Nelson City Council
te kaunihera o whakatū

Notice of the ordinary meeting of the

Infrastructure Committee

Kōmiti Hanganga

Date:	Thursday 1 October 2020
Time:	9.00a.m.
Location:	Council Chamber, Civic House 110 Trafalgar Street Nelson

Agenda

Rārangi take

Chair	Cr Brian McGurk
Deputy Chair	Cr Rohan O'Neill-Stevens
Members	Her Worship the Mayor Rachel Reese
	Cr Yvonne Bowater
	Cr Trudie Brand
	Cr Mel Courtney
	Cr Kate Fulton
	Cr Judene Edgar
	Cr Matt Lawrey
	Cr Gaile Noonan
	Cr Pete Rainey
	Cr Rachel Sanson
	Cr Tim Skinner

Pat Dougherty
Chief Executive

Quorum: 2

Infrastructure Committee

Areas of Responsibility:

- Bylaws, within the areas of responsibility
- Transport network, including, roading network and associated structures, walkways, cycleways and shared pathways, footpaths and road reserve, street lighting, traffic management control and parking.
- Water
- Wastewater, including Bell Island Wastewater Treatment Plant
- Stormwater and Flood Protection
- Solid Waste management, including transfer stations and waste minimisation
- Regional Landfill
- Recycling

Delegations:

The committee has all of the responsibilities, powers, functions and duties of Council in relation to governance matters within its areas of responsibility, except where they have been retained by Council, or have been referred to other committees, subcommittees or subordinate decision-making bodies.

The exercise of Council's responsibilities, powers, functions and duties in relation to governance matters includes (but is not limited to):

- Monitoring Council's performance for the committee's areas of responsibility, including legislative responsibilities and compliance requirements
- Developing, approving, monitoring and reviewing policies and plans, including activity management plans and the Infrastructure Strategy
- Reviewing and determining whether a bylaw or amendment, revocation or replacement of a bylaw is appropriate
- Undertaking community engagement, including all steps relating to Special Consultative Procedures or other formal consultation processes
- Approving submissions to external bodies or organisations, and on legislation and regulatory proposals
- Hear, consider and decide all applications for road stopping

Powers to Recommend to Council:

In the following situations the committee may consider matters within the areas of responsibility but make recommendations to Council only (in accordance with sections 5.1.3 - 5.1.5 of the Delegations Register):

- Matters that, under the Local Government Act 2002, the operation of law or other legislation, Council is unable to delegate
- The purchase or disposal of land or property relating to the areas of responsibility, other than in accordance with the Long Term Plan or Annual Plan
- Unbudgeted expenditure relating to the areas of responsibility, not included in the Long Term Plan or Annual Plan
- Decisions regarding significant assets

Page No.

1. Apologies

1.1 Apologies have been received from Councillors Rainey and Bowater

2. Confirmation of Order of Business

3. Interests

3.1 Updates to the Interests Register

3.2 Identify any conflicts of interest in the agenda

4. Public Forum

4.1 Railway Reserve

Clare Scott will present a petition regarding the Railway Reserve.

5. Confirmation of Minutes

5.1 26 August 2020 **6 - 10**

Document number M13077

Recommendation

That the Infrastructure Committee

1. <u>Confirms</u> the minutes of the meeting of the Infrastructure Committee, held on 26 August 2020, as a true and correct record.

6. Chairperson's Report

7. Draft 2021-2051 Infrastructure Strategy **11 - 24**

Document number R15936

Recommendation

That the Infrastructure Committee

1. ***<u>Receives</u> the report Draft 2021-2051 Infrastructure Strategy (R15936) and its attachment (A2475059); and***

2. ***<u>Approves</u> the Draft 2021-2051 Infrastructure Strategy (A2364365) as the version to inform the Long Term Plan 2021-31 and all Activity Management Plans; and***

3. ***<u>Notes</u> that the Draft 2021-2051 Infrastructure Strategy will be updated following Council workshops in December 2020 and January 2021.***

8. Draft 2021-31 Stormwater and Flood Protection Activity Management Plan 25 - 64

Document number R16969

Recommendation

That the Infrastructure Committee

1. ***<u>Receives</u> the report Draft 2021-31 Stormwater and Flood Protection Activity Management Plan (R16969) and its Attachment (A2453216); and***

2. ***<u>Approves</u> the Draft Stormwater and Flood Protection Activity Management Plan 2021-31 (A2427836) as the version to inform the Long Term Plan 2021-31; and***

3. ***<u>Notes</u> that the Draft Stormwater and Flood Protection Activity Management Plan 2021-31 will be updated and, the final Activity Management Plan approved, after the adoption of the Long Term Plan 2021-2031.***

9. Draft Solid Waste Activity Management Plan 2021-31 65 - 88

Document number R14835

Recommendation

That the Infrastructure Committee

1. ***Receives*** ***the report Draft Solid Waste Activity Management Plan 2021-31 (R14835) and its attachment (A2462529); and***

2. ***Approves*** ***the Draft Solid Waste Activity Management Plan 2021-31 (A2468611) as the version to inform the Long Term Plan 2021-31; and***

3. ***Notes*** ***that the Draft Solid Waste Activity Management Plan 2021-31 will be updated and, the final Activity Management Plan approved, after the adoption of the Long Term Plan 2021-2031.***

10. Hampden Street Closure - monitoring results and next steps 89 - 138

Document number R13687

Recommendation

That the Infrastructure Committee

1. ***Receives*** ***the report Hampden Street Closure - monitoring results and next steps (R13687) and its attachments (A2476129, A2466857, and A2472740); and***

2. ***Approves*** ***the continuation of the Hampden Street Closure trial for a period of approximately 12 months, and***

3. ***Notes*** ***that any temporary trial traffic measures planned for Locking Street will be discussed with the residents and the Chair of the Infrastructure Committee prior to implementation.***

Nelson City Council
Te Kaunihera o Whakatū

Minutes of a meeting of the Infrastructure Committee

Held in the Council Chamber, Civic House, 110 Trafalgar Street, Nelson

On Wednesday 26 August 2020, commencing at 9.03a.m.

Present:	Councillor B McGurk (Chairperson), Her Worship the Mayor R Reese, Councillors Y Bowater, T Brand, M Courtney, J Edgar, M Lawrey, R O'Neill-Stevens (Deputy Chairperson), P Rainey, R Sanson and T Skinner
In Attendance:	Group Manager Infrastructure (A Louverdis), Group Manager Community Services (R Ball), Governance Adviser (J Brandt) and Governance Support (K McLean)
Apologies:	Councillors K Fulton, and G Noonan (lateness)

1. Apologies

Resolved IC/2020/039

That the Infrastructure Committee

1. Receives and accepts the apologies from Councillor Fulton for absence, and Councillor Noonan for lateness.

Courtney/Bowater — Carried

2. Confirmation of Order of Business

There was no change to the order of business.

3. Interests

There were no updates to the Interests Register, and no interests with items on the agenda were declared.

Attendance: Councillor Lawrey joined the meeting at 9.04a.m. and Councillor Skinner joined the meeting at 9.05a.m.

4. Public Forum

4.1 Nelsust – Ange Palmer (via Zoom) presented a signed letter by members of the community in support of lighting on the railway reserve.

As Ms Palmer was joining via Zoom, she read the letter (Light the Way) to the Committee and noted she would provide a hardcopy subsequent to the meeting. The purpose of the letter was to request for urgent lighting the railway reserve for the stretch from Victory Rd to Beatson Road. Ms Palmer noted that the letter had 594 signatures. She highlighted the benefits lighting the path would bring for the community including safety and environmental aspects.

Ms Palmer answered questions about safety and environmental aspects, modal shift, and reasons for using the railroad reserve.

It was noted that the matter would next be considered as part of the Transport Activity Management Plan 2021-31 and the Long Term Plan.

Attendance: Councillor Brand joined the meeting at 9.10a.m.

5. Confirmation of Minutes

5.1 2 July 2020

Document number M11986, agenda pages 6 - 16 refer.

Resolved IC/2020/040

That the Infrastructure Committee

1. Confirms the minutes of the meeting of the Infrastructure Committee, held on 2 July 2020, as a true and correct record.

O'Neill-Stevens/Courtney Carried

6. Chairperson's Report

There was no Chairperson's Report.

7. Draft 2021-31 Transport Activity Management Plan

Document number R14834, agenda pages 17 - 28 refer.

Manager Roading and Solid Waste, Marg Parfitt presented the report. She noted that, in line with a national change of direction, the Transport Activity Management Plan 2021-31 (TAMP) had a strong focus on setting out planning activity for the next three years with the intention to have projects developed and ready for action in the next Activity Management Plan.

The meeting adjourned from 9.48a.m. to 9.51a.m.

Attendance: Councillor Noonan joined the meeting at 9.55a.m.

Ms Parfitt, supported by Group Manager, Alec Louverdis, answered questions about transformative change, modal shift, transport plans for growth areas, the prioritisation process, budgets for operations, maintenance, renewal including resurfacing, footpath work and the low cost low risk budget, the Nelson Future Access Study, safety, and the imminent revised GPS from central government.

Resolved IC/2020/041

That the Infrastructure Committee

1. ***Receives the report Draft 2021-31 Transport Activity Management Plan (R14834) and its Attachment (A2435268); and***

2. ***Approves the Draft Transport Activity Management Plan 2021-31 (A2443789) as the version to inform the Long Term Plan 2021-31; and***

3. ***Notes that the Draft Transport Activity Management Plan 2021-31 will be updated following Council workshops in December 2020 and January 2021.***

Edgar/O'Neill-Stevens Carried

The meeting adjourned from 10.25 a.m. until 10.37 a.m.

8. Infrastructure Quarterly Report

Document number R19220, agenda pages 29 - 97 refer.

Manager Capital Projects, Lois Plum presented the report. She noted the report covered an extended period due to the COVID-19 lockdown earlier in the year, and that subsequent delays caused by the coronavirus were the reason for the funding changes requested in the report.

Ms Plum, supported by Manager Roading and Solid Waste, Marg Parfitt, and Group Manager Infrastructure, Alec Louverdis, answered questions about priorities and gains, minimising waste to landfill, the composting trial, the Awatea Place sewer pump station project, the Beach Road Raised Table project, procurement processes during the COVID-19 recovery phase and their benefits, the level of works currently taking place in Nelson, the new parking meter system, relationship with local contractors, and the new Infrastructure reporting framework.

Attendance: Councillor Lawrey left the meeting from 11.04a.m. until 11.06a.m.

Resolved IC/2020/042

That the Infrastructure Committee

1. ***Receives*** ***the report Infrastructure Quarterly Report (R19220) and its attachments (A2432783, A2428866 and A2430042).***

Her Worship the Mayor/O'Neill-Stevens Carried

Recommendation to Council IC/2020/043

That the Council

1. ***Approves*** ***additional unbudgeted funding of $382,210 to cover the impact of delays from COVID-19 on the following capital projects:***

    a. ***$31,957 - Annesbrook Water Upgrade;***

    b. ***$83,373 – St Vincent Street sewer renewal;***

    c. ***$92,945 – Tahunanui Cycleway;***

    d. ***$97,617 – Saxton Creek Stage 3;***

    e. ***$14,318 - Poormans Stream Culvert;***

    f. ***$62,000 – Railway Reserve underpass; and***

2. ***Approves*** ***additional unbudgeted funding of $425,000 to fund the Hardy/Vanguard watermain renewal work to be undertaken in the 2020/21 financial year; and***

3. ***Approves*** ***funding of $480,000 be brought forward from the 2021/22 financial year into the 2020/21 financial year, and $273,000 from the 2022/23 financial year into the 2020/21 financial year to allow the Tosswill Road Stormwater Upgrade to be completed ahead of schedule; and***

4. ***Approves*** ***funding of $1Million be brought forward from 2021/22 into the 2020/21 financial year to allow the Whakatu Drive (Storage World) Flood Protection upgrade to be completed in the 2020/21 financial year.***

Her Worship the Mayor/O'Neill-Stevens Carried

There being no further business the meeting ended at 11.36a.m.

Confirmed as a correct record of proceedings:

_____ Chairperson _____ Date

Nelson City Council
te kaunihera o whakatū

Infrastructure Committee

1 October 2020

REPORT R15936

Draft 2021-2051 Infrastructure Strategy

1. Purpose of Report

1.1 To approve the Draft Infrastructure Strategy 2021-2051 (Strategy).

2. Summary

2.1 The Strategy identifies significant infrastructure issues during the period covered by the strategy (which needs to be at least 30 years), the principal options for managing those issues, and the implications of those options.

2.2 Public and active transport and solid waste services have been included in this strategy for the first time. This is in addition to the activities which the Local Government Act requires all councils to include — water supply, wastewater, stormwater & flood protection, as well as roads and footpaths.

2.3 The Nelson Tasman Regional Landfill Business Unit and the Nelson Regional Sewerage Business Unit are in the process of developing their own infrastructure strategies.

