noted that the C options were less favoured than the D options because there was a greater impact on OBC facilities where the route was at grade.

As a consequence, the scores for Criterion 14 were changed by the PCG to -2 from -1 because the impact on private land is greater than for option D1 and D2 that are rated at -1. This provides a differential for these options for this criterion. Further, it was noted that the C1 and D1 options joined Tamaki Drive through the adjacent Council reserve and would require the removal of some mature Pohutukawa; it was recognised that tree removal would not be supported and that this impact should be quickly assessed with a view to remove these options from the short list if it was necessary to remove trees.

Option E was retained for the short list because it retained the benefits of the C & D options, reduced the impact on OBC land, made a connection that would facilitate east and west movement from the shared path onto Tamaki Drive and is of similar cost. It was seen to have a reduced visual impact as the raised section east of the OBC marina was in the vicinity of existing infrastructure.

Option F gave rise to planning advice that all of the options would have to mitigate various impacts on the natural environment in this area. It was recommended that this option should not be taken forward as the planning challenges are seen as significant: there are considerable visual impacts, this is an ecologically sensitive area, we would be working in the Marine Coastal Environment; we would be obstructing the views of local residents; there could be impacts on view-shafts to volcanic cones. It would be difficult to defend the planning impacts given that alternative and viable options exist.

The following scoring amendments were agreed for Option F:

- Cr-3 reduced from -1 to -2 because there is seen to be significant impact on a public space through visual impact (structure in a place "it does not belong")
- Cr-4 reduced from -1 to -2 because it is now understood that there are concerns about impacts on the marine reserve as part of the CMA
- Cr-6 and Cr-7 reduced from -1 to -2 because of the impacts recorded for Cr-3 and Cr-4 and additionally feedback from iwi about the importance of this environment.

Options G and H were assessed together. On its own, option H (Ngapipi Road), although the least expensive option and the only option that could be delivered within the current budget, gave rise to significant safety concerns, had impacts on private property and separation of cyclists from traffic could not be provided. It is the lowest ranked option of the ten options. Option G ranked 9/10, it was felt, could be delivered at a lower cost and had recently received support from iwi. It was agreed to retain Option H on the short list as the do-minimum options and that Option G should also be taken forward to consider whether a hybrid of these two options could be developed.

- Cr-14 for Option G was changed from -1 to 0 because there are minimal impacts on private land (no land take required).

On 4 May 2017 the PCB met to consider the proposals of the PCG. The PCB considered the following documents at this meeting:

- Gi2td Section 4 Shared Path Summary of All Options (26/04/2017)
- Criteria comments and scores for Options A-H (02/05/2017)
- MCA reflecting the PCG decision and including criteria descriptions

Three options were short listed by the Project Control Board (set out in Table 2-7 below) for a further MCA. The PCB specifically noted the following, as recorded in the minutes (item 5.7):

“The PCB records specifically that none of the options that are considered to be able to provide a suitable cycleway, and have been transferred to the short list, are affordable or within the budget available. However, we agree to continue to evaluate the three options selected for the short-list to see if these can be engineered to achieve a cost effective solution. We need to be clear that there is major budget issue with all three options as they stand and this needs to be communicated to the stakeholders.”

**Table 2-6: Short List Options**

D2	The path starts from under the Orakei Road Bridge and then travels north on Orakei Road before turning left into the Orakei Train Station car park. The shared path will then ramp down to the western end of the car park, via a bridge structure, and then continues parallel to the railway corridor (north side) across Hobson Bay. The shared path will then continue over OBC land on a 3.5 m high structure, before ramping down to connect to Tamaki Drive.
E	The path will adopt the same route as option D2 at its southern extent. However, upon reaching OBC land, the path will turn right to run south along the OBC boundary. At this point, the path will take the form of a structure that will continue across the CMA, before connecting to the western abutment of the Ngapipi Bridge.
G	The path starts from under the Orakei Road Bridge and then travels north on Orakei Road along a clip on bridge or bridge adjacent to the Purewa Creek Bridge. The path then continues around the eastern shoreline of Hobson Bay, before ramping down to Ngapipi Road just to the north of the boat sheds. The second part of the route is a short section across Ngapipi Bridge. This section will need to consider the use of clip-on structures



Figure 2-3: Short Listed Options

### 2.2.4 Second MCA

A second MCA workshop was held on 30 June 2017. The purpose of the workshop was to use the MCA process to bring together information to assist in identifying a preferred route option from the three short listed options. Those that attended the second MCA workshop (refer Appendix A) were technical experts who had been involved in the earlier MCA or their replacement (due to unavailability). Once again Transport Agency and AT advisors who attended were involved in discussing the criteria and weighting but were not involved in the scoring.

Prior to the workshop the attendees were provided with the short list of options and were asked to undertake site visits to familiarise themselves with the new routes.

The experts were asked to identify and advise on the key considerations in their areas of expertise for the three options. A verbal outline of each of the three options was provided in terms of the route, the design and construction issues. The routes and the criteria were discussed and the attendees were advised that the weighting and criteria were not to change from those used in the first MCA.

It was explained that AT and the Transport Agency had asked that the criteria and weighting assigned to each of the criteria were those used in the October 2016 workshop.

The discussion about each of the criteria as it applied to each option is set out in Table 2-8 below

**Table 2-7: MCA workshop discussion**

Ref	Criteria	Option Discussion
CR-1	Extent of amenity effects	Elevated structures such as in D would be visible to wider audience. Loss of trees in the reserve would also impact on this option as more people along Tamaki Drive would see the structure. People may consider this as being a negative adverse effect; noise would be present during construction. Construction access and traffic at Orakei was common to all three and would impact on road and businesses at Orakei Point. Construction activity on Tamaki Drive seen as an issue for E and D2. Barge could impact on OBC users in Option E. Potential for Option D to disturb contamination and create dust present in reclamation OBC are located on. Noise effects from construction likely not to be possible for all options. G's proximity to Ngapipi Road, may mean some residents may feel that they are affected. Visibility from private dwellings potentially an issue
CR-2	Scale of amenity affects	Elevated structure at OBC land where vegetation is currently located and loss of trees / dominating trees an issue for D. It was noted that there is a history of complaints from Hobson Bay residents in relation to OBC. Previous project experience suggests D's interface with KiwiRail and need to satisfy vibration requirements could result in longer construction programme and will have an impact. Some soil disturbance and stockpiling of potentially contaminated soil at OBC during construction, however the extent of disturbance and risk to public is very minor. Effect of E could be mitigated through design to make attractive feature. Lighting of the path at night is an issue for all options, potentially equivalent scale in terms of being perceived by a larger audience (D and E) vs lighting effects on nearer dwellings (G)
CR-3	Effects on community facilities (Inc. public open space) and on public infrastructure	It was noted that whilst the council reserve on Tamaki Drive is fenced off it can be accessed (legally) however the public may perceive the opportunity with D in reclaiming open space (Council reserve and Lilliput as opens up access to the Lilliput and reserve areas and to coast. D has an impact on the OBC land and OBC funds community activities but need to consider that the community impacts are mitigated by going over OBC land. E provides a good connection to Tamaki Drive which is perceived to be an open space. G will provide some cohesion with the 'around Hobson Bay' boardwalk.
CR-4	Effects on water bodies including coast/CMA or any sites of ecological	Rail corridor options will have greater effects than coastal route. May impact feeding of shore birds. All routes could disturb submerged estuarine sediments with elevated contaminant concentrations during

Ref	Criteria	Option Discussion
	significance	<p>construction. Selecting construction methods that minimise disturbance of this sediment will reduce the risk posed to marine ecology. No terrestrial ecological habitats are expected to be impacted by the disturbance of potentially contaminated soil.</p> <p>Potential for boat owners to complain as a result of construction effects with Option E due to disturbance.</p> <p>G has least diverse marine ecology. If structures are lightweight there are more opportunities to mitigate</p>
CR-5	Effects on vegetation	<p>Impacts on trees in vicinity of reserves at Tamaki Drive in Option D but it was noted that the third track may mean trees are coming out anyway. Option E has no effects and in terms of G there are pinch points where it lands coming through Ngapipi Road. Particularly where the road will be widened, large trees within this area. Difficult to mitigate impacts on substantial trees and roots</p>
CR-6	Effects on sites of cultural significance / effects on cultural value	<p>It was noted that piling is of concern to Iwi. Impacts on sea bed, water course etc. It was noted that we cannot discuss on behalf of Iwi so this criteria was not scored</p>
CR-7	Effects on sites of natural and historic heritage/archaeological value	<p>No heritage issues known or foreseen with D or E but it was noted that there possible impacts around boat sheds and on cliff if disturbed with Option G- all impacts can be mitigated. It was raised that effects of G may be seen as positive as more walkers and cyclists would pass the sheds</p>
CR-8	Cost	<p>Cost was not scored until the MCA was completed.</p>
CR-9	Safety	<p>It was noted that option D has 1400m of the route where there is no escape for users once on the path but scores positive as cyclists and pedestrians are segregated from traffic. Needs to be considered against existing scenario of cycling up and down Ngapipi Road. Working near rail corridor has H&amp;S implications relating to drowning. Termination/entry point is being developed as part of the project.</p> <p>Will disturb potentially contaminated material, as runs through a reclamation area that is likely to elevated contaminant concentrations, but these risks can be easily managed through the implementation of a site management plan. Disturbance of potentially contaminated marine sediments may pose a risk to the public in contact recreation areas along the coast, but appropriate construction methods will minimise this risk.</p> <p>Option E 1360m no escape for users once on the path but there is segregation for users from traffic. It was noted however that the facility terminates at right</p>

Ref	Criteria	Option Discussion
		<p>angles to Tamaki Drive which is a busy road. If cyclists are at speed because bridge has to ramp down to meet Tamaki Drive, this could be hazardous'. Again working near rail has H&amp;S issues</p> <p>Option G has shorter length and generally has greater potential for passive surveillance except in sections not overlooked due to vegetation. Option G also scores positively as cyclists and pedestrians are segregated from traffic, although still some interface along Ngapipi Road. It was noted that the facility will terminate at an intersection that is being upgraded to allow for shared path users. It was possible that the works could disturb potentially contaminated material, with a risk of either workers, or to a lesser extent the public, exposed to contaminants during construction.</p>
CR-10	Comfort	<p>If proposed structure for D is concrete, this will provide a good wearing surface for users. However, structures will be completely exposed to elements as the alignment is across Hobson Bay, so during storm events this would not be a comfortable direct passage for users (especially commuter users). Noise for users as close to the railway line. Elevated path through the CMA on a winter day may be unpleasant. Very exposed on days with strong winds, particularly for cyclists, but OK for much of the time (it's not cold weather that's the main issue (as temp the same on all routes on any day) it's the wind that pushes cyclists about (safety) and is unpleasant for walkers too) D has challenging gradients to overcome</p> <p>Option E if proposed structure is concrete, will provide a good wearing surface for users. However, structures will be completely exposed to elements as the alignment is across Hobson Bay, so during storm events this would not be a comfortable direct passage for users (especially commuter users). Good separation from the rail by a substantial portion of route but use of an elevated path through the CMA on a winter day may be unpleasant also. There was a question about the gradient being challenging.</p> <p>Option G's alignment is adjacent to the Ngapipi coastline and is therefore less exposed. Gradients and vertical geometry can be designed to provide a smoother ride for cyclists. There will be traffic noise at the points it interfaces with traffic.</p>
CR-11	Directness	<p>Need to remember that the destinations are Tamaki Drive and Glen Innes. Commuter focus so D is best for this for cyclists. E lands mid Tamaki Drive and provides variety of options in terms of who could use the routes-eastern bays would most likely be the destination for recreation users along E however recreation users could</p>

Ref	Criteria	Option Discussion
		<p>be travelling anywhere. E provides more direct route for cyclists than existing, but not as good as the alternative options</p> <p>G provides for range of users. Option is less direct than Option D, but more so than Option E for cyclists. Option presents the most direct route for pedestrians in terms of desirable recreational routes. I.e. more pedestrians will walk around the bay and towards Mission Bay then towards the Port and the City. Option presents the best opportunity to maximise recreational pedestrians and provides a more direct route between residential areas and the developing Orakei commercial area. Best for pedestrians.</p>
CR-12	Attractiveness	<p>D provides variety of experiences - Touches down into open space area of Tamaki Drive. Attractive in respect that landscape constantly changing as tide goes in and out. Not clear if being alongside railway a diminishment, or is it an improvement as a result of security. Concerns relating to structure alongside the rail. Considered this to be a negative. Would still be positive, as whilst above a car park the views would potentially still be good. Scores better than E as there is potential for improving the interface with Tamaki Drive, as it lands in Lilliput. Option E has less diversity of experience, but views to the boats would provide its own interest' As access isn't provided now this could be considered positive. Part of route is beside rail does this diminish attractiveness? Felt that this option was positive, although geometry needs to be assessed.</p> <p>Option G was noted as being highly attractive to users being in a coastal environment that provides views of ecotone<sup>8</sup> sequences from marine to terrestrial. Shoreline cliffs provide scenic landscape</p>
CR-13	Connectivity	<p>Di is worst option as it is better aligned to trips to the city but provides a strong link between the city, waterfront and Orakei.</p> <p>E - Provides a good balance of connectivity</p> <p>G provides options for future connective and good connectivity between existing residential area off Ngapipi Road (assuming local connections are provided) and the Orakei commercial area</p>
CR-14	Impact on private land	<p>D is the only option with impacts on private land even through land take is required for structural piers and the area underneath is still available. Minor impact on land</p>

<sup>8</sup> Ecotone is a transition area between two biomes. It is where two communities meet and integrate.

Ref	Criteria	Option Discussion
		now, height of structure will need further investigation. Purpose of E is to avoid land take altogether

### 2.2.4.1 Option Rating Process and Results

It was decided not to score Criteria 6 Effects on sites of cultural significance / effects on cultural value or Criteria because none of the participants were qualified to speak to it. Criteria 8 Cost was also not scored to avoid it influencing the balance of the MCA assessment. As in the first MCA, each option was then rated against each of the criterion using the MCA rating in Table 2-3.

The process involved each of the technical specialists using expert judgement to choose which criteria to rate. This was to obtain an expert view of the importance of the different criteria and to ensure that the rating came from the subject expert's perspective. Each expert was asked to identify mitigation and to assume it will be implemented, noting that this may need to be re-assessed if something changes in the future and the assumed mitigations are taken away.

Following each expert completing the scoring independently, the scores and reasons were shared with the group with the expert in relation to the criteria leading with their rating and their reason for it. All attendees were able to discuss the criteria in respect to each of the route options. A collective rating was then agreed.

Following completion of the workshop the final weightings were assigned and an outcome was obtained that ranked each of the three options considered (Table 2-9 below). To be consistent with the process followed for the first MCA a sensitivity analysis was also undertaken. This involved removing the weighting from the criteria. The sensitivity analysis did not change the ranking.

The outcome is set out in Table 2-9 below. The preferred option at the completion of the MCA process was Option G (red option as shown in Figure 2-3 above) that is a structure in Hobson Bay that follows the eastern shoreline of Hobson Bay and then ties into Ngapipi Road. This option scored well in both the weighted and sensitivity analysis.

**Table 2-8: Results**

Ref No.	Option	Weighted Sum of Scores	Sensitivity Analysis - Weighting Removed	Option Rank (weighted)	Option Rank (un weighted)
G	Follows the eastern shoreline of Hobson Bay and then ties into Ngapipi Road	0.70	7	1	1
E	Similar to Option D but passes around OBC land on a structure through the CMA	0.17	0	2	2
D2	Runs parallel to the rail corridor on the northern side and	0.16	0	3	2

Ref No.	Option	Weighted Sum of Scores	Sensitivity Analysis - Weighting Removed	Option Rank (weighted)	Option Rank (un weighted)
	then passes over OBC land on a 3.5m high structure				

## 2.3 Conclusions

The overall conclusion following completion of the second MCA process is that route Option G is the preferred option. This is a relatively conclusive finding from the multi-criteria analysis process and is a change from the first MCA process where D2 was preferred and scored much higher.

It is noted that while the second MCA process used the same criteria and weighting, there was no scoring of CR 6 Effects on sites of cultural significance / effects on cultural value or CR 8 Cost during the MCA workshop. It is noted that if the score for CR 6 and CR 8 was removed from the first MCA process, the outcome for the two options would have been much closer.

In terms of the difference in scoring between the two MCA processes, Option G now scores quite a lot higher and Option D2 is slightly lower. There are a number of reasons for this change:

- CR-2 Scale of amenity effects – the second MCA scored the elevated structure over the OBC land for Option D2 lower. This was in recognition that the elevated causeway would require tree removal and would be quite visible from around Hobson Bay.
- CR-3 Effects on community facilities – the second MCA saw Option G move from 0 to plus 2. This was largely in recognition that the option did not affect any community facilities.
- CR-7 Effects on sites of natural and historic heritage – the second MCA saw Option G move up 2 from minus 1 to plus 1. This was out of recognition that the works would not directly affect the boat sheds or the archaeology on the Paritai Drive Cliff and that the interaction with the Boat sheds was seen to create an opportunity rather than just an effect
- CR-9 Safety – the second MCA saw Option D move down 1 and Option G up 1 – this was largely based on consideration of rescue and escape distances and passive surveillance
- CR-10 Comfort – the second MCA saw Option D move down 2 and Option G up 2 (making it perhaps the primary factor in the change). It was considered that the additional 4m+ climb required from the structure in the CMA to the elevated structure over the OBC land counted against the OBC option, and that by comparison to Option G, the elevation and location in the middle of the Bay meant that Option D was far more exposed
- CR-11 Directness – while Option D was still the best as the direct route to the CBD for commuters Option G rose 2 points to plus 1 as there was recognition that the option was able to offer direct access to the eastern bays and would offer travellers from the Bays direct access to rail at Orakei
- CR-12 Attractiveness and CR-13 Connectivity – Option G rose one point on each of these criteria to score a 2 and Option D dropped one point in each of these. This

reflects the fact that Option will connect to Tamaki Drive at a signalised intersection and connects to Ngapipi Road which means it has among the best connectivity of any of the options. The coastal route was also considered to be very attractive. The reason for this change is not clear. No new information was provided and it appears to be a case of the second workshop reconsidering the options.

- CR-14 Direct impact on property – Option G rose one point to 0 as there is no direct property impact. The option in the first MCA was considered to the impact on the views of Ngapipi Rd properties which is more properly assessed as an amenity effect.

Attribution of costs after the second MCA reinforced the Option G Ngapipi Road preference.

An inspection of the second and third preferences shows that there is no clear “runner up” option, as both D2 and E were similarly scored and well behind Option G even before attribution of costs.

It is considered that the use of the MCA fulfils the requirements of the 4<sup>th</sup> Schedule and if required for section 171 of the RMA. The MCA was part of the process that contributed to the decision makers identifying the preferred option. The process has considered a range of environmental / social / cultural effects and a wide range of costs and benefits, including many intangibles. The process has also responded to feedback and been open to consideration of new options.

## 3 Consultation

### 3.1 Mana Whenua

During the period after the First MCA workshop, NZTA and AT and project members attended a number of Hui (9 November 2016; 13 December 2016; 14 February 2017 and again on 14 March 2017). At the two Hui in November and December, mana whenua who attended were briefed on Section 4 options and asked for comments regarding the issues / values around Hobson Bay, in relation to Section 4 options. Prior to the Hui in February, summaries on; Coastal process; Landscape; Ecology; RMA process and the design were sent to mana whenua and at the Hui, technical experts answered questions. The meeting on 14 March sought mana whenua's feedback on culture values in the Hobson Bay area, following the workshop on 14th Feb 2017.

Initial feedback received in 2016 was focused the legal status of the land / coastal area and potential of there being treaty of Waitangi claims. The attendees of the Hui in 2017 were reluctant to provide feedback. Ngati Whatua who were not at the 2017 Hui met separately with AT and provided feedback that their preferred option was Option 3 - Ngapipi coastline.

### 3.2 Other Parties

The Outdoor Boating Club was consulted on a number of occasions about the impact of the preferred option from the first MCA on its land and the options being investigated in 2017 and the criteria and their use in the MCA process.

Bike Auckland were also consulted about the project as a whole on numerous occasions, the process being followed for Section 4 and the implications of the various options being considered.

## 4 Conclusion

A large number of route options have been considered to deliver the Glen Innes to Tamaki Drive shared path from Orakei Train Station to Tamaki Drive. The assessment process has utilised MCA twice which is considered to fulfil the requirements of the 4<sup>th</sup> Schedule and if required for section 171 of the RMA.

Following the initial MCA process the preferred option identified was Option 2aa that follows a route located north of rail line and travelling at grade through the Outdoor Boating Club and the Council reserve before accessing Tamaki Drive. The OBC and Auckland Council as directly affected landowners were consulted as were mana whenua and Bike Auckland.

Their feedback on the preferred option resulted in additional options being included for assessment. A second MCA was part of the process that contributed to the decision makers identifying the final preferred option being a route that follows the eastern shoreline of Hobson Bay and then ties into Ngapipi Road and from there to Tamaki Drive.

# Appendices



## Appendix A - MCA results and discussion

First MCA workshop October 2016 technical expert attendees

Name	Specialist Area
Jon Styles	Noise and vibration
Rob Pryor	Landscape and Visual Assessment
Shane Kelly	Marine Ecology
Alan Gregory (via conference call)	Transport impact
Patricia Vasconcelos	Walking and Cycling
Martin Hughes	Construction
Andrew McDonald	Design and CPTED
Terry Hume (via conference call)	Coastal Processes
Jamie Cachine	Geological impact
Karen Bell	Environmental effects – RMA
Garrett Hall	Contamination
Leon Saxon	Arborist

Second MCA workshop June 2017 technical expert attendees

Name	Specialist area
Jon Styles	Noise and vibration
Mark Lewis	Landscape and Visual Assessment
Carina	Marine Ecology
Matt Soper	Transport impact
Steve Patton – did not attend	Walking and Cycling
Melina Mascarenhas	Structures
Sagar Kayaruia	Geometric Design – did not sore
Terry Hume	Coastal Processes
Andy Mott	Geological impact
Karen Bell	Environmental effects – RMA
Daniel Gulliver - via email	Contamination
Leon Saxon	Arborist