If calling, please ask for Democratic Services

Te Awa Kairangi/Hutt River Valley Subcommittee

Thursday 6 June 2024, 2.00pm

Council Chamber, Upper Hutt City Council, 838 Fergusson Drive, Upper Hutt

Quorum: *Two Regional Councillors, one Hutt City Council member and One Upper Hutt City Council member*

Members

Ros Connelly, Councillor (Chair)	Greater Wellington Regional Council
Quentin Duthie, Councillor (Deputy Chair)	Greater Wellington Regional Council
Simon Edwards, Councillor	Hutt City Council
Wayne Guppy, Mayor	Upper Hutt City Council
Bill Hammond, Councillor	Upper Hutt City Council
Ken Laban, Councillor	Greater Wellington Regional Council
David Lee, Councillor	Greater Wellington Regional Council
Tui Lewis, Deputy Mayor	Hutt City Council
Caleb Ware	Te Rūnanga o Toa Rangatira Inc
Benjamin Wynyard-Terry	Port Nicholson Settlement Block Trust

Recommendations in reports are not to be construed as Council policy until adopted by Council

Te Awa Kairangi / Hutt River Valley Subcommittee (A subcommittee of the Environment Committee)

1 Purposes

1.1 Oversee development, implementation and review of floodplain management plans (FMPs) for the Te Awa Kairangi / Hutt River floodplain

1.2 Consider potential arrangements for a catchment-based governance approach for the Hutt Valley, and recommend to Council (as appropriate).

2 Specific responsibilities

2.1 Oversee the development and review of FMPs for the Te Awa Kairangi / Hutt River floodplain, for consideration of those FMPs by the Environment Committee.

2.2 Oversee the public involvement process during development or review of FMPs for the Te Awa Kairangi / Hutt River floodplain.

2.3 Review and monitor periodically the effectiveness of implementation and delivery of:

- a Riverlink
- b FMPs for the Te Awa Kairangi / Hutt River floodplain.

3 Members

3.1 Four Councillors.

3.2 Six members, appointed by Council, as follows:

- a Two elected members of Hutt City Council, nominated by that council
- b Two elected members of Upper Hutt City Council, nominated by that council
- c Two members, appointed for each person's skills, attributes, or knowledge that will assist the work of the Subcommittee, being:
  - i One member, nominated by the Port Nicholson Block Settlement Trust
  - ii One member, nominated by the Toa Rangatira Trust.

3.3 Such other members, appointed by the Environment Committee (on the Subcommittee's nomination) for each person's skills, attributes, or knowledge that will assist the work of the Subcommittee.

4 Chair

Council appoints the Chair from the four Councillor members**.**

5 Quorum

Two Councillors, one Hutt City Council member, and one Upper Hutt City Council member.

6 Voting entitlement

6.1 All members have equal speaking and voting rights.

6.2 The Chair has a deliberative vote; and, in the case of an equality of votes, has a casting vote.

7 Servicing and Standing Orders

7.1 The Subcommittee is serviced by Greater Wellington.

7.2 Council's Standing Orders apply to the Subcommittee, with no provision for alternate members.

8 Remuneration and expenses

8.1 Elected members' remuneration and expenses are met by the council they represent.

8.2 Non-elected members (who are not otherwise remunerated) may claim Greater Wellington's standard daily meeting attendance allowances and expenses.

9 Meeting frequency and dissolution

9.1 The Subcommittee meets as required.

9.2 The Subcommittee may recommend its dissolution to the Environment Committee.

Te Awa Kairangi / Hutt River Valley Subcommittee

Thursday 6 June 2024, 2.00pm

Council Chamber, Upper Hutt City Council, 838 Fergusson Drive, Upper Hutt

Public Business

Please note these minutes remain unconfirmed until the Te Awa Kairangi / Hutt River Valley Subcommittee meeting on 6 June 2024.

Report 24.114

Public minutes of the Te Awa Kairangi / Hutt River Valley Subcommittee meeting on Tuesday 12 March 2024

Council Chamber, Hutt City Council
30 Laings Road, Lower Hutt, at 2.03pm.

Members Present

Councillor Connelly (Chair)	Greater Wellington Regional Council
Councillor Duthie (Deputy Chair)	Greater Wellington Regional Council
Councillor Edwards	Hutt City Council
Mayor Guppy	Upper Hutt City Council
Councillor Hammond	Upper Hutt City Council
Councillor Laban	Greater Wellington Regional Council
Councillor Lee	Greater Wellington Regional Council
Deputy Mayor Lewis	Hutt City Council
Caleb Ware (until 4.07pm)	Te Rūnanga o Toa Rangatira Inc
Benjamin Wynyard-Terry (until 3.45pm)	Port Nicholson Block Settlement Trust

Caleb Ware and Benjamin Wynyard-Terry participated at the meeting remotely via Microsoft Teams and counted for the purpose of quorum in accordance with clause 25B of Schedule 7 to the Local Government Act 2002.

Karakia timatanga

The Committee Chair opened the meeting with a karakia timatanga.

Public Business

1 Apologies

There were no apologies.

2 Declarations of conflicts of interest

There were no declarations of conflicts of interest.

3 Public participation

Karen Yung, Petone Community Board, spoke to the importance of community engagement and asked how the community will be made aware of opportunities to participate. The focus on Waiwhetū Stream may mean that local residents are not aware that more localised communities, such as Moera, may also be affected and may wish to be part of community engagement.

The Subcommittee Chair, Councillor Connelly, noted that the Subcommittee will work closely with the Petone Community Board and local iwi to ensure community consultation reaches widely into local communities.

4 Confirmation of the Public minutes of the Te Awa Kairangi / Hutt River Valley Subcommittee meeting on 9 November 2023 – Report 23.582

Moved: Cr Duthie / Cr Laban

That the Subcommittee confirms the Public minutes of the Te Awa Kairangi / Hutt River Valley Subcommittee meeting on 9 November 2023 – Report 23.582.

The motion was **carried**.

5 Watercourses Agreement Whaitua and Waiwhetū Stream History – Report 24.89 [For Information]

Graeme Campbell, Principal Advisor Flood and Resilience, and Phill Barker, Senior Advisor Catchment, spoke to the report.

Noted: The Subcommittee requested an update on the Waiwhetū Stream and catchment area at the next meeting including why the Watercourses Agreement stops at Waddington Drive.

6 Waiwhetū Flood Hazard Modelling – Report 24.88 [For Information]

Andy Brown, Team Leader Knowledge – Water, and Francie Morrow, Senior Project Manager – Investigations, spoke to the report.

Noted: The Subcommittee members will email suggestions to officers of options for extending community engagement into other locations in the Hutt Valley.

Benjamin Wynyard-Terry left the meeting at 3.45pm during the above item and did not return.

7 Te Awa Kairangi / Hutt River and Valley Flood Risk Management Report – Report 24.24 [For Information]

Madeliene Playford, Team Leader FMP Implementation, spoke to the report.

8 Riverlink Project Update Report – Report 24.75 [For Information]

Tracy Berghan, Manager Riverlink, and Wayne O'Donnell, Programme Manager, and Matt Trlin, Programme Director Waka Kotahi, spoke to the report.

Noted: The Subcommittee requested a site visit to the Mills Street stopbank.

Caleb Ware left the meeting at 4.07pm during the above item and did not return.

Karakia whakamutunga

The Committee Chair closed the meeting with a karakia whakamutunga.

The public meeting closed at 4.12pm.

Councillor R Connelly

Chair

Date:

Te Awa Kairangi / Hutt River Valley Subcommittee
6 June 2024
Report 24.213

For Information

TE AWA KAIRANGI / HUTT RIVER AND VALLEY FLOOD RISK MANAGEMENT REPORT

Te take mō te pūrongo
Purpose

1. To advise the Te Awa Kairangi / Hutt River Valley Subcommittee (the Subcommittee) of progress made in implementing the Hutt River and Pinehaven Stream Floodplain Management Plans.

Te horopaki
Context

2. Greater Wellington Regional Council (Greater Wellington) has an ongoing programme of projects within the catchments of Te Awa Kairangi/Hutt River and the Pinehaven Stream. The projects are included in or guided by the floodplain management plans and river management schemes for the rivers and streams within these catchments.

Te tātaritanga
Analysis

Te Awa Kairangi / Hutt River

3. Currently, the major focus area within Te Awa Kairangi is RiverLink – the length of river between Kennedy Good Bridge and Ewen Bridge near to Lower Hutt Central Business District. The projects in this section have been combined into the RiverLink project.

Climate Resilience Programme

4. The final steps of handover and financial close out are continuing for a small number of sites (Site 1 – Stokes Valley and Site 13 – Poets Park), and a maintenance contract has been signed for until 2025/26 for Site 13 – Poets Park.

Pinehaven Stream

5. The objective of the planned Pinehaven Stormwater Improvements project is to improve flood level protection by increasing the capacity of the watercourse to achieve a 4% annual exceedance probability (AEP) flow capacity for the upgraded sections and to provide a 1% AEP level of protection for habitable flood levels.

6. The project is being delivered in three distinct sections:

    a Upgrading culverts at Sunbrae Drive and Pinehaven Road (this is an Upper Hutt City Council roading renewal project).

b Enabling works – includes house removal and service relocation/upgrades.

c Stream capacity and environmental improvement works – widening the stream, planting, bank stabilisation, retaining walls and earthworks (twelve stages).

7. Physical works are nearing completion for Phase 2, which have focused on improvements to the Willow Park section of stream. Planning is also underway for Phase 3, which is the reclamation of land at 28 Blue Mountains Road.

Operations Delivery

8. All planned minor water course blockage and vegetation maintenance has been completed ahead of seasonal rain fall increasing over the autumn and winter months.

9. Routine mowing on the river berm and stopbanks has continued through the autumn months.

10. A specific work programme for river berm tree pruning and removal for the entire length of the Hutt River corridor has been completed.

11. Planting sites have been identified and planning and preparation is underway for the coming planting session between June and August 2024.

12. The rock asset maintenance programme is complete. This work involved re-stacking and placing new rock to 32 rock assets in both the dry and wet channel.

13. During the rock asset maintenance work a large native rakau (log) was unearthed. The flood operations delivery team were able to gift the rakau to Ihaia Puketapu of the Waiwhetū Marae, to be used for whakairo (carving). This supports a good outcome for the rakau, along with the building of an important relationship for the future.

14. The flood operations delivery team are working with Upper Hutt City Council on construction of a path access way from McLeod Park to the stopbank. The new access way is 90 percent complete and due to be completed by June.

15. New Zealand Transport Agency – Waka Kotahi (NZTA) has approached Greater Wellington for approval to build a new bridge and sealed path between Speedy's Stream at the Kennedy Good Bridge and Carters St in Belmont. Greater Wellington is satisfied with the design but have requested an asset ownership and maintenance agreement is put in place before final approval is given.

Flood Hazard Modelling

16. The flood hazard modelling for the Te Awa Kairangi / Hutt River and Waiwhetū Stream update projects are progressing. A separate report is being presented at this meeting regarding the Waiwhetū flood hazard modelling public engagement that occurred in March 2024 (Report 24.254).

17. Updated flood hazard overlays for Te Awa Kairangi / Hutt River and the Waiwhetū Stream will be provided to Hutt City Council for inclusion in the proposed District Plan in September 2024. The information can be used to direct new development away from areas where water would flow across the floodplain in the event of overtopping or failure of the stopbanks.

Flood Knowledge Investigations

18. The Knowledge Water team is currently planning the review of the Hutt FMP capital projects prioritisation. This project will take the latest modelling and review the level of service of current assets against the intended design standard and re-prioritise the remaining works identified in the Hutt FMP. An indicative completion date of December 2024 has been applied to this project. This will be refined as the planning process is completed.

19. The Knowledge Water team is planning the next stages of the Moonshine Stopbank investigation. This project will identify and assess options for addressing the identified asset level of service issues between the Moonshine Road and Whakatiki Street.

Ngā hua ahumoni
Financial implications

20. For this reporting period, projects are within the current budgets.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

21. Greater Wellington is required to manage land and water within a range of statutory requirements, including giving effect to Te Mana o Te Wai and considering Te Tiriti o Waitangi in the development and implementation of the Council's strategies, plans, programmes and initiatives.

22. Implementation with mana whenua partners is guided by Te Whāriki – the Māori Outcomes Framework as part of Council's Long-Term Plan 2021–31.

23. Ngāti Toa Rangitira and Taranaki Whānui ki Te Upoko o Te Ika are members of the RiverLink Board.

24. A significant number of Māori, both mana whenua and mātāwaka, live and work in flood prone areas within Te Awa Kairangi. There are also numerous sites of cultural and spiritual significance potentially at risk from flooding. Effective delivery of our flood risk management programme helps to protect Māori communities and their values across the four wellbeings.

Te huritao ki te huringa o te āhuarangi
Consideration of climate change

25. Each project within the catchment considers and responds to the predicted impacts of climate change when considering the appropriate response to the issue the project seeks to address.

26. This programme aligns with the 2015 Climate Change strategy, which states *'we will help the region adapt to climate change'*. The projects increase climate change adaptation and resilience to natural disasters in the region.

27. The greenhouse gas emissions from rock supply vary depending on the quarry source of the rock and transport to the work sites. Quarry sources for projects vary. The

emissions from rock supply production and transport are not presently part of the organisation's greenhouse gas inventory.

28. Greater Wellington currently assesses options to address flood risk based on the predicted impacts of climate change over the next 100 years. Increased rainfall and sea level rise predictions are assessed on a catchment-by-catchment basis.

Ngā kaiwaitohu
Signatories

Writers	Tina Love – Team Leader, Floodplain Management Plan Implementation Francie Morrow – Senior Project Manager – Investigations Andy Brown – Team Leader, Knowledge Water Hamish Fenwick – Team Leader, Flood Operations Delivery
Approvers	Dave Hipkins – Hautū Whai Māramatanga | Director Knowledge and Insights Jack Mace – Hautū Whakatutuki | Director Delivery Lian Butcher – Kaiwhakahaere Matua, Taiao | Group Manager, Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or Committee's terms of reference
The Subcommittee's specific responsibilities include *"reviewing periodically the effectiveness of implementation and delivery of Floodplain Management Plans for the Te Awa Kairangi/Hutt River floodplain".*
Contribution to Annual Plan / Long term Plan / Other key strategies and policies
The projects contained within this report deliver on Greater Wellington's strategic priority area of te tū pakari a te rohe/regional resilience, and support delivery of Greater Wellington's strategic priority area of te oranga o te wai māori me te rerenga rauropi/freshwater quality and biodiversity.
Internal consultation
Specific projects consult with groups and departments across Greater Wellington where relevant to a project.
Risks and impacts: legal / health and safety etc.
The purpose of implementation floodplain management plans is to reduce the risk to communities and improve the region's resilience.

Te Awa Kairangi / Hutt River Valley Subcommittee
6 June 2024
Report 24.254

For Information

WAIWHETŪ FLOOD MODELLING UPDATE

Te take mō te pūrongo
Purpose

1. To update the Te Awa Kairangi / Hutt River Valley Subcommittee (the Subcommittee) on the Waiwhetū flood hazard modelling engagement process that was undertaken in March 2024.

Te horopaki
Context

2. Flooding is a significant hazard in the Wellington Region that poses a risk to both life and property. Flooding is commonly experienced from three main sources; rivers, coastal inundation, and storm water flooding.

3. The 2004 flood in the Waiwhetū Stream that caused major flooding to residential properties along Riverside Drive, the Hutt Park raceway and the industrial area in Gracefield is a reminder of the damage that flooding can cause.

4. Despite generally being a small, slow-flowing stream, the Waiwhetū Stream has a long history of flooding. A major flood event in 2004 caused 74 houses to be flooded and a further 15 to be evacuated due to flooding of the section or garage.

5. Updating the flood risk modelling for the Waiwhetū Stream is key for understanding the probability and likely extent of flooding for the current and predicted future climate. This can then be used to understand the issues from flooding that need to be managed.

Flood hazard modelling process

6. Flood hazard modelling is the process carried out by Greater Wellington to understand flood risk from significant water courses in the Wellington Region. It consists of three key elements: collection of survey information; hydrological modelling; and hydraulic modelling. The flood hazard modelling outputs are the flood maps that are included in district plans, provide the basis of structural works and river management decision making, and inform civil defence and emergency management actions.

7. Greater Wellington developed the Flood Hazard Modelling Standard (FHMS) in May 2021 to outline the protocols to be followed by any person working on Greater Wellington flood hazard modelling projects. The protocols in the FHMS have been developed to ensure that flood hazard modelling projects are undertaken in a robust and consistent way that is in line with accepted industry practice. They are designed to still allow for flexibility in approach and recognise that the optimal method may be

dependent on catchment or project specific factors. The protocols require that every stage of the process is well documented in reports or spreadsheet logs and registers.

Waiwhetū flood hazard maps

8. A report (Waiwhetū Flood Hazard Modelling – Report 24.88) and presentation were provided to the Te Awa Kairangi / Hutt River Valley Subcommittee at the meeting on 12 March 2024 regarding the Waiwhetū flood hazard modelling process. This included an outline of the engagement process being undertaken to present the draft 1% annual exceedance probability (AEP) flood hazard maps to the community.

9. Now that the community engagement has been undertaken, the independent audit can be completed, and the flood hazard maps will be finalised.

Te tātaritanga
Analysis

10. A flood hazard map engagement process was undertaken to present the final draft 1% AEP flood hazard maps to the community. This fulfils the requirement to consult the community on the draft outputs for the Flood Hazard Modelling Standard.

11. The purpose of the Stage 4 engagement was to:

    - Consult the community on the draft flood hazard maps for the Waiwhetū Stream; and
    - Build awareness of the flood hazard maps within the affected community.

12. The official engagement period was from Monday 11 March 2024 to Sunday 31 March 2024, although attendance at meetings/events continued until 17 April 2024.

13. Two flood depth maps were presented on the Greater Wellington website as well as in handouts and presentations. One map showed the 1% AEP flood for the current climate (not including climate change) and the other showed the 1% AEP flood for predicted future climate, including an allowance for climate change.

14. The flood hazard maps, information about the maps, and a feedback form were available both on the Greater Wellington website and as handouts at the various in person events.

15. The engagement activities included:

    - Presentation to the Friends of the Waiwhetū Stream (11 March 2024)
    - Waiwhetū Flood Hazard Modelling – Report 24.88 presented at the Te Awa Kairangi / Hutt River Valley Subcommittee meeting on 12 March 2024
    - Discussion at the Waiwhetū Stream walkover (13 March 2024)
    - Drop-in stall at the Riverbank Markets (16 and 23 March 2024)
    - Drop-in stall at the Naenae Oranga Festival (23 March 2024)
    - Advertisements in the Hutt News (14 and 21 March 2024)
    - Handing out information at the Waterloo and Naenae train stations (21 and 25 March 2024 respectively)

- Social media posts (6, 11-23 and 24-31 March 2024)
- Meeting with Taranaki Whānui/Port Nicholson Block Settlement Trust (8 April 2024)
- Attendance at Waiwhetū co-op event (17 April 2024)

16. A summary report of the engagement process is included as **Attachment 1** to this report.

Te Awa Kairangi / Hutt River Valley Subcommittee feedback

17. As a result of feedback from both public participation and Subcommittee members at the Awa Kairangi / Hutt River Valley Subcommittee meeting on 12 March 2024, the following changes were made to the engagement process:

    a Addition of the drop-in session at the Naenae Oranga Festival

    b Providing handouts at the Waterloo and Naenae train stations

    c Attendance at the Waiwhetū co-op event

    d Updated messaging to include suburbs that are affected by the modelling.

Taranaki Whānui feedback

18. A meeting with members of Taranaki Whānui/Port Nicholson Block Settlement Trust (PNBST) and Greater Wellington Councillors and staff was held on 8 April 2024. While this was technically outside of the official engagement period, it was the earliest opportunity when both organisations could meet.

19. The meeting was held at the carpark to the Owhiti Urupā. Taranaki Whānui would have liked to be more involved in the process earlier on. This feedback has been acknowledged. More details on the discussion from the meeting are noted in **Attachment 1**.

General public feedback

20. Several hundred community members were spoken to or received information regarding this engagement in person.

21. Greater Wellington received 14 feedback forms during the engagement period, either via the website or direct email.

22. Feedback from the public related to climate change scenarios, flooding relating to specific properties, people thanking Greater Wellington, agreement that the flood hazard maps looked as they would expect, and concerns regarding other Greater Wellington or Wellington Water projects. More details are provided in **Attachment 1**.

23. As a result of early feedback received, updates to the webpage were made to make it more clear what type of feedback was being sought.

Social media

24. Three social media posts were posted on Facebook during the engagement:
    a 6 March 2024 – organic post to inform people about the upcoming engagement
    b 11-23 March 2024 – paid post over two weeks advising of drop-in sessions at markets
    c 24-31 March 2024 – paid post advising that engagement was ending soon
25. The insights collected from these posts are listed in Table 1.

Table 1: Social media insights

Insight	Post 1	Post 2	Post 3	Total
Reach	7,611	13,272	9,256	**30,139**
Impressions	8,451	27,122	13,741	**49,314**
Click links	116	813	388	**1,317**
Comments	19	4	2	**25**
Reactions	67	10	5	**82**
Shares	11	1	0	**12**

Note that 'reach' refers to the number of times people saw the content, 'impressions' is how many times the content was displayed, whether people saw it or not.

Website insights

26. The Waiwhetū engagement webpages were viewed a total of 1774 times by 1237 users.

Summary

27. Engagement with the community has been recognised as an important part of the flood hazard modelling process. Community members often have a wealth of knowledge and experiences from previous flooding in their area.
28. This engagement process reached a good number of people in areas near the Waiwhetū Stream. A summary of the number of people that were engaged with across each of the engagement activities is provided in Table 2.

Table 2: Number of people engaged with during Stage 4

Event/activity	**Approximate number of people**
Friends of the Waiwhetū Stream committee meeting	8
Te Awa Kairangi / Hutt River Valley Subcommittee meeting	20
Waiwhetū walkover	40
Riverbank Market 16 March 2024	60
Riverbank Market 23 March 2024	84
Naenae Oranga Festival	58
Waterloo Station	100
Naenae Station	80
Taranaki Whānui meeting	4
Waiwhetū co-op	10
Social media posts views	30,139
Website users	1237
Feedback forms received	14
TOTAL *Note – some people may be counted more than once at multiple events/activities*	***31,854***

29. Feedback was taken on board in the early stages of the engagement period and additional activities were added to the programme as well as some changes to the messaging.

30. There were no significant concerns or potential errors in the modelling raised during this process from the community or Taranaki Whānui; therefore, we will proceed to Independent Audit.

31. Feedback was received from Taranaki Whānui on the process. They noted that that they should have been involved more significantly earlier in the process. We will work with our internal Māori liaison team to review and refine the process moving forward.

32. Overall, this was a positive engagement process.

Ngā hua ahumoni
Financial implications

33. The project identified and described in this report is included in Greater Wellington's Long Term Plan.

34. The Waiwhetū flood risk management process will identify options for managing flood risk from the Waiwhetū Stream and will include an evaluation of the financial

implications of any options selected by in the short term but also over long term planning horizons.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

35. Waiwhetū Marae property is sitting within the flood hazard area. The building itself is sitting above the flood hazard in the updated modelling. The Owhiti Urupā also sits within the flood hazard area and is particularly susceptible to sea level rise.

36. Approximately 20% of the population of the Waiwhetū statistical area is Māori.

Te huritao ki te huringa o te āhuarangi
Consideration of climate change

37. Climate change is considered as part of the FHMS process. Climate projections are modelled as part of the hydrology and sea level rise inputs allowing Greater Wellington to consider increased hazard impacts.

Ngā tūāoma e whai ake nei
Next steps

38. On-going engagement with Hutt City Council, iwi, and the wider community will be undertaken through the flood risk management process.

39. Finalised flood hazard overlays will be provided to Hutt City Council. These maps will inform the development of the Hutt City District Plan.

40. Waiwhetū Stream flood risk management options will be considered. It is expected that this will occur using a holistic approach.

Ngā āpitihanga
Attachments

Number	Title
1	Waiwhetū Stream Flood Hazard Modelling: Engagement Summary Report – Stage 4

Ngā kaiwaitohu
Signatories

Writer	Francie Morrow – Senior Project Manager, Investigations
Approvers	Andy Brown – Team Leader, Knowledge Water Evan Harrison – Manager, Knowledge David Hipkins – Director, Knowledge and Insights Lian Butcher – Kaiwhakahaere Matua, Taiao | Group Manager, Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference The Subcommittee's specific responsibilities include to oversee development, implementation and review of floodplain management plans (FMPs) for the Te Awa Kairangi/Hutt River floodplain. This report relates to the development of flood hazard modelling in the Waiwhetū Stream
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies The project described in the report support the delivery of Greater Wellington's Long Term Plan objectives. This project specifically support the priority area of area of te tū pakari a te rohe/regional resilience and the understanding of climate change.
Internal consultation Internal consultation on the flood hazard modelling has been undertaken with: • The Marketing and Comms team regarding the engagement process. • Te Hunga Whiriwhiri regarding the engagement process. • The Catchment Function regarding alignment with work being undertaken in the catchment. • The Delivery Function regarding flood hazard mapping and engagement.
Risks and impacts - legal / health and safety etc. There are no health and safety risks. The production of flood hazard mapping is a risk for Greater Wellington, and this has been mitigated through the development and adoption of the FHMS. The purpose of flood risk management planning is to reduce the risk to communities and improve the region's resilience.

Greater Wellington
Te Pane Matua Taiao

Attachment 1 to Report 24.254

Waiwhetū Stream Flood Hazard Modelling

Engagement Summary Report – Stage 4: undertaken in March 2024

For more information, contact the Greater Wellington Regional Council:

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[Report Number]

[Date]

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Attachment 1 to Report 24.254

Document Review and Approval

Approved by: Project Director / Team Leader

Name	Job title/role	Sign-off date
Andy Brown	Team Leader, Water Knowledge Project Director	 22 May 2024

Prepared and recommended by:

Name	Job title/role	Sign-off date
Francie Morrow	Senior Project Manager, Investigations Project Manager/Author	 22 May 2024

Attachment 1 to Report 24.254

Contents

1. Background

Flooding is a significant hazard in the Wellington Region that poses a risk to both life and property. Flooding is commonly experienced from three main sources: rivers and streams, coastal inundation, and storm water flooding.

Despite generally being a small, slow-flowing stream, the Waiwhetū Stream has a long history of flooding. A major flood event in 2004 caused 74 houses to be flooded and a further 15 to be evacuated due to flooding of the section or garage.

Updating the flood hazard modelling for the Waiwhetū Stream is key for understanding the probability and likely extent of flooding for the current and predicted future climate. This can then be used to understand the issues from flooding that need to be managed.

1.1 Flood hazard modelling process

Flood hazard modelling is the process carried out by Greater Wellington to understand flood risk from significant water courses in the Wellington Region. It consists of three key elements: collection of survey information; hydrological modelling; and hydraulic modelling. The flood hazard modelling outputs are the flood maps that are included in district plans, provide the basis of structural works and river management decision making, and inform civil defence and emergency management actions.

Greater Wellington developed the Flood Hazard Modelling Standard (FHMS) in 2021 to outline the protocols to be followed by any person working on Greater Wellington flood hazard modelling projects. The protocols in the FHMS have been developed to ensure that flood hazard modelling projects are undertaken in a robust and consistent way that is in line with accepted industry practice. They are designed to still allow for flexibility in approach and recognise that the optimal approach may be dependent on catchment or project specific factors. The protocols require that every stage of the process is well documented in reports or spreadsheet logs and registers.

1.2 Waiwhetū flood hazard modelling

In 2019, Wellington Water approached Greater Wellington indicating that they were going to undertake stormwater modelling in the Waiwhetū Stream urban catchment. Greater Wellington and Wellington Water agreed to undertake a joint venture to update the existing Waiwhetū Stream model and combine it with a stormwater model for the urban catchment.

Combining the stormwater and fluvial model for the Waiwhetū catchment has been a complicated process. Stantec was engaged to complete the integrated 1D-2D model of Eastern Lower Hutt that met the Wellington Water stormwater modelling specifications as well as the Greater Wellington FHMS. This included all known stormwater assets as well as the Waiwhetū Stream.

The model was validated and calibrated against the 2004 and 2016 flood events in the Waiwhetū Stream.

The Wellington Water modelling specification includes a set of specific parameters, including a nested storm hydrological approach. This approach is appropriate for stormwater modelling; however, it is difficult to use with a water body the size of the Waiwhetū Stream.

To meet Greater Wellington's FHMS requirements, a different hydrological approach was required using NIWA's temporal design storm methodology to produce a standard rainfall profile. As a result,

outputs from the Greater Wellington and Wellington Water differ due to the different hydrological inputs, however the model that is used to generate the outputs is the same.

2. Engagement process

Engagement with the community has been recognised as an important part of the flood hazard modelling process. Community members often have a wealth of knowledge and experiences from previous flooding in their area.

The six stages of engagement outlines in the FHMS are:

- Stage 0: Engage with Councillors and partner agencies
- Stage 1: Initial engagement and data collection
- Stage 2: Engagement on hydrology (may not always be necessary)
- Stage 3: Engagement on historic flood events
- Stage 4: Engagement on draft model results
- Stage 5: Engagement on final flood hazard maps

Stages 0 and 1 were undertaken informally prior to there being a requirement in the FHMS. Stage 2 was deemed not required for this process, although significant engagement occurred between Greater Wellington and Wellington Water regarding the hydrological inputs. Stage 3 was undertaken in August 2021.

3. Stage 4 – 1% AEP flood depth maps – March 2024

A flood hazard map engagement process was undertaken to present the final draft flood hazard maps to the community. This fulfils the requirement to consult the community on the draft outputs for the Flood Hazard Modelling Standard.

The purpose of the Stage 4 engagement was to:

- Consult the community on the draft flood hazard maps for the Waiwhetū Stream; and
- Build awareness of the flood hazard maps within the affected community.

The official engagement period was from Monday 11 March 2024 to Sunday 31 March 2024, although attendance at meetings/events continued until 17 April 2024.

Two flood depth maps were presented on the Greater Wellington website as well as in handouts and presentations. One map showed the 1% AEP flood for the current climate (not including climate change) and the other showed the 1% AEP flood for predicted future climate, including an allowance for climate change.

The flood hazard maps, information about the maps, and a feedback form were available both on the Greater Wellington website and as handouts at the various in person events.

The engagement activities included:

- Presentation to the Friends of the Waiwhetū Stream (11 March 2024)
- Presentation to the Te Awa Kairangi / Hutt River Valley Subcommittee (12 March 2024)

- Discussion at the Waiwhetū Stream walkover (13 March 2024)
- Drop-in stall at the Riverbank Markets (16 and 23 March 2024)
- Drop-in stall at the Naenae Oranga Festival (23 March 2024)
- Advertisements in the Hutt News (14 and 21 March 2024)
- Handing out information at the Waterloo and Naenae train stations (21 and 25 March 2024 respectively)
- Social media posts (6, 11-23 and 24-31 March 2024)
- Meeting with Taranaki Whānui/Port Nicholson Block Settlement Trust (8 April)
- Attendance at Waiwhetū co-op event (17 April 2024)

3.1 Events

Friends of the Waiwhetū Stream committee meeting – 11 March 2024

Francie Morrow, Ross Jackson and Cr Quentin Duthie attended from Greater Wellington. Eight members of the Waiwhetū Stream Committee were in attendance.

Francie gave an overview of the flood hazard modelling process and showed the large A0 maps of the 1% AEP flood depth maps for both the current and predicted future climate.

Comments from the committee included:

- Surprised that the Naenae Park sports ground doesn't take more water
- Discussion regarding the upper catchment and where the top of the Waiwhetū Stream officially starts
- What are you going to do with these maps?
- Grant noted that it's important communicate this information to the wider public

Francie noted the flood advisory process, the Hutt City Council District Plan hazard overlays, and a desire to plan for mitigation the risk. Francie also noted that we will need to work with Hutt City Council and Wellington Water, particularly regarding the sea level rise component. Greater Wellington's new Environment Group needs to work out how we will develop plans.

Cr Duthie noted that he doesn't want anything left in the 'too hard basket', instead will look to make decision.

The committee took hand outs and postcards for themselves and people they know. Approximately 20 handouts provided.

Te Awa Kairangi / Hutt River Valley Subcommittee meeting – 12 March 2024

A report and presentation were given to the Te Awa Kairangi / Hutt River Valley Subcommittee on Tuesday 12 March 2024.

The Subcommittee is made up of councillors from Greater Wellington, Hutt City and Upper Hutt City Councils as well as mana whenua representation.

At the start of the meeting, there was public participation from a member of the Petone Community Board regarding the Waiwhetū flood maps engagement. This presenter included comments that we should be getting involved in more events within the Waiwhetū Stream catchment and that we should be specifically using the names of the suburbs that the flooding impacts.

The report and presentation to the Subcommittee included an overview of flooding and flood risk, Greater Wellington's Flood Hazard Modelling Standard process, the flood hazard maps that we are engaging on, the plan for engagement activities, district plan overlays, and what might be done to manage the flood risk.

There were many questions from the Subcommittee members regarding the process and a request for further engagement events.

As a result of this, we decided to attend the Naenae Oranga Market on 23 March 2024 (as well as the Riverbank Market on this day) and hand out information at the Waterloo and Naenae Stations to commuters. We offered to attend the fruit and vege co-op pick up day.

We also updated our messaging to include the suburbs that are affected by this modelling.

Including the Subcommittee members, Greater Wellington and Hutt City Council staff, members of the public, both in person and online, there were approximately 30 people in attendance.

Waiwhetū Stream walkover – 13 March 2024

Approximately 40 people were in attendance from Greater Wellington, the Friends of the Waiwhetū Stream, Hutt City Councillors, and wider community members.

Francie spoke about the maps at the start of the walkover and had maps available for viewing and information to hand out to anyone wanting to speak to us at the end of the walkover, over lunchtime.

There were some interested people. Particularly spoke to Cr Andy Mitchell (Hutt City Councillor) about other ways to engage/events to attend. Cr Mitchell suggested the Naenae Oranga Festival.

Riverbank Markets – 16 March 2024

Francie Morrow and Andy Brown from Greater Wellington, and Uki Dele from Wellington Water attended the Riverbank Markets on 16 March 2024 from 9:00am to 12:00pm. Approximately 60 people spoken to and approximately 25 handouts and postcards given out.

Some notes and comments from the community at this event included:

- Concerned about access to Seaview hills
- Talked about risks to specific properties
- Concerns about insurance
- "You can't predict the future"
- "Why are we building here to begin with?"
- "Isn't climate change just colonialism?"
- Wainui has always been a wetland

- There's an aquifer that runs underground
- "I had to build a house 1.5m up, but mine is the only one like that"
- An intermediate student that had read the Friends of the Waiwhetū Stream booklet came to speak to us. He was very well informed. He suggested that to reduce the impacts of climate change, everyone had to do their bit.
- "That looks about what I would expect"
- "I thought you had fixed this problem"
- Someone wanted to know if these maps are online and being used seeing as they had been peer reviewed. We pointed them towards our advisory team and noted that yes, they are being used.
- "What are you doing to educate people?"
- "Why don't you take gravel out of the rivers?"
- "Very happy about the protection [RiverLink], it's brilliant!"

Riverbank Markets – 23 March 2024

Kirsty Duff and Alexander Brotherston from Greater Wellington, and Ben Caldwell from Stantec attended the Riverbank Markets on 23 March 2024 from 9:00am to 12:00pm. Approximately 84 people spoken to and approximately 30 handouts and postcards given out.

Some notes and comments from the community at this event included:

- Frustration that no one knows what's happening with the Riverbank carpark with RiverLink
- Suggestion to bulldoze all of the Hutt Valley and build over the hill
- "We are all different shades of f****d"
- Suggestion to turn the Hutt River into a hydroelectric dam
- Suggestion to engage with the schools
- Felt it is sad

Naenae Oranga Festival – 23 March 2024

Francie Morrow and Susan Borrer from Greater Wellington, and Nadia from Wellington Water attended the Naenae Oranga Festival on 23 March 2024 from 9:00am to 12:00pm. Approximately 58 people spoken to and approximately 30 handouts and postcards given out. 10 handouts were also left at the Naenae Library for interested locals.

Some notes and comments from the community at this event included:

- Owns a house right at the top of the model extent, has seen the maps online. From the Naenae Trust and Cr Duthie had presented the information to them at a meeting on 12 March 2024.
- "I care more about fixing the pipes. Flooding is important, but if we can't drink water, that's a real problem." Is a driver for Meals on Wheels and seeing leeks every day.

- Wanting more information about the area right at the top of the model extent and the stormwater. "It looks about right to me."
- In the 2004 flood event, there was a van floating down Bush Street in Naenae. [Note – this is showing as 0.5 to 1.0m of flooding, so reflects modelling.]
- More interested in drainage. "If I had a spare $100k, maybe I would get my home jacked up a metre."
- "Keep up the good work. I'll be rooting for you to get RiverLink sorted."
- "The flooding is due to the concrete channel [at the top of the Waiwhetū]. Looks right."
- "The Waiwhetū Stream should be called the Waiwhetū River."
- Cr Andy Mitchell (Hutt City Council) came for a chat.
- Bruce from a climate forum for the Hutt – 'seems pretty accurate'
- Chris from the library stopped by and said thanks. Cr Duthie's presentation really impacted her.
- One woman had difficulty picturing what 0.5m depth at her house would look like, she thought it meant that the river had come up 0.5m.

Train stations –21 and 25 March 2024

Waterloo Station – 21 March 2024

Francie Morrow and Kirsty Duff attended. Approximately 100 handouts given out. The information was generally well received, over half the people that were offered information took it.

Some notes and comments from the community at this event included:

- A couple of comments regarding "thank you for your work"
- One negative comment "you're not going to do anything about it anyway"

Naenae Station – 25 March 2024

Francie Morrow and Alexander Brotherston attended. Approximately 80 handouts given out. The information was generally well received, over 70% the people that were offered information took it.

Some notes and comments from the community at this event included:

- "Will it affect the trains?"
- "Oh, is this the updated modelling? Great, I was waiting for this. I bought a house recently and was told this was coming. Keep up the great work, I know how much goes into this work."
- "Label your maps! I think people don't label maps to withhold information."

Taranaki Whānui meeting – 8 April 2024

A meeting was held with members of Taranaki Whānui/Port Nicholson Block Settlement Trust (PNBST) on 8 April 2024. This was technically outside of the official engagement period.

The meeting was held at the carpark to the Owhiti Urupā with the following attendees:

- Chair of the PNBST – Te Whatanui Winiata
- Deputy Chair of the PNBST – Huia Puketapu
- Ihaia Puketapu (PNBST)
- Benjamin Terry (PNBST)
- Cr Ros Connelly (Greater Wellington)
- Cr Quentin Duthie (Greater Wellington)
- Jack Mace (Greater Wellington)
- Andy Brown (Greater Wellington)
- Tim Sharp (Greater Wellington)
- Francie Morrow (Greater Wellington)
- Dayna Eggeling (Greater Wellington)

The key messages from the meeting were:

- Taranaki Whānui seek more information about the immediate impacts of climate change on their rohe and sites of significance. This includes modelling of the effects of flooding and sea level rise on the Waiwhetū catchment over five yearly intervals to inform iwi decisions. Also seeking more info on the immediate impacts to include impacts on the aquifer, springs and bores (especially those at the papakāinga) and the Urupā itself.
- Concern raised that the industrial area to the south is the highest risk to sea-level rise and what that will do to the harbour. Although out of scope for this kaupapa, (more in Hutt City Council space than Greater Wellington) we all have to be involved. Plus Greater Wellington will have a role in consenting work, monitoring sea pollution and wider biodiversity/ ecological impacts.
- A forum to discuss this information including understanding the data inputs and the roles of other organisations in data generation and climate change response is desired. Also to start discussing what the response options might be and how collectively can progress these.
- Gain an understanding from the Insurance Council/ sector about their response to climate change in the Waiwhetū catchment specifically but also more generally. How will they use the flood maps and other information generated? How long do we have before high-risk areas are uninsurable?
- Take the above information and hold a discussion at the Regional Leadership Forum. Encourage a reprioritisation that makes climate response a key project for the Regional Leadership Forum.
- Greater Wellington to give more thought to how we share our flood maps so that people's emotional wellbeing is considered and upheld.
- Greater Wellington to give more thought to Māori considerations in all policy making and breaking down silos within Greater Wellington so that Te Hunga Whiriwhiri is able to assist delivery and data teams to better understand Māori cultural, economic and environmental considerations.

- Progress a Taranaki Whānui/ Greater Wellington secondment so that there is a better line of communication at an operational level.
- All comms on this now to go directly to Te Whatanui so it doesn't get lost (and ensures it goes to the right people).

Waiwhetū co-op event – 17 April 2024

Attendance at an event organised in conjunction with the Waiwhetū co-op was requested by the co-op organiser, Kaz Yung. Although this was outside of the official engagement period, Francie Morrow from Greater Wellington attended the event with information about the Waiwhetū flood maps.

Approximately 10 community members were engaged with, as well as four Hutt City Councillors who were there to discuss their Long Term Plan.

Approximately 45 handouts were left at the event for people who were coming along for the evening session.

3.2 Social media

Three social media posts were posted on Facebook during the engagement:

1. 6 March 2024 – organic post to inform people about the upcoming engagement
2. 11-23 March 2024 – paid post over two weeks advising of drop-in sessions at markets
3. 24-31 March 2024 – paid post advising that engagement was ending soon

The insights collected from these posts are listed in Table 1.

Table 1: Social media insights

Insight	Post 1	Post 2	Post 3	Total
Reach	7,611	13,272	9,256	30,139
Impressions	8,451	27,122	13,741	49,314
Click links	116	813	388	1,317
Comments	19	4	2	25
Reactions	67	10	5	82
Shares	11	1	0	12

Note that 'reach' refers to the number of times people saw the content, 'impressions' is how many times the content was displayed, whether people saw it or not.

3.3 Website insights

The Waiwhetū engagement webpages were viewed a total of 1774 times by 1237 users.

3.4 Feedback forms received

14 feedback forms were received during the engagement period, either via the website or direct email. No paper forms were received.

The feedback in the forms included the following types of comments and questions:

- Please ensure that the current flood risk map will be made publicly available when these maps are implemented as well as the future scenario as the current risk is more relevant for insurance purposes.
- Recognition that Greater Wellington is going to work on a plan to mitigate these risks would have been helpful.
- How much of the future flood risk is impacted by sea level rise and how much is from the increase in rainfall? Concerns that it could be misleading.
- Unhappy with using the RCP 8.5 scenario for climate change as they believe it is unrealistic and will have a negative impact on homeowners in the affected areas.
- Feedback relating to flooding on specific properties
- It would have been useful to use historic information in these maps. These maps do not give me confidence in your process.
- Requests for information on specific properties
- Appreciation for information and the large maps to view at the markets.
- Interested in evacuation levels for the Waiwhetū Stream
- Will the removal of the cape pond weed have helped the flood risk?
- "Good info"
- Using paper feedback forms is a terrible experience.
- More guidance on what feedback is being sought on is needed.

Where contact information was available, responses to the feedback were supplied directly to the submitters. Additionally, updates to the webpage were made to make it more clear what type of feedback was being sought.

3.5 Other

On 12 March 2024 The Post printed an article titled "Flooding fears raised for proposed Hutt link road". This discussed the proposed Cross Valley Link and noted the Waiwhetū modelling as putting a "question mark over the feasibility of the link road". Figures from the Te Awa Kairangi Hutt River Valley Subcommittee report were also quoted in the article.

A similar article was published in The Hutt News on 21 March 2024.

Discussions regarding the flood hazard mapping were had with various colleagues at Greater Wellington, included providing handouts to people who live in the area. Feedback was received that the flood maps show where the water pools on the streets during heavy rainfall.

We received a call from a resident in Alicetown enquiring about the flood risk, they had seen that we were engaging on maps for the Waiwhetū Stream. Their risk is likely due to stormwater and they were redirected to Wellington Water.

3.6 Summary

This engagement process reached a good number of people in areas near the Waiwhetū Stream. A summary of the number of people that were engaged with across each of the engagement activities is provided in Table 2.

Table 2: Number of people engaged with during Stage 4

Event/activity	Approximate number of people
Friends of the Waiwhetū Stream committee meeting	8
Te Awa Kairangi / Hutt River Valley Subcommittee meeting	20
Waiwhetū walkover	40
Riverbank Market 16 March 2024	60
Riverbank Market 23 March 2024	84
Naenae Oranga Festival	58
Waterloo Station	100
Naenae Station	80
Taranaki Whānui meeting	4
Waiwhetū co-op	10
Social media posts views	30,139
Website users	1237
Feedback forms received	14
TOTAL *Note – some people may be counted more than once at multiple events/activities*	**31,854**

Feedback was taken on board in the early stages of the engagement period and additional activities were added to the programme as well as some changes to the messaging.

Overall, this was a positive engagement process.

Engagement with the community has been recognised as an important part of the flood hazard modelling process. Community members often have a wealth of knowledge and experiences from previous flooding in their area.

There were no significant concerns or potential errors raised during this process. Feedback from Taranaki Whānui was that they should have been involved more significantly earlier in the process.

3.7 Recommendations

For future modelling engagement processes, it is recommended that:

- Iwi partners are brought into the process from the beginning and that they are asked to provide recommendations on the best way to engage with wider mana whenua
- A privacy assessment is completed for all flood hazard engagement processes that can be simply adjusted for different projects. The privacy assessment should be started early to ensure it does not hold up the project getting approval.
- Local organisations and connections are utilised to ensure a wide range of the community is reached
- Consideration is given to the locations of drop-in sessions
- Names of relevant suburbs are included in marketing material

- Names of main roads, suburbs, and key sites are included on the maps

Te Awa Kairangi / Hutt River Valley Subcommittee
6 June 2024
Report 24.232

For Information

TE WAI TAKAMORI O TE AWA KAIRANGI PROJECT UPDATE

Te take mō te pūrongo
Purpose

1. To update the Te Awa Kairangi / Hutt River Valley Subcommittee (The Subcommittee) on Te Wai Takamori o Te Awa Kairangi (Te Wai Takamori) and introduce the report of the project director for Te Wai Takamori (**Attachment 1**).

Te horopaki
Context

2. Te Wai Takamori is a partnership between Greater Wellington Regional Council (Greater Wellington), Hutt City Council (HCC), NZ Transport Agency Waka Kotahi (NZTA), Ngāti Toa Rangitira and Taranaki Whānui ki Te Upoko o Te Ika.
3. Delivery of Te Awa Kairangi relates to Greater Wellington's strategic priorities for regional resilience and public transport. Strategic priorities for freshwater quality, biodiversity, and multi-modal transport options are also supported by the successful completion of Riverlink.
4. The flood protection components are a key deliverable of the Hutt River Floodplain Management Plan.
5. The objectives for Te Wai Takamori are:

Achieve Ora Tangata, Ora Taiao and Ora Wairua	To reorient the city to face and connect with Te Awa Kairangi and respond to climate change by: • Providing resilient transport choices allowing all people and businesses to move safely and reliably to, from and within our city centre. • Improving flood protection for the Lower Hutt city centre and areas south of the city to enable better resilience for people and property. • Stimulating and supporting urban regeneration and economic development. Encourage growth and the regeneration of Lower Hutt city centre and promote commercial and residential development.

Te tātaritanga
Analysis

Overall Project

6. The Project Director's report (**Attachment 1**) provides an overview of what the programme has been focusing on since the last meeting. The key highlights for the overall project and Greater Wellington are summarised below.

Council Decision

7. At its meeting on the 28 March 2024, Council agreed to vary the pathway for the delivery of the flood risk mitigation components for Greater Wellington from the single principal Alliance to self-delivery.

8. Council delegated the ability to vary the scope of the current Project Partner Agreement (PPA) to the Chief Executive to reflect this variation on the terms outlined in the Restricted Public Excluded report and to proceed to deliver the Greater Wellington Flood Risk Mitigation scope outside of the Alliance.

9. In terms of any interfaces between Greater Wellington's construction scope for flood risk mitigation and the Alliance works and associated governance controls (Programme Integrations), input into and governance of the Melling Scope and any associated general benefits to the public transport network are still to be negotiated and will need to be finally agreed within a separate relationship agreement with the Programme Partners.

10. Staff were requested to present a further report to Council once negotiations on the Melling Scope, the Programme Integrations, and the new relationship agreement are further progressed, and that the relationship agreement will be presented to Council for final decision.

Melling Train Station

11. With the decision above it is important to reinforce that there is no change to the Melling Train Station scope. The Melling Train Station remains the responsibility of NZTA to relocate and reinstate to the satisfaction of Greater Wellington.

12. Importantly the new train station will provide facilities which, at a minimum, will maintain the existing level of service to modern standards. The requirements are currently being worked through between the parties. The relationship to ensure this happens will be between Greater Wellington/Metlink and NZTA. It will then be NZTA's responsibility to ensure the outcomes are delivered by the Alliance.

Property

13. A total of 143 properties are being acquired for the Project.

    a 142 properties have now been acquired with 1 land acquisition remaining.

    b 62 commercial rights (lessee interests, easement interests, business closures and business relocations) have been acquired with 6 lease acquisitions remain (down from 7 last report).

14. Vacant possession secured for:

a Area E (85-103 Pharazyn Street)

b Area B (even numbers 50-90 Marsden Street)

c Area I (7-12 Daly Street)

d Area H (39b-56 Mills Street)

e Area A(22-77 Marsden Street)

15. In progress: vacant possession for one property – (down from 5 in the last report)

a Area D (64-84 Pharazyn Street) – one tenant remaining (Vacating June 2024).

16. Further tenants in lower Daly Street/High Street vacant possession in September 2025 (nine lessees).

Property Relocation and Demolition

17. Since the last report CERES NZ have completed Mills Street demolition and have substantially completed demolition of the Carpet Court building and reconstruction for Repco. Greater Wellington is also now leading the underground demolition across the site which is on track to start in April/May 2024.

Mills Street Stopbank Construction Early Works

18. The physical works are well into delivery mode with permanent stopbank construction and associated river works for gravel extraction underway. 16,000m3 of material has been extracted from the river so far as well as approx. 8,000m3 of pre-load material removal. Some of this material has been stockpiled for processing into filter material. Some has been used for haul road construction and also placed as permanent stopbank fill.

19. The 70km/h speed limit on Harcourt Werry Drive has been reduced temporarily to 50km/h as contractors are currently importing and stockpiling rip-rap rock that will be used in the future stages of the riverworks.

20. Several complaints about vibration have been received as compacting of the stopbank fill material has started. This was expected given the underlying soils in this area and similar experiences when placing the pre-load material late last year. Staff from Greater Wellington are in touch with effected residents and have deployed vibration monitors to some adjacent properties to ensure we are staying with consented limits. The findings to date are that, although we are above nuisance thresholds, we have not exceeded the upper consent limit. The upper consent level equates to the lowest level where cosmetic damage to properties could occur.

21. Diversions remain in place for cyclists and pedestrians, via the true right bank (SH2 side) of the river.

Partner Co-ordinated Delivery Programme

22. Following on from the Council's decision in March 2024 to withdraw its flood mitigation scope the first steps in a partner co-ordinated Delivery Strategy have been championed by Greater Wellington.

Ngā hua ahumoni
Financial implications

Greater Wellington

23. Greater Wellington has, through its 2021-31 Long Term Plan and subsequent annual planning processes, committed funding of $295 million to delivery of the flood protection benefits of RiverLink. Further changes to this funding commitment may be necessary prior to signing the funding agreement.

24. These budgets do not include allowances for improvements to facilities related to public transport associated with the relocation of Melling Train Station, as NZTA are responsible for its relocation.

25. Inflation and escalation will need to be adjusted during the project life.

Hutt City Council

26. Hutt City Council's (HCC) draft 2024-2034 Long Term Plan (LTP) has been consulted on and hearings held. HCC is scheduled to adopt the LTP in June 2024. The draft LTP includes additional funding for Te Awa Kairangi/Hutt River. HCC is currently assessing the options for the delivery pathway for their scope of work, in addition to being involved with the overall affordability process for the project

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

27. Ngāti Toa Rangitira and Taranaki Whānui ki Te Upoko o Te Ika are members of the Te Awa Kairangi Project Governance Group.

28. The Mana Whenua Steering Group established between Waka Kotahi and Ngāti Toa Rangitira and Taranaki Whānui ki Te Upoko o Te Ika to oversee Te Ara Tupua, Eastern Bays Pathway has been expanded to include Te Awa Kairangi.

Ngā āpitihanga
Attachments

Number	Title
1	Report of the Project Director, Matt Trlin Te Awa Kairangi PMO

Ngā kaiwaitohu
Signatories

Writers	Tracy Berghan – Manager Te Awa Kairangi Orla Harkin – Programme Manager HCC
Approvers	Wayne O'Donnell – Programme Manager, GW Sponsor Lian Butcher – Kaiwhakahaere Matua, Taiao | Group Manager, Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference Te Awa Kairangi subcommittee's specific responsibilities include to "review periodically the effectiveness of implementation and delivery of floodplain management plans for the Te Awa Kairangi/Hutt River floodplain", of which the Te Awa Kairangi project is part of.
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies Te Awa Kairangi contributes to the delivery of Greater Wellington's strategic priorities of Regional Resilience, Freshwater Quality and Biodiversity, and Public Transport.
Internal consultation There was no internal consultation beyond the Te Awa Kairangi team in preparing this report.
Risks and impacts - legal / health and safety etc. Escalation and general uncertainties in the construction market will continue for some time and cost pressure on construction will remain. Potential affects in relation to Procurement, Greater Wellington property purchase programme, and the associated reputational risk and costs incurred by early termination of leases and business relocations if construction start delayed.

Attachment 1 to 24.232

Te Wai Takamori o Te Awa Kairangi – Programme Director's Report

1. Purpose

This report provides an update on current progress with Te Wai Takamori o Te Awa Kairangi programme - formerly known as Riverlink.

The report builds on previous reports to Subcommittee, the last being provided in March 2024.

This report should be read in conjunction with the covering report on the Subcommittee's agenda, which provides an update on specific matters as they relate to Greater Wellington Regional Council and Hutt City Council.

2. Background

Te Wai Takamori o Te Awa Kairangi is a partnership between Greater Wellington Regional Council (Greater Wellington), Hutt City Council (HCC), Waka Kotahi NZ Transport Agency (Waka Kotahi), Taranaki Whānui ki te upoko o te Ika and Ngāti Toa Rangatira.

This report covers an update on progress with key current workstreams including:

- Overall progress
- Advance works and investigations
- Communications and engagement

3. Overall progress

Advance works

The programme's advance works activities, including essential site investigations, and property demolition and site clearance works, is progressing well, meeting budget and time expectations.

Affordability challenge

The programme continues to be challenged by affordability.

Programme partners and the Alliance completed an extended affordability challenge phase in March 2024.

This included consideration of various changes and refinements to the programme's design, design standards, minimum requirements, potential consenting variations/changes, along with partner consideration and changes to the programme's design and construction delivery model.

Change to Delivery Model

Hutt City Council and Greater Wellington resolved on the 27 and 28 March 2024, to deliver river works, stop-banks, local streetscape, intersection and landscape works scope items outside of the programme's current alliance delivery model.

The programme's delivery model is now moving from a single Alliance delivering all programme works, to a partner led delivery model.

Under this delivery model:

- NZTA-Waka Kotahi will continue to use the existing Te Wai Takamori o Te Awa Kairangi Alliance to deliver the Melling Transport Improvements package. This includes the design and delivery of the new Melling Bridge, SH2 interchange, Melling Railway station relocation, existing Melling bridge removal, and walking and cycling.
- Hutt City Council will continue to use the Alliance to deliver the walking and cycling bridge link between the relocated Melling railway station and the city centre, along with specified key local road intersections.
- Greater Wellington will, outside of the alliance, lead delivery of programme river and flood protection works.
- Hutt City Council will, outside of the alliance, lead, through its new City Development Unit, substantive local street intersection, streetscape, and landscape works.

Programme Partnership and Alliance Agreements

Related to changes to the programme's delivery model, partners are now preparing supporting amendments to the programme's partnership agreement.

Amendments are required to cover the programme partnerships' new delivery model. This includes completion of the programme's existing Alliance Interim Project Alliance Agreement (IPAA) phase, and Alliance and partner integrated delivery of their respective programme of works.

NZTA- Waka Kotahi and Hutt City Council are now working toward the signing of a Project Alliance Agreement (PAA) by or before 20 December 2024. The PAA will provide a final target outturn cost for the Melling Transport Improvement and walking and cycling bridge components of the programme.

Integrated design and delivery model

Programme partners are also working on what is required to complete an integrated concept design and delivery plan for the programme, under its amended delivery model.

4. Advance works and investigations

We are continuing to make progress with a range of advance works and investigations.

Demolition

Demolition activities are continuing to run on time and underbudget across programme sites and are expected to be completed well ahead of partner and alliance delivery of substantive construction works.

Required demolition works in Marsden Street is underway, with demolition of the old Police Barracks building completed.

Mills Street Stopbank

Contractors have mobilized to the site via Mill Street.

Access tracks are being completed, along with removal of top layer organics and relocation of preload aggregate. Gravel extraction has also commenced in the river to support construction.

Permanent works are expected to commence shortly.

Skate Park

The skatepark is proceeding to schedule, with community engagement successfully progressing, and a concept design now approved for progressing to construction. Work is underway to engage a construction contractor.

5. Communications and engagement

Communications and engagement activities have included:

- **Skatepark:** Engagement with communities of interest on design, such as the skater, disability and school communities, is completed. A final design for the park was approved by Hutt City Council in April. Communications to share the final design with the public are being prepared.
- **Project Design Liaison Group:** An April meeting of the Project Design Liaison Group (PDLG) covered an update on the programme, its affordability challenges, progress on advance works, Mills St stopbank design and plans for cycleway diversions.
- **Alliance Ground Investigations Programme:** Letters are continuing to go out to residents on an area-by area basis to give sufficient notification of geotech and utilities investigations. This includes traffic management activities and comms where required.
- **Melling Station:** Communications providing an update on the timing of the Melling station closure, from July 2024 to late 2024 or early 2025, have gone out from Metlink/Greater Wellington.
- **Property and demolition:** Asbestos removal from buildings in Marsden St is impacting on access to neighbouring buildings. A meeting with residents in late March went well with no issues.
- **Mills Street Stopbanks:** Concerns have been raised in writing by the local AA representative and cycling and walking groups regarding the lack of a safe pedestrian crossing at the end of walking and cycling detour route, across Harcourt Werry Drive. This has been escalated to the relevant parties but there is good dialogue underway.

- **Hutt Valley Chamber of Commerce:** A Hutt Valley Chamber of Commerce breakfast was hosted on 3 April providing an update on the programme's delivery model changes, and an opportunity for the business community to ask questions of the programme and partners.
- **Media coverage and Councillor updates:** Media coverage on programme delivery changes went out on the 28th March, along with partner information releases. There have been several follow up queries relating to programme costs and timing of works.
- **Social media**: The programme is continuing to provide regular posts about work on site (environmental, geotechnical etc) and project progress (community updates).

Te Awa Kairangi Hutt River Valley Subcommittee
6 June 2024
Report 24.212

For Information

TE AWA KAIRANGI / HUTT RIVER CORRIDOR USER STUDY

Te take mō te pūrongo
Purpose

1. To update the committee on the findings of a team of four US students from Worcester Polytechnic Institute (WPI) who carried out a research project on the use of the Hutt River Trail.

Te tāhū kōrero/Te horopaki
Background

2. At the 9 November 2023 Te Awa Kairangi Hutt River Valley Subcommittee the report River Trail As A Transport Corridor – Report 23.460 was presented which provided background to the evolving development of the Hutt River Trail. It was proposed to use summer students to carry out a user survey and this was arranged through WPI for students to do this work.

3. For the past decade students from WPI have been coming to Wellington to carry out research projects for Greater Wellington and other sponsoring organisations. They have always produced reports of high quality which are a valuable resource, including at least 12 for Greater Wellington.[1]

4. This year Greater Wellington engaged the students to explore the use of the Hutt River Trail with the following objectives:

    a Understand how the Te Awa Kairangi/Hutt River corridor functions as both a flood plain and recreational zone

    b Evaluate perceptions of the corridor's usage and the potential increased use by commuters

    c Identify and employ frameworks that address visitor use management in shared spaces.

1 https://digital.wpi.edu/catalog?f%5Bcenter_sim%5D%5B%5D=Wellington%2C+New+Zealand+Project+Center+-+IQP&f%5Bmember_of_collection_ids_ssim%5D%5B%5D=iqp&_gl=1*f4buw3*_ga*MTY1NTMwNjI0NC4xNjYyNDkwODQx*_ga_RE35PKQB7J*MTY2MjUwMzAyMi42LjAuMTY2MjUwMzAyMi4wLjAuMA

5. To accomplish this, following a site assessment and photographic documentation, the students conducted 276 in-person surveys and 18 interviews with key informants and developed an evaluation framework. The survey was adapted from the Greater Wellington 2016 user survey which allowed the results to be compared.

Te tātaritanga
Analysis

6. Key findings from the report:

    a The value of nature was contradicted by the desire for increasing the corridor built environment

    b Commuters are not the only type of users that believed an increase in commuter use of the corridor would be positive

    c Some commuters and cyclists believed additional commuter use would negatively impact their experience

    d Trail capacity and etiquette were the most common concerns from users that would be affected by increased commuter use

    e There are conflicting opinions on if the trail should be gravel or sealed.

7. Full details of the findings can be found in **Attachment 1** - Shared Spaces – Understanding Perceptions and the Te Awa Kairangi Hutt River Corridor, by Lexi Carmin, Francesco Marrocco, Aileen Peddie and Bettina Valentiner.

Ngā hua ahumoni
Financial implications

8. There are no financial implications for Greater Wellington at this time and any implementing of recommendations will be delivered from existing budgets.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

9. Enhanced recreational access will be beneficial across the community, including for Maori.

Te huritao ki te huringa o te āhuarangi
Consideration of climate change

10. Any infrastructure constructed within the river corridor needs to be designed with impacts of climate change (particularly the potential for increased flooding) in mind.

11. Encouraging active transport through provision of improved trails for cycling will have a positive impact on climate change due to reduced transport emissions.

Ngā tūāoma e whai ake nei
Next steps

12. Staff will incorporate the updated survey findings and recommendations into a proposed wider study which could look at the entirety of the Hutt River Trail, alongside Hutt City Council, Upper Hutt City Council and the New Zealand Transport Agency - Waka Kotahi.

Ngā āpitihanga
Attachments

Number	Title
1	Hutt River Corridor Final Report
2	Hutt River Corridor Project Presentation

Ngā kaiwaitohu
Signatories

Writers	Ross Jackson – Landscape Advisor Implementation Joby Mills – Senior River Ranger
Approvers	Jack Mace – Director Delivery Lian Butcher – Group Manager, Environment Group

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference The Committee's specific responsibilities include overseeing the development and review of Council's environmental strategies, policies, plans, programmes and initiatives in the areas of river control and flood protection.
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies This project helps to deliver on Greater Wellington's overarching strategic priority around responding to the climate emergency and is directly aligned with the key activities of environment and flood protection.
Internal consultation If a project were to progress, there would be consultation with groups and functions across Greater Wellington, where relevant.
Risks and impacts - legal / health and safety etc. This work would be designed to not negatively impact on the primary purpose of flood risk management to reduce the risk to communities and improve the region's resilience.

SHARED SPACES

Understanding Perceptions of the Te Awa Kairangi Hutt River Corridor

Lexi Carim | Francesco Marrocco | Aileen Peddie | Bettina Valentiner

March 2024

WPI

Greater Wellington
Te Pane Matua Taiao

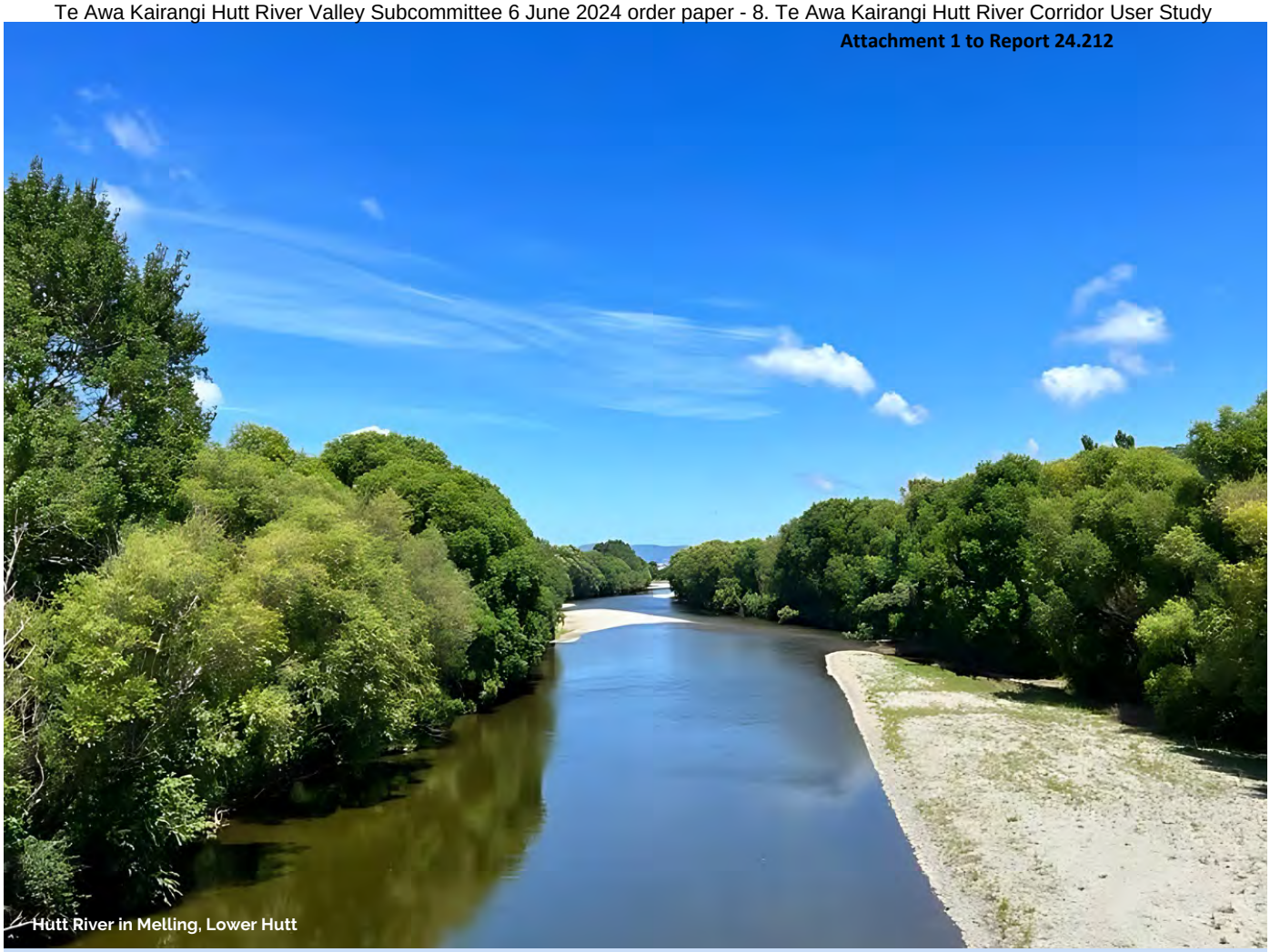
SHARED SPACES:
Understanding Perceptions of the Te Awa Kairangi Hutt River Corridor

Lexi Carim, Francesco Marrocco, Aileen Peddie, Bettina Valentiner

Report Submitted to:
Ross Jackson
Greater Wellington Regional Council

Advisors:
Professor Leslie Dodson
Professor Kenneth Stafford

March 1st, 2024



Hutt River in Melling, Lower Hutt

ABSTRACT

The Hutt River Corridor is a densely populated floodplain in New Zealand that serves as a recreational space. Currently, there are tensions between users and pressure has been put on the Greater Wellington Regional Council (GWRC) to consider the Corridor as a commuter route. We conducted public surveys and interviews with key informants to develop an understanding of visitor perceptions. We recommend the GWRC upgrade and improve their signage, launch an educational campaign about trail etiquette, and cluster hardscaped infrastructure.

ACKNOWLEDGEMENTS

We would like to express our appreciation towards all the individuals that helped our team complete this project. Thank you to Ross Jackson, former GWRC landscape architect and 10-plus year IQP sponsor, who provided us with constant support throughout this process and showed inspiring dedication to the River Corridor and IQP program. Our work would also not have been possible without Joby Mills, Senior River Ranger, and Brad Bulman, River Ranger, who always offered our team guidance and support with all our field work. Steve Kamo, a Flood Protection Engineer, who also helped us navigate many of the Corridor's complexities. We recognize everyone at the GWRC office, our team had the pleasure of meeting; thank you for always making us feel welcome. Finally, we highly value the time and effort our advisors Professor Leslie Dodson and Professor Kenneth Stafford have provided over the past semester. Thank you both for helping not only our team, but our cohort succeed.

Team with Ross Jackson in front of Parliament in Wellington, NZ

Hutt River in Te Haukaretu Park, Upper Hutt

EXECUTIVE SUMMARY

Te Awa Kairangi Hutt River Corridor is the most densely populated floodplain in New Zealand and serves as a mixed recreational zone (Figure 1). This Corridor is located in the Hutt Valley and contains a 29 km trail system that hosts a variety of user groups (Figure 2). The Greater Wellington Regional Council (GWRC) oversees developments in the Corridor and subsequently manages visitor experiences of this multiuse trail. Shared areas can result in tensions between different visiting groups due to "contrasting spatial needs" (Wolf, Brown, & Wolfart, 2018). These issues, coupled with an increasing pressure to adapt the Corridor for commuter use, has presented a need to assess visitor perceptions. The GWRC values the opinion of every user group and believes it is important to improve recreational experiences for all while maintaining the Corridor's primary function as a floodplain.

Figure 1. "Shared Space" sign on the Hutt River Trail.

Figure 2. Corridor User Groups graphic.

OBJECTIVES AND METHODS

For this project, our goal was to understand evolving perceptions of Te Awa Kairangi Hutt River Corridor to help the Greater Wellington Regional Council manage this shared space. To attain this goal, the following objectives were established:

1. Understand how the Hutt River Corridor functions as both a floodplain and recreational zone.

2. Evaluate perceptions of the Corridor's usage and the potential increased use by commuters.

3. Identify and employ frameworks that address visitor use management in shared spaces.

To accomplish this, we conducted a site assessment, conducted 276 in-person surveys, conducted 18 interviews with key informants, and created an evaluation framework for the GWRC. The site assessment was performed by biking, walking, and driving through the Corridor; it allowed our team to better understand the space in which we worked and the different user groups.

During assessments, we stopped and took pictures to attain photographic documentation of the environment and the people using it. The largest component of our project was developing our survey, River Reflections: Hutt River Corridor Experience Survey (Figure 3). We conducted two different iterations of this survey; the first version was utilized on the trail to ask users about their current perceptions and opinions about the Corridor, and gauge if an increase in commuter cyclists would impact their experience.

The other survey was executed off-trail at the Harvey Norman Mall in Melling, Lower Hutt, to capture and understand non-user's perceptions of the Corridor and why they don't frequent it. Both surveys were adapted from the GWRC Hutt River Corridor User Survey 2016 so the results could be compared. We conducted surveys in high traffic locations along the trail for 11 days and used convenience sampling by attempting to stop everyone who passed to obtain the most responses possible given our limited research timeframe.

Figure 3. Aileen, Bettina, and Lexi at the Riverbank Car Park conducting user experience surveys.

To further our knowledge of visitor experiences in the Corridor, we arranged interviews with user group advocates, GWRC employees, and other government officials. We employed an open-ended structure for our interviews with the different user group advocates and semi-structured interviews for all other key informants. The list of individuals we spoke with was acquired through snowball sampling referrals provided by our sponsors Ross Jackson, a former landscape architect for the GWRC, and Joby Mills, Senior River Ranger.

We then developed a framework used to analyze the quantitative and qualitative data collected from our research. To do this, we referenced visitor experience management frameworks, such as Clark and Stankley's Recreational Opportunity Spectrum (1979), that are used in national parks across the world. Our team adapted the thematic concepts from these structures using Goldsmith's guide (2021) to develop frames that were applicable to the Hutt River Corridor. The organizational system we created is composed of three overarching categories (Figure 4): Human-Human Interactions, Human-Nature Interactions, and Human-Infrastructure Interactions. We then applied these three themes to our data to best analyze all the information collected from our surveys and interviews.

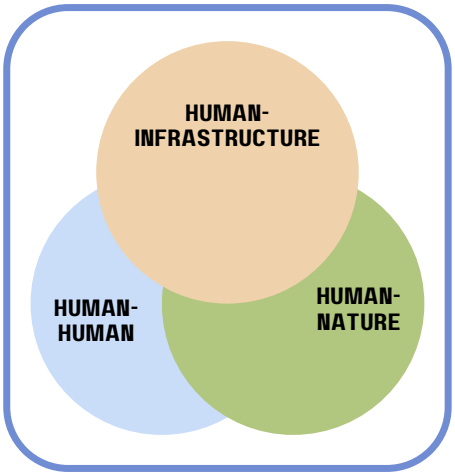


Figure 4. Graphic depicting the framework our team developed.

FINDINGS

The Value of Nature was Contradicted by the Desire for Increasing the Corridor's Built Environment.

While conducting our face-to-face surveys, we found that many users said the Corridor's natural environment was their favorite aspect of the space. Responses ranged from people describing the native greenery, the river itself, and the peaceful nature of being outdoors (Figure 5). This connection to nature was contradicted by users who said increasing infrastructure in the Corridor would improve their experience. The most common suggestions were to add bins, signage, lighting, and bathrooms; all components of the built environment that can distract from the natural landscape.

Figure 5. Quote from River Ranger Joby Mills about the Corridor's natural environment.

Commuters are not the Only Type of Users that Believed an Increase in Commuter Use of the Corridor Would be Positive.

Many non-commuter respondents believed increased commuter use of the Corridor would enhance their experience. Some visitors said it would be positive because they knew of individuals that commuted in the Corridor and enjoyed it (Figure 6).

Figure 6. Commuter cyclist passing a recreational cyclist with their dog is running next to their bike.

Additionally, one user believed that heightened commuter use would supply more resources and maintenance to the area which incentivized their support. It was even surprising that some dog-walkers, a group that traditionally has spatial conflicts with commuters and cyclists, expressed their willingness to welcome more commuters.

Some Commuters and Cyclists Believed Additional Commuter Use Would Negatively Impact their Experience.

We found that several commuters and cyclists (Figure 7), groups that we expected to support more commuter use, were opposed to this potential change. Respondents expressed their concern that more commuters would take up room and cause the Corridor to feel overcrowded. There were also a few users who believed that an increase in people distracts from the natural quality of the space. Visitors also emphasized the importance of human-environment interactions by stating that more commuters would shift their focus from the scenery towards paying better attention on the trail.

Figure 7. Aileen interviewing a cyclist about their experiences in the Corridor.

Trail Capacity and Etiquette Were the Most Common Concerns from Users that Would be Affected by Increased Commuter Use.

Out of the respondents who said, "it depends" if increased commuters would affect their experience or it would be "negative", most were concerned about trail etiquette and capacity. This was also reflected in our interviews with user group advocates. Many responses were related to cyclists not keeping left, travelling at high speeds when others were nearby, and not using a bell to make surrounding users more aware. In terms of trail capacity, many users and key informants stated that the trail was too narrow to support more commuters and that a separate path or widening could be a viable solution.

There are Conflicting Opinions on if the Trail Should be Gravel or Sealed.

Several survey respondents appreciated the gravel portion of the trail, but this was contradicted by others who preferred the ease of a sealed surface. For those who enjoy the gravel, it was surprising that many were cyclists, as we expected this user group to prefer the sealed paths for efficient travel. Additionally, visitors expressed that the rugged, natural surface of the gravel added more to their experience (Figure 8).

Figure 8. Segment of the Corridor where the path splits into gravel and sealed surfaces.

Comparison of 2016 and 2024 Survey Results.

Our survey data had many similarities to the 2016 survey results but also provided our team with new insights. One of the similarities was what users believed were the best aspects of the Corridor (Figure 9).

The biggest difference in perceptions between 2016 and 2024 was regarding what improvements could be made to the Corridor. In 2016 "improving water quality was the top issue by a wide margin… it was identified as a priority by over 80% of all respondents" (Greenaway, 2016, p. 26). However, in our survey, only 1.4% of respondents mentioned that improvements were needed regarding water quality. It was important to note we did phrase the question differently; the 2016 survey gave options for the user to pick from and we curated an open-ended question. Still, we wanted to highlight this drastic change in responses.

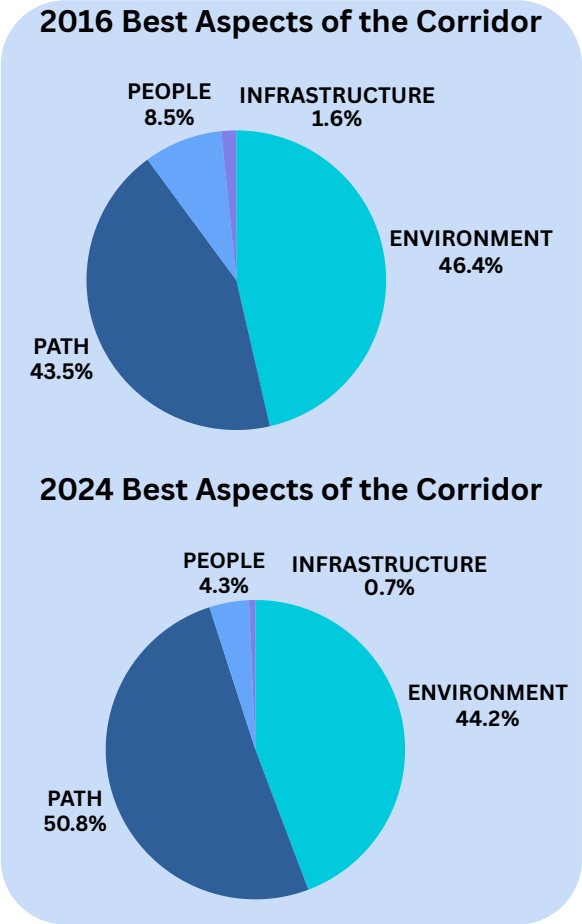


Figure 9. Graphs depicting user's "best aspects" of the Corridor from the 2016 and 2024 surveys.

Recommendations

Increase Signage and Cluster Hardscape Infrastructure Throughout the Hutt River Corridor.

We recommend increasing (Figure 10) and upgrading (Figure 11) signs throughout the Corridor which are aimed at user etiquette and natural history. This additional signage, and other built structures, should attempt to blend the infrastructure into the existing environment so as not to distract from the Corridor's highly valued natural beauty nor be a flood control hazard. As for the addition of hardscape infrastructure, we recommend clustering built components in locations where they already exist, such as near car parks or parks.

Figure 10. Potential signs for the Corridor created by Frankie.

Figure 11. "Keep Left" sign on the trail North of Melling Bridge on the East side of the river.

Increase Education for Shared Space Use

We suggest that the GWRC launch a media campaign on their already existing platforms to promote trail etiquette and shared space education. This campaign could include videos of the Hutt River Rangers recreating different situations that may occur on the trail and address how to properly act or respond. Additionally, we developed AI-generated cartoons of the two River Rangers, Joby Mills (Figure 12) and Brad Bulman (Figure 13), holding "keep left" and "slow down" signs. Both campaign ideas incorporate humor to educate users about proper etiquette and would familiarize the public with the Rangers who maintain the Corridor daily.

Figure 12. Joby Mills, GWRC River Ranger, and dog Charlie, cartoon made by ChatGPT.

Figure 13. Brad Bulman, GWRC River Ranger, and dog Leo, cartoon made by ChatGPT.

Widen/Separate Paths to Mediate Conflicts

When considering an increase in commuter cyclists we recommend examining separate paths as the best-case scenario. There are already areas of the Corridor that have two separate paths (Figure 14).

Figure 14. Two paths, gravel and paved, in the Hutt River Corridor.

We recommend continuing those separate paths throughout the entire Corridor, where it allows. This will create an opportunity for one of the paths to be used as a commuter lane during peak hours. In parts of the Corridor that lack the space for creating separate paths, we suggest widening the trail to be 2.5 meters. If there are areas of the Corridor where widening is not possible or there is a blind turn, we suggest adding convex mirrors (Figure 15) to increase visibility.

Figure 15. Proposed convex mirror to be added in the Corridor (Amazon, n.d.).

MEET THE TEAM

Lexi Carim

Lexi is a third-year student studying electrical and computer engineering. She is a part of the Womens Varsity Soccer team and is a member of both the Engineering Honors Society (Tau Beta Pi) and the Electrical Engineering Honors Society (Eta Kappa Nu). Her favorite part of this project was getting to know her sponsors as well as being able to meet different people on the trail and understand their opinions of the corridor.

Francesco Marrocco

Francesco (Frankie), is a third-year Electrical and Computer Engineering major with a minor in Data Science. He is a committed member of the Men's Varsity Rowing Team and a passionate photographer. His favorite part of the project was working on the trail, engaging with the beautiful scenery, and the people using the trail.

Aileen Peddie

Aileen is a third-year student studying biochemistry. She is the Vice President of the American Society for Biochemistry and Molecular Biology, a member of Omicron Delta Kappa Leadership Honor Society, and a member of the Women's Club Lacrosse Team. Her favorite aspect of this project was meeting New Zealanders and learning about how the River Corridor connects the Hutt Valley Community.

Bettina Valentiner

Bettina is a third-year student studying industrial engineering and pursuing a master's in management. She is involved in many organizations on campus such as the Society of Hispanic Professional Engineers (SHPE), the Institute of Industrial and Systems Engineering (IISE), and the Club Tennis Team. Her favorite part of this project was getting to know the River Rangers and learning about how they balance a floodplain and recreational space.

AUTHORSHIP

Section	Primary Author(s)	Editor(s)
Abstract	Bettina and Lexi	Aileen
Acknowledgements	All	
Executive Summary	Aileen and Lexi	All
Introduction	All	All
Background		
Adapting to the Changes of the Hutt River Valley	Frankie	All
Floodplain Management	Lexi	All
Local Agencies and Organizations	Bettina	All
Policies and Projects Affecting the Hutt River Corridor	Lexi	All
Hutt River Environmental Strategy Action Plan	Lexi	All
Future of Te Awa Kairangi/Hutt River Corridor	Lexi	All
Riverlink Project	Lexi	All
Multiuse Trail Systems	Aileen	All
Visitor Use Management Frameworks	Aileen	All
Users of the Hutt River Corridor	Bettina	All
2016 Survey	Lexi	All
EcoVisio Counter Data	Frankie	All
Commuter use Throughout the Hutt Valley	Frankie	All
What is a Commuter Cyclist?	Frankie	All
Recent Trends in Hutt Valley and Hutt River Trail Commuter use and Perceptions	Frankie	All
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Objective 2: Evaluate Perceptions of the Corridor's usage and the Potential Increased Use by Commuters.	Bettina	Aileen and Lexi
Objective 3: Identify and Employ Frameworks that Address Visitor Use Management in Shared Spaces.	Aileen	Bettina and Lexi
Analysis and Findings		
The Value of Nature was Contradicted by the Desire for Increasing the Corridor's Built Environment	Aileen	Bettina and Lexi

AUTHORSHIP

Section	Primary Author	Editor(s)
The Large Majority of Survey Respondents Perceived no Negative Effect from Increased Commuter Use	Bettina	Aileen and Lexi
Commuters are not the Only Type of User that Believed an Increase in Commuter use of the Corridor Would be Positive	Aileen	Bettina and Lexi
Some Commuters and Cyclists Believed Additional Commuter use Would Negatively Impact their Experience	Aileen and Bettina	Lexi
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Increase Education for Shared Space use	Bettina	Aileen and Lexi
Widen/Separate Paths to Mediate Conflicts	Bettina and Lexi	Aileen
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Conclusion	Aileen	All
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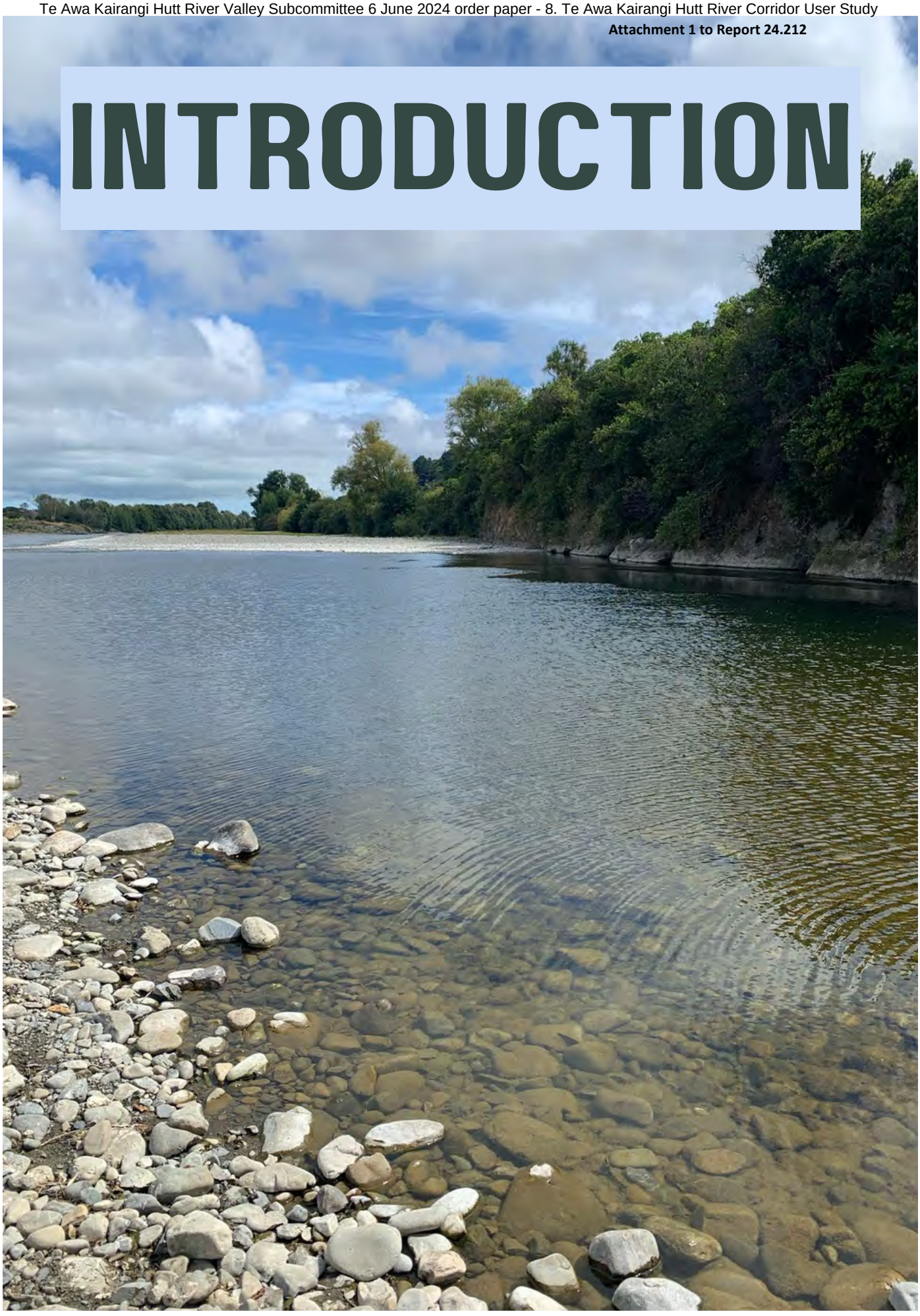


Hutt River in Trentham, Upper Hutt

Introduction

New Zealand's Hutt River Corridor has become an integrated part of the Hutt Valley community by providing its users with access to a multiuse trail system and opportunities to engage with the natural environment. Starting at Hikoikoi Reserve in Lower Hutt, this peri-urban space runs 29 km along both sides of the Te Awa Kairangi, Hutt River, until reaching Kaitoke Regional Park in Upper Hutt. Before this pathway was developed by the Hutt Valley Rotary Club and Greater Wellington Regional Council (GWRC), Te Awa Kairangi served as a transportation route. In 1855, an earthquake leveled the land, heightening the risk of flooding for residents of the Hutt Valley. The frequent floods motivated the community to adopt more extensive flood protection measures. Once stop banks and drains were developed, a recreational trail was introduced to the Corridor. This multiuse space hosts various activities and user groups including pedestrians, cyclists, dog-walkers, horseback riders, and others.

The Greater Wellington Regional Council has worked on developing the Hutt River Corridor and trail system for many years. A part of their mission is to make Greater Wellington more sustainable and resilient. GWRC oversees approximately 497 km of coastline and 813,000 hectares, with their responsibilities including everything from environmental monitoring to maintaining campsites (Greater Wellington Regional Council, 2023). Their interest in the River Corridor and the trail stems from a desire to increase awareness of flood resilience and provide recreational spaces for the public.

Our partners at GWRC have recently seen conflicting requests from different user groups lobbying for their desired use of the trail. Increasing pressure has been placed on the Council to examine the River Corridor as a commuter route to provide a viable transportation option for residents of the Hutt Valley (Figure 16). However, the GWRC strives to provide positive experiences for all user groups, which is why they are interested in assessing different visitors' opinions on their current use to potentially improve the space.

1. Understand how the Hutt River Corridor functions as both a floodplain and recreational zone.

2. Evaluate perceptions of the Corridor's usage and the potential increased use by commuters.

3. Identify and employ frameworks that address visitor use management in shared spaces.

The main goal of our project was to understand evolving perceptions of Te Awa Kairangi, Hutt River Corridor to help the Greater Wellington Regional Council manage this shared space. To attain this goal, the following objectives were established:

Through researching these objectives, we will provide the GWRC with recommendations that align with public opinion, are equitable for the needs of trail user groups, and abide by governmental policies.

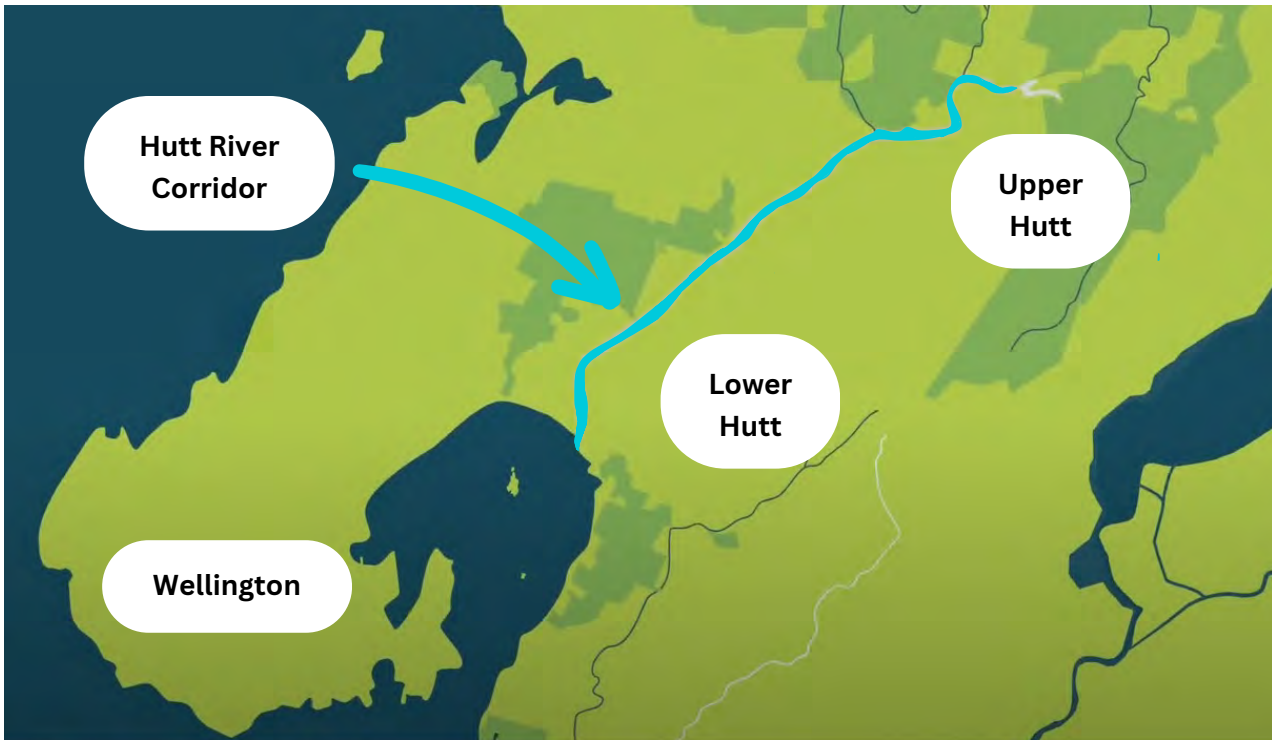


Figure 16. Hutt River Corridor location map (Greater Wellington Regional Council, 2021).

BACKGROUND


Nau mai, haere mai, welcome
Greater Wellington
Te Awa Kairangi
Hutt River

Hutt River in Manor Park, Lower Hutt

Adapting to Changes in the Hutt Valley

Since the initial settlement by the Māori tribe Ngāi Tara in 1200 AD, Te Awa Kairangi/Hutt River, and the valley surrounding it, have experienced significant transformations (Greater Wellington Regional Council, 2016). These changes involve the landscape, settlement patterns, and land use (Reid, 2005). Te Awa Kairangi, meaning “The Highly Esteemed River”, was used by original Māori communities as both a transport route and a food source (Bluett, 2011). In 1855, a powerful earthquake raised the level of the Valley, draining much of the water and transforming the land from a dense swampy forest, rich in native bird life, into a flat plain (Hutt City Council, 2023). Since the land became more accessible, the Valley's population increased, but severe flooding made the area a challenging place to maintain infrastructure (Easther, 1991).

Throughout the 20th century, the Hutt Valley underwent significant modifications aimed at strengthening its resilience against floods. Various measures, including the construction of stop banks, the redesigning of bridges, and other flood control strategies were implemented during this period (Easther, 1991). As flood control measures made life safer for the residents of the Valley, there was an increase in projects geared towards expanding recreational options, including the establishment of an outdoor trail in the corridor (Easther, 1991).

In the 1990s, the Hutt Valley Rotary Club, a local service organization, collaborated with the GWRC, Upper Hutt City, and Lower Hutt City to establish the Hutt River Trail. This project was initiated to mark Rotary’s 50th anniversary and subsequently united the Hutt Valley community by enabling recreational use and enjoyment of the river’s natural beauty.

Floodplain Management

The Hutt River Flood Plain Management Plan is a 40-year plan established in 2000 that was created to improve flood protection along Te Awa Kairangi. This plan is reviewed every 10 years to update changes regarding flood management (Hutt River Flood Plain Management Plan , 2001). In this plan the GWRC split their initiatives into structural (Figure 17) and non-structural measures. Upon introduction of flood protection methods in the 1890s, they determined that agencies needed to develop a design standard for the level of water contained by defenses in each section of the Hutt River (Hutt River Flood Plain Management Plan, 2001). The GWRC decided to use the cumec for measurement, which is a flow rate equal to one cubic meter of water per second. They were able to "identify 3 different flow rates which were most likely to occur for varying intensities of flooding events: 1900 cumec, 2300 cumec and 2800 cumec" (Hutt River Flood Plain Management Plan , 2001, p.xii). Ultimately, they decided that the 2300 cumec standard would be implemented due to cost and likelihood of flood level (Hutt River Flood Plain Management Plan, 2001).

Figure 17. Photo taken on top of a stop bank with arrows depicting how the slope directs water back into the Corridor during a flooding event.

Structures protecting populated areas along the river that could not endure a 2300 cumec flood were consequently upgraded to achieve this design standard. The Corridor also contains signage that depicts the history of flooding and protection measures to educate visitors (Figure 18).

Figure 18. Flood protection signage and flood marker post at the Riverbank Car Park in Lower Hutt .

These upgrades include bridges, housing, bank edge protection/river alignments, improvement of non-structural flood protection methods, and stop banks which are parts of the land that have been built up to contain flood water (Figure 16). The other focuses of the policies created in this document are to "protect the community, maximize community benefits, make the minimum number of upgrades possible, and utilize non-structural measures to manage residual risk" (Hutt River Flood Plain Management Plan, 2001, p.37).

Local Agencies and Organizations

The oversight and management of the Hutt River is done by the Greater Wellington Regional Council, in collaboration with the corresponding municipal bodies, namely the Upper Hutt City Council and Hutt City Council (Table 1). These groups collectively take responsibility for ensuring the safety and well-being of the river, its associated trail, and attending to the diverse needs of users. Table 1 explains each organization and how they relate to the Hutt River Corridor.

Table 1. Agencies Involved in the Maintenance of the Hutt River Corridor

Agencies	Location	Mission	Role Relating to the Corridor
Greater Wellington Regional Council	Wellington City	Protect our environment while also meeting the cultural, social and economic needs of our communities.	Looks after the whole trail. They specifically take care of the gravel trail paths in Lower Hutt. In Upper Hutt they are responsible for the stop banks and flood protection controls.
Upper Hutt City Council	Upper Hutt	Improve life through leadership, support, and service to the community.	There is a formal agreement between UHCC and GWRC. In this agreement UHCC is responsible for the trail and any signage or facilities which get added to it.
Hutt City Council	Lower Hutt	Build a connected, resilient and inclusive city where all of our people thrive.	There is no formal agreement between HCC and GWRC, but HCC cleans up the trash and takes care of the sealed black top in Lower Hutt.

The information contained in this table can be found in: (Our Role and Activities, 2023), (Upper Hutt City Council, 2024), (Hutt City Council, 2020)

Policies and Projects Affecting the Hutt River Corridor

This section describes key guiding documents such as the Hutt River Environmental Strategy Action Plan, the Hutt River Corridor Management Plan, and the RiverLink Project. These plans highlight the work previously completed by the GWRC and serve as a foundation for future developments along the Corridor.

Hutt River Environmental Strategy Action Plan

The Hutt River Environmental Strategy Action Plan (Figure 19) has three main focuses: environment, community, and recreation. The environmental aspect of this document ensures that the river, which has personhood under Māori law, is being protected and restored in areas where necessary. The community aspect considers the following values of the communities surrounding the Hutt River: providing governance and management structure for the River Corridor, encouraging community participation while also ensuring public safety, identifying educational opportunities, and ensuring that the designs are created in a way that protects existing infrastructure (Miskell, 2018, p. 17). The most important aspects for our project are the recreational recommendations. These include expressing the mana whenua: the right to land for Māori tribes throughout the Corridor, managing and developing the open space around the river, providing a diverse range of recreational possibilities, managing any conflicts between users, and developing enhancement opportunities for recreation through the RiverLink project (Miskell, 2018, p, 20).

Figure 19. Cover screenshot of the Te Awa Kairangi/Hutt River Environmental Strategy Action Plan (Miskell, 2018).

Future of Te Awa Kairangi/ Hutt River Corridor

This document (Figure 20) is an environmental and recreational management plan and operations manual published in 2022 that utilizes the GWRC Hutt River Corridor User Survey 2016 and other subsequent policies (McRae, 2022, p. 11). This plan provides a breakdown of every section of the corridor and what needs to be upgraded. While the handbook contains similar content included in the Environmental Strategy Action Plan, it can be differentiated by its focus on the Corridor and inclusion of design guides for suggestions that could be implemented. These design guides provide detailed layouts of how to improve the trail, surfacing, vehicle barriers, signs, and even planting (McRae, 2022, p. 4).

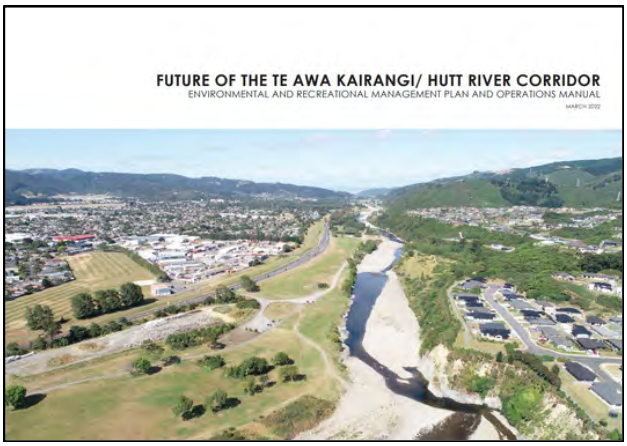


Figure 20. Cover screenshot of the Future of the Te Awa Kairangi/Hutt River Corridor (McRae, 2022).

RiverLink Project

RiverLink is a project located in the Hutt River Corridor, specifically Lower Hutt. The goal of RiverLink is to “create a new relationship that responds to both the past and present between the river, the city and the people” (IGL 4464 Riverlink Motion Graphic UPDATE , 2021).

To do so, the RiverLink project will make upgrades to floodplain measures in order "to protect against a one in a 440-year flooding event, that has a 20% chance of happening in the next 100 years" (IGL 4464 Riverlink Motion Graphic UPDATE, 2021). This project also plans to improve freight connections and create two new bridges, one being a pedestrian bridge, and the other being a new interchange (Figure 21). These improvements will hopefully strengthen the local community and bring more people to the Corridor.

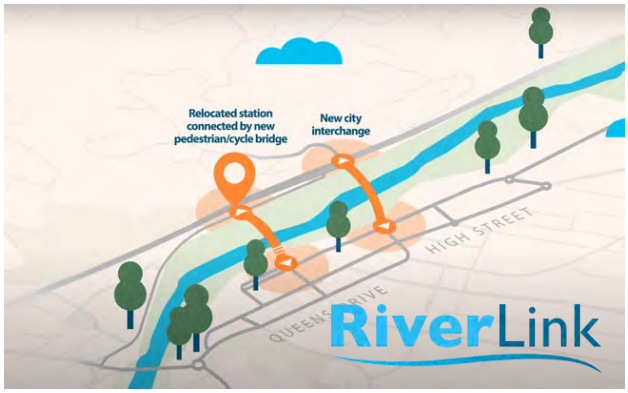


Figure 21. Screenshot from the RiverLink website of the new bridges being constructed in Melling (IGL 4464 Riverlink Motion Graphic UPDATE, n.d.).

Multiuse Trail Systems

National parks and protected trail systems across the world function to conserve the natural environment while providing recreational opportunities to the public (Wolf, Brown, & Wolfart, 2018). Creating positive user experiences can develop a symbiotic relationship between the ecosystem and visitors who subsequently protect and gain connection to the environment (Weaver & Lawton, 2017; Wolf, Ainsworth, & Crowley, 2017). However, the multi-use of these areas can result in tensions between different visiting groups due to " contrasting spatial needs" (Wolf, Brown, & olfart, 2018). This concept is currently one of the challenges facing the Hutt River Corridor, a shared space (Figure 22).

Figure 22. "Shared Space" sign on the Hutt River Trail.

Trails in recreational zones, such as the United States National Parks or sustainable tourism attractions including New Zealand's Central Otago Rail Trail (Figure 23), have become successful by adapting systems that manage visitor experience and environmental conservation (Taylor, 2015).

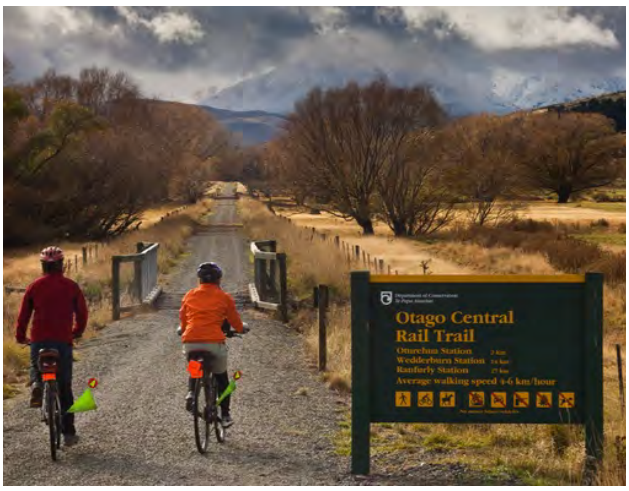


Figure 23. Cyclists using the Central Otago Rail Trail in New Zealand (Otago Central Rail Trail, n.d.).

Visitor Use Management Frameworks

The planning and management of shared spaces often aims to maximize user benefits while achieving standards for resource conditions and visitor experiences (IVUMC-What Is VUM?, 2022). This work is often accomplished through the application of frameworks: a research technique that utilizes thematic and organizational structures to analyze qualitative data (Goldsmith, 2021).

Clark and Stankey (1979) developed the "Recreational Opportunity Spectrum (ROS)": a framework based on factors that allow recreationalists to develop diverse experiences. This tool was initially established to account for the variety of users and campers visiting forests in the United States, but has since been adapted by recreational managers globally (Gundersen et al., 2015). This framework is foundationally based on the concept that a visitor can perform an activity, in a setting, and consequently gain an experience (Joyce & Sutton, 2009). The idea of this framework is to categorize recreational sites using three overarching categories: physical, social, and managerial, which then allows the space to be sorted into an ROS Class (Figure 24)(Lukoseviciute et al., 2021). Identification of a class can then be used by managers to implement desired settings into planning and experiences that meet user's preferences (Lukoseviciute et al., 2021).

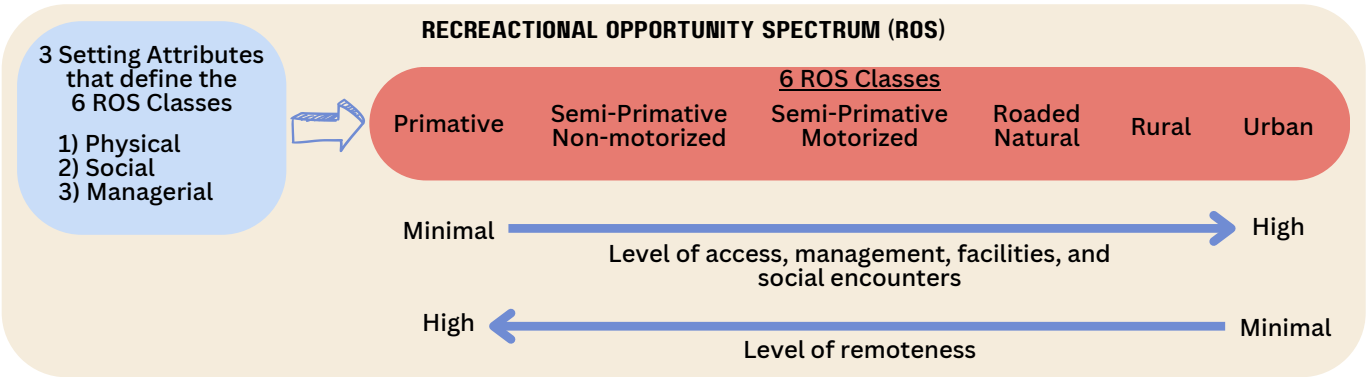


Figure 24. Recreational Opportunity Spectrum graphic adapted from the US Forest Service (Lee & Beard, n.d.).

Users of the Hutt River Corridor

The Hutt River Trail is a multiuse peri-urban trail system; its location incorporates both the urban and rural aspects of the Hutt Valley central business districts and landscapes (Wandl & Magoni, 2016). The Hutt River Corridor system is important to users in Upper and Lower Hutt and contains varied layout and capacity for the different needs of its visitors (Hutt River Trail 2019). The most common groups that utilize the trail are listed in Figure 25. Census data from 2018 has determined most of the population in Upper and Lower Hutt is in a 4 km radius of the Hutt River. The population density of these cities diminishes as distance from the river increases (Stats NZ, 2020).

Eco-Visio Counter Data

River Ranger, Joby Mills, provided a dataset containing 24/7 live counts of trail usage. There are a total of nine counters, but only three of them are on the Hutt River Trail (Figure 26). This is because these counters are part of a larger system that captures data along the Remutaka Cycle Trail.

The three counters began capturing data on these dates: Boulcott on December 13, 2017; Gemstone Drive on October 23, 2018; and Silverstream on June 17, 2019. The counters also provide data on the type of user (cyclist or walker), the direction they were traveling on the trail, and record an accurate time for when they passed (ECO-COUNTER, 2024).

Figure 25. Corridor User Groups Graphic.

Figure 26. User walking through the counter bollards on the trail.

GWRC Hutt River Corridor User Survey 2016

In 2016 the GWRC conducted an intercept survey of recreational users in the Hutt River Corridor. To perform this survey, they stopped 960 individuals along the Hutt River using convenience sampling, which means they attempted to interview every person who passed. In this survey (Appendix A) they focused on demographics, activities, changes of the trail over time, best and worst aspects, conflicts, and improvements (Greenaway, 2016). Survey days were not randomly selected, and busy holidays/weekends were often chosen to collect as many responses as possible which created potential sources for error (Greenaway, 2016). This survey was then used to "advise the Hutt River Environmental Strategy Action Plan and provide a baseline against which the effects of management activities can be measured" (Greenaway, 2016, p. 5). Some key findings included: 80% of users were concerned with improving water quality, 60% of respondents considered the Corridor to be better than when they first came, and the level of conflict between users was low with only 4% reporting negative interactions (Greenaway, 2016).

Commuter use in the Hutt Valley

A commuter cyclist is a user that cycles for transportation rather than leisure purposes. Some important components of this visiting group's use are time and efficiency (*People Who Cycle*, n.d.).

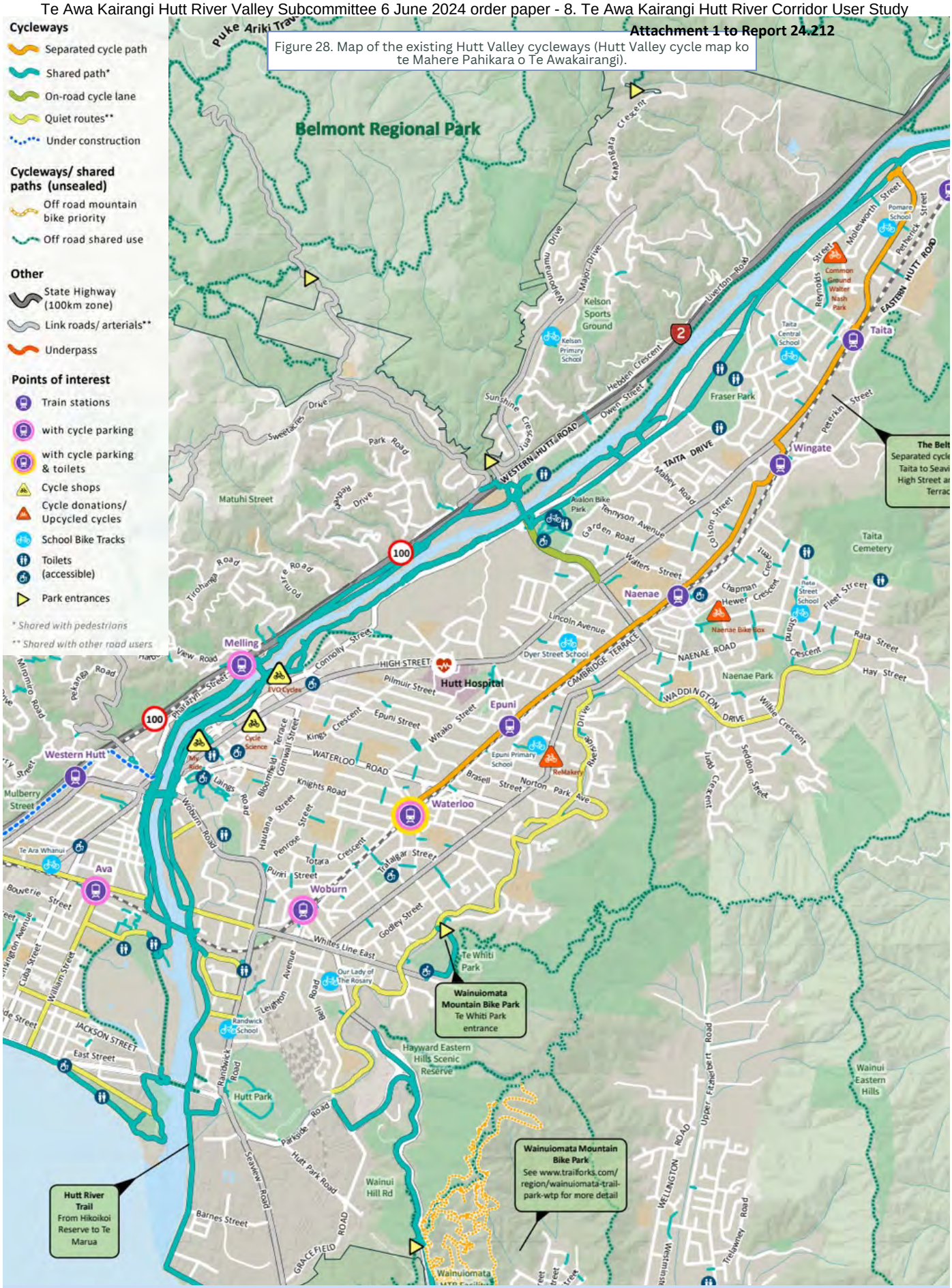
Several visitors use the Corridor to commute instead of the road (Figure 27).

Figure 27. Commuter cyclist using the Corridor.

In recent years, there has been a renewed interest in cycling as a mode of transportation; in 2014, the government launched the NZ$100 million Urban Cycleways Programme, aimed at fast-tracking the construction of urban cycling paths (*The Planning and Policy Context,* n.d.). As a result, the Hutt Valley has witnessed the construction of new cycling infrastructure, including the enhancement of the Hutt River Trail. Unfortunately, some initiatives were not completed. This included the Rail Corridor Route, proposed in the 2014 Urban Cycleways Programme, to connect the Upper Hutt Central Business District and Silverstream. Figure 28 shows the current state of cycleways in the Hutt Valley, where there is no addition of the Rail Corridor Route.

Despite the lack of this route, the Hutt River Trail provides an option for cyclists who might not be confident enough to ride alongside vehicles. Furthermore, the Hutt River Trail offers a direct path from the top of Upper Hutt to Petone with several access points, making it an attractive option.

Figure 28. Map of the existing Hutt Valley cycleways (Hutt Valley cycle map ko te Mahere Pahikara o Te Awakairangi).



Recent Trends in the Hutt Valley and Hutt River Trail Commuting

In 2016, a research study to see the attitudes and perceptions towards cycling was conducted by New Zealand Transport Agency (NZTA). It showed that 75% of adult urban New Zealanders say they would cycle for commuting if there were better networks for cyclists (New Zealand Transport Agency, 2016). Since then, the NZTA has invested NZ$390 million into walking and cyclist infrastructure (New Zealand Transport Agency). A similar public survey was conducted in 2016 and repeated yearly from 2018 to 2023. According to the latest perceptions survey, approximately 54% of urban residents in New Zealand perceive cycling as an efficient mode of transportation (2022 understanding attitudes and perceptions of cycling & walking 2023, p. 9). This perspective is particularly relevant in the context of Upper Hutt and certain areas of Lower Hutt, where the development of cyclist infrastructure is notably limited (Figure 27). Under these circumstances, many cyclists in the Hutt Valley recognize the Hutt River Trail as a prominent alternative and viable transportation route.

Sponsors

To conduct this research, we collaborated with the Greater Wellington Regional Council (Figure 29). Our four main sponsors for this project were Ross Jackson (Landscape Architect), Joby Mills (Senior River Ranger), Brad Bulman (River Ranger), and Steve Kamo (Flood Protection Engineer) (Figure 30).

Figure 29. Greater Wellington Regional Council Logo.

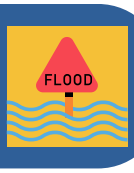
Figure 30. Greater Wellington Regional Council Project Sponsors.

METHODS

Methods

The main goal of our project was to understand evolving perceptions of Te Awa Kairangi, Hutt River Corridor to help the Greater Wellington Regional Council manage this shared space. To attain this goal, the following objectives were established:

1. Understand how the Hutt River Corridor functions as both a floodplain and recreational zone.



2. Evaluate perceptions of the Corridor's usage and the potential increased use by commuters.

3. Identify and employ frameworks that address visitor use management in shared spaces.

By fulfilling these objectives, we hope to provide the Council with work that is informative and applicable to future governmental projects in the River Corridor.

Our primary research technique utilized in all three objectives was face-to-face surveying. We decided in-person surveys (Figure 31) were ideal for this project because of their ability to capture an individual's experience, values, behaviors, and opinions (Survey Research - an Overview | ScienceDirect Topics, n.d.). The survey our team conducted was an adaptation of the GWRC Hutt River Corridor User Survey 2016 that was completed by a private consultant, Rob Greenway (Appendix A). The survey development began by meeting with Rob Greenway. He provided advice and strategies for developing a survey and writing effective questions that capture valuable user insights.

We also had a conversation with Myfanwy Hill, GWRC's Environmental Operations Manager, who believed our project would aid in her research about a commuter route being added to the Corridor. After these meetings, we adjusted and finalized our survey called River Reflections: Hutt River Corridor Experience Survey (Appendix B).

Figure 31. Bettina filling out a survey by hand in the River Corridor.

Discussions with River Rangers Joby Mills and Brad Bulman and the data from EcoVisio counters helped our team identify the times and locations that would allow us to collect the highest number of surveys. After formulating a schedule of when we would visit the Corridor, to allow for an equal distribution of days and times, our group began collecting data through convenience sampling (Figure 32).

Figure 32. Frankie surveying a motorbike user at the Riverbank Car Park.

We often were stationed in teams of two at different sites to cover as much of the River Corridor as possible. Our group would then attempt to individually survey any users who passed, by smiling and waving to people as they approached to get their attention. We also conducted several surveys at the Harvey Norman Mall in Lower Hutt (Figure 33). The purpose of these alternative-site surveys was to intercept non-users and hopefully understand why they do not visit the Corridor (Appendix C).

Figure 33. Group member Bettina surveying at the Harvey Norman Mall.

1. Understand how the Hutt River Corridor functions as both a floodplain and recreational zone.

An essential aspect of beginning work on this project was building a foundational understanding of the Hutt River Corridor's functionality and the visitor groups that frequent it. To accomplish this, our group relied heavily on participant observation (Figure 34) which entails researchers immersing themselves in a setting or group to observe behaviors and interactions (George, 2023).

Figure 34. Group members conducting an in-person walking site assessment.

As a team, we travelled to the Corridor by way of public and private transportation to complete several in-person walking assessments, biking assessments, and assessments conducted in the River Ranger's trucks. Participant observation allowed our group to become acquainted with the site through noting the presence of features such as tire marks, litter, and path width. Furthermore, our individual interactions with people we encountered fostered a better understanding of Corridor users.

Photographic documentation, alongside participant observation, was applied to provide more tangible evidence of our observations in the River Corridor (DOCUMENTATION Definition and Meaning | Collins English Dictionary, n.d.). We captured images that conveyed signage and maps,

evidence of unauthorized motor vehicle use, changes in how the trail is paved, graffiti (Figure 35), and more.

Figure 35. Photograph of graffiti taken at Poet's Park.

We also obtained several shots of trail users themselves that were taken at a distance and excluded any recognizable facial features (Figure 36). This methodology established a colorful archive of images that we could refer to for details of the Corridor. Applying a visual approach provided better anecdotes for both our group and our sponsors when referring to the context of our site.

Figure 36. Photo of cyclist crossing the foot bridge near Te Haukaretu Park.

Our team furthered our understanding of the Hutt River Corridor's recreational activities and functionality through both the semi-structured and open-ended-structured interviews with key informants. Semi-structured interviews are a data collection method that involve asking participants a set of open-ended questions and following them up with probe questions to further their response and the topic of interest (What Are Semi-Structured Interviews?, 2022). This format allowed the team to prepare a set list of questions while leaving room for changes as the conversation progressed. Conversely, structured interviews are when the interviewer asks predetermined questions in a set order (George, 2022). With this method, we gained detailed responses from user group advocates that provided our team with deeper insights into visitor experiences. This format allowed for an easier comparison between each visiting group.

To identify key informants for both interview structures, we utilized snowball sampling from our sponsors Ross Jackson and Joby Mills who provided us with a list of individuals that could speak to different aspects of the River Corridor (Appendix D). In terms of the Corridor, these informants ranged from people who supervise it daily, user group advocates, or people connected through their governmental role.

Interviews were conducted both in-person and remotely depending on the interviewee's personal convenience (Figure 37). These interviews gave the group a more encompassing perspective of the Corridor's complexity as both a floodplain and recreational space. We advanced our comprehension of the Corridors ' recreational purpose through the many surveys the team conducted. This method enabled us to interact one-on-one with different user groups by asking them a series of questions that collected both demographic and qualitative data on individuals, their use, and their opinions of the Corridor.

Figure 37. Group member Aileen with former President Linton Adams (middle) and current President Andy Soper (right) from the Rotary Club of Hutt City.

2. Evaluate perceptions of the Corridor's usage and the potential increased use by commuters.

For this objective, we assessed both recreational and commuter cyclists' use of the Corridor through conducting surveys and key informant interviews.

We prepared interview questions that probed people's opinions on the River Corridor's use and its potential for increased commuter cyclist use. Some of the interviews consisted of conversations with Governmental employees and officials who have personal or work-related experience with the Corridor. This includes people such as Graeme Campbell, Head of GWRC's Flood Resilience Team, who provided a valuable perspective on how the flood protection utility of the Corridor feeds into development of infrastructure and a commuter route. We also spoke with several key informants that were representatives of different users along the trail. These individuals advocated for the needs and opinions of themselves and their user group, which offered a perspective that was likely evocative of others using the Corridor in a similar way.

3. Identify and employ frameworks that address visitor use management in shared spaces.

The raw data collected from our survey responses was one of the most essential components of this project. Our sponsors at GWRC stressed that some user groups are more vocal in lobbying for their desired use of the Corridor. Therefore, we strived to survey a comprehensive and balanced number of users. Also, this technique allowed our group to produce an updated version of the 2016 User Survey with useful results for comparisons. The data obtained from both semi-structured and open-ended structured interviews was also reviewed before providing recommendations.

To go about organizing our data from our survey and interview responses we applied frameworks to analyze qualitative responses.

Through Laurie J. Goldsmith's "Using Framework Analysis in Applied Qualitative Research" (2021) and Clark and Stankey's "Recreational Opportunity Spectrum (ROS)" (1979), our group developed a set of frameworks applicable to perceptions of the Corridor. The two parts of developing this technique are creating an analytic framework and then applying it (Goldsmith, 2021). These core elements can be broken into five steps: "(1) data familiarization; (2) identifying a thematic framework; (3) indexing all study data against the framework; (4) charting to summarize the indexed data; and (5) mapping and interpretation of patterns found in the charts" (Ritchie & Spencer, 1994). For step one, we established familiarity with the collected data by recording survey responses in a Google Form (Figure 38) and developing interview transcripts.

Then we moved into step two, identification of thematic frameworks, by adapting the three categories: physical, social, and managerial, of the ROS framework (Clark & Stankey 1979). The three overarching frames we developed were: Human-Human Interactions, Human-Nature Interactions, and Human-Infrastructure Interactions (Figure 39).

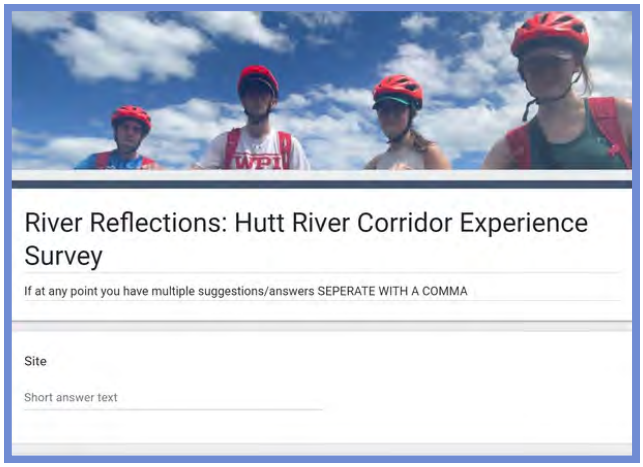


Figure 38. Screenshot of the Google Form used to input survey data.

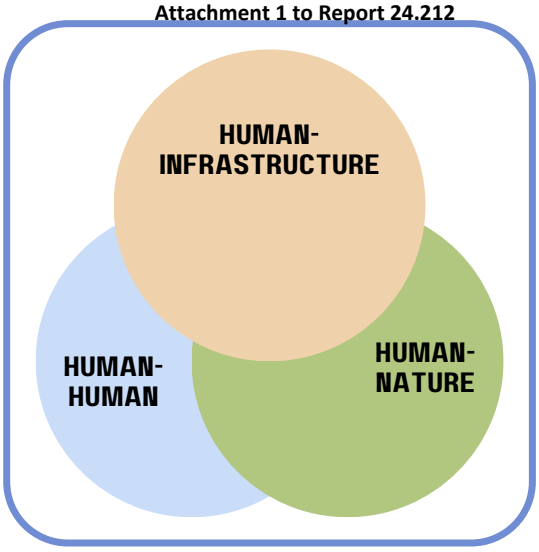


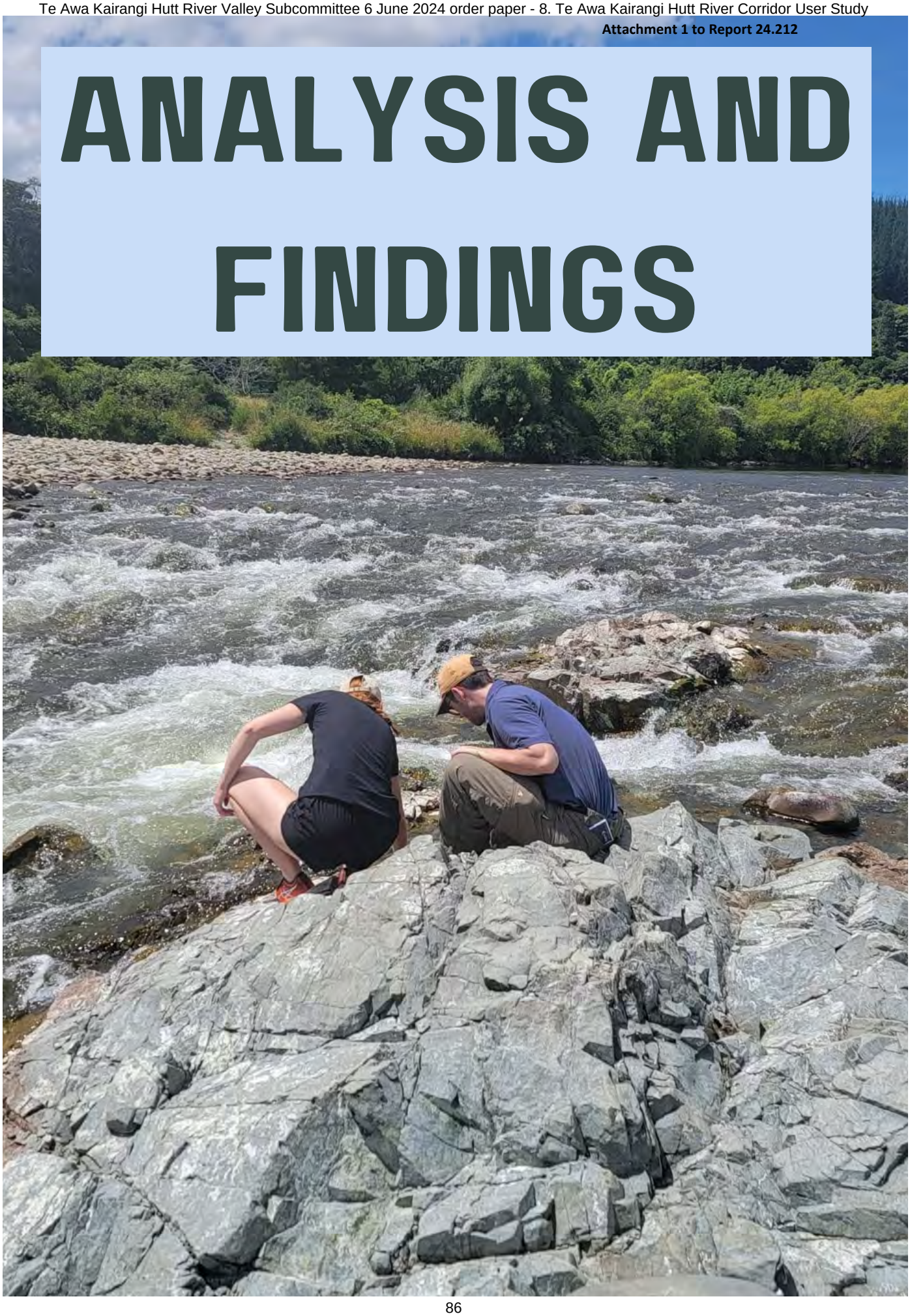
Figure 39. Graphic depicting the framework our team developed.

When reviewing individual survey responses, we gave the qualitative data for each question an initial thematic code that could be classified as a part of the social, natural, or built environment. This coding strategy provided a methodological approach to understanding the high volume of information collected.

We utilized Python's string manipulation capabilities to sort, filter, and organize our coded dataset. We also used the Pandas library to quickly create images and graphs to observe the trends in our responses. These preliminary graphs helped shape our final deliverable of organized responses by question and theme.

Additionally, we formulated interview transcripts for all the conversations we had with key informants, which were kept in the shared OneDrive and used in this stage of our research. The quotes from interviews were coded into one of the three categories: Human-Human Interactions, Human-Nature Interactions, or Human-Infrastructure Interactions. From here, we determined where different responses overlapped thematically to develop findings with a more holistic approach.

ANALYSIS AND FINDINGS



Findings and Analysis

By analyzing the data collected through the River Reflections: Hutt River Corridor Experience Survey (Figure 40) and key informant interviews, our group produced several findings regarding people's perceptions of the Corridor. Over a four-week period, our group conducted 276 face-to-face surveys with visitors that varied by age (Figure 41) and user group (Figure 42). We performed 221 on-site surveys at locations throughout the Hutt River Corridor and 55 alternative-site surveys at the Harvey Norman Mall in Lower Hutt. Additionally, we conducted 18 key informant interviews with user group advocates, representatives from external organizations, and GWRC employees.

Our assessment of the data was aided by the application of frameworks used in National Parks across the world. We applied Goldsmith's guide (2021) and Clark and Stankey's (1979) ROS to produce a framework with three overarching criteria that impacted Corridor user's experiences: Human-Human Interactions, Human-Nature Interactions, and Human-Infrastructure Interactions. The quantitative data coupled with the application of these frames for qualitative analysis allowed us to identify findings about visitor experience in the Corridor.

Figure 40. Title of River Reflections: Hutt River Corridor Experience Survey

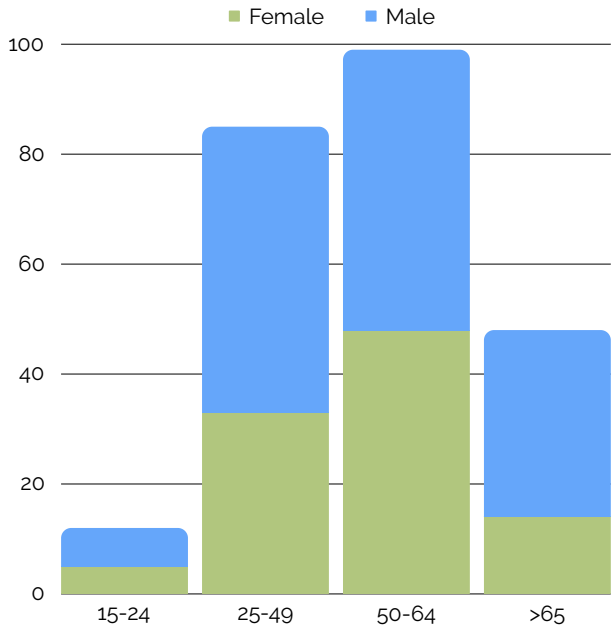


Figure 41. Bar graph breakdown of the age and gender distribution of users surveyed.

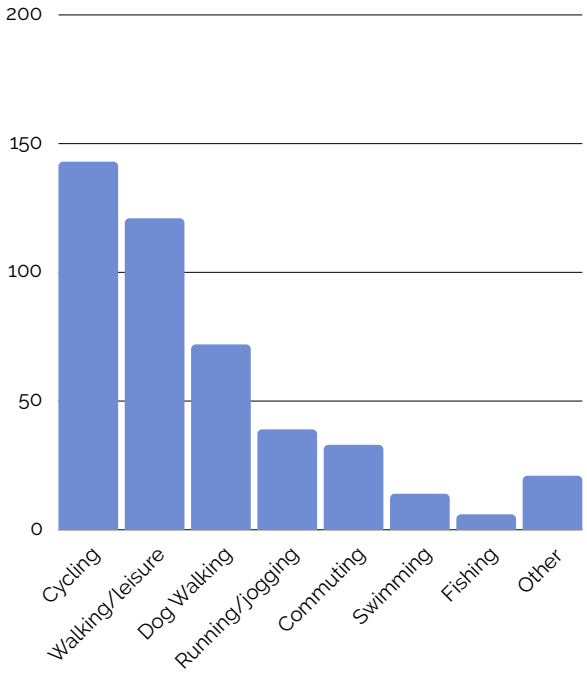


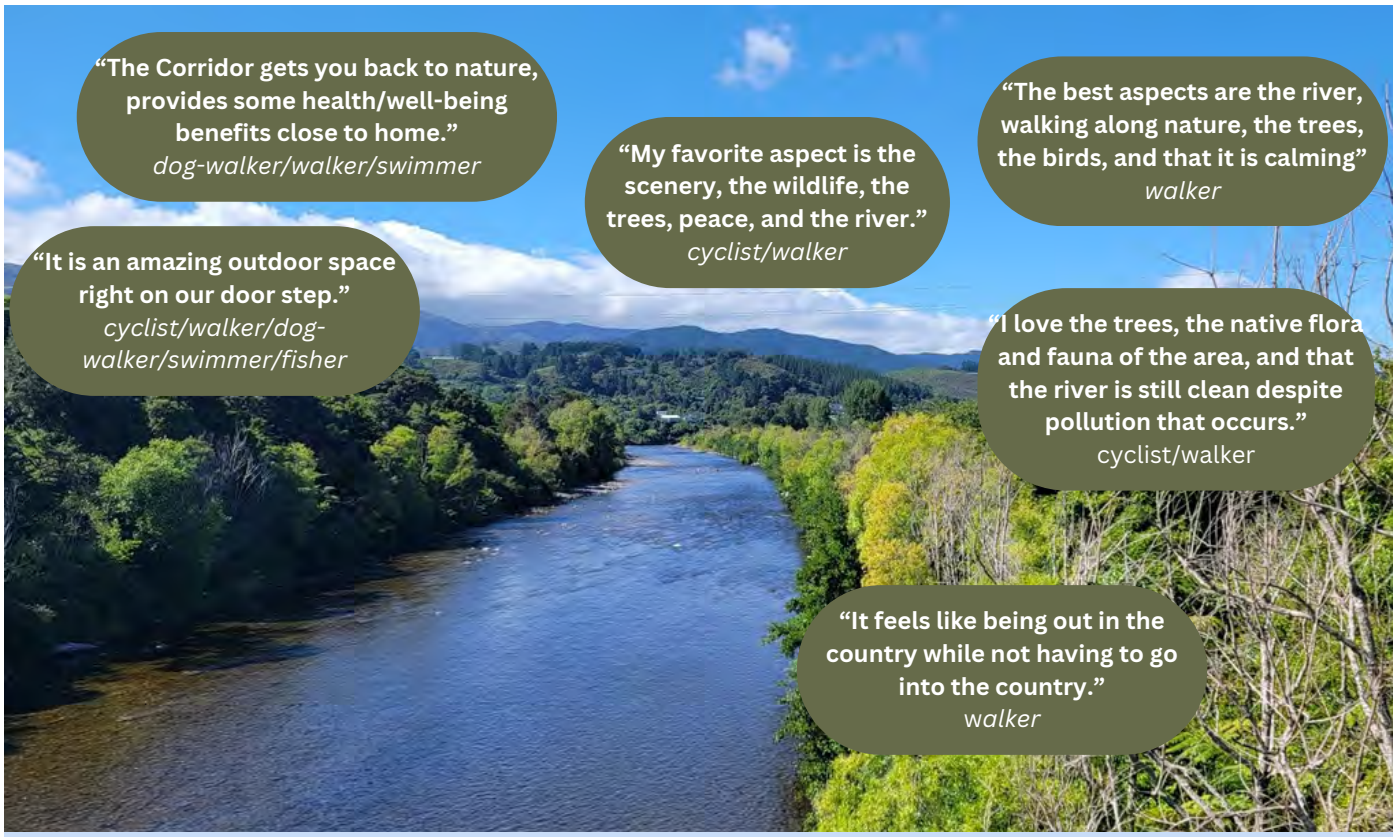
Figure 42. Bar graph breakdown of the user groups surveyed.

The Value of Nature was Contradicted by the Desire for Increasing the Corridor's Built Environment

Out of the 276 survey responses, 43% of participants described a component of the natural landscape as being the "best aspect" of the Corridor. These depictions included users noting their appreciation for Te Awa Kairangi/Hutt River, the greenery, and the overall tranquility of the space. This connection to the biophysical setting of the Corridor was echoed in several key informant interviews across different user group advocates (Figure 43). Graeme Campbell, Head of GWRC's Flood Resilience Team, stated that the area is "such a valuable ecological Corridor" as it pertains to the flood resilience the natural environment provides.

Whereas Joby Mills, Senior River Ranger, who works with both flood protection and trail users, said that the Corridor is important because "it provides an opportunity to commune with nature, and be close to the to the moving water, which is therapeutic in itself." The differences in people's responsibilities and experiences allow them to appreciate the Corridor's natural environment for different reasons but remain connected to the space.

Figure 43. Quotes from different visitors of the Corridor that express their appreciation for nature.



However, the appreciation for nature was contradicted by the significant number of users that wanted to increase the built environment of the space. For improvements that would create better experiences in the Corridor, 46% of respondents had answers related to infrastructure other than the trail itself (Figure 44). The most common suggestions were for increasing the amount of signage, water fountains, bins, and lighting. A desire for increased lighting was heard from several users including a walker/cyclist that stated: “Since there is no lighting, it makes it hard to see pedestrians in the dark”. Infrastructure serves an important function in recreational spaces, but for some visitors, it can distract form the natural environment, such as the bathroom at Moonshine Bridge Park in the middle of a meadow (Figure 45). This disparity highlights how built components can increase or decrease the value of a space, depending on a user’s desired experience.

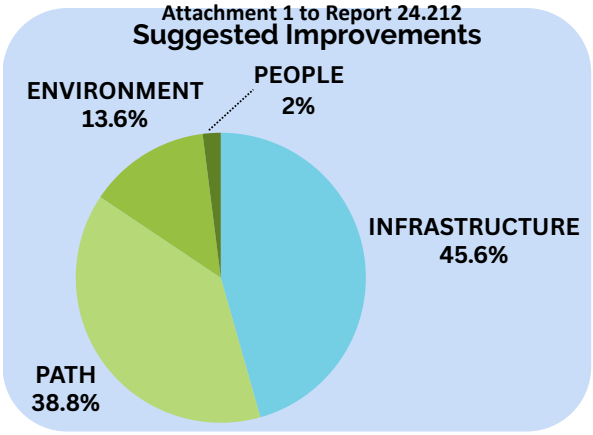


Figure 44. General Improvements user responses distribution.

Figure 45. Bathroom at Moonshine Bridge Park

The Majority of Survey Respondents Perceived No Negative Effect from Increased Commuter Use

It was surprising to find that most of the users surveyed would not be affected by increased commuter use in the Corridor. When asked if their experience would be impacted by more commuters, 66% of respondents said it would have either “no effect” or a “positive effect” on their use (Figure 46). It was interesting that the majority were walkers and dog-walkers considering that these two groups described the highest number of negative interactions with cyclists in our survey.

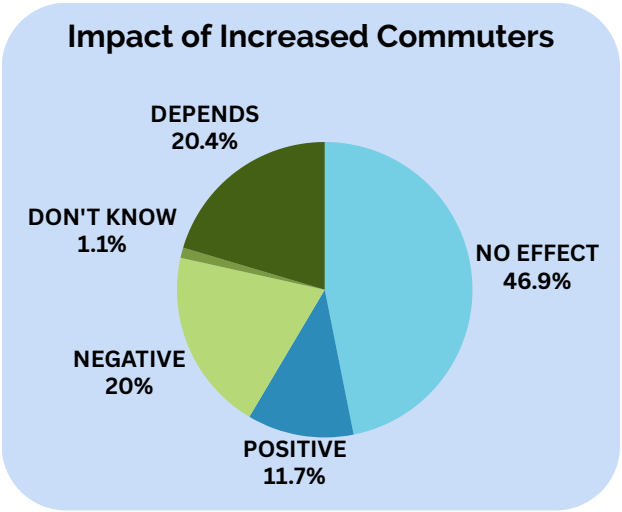


Figure 46. Distribution of how users would be impacted by increased commuter use in the Corridor.

Commuters are not the Only Type of Users who Believed an Increase in Commuter Use of the Corridor Would be Positive

Out of those who said more commuters would enhance their experience, 12% were commuters themselves and 63% were non-commuter cyclists. However, some users had different reasons than expected. A cyclist/walker stated, “I don't use it for commuting, but I know people who do, and I encourage it.” This highlights how some improvements can positively impact altruistic individuals that enjoy seeing others have positive experiences. The addition of a route was also perceived to be useful by providing benefits to the space as a whole: a cyclist said “more commuters are good and would add value to the trail, it would potentially mean the corridor is looked after better.” Although this visitor was not a commuter themselves, the idea of more resources and maintenance being brought to the space incentivizes their support for increased commuter use. Additionally, 15% of those who said increased commuter use would have a positive effect were non-commuters and non-cyclists. A dog-walker/kayaker said, “The more the merrier” which is interesting given that dog-walkers and cyclists had the most negative interactions with one another.

Some Commuters and Cyclists Believed Additional Commuter Use Would Negatively Impact their Experience

These are groups we expected to be positively affected, as additional commuters would be using the Corridor for the same or similar activities. A cyclist/walker said that the Corridor is “more natural when there's less people.” This was echoed by a cyclist/walker/swimmer who stated, “I would have to pay more attention and couldn't look at the scenery as much.” These statements reinforce the importance of human-nature interactions which are highly valued by Corridor users. Additionally, one commuter cyclist claimed that “it would be a lot more cluttered and force me to slow down.” This highlights that more commuters (Figure 47) could increase the travel time for this user group, which is an essential aspect of that activity. This claim also introduces a new element for consideration: Corridor and trail capacity.

Figure 47. Commuter cyclist passing a recreational cyclist.

Trail Capacity and Etiquette Were the Most Common Concerns from Users that Would be Affected by Increased Commuter Use

Out of those we surveyed who stated "it depends" if additional commuters would impact them or it would have a "negative" effect on their experience, 14% attributed this to the trail being too narrow and 10% believed it would be too busy (Figure 48).

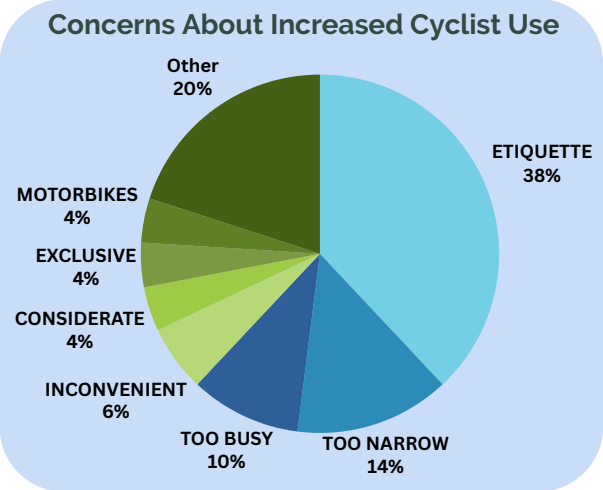


Figure 48. Distribution of user's concerns towards commuter cyclists.

Trail width connects to the built landscape being able to support the level of "business" or the number of users that visit the Corridor, which is why both "too narrow" and "too busy" are involved in trail capacity. This concern was expressed by a cyclist/runner/dog-walker: "the Corridor is already at capacity and a lot of changes would need to be made to accommodate more cyclists and improve." This was echoed by a walker who said "it [the Corridor] would be a bit crowded" and a commuter cyclist/runner that claimed "it [the Corridor] is already too small."

These concerns were also echoed by some of our key informants. Joby Mills stated, "it's hard to share a narrow path." The nature of a multiuse trail is having a variety of different user groups (Figure 49) and many people expressed that when those groups are confined to a limited amount of space, there can be difficulty sharing. This concept was addressed by Paul Gruschow, a mobility scooter advocate, who said "the river trail is quite narrow in parts, so you really have to show courtesy to each other."

Figure 49. Runner and mobility scooter user passing each other on the Hutt River Trail.

Like all user groups, commuter cyclists require their own spatial needs. Many users believed creating a separate path was a viable option for reducing these concerns. Cyclist Marco Ranelli stated that "the best situation would be separated paths" (Figure 50).

Figure 50. Separate paved path in the Corridor.

However, Graeme Campbell, GWRC Flood Protection and Resilience Engineer, brought up a concern regarding the feasibility of separate paths in the Corridor: "there's not enough space in some areas to separate users" (Figure 51). But in this case, many users proposed trail widening as a solution that would address their concern for increased cyclist use or just as an improvement that would enhance their overall experience in the Corridor.

Figure 51. Walker trying to pass a cyclist on Melling Bridge.

Additionally, out of those who said increased commuters would negatively impact them or "it depends", 38% said it was because of etiquette. Many users brought up that an important aspect of shared space etiquette is not putting others at risk with the activity you're performing. This concern was highlighted by a cyclist/walker/dog-walker who said that "e-bikes have their speed too fast in areas with kids or dogs." Walking advocate Ellen Blake shared a similar view: "older people and people with disabilities have issues with e-bikes and scooters whizzing past them, it's unsafe." Several visitors believed the amount of space commuters take up and their inability to keep left could negatively impact them. This was expressed by a cyclist/walker who said, "they [commuters] tend to hog the trail" and another cyclist who stated that "cyclists tend not to keep left." Another component of etiquette that users discussed was having general consideration for others in the Corridor. One walker/dog-walker said that "cyclists can be rude with the lack of consideration for walkers." However, many believed this concern was mostly dependent on "if they are considerate of other users" as described by a walker/swimmer. Lastly, an important part of etiquette in many survey responses was commuters/cyclists lacking the ability to make others aware of their presence and their use of bells. This was captured by a dog-walker who stated, "it would have a negative effect because of my dogs, you can't hear them [cyclists] because they rarely ring their bell."

We found that there are contradictory views as to whether cyclists should ring their bells or not. These beliefs were described in our interview with Simon Kennett, a cycling advocate, who stated that "many pedestrians do not appreciate being belled at, therefore I don't use it and opt to call out and wave." Some users perceive the bell as being disrespectful and leads to negative experiences in the Corridor, which is why some cyclists use their voices instead. However, some users prefer the bell as described by cycling advocate Marco Renalli who said, "I was trying to pass someone, and I yelled 'keep left' and they responded saying 'Ring your bloody bell!'" Not all users were this adverse to cyclists not using their bells but, many believed bell use helped increase their awareness.

Beth Rielle, a horseback riding advocate, stated “horses need to hear them [cyclists] coming as well; if your horse isn’t up to it, they shouldn’t be brought out here. Voice is the best thing, but bell is fine as well.” A dog-walker stated, “it's better when the cyclists have a bell, so I know when to move off the trail.” This was echoed in our interview with Jane Schuitema, a Lower Hutt Animal Control Officer, who said “cyclists using bells is good, especially if they are approaching from behind.”

Additionally, we found that several cyclists were concerned by users of the trail who wear headphones or have limited hearing ability. Cyclist advocate Marco Ranelli stated, “walkers with headphones are a problem because they can’t hear the bell or our call”. Additionally, several users made similar statements, one cyclist said they have had negative experiences with “ringing the bell and people wearing headphones who can't hear.”

There are Conflicting Opinions on if the Trail Should be Gravel or Sealed

We found that there were conflicting opinions on whether the trail surface should be sealed or gravel. Some users believed that having the path sealed would be an improvement; a walker/runner claimed, “there may be some parts on the gravel that are harder to use so paving more areas would be good.” For several commuters and cyclists, the sealed paths enhance their ability to ride throughout the Corridor. This was reflected in one response from a commuter cyclist/dog-walker that said, “I enjoy the upgraded surface for commuting.” Conversely, some users enjoy the graveled surface (Figure 52). A survey respondent said, “I like the gravel to run or walk on.” It was also surprising that several cyclists expressed their enjoyment of the gravel surface. One cyclist/runner stated, “I like the ruggedness of having some parts paved and some with gravel so there's not too much pavement.” Another cyclist said their favorite aspect of the Corridor was “the bumps and stuff, I like how it’s uneven.” One cyclist/walker even claimed it would be an improvement if there was “less gravel or concrete with the addition of more native track and wildlife.” This response touches on the importance of human-nature interactions in the Hutt River Corridor and furthers this conflict between the natural and built environment.

Figure 52. Gravel segment of the Hutt River Trail.

Comparison of 2016 and 2024 Survey Results

While our survey results had many similarities to the GWRC Hutt River Corridor User Survey 2016, as can be seen in Figure 53 which compares the best aspects of the trail, there were new insights regarding needed improvements.

The biggest change in responses from 2016 to now revolved around the improvements that could be made to the Corridor. In 2016 "improving water quality was the top issue by a wide margin... it was identified as a priority (1, 2 or 3) by over 80% of all respondents" (Greenaway, 2016, p. 26). In the survey we conducted, only 1.4% of the respondents mentioned water quality needing to be improved, which is a significant drop in user concerns. However, it is important to note that we asked this question slightly differently than in the 2016 Survey, as can be seen when comparing Figure 54 to Figure 55.

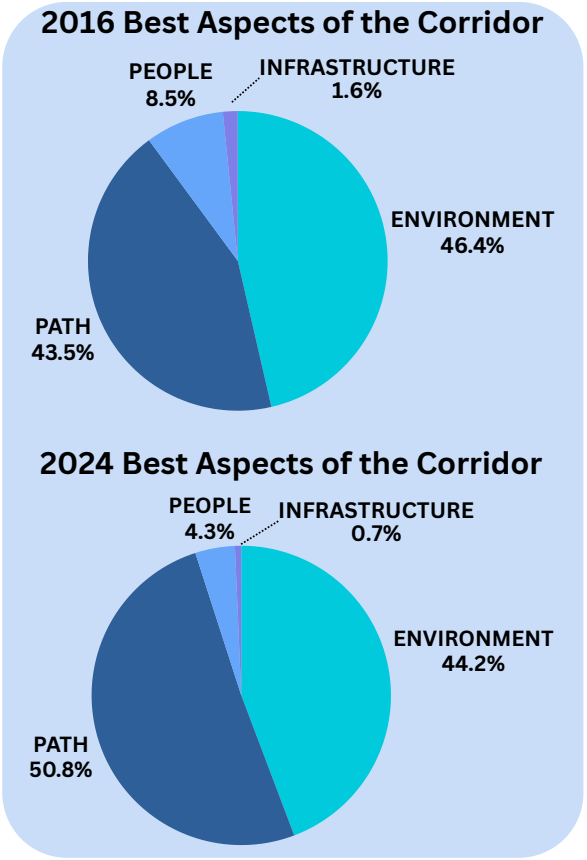


Figure 53. Graphs depicting user's "best aspects" of the Corridor from the 2016 and 2024 surveys.

Q13. What priorities should be placed on improving the Hutt River Corridor? **Identify your first, second and third priority activities** from the following list: **(SHOW LIST ON CARD, ENTER NUMBERS – 1, 2 and 3)**

1. ☐ Reducing the risk of flooding houses and businesses
2. ☐ Making the river a more fish-friendly environment
3. ☐ Protecting and enhancing cultural and historic values
4. ☐ Making the river margins better for native birds, insects and lizards
5. ☐ Improving water quality by better controlling algae, and bacteria and other pollution
6. ☐ Improving the river corridor for recreation activities
7. ☐ Improving the landscape and visual quality of the river corridor
8. ☐ Other: .....

Figure 54. GWRC Hutt River Corridor User Survey 2016.

Q14. What improvements, if any, could be made to enhance your experience using the Hutt River Corridor?

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_____

_____

Figure 55. River Reflections: Hutt River Corridor Experience Survey 2024.

In the 2016 survey they prompted users by showing them a list and asking them to pick their three top priorities for improvement. However, our survey asked the users an open-ended question to obtain the responses at the forefront of their minds. While we did ask this question differently, there was a significant disparity in responses that we believed was important to include.

Another change that we found between the 2016 survey data and our data was in the worst aspects of the Corridor question. While the general themes of people, path, environment, and infrastructure remained the same, there were some changes in the top-rated worst aspects of the trail. In 2016 the top five worst aspects were rubbish (Figure 56 and Figure 57), dog poo, algae (Figure 58), safety, and motorbikes. All these aspects, other than motorbikes users, have decreased since the first time this survey was completed. Compared to our survey, rubbish decreased from 13.7% to 3.2%, dog poo went from 9.5% to 6.5%, algae went from 7.5% to 1.4%, safety went from 7.8% to 1.2%, and motorbikes increased from 5.7% up to 7.8%.

Figure 56. Dog poo bag bin with rubbish next to it.

Figure 58. Toxic algae information sign in the Corridor.

Figure 57. Tarp with wood and gravel dumped on the trail.

RECOMMENDATIONS & CONCLUSION

Recommendations

The Hutt River Corridor is the most densely populated floodplain in New Zealand and contains a 29-km trail that serves as a recreational zone. Our project goal was to inform the Greater Wellington Council about the evolving perceptions of the Corridor to help them manage the space. We gathered responses from the users themselves to understand their opinions and conducted various key informant interviews that provided crucial information about the Corridor's nature and purpose. Our recommendations to the Council aim to improve all user experiences in the space.

Increase Signage and Cluster Hardscape Infrastructure Throughout the Corridor

The Hutt River Corridor currently has a variety of signs that address different topics; we recommend that the GWRC increases and/or upgrades signage to improve user experience and address concerns. The first type of sign that we suggest relates to visitor etiquette. The existing shared space signage is inconsistent throughout the trail and significantly faded in some areas (Figure 59). We suggest repainting and adding more of these signs at segments of the path that have either high traffic, low visibility, or are narrow. We propose these signs could include text that says, "shared space", "slow down", or "stay alert" (Figure 60).

Figure 59. Faded "Share with care" sign on the trail North of Melling Bridge on the East side of the river.

Figure 60. Potential Signs for the Corridor created by Frankie.

“Keep left” signs are also important to have along the trail. Some users visit the Corridor from other countries where people walk and drive on the right side, whereas New Zealand uses the left. We believe increased “keep left” signs will provide users with a friendly reminder of how to use the trail in a way that hopefully reduces any conflicts that could arise from the confusion. Painting these signs on the paved sections of the trail is a great way to inform the users without disrupting the natural environment (Figure 61). Moreover, painted signs are not a safety hazard in terms of a potential flood, which was a concern brought to us by Graeme Campbell. These signs would not be an addition to the Corridor's vertical infrastructure and therefore would be easier to maintain. We believe this recommendation would establish a balance between addressing concerns of users not keeping left while preserving the scenery.

Figure 61. “Keep Left” sign on the trail North of Melling Bridge on the East side of the Hutt River.

To further address the natural aspects of this space, we recommend adding signs that detail the Corridor’s history or native species of trees and birds. We believe these signs will add to the users’ experience and provide context for the visitors of the trail.

Another idea brought to our attention by respondents which we recommend is exit signs. These would be signs letting users know where the access points are along the Corridor and the distance between each one.

If there were to be an increase in hardscape infrastructure, as requested by the public, we recommend clustering it. By doing this you can give people the improvements that they want while keeping nature undisturbed throughout most of the corridor. We suggest doing this near car parks and places where hardscape infrastructure already exists, such as Moonshine Park (Figure 62) or the County Lane entrance.

Figure 62. Moonshine Bridge Park where there is existing hard-scaped infrastructure such as this swing set.

An example of a request for more infrastructure is a fenced dog park. We suggest adding one in both Upper and Lower Hutt. This would allow people to let their dogs run free while not having to worry about any issues with other users along the trail. Moreover, the Lower Hutt section of the trail is a leashed area, so this could provide dogs an opportunity to exercise freely.

Increase Education for Shared Space Use

To address the high volume of user concerns regarding trail etiquette, we propose GWRC utilizes its existing online platforms to showcase cartoon images or videos that educate the public. Example of these cartoons can be seen in Figure 63, where Brad Bulman, a current River Ranger, is shown holding a “Keep Left” sign with his dog Leo, and Figure 64 that contains Senior River Ranger Joby Mills holding a “Please Slow Down” sign with his dog Charlie. We believe these cartoons are a great way to inform the public in a fun and entertaining way. They also establish a connection between visitors of the Corridor and those who maintain the space on a daily basis. These images or videos can be displayed in brochures of the trail or in the different platforms the GWRC already has such as Instagram, Facebook, and their online web page.

In addition, we suggest that the GWRC create an online campaign that promotes education about the Corridor. This could be a compilation of short videos containing the “do's and don’ts” of the trail or helpful infographics about shared spaces. Similarly to the cartoons, these could be shared on existing online platforms. These clips be a great tool to educate the public about trail etiquette and may attract more users. This campaign could also make trail users feel safer in the space. In the past, videos have been created by River Rangers which is why we believe they should be the main figures involved with this component of the campaign. The Rangers could recreate common scenarios of user interactions that occur on the Trail, followed by clear instructions of how to handle the situation. An example of this would be reenacting a cyclist and dog walker that are trying to pass one another. This example, and additional situations, could be replicated for all types of user groups and age demographics. This media campaign could be sent to the different user advocacy groups to help spread awareness and reach a wider audience.

Figure 63. Brad Bulman, GWRC River Ranger, and Leo, cartoon made by ChatGPT.

Figure 64. Joby Mills, GWRC River Ranger, and Charlie, cartoon made by ChatGPT.

Widen/Separate Paths to Mediate Conflicts

We suggest setting up a plan for creating separate paths when considering the increase in commuter cyclists. Many commuters may begin utilizing the Corridor after the new cycle way from Wellington to Pentone, next to the railway, is installed. Therefore, if the multiuse aspect of the Corridor wants to be maintained, a path that separates the commuters from the recreational users may be the best way to mediate current concerns. There are segments of the trail that already have separate pathways (Figure 65). We recommend that the GWRC continue to develop a uniform separate path, where it is spatially feasible, for commuters to use during peak hours.

In the areas where there is not enough room to accommodate two paths, we suggest widening the trail to at least 2.5 meters. Simon Kennett discussed that “the minimum for a multiuse trail is usually 2.5 meters, [and] 3 meters in general.” This additional space in areas where it is too narrow could decrease user tensions and minimize sources of conflict. However, in the sections where widening is not a possibility, adding a convex mirror (Figure 66) would provide users more visibility in areas where there are sharp turns or blind corners.

Figure 65. Two Paths, gravel and paved, in the Hutt River Corridor.

Figure 66. Convex mirror (Amazon, n.d.).

Limitations

During the survey period, we were limited to only speaking with users who were willing to stop. Although we received 276 responses, surveying additional visitors would have provided us with larger sample sizes from different ages or user groups, leading to a more diverse range of answers. Moreover, there were inherent differences in surveying technique due to a lack of inter-rater reliability. Naturally, each member conducted both surveys and interviews slightly different depending on personal style. Also, no one on our team had prior experience conducting surveys or interviews, resulting in a learning curve throughout this research.

Photo of Te Awa Kairangi at Manor Park

Conclusion

Whether its to exercise, travel to work, or just enjoy the beautiful Te Awa Kairangi, the Corridor appeals to many different types of people in the Hutt Valley community. This space is highly complex because it serves as both a controlled floodplain and multiuse recreational zone. By conducting surveys with a variety of users and speaking with several key informants, our group was able to gather people's perceptions of the Corridor. Analysis of the data we collected allowed our group to highlight several key findings about visitor experience and people's opinions of the potential increase in commuter use. From this, we developed several suggestions for the Greater Wellington Regional Council to help them manage this shared space. We hope our team's project will be useful in any future research related to the Hutt River Corridor and its users.

Photo of Frankie, Lexi, Aileen, and Bettina in the GWRC Cuba Street office.

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Appendix A. Greater Wellington Regional Council User Survey 2016

Hutt River Corridor user survey

greater WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Site	Interviewer	Date	Time	
Notes:				

Hello, I am doing a survey for the Greater Wellington Regional Council about the use and values of the Hutt River Corridor. Do you have a few minutes to answer some simple questions?

Q1. Have you been surveyed about your use of this site in the past month?
[1] ☐ No (CONTINUE) [2] ☐ Yes ..... ➔ ***THANKS FOR STOPPING BUT WE WON'T BOTHER YOU AGAIN***

Q2. What age group are you in? **(INSTRUCTION: show categories)**
[1] ☐ Under 15 (CLOSE WITH THANKS) ..... ➔ ***THANKS FOR STOPPING BUT WE'RE JUST TALKING TO PEOPLE WHO ARE 15 YEARS OR OLDER TODAY***
[2] ☐ 15-24
[3] ☐ 25-49
[4] ☐ 50-64
[5] ☐ 65 years and over

Q3. Where do you normally live? **(RECORD HUTT VALLEY SUBURB, NZ CITY, OR COUNTRY)**

_____

Q4a. What activities have you used the Hutt River Corridor for, today and in the past?
(PROMPT FOR ALL ACTIVITIES – NOT JUST TODAY'S)

Q4b. What is your **main activity** here today? **(TICK ONE ACTIVITY)**

Q5. Which parts of the Hutt River are you using today? **(SHOW MAP AND TICK SECTIONS)**

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13

Q6. For how many years have you been doing **<say main activity>** in the Hutt River Corridor?_____
IF "FIRST TIME" GO TO Q8 AND ENTER '1'. ASK Q9 First time ☐

Q7a. In your opinion do you think the Hutt River Corridor is better, worse or the same as the first time you visited for **<say main activity>**?

[1] ☐ Better [2] ☐ Worse [3] ☐ Same **(IF SAME GO TO Q8)**

Q7b. How do you think the Hutt River Corridor has changed since you first visited?

Appendix A. Continued

Q8. How many days have you **<say main activity>** in the Hutt River Corridor in the past 12 months?_____

Q9. How many days have you been **<say main activity> anywhere** in the past 12 months?_____

Note: includes visits to the Hutt River (enter same answer as Q8 if respondent only uses the Hutt River)

Q10. Can you describe the **BEST ASPECTS** of the Hutt River Corridor and **WHY** you think that?

Best aspects	Reasons

Q11. Can you describe the **WORST ASPECTS** of Hutt River Corridor and **WHY** you think that?

Worst aspects	Reasons

Q12. Do you see or interact with other visitors to the Hutt River Corridor on this or other visits? [probe for, at least, other people doing same activity] ☐ No (**go to Q13**)

- What activity are the other people doing (list)?
- Are those interactions positive, neutral or negative (circle)?
- And describe what makes those interactions positive, neutral or negative?

Activity	Circle one	What makes those interactions positive, neutral or negative?
	+ Neut —	
	+ Neut —	
	+ Neut —	
	+ Neut —	
	+ Neut —	
	+ Neut —	

Appendix A. Continued

Q13. What priorities should be placed on improving the Hutt River Corridor? **Identify your first, second and third priority activities** from the following list: **(SHOW LIST ON CARD, ENTER NUMBERS – 1, 2 and 3)**

1 ☐ Reducing the risk of flooding houses and businesses
2 ☐ Making the river a more fish-friendly environment
3 ☐ Protecting and enhancing cultural and historic values
4 ☐ Making the river margins better for native birds, insects and lizards
5 ☐ Improving water quality by better controlling algae, and bacteria and other pollution
6 ☐ Improving the river corridor for recreation activities
7 ☐ Improving the landscape and visual quality of the river corridor
8 ☐ Other: .....

Q13a. For your top priority, what specific activities do you think should be carried out?

Q14. Have you any other comments to make about the Hutt River Corridor and its use or management, and the facilities provided?

Q15. (RECORD GENDER)

1 ☐ Male 2 ☐ Female

Thank you very much. **(Give contact card to anyone who asks further questions)**

Appendix B. River Reflections: Hutt River Corridor Experience Survey 2024

River Reflections: Hutt River Corridor Experience Survey

SITE:_____ **INTERVIEWER:**_____ **DATE:**_____ **TIME:**_____

Q1. Have you been surveyed about your use of the site recently?

☐ No ☐ Yes

Q2. What age group are you in?

☐ 15-24 ☐ 25-49 ☐ 50-64 ☐ > 65

Q3. What is your gender?

☐ Male ☐ Female ☐ Other: _____

Q4. Where are you from? **(RECORD HUTT VALLEY SUBURB, NZ CITY, OR COUNTRY)**

_____

Q5. What activities do you usually come to the Hutt River corridor for?

☐ Cycling
☐ Commuting
☐ Walking/leisure
☐ Running/Jogging
☐ Dog Walking
☐ Swimming
☐ Fishing
☐ Other: _____

Q6. Which Parts of the Hutt River Corridor do you use most often? **(SHOW MAP AND TICK SECTIONS)**

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10 ☐11 ☐12 ☐13

Q7a. How many times a week do you use the Hutt River Corridor? _____

Q7b. How many years have you been using the Hutt River Corridor? _____

Q8. Do you think the Hutt River Corridor has changed since you first visited it, if so, how?

_____
_____

Q9. Can you describe the **BEST ASPECTS** of the **Hutt River Corridor** and **WHY** you think that?

_____
_____

Appendix B. Continued

Q10. Can you describe your **LEAST FAVORITE ASPECTS** of **the Hutt River Corridor** and **WHY** you think that?

_____

_____

Q11. Can you describe any positive, negative, or neutral experiences you've had with other users of the Corridor, if any?

User group	Experience	Circle one based on answer
		+ Neut —
		+ Neut —
		+ Neut —

Q12. Do you think your experience would be impacted if the corridor had increased commuter cyclists, if so, how?

_____

_____

Q13. Do you have any solutions that would address these concerns with increased commuter cyclist use?

_____

_____

Q14. What improvements, if any, could be made to enhance your experience using the Hutt River Corridor?

_____

_____

_____

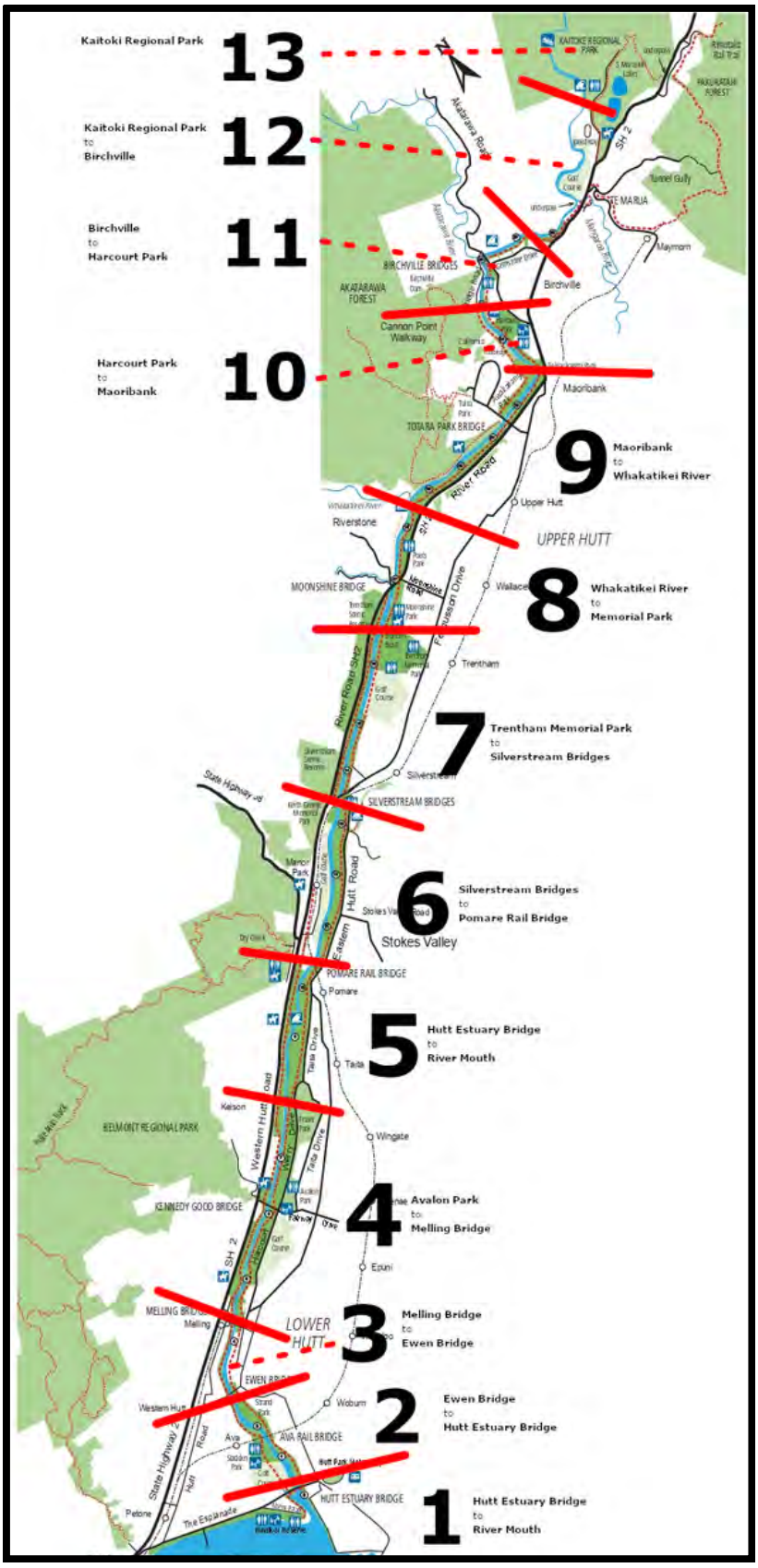
Q15. Do you have any additional comments to make about the Hutt River, the facilities provided, and its use or management?

_____

_____

Thank you very much. **(Give contact card to anyone who asks further questions)**

Appendix B. Continued



Appendix C. River Reflections: Hutt River Corridor Non-User Survey

River Reflections: Hutt River Corridor Non-User Survey

SITE:_____ **INTERVIEWER:**_____ **DATE:**_____ **TIME:**_____

Q1. Have you recently completed a Survey on your use of the Hutt River Corridor recently?

☐ No ☐ Yes

Q2. What age group are you in?

☐ 15-24 ☐ 25-49 ☐ 50-64 ☐ > 65

Q3. What is your gender?

☐ Male ☐ Female ☐ Other: _____

Q4. Where are you from? **(RECORD HUTT VALLEY SUBURB, NZ CITY, OR COUNTRY)**

_____

Q5. Are you a user of the Hutt River Corridor?

☐ No (go to **Q6a** then stop at **Q6b**) ☐ Yes (go to **Q7**)

Q6a. If no, could you explain why don't use the Hutt River Corridor and trail system?

_____

_____

Q6b. Are there any suggestions that address the reason why you do not use the River Corridor?

_____

_____

Q7. If yes, what activities do you usually go to the Hutt River Corridor for?

☐ Cycling
☐ Commuting
☐ Walking/leisure
☐ Running/Jogging
☐ Dog Walking
☐ Swimming
☐ Fishing
☐ Other: _____

Q8. Which Parts of the Hutt River Corridor do you use most often? **(SHOW MAP AND TICK SECTIONS)**

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10 ☐11 ☐12 ☐13

Q9a. How many times a week do you use the Hutt River Corridor? _____

Q9b. How many years have you been using the Hutt River Corridor? _____

Appendix C. Continued

Q10. Do you think the Hutt River Corridor has changed since you first visited it, if so, how?

_____

_____

Q11. Can you describe the **BEST ASPECTS** of the **Hutt River Corridor** and **WHY** you think that?

_____

_____

Q12. Can you describe your **LEAST FAVORITE ASPECTS** of **the Hutt River Corridor** and **WHY** you think that?

_____

_____

Q13. Can you describe any positive, negative, or neutral experiences you've had with other users of the Corridor, if any?

User group	Experience	Circle one based on answer
		+ Neut —
		+ Neut —
		+ Neut —

Q14. Do you think your experience would be impacted if the corridor had increased commuter cyclists, if so, how?

_____

_____

Q15. Do you have any solutions that would address these concerns with increased commuter cyclist use?

_____

_____

Q16. What improvements, if any, could be made to enhance your experience using the Hutt River Corridor?

_____

_____

_____

Q17. Can you think of a reason why wouldn't use the trail, if so, why?

_____

_____

Q18. Do you have any additional comments to make about the Hutt River, the facilities provided, and its use or management?

_____

_____

Thank you very much. **(Give contact card to anyone who asks further questions)**

Appendix D. Interviewee's List

User group advocates:

- **Ellen Blake**, *Walker advocate*
- **Beth Reille**, *Horseback rider advocate*
- **Marco Renalli**, *Cyclist advocate*
- **Paul Gruschow**, *Mobility scooter advocate*
- **Simon Kennett**, *Cyclist advocate*
- **Bryce Johnson**, *Angler advocate*

External organizations:

- **Enisha Kilkelly**, **Quintin Pepler**, and **Michelle Baker**, *Upper Hutt Animal Control Officers and Compliance Manager*
- **Jane Schuitema** and **Keri Kawa**, *Lower Hutt Animal Control Officers*
- **Linton Adams** and **Andy Soper**, *President of Rotary and Former Chair of Rotary*
- **Tui Lewis**, *Deputy Mayor of Hutt City Council*
- **Rob Greenaway**, *2016 survey consultant*

GWRC:

- **Myfanwy Hill**, *Environmental operations manager*
- **Graeme Campbell**, *Principal Flood and Resilience*
- **Jessica Herewini**, *Corporate Services Senior Coordinator*
- **Joby Mills**, *Senior River Ranger*
- **Brad Bulman**, *River Ranger*
- **Ross Jackson**, *Landscape Architect*
- **Steve Kamo**, *Flood Protection Engineer*

Appendix E. River Reflections Responses

Q2. What age group are you in?
Q3. What is your gender?

Table 1. Count of Gender by Age Group.

	Female	Male	TOTAL
15-24	5	7	12
25-49	33	52	85
50-64	48	51	99
>65	14	34	48
TOTAL	100	144	**244**

Q5. What activities you usually come to the Hutt River Corridor for?

Q6. Which parts of the Hutt River Corridor do you use most often?

Table 2. Trail Section use by User Group.

Part	Cycling	Walking/leisure	Dog Walking	Fishing	Commuting	Running/jogging	TOTAL
1	80	53	23	3	17	17	193
2	94	65	26	0	19	21	225
3	105	76	30	0	24	24	259
4	101	67	30	0	25	23	246
5	90	56	22	0	17	20	205
6	95	57	35	0	16	21	224
7	89	59	45	3	10	21	227
8	88	49	39	0	8	19	203
9	78	51	30	0	8	19	186
10	71	45	21	0	6	14	157
11	67	37	19	0	4	12	139
12	62	36	17	0	4	13	132
13	56	27	15	0	0	10	108
TOTAL	1076	678	352	6	158	234	**2504**

Appendix E. Continued

Q5. What activities you usually come to the Hutt River Corridor for?

Table 3. User Groups Surveyed.

User Group	Count
Cycling	143
Walking/leisure	121
Dog Walking	72
Running/jogging	39
Commuting	33
Swimming	14
Fishing	6
Berry Picking	4
Kayaking	3
Exercise	2
Skateboarding	2
Cruising on Motorbike	2
work as a river ranger	1
Roller skating	1
Mountain Biking	1
E-skateboard	1
reading/relaxing	1
Golf	1
backpacking	1
Feeding ducks	1
Total	**449**

Appendix E. Continued

Table 4. Non-Responders from on the Hutt River Corridor.									
Date	**Day**	**Location**	**Weather**	**Users**	**Not Interested**	**No Time**	**Doesn't speak English**	**Already Surveyed**	**TOTAL**
1/18/2024	Thursday	River Bank Car Park / Ewen Bridge	Sunny and Cloudy	Cyclists		4			4
				Walkers	8	2	2		12
				Dog Walkers		2			2
				Commuters		1			1
				Runners		1			1
1/20/2024	Saturday	County Lane	Cloudy and misty	Cyclists	2	2			4
				Walkers	1				1
				Dog Walkers		1			1
				Commuters					0
				Runners		2			2
1/20/2024	Saturday	Manor Park	Cloudy and misty	Cyclists					0
				Walkers					0
				Dog Walkers					0
				Commuters					0
				Runners					0
1/21/2024	Sunday	Te Haukenutu Park	Sunny	Cyclists	3	2			5
				Walkers	2			1	3
				Dog Walkers	5	1			6
				Commuters					0
				Runners					0
1/22/2024	Monday	Melling Bridge	Rainy and sunny	Cyclists	10	6		5	21
				Walkers	1	1			2
				Dog Walkers					0
				Commuters					0
				Runners	1	3			4
1/22/2024	Monday	Melling Bridge Station Side	Rainy and sunny	Cyclists				1	1
				Walkers	1				1
				Dog Walkers		1			1
				Commuters					0
				Runners	1				1
1/24/2024	Wednesday	Moonshine Bridge	Cloudy and Sunny	Cyclists	1	6		1	8
				Walkers	1	2	2		5
				Dog Walkers		1			1
				Commuters					0
				Runners		7			7
1/24/2024	Wednesday	County Lane	Cloudy and Sunny	Cyclists		7	1	1	9
				Walkers	2				2
				Dog Walkers					0
				Commuters					0
				Runners					0
1/25/2024	Thursday	River Bank Car Park	Sunny	Cyclists	8	2			10
				Walkers	1	4			5
				Dog Walkers					0
				Commuters					0
				Runners		2			2
1/30/2024	Tuesday	Melling Bridge	Sunny	Cyclists	1	1		1	3
				Walkers	1				1
				Dog Walkers		1			1
				Commuters					0
				Runners	1				1
TOTAL					51	62	5	10	**128**

Table 5. Non-Responders from the Harvey Norman Mall.							
Date	**Day**	**Location**	**Weather**	**Not Interested**	**No Time**	**Not From Here**	**TOTAL**
1/27/2024	Saturday	Harvey Norman Mall	Raining	105	11	1	**117**

Appendix E. Continued

Q7b. How many years have you been using the Hutt River Corridor?

Table 6. Change Over Time (SAME, DIFFERENT, BETTER, WORSE) by Experience (years).

YEARS USING TRAIL	SAME	DIFFERENT	BETTER	WORSE	TOTAL
<1	18	0	5	0	23
1 - 5	37	5	38	8	88
6 - 10	12	10	62	4	88
11 - 20	7	11	53	8	79
21 - 40	0	3	30	4	37
41+	1	0	11	1	13
TOTAL	75	29	199	25	328

Q8a. Do you think the Hutt River Corridor has changed since you first visited?

Table 7: Change Over Time by User Group.

USER GROUP	SAME	DIFFERENT	BETTER	WORSE
Commuting	16.7%	9.5%	59.5%	14.3%
Dog Walking	18.8%	9.9%	57.4%	13.9%
Cycling	17.1%	8.0%	67.8%	7.0%
Walking/leisure	24.8%	7.5%	62.7%	5.0%
Running/jogging	19.6%	9.8%	66.7%	3.9%

Appendix E. Continued

Q8a. Do you think the Hutt River Corridor has changed since you first visited?
Q8b. If so, how?

Table 8. REASONS FOR BETTER, DIFFERENT, OR WORSE.					
REASONS FOR BETTER	**COUNT**	**REASONS FOR DIFFERENT**	**COUNT**	**REASONS FOR WORSE**	**COUNT**
GENERALLY BETTER	48	DEVELOPMENT OF CORRIDOR/TRAIL	6	MOWED GRASS ON TRAIL/MESSY	4
EXTENSION OF TRAIL	21	PATH	4	EROSION AND FLOODING	3
SMOOTHER TRACK	20	SEALED	5	SEATING REMOVED	2
PLANTING TREES/NATURE	16	MORE CYCLISTS	2	SURFACE OF TRAIL	2
MAINTENANCE	16	MORE GRAVEL	2	CONCRETE FACTORY WITH NO ACCESS	1
ACCESSIBILITY	15	COMMUTER FRIENDLY	1	LESS ACCESSIBLE	1
FLOOD PROTECTION	13	FLOOD PROTECTION	1	LESS RUBBISH BINS	1
EASIER TRACK	11	GENERALLY DIFFERENT	1	LESS TRACKS	1
HIGHER USE	8	GOLF COURSE	1	MORE HOMELESS PEOPLE	1
USER FRIENDLY	5	LESS HORSEBACK RIDERS	1	MORE TREES BLOCK RIVER	1
INFRASTRUCTURE	4	LESS TREES	1	NARROW PARTS	1
SIGNAGE	4	LEVEL	1	NOT AS GOOD FOR SWIMMING	1
SAFETY	3	MORE RABBITS	1	OVER DEVELOPED	1
WIDER	3	PLANTING TREES/NATURE	1	PLANTINGS	1
ALL OFF ROAD	1	RIVER	1	RIVER	1
BIGGER CAR PARKS	1	RIVER MORE SHALLOW	1	RIVERBEND CHANGE	1
CAMERAS	1			TOXIC ALGAE	1
FINISHED ROAD WORK	1				
FIXED PUDDLES	1				
LESS RUBBISH	1				
LESS WINDY	1				
MORE OPEN	1				
ORGANIZED RUNS	1				
REMADE IT	1				
RIVER	1				
TOTAL	**198**	**TOTAL**	**30**	**TOTAL**	**24**

Appendix E. Continued

Q9. Can you describe the BEST ASPECTS of the Hutt River Corridor and WHY you think that?

Table 9. BEST ASPECTS OF THE TRAIL.		
Theme	**Favorite Aspect**	**COUNT**
PATH	OFF THE ROAD	48
	USABILITY	48
	ACCESSIBILITY	21
	MAINTENANCE	14
	SAFETY	13
	SURFACE	13
	FLAT	11
	WIDTH	9
	OPENESS	8
	LENGTH	7
	SPACE	7
	VARIETY	7
	CYCLING	6
	SECTION	3
	MULTIUSE	2
	CONNECTIVITY	1
	DOGS OFF LEAD	1
	ENVIRONMENT	1
	MORE PEOPLE	1
	MOTORWAY	1
	OFF LEAD AREA	1
	RECREATION	1
	RIVER	1
	TOTAL	**225**
ENVIRONMENT	RIVER	58
	NATURE	50
	QUIET	36
	SCENIC	34
	SHADE	9
	WIND	2
	DUCK POND	1
	FREEDOM	1
	GOOD FISHING SPOT	1
	HEALTH	1
	LANDSCAPE	1
	OCEAN	1
	SWIMMING	1
	TOTAL	**196**

Table 9. BEST ASPECTS OF THE TRAIL.		
PEOPLE	MORE PEOPLE	7
	MULTIUSE	5
	FRIENDLY	3
	CLEAN	1
	LIKE-MINDED	1
	NO MOTORBIKES	1
	STAY OUT OF THE WAY	1
	TOTAL	**19**
INFRASTRUCTURE	SIGNAGE	2
	FLOOD PROTECTION	1
	TOTAL	**3**
TOTAL		**443**

Appendix E. Continued

Q10. Can you describe your LEAST FAVORITE ASPECTS of the Hutt River Corridor and WHY you think that?

Table 10. WORST ASPECTS OF THE TRAIL.		
THEME	**ASPECT**	**COUNT**
PATH	MAINTENANCE	19
	NARROW	16
	CLOSE TO ROAD	10
	ACCESSIBILITY	9
	BRIDGE	6
	DANGER	6
	GRAVEL	6
	SURFACE	6
	PUDDLES	3
	CROSSING ROAD	2
	CURVES	2
	CAR PARK	1
	EXPOSED	1
	GOLF COURSE	1
	SLIPPERY	1
	UNDER BRIDGE	1
	TOTAL	**90**
PEOPLE	MOTORBIKES	14
	DOG POO	10
	CROWDED	9
	LITTER	8
	DOGS OFF LEAD	7
	DOG WALKERS	6
	LACK OF EDUCATION	6
	CYCLISTS	4
	SPEED	4
	CARS	3
	NOT GOOD FOR DOGS OFF LEAD	3
	SAFETY	3
	WALKERS	2
	CYCLIST	1
	DOGS	1
	EARPHONES	1
	GRAFFITI	1
	HEADPHONES	1
	INFASTRUCTURE	1
	RUBBISH	1
	TOTAL	**86**

Table 10: WORST ASPECTS OF THE TRAIL.		
THEME	**ASPECT**	**COUNT**
ENVIRONMENT	WIND	10
	LANDSCAPE	7
	RIVER QUALITY	7
	FLOODING	5
	WEATHER	4
	SMELL	3
	WATER QUALITY	3
	BUGS	2
	SHADE	2
	RABBITS	1
	RIVER	1
	TOTAL	**45**
INFRASTRUCTURE	BINS	4
	SEATING	2
	TOILETS	2
	BIKE STOPS	1
	COFFEE CARTS	1
	DOG POO BAGS	1
	MONEY	1
	SIGNAGE	1
	WATER STOPS	1
	TOTAL	**14**
TOTAL		**235**

Appendix E. Continued

Q11. Can you describe any positive, negative, or neutral experiences you've had with other users of the Corridor, if any?

Table 11. Interaction Summary with 'All'.

USERS WITH POSITIVE EXPERIENCES WITH ALL	COUNT	POSITIVE EXPERIENCES WITH ALL	COUNT
Cycling	58	SAY HI	55
Walking/leisure	47	FRIENDLY	15
Dog Walking	22	GOOD EXPERIENCE	15
Running/jogging	15	FRIEDNLY	3
Commuting	10	RESPECTFUL	3
Swimming	6	DEVELOP RELATIONSHIPS	2
Berry picking	1	ACCEPTING OF DOGS	1
E-skateboard	1	CONSIDERATE	1
Fishing	1	DOGS INTERACT	1
Mountain Biking	1	ENJOY VARIETY OF USERS	1
Roller skating	1	GIVE SPACE	1
backpacking	1	GIVE WAY	1
kayaking	1	GOOD AT SHARING	1
		HELPFUL	1
		INTERACT WITH DOGS	1
		KEEP TO THEMSELVES	1
		PET DOGS	1
		STOP AND CHAT	3
TOTAL	165	TOTAL	107
USERS WITH NEGATIVE EXPERIENCES WITH ALL	COUNT	NEGATIVE EXPERIENCES WITH ALL	COUNT
Cycling	6	WEARING HEADPHONES	3
Dog Walking	4	DON'T SHARE SPACE	2
Commuting	2	CHALLENGING WHEN BUSY	1
Walking/leisure	2	INCONSIDERATE OR RUDE	1
Running/jogging	1		
TOTAL	15	TOTAL	7
USERS WITH NEUTRAL EXPERIENCES WITH ALL	COUNT	NEUTRAL EXPERIENCES WITH ALL	COUNT
Cycling	10	SAY HI	9
Walking/leisure	8	NO PROBLEMS	4
Commuting	3		
Dog Walking	3		
Running/jogging	2		
TOTAL	26	TOTAL	13
Q11. Can you describe any positive, negative, or neutral experiences you've had with other users of the Corridor, if any? TOTAL	206	TOTAL	127

Table 12. Interaction Summary with 'Cyclists'.

USERS WITH POSITIVE EXPERIENCES WITH CYCLISTS	COUNT	POSITIVE EXPERIENCES WITH CYCLISTS	COUNT
Cycling	22	SAY HI	12
Walking/leisure	12	HAVE CONVERSATIONS	6
Commuting	5	FRIENDLY	2
Dog Walking	3	DEVELOP RELATIONSHIPS	1
Running/jogging	3	GOOD EXPERIENCE	1
Feeding ducks	1	HELPFUL	1
Golf	1	KEEP TO THEMSELVES	1
Kayak	1	MAKE OTHERS AWARE	1
		NO PROBLEMS	1
		RING BELL	1
TOTAL	48	TOTAL	27
USERS WITH NEGATIVE EXPERIENCES WITH CYCLISTS	COUNT	NEGATIVE EXPERIENCES WITH CYCLISTS	COUNT
Dog Walking	13	INCONSIDERATE OR RUDE	8
Walking/leisure	10	DON'T RING BELL	6
Cycling	9	DON'T SLOW DOWN	6
Commuting	4	DON'T SHARE SPACE	5
Running/jogging	4	LACK ETIQUETTE	2
Fishing	2	BAD EXPERIENCE IN NARROW SPOT	1
Swimming	1	DONT SLOW DOWN	1
		ENTITLED	1
		LIMITED SPACE	1
TOTAL	43	TOTAL	31
USERS WITH NEUTRAL EXPERIENCES WITH ALL	COUNT	NEUTRAL EXPERIENCES WITH CYCLISTS	COUNT
Dog Walking	1	THEY WANT MORE SEALED PARTS	1
Running/jogging	1		
Swimming	1		
Walking/leisure	1		
work as a river ranger	1		
TOTAL	5	TOTAL	1
TOTAL	96	TOTAL	59

Table 13. Interaction Summary with 'Dog Walkers'.

USERS WITH POSITIVE EXPERIENCES WITH DOG WALKERS	COUNT	POSITIVE EXPERIENCES WITH DOG WALKERS	COUNT
Dog Walking	33	SAY HI	27
Walking/leisure	28	HAVE CONVERSATIONS	11
Cycling	21	DOGS INTERACT	10
Commuting	5	PET DOGS	6
Running/jogging	4	ETIQUETTE	3
Swimming	3	FRIENDLY	3
Fishing	2	FRIEDNLY	2
reading/relaxing	1	DEVELOP RELATIONSHIPS	1
training	1	DOGS CONTROLLED	1
		GIVE WAY	1
		GOOD EXPERIENCE	1
TOTAL	98	TOTAL	66
USERS WITH NEGATIVE EXPERIENCES WITH DOG WALKERS	COUNT	NEGATIVE EXPERIENCES WITH DOG WALKERS	COUNT
Cycling	14	DOGS UNCONTROLLED	9
Walking/leisure	10	DOGS OFF LEAD	8
Commuting	6	DOGS BARK	3
Dog Walking	3	LEASH IN THE WAY	3
Running/jogging	3	LACK AWARENESS	2
E-skateboard	1	CONFLICT WITH OTHERS	1
Roller skating	1	DON'T SHARE SPACE	1
Swimming	1	LIMITED SPACE	1
kayaking	1		
work as a river ranger	1		
TOTAL	41	TOTAL	28
USERS WITH NEUTRAL EXPERIENCES WITH DOG WALKERS	COUNT	NEUTRAL EXPERIENCES WITH DOG WALKERS	COUNT
Cycling	2	DOGS FIGHT	1
Commuting	1	SACRE DOG	1
Dog Walking	1	SAY HI	1
Running/jogging	1		
Walking/leisure	1		
TOTAL	6	TOTAL	3
TOTAL	145	TOTAL	97

Appendix E. Continued

Q11. Can you describe any positive, negative, or neutral experiences you've had with other users of the Corridor, if any?

Table 14. Interaction Summary with 'Walkers'.

USERS WITH POSITIVE EXPERIENCES WITH WALKERS	COUNT	POSITIVE EXPERIENCES WITH WALKERS	COUNT
Walking/leisure	13	SAY HI	16
Cycling	12	HAVE CONVERSATIONS	4
Running/jogging	4	NO PROBLEMS	2
Commuting	3	ENJOY SEEING OTHERS	1
Dog Walking	3	FRIENDLY	1
Berry picking	1	GIVE WAY	1
Feeding ducks	1	SAFELY INTERACT	1
Fishing	1		
Kayak	1		
Swimming	1		
TOTAL	40	TOTAL	26
USERS WITH NEGATIVE EXPERIENCES WITH WALKERS	COUNT	NEGATIVE EXPERIENCES WITH WALKERS	COUNT
Cycling	4	DON'T SHARE SPACE	3
Walking/leisure	1	BAD LANGUAGE	1
Commuting	1	PARK ON ACCESS POINTS	1
reading/relaxing	1	WEARING HEADPHONES	1
TOTAL	7	TOTAL	6
USERS WITH NEUTRAL EXPERIENCES WITH DOG WALKERS	COUNT	NEUTRAL EXPERIENCES WITH DOG WALKERS	COUNT
TOTAL	47	TOTAL	32

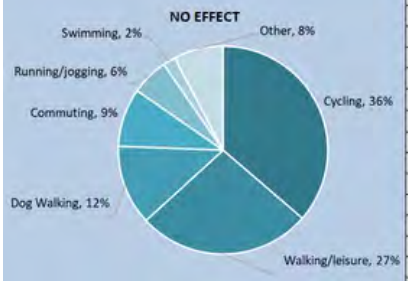
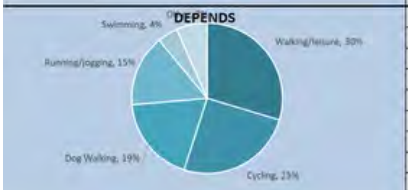
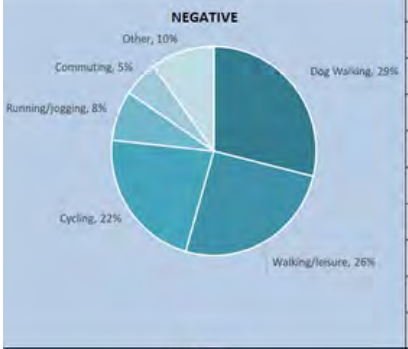
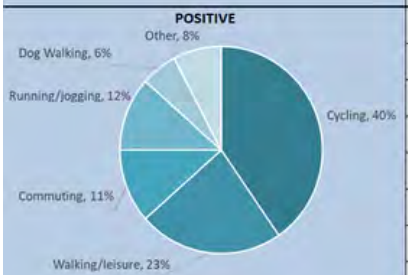
Table 15. Interaction Summary with 'Motorbikers'.

USERS WITH POSITIVE EXPERIENCES WITH MOTORBIKERS	COUNT	POSITIVE EXPERIENCES WITH MOTORBIKERS	COUNT
USERS WITH NEGATIVE EXPERIENCES WITH MOTORBIKERS	COUNT	NEGATIVE EXPERIENCES WITH MOTORBIKERS	COUNT
Walking/leisure	4	SHOULDNT USE TRAIL	4
Cycling	2	KILLED DOG	1
Dog Walking	2		
Swimming	1		
training	1		
TOTAL	10	TOTAL	5
USERS WITH NEUTRAL EXPERIENCES WITH DOG WALKERS	COUNT	NEUTRAL EXPERIENCES WITH DOG WALKERS	COUNT
TOTAL	10	TOTAL	5

Appendix E. Continued

Q12. Do you think your experience would be impacted if the corridor had increased commuter cyclists, if so, how?

Table 16. User Distribution by Impact of Increased Commuter Cyclists.

THEME	User Group	Count
	Cycling	76
	Walking/leisure	56
	Dog Walking	26
	Commuting	19
	Running/jogging	12
	Swimming	4
	Fishing	3
	Berry Picking	2
	Skateboarding	2
	Berry picking	1
	Cruising on Motorbike	1
	E-skateboard	1
	Exercise	1
	Feeding ducks	1
	Kayaking	1
	Mountain Biking	1
	Roller skating	1
	backpacking	1
	TOTAL	**209**
	Walking/leisure	27
	Cycling	23
	Dog Walking	17
	Running/jogging	14
	Swimming	4
	Commuting	3
	Exercise	1
	Golf	1
	reading/relaxing	1
	TOTAL	**91**
	Dog Walking	26
	Walking/leisure	23
	Cycling	20
	Running/jogging	7
	Commuting	5
	Swimming	4
	Fishing	3
	Cruising on Motorbike	1
	work as a river ranger	1
	TOTAL	**90**
	Cycling	21
	Walking/leisure	12
	Commuting	6
	Running/jogging	6
	Dog Walking	3
	Kayaking	2
	Berry Picking	1
	Swimming	1
	TOTAL	**52**
DON'T KNOW	Cycling	2
	Walking/leisure	2
	Swimming	1
	TOTAL	**5**
Q5. What activities do you usually come to the Hutt River corridor for? ***Q12. Do you think your experience would be impacted if the corridor had increased commuter cyclists, if so, how?***	***TOTAL***	***447***

Appendix E. Continued

Q12. Do you think your experience would be impacted if the corridor had increased commuter cyclists, if so, how?

Table 17. IMPACT OF INCREASED CYCLISTS.

THEME	IMPACT	COUNT
NEGATIVE	INCONVENIENT	10
	WALKING MY DOG	9
	ETIQUETTE	9
	BUSY	8
	DONT WANT	6
	TOO NARROW	6
	REDUCE USE	2
	FUNDING	1
	NERVOUS	1
	SAFETY	1
	TOTAL	**53**
DEPENDS	ETIQUETTE	19
	TOO NARROW	7
	BUSY	5
	INCONVENIENT	3
	CONSIDERATE	2
	EXCLUSIVE	2
	MOTORBIKES	2
	PATH	2
	SHARED	2
	ENVIRONMENT	1
	HOURS	1
	OFF-LEASH DOGS	1
	SIGNAGE	1
	SITUATIONAL	1
	USER DEPENDEDNT	1
	TOTAL	**50**
POSITIVE	IMPROVE EXPERIENCE	15
	CONVENIENT	5
	MORE USAGE	4
	CONNECTED	1
	MAINTENANCE	1
	TOTAL	**26**
NO EFFECT	HOURS	18
	TOTAL	**18**
Q12. Do you think your experience would be impacted if the corridor had increased commuter cyclists, if so, how?	*TOTAL*	*147*

Appendix E. Continued

Q13. Do you have any solutions that would address these concerns with increased commuter cyclist use?

Table 18. POTENTIAL SOLUTIONS ADDRESSING CONCERNS OF INCREASED COMMUTER CYCLISTS.

THEME	SUGGESTION	COUNT
INFRASTRUCTURE	WIDEN PATH	28
	SEPARATION	15
	SIGNAGE	12
	SEPARATION	4
	CENTER LINE	2
	NEXT TO ROAD	2
	VISIBILITY	2
	BOLLARDS	1
	CORRIDOR LAYOUT	1
	DOG PARKS	1
	ETIQUETTE	1
	INVEST IN ACCESSIBILITY	1
	LIGHTING	1
	MORE FISHING BAYS ON BRIDGE	1
	PASSING BAY	1
	SEAL PATH	1
	TOTAL	**74**
NO SUGGESTIONS	NO SUGGESTION	34
	TOTAL	**34**
ETIQUETTE	ALL	6
	CYCLISTS	6
	KEEP LEFT	5
	BIKE ETIQUETTE	1
	CHILDREN	1
	CONTROL DOG	1
	DOGS ON LEASH	1
	EDUCATION	1
	GIVE WAY	1
	USE BELLS	1
	TOTAL	**24**
RULES	OFF LEAD DOGS	1
	SEPARATION	1
	SPEED LIMITS	1
	TOTAL	**3**
USAGE	USE DIFFERENT TIMES	3
	TOTAL	**3**
MAITENANCE	MOWING	1
	TOTAL	**1**
Q13. Do you have any solutions that would address these concerns with increased commuter	***TOTAL***	***139***

Appendix E. Continued

Q13. Do you have any solutions that would address these concerns with increased commuter cyclist use?

Table 18. POTENTIAL SOLUTIONS ADDRESSING CONCERNS OF INCREASED COMMUTER CYCLISTS.

Appendix E. Continued

Q14. What improvements, if any, could be made to enhance your experience using the Hutt River Corridor?

Table 19. GENERAL IMPROVEMENTS THAT COULD BE MADE TO THE TRAIL.

THEME	IMPROVEMENT	COUNT
INFRASTRUCTURE	BINS	17
	SIGNAGE	17
	WATER FOUNTAINS	15
	LIGHTING	11
	BATHROOMS	7
	SEATING	6
	SEPARATION	6
	BRIDGES	5
	FOOD	4
	DOG BAGS	3
	EXERCISE AREAS	3
	GATES	3
	FENCES	2
	LESS INFRASTRUCTURE	2
	BIKE PARKING	1
	BIKE SHOPS	1
	CAMERAS	1
	CAR PARKS	1
	MORE NATURE	1
	MOTORBIKE PARK	1
	PASSING BAY	1
	PHONE	1
	POSTS	1
	ROD HOLDERS ON BRIDGE	1
	SHELTER	1
	TABLES	1
	TRAPS	1
	TOTAL	**114**
PATH	MAINTENANCE	26
	SURFACE	24
	WIDER	21
	ACCESSIBILITY	15
	SAFETY	3
	SECTION	3
	USABILITY	2
	VISIBILITY	2
	CROSSING ROAD	1
	TOTAL	**97**
ENVIRONMENT	MORE NATURE	10
	MAINTENANCE	8
	SHADE	6
	FLOOD PROTECTION	3
	RIVER	3
	ACCESS	1
	CLEAN	1
	SMELL	1
	WIND	1
	TOTAL	**34**
PEOPLE	ETIQUETTE	2
	BUSY	1
	DUMPING	1
	MOTORBIKES	1
	TOTAL	**5**
Q14. What improvements, if any, could be made to enhance your experience using the Hutt River Corridor?	*TOTAL*	*250*

Appendix E. Continued

Q15. Do you have any additional comments to make about the Hutt River, the facilities provided, and its use or management?

Table 20. FINAL COMMENTS.
There are not enough coffee shops
Keep looking after it
I really like the trail, its quite long which is nice
keep looking after the trail
Think its great
keep maintenance up
it is a very well kept trail
More facilities for cyclists
it's a great trail
I am happy with it
when are they fixing the river algae?
put a coffee shop in the trail
don't over gravel the track
seal the parts that are not sealed
good job
they have done a good job
create a smooth path for roller skating
I am pretty happy
keep up the good work
keep the river free from algae, keep it tidy
put a trash can near the picnic table by the county lane entrance
motor bikes are the absolute worst so try to figure out a way to keep them off the trail
absolutely great whoever up keeps this is doing amazing
it would be nicer to have it paved all the way
appreciate it keep it up
keep an eye on the rabbits
I thoroughly enjoy it
everything's so far so good
everything's so far so good

Appendix E. Continued

Table 20. FINAL COMMENTS.
there is now less swimming in the river because of poison, un-swimmable in the summer and needs to be addressed
make the shoulder wider on roads
excited for the trail to be funded and see changes made
get Upper Hutt paved
bring it on, make the changes
this is a great area for dog walking
want to see more people cycle. I knocked a 90 year old man down a bank because the path was too narrow and he couldn't see me. I thought I almost killed the man.
it would be nice if there was less wind
this is the best part of my day
I appreciate my opinion being asked
I enjoy the trail but the trash pisses me off, the Belmont School thanks me for picking up the litter on the trail
it's perfect, well done Wellington
great trail, love the focus on cycling
make the river multiuse and add more places to sit
add better access to the river
not really, it's a good asset to the Hutt Valley
overall a very good experience
If there were more commuter cyclists there would be more pressure to keep up facilities, I made a submission to RiverLink about completing the train loop, getting people out of cars would be a good thing, and adding a cyclist bridge
keep making it better
evolve the Remutaka Cycle Trail more and continue development

Appendix E. Continued

Table 20. FINAL COMMENTS.
they undersell the beauty of this trail
I love using it!
pretty good trail
keep it the way it is
I'm excited about the new path to Wellington being put in
I value the corridor very much, it is very special and central to Hutt City, it's not just a cycling thing it would be better for all if there were more connections
The Corridor is great on a nice day
I really like the trail and appreciate cycling and running on it
it is awesome, there have been nice improvements up north specifically Manor Park
thank you for taking feedback
a lot of money was spent between Petone and Wellington but I believe the money should be put to environmental funds
Generally, I believe the GWRC and local councils do the bets they can to keep Te Awa Kairangi accessible, visible for all users, and clean/tidy. They most importantly have made a river corridor that can handle most weather events. I also believe they have got the right balance between willows and native gardens plantings where they use willows and rock which are needed for flood protection. Finally, they understand the public demands the best; a park-like setting and availability in the 99.9% time it is not dealing with flood waters.
it would be good to have a sign to Wellington under the last bridge
they have done a really good job
the trail is always well kept
great job! Trantham is a good entry point
keep up the good work
great, love what they do for cyclists

Appendix E. Continued

Table 20. FINAL COMMENTS.
I'm glad they are talking to people and asking questions
I like this walk
carry on the good work
good job!
there is a good mix of gravel and seal, they are doing a really good job, cool new initiatives, I constantly use the Petone link so greatly appreciated
look over the trees to make sure they do not fall, check tree's lifespan
good access points
toilet block for the toilet break
more doggy bags, more rubbish bins, saw someone going to the toilet so more toilets would be good
I really feel privileged to have this area
this is a really nice walk
getting rid of the skate park is not a good idea, the council prioritizes cyclists over fishers, and there is a lack of dog parks with fenced in areas. The only time they (the council) really care is when they send fisheries down here. Nothing is going to improve overnight. You'd be shocked how much the leaking water effects fishing.
the trail is pretty good
it is a mulituse area, it needs to be maintained, people need to be reminded its for everyone
keep doing what they are doing
it is a lovely trail
it is just a beautiful spot
good initiative! it is great to take cycling off the road, better it they can seal it and maintain it
keep maintaining it, get volunteers to help with pests (I would help)

Appendix E. Continued

Table 20. FINAL COMMENTS.
great place for people to access
I support development, make it wider
I want to swim in the river again
the corridor is great to have and a fantastic asset
it's a needed space
make sure to keep it

Appendix F. Handout for Presentation

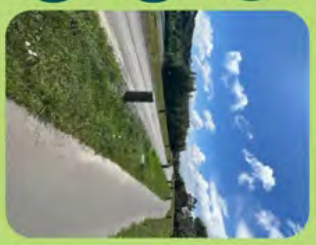
RECOMMENDATIONS

1. Increase and upgrade signage and cluster hardscaped infrastructure.

"Keep Left"

Enter & Exit Points

Nature & History



2. Widen paths and separate whenever possible.

3. Increase public education to inform users of proper trail etiquette.

MEET THE TEAM

Kia Ora!

We are a group of students from Worcester Polytechnic Institute (WPI) in Massachusetts. We worked on a project that addressed the current tensions between users and the pressure that has been put on the Greater Wellington Regional Council (GWRC) to consider the Corridor as a commuter route.

We would like to thank our advisors **Professor Leslie Dodson** and **Professor Kenneth Stafford**. Also, our sponsors **Ross Jackson, Joby Mills, Brad Bulman, and Steve Kamo** for their help, and everyone in the GWRC office for making us feel welcome!

From left to right: **Frankie Marocco** (Electrical & Computer Engineering, Data Science), **Lexi Carim** (Electrical & Computer Engineering), **Aileen Peddie** (Biochemistry), **Bettina Valentiner** (Industrial Engineering, Management)

WPI

Greater Wellington
Te Pane Matua Taiao

February 2024

SHARED SPACES:

Understanding Perceptions of the Te Awa Kairangi Hutt River Corridor

Helping GWRC manage this shared space.

Appendix F. Continued

RESULTS & FINDINGS

276 FACE-TO-FACE SURVEYS

18 KEY-INFORMANT INTERVIEWS

Distribution of User Groups

General Improvements

45% of survey respondents believed infrastructure improvements would enhance their experience.

Most people suggested additional bins, signage, water fountains, and lighting.

The value of nature is contradicted by the desire to increase the Corridor's built environment.

"My favorite aspect is the scenery, the wildlife, the trees, peace, and the river."
cyclist/walker

"It's an opportunity to commune with nature, and be close to the to the moving water, which is therapeutic in itself."
Joby Mills
Senior River Ranger

Many users said they would not be affected by increased commuter use.

Impact of Increased Commuters

66% said they would not be negatively effected by an increase in usage from commuter cyclist.

User Groups Not Affected

Of those people who said they wouldn't be effected, **45%** of them were walkers and dog walkers.

Commuters are not the only users that believe increased commuter use would be positive.

"The more the merrier!"
dog-walker/kayaker

"I don't use it for commuting, but I know people who do and I encourage it."
cyclist/walker

"More commuters are good and would add value to the trail, it would potentially mean the corridor is looked after better."
cyclist

Some commuters and cyclists believe an increase in commuters in the corridor would be negative

"It would be a lot more cluttered and would force me to slow down."
commuter cyclist

"I would have to pay more attention and couldn't look at the scenery as much."
cyclist/dog-walker/swimmer

"It's more natural when there's less people."
cyclist/walker

Etiquette and trail capacity were the most common concerns about increased commuters.

"It would have a negative effect because of my dogs, you can't hear them (cyclists) because they rarely ring their bell."
dog-walker

"The corridor is already at capacity and a lot of changes would need to be made to accommodate more cyclists and improve."
cyclist/runner/dog-walker

Concerns Regarding Increased Cyclists

38% were concerned about trail etiquette.
14% was due to the path being too narrow.
10% said the trail is "too busy".

There is concern amongst users that the trail is too narrow and separation might be needed.

"Older people and people with disabilities have issues with e-bikes and scooters whizzing past them; it's unsafe."
Ellen Blake
Walking Advocate

"The river trail is quite narrow in parts, so you really have to show courtesy to each other."
Paul Gruschow
Mobility Scooter Advocate

"Best situation would be separated paths."
Marco Ranelli
Cyclist Advocate

There are conflicting opinions on whether the trail should be a sealed or gravel surface.

"The addition of a sealed path on both sides (would be an improvement)."
dog walker/kayaker

"I enjoy the upgraded surface for commuting."
commuter cyclist/dog-walker

"I like the ruggedness of having some parts paved and some with gravel so there's not too much pavement."
cyclist/runner

Shared Spaces:

Understanding Perceptions of the Te Awa Kairangi Hutt River Corridor

Lexi Carim, Frankie Marrocco, Aileen Peddie, and Bettina Valentiner.

Presentation by Ross Jackson and Joby Mills

Attachment 2 to Report 24.212

Students visit to Parliament with guide Ross Jackson

Users of the Hutt River Corridor

Development History

Wairarapa Earthquake

Multi-Use Trail System

Flood Protection Measures

Growing tensions between users

5

Guiding Projects/Policies

RiverLink Project

Floodplain Management Plan

Environmental Strategy Action Plan

EcoVisio Counters

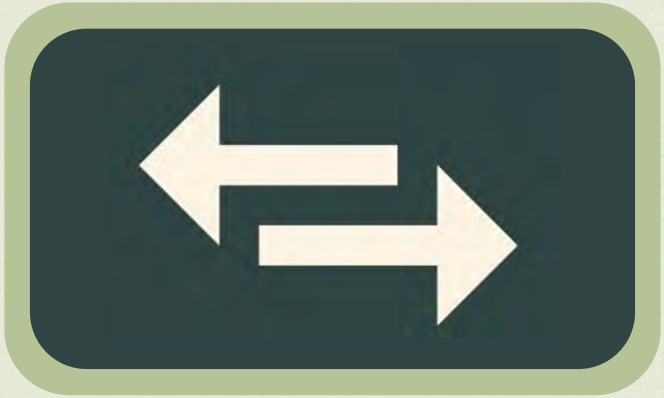
Attachment 2 to Report 24.212

7

Counter Data

User Group

Direction



Time & Date

Attachment 2 to Report 24.212

2016 Hutt River Corridor User Survey

Hutt River Corridor user survey

greater WELLINGTON REGIONAL COUNCIL Te Pane Matua Taiao

Site	Interviewer	Date	Time	
Notes:				

Hello, I am doing a survey for the Greater Wellington Regional Council about the use and values of the Hutt River Corridor. Do you have a few minutes to answer some simple questions?

Q1. Have you been surveyed about your use of this site in the past month?
[1] ☐ No (CONTINUE) [2] ☐ Yes ..... ➔ ***THANKS FOR STOPPING BUT WE WON'T BOTHER YOU AGAIN***

Q2. What age group are you in? **(INSTRUCTION: show categories)**
[1] ☐ Under 15 (CLOSE WITH THANKS)..... ➔ ***THANKS FOR STOPPING BUT WE'RE JUST TALKING TO PEOPLE WHO ARE 15 YEARS OR OLDER TODAY***
[2] ☐ 15-24
[3] ☐ 25-49
[4] ☐ 50-64
[5] ☐ 65 years and over

Q3. Where do you normally live? **(RECORD HUTT VALLEY SUBURB, NZ CITY, OR COUNTRY)**

9

Current Challenges of Hutt River Corridor

Highly engineered floodplain

Pressure to develop commuter cyclist route

Improve experiences for all user groups

Goal

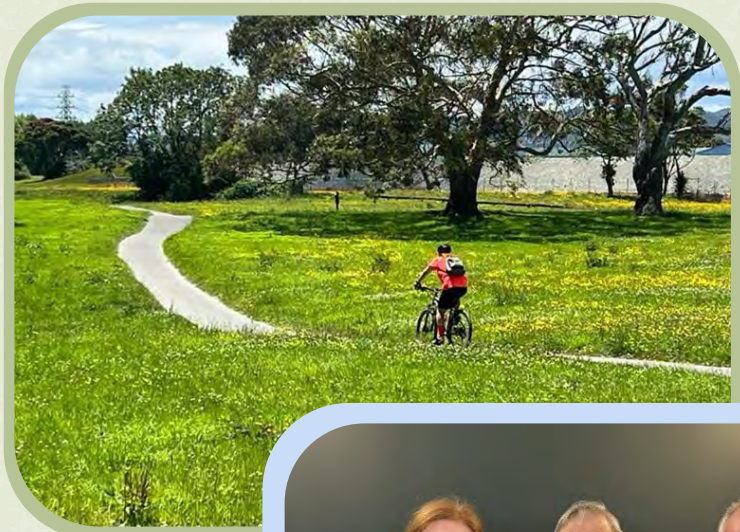
Understanding evolving perceptions of the Te Awa Kairangi, Hutt River Corridor to help the Greater Wellington Regional Council manage this shared space

Objective 1

Understand how the Hutt River Corridor functions as both a floodplain and recreational zone.

Objective 2

Evaluate perceptions of the Corridor's current usage and the potential increased use by commuters.



13

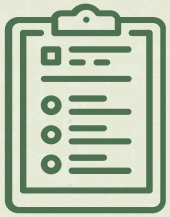
Objective 3

Identify and employ frameworks that address visitor use management in shared spaces.

Human-Human Interactions

Human-Nature Interactions

Human-Infrastructure Interactions



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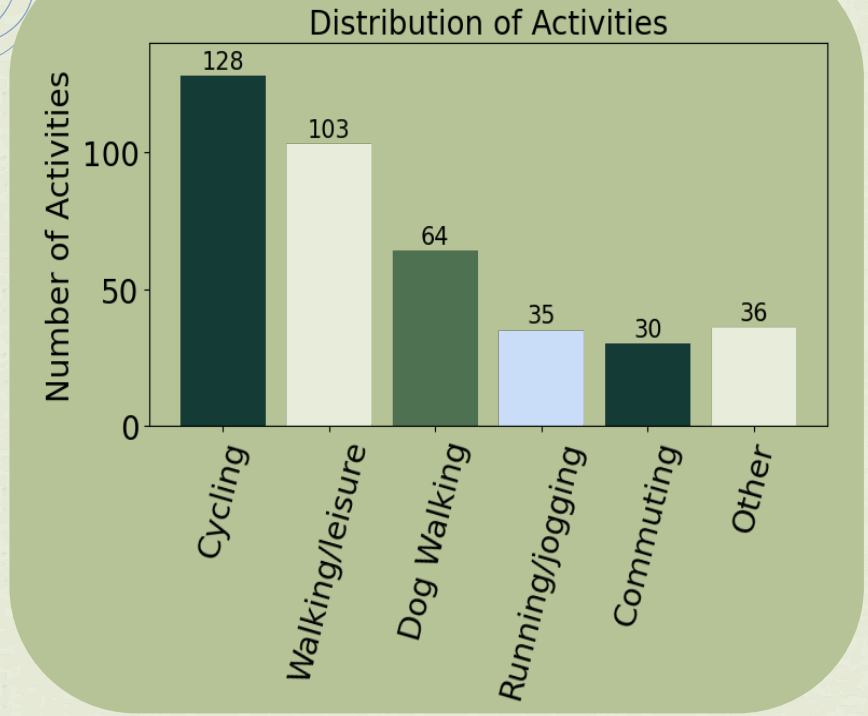
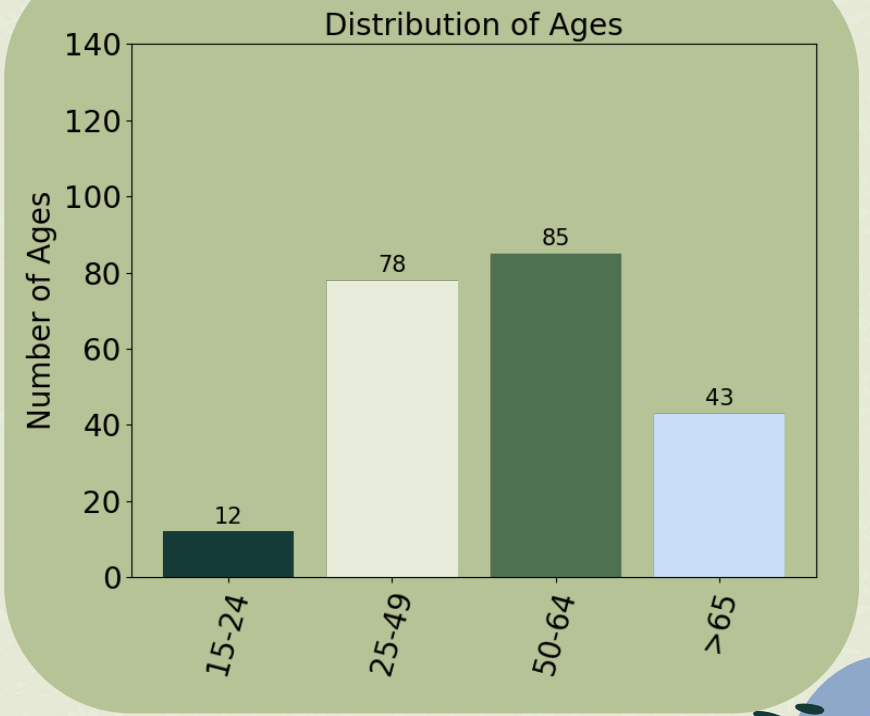
SURVEYS

18

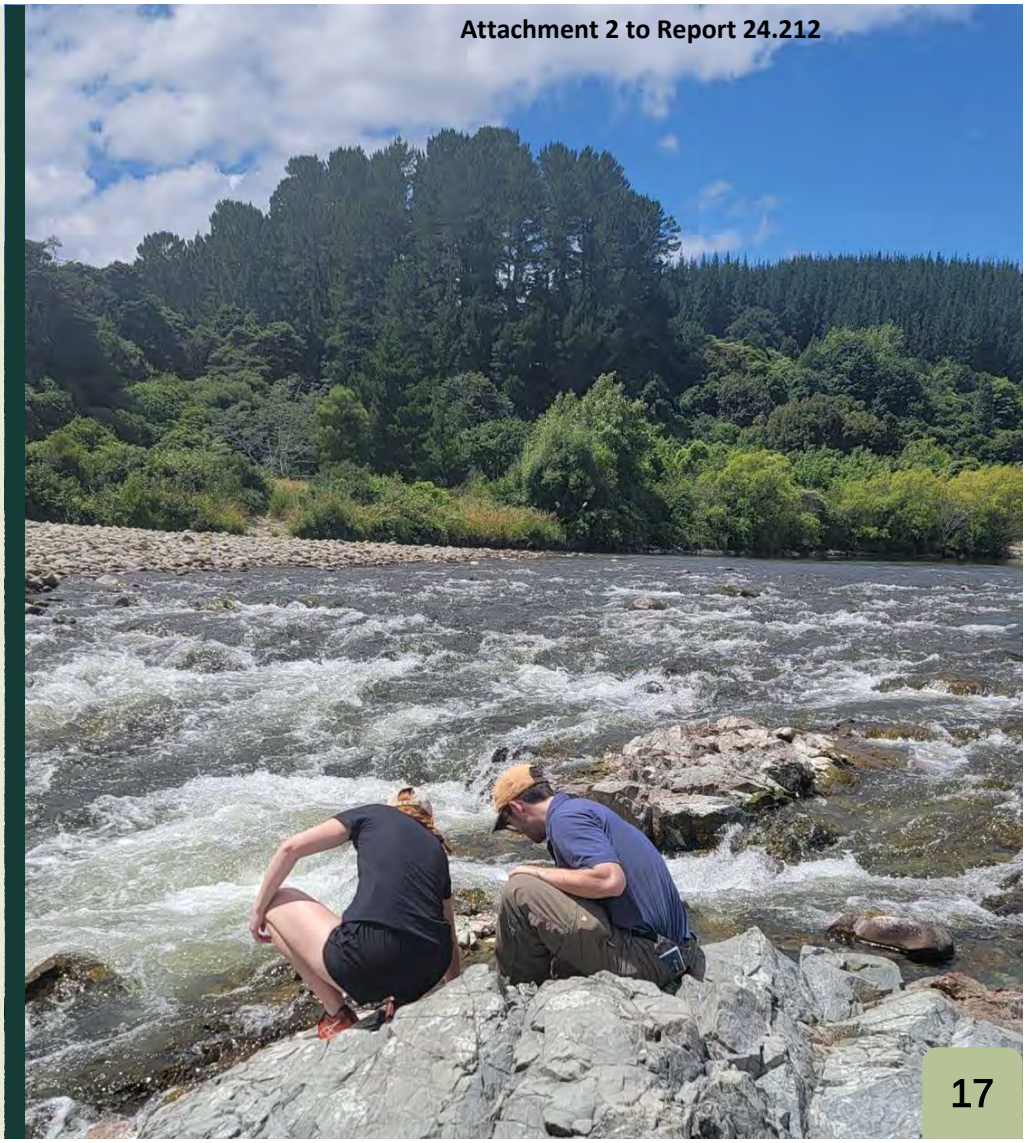
INTERVIEWS

River Reflections: Hutt River Corridor Experience Survey



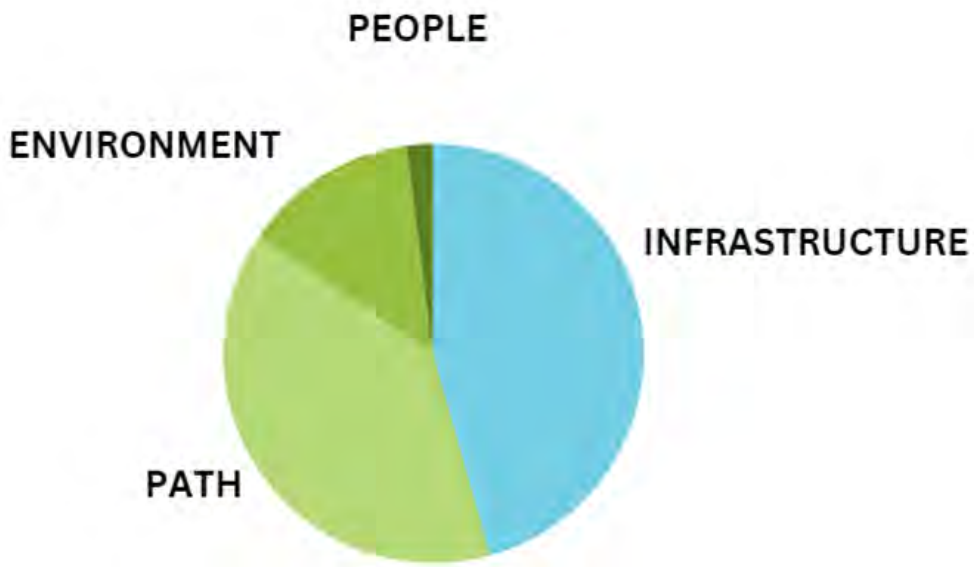


Findings



The value of nature is contradicted by the desire for increasing the Corridor's built environment.

General Improvements

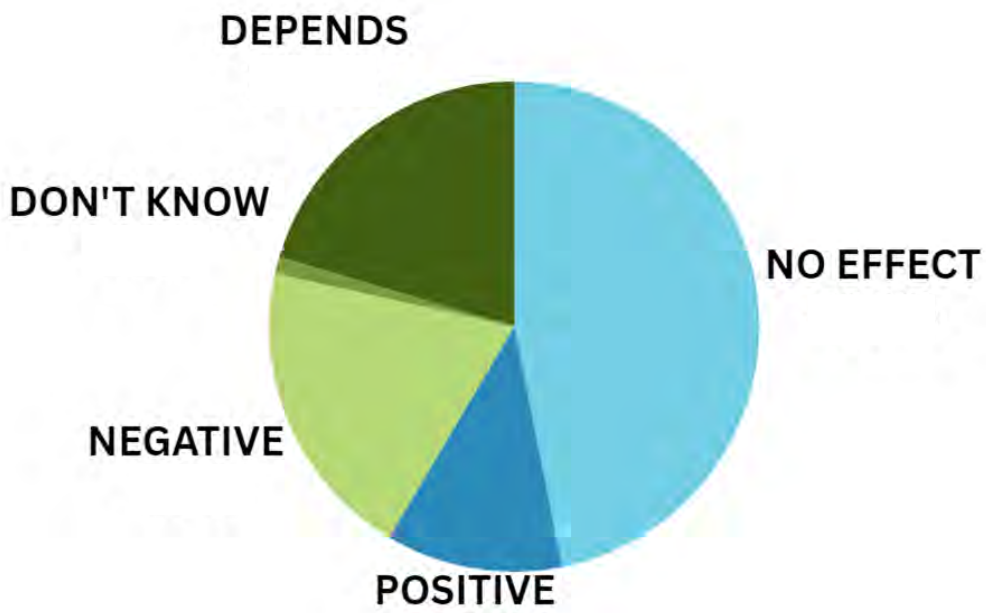


46% of people believed infrastructure improvements would enhance their experience.

Most users suggested increasing the amount of features such bins, water fountains, signage, and lighting within the Corridor.

21

Impact of Increased Commuters



66% said they would not be negatively affected by an increase in usage.

Commuters are not the only type of users that believe increased commuter use would be positive.

"I don't use it for commuting, but I know people who do and I encourage it."

cyclist/walker

"The more the merrier!"

dog-walker/kayaker

"More commuters are good and would add value to the trail, it would potentially mean the corridor is looked after better"

cyclist

Some commuters and cyclists believed additional commuter use would negatively impact their experience.

"It would be a lot more cluttered and would force me to slow down"

commuter cyclist

"It's more natural when there's less people"

cyclist, walker

"I would have to pay more attention and couldn't look at the scenery as much"

cyclist/dog-walker/swimmer

Etiquette and trail capacity were the most common concerns from users that mentioned they would be affected by an increase of commuter cyclists.

Concerns Regarding Increased Cyclists

38% were concerned about cyclist etiquette

28

"It would be fine as long as they are courteous for others"
cyclist

"It's better when the cyclists have a bell so I know when to move off the trail"
dog walker

"Etiquette is the biggest problem, we can share with anyone"
Beth Reille
Horse Riding Advocate

There is concern amongst users that the trail is too narrow and separation might be needed for increased usage.

"The river trail is quite narrow in parts, so you really have to show courtesy to each other"

Paul Gruschow
Mobility Scooter Advocate

"It's hard to share a narrow path"

Joby Mills
Senior River Ranger

"Best situation would be separated paths."

Marco Renalli
Cyclist Advocate

"For older people and people with disabilities. They have issues with e-bikes and scooters whizzing past them, it's unsafe."

Ellen Blake
Walking Advocate

There are conflicting opinions on whether the trail should be a sealed or gravel surface.

"The addition of a sealed path on both sides (would be an improvement)"

dog walker/kayaker

"I enjoy the upgraded surface for commuting"

commuter cyclist/dog walker

"There may be some parts on the gravel that are harder to use so paving more areas (would be an improvement)"

walker/runner

"I like the ruggedness of having some parts paved and some with gravel so there's not too much pavement"

cyclist/runner

"My favorite part is the gravel path in Stokes Valley"

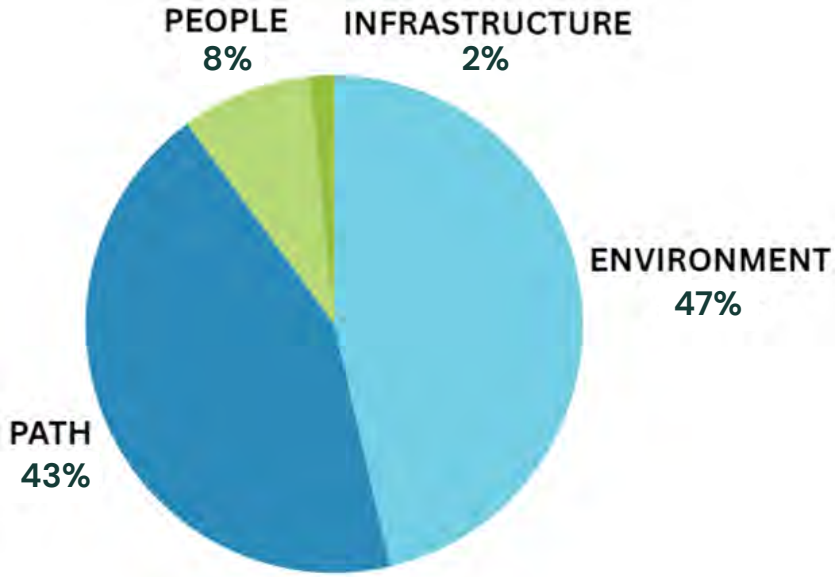
cyclist

"(my favorite aspect is) the bumps and stuff, I like how it's uneven"

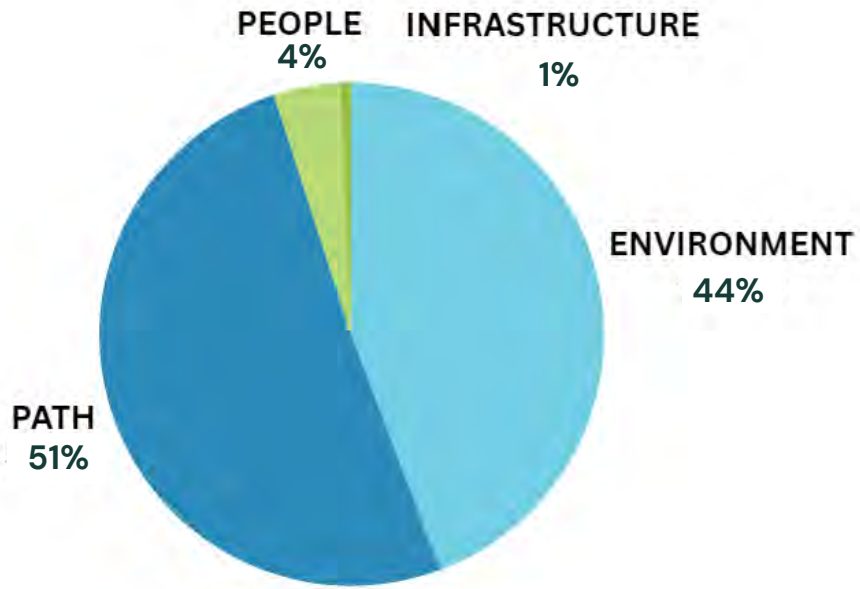
cyclist

Attachment 2 to Report 24.212

Comparison of 2016 and 2024 Survey Results (Best Aspects of the Corridor).



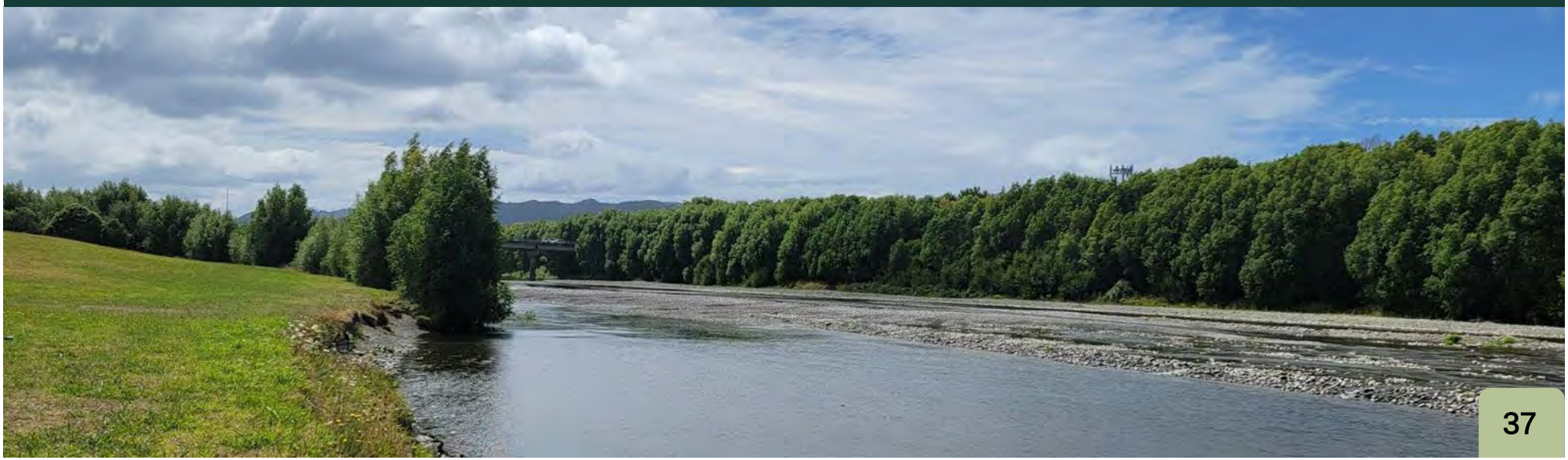
2016



2024

35

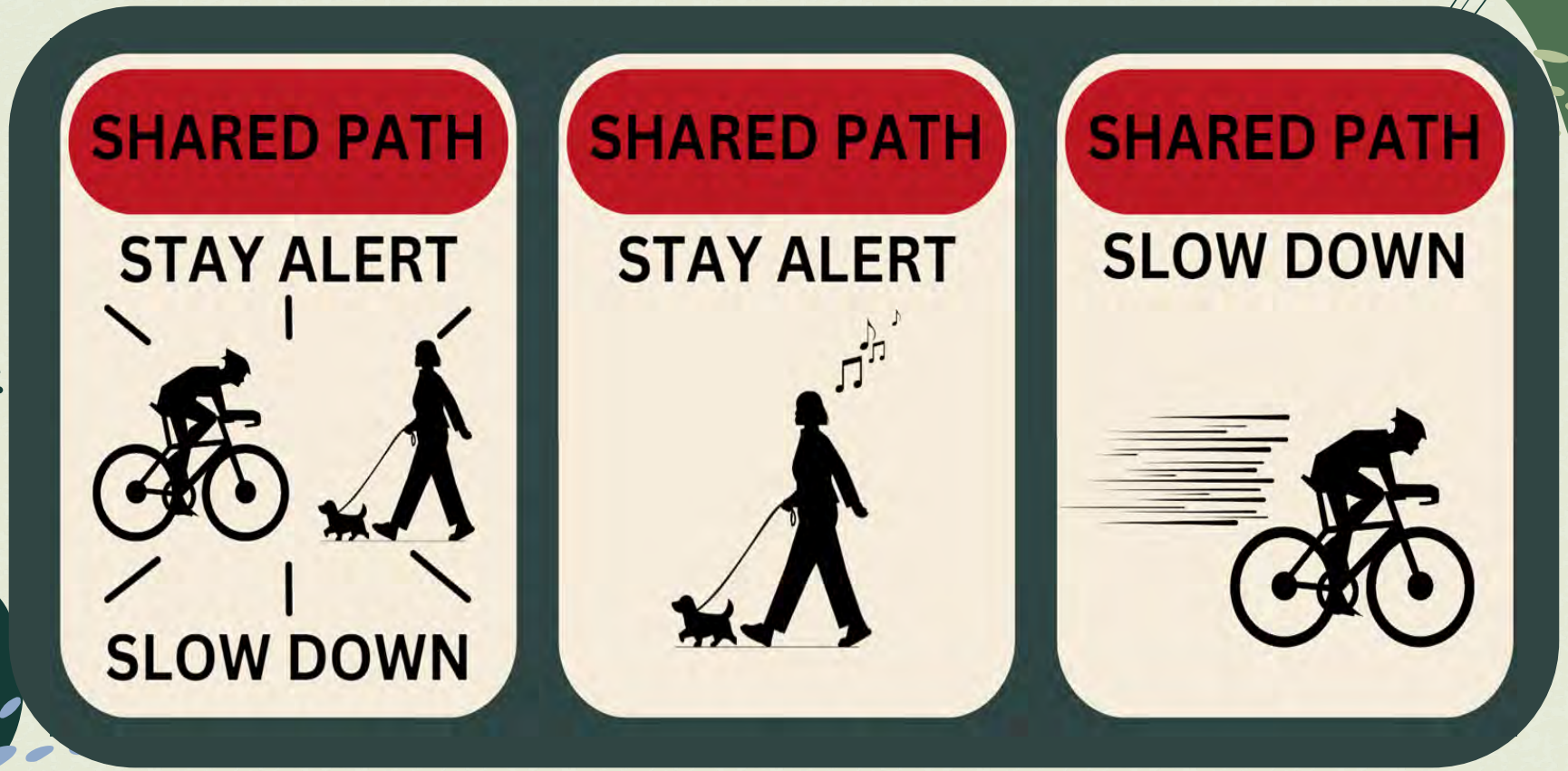
Recommendation



Increase Signage and Cluster Hardscape Infrastructure Throughout the Corridor.

- “Keep Left”
- “Shared Space”
- Enter and Exit points
- Nature/History

38


SHARED PATH
STAY ALERT
SLOW DOWN
SHARED PATH
STAY ALERT
SHARED PATH
SLOW DOWN

39

Widen/Separate path to mediate conflicts.

Increase education to inform users of proper trail etiquette.

41

Thanks for listening!

Do you have any questions?

Te Awa Kairangi / Hutt River Valley Subcommittee
6 June 2024
Report 24.274

For Information

STOKES VALLEY STREAM UPDATE

Te take mō te pūrongo
Purpose

1. To advise the Te Awa Kairangi / Hutt River Valley Subcommittee (the Subcommittee) of the current management of the Stokes Valley Stream.

Te tāhū kōrero
Background

2. Stokes Valley Stream begins as a relatively natural watercourse in regenerating bush in the upper valley but once it enters the valley floor it becomes channelised, straightened, and is enclosed by culverts at several locations, including the reach passing under the Stokes Valley Shopping Centre. The stream re-surfaces downstream of the shopping centre at Bowers Street but is contained within a concrete lined channel. The Tui Glen tributary stream, also contained within a concrete lined channel, joins Stokes Valley Stream approximately 700m downstream of Bowers Street, the confluence marking the upper extent of the application area. The stream runs a further 300m through the concrete channel to a stilling basin at the Stokes Valley Road Bridge. Beyond Stokes Valley Road the stream bed substrate takes on a more natural character of cobbles, gravels, and fine sediment. It retains, however, a straightened 'engineered' channel with sloping grassed banks throughout the lower reach to its confluence with the Hutt River.

3. The original channelisation works were undertaken by the Hutt River Board on behalf of the Hutt City Council. Flooding in 1976 inundated multiple properties in the Valley resulting in extensive stream works including lowering the stream bed and battering the stream banks.

4. Greater Wellington's work on the Stokes Valley Stream at the confluence with Te Awa Kairangi/Hutt River is directed by the Hutt River Floodplain Management Plan 2001 and Te Awa Kairangi / Hutt River Environmental Strategy Action Plan 2018 (the Action Plan). Above the Eastern Hutt Rd to the end of the reach Greater Wellington has agreed to maintain, the Water Course agreement guides our activities.

5. From the Action Plan (page 37):

   a Consider opportunities to improve the ecological function and values of the Stokes Valley Stream channel.

   b 300m of channelised stream in the river berm has mown grass banks. Investigate ways that this can be improved aesthetically and ecologically.

c Enhance fish passage at the stream outlet into the river.

Monitoring results

6. Monitoring as part of development of the Stormwater Management Plan for Wellington Water Limited's global stormwater consent was conducted in 2021-22 at two freshwater sites within the Stokes Valley catchment. The results of stream monitoring is summarised below:

   a A significant number of scum observations were noted within Stokes Valley Stream, alongside some appearance of colour change.

   b Concentrations of *E. coli* were elevated at both sites – neither of which achieved Natural Resources Plan for the Wellington Region (NRP) Objective 18.

   c Water temperature presented poor readings, whilst dissolved oxygen was noted at a high level.

   d Nutrient concentrations have shown some elevation – particularly phosphorus.

   e Dissolved copper and zinc both partially met their respective ANZECC guideline values.

   f Neither the periphyton nor macroinvertebrate communities of Stokes Valley Stream met NRP Objective O19.

Current management approach

7. Greater Wellington manages the stream from the confluence with Te Awa Kairangi/Hutt River to approximately 500m upstream from the intersection of Stokes Valley Rd, Thomas St / James Grove.

8. Upstream from this location is managed by Wellington Water Limited on behalf of Hutt City Council.

9. Greater Wellington use permitted activity status and the Te Awa Kairangi Global consent to undertake the general works it undertakes. Under this consent, works over specific thresholds require the development of a Site Specific Environmental Management Plan (SSEMP) for Stokes Valley Stream. More major works, such as the recent fish passage project undertaken at the mouth of the stream, require resource consents.

10. In 2023, fish passage at the confluence was improved with funding through the Climate Resilience Programme.

Immediate work planned

11. Stream maintenance work is scheduled as permitted by the Regional Plan, subject to conditions in the SSEMP.

12. The key condition in the SSEMP is that prior to the work commencing, it is assessed by a freshwater ecologist. The current proposed work was assessed on 17 May 2024 by a Senior Principal Environmental Scientist, Stantec.

13. Immediate work planned involves filling six sites where holes have formed in the stream bed, and the removal of gravel where it has built up in two sites. The reasons for these works are:

a deep holes will eventually undermine the bank and lead to further bank erosion;

b holes in the bed present a health and safety risk for tractor operators which track along the stream bed to mow the lower part of the bank that cannot be reached from the top; and

c the buildup of gravel under bridges reduces the flood capacity at the bridge and prevents tractor access along the stream bed and so prevents mowing of the lower bank.

14. Stantec recommend that the works be completed in May or June, so as to avoid the wetter period of July/August and peak fish migration period during spring.

15. Potential adverse effects of these activities include mobilisation of fine sediment, disturbance of the habitat and mortality of macroinvertebrates and fish.

16. Proposed mitigations for these adverse effects are to use a silt fence on the lower stream to control sediment release, and de-fishing of works sites.

17. Not directly related to the proposed works, Stantec also recommend a review of the management of the riparian area, in particular, the practice of regular mowing of the lower banks. They consider that there may be an option that avoids the need to operate a tractor along the stream bed, such as the development and implementation of a planting plan for the riparian area, which would need to include a regular maintenance schedule.

18. A key matter for considering this proposal will be the impact on the flood carrying capacity and how this impact might be accommodated. The riparian planting will likely improve water quality and slow water velocities. The slowing of water velocities will however result in increased flood levels.

Whaitua recommendations

19. Te Mahere Wai o Te Kāhui Taiao (Te Mahere Wai) and the Te Whanganui-a-Tara Whaitua Implementation Programme (WIP) both highlighted the importance of āku waiheke (small streams) like the Stokes Valley Stream.

20. From Te Mahere Wai (page 34)

a “Traditionally, these were the places that supported kāinga (home places) for domestic supplies of water as well as mahinga kai, ritual use and other purposes. They have effectively lost their identity and mana through urban and sub-urban development.”

21. Despite their significance to mana whenua, and ecological value and function, mana whenua consider that āku waiheke are not recognised in current freshwater management practices and have little protection.

22. Te Mahere Wai recommends that streams like Stokes Valley Stream can be enhanced by:

a renaming it with a ngāwai huna traditional name

b increasing monitoring for the presence of indigenous biodiversity and ecological function

c daylighting where practical

d improving native fish access

e managing land around small streams sensitively, and

f having mana whenua involved in the decision-making around activities that may have an adverse impact on these streams

Ngā hua ahumoni
Financial implications

23. There are no financial implications associated with this report.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

24. Stokes Valley Stream is identified by mana whenua in Te Mahere Wai as a stream with unique values to mana whenua that should be recognised and protected. Due to the significant modification of the stream over many decades, and current management practices, the values and mana of the stream are not being upheld.

25. As noted in paragraphs 18-20 above, mana whenua have described their concerns with current practices, and provided direction on means for enhancing the mauri and mana of the stream.

Ngā tūāoma e whai ake nei
Next steps

26. This report has been provided upon request to present a summary of current activity. Any next steps are yet to be determined.

Ngā āpitihanga
Attachments

Number	Title
1	Stokes Valley Stream Update (PowerPoint)

Ngā kaiwaitohu
Signatories

Writer	Tim Sharp – Catchment Manager – Te-Whanganui-a-Tara
Approvers	Nicola Patrick – Director, Catchment Lian Butcher – Group Manager, Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference
The Subcommittee's specific responsibilities include to oversee development, implementation and review of floodplain management plans (FMPs) for the Te Awa Kairangi/Hutt River floodplain.
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies
Management of Stokes Valley Stream delivers on GW's strategic priority area of te tū pakari a te rohe/regional resilience.
Internal consultation
Internal consultation in preparing this report was undertaken with the Delivery Function regarding stream maintenance, Knowledge an Insights regarding stream monitoring, and Te Hunga Whiriwhiri regarding mana whenua interests.
Risks and impacts - legal / health and safety etc.
There are no known risks.

Attachment 1 to Report 24.274

Stokes Valley Stream

Presentation for Te Awa Kairangi /Hutt River Valley Sub-committee 6 June 2024

Greater Wellington
Te Pane Matua Taiao

Attachment 1 to Report 24.274

Stokes Valley Stream confluence with Te Awa Kairangi

Attachment 1 to Report 24.274

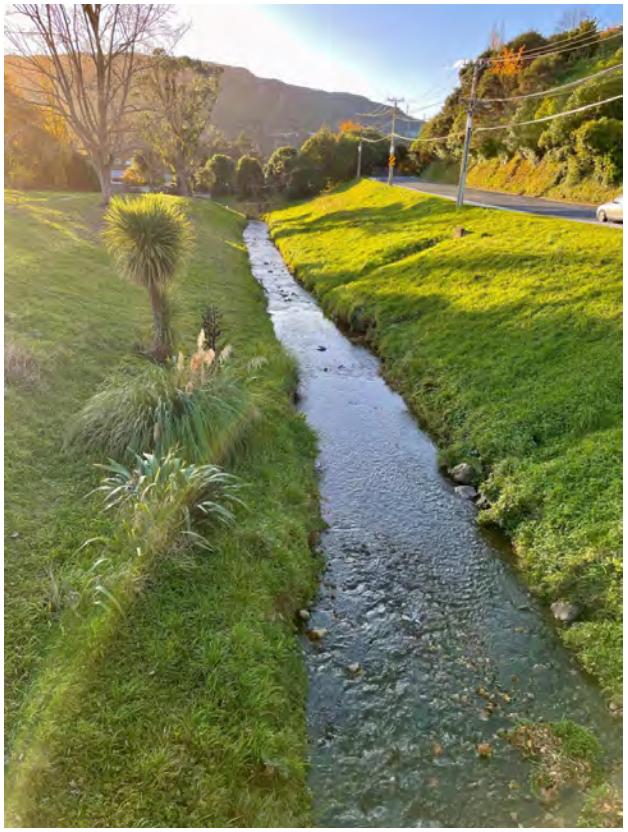
Fish passage remediation at confluence

Attachment 1 to Report 24.274

Channel with mown grass banks (Te Awa Kairangi on other side of stopbank)

Attachment 1 to Report 24.274

Planting beside Thomas St

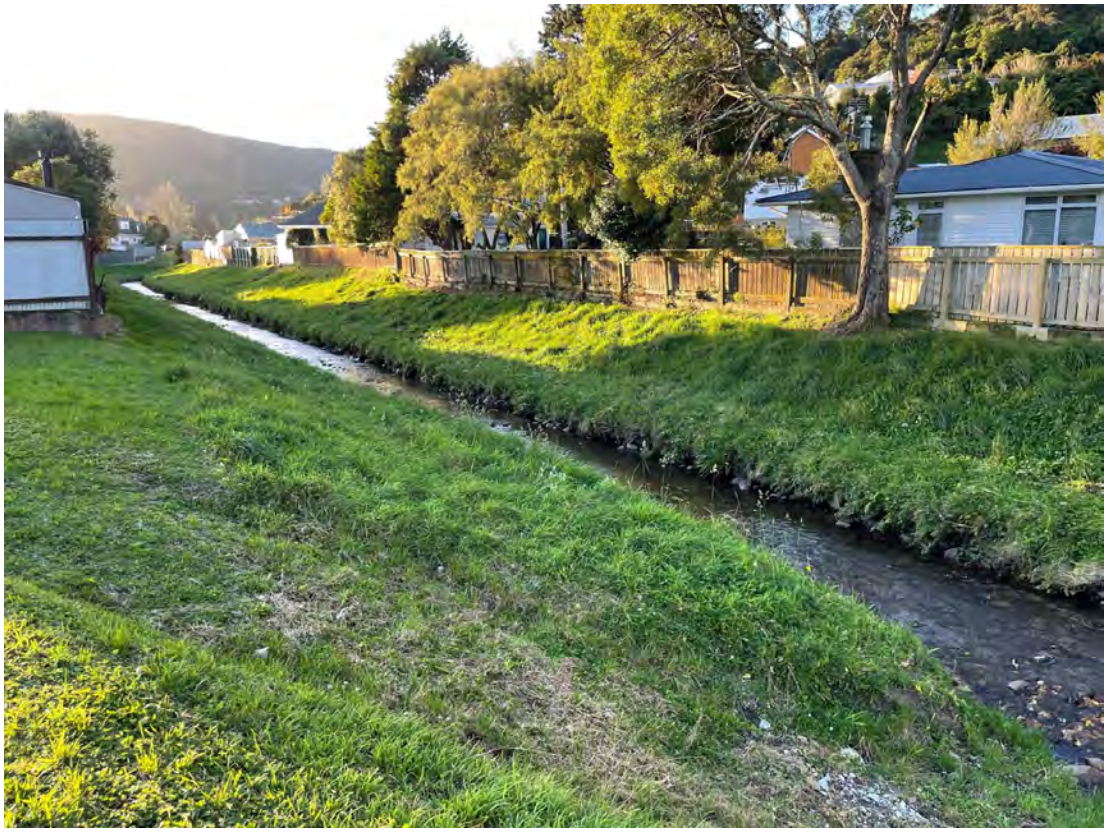


Attachment 1 to Report 24.274

Thomas St playground & Bridge

Attachment 1 to Report 24.274

“Access” between Thomas St and Stokes Valley Rd



Attachment 1 to Report 24.274

Location of GWRC and HCC jurisdiction change

Attachment 1 to Report 24.274

Northern side of Stokes Valley Rd at Thomas St/James Grove

Southern side