3. Recommendation

That the Infrastructure Committee

1. ***Receives*** ***the report Draft 2021-2051 Infrastructure Strategy (R15936) and its attachment (A2475059); and***

2. ***Approves*** ***the Draft 2021-2051 Infrastructure Strategy (A2364365) as the version to inform the Long Term Plan 2021-31 and all Activity Management Plans; and***

3. ***Notes*** ***that the Draft 2021-2051 Infrastructure Strategy will be updated following Council workshops in December 2020 and January 2021.***

4. Background

4.1 The Strategy is prepared for the approval of the Committee to inform development of the 2012-31 Long Term Plan (LTP) and all Activity Management Plans.

4.2 Following consultation and adoption of the LTP, the Strategy will be updated to align with the adopted LTP. The final updated Strategy will be brought back to Council early in 2021/22 for adoption.

4.3 The Strategy takes account of previous Council and Committee resolutions and feedback at workshops on the proposed work programme and budgets. Officers have undertaken a high level review of budgets across Council activities however, the Strategy and Activity Management Plans (AMPs) are at different stages of development and amendments may be required to the Strategy once all AMPs have been received by their respective committees and, the cumulative effect of the Strategy and AMPs has been considered at the workshops in December 2020 and January 2021. Officers will update the Strategy after these workshops and the final AMP will be brought to the Committee for approval after it has been updated to include decisions made during the LTP process.

4.4 Many changes have occurred since the previous infrastructure strategy was adopted in 2018. Additional strategic direction at a government level that affects infrastructure management includes:

- changes to the Local Government Act 2002 to delete references to good quality (effective and efficient) infrastructure, and reinstating promotion of the social, economic, environmental and cultural well-being of communities in the present and for the future;

- a Climate Change Response (Zero Carbon) Amendment Act with a target of zero net emissions by 2050 (excluding methane);

- a new Government Policy Statement on Land Transport has been adopted (with a revision coming out before the end of December 2020), with a strong focus on safety, multi modal transport systems and emission reductions;

- a proposal to replace the National Policy Statement on Urban Development Capacity with a new National Policy Statement on Urban Development, with more emphasis on the quality of urban environments;

- the Three Waters Review has led to a decision to establish a new agency to administer and enforce a new drinking water regulatory

system and improve the environmental performance of wastewater and stormwater networks; and

- changes to the National Policy Statement (NPS) for Freshwater Management to include higher freshwater quality standards;

- a new National Environmental Standard (NES) for wastewater and amendments to the Drinking Water NES, and requirements for wastewater and stormwater network operators to prepare risk management plans;

- an increase to central government's landfill levy has been confirmed.

4.5 In addition, new Nelson City Council (NCC) strategies and plans include:

- the Nelson Tasman Future Development Strategy and the Intensification Action Plan;

- the development of the Draft Whakatū Whakamahere Nelson Plan which includes new infrastructure, freshwater, climate change and natural hazards provisions;

- the declaration of a Climate Emergency.

4.5 The draft Infrastructure Strategy (A2364365) document is a significant document and is available on the Council's website, 2021-31 Activity Management Plans page (http://www.nelson.govt.nz/council/plans-strategies-policies/2021-31-activity-management-plans

5. Discussion

5.1 The purpose of an infrastructure strategy is to identify significant infrastructure issues during the period covered by the strategy (which needs to be at least 30 years), the principal options for managing those issues, and the implications of those options.

5.2 Effective implementation of this infrastructure strategy relies on good information flow and alignment between three different levels.

5.2.1 Strategic documents (10-30 years) including the Financial Strategy, Future Development Strategy, Intensification Action Plan and the Nelson Plan;

5.2.2 Tactical plans (1-10 years) including the Long Term Plan, activity management plans, the Intensification Action Plan, the Nelson Plan, and the Development Contributions Policy;

5.2.3 Operational activities (year to year) including work programmes and service delivery contracts.

5.3 Good levels of service statements and effective performance monitoring are key to aligning outcomes at each of these levels.

5.4 Major infrastructure projects are spread over three to five years, depending on their complexity. Over time, it is anticipated that Council will be able to increase the number of projects it delivers, as there is a commitment to improvements in the delivery of capital projects. This reflects that the level of project management maturity is increasing, and that Council's delivery model has the majority of work delivered by consultants who can take on more work. As Council's project managers become increasingly skilled, they can increase the number of projects they deliver. Council's processes and procedures are also improving and becoming more streamlined, which also increases delivery capacity.

5.5 The Strategy is the culmination of a significant piece of work – it is a living document and will be updated/amended during the course of its life.

6. Options

6.1 The Committee has two option – to either approve the Draft Strategy or to not approve the Draft Strategy.

Option 1: Approve the Draft Strategy	
Advantages	• Guides the Activity Management Plans and the LTP • Sets the Governance Direction • Meet requirements of Local Government Act 2002 • Reflects the input of Councillors during the numerous workshops
Risks and Disadvantages	• Nil
Option 2: Do not approve the Draft Strategy	
Advantages	• Nil
Risks and Disadvantages	• Fail to meet requirements of Local Government Act 2002 • Putting at risk the preparation of the Activity Management Plans and LTP.

7. Conclusion

7.1 The Strategy has been prepared to inform the LTP and will support Council in meeting its obligations under section 93 and Schedule 10 of the Local Government Act 2002.

7.2 Officers support its adoption.

8. Next Steps

8.1 The Strategy is a "live" document and will be updated to reflect all Council's decisions made during the LTP.

Author: **Lois Plum, Manager Capital Projects**

Attachments

Attachment 1: A2475059 - Executive Summary 2021-51 Infrastructure Strategy ⇩

Important considerations for decision making

1. Fit with Purpose of Local Government

Adoption of the Infrastructure Strategy is a requirement under the Local Government Act 2002 (the Act) which requires Nelson City Council to document its infrastructure strategies, setting out its strategic intentions for maintaining, renewing, and replacing infrastructure assets in the next 30 years.

2. Consistency with Community Outcomes and Council Policy

The Recommendation aligns with the Council's strategic documents, including the Long Term Plan, Annual Plan and the following Community Outcomes:

- Our unique natural environment is healthy and protected.
- Our urban and rural environments are people-friendly, well planned and sustainably managed.
- Our infrastructure is efficient, cost effective and meets current and future needs.
- Our communities are healthy, safe, inclusive and resilient.
- Our Council provides leadership and fosters partnerships, a regional perspective, and community engagement.
- Our region is supported by an innovative and sustainable economy.

3. Risk

Not adopting the draft Strategy will leave Council without a document to support the goal of developing and adopting the LTP.

4. Financial impact

Relevant financial impacts are set out in the Infrastructure Strategy

5. Degree of significance and level of engagement

The draft Strategy is of high significance as it sets out Council's 30 year infrastructure programme. It guides the LTP that will be consulted on.

6. Climate Impact

Current and future climate change impacts have been considered in the preparation of the draft Strategy.

7. Inclusion of Māori in the decision making process

Iwi will be approached directly for comment as part of the activity management process prior to LTP consultation.

8. Delegations

The Infrastructure Committee has the following delegation:

Areas of Responsibility:

- *Transport network, including, roading network and associated structures, walkways, cycleways and shared pathways, footpaths and road reserve, street lighting, traffic management control and parking.*
- *Water*
- *Wastewater, including Bell Island Wastewater Treatment Plant*
- *Stormwater and Flood Protection*

Delegations:

- *Developing, approving, monitoring and reviewing policies and plans, including activity management plans and the Infrastructure Strategy.*

EXECUTIVE SUMMARY

The purpose of an infrastructure strategy is to identify significant infrastructure issues during the period covered by the strategy (which needs to be at least 30 years), the principal options for managing those issues, and the implications of those options.

Part One of this strategy summarises how Council's strategic direction, which is driven by both local and national objectives, influences the provision of infrastructure.

Part Two discusses the specific issues Council needs to address related to water supply, wastewater, stormwater & flood protection, transport and solid waste management, in order to achieve objectives related to:

- managing risks related to natural hazards and climate change
- maintaining, renewing and upgrading infrastructure
- meeting the needs of growth
- maintaining and enhancing public health and safety outcomes, and the environment

Part Two also includes options tables which estimate the cost of alternative options to address the issues. This includes the potential costs of failing to prepare for climate change impacts.

Part Three provides an overview of the financial implications of Council's proposed approach to infrastructure management.

[To be completed later in 2020 after the financial information is finalised in the AMPs.]

Public and active transport, solid waste services have been included in this strategy for the first time. This is in addition to the activities which the Local Government Act requires all councils to include — water supply, wastewater, stormwater & flood protection, as well as roads and footpaths.

A separate infrastructure strategy will be prepared for the Regional Landfill Business Unit and Nelson Regional Sewerage Business Unit which manages the Bell Island Wastewater Treatment Plant which processes approximately half of Nelson's wastewater.

COVID-19

The global pandemic of COVID-19 will have significant and long-lasting impacts on the Infrastructure Strategy work of Council. The Infrastructure Strategy is a "living" document and this information will be updated as new information comes available. The high degree of uncertainty regarding future scenarios for how the pandemic will play out globally and in New Zealand means that Council's response will need to remain agile and adaptive. COVID-19 was first and foremost a health crisis. However the measures put in place globally to minimise this health crisis have resulted in unprecedented disruption to global economic activity, including trade and tourism. New Zealand and the Nelson region have not been immune to this disruption, with Gross Domestic Product (GDP) forecast to contract in 2020 by around 8%, and unemployment rising to just around 9%. While economic activity in New Zealand has largely been able to return to normal under 'Level 1', closure of the borders to tourism and a global economic recession will continue to impact Nelson over the medium term.

The 2020 'Rebuilding Together' central government Budget established a $50 billion COVID-19 Recovery and Response Fund which will increase net core crown debt from 30% to 50% of GDP from now to 2023. A proportion of this budget will be allocated for infrastructure investment such as the "Shovel Ready projects" in addition to the $12 billion upgrades programme announced in January 2020.

It is anticipated that given the inability of many major overseas countries to contain the spread of COVID-19, New Zealand's borders will remain closed to most countries for the foreseeable future. An assumption for the Long Term Plan 2021-31 and the Infrastructure Strategy is that that there will be limited importation of cases of COVID-19 and any community transmission will not require a return to nationwide lockdown. This will enable New Zealand, including Council, to carry out infrastructure work largely as business as usual.

Latest forecasts estimate that Council revenue will be down 3% in 2020/21 year largely due to reduced income from consent fees, and commercial revenue. Council receives a large proportion (67-70%) of revenue from rates. To enable a 0% rates increase for 2020/21, a number of measures were implemented to identify operational savings such as a freeze on staff pay rates and training. A draw down against the Disaster Recovery Fund was made to meet the additional gap in funding still required. This will be debt funded and in combination with decreased revenue will increase the debt to total revenue ratio to approximately 101% as at 30 June 2021.

It will likely take a three to four year period to fully recover from the impacts of COVID-19 which will require ongoing use of the Disaster Recovery Fund to offset lower revenue – for the 2021/22 and 2022/23 financial years. This may require Council to review levels of service. Council is however, cognisant of the importance of maintaining capital spending to support the economic recovery in our region. The financial risks are expected to be manageable due to the strong financial position of the Council and relatively low debt burden as interest rates are forecast to remain low in the short to medium term. Affordability of rates may become an issue if unemployment and business closures increase significantly.

In the medium term (2-5years), it is assumed that a vaccine will be developed which will allow for a gradual re-opening of borders. On-going second waves of infection are likely to continue to be experienced globally, although at this stage with strict border controls, unlikely in New Zealand. The time required to develop, test and distribute a vaccine is expected to exacerbate the global economic downturn which may in turn impact New Zealand's export earnings and supply chains. Job numbers are not expected to return to pre-COVID-19 levels until at least March 2034 with a long-lasting change in distribution of jobs across sectors.

In summary, the main effects of COVID-19 on the Infrastructure Strategy are expected in the first 3-5 years of the strategy. However, so long as community transmission does not occur, or is limited in New Zealand, then levels of service and the infrastructure work programme set out in the Strategy are considered achievable. Council will continue to be agile in its response to changing economic and social conditions and the Strategy will be reviewed in 2023, as part of the development of the 2024 Long Term Plan.

Strategic direction — overview

Many changes have occurred since the previous infrastructure strategy was adopted in 2018. Additional strategic direction for infrastructure management includes:

- the development of a vision for Nelson
- Council priorities related to a sustainable transport culture, housing intensification and affordability, and enhancement of the Maitai River Precinct
- a new Government Policy Statement for land transport with a strong focus on safety, multi-modal transport options and reducing emissions
- increased national and local commitments to both adapt to climate change and reduce emissions
- stricter freshwater provisions and policy direction from central government
- adoption of the Future Development Strategy to guide where and how new residential and business development should occur

Transport

Strategic changes related to transport include:

- amendments to the Government Policy Statement on Land Transport
- increasing commitments at a national and local level to climate change adaptation and mitigation
- the upcoming Nelson Future Access Strategy to address capacity constraints on Nelson's transport network that impact on the city's ability to accommodate growth and intensification.

Significant transport issues considered in this infrastructure strategy include:

- The transport network is critical to enable all other utilities to get up and running following natural hazard events, by enabling essential service vehicles to access affected areas
- Incomplete network data
- The current transport system is in a highly constrained geographic environment, with hills on one side and the Tasman Sea on the other. The growing demand for travel is being squeezed through two arterial roads that must function as 'all things to all users'
- When and where to provide increased capacity of the transport network to provide for urban intensification and growth
- Growth in the number of car users, and slow uptake of alternative transport options, has increased the demands on the existing road network.

Water Supply

Strategic changes related to the water supply include:

- the increasing potential for extended periods of dry weather as a result of climate change, affecting water security
- the need to meet the requirements of the upcoming National Policy Statement for Freshwater Management and National Environmental Standards, and comply with the 2017 and 2019 water supply resource consent conditions
- the outcomes of the Three Waters Review and an increased focus on protection of public health associated with community water supplies
- Nelson's water supply catchments have capacity to meet water demands well into the latter part of the century. However there are constraints in some areas of the city reticulation that impact on the city's ability to accommodate growth and intensification. This is particularly the case in the Maitai Valley, south Nelson and parts of the inner city.

Significant water supply issues considered in this infrastructure strategy include:

- The older piped water reticulation network is at risk of damage during earthquakes and flood events. In 2014 work to duplicate the raw water supply pipe from the Maitai Dam to the Water Treatment Plant was completed
- Water supply assets are starting to show signs of age, resulting in increased failures. Due to a greater proportion of the network reaching the end of its design life, a significant length of watermains will need to be renewed within the next 30-50 years
- Levels of service for water supply will reduce unless assets are maintained, renewed and upgraded in a timely fashion

- 20-25% of water supplied is not able to be accounted for in the water supply network
- Being able to access water from the Maitai Dam increases the resilience of the water supply network. The presence of *Lindavia intermedia* in the Maitai Dam lake is being investigated to ensure that any future impacts on the Water Treatment Plant processing system are managed by the plant operators
- Deposits in cast-iron pipes are discolouring the water supply received by some customers
- The need to improve the quality of water discharges from the Maitai Dam into the Maitai River to avoid impacts on the downstream environment.

Wastewater

Strategic changes related to wastewater include:

- the need to consider relocation of the Nelson Wastewater Treatment Plant (NWWTP) in future as part of the 2024 resource consent application, taking into account the impacts of climate change and cultural values
- new requirements for wastewater management as a result of the Three Waters Review and the proposed legislative changes arising from the Action for Healthy Waterways programme
- the need to manage, reduce and mitigate wastewater emissions in line with new climate change legislation and targets
- Nelson's wastewater network has capacity constraints that impact on the city's ability to accommodate intensification and growth.

Significant wastewater issues considered in this infrastructure strategy include:

- The impact of climate change and new requirements for wastewater discharges on the long-term viability of the NWWTP's current location and treatment processes/disposal routes
- Planned levels of service for wastewater will not be met unless assets are maintained, renewed and upgraded
- Inflow and infiltration causes overflows from the wastewater network
- Failures of the Atawhai rising main could result in untreated wastewater discharges directly into Nelson Haven
- Nelson's wastewater network has capacity constraints that impact on the city's ability to accommodate growth and intensification.

Stormwater and flood protection

Strategic changes related to the stormwater and flood protection include:

- the impacts of increased intensity and frequency of significant rainfall events and sea level rise on stormwater & flood management
- Nelson's stormwater network has capacity constraints that impact on the city's ability to accommodate growth and intensification
- the development of a new resource management plan for Nelson, the Whakamahere Whakatū Nelson Plan, and the implementation in that Plan of national freshwater policy which will set higher standards related to the quality of stormwater being discharged into freshwater and coastal environments.

Significant stormwater and flood protection issues considered in this infrastructure strategy include:

- Unless additional capacity is allowed for, the level of service provided by existing stormwater and flood protection assets will progressively reduce over time due to more intense storms and sea level rise projected with climate change
- Damage to the stormwater network from natural hazards and climate change
- Planned levels of service for stormwater and flood protection will not be met unless assets are maintained, renewed and upgraded
- A significant length of stormwater pipelines will need to be renewed as a greater portion of the network will reach the end of its design life beyond the next 30 years
- Management of increased stormwater flows associated with urban intensification and growth
- Meeting new freshwater quality objectives set under the Nelson Plan, as directed by the National Policy Statement for Freshwater Management, and in the upcoming National Environmental Standard for Freshwater Management (NES-FM).

Data gaps regarding the function and effectiveness of the existing stormwater systems currently impact on meeting these objectives.

Solid waste

Strategic changes related to solid waste include:

- the Climate Change Response (Zero Carbon) Amendment Act and the anticipated increases in the cost of emission units
- increasing local and national commitments to reducing greenhouse gas emissions as part of a transition to a low carbon society

A significant solid waste issue considered in this infrastructure strategy is how to meet Council's obligations under the Climate Change Response (Zero Carbon) Bill to reduce greenhouse gas emissions, as well as cost-effectively diverting waste from landfill, and using these decisions to proactively contribute to a low carbon future.

Financial implications — most likely scenario

Infrastructure costs for the next 30 years are shown in the graph below. These estimates are based on the likely options outlined in this strategy and the work programmes included in the 2021–2031 activity management plans.

[To be added following completion of the AMPs.]

Nelson City Council
te kaunihera o whakatū

Infrastructure Committee

1 October 2020

REPORT R16969

Draft 2021-31 Stormwater and Flood Protection Activity Management Plan

1. Purpose of Report

1.1 To approve the Draft Stormwater and Flood Protection Activity Management Plan 2021-31 (AMP) as the version to inform the Long Term Plan 2021-31 (LTP).

2. Recommendation

That the Infrastructure Committee

1. ***Receives the report Draft 2021-31 Stormwater and Flood Protection Activity Management Plan (R16969) and its Attachment (A2453216); and***

2. ***Approves the Draft Stormwater and Flood Protection Activity Management Plan 2021-31 (A2427836) as the version to inform the Long Term Plan 2021-31; and***

3. ***Notes that the Draft Stormwater and Flood Protection Activity Management Plan 2021-31 will be updated and, the final Activity Management Plan approved, after the adoption of the Long Term Plan 2021-2031.***

3. Background

3.1 Draft Activity Management Plans (AMPs) are prepared for the approval of the Committee to inform the development of LTP's. This Draft AMP will inform the development of the 2021-31 LTP.

3.2 Following consultation on, and adoption of the LTP, the AMPs will be updated to align with the adopted LTP. The final updated AMPs will be brought back to Council early in 2021/22 for adoption.

3.3 The draft AMP takes account of previous Council and Committee resolutions and feedback at workshops on the proposed levels of service

and key issues. Officers have undertaken a high level review of budgets across Council activities however, the AMPs are at different stages of development and amendments may be required to the draft Plan once all AMPs have been received by their respective committees and, the cumulative effect of the AMPs has been considered at the workshops in December 2020 and January 2021. Officers will update the Plan after these workshops. The final AMP will be brought to the Committee for approval after it has been updated to include decisions made during the LTP process.

4. Discussion

4.1 This Draft AMP sets out the background to Council's Stormwater and Flood Protection activity and includes details of the following:

- Key Issues and areas of focus for the activity during 2021-31;
- Levels of Service;
- The activity budgets for operations & maintenance and capital expenditure (including renewals, growth and level of service upgrade projects).

4.2 Workshops were held with Council on 03 March 2020, and another on 20 August 2020 as part of the Infrastructure Strategy, to confirm priorities for 2021-31 and seek direction from Council on any changes or additional priorities.

4.3 The following items are the key outcomes from these workshops.

4.3.1 Goal of the Activity: Council was comfortable with the rewording of the Goal to exclude the word 'uncontrolled', so that the Goal relates more broadly to the environmental effects of stormwater discharges, rather than to just uncontrolled discharges.

4.3.2 Issues and Priorities for the Activity: No additional issues or priorities were proposed for the activity.

4.3.3 Stormwater pipe renewals: Council was supportive of the concept of bringing forward pipe renewals to smooth the renewals profile and reduce the bow wave of renewals projected from the 2050's.

4.3.4 Levels of Service: One adjustment to existing Levels of Service was supported. The 'protection from damage to property' target is to be applied to both stormwater and flood protection. Previously it only applied to stormwater flooding.

4.4 The Executive Summary of the Draft AMP is appended as Attachment 1.

4.5 The Draft Stormwater and Flood Protection AMP 2021-31 (A2427836) is a significant document and is available on the Council's website, 2021-31

Activity Management Plans page (www.nelson.govt.nz/2021-31-activity-management-plans).

5. Options

5.1 The Committee has two options – to either approve the Draft AMP, or to not approve the Draft AMP.

Option 1 (Recommended): Approve the Draft Stormwater and Flood Protection AMP 2021-31	
Advantages	• Meet the requirements of the Local Government Act 2002. • Reflects the input of elected members during the March 2020 workshop.
Risks and Disadvantages	• Nil
Option 2: Not approve the Draft Stormwater and Flood Protection AMP 2021-31	
Advantages	• Nil
Risks and Disadvantages	• Fail to meet the requirements of the Local Government Act 2002.

6. Conclusion

6.1 The Draft AMP has been prepared to inform the LTP and will support Council in meeting its obligations under Section 93 and Schedule 10 of the Local Government Act 2002.

Author: Toby Kay, Activity Engineer

Attachments

Attachment 1: A2453216 Executive Summary - Draft Stormwater and Flood Protection Activity Management Plan 2021-31 ⇩

Important considerations for decision making

1. Fit with Purpose of Local Government

The Draft Stormwater & Flood Protection AMP supports the social, economic and environmental wellbeing of the Nelson community by putting in place the planning for good quality local infrastructure that is efficient, effective, and appropriate to present and anticipated future circumstances as defined under the Local Government Act 2002.

2. Consistency with Community Outcomes and Council Policy

Stormwater and Flood Protection improvements support the following Community Outcomes:

- Our unique natural environment is healthy and protected.
- Our urban and rural environments are people friendly, well planned and sustainably managed.
- Our infrastructure is efficient, cost effective and meets current and future needs.
- Our communities are healthy, safe, inclusive and resilient.
- Our region is supported by an innovative and sustainable economy.

3. Risk

Not adopting the Draft AMP will leave Council without a document to support the goal of developing and adopting the LTP.

4. Financial impact

There are no direct funding implications from the recommendation. The AMP guides the funding in the proposed LTP and will be subject to a consultation process with the community.

5. Degree of significance and level of engagement

This matter is of high significance because the adoption of an LTP is a statutory requirement under the Local Government Act 2002. Therefore consultation with the community will occur with the public advertising of the draft LTP and calling for submissions.

6. Climate Impact

The Draft AMP considers the potential impacts and risks climate change presents to the city, particularly in relation to future flood risk. This has been incorporated into the Draft AMP through identifying climate change as a key issue, and a focus on developing stormwater and flood protection strategies to inform adaptation to future flood risk. As the AMP supports

the proposed LTP, this emphasis will transfer into that document and be subject to public scrutiny and submissions.

7. Inclusion of Māori in the decision making process

Iwi feedback is being sought on the draft AMP and any matters that require additional consideration will be covered at the December LTP workshop.

8. Delegations

The Infrastructure Committee has the power to consider and approve Activity Management Plans.

Areas of Responsibility:

- *Stormwater and Flood Protection.*

Delegations:

- *Developing, approving, monitoring and reviewing policies and plans, including activity management plans and the Infrastructure Strategy.*

Draft Stormwater and Flood Protection Activity Management Plan 2021 – 2031

Mahere Ārai Waipuke 2021 – 2031

Quality Assurance Statement

Version No.	Date	Description	Prepared by	Reviewed by	Approved by
1	07/09/20	Draft for Council Infrastructure Committee	Various	A Louverdis	SLT
2	01/10/20	Draft approved by Infrastructure Committee to inform LTP 2021-31	Various	Elected Members	Elected Members
3 Final		Approved by Council	Various	Elected Members	Council

Cover Photos:

Sanctuary Drive, Orphanage Stream and York Stream

Executive Summary

i The purpose of the plan

The Stormwater and Flood Protection Activity Management Plan (Plan) outlines the current and future operational requirements needed to operate, maintain, renew and upgrade assets to achieve the overall objective and activity specific goal defined below.

The overall objective of Activity Management is to:

Deliver a defined level of service to existing and future customers in a sustainable and cost effective manner.

The key elements of infrastructure activity management are:

- Taking a whole of lifecycle approach
- Developing cost-effective management strategies for the long-term
- Providing a defined level of service and monitoring performance
- Understanding and meeting the impact of growth through demand management and infrastructure investment
- Managing risks associated with asset failures and climate change
- Sustainable practices, including use of energy and physical resources
- Recognising and providing for the maintenance and enhancement of freshwater
- Continuous improvement in activity management practices

A formal approach to the management of infrastructure assets is essential in order to demonstrate how levels of service will be achieved in the most cost effective manner for the benefit of customers, investors and other stakeholders.

This plan focuses on ensuring stormwater and flood protection assets are operated, maintained and upgraded to meet statutory requirements, respond to Central Government initiatives, and meet the current and future community outcomes in a sustainable manner, taking into consideration the anticipated effects of climate change.

The Goal of the Stormwater and Flood Protection Activity is to:

Provide a stormwater and flood protection system that will prevent harm to people and property where this is feasible and affordable, contribute to community wellbeing and protect the environment from harm related to stormwater discharges.

This Plan provides the substantiation for budget forecasts put forward in the Long Term Plan (2021 - 2031) for the Stormwater and Flood Protection Activity.

ii Asset description

The Nelson City Council stormwater system can be categorized into two parts – natural and constructed components. The natural part consists of rivers and

streams that play an important role in the support of aquatic ecosystems, recreation and the channelling of stormwater flows in rainfall events.

The constructed stormwater network includes pipes, open channels, and overland flow paths that convey stormwater to receiving water courses or the sea. The stormwater system also incorporates two pump stations and 20 detention devices. In many parts of the city a fully reticulated system is not provided and individual properties discharge stormwater to onsite soakage or to the road channel as part of the primary drainage system.

The extent of the Nelson City Council water catchments is shown in the figures ES1 – ES3 and the extent of the stormwater system is shown in figure 1-1 in Chapter 1 – Introduction.

The inventory of public stormwater and flood protection assets owned by Nelson City Council and managed by the Infrastructure Group - Utilities as at June 2020 is shown in Table ES-1.

Table ES-1: Summary of Stormwater and Flood Protection Assets

Asset Category	Quantity	
	km	units
Stormwater		
Pipes Up To 600mm	198.8	
Pipes > 600mm	45.5	
Culverts	2.9	
Rocks Rd Culvert	0.3	
Intake Structures		121
Manholes		4,924
Outfalls		126
Sumps		345
Pump Stations		2
Tide Gates		24
Detention Devices[1]		20
Flood Protection		
Urban Streams/Rivers[2]	31.5	
Bank Protection	28.5	
Open Channels	1.8	

The 2020 full replacement valuation of the stormwater and flood protection assets[3] are: Stormwater $268,231,000 and Flood Protection $39,197,000.

[1] Detention devices are listed in Table 4-8, Section 4.1 – Background Data
[2] The 11 urban streams and rivers are listed in Table 4-5, Section 4.1 – Background Data
[3] The June 2020 asset valuation is given in Table 4-13, Section 4.1 – Background Data

Figure ES-1: Water Catchment Boundaries: North Nelson

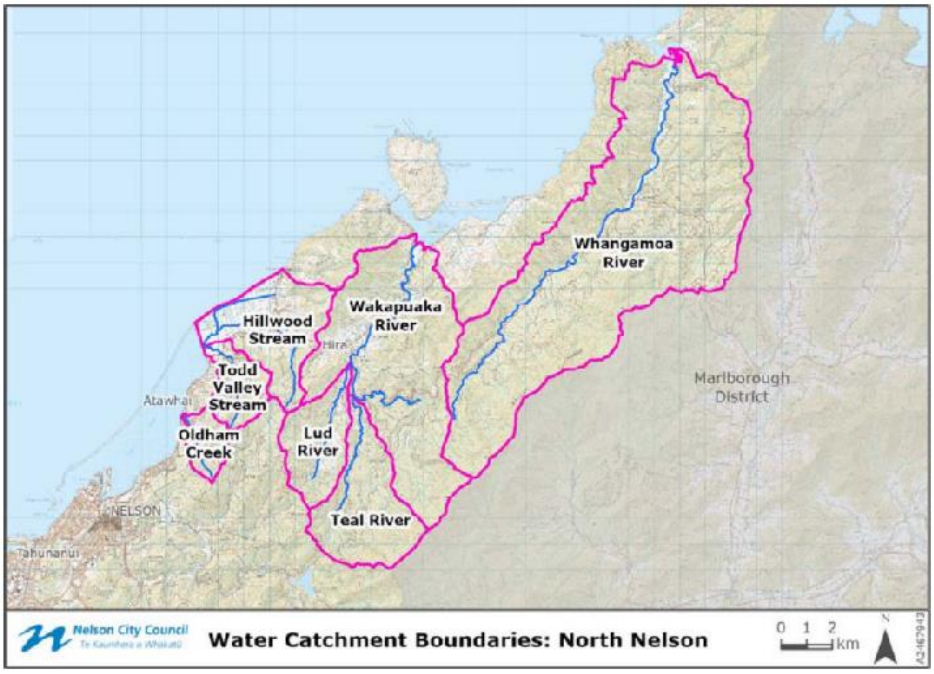


Figure ES-2: Water Catchment Boundaries: York, Brook, Maitai

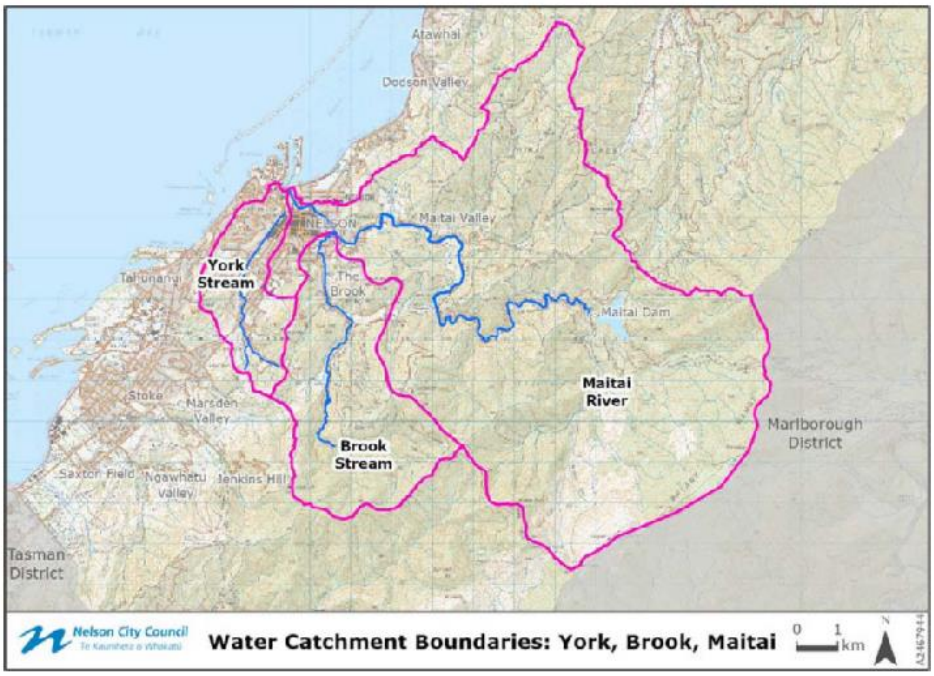
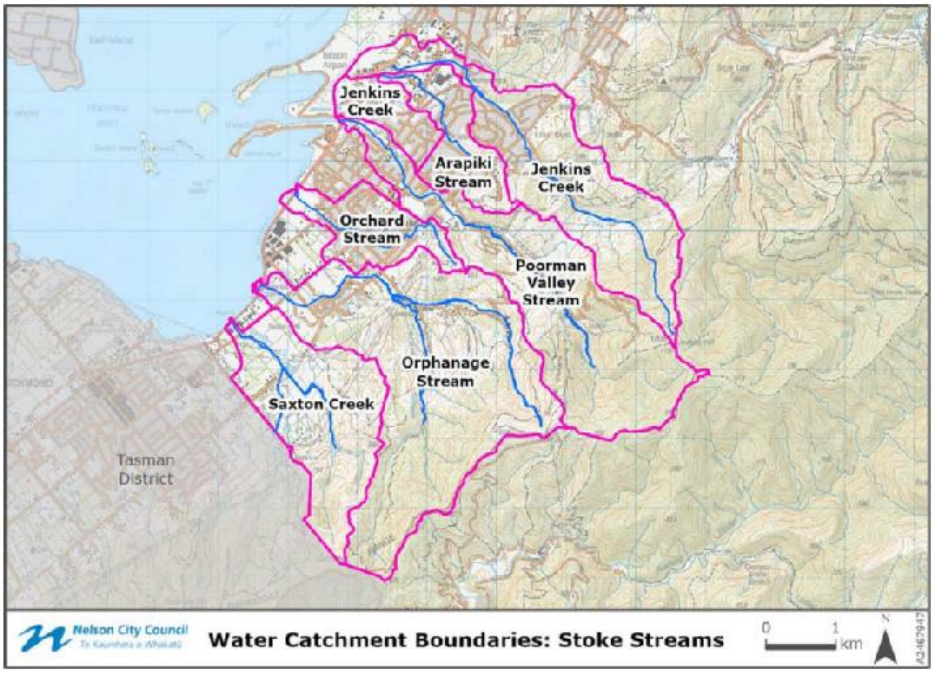


Figure ES-3: Water Catchment Boundaries: Stoke Streams



iii Climate change

Five key issues have been identified for this activity in both this Plan and the Infrastructure Strategy 2021-2051. These five issues, and their implications for the activity are discussed under the '*Key Issues*' section below. Climate change has been identified as an over-arching issue as it potentially has a bearing on all five of the identified issues for stormwater and flood protection over the decades to come.

Climate Change as an Over-arching Issue:

Climate change is a significant and urgent international, national, and local issue. At a local level, Council has a key role to work with the community towards creating a resilient and low emissions future and implementing adaptive measures to manage and minimise risk.

In 2017 the Council signalled its commitment to a holistic approach to climate change through its participation in the Local Government Position Statement on Climate Change and the Local Government Leaders Climate Change Declaration. In 2019 Council declared a climate emergency. This committed Council to examine how its plans, policies and work programmes can address the climate emergency and to ensure that climate change is embedded in all future Council strategic plans. Further information relating to proposed responses by this activity to the challenge of climate change is provided in Section 1.2 of this Plan. Key Issue 1 also relates to how levels of service for this activity are projected to be impacted over time due to

climate change. At a local level, Council's preliminary understanding of the impacts of climate change are as follows:

- ***Sea level rise***

Sea level rise is the biggest climate challenge for Nelson as a large proportion of the urban infrastructure is coastal or low lying. These areas will become more vulnerable to coastal inundation (flooding) over time.

For the community, the main impacts will be the more regular inundation of areas around The Wood, and the CBD (including Halifax, St Vincent, Vanguard, Gloucester and Rutherford Streets). Areas on the open coast that are more exposed to coastal swell such as the Glen, Wakefield Quay/ Rocks Road, Tahunanui and Monaco will be subject to increasing coastal inundation and coastal erosion hazard associated with sea level rise.

- ***Heavy rainfall and flooding events***

Higher intensity rainfall events will result in an increase in stormwater and stream flows. The implications for the community is that without mitigation of these effects, they may experience more regular and extensive flooding from streams, rivers and stormwater overflows. The increase in storm rainfall intensity will also result in higher sediment volumes entering the stormwater network and stream channels which is expected to increase maintenance requirements over time.

Stream and river flood mapping is shown on the Council's online map viewer[4].

This mapping shows present day flood extents as well as predicted future flood extents allowing for climate change effects.

- ***Drought and extreme temperatures***

With a warmer climate, the temperature of the water within our rivers and streams will increase. This will have a negative impact on the stream health and aquatic fauna/ flora, and may lead to a proliferation of aquatic weeds and algae as well as the emergence of new pest plants better adapted to warmer temperatures.

For this activity the main issues will be along open channels including drains, streams and rivers, as well as ponds. This may affect Council's ability to achieve freshwater quality objectives set in relation to Key Issue 5.

- **Climate Change Adaptation**

Climate change adaptation relates to responding to the impacts of climate change. Strategies and standards are in place or in progress to identify optimal solutions for responding to the risk of increased flooding and secondary flows associated with temperature warming and sea level rise.

  - The Nelson Tasman Land Development Manual 2019 (NTLDM) requires that new stormwater assets are designed to meet a specific level of service projected for 2090 and assuming a Representative Concentration Pathway 8.5 (RCP 8.5) scenario. Generally speaking, all new stormwater projects therefore contribute to climate change adaptation to some degree.

[4] http://www.nelson.govt.nz/environment/nelson-plan/natural-hazards/mapping-our-natural-hazards/

- Stormwater strategies identify future risks associated with stormwater overflows and secondary flow paths and prioritise response options to mitigate risks.

- Flood Protection Strategies consider catchment flood flows and stream / river overflows out to 2130. Prioritisation of response options, the level of service and design life of assets will be determined through a risk based approach. The level of service for assets may therefore be different than for stormwater assets. This is discussed in more detail under key issue 1.

Major projects included within this Plan that contribute to climate change adaptation are identified in Section 1.2.

- **Climate Change Mitigation**

The stormwater & flood protection activity is part of the wider community commitment to reducing greenhouse gases, which are measured and monitored through the Council's Certified Emissions Measurement and Reduction Scheme (CEMARS – now called Toitū Envirocare) Action Plan.

In August 2020 Council committed to adopting the 5 year emissions reduction budgets to be developed and confirmed by Central Government at a national level in 2021. This commitment is to ensure that by 2025, Council realises measureable positive change towards achieving carbon zero status. Longer term the Council has also adopted the Government targets for Council's own greenhouse gas emissions reductions (i.e., net zero emissions of all GHGs other than biogenic methane by 2050, and a 24 to 47 per cent reduction below 2017 biogenic methane emissions by 2050, including 10 per cent reduction below 2017 biogenic methane emissions by 2030. These targets are intended to be achieved through the development and implementation of a Council wide 'Emissions Reduction Action Plan'.

The energy efficiency of the stormwater pumping stations and operating system will be the main focus of climate change mitigation initiatives for this activity. As shown in section 1.2, the two stormwater pumping stations account for only 0.004% of overall Council GHG emissions. An Emissions Reduction Strategy is planned for this activity in the first 3 years of the 10 year plan.

- **Community Engagement**

Community engagement on flood risk management is planned for the following:

- Whakamahere Whakatū Nelson Plan consultation on natural hazards overlays (including flood maps) and provisions (Objectives, Policies, Rules and Methods)

- Maitai Flood Management Options: Consultation is to be undertaken in 2021 to inform a risk based approach to identify and prioritise response options.

- Flood Protection Strategies: Consultation on flood management in other catchments will be undertaken in subsequent years, leading to the development and implementation of Flood Protection Strategies.

iv Key Issues

Key issues for the activity are summarised under the following five headings:

Issue 1: The level of service provided by existing stormwater and flood protection assets will progressively reduce over time due to more intense storms and sea level rise projected with climate change.

Issue 2: Damage to the stormwater network from natural hazards.

Issue 3: Planned levels of service for stormwater and flood protection will not be met unless assets are maintained, renewed and upgraded.

Issue 4: Management of increased stormwater flows associated with urban intensification and growth.

Issue 5: Meeting new freshwater quality objectives and standards set under the Whakamahere Whakatū Nelson Plan, the National Policy Statement for Freshwater Management (NPS-FM), and the National Environmental Standard for Freshwater Management (NES-FM).

Further information on the five issues, and the activities Council has already undertaken, or is planning to undertake to address these issues over the next 10 years, is provided below.

Issue 1: The level of service provided by existing stormwater and flood protection assets will progressively reduce over time due to more intense storms and sea level rise projected with climate change

Nelson City's location on a number of flood plains, and close to the coast, means the community is vulnerable to impacts of climate change that would cause more intense storms, increased stormwater flows, and coastal inundation resulting from sea level rise.

- ***Flood Management (Fluvial Flood Risk)***

  Flood management relates primarily to addressing flood risk associated with stream and river overflows during storm events. After decades of development on flood plains adjacent to urban watercourses, the city has a considerable investment in these areas and flood management is therefore a priority over the period of this Plan and beyond. Detailed computer flood models have been developed for ten of the eleven urban stream and river catchments in the city. Flood mapping for the 11th catchment, Saxton Creek, will be undertaken following completion of the stream upgrades which are currently in progress. These models generate flood maps which show predicted overflows from streams and rivers across the city. The effects of climate change shown include the extent to which significant areas of the city would be more regularly and severely impacted by river, stream and coastal flooding in future, particularly low lying areas exposed to tidal inundation and sea level rise.

Council has sought feedback from the public on the stream and river flood mapping shown on the Council's online map viewer[5] and further refinement of the flood models has been completed since the previous consultation. This includes updating the flood models to incorporate newly constructed stormwater and flood protection works, and with new hydrological inputs (including rainfall and sea level) to align with the most recent data and guidance from the Ministry for the Environment and NIWA.

Flood management seeks to reduce risks for existing development exposed to flooding through a range of measures, and to ensure that proposed new development is resilient to flooding, generally through raised building platforms and/or floor levels. Council has adopted a risk based approach to prioritise flood protection interventions for existing developments. Flood risk for proposed new developments is currently managed under the Nelson Resource Management Plan (NRMP) and the Nelson Tasman Land Development Manual 2019 (NTLDM 2019). During 2021, Council will be consulting with the public on the Whakamahere Whakatū Nelson Plan, including the updated flood mapping and flood related provisions under the Natural Hazards Chapter.

A new proposal arising from the 2020 review of the Resource Management Act 1991 is for a new 'Managed Retreat and Climate Change Adaptation Act'. If implemented, this would provide a legal framework, and potentially funding, for managed retreat from coastlines and other areas vulnerable to climate change. This new legislation would likely have a significant bearing on future planning for this activity in low lying coastal areas.

- ***Develop the risk based approach for decision making around flood protection issues.***

  Council has historically committed to a programme of works for urban rivers and streams for a primary capacity of Q50 (2% AEP flow), which is the peak flow arising from a rainfall event with a probability of happening once in 50 years. Ongoing concerns about climate change has led to a reappraisal of this approach. Where new land development and subdivision is proposed, the NTLDM 2019 has adopted a design standard of Q100 (1% AEP flow) in 2090 for secondary flow paths, open channels, streams and rivers, assuming an RCP 8.5 scenario.

  Achieving a similarly high level of service for all urban streams and rivers is not straightforward for a number of reasons. The costs of channel widening or bunding to achieve a Q100 level of service is expected to be very high due to the proximity of existing properties, structures and land of high natural, economic and recreational value on the margins of these rivers and streams. Council recognises that the costs of meeting a Q100 design standard for the 2090 climate for all urban streams and rivers is likely to be unaffordable for the community. In addition to this, the scale of works required within and along these watercourses may not be acceptable to the community for amenity, environmental or cultural reasons.

  A risk-based approach for streams and rivers is expected to enable Council and the community to prioritise where and how interventions to manage

[5] http://www.nelson.govt.nz/environment/nelson-plan/natural-hazards/mapping-our-natural-hazards/

stream and river flooding should be made. It is intended to enable the effective targeting of resources to higher risk areas where a high level of benefit can be achieved through intervention. This implies that some areas facing significant flood risk may not be prioritised due to other considerations outweighing the flood risk, until the flood risk increases to threshold levels. This approach needs to consider a broad range of options including flood works, flood preparedness, land use planning and appropriate urban design.

A range of criteria such as environmental, economic, social, legislative, reputational and cultural implications is expected to be used when weighing up options to address flooding. Community perceptions of acceptable risk may evolve over time, particularly if climate change results in more regular and damaging flooding.

Council will be trialling this new approach with the Maitai River Flood Management project which will be a priority over the next 3 years. This project seeks to identify and address the implications for the Central Business District (CBD), The Wood and Nelson East from the Maitai River, Brook stream and York stream flood flows. In conjunction with consultation on flood provisions in the Whakamahere Whakatū Nelson Plan, community engagement on flood impacts and response options will be on-going through this process. Should this approach prove successful, Council intends to take the same approach in other areas of the city at a later stage, leading to the development of flood protection strategies. This process will need to be prioritised using a risk-based approach that considers current and future flood impacts with strategies formulated to identify an appropriate sequence of options to implement as flood risk increases over time.

- ***Identifying and Managing Secondary Flowpaths (Pluvial Flood Risk)***

Secondary flow paths carry overland stormwater flow to streams and rivers where there is no stormwater network or when stormwater pipes are full. These flow paths are progressively being mapped as part of work to develop stormwater strategies for various areas of the city. Draft maps of secondary flow path routes were produced in 2018/19 based on topographical survey done in 2015, but these do not represent the diversion of stormwater into the piped network, or show the predicted extent of the overland flowpaths. Additionally this first stage of mapping did not show the extent of flooding in basin areas where culverts are under-sized or may become blocked. It is important to recognise the limitations of this type of mapping generally in relation to the level of landform and structure detail that can be represented in the modelling, and the dynamic nature of stormwater catchments as well as urban development.

Mapping of secondary flow path routes show there are a large number of flow paths on private property that will carry stormwater during significant storm events. These need to be identified and landowners made aware of the importance of keeping them clear so as not to cause damage to their property. In future, a warmer climate is expected to lead to more intense storm events, which would increase runoff and flows along secondary flowpaths. A second stage of mapping these secondary flow paths is proposed over the first 4 years of this Plan, as part of new stormwater network modelling.

The NTLDM 2019 provides guidance and standards for developers of new subdivisions on the best means of managing these flows. Generally roads are the preferred secondary flow paths in the city.

Issue 2: Damage to the stormwater network from natural hazards.

This issue relates to the need to develop resilient infrastructure to reduce risk of network damage caused by natural hazards that would otherwise compromise system performance and asset condition.

- ***Natural Hazards Security of the network***

  Further work is proposed in this Plan to build on the hazard vulnerability studies carried out by Treasury in 2017 in response to the Canterbury and Kaikoura Earthquakes and multiple flood events across the country. Natural hazard resilience includes wider network hazards such as earthquake fault line rupture and liquefaction. Earthquake damage as a result of ground shaking and liquefaction can cause significant and long term disruption to the community, and loss of services to affected areas.

  An assessment of natural hazard risk to Nelson stormwater and flood protection assets is being carried out between 2019 and 2024. To date, the assessment has focussed on defining the areas potentially subject to natural hazards, and the criticality of assets. This will lead to prioritisation of 'resilience works' with construction of network upgrades to follow investigation. For the Stormwater and Flood Protection Activity, this work is expected to focus on the detention dams, stop banks, pump stations, stormwater intakes and the piped network in specific areas of the city.

  The Tahunanui Hills Stormwater Upgrade project is an example of a stormwater resilience project, through the use of flexible HDPE pipe across slump block boundaries. This not only maintains the integrity of the stormwater network, but also reduces leaks and stormwater infiltration into the ground, which reduces the risk of further land movement.

- ***New Dam Safety Proposals for large stormwater detention dams***

  In 2019, the Ministry of Business Innovation and Employment (MBIE) undertook public consultation on proposals for a new regulatory framework for dam safety under the Building Act 2004. These proposals include establishing a nationally consistent approach that would protect people, property and the environment from the potential impact of a large dam's failure without imposing undue compliance costs.

  The proposals aim to ensure that classifiable dams are well maintained and regularly monitored, and that potential risks of dam failure are reduced. Under these proposed regulations classifiable dams would include dams over 4 metres in height and reservoir volume exceeding 20,000m^3, or less than 4 metres in height but with over 30,000m^3 reservoir volume. It is expected that only the larger stormwater detention dams would be classifiable, and these would be required to undergo regular dam compliance certification.

Issue 3: Planned levels of service for stormwater and flood protection will not be met unless assets are maintained, renewed and upgraded

Stormwater pipes and open channels can be renewed or upgraded when they fail to provide the required level of service. However, the majority of stormwater assets in Nelson are relatively new with stormwater pipes having an average age of approximately 30 years, less that the national average for stormwater pipes of 37 years (Refer to Appendix H for Water NZ Benchmarking data). In addition, they are not subject to the same water pressures as the wastewater and water supply networks, and do not have the same integrity requirements.

An immediate priority is the completion of upgrades which are already in progress, as laid out below:

- ***The completion of Flood Protection works at Saxton Creek, Orphanage Stream, York Stream and Little-Go Stream.***
    - Saxton Creek is in the middle of an extensive stream channel upgrade resulting from the flood damage to both Tasman District and Nelson City in the extreme rain event of 2013. The upgrade work is being carried out in four stages, with stages 1 to 3 from Champion Road to Main Road Stoke due to be completed by the end of 2020/21, and construction of stage 4, from Main Road Stoke to Whakatu Drive planned for 2021/22 to 2023/24
    - Orphanage Stream upgrade works between Main Road Stoke and Saxton Road East were completed in 2017/18 with the installation of an additional box culvert at Saxton Road East. The next stage of the upgrade is now being progressed upstream of Saxton Road East. This includes the construction of a bund and floodwall in 2020/21 and channel benching works planned at Suffolk Road in 2024/25.
    - York Stream stormwater upgrade from the intake in Bishopdale Reserve through to Kawai Street was completed in 2017/18, and further upgrades are now being assessed in the upstream catchment around the Bishopdale Avenue area.
    - Upgrading Little-Go Stream from Franklyn Street to the Girls College playing field in Waimea Road was completed in 2017/18. The next stage (Rutherford Stage 1) involves extending the upgrade down to the Rutherford Street / Examiner Street intersection. Construction is due to be undertaken in 2021/22 – 2022/23. Following on from that, Rutherford Stage 2 involves upgrading system capacity downstream of Examiner Street.
- ***Develop Stormwater Strategies for the city.***

  It was recognised in the Stormwater Asset Management Plan 2018 - 2028 that a more strategic approach was required to identify stormwater requirements across the city and develop appropriate responses. To achieve this, stormwater strategies are currently being progressed to identify areas with inadequate stormwater services, both built (eg pipes, flumes and concrete channels) and natural (eg smaller hillside gullies, overland flow paths, and drains).

  The first of the stormwater strategies to be developed is for the Stoke area, and this includes the following components:

- Development of a stormwater network model to identify existing and future (to 2090) levels of service provided by the network, and secondary flow paths resulting from runoff and pipe overflows. This will inform Council of the flooding risks relating to existing levels of service provided by the stormwater network, and the upgrades required to meet target levels of service for the stormwater network. A key objective of this modelling is to identify how the performance of the network can best be optimised, including prioritisation of the upgrade projects needed to achieve this.

- Undertaking an analysis of network resilience risks, including blocked intake structures, pipes and culverts.

- A water course assessment that identifies ecological values, channel state and issues with built structures along the natural stream channels. This will also identify issues with stormwater discharges to the receiving environment.

- Development of a decision making matrix to inform prioritisation of stormwater projects based on a framework of benefit criteria.

Following on from the Stoke Stormwater Strategy, funding was allocated in the Long Term Plan 2018 – 28 for additional stormwater strategies to cover Tahunanui, Port Hills, and Atawhai. Under this Plan, an additional stormwater strategy is proposed for Central Nelson (CBD catchments).

- ***Stormwater Asset Condition Assessments and Renewal Strategy***

Pipe renewals are expected to remain at a low level (below $100k per year) for the 10 year period of this Plan. Specific renewal budgets are in place for critical assets such as pump stations, tide gates, detention devices and the larger culverts. The total stormwater renewals budget peaks at $1.6 Million in both 2025/26 and 2026/27 due to the planned renewal of the Haven / Vincent Street box culvert.

Council proposes to develop a Stormwater Renewal Strategy to address the increasing level of anticipated renewals required from the 2050s onwards, and to identify renewals required earlier due to poor condition. This will include more regular condition assessments of critical assets identified through the natural hazards resilience assessment referred to above (including larger pipes and detention basins), as well as assets approaching, or beyond, end of design life. A new funding line has been established for renewal of detention devices, as the number of these is increasing rapidly to service areas of urban growth.

The other potentially vulnerable parts of the stormwater network are the remaining sections of brick culverts in the city. There are 2.2 km of brick culvert within the city, which are becoming difficult to repair due to an enhanced health and safety awareness of confined spaces. These are being inspected by CCTV to confirm their condition, and included in the renewal strategy referred to above.

Flood Protection assets such as stopbanks and channel bank protection assets may require renewal during the 10 year period of this plan. Condition assessments for these assets are planned over the first 5 years of this plan

- ***The maintenance of drains on private property***

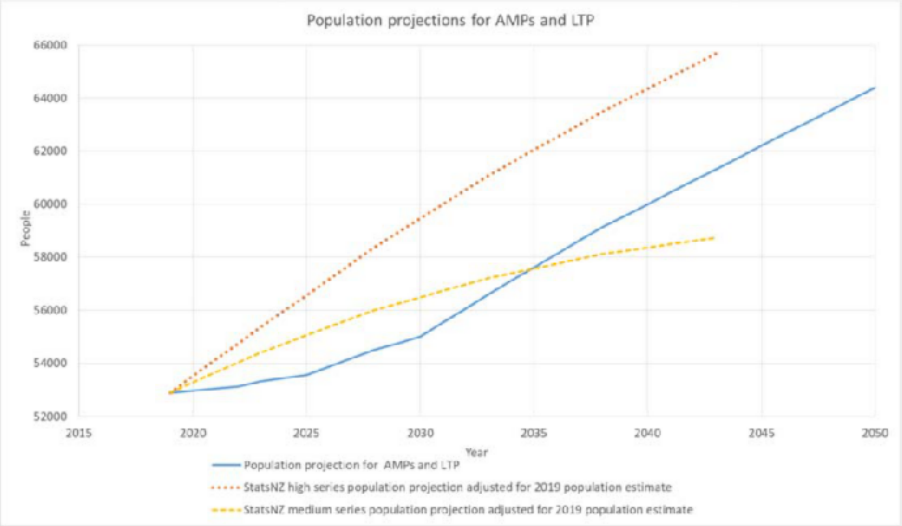
  Much of Nelson still uses a network of small open drains to channel stormwater from hillsides to public drains or streams. These channels are largely on private property but serve a wider public purpose. Council receives regular requests for assistance from property owners to maintain these channels. The question of public / private drain ownership has been clarified to some extent by new criteria in section 5.3.7 of the NTLDM 2019, which specifies that public drains are drains that serve six properties or more, and/or are covered by a Council easement, or are located within a public road reserve.

  This is not a comprehensive definition, as there are other criteria which determine whether a drain would be assessed as a public drain, but it is a useful starting point. This will be further clarified by updating Council's GIS drain ownership records over the first three years of this Plan, to better align with the new NTLDM 2019 criteria. This is expected to increase the number of public drains which Council holds responsibility for.

Issue 4: Management of increased stormwater flows associated with urban intensification and growth

Between 2001 and 2008 the population of Nelson grew by around 330 people per year on average. Since 2008 the rate of population growth has increased to around 700 additional residents or 290 additional households per year. The following graph is based on statistics New Zealand growth projections for the city out to 2043. An increase in population to 64,400 by 2050 is expected under post-COVID 2020 population projections.

Figure ES-4: Population growth and projections, 2020-50, Nelson



The following documents define future urban capacity requirements and identify where urban intensity and growth are planned to take place over the next 30 years in Nelson.

- *National Policy Statement – Urban Development (2020)*
- *Future Development Strategy (2019)*
- *Draft Intensification Action Plan (2020)*

- ***National Policy Statement – Urban Development (2020)***

  The National Policy Statement on Urban Development 2020 (NPS-UD) replaces the NPS-Urban Development Capacity 2016 (NPS-UDC) and requires local authorities to ensure there is sufficient development capacity to meet demand over the next 30 years with specific zoning and servicing requirements over different time frames:

  - in the short term (within 3 years)
  - medium term (3-10 years)
  - long term (10-30 years)

  The location of actual growth will depend on where there is capacity for residential growth (residential zoning, infrastructure servicing) and where development is feasible. Residential growth areas and the sequencing of urban development capacity in the short, medium and long term are provided in section 3.5 - Asset programmes to meet demand.

- ***Future Development Strategy and Intensification Action Plan***

  The Future Development Strategy (FDS) sets out where future housing is likely to be located within the next 30 years, in Nelson and Tasman, and the likely timing of these developments. Community feedback on the FDS supported growth through intensification of existing urban areas rather than expansion onto rural land. The FDS identifies space for 8,166 extra dwellings in the Nelson Urban Area (which includes Richmond), and states that about 60% of this growth can be achieved by adding new housing into existing urban areas including the City Centre and Stoke.

  Council does not have control over the location or level of uptake of intensification or urban expansion opportunities, as this is largely dependent on decisions by individual land owners and/or developers. The key methods in the Intensification Action Plan (IAP) that relate to the programming of infrastructure are:

  - Bulk programming of infrastructure investment to enable sufficient capacity for intensification development.
  - Development of neighbourhood asset upgrade plans
  - Refinement of infrastructure investment through the Long Term Plan process for the next thirty years.

  The Intensification Action Plan (IAP) for Nelson City further identifies priority areas for urban intensification:

- City Centre (N270)
- Victory (N23)
- Waimea Road (N21)
- Hospital / Nelson South (N22)
- The Brook (N289)
- Stoke School (N28)

These areas are still to be prioritised for services by Council, but the focus areas for the next ten years are the City Centre and Victory.

Two urban areas within Nelson which have been identified as being suitable for new urban development in the short term are Maitahi and Saxton.

- ***Ensuring sufficient stormwater disposal options are available to allow for the on-going growth of the city***

  Future population growth that results in new development proposals will bring with it a requirement to consider the capacity of existing stormwater and flood protection networks and either upgrade these as necessary or use on-site detention devices for stormwater disposal.

  The NTLDM 2019 sets out requirements for stormwater treatment, infiltration (soakaways), detention and system capacity that are required to accommodate or mitigate the additional flows from urban growth and intensification, so that new urban growth or intensification does not exacerbate downstream stormwater issues.

  Stormwater disposal options range from low impact disposal to land (infiltration), detention (onsite tanks or larger ponds) and public drains. No single response is going to be able to be applied across the whole city given the need for freshwater quality improvements and the cost of constructing conventional piped drainage networks. Any upgrading of the public network undertaken to support growth areas will, where possible, be co-ordinated with other utility upgrades in the same area.

Issue 5: Meeting new freshwater quality objectives and standards set under the Nelson Plan, the National Policy Statement for Freshwater Management 2020 (NPS-FM 2020), and the National Environmental Standard for Freshwater Management (NES-FM).

- ***Compliance with Central Government freshwater reforms***

  The NPS-FM 2020 replaces the NPS-FM 2014 (amended 2017). This National Policy Statement sets out how Councils will manage water quality and quantity. The Freshwater NPS 2020 is one of several pieces of national direction for managing New Zealand's freshwater. New requirements of the NPS-FM include:

  - Manage freshwater in a way that 'gives effect' to Te Mana o te Wai: This is a concept that refers to the fundamental importance of water and

recognises that protecting the health of freshwater protects the health and well-being of the wider environment.

- Improve degraded water bodies, and maintain or improve all others using bottom lines defined in the NPS.
- An expanded national objectives framework which includes a process for regional councils to follow in consultation with communities and tangata whenua. This includes delineating Freshwater Management Units (FMU) for their region and identifying values, environmental outcomes and attribute states (baseline and target) for each FMU.
- Avoid any further loss or degradation of wetlands and streams, map existing wetlands and encourage their restoration.
- Identify and work towards target outcomes for fish abundance, diversity and fish passage over time.
- Set an aquatic life objective for fish and address in-stream barriers to fish passage over time.
- Monitor and report annually on freshwater (including the data used); publish a synthesis report every five years containing a single ecosystem health score and respond to any deterioration.

Based on the requirements of the NPS-FM, Council, Iwi and the wider community have developed environmental water quality objectives for streams and rivers in Nelson. These objectives are to be adopted as the basis of rules in the draft Whakamahere Whakatū Nelson Plan and will set the scene for water quality improvements into the future. Although rules are still draft and subject to consultation, activities that impact on the fresh water environment (including stormwater discharges, and works within watercourses) will need to respond to any changes to rules from the date of notification of the proposed plan.

Appendix O – Freshwater Management Units, includes a figure showing the draft FMUs for Nelson, and a comparison of baseline and draft target attribute states for the various catchments. The urban stormwater system discharges to the Stoke and Maitahi/Mahitahi/Maitai FMUs. In relation to stormwater catchments significant improvement is required to achieve target attribute states in Saxton Creek, Orphanage Stream, Lower Poormans Stream, Jenkins Creek, York Stream and Todds Stream. It is likely that this also applies for Maire Stream, although there is insufficient water quality or bio monitoring data available to determine baseline attributes state.

The draft Nelson Plan provides for achieving water quality and quantity targets by 2030 - 2040, which has the following implications for stormwater management:

- New water quality limits relate to nutrient levels, sediments, algae, bacteria and macroinvertebrates, and are much more stringent than those in the NRMP. This is expected to affect the consenting process for stormwater discharges.

- Discharges of untreated wastewater as overflows will require a resource consent. This will drive additional efforts to prevent or reduce stormwater inflow and infiltration into the wastewater network.

It is likely that Council will need to intervene to get the contaminant levels to acceptable levels, particularly in relation to stormwater generated from road run off which will require intervention by Council's Transport team. Measures such as first flush treatment for high contaminant generating surfaces may not be sufficient on their own to improve stormwater quality to the extent that receiving environment attribute limits are no longer exceeded. Based on the information presented in Appendix O – Freshwater Management Units, the attributes where significant improvements need to be made for the urban stormwater catchments are:

- Macroinvertebrate Community Index
- e-coli
- Water Temperature
- Water Clarity
- Dissolved Reactive Phosphorous (DRP)

In addition, levels of Dissolved Inorganic Nitrogen (DIN) are high at specific sites including the Saxton Creek and the York Stream.

Monitoring and improving freshwater quality is a complex area and there are a number of significant data gaps which affect how this issue should be considered. Matters to consider include:

- The status of stormwater quality discharges relative to receiving environment attribute targets across a range of flows, as well as over time.
- Where receiving environment limits are exceeded, the extent to which stormwater discharges contribute to this, and for which particular attributes, as well as what the other contributors are.
- Establishing where stormwater discharges are a significant contributor to receiving environment limits being exceeded, so that stormwater quality improvement plans for those catchments can be prioritised.

- ***Outcomes from Central Government's Three Waters Review***

Alongside the Central Government's 'Action for Healthy Waterways' package, the 'Three Waters Review' has been looking at how to improve the management of drinking water, stormwater and wastewater primarily to address problems identified in the Havelock North Drinking Water Inquiry, but also to improve overall management of our water resources.

These Central Government reforms include new obligations on wastewater and stormwater network operators to manage risks to the environment,

people and property associated with the operation of their infrastructure networks.

In December 2019, the Taumata Arowai – Water Services Regulator Bill was introduced to Parliament. The Bill implements decisions to establish a new regulatory body – Taumata Arowai – which will be responsible for:

- Administering and enforcing a new drinking water regulatory system (including the management of risks to sources of drinking water); and
- A small number of complementary functions relating to improving the environmental performance of wastewater and stormwater networks (developing standards and regulations then monitoring and enforcing compliance with them, and providing training).

The Bill passed its third reading in July 2020 and now requires Royal Assent to become an Act. This is expected to be completed shortly.

A separate Water Services Bill was introduced to Parliament in July 2020, which includes some obligations on wastewater and stormwater network operators, such as the establishment of a national-level monitoring and reporting framework for wastewater and stormwater systems, and the operators of those systems. The Bill is not expected to complete the parliamentary process until sometime after the elections in September 2020.

The Government has indicated that its starting intention is public multi-regional models for water service delivery to realise the benefits of scale for communities and reflect neighbouring catchments and communities of interest. There is a preference that entities will be in shared ownership of local authorities. Design of the proposed new arrangements will be informed by discussion with the local government sector. At this time it is assumed that the management and delivery of stormwater services will remain with Council for the duration of this Plan.

- ***Sustainable development.***

  This needs to be the focus of all parts of the stormwater and flood protection activity in order to ensure the city can accommodate future growth affordably while recognising the wider environmental, cultural and social values that the community identify as making Nelson a special place. The following are some of the current initiatives that this Plan will build on:

  - *Wider inter-departmental and community involvement to improve freshwater quality at the source rather than rely on 'end of pipe' stormwater treatment techniques.*

    A number of Council activities directly impact on the streams and rivers in the city. Transport assets channel contaminants from roads and public carparks into the stormwater network and Parks and Reserves can impact on water quality from vegetation grooming and mowing activities adjacent to streams. Council funds a variety of non-regulatory environmental and

behaviour changing programmes such as Only Rain down Drains; Riparian Planting and water conservation education.

- *Stream waterway environmental enhancement*

  Examples include natural gravel management in beds where practicable, protection of natural river banks, river bank shade through vegetation, management of aquatic weeds in waterways, protection of fish spawning areas, protection of natural 'pool and riffle' stream bed form and incorporation of natural meanders where possible.

- *Streams and rivers to be free of manufactured obstructions that impede fish passage.*

  Removal of barriers to fish passage is in line with the National Policy Statement – Freshwater Management (NPS-FM), and the National Environmental Standard – Freshwater Management (NES-FM)

- *Additional effort to reduce stormwater flow into the wastewater system to reduce sewer overflows and reduce pumping costs*

  It is anticipated that upgrades and stormwater network extension will be required as part of a package of measures needed to meet the requirements of the National Environmental Standard (NES) for the treatment of wastewater discharges and the management of wastewater overflows, as well as to achieve improved freshwater quality.

v Levels of service

Table ES-2: Proposed Levels of Service 2021 – 2031

					Performance Target			
	Community Outcomes	**Level of service**	**Performance measure**	**Previous and current performance**	**2021/22 (Year 1)**	**2022/23 (Year 2)**	**2023/24 (Year 3)**	**2024/25 – 2030/31 (Year 4-10)**
Stormwater	**Our unique natural environment is healthy and protected**	**Quality** Environmental Protection	Compliance with resource consents for discharge from the stormwater system, measured by the number of: a) abatement notices b) infringement notices c) enforcement orders, and d) successful prosecutions received in relation to those resource consents* Measurement Procedure 1	No contraventions in 2019/20 and 2018/19 2 infringement notices in 2017/18 No contraventions in 2016/17	100% compliance with resource consents for discharge			
	Our region is supported by an innovative and sustainable economy	**Response** ^Minimise justifiable complaints	The number of complaints received about the performance of the stormwater system, per 1000 properties connected to the stormwater network* Measurement Procedure 2	7 complaints per 1000 properties in 2019/20 11 complaints per 1000 properties in 2018/19 31 complaints per 1000 properties in 2017/18 10 complaints per 1000 connections in 2016/17	No more than 20 complaints per 1000 connections per year			
Flood Protection	**Our unique natural environment is healthy and protected** **Our infrastructure is efficient, cost effective and meets current and future needs**	**Quality** ^Environmental protection, damage to people and property minimised, and a reliable flood protection network	The major flood protection and control works that are maintained, repaired and renewed to the key standards defined in the Stormwater and Flood Protection Activity Management Plan* Measurement Procedure 3,4	No loss of current service potential in any urban streams between 2017/18 and 2019/20	Network maintained to current service potential			
				No flood events occurred which required repairs between 2017/18 and 2019/20.	Flood event damage identified, prioritised and repair programme agreed between Council and the community			
			The major flood protection and control works that are maintained, repaired and renewed to the key standards defined in this Plan.	Repairs from storm events prioritised via repairs consent	High priority work completed as soon as practicable			
		^Environmental protection, damage to people and property		Between 2017/18 and 2019/20 only minor flood protection repairs were required to maintain waterways	Network components renewed to continue provision of original design service potential			

					Performance Target			
	Community Outcomes	**Level of service**	**Performance measure**	**Previous and current performance**	**2021/22 (Year 1)**	**2022/23 (Year 2)**	**2023/24 (Year 3)**	**2024/25 – 2030/31 (Year 4-10)**
	Our urban and rural environments are people-friendly, well planned and sustainably managed	minimised, and a reliable flood protection network	Develop risk based Maitai flood response options Measurement Procedure 5	Flood analysis completed in 2018/19 Response options identified in 2019/20	Refine options and initiate business case	Develop concept designs for quick win projects	Initiate Resource consent process	Detailed design and Implementation
			Develop city wide flood protection strategies Measurement Procedure 5	New measure – Catchments prioritised for flood protection strategies in 2019/20	Identify flood management options in priority catchments	Engage with the community in priority catchments	Develop concept designs for quick win projects	Consultation, Resource consent, design and implementation
Stormwater & Flood Protection	**Our communities are healthy, safe, inclusive and resilient**	**Customer service** **^Protection from damage to property**	a) The number of flooding events that occur b) For each flooding event, the number of habitable floors affected per 1000 properties connected to the stormwater network* Measurement Procedure 2	No flooding event in 2019/20 One flooding event in 2018/19 One flooding event in 2017/18 No flooding event in 2016/17 No habitable floor damage in 2015/16, 2016/17 or 2018/19 2017/18 (Cyclone Fehi) is excluded (tidal event)	No damage in urban areas from flood events of a level that have a 50% probability of occurring in any one year No more than 10 per 1000 urban properties with habitable floor damage from events that have a 5% probability of occurring in any one year			
		Customer service **^Response to stormwater system issues**	Median response time to attend a flooding event, measured from the time that notification is received to the time service personnel reach the site* Measurement Procedure 2	Median response time 20 minutes in 2019/20 42 minutes in 2018/19 41 minutes in 2017/18 25 minutes in 2016/17	Median response time less than 60 minutes			

^L.O.S. included in LTP

* Performance measures with an asterisk reflect the wording of the Non-Financial Performance Measures of the Department of Internal Affairs (DIA) incorporated into sec261B Local Government Act 2002. This is to allow the DIA to compare these measures across councils. Targets have been adjusted where necessary to align.

Measurement procedures:
1. Council RMA infringement records at 1 July
2. Report from SR system at 1 July
3. Review check sheets for individual projects
4. GIS flood reports for properties inside flood overlay
5. Ensure annual targets are met

vi Future demand

Table ES-3: Future demand

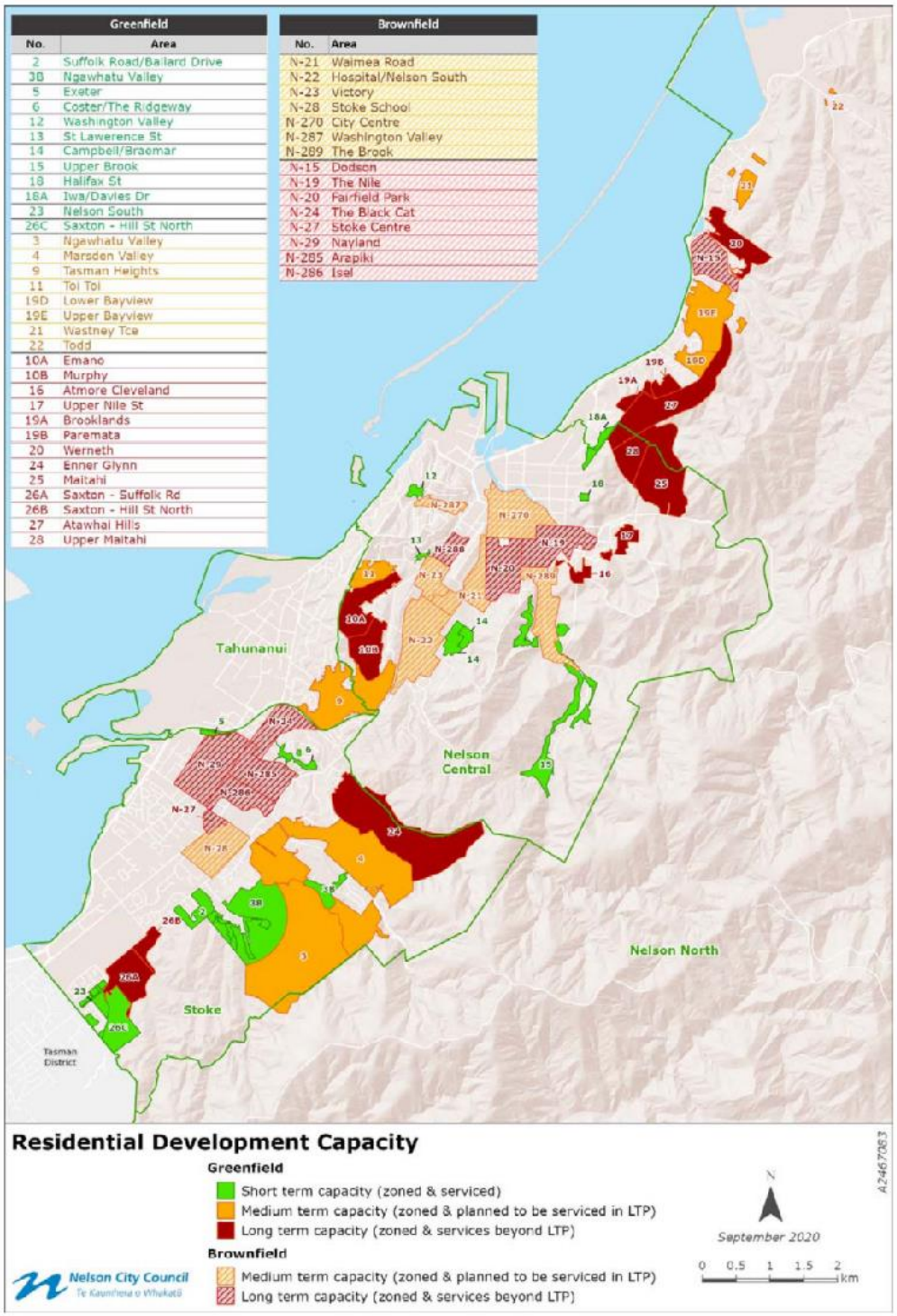
Stormwater and Flood Protection Demand Drivers	Changes to the Activity
Significant population growth and residential expansion into greenfield areas	Development of new areas on the periphery of the city and intensification in some existing developed areas leading to increased runoff rates as impermeable areas increase. Need to identify appropriate disposal techniques where public drains lack capacity. Growth projects are identified in the financial tables.
Climate Change	The general future expected trend for Nelson is of winters being wetter and the other seasons being drier. More frequent heavy rainfall events have been predicted due to a warmer climate. This will require either increased network capacity, detention capacity or a greater acceptance by the community of the adverse impacts of extreme events. Design standards in the NTLDM 2019 recognise the need to meet expected increased rainfall intensities out to 2090, based on an RCP 8.5 global emissions scenario.
Community expectation to respond to predicted climatic changes	In 2019, Council declared a climate change emergency. This reflects a growing sense of urgency around the need to respond to climate change with both mitigation and adaptation measures. Climate change adaptation is a major consideration for this activity, particularly in relation to low lying areas of the city that would be exposed to sea level rise. There is an existing demand for increased protection from tidal flooding in some areas of the city, and it is expected this will grow following the publication of coastal inundation mapping.
Changes in Customer Expectations on flooding	Customer expectations are increasingly tending towards higher Levels of Service, in both the reduction of extent, frequency and duration of stormwater flooding and ponding on property and roads during and after storms. This can drive a demand for the installation of reticulation in existing urban areas.
Community Expectation on environmental protection	There are increasing expectations for improved stormwater quality and enhancing the natural environment of streams and rivers. This demand driver can conflict with the expectations for reduced flooding as it can limit options for works along existing water courses that have insufficient flow capacity.
Legislative National Policy Statements: • Freshwater Management	• Freshwater Management is a cornerstone central government initiative to improve the quality of freshwater bodies in New Zealand. This is expected to impact on Stormwater quality requirements for discharges to waterways and require an enhanced response to design and construction of stream channel works to align with the requirements of the NPS-FM and NES-FM. Cost implications are expected to become clearer as Council develops the freshwater sections of the proposed Whakamahere Whakatū Nelson Plan through to planned notification in 2021.

Stormwater and Flood Protection Demand Drivers	Changes to the Activity
• Urban Development Capacity	• Urban Development Capacity will ensure each territorial authority makes adequate provision for future population growth in their areas. This will require Council to undertake strategic growth studies and identify the impact on the demand for stormwater services and flood response measures.
Organisational Policies Environmental Sustainability	Development of sustainability strategies that include reduction of inflow and infiltration (into the wastewater system). In practice this may require the reticulated stormwater network to be extended into areas of the city where properties lack access to stormwater services. Existing cross-connections that allow stormwater into the wastewater network need to be addressed, and the wastewater network itself may need to be upgraded to incorporate additional storage or reduce infiltration into pipes. Refer to the Wastewater Activity Management Plan for specific details.

An important aspect to consider is that customer expectations are increasingly tending towards higher levels of service, in both the reduction of extent and frequency of stormwater flooding and ponding on property and roads during and after storms, as well as enhanced stormwater discharge quality. These expectations will need to be fully assessed and balanced against other desired outcomes.

Infrastructure Planning for Growth Projects

Figure ES-5: Nelson Growth Areas and Infrastructure Timing



vii Lifecycle management plan

Assets have a lifecycle as they move through from the initial concept to the final disposal. Depending on the type of asset, and its location, its lifecycle may vary from 10 years to over 100 years. More information on lifecycle management is provided in Chapter 4 of this Plan.

As with many other urban areas across the country, much of the 3 waters networks in Nelson was developed during a period of intense urbanisation and conversion to public servicing from the 1960s and 70s. Whilst the majority of stormwater assets in Nelson are relatively new with stormwater pipes having an average age of approximately 30 years, less than the national average of 37 years, these assets are now well into their useful working life. Figures ES-6 and ES-7 show a 'bow-wave' of stormwater pipe renewals projected for the period 2050 - 2100, based on the expected working life of assets. The 2050's are just beyond the 30 year forecasting period required by the Local Government Act 2002 for the Infrastructure Strategy. The timing of the bow wave is primarily based on the expected asset life for concrete pipes of 90 years. In practice the actual asset life of these pipes is variable and reflects a range of factors such as location, operating context, and maintenance arrangements. Nelson's hillslope terrain provides a challenging environment for reticulated networks, particularly where land movement is occurring.

As many Councils across the country are facing a similar renewals bow wave, the 3 waters industry has initiated a wide ranging programme of upgrading and updating the tools and methodologies that are utilised for renewal planning. This comprises a multi-year collaboration agreement between the University of Canterbury, Quake Centre, Water New Zealand and the Institute of Public Works Engineering Australia (IPWEA). The approach has the overall title 'Evidence Based Decision Making for the 3 Waters Networks (Pipe Renewals)'.

The associated Pipe Renewals Guidelines Programme is developing guidance documents and tools to enable Australia's and New Zealand's water organisations to make nationally consistent, evidence-based decisions in regards to pipe network operational and capital expenditure. The programme covers inspection, maintenance and renewal strategies for pipework in potable water, wastewater and stormwater systems.

Whilst it is expected that stormwater pipes in Nelson are generally performing better than those in the wastewater and water networks, further assessment is required to better support an evidence based decision making approach for stormwater renewals. This will need to include collection of more information on the existing condition of assets and more regular assessment of critical assets. It is proposed to develop a Stormwater Asset Renewal Strategy during the course of this Plan supported by condition and performance assessments. It is expected this strategy will also include a more refined approach to assessing theoretical asset life, to provide more certainty for renewals planning.

Figure ES-6: Estimated Pipe Replacement Length by Year

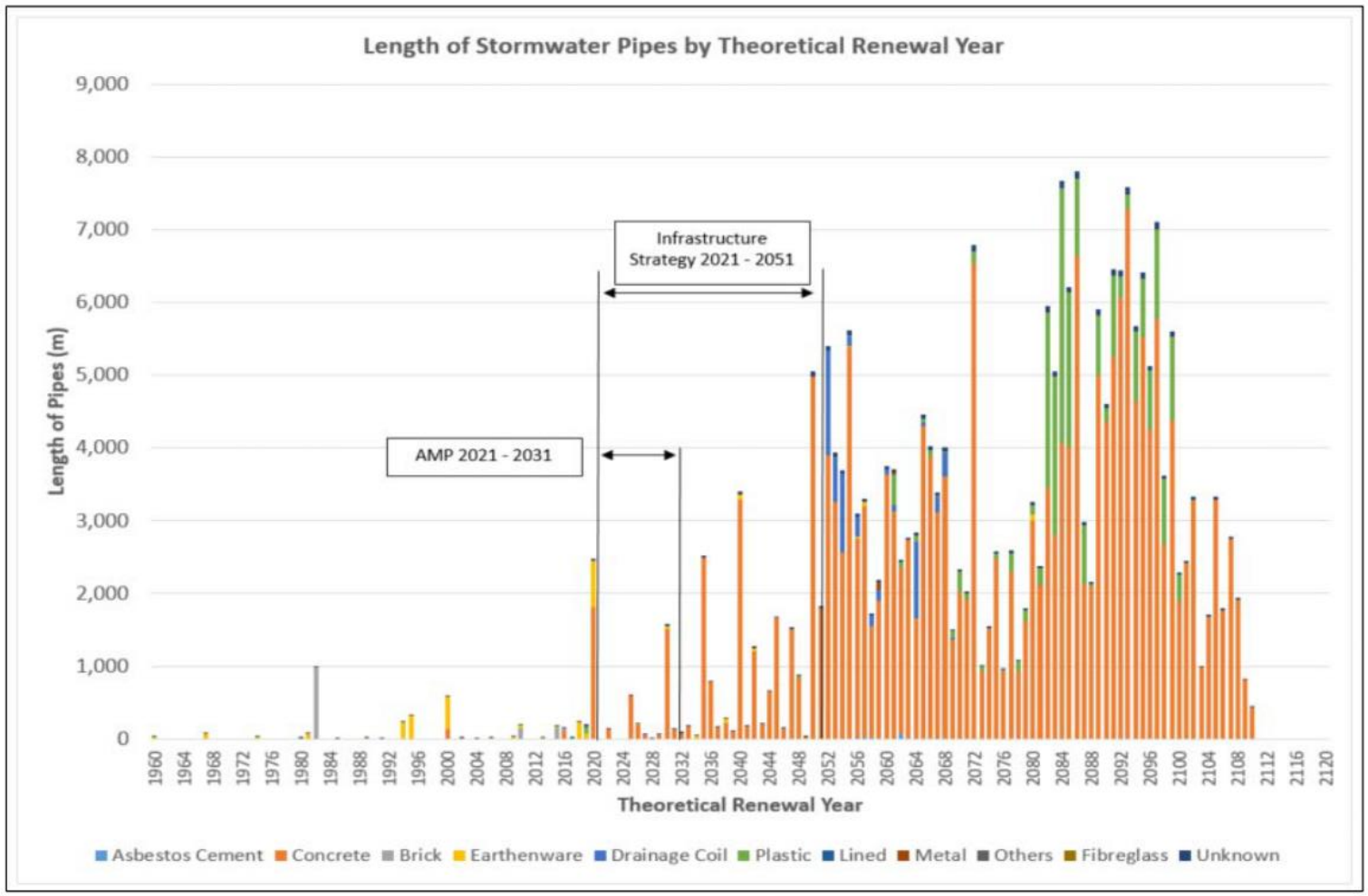
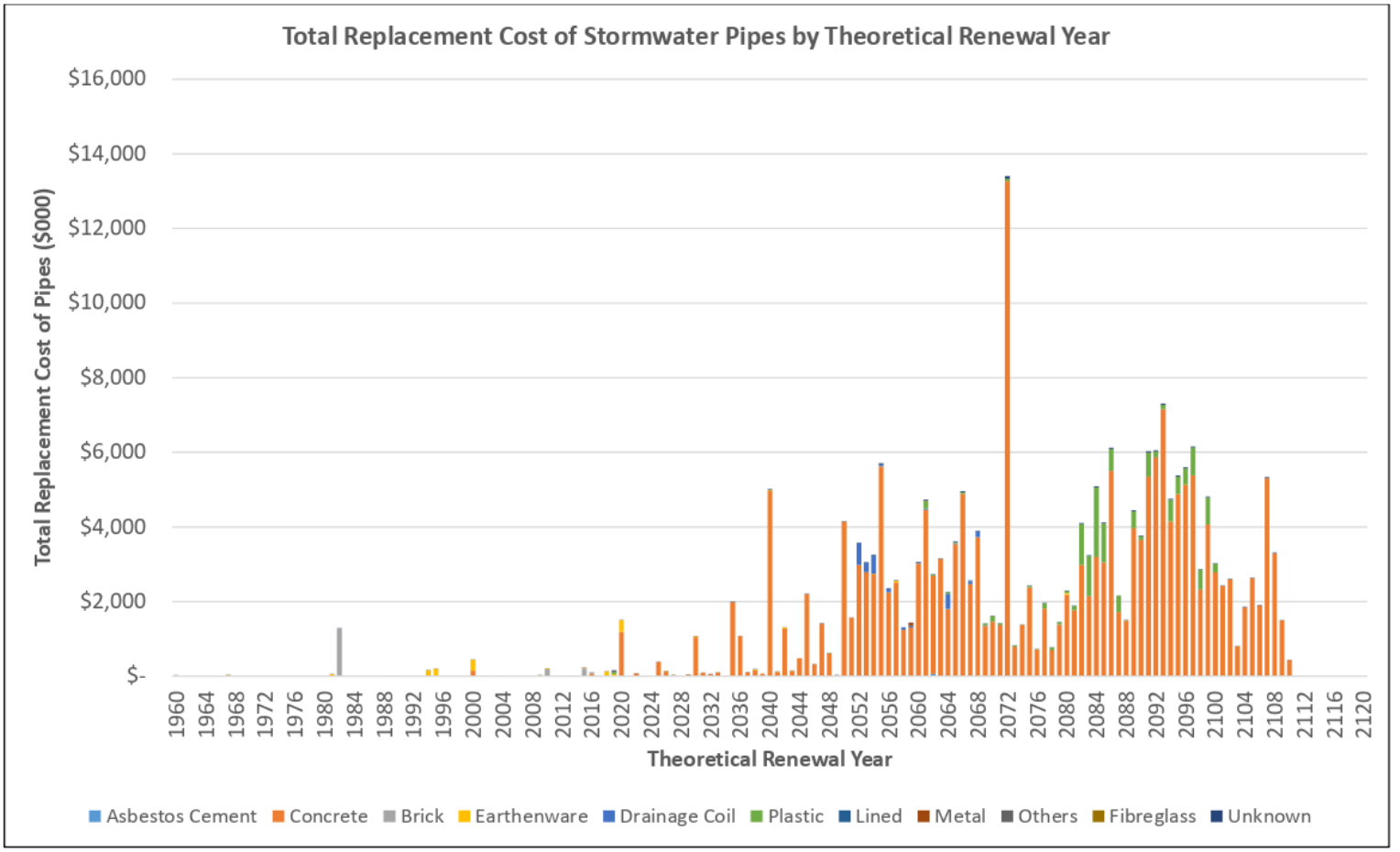


Figure ES-7: Estimated Pipe Replacement Cost by Year



viii Risk management plan

Nelson City Council is committed to using risk management principles and techniques to understand and appropriately manage all internal and external factors and influences which affect the achievement of its objectives. Doing this will:

- Provide a reliable basis for sound decision making
- Increase the likelihood of achieving objectives
- Provide an agreed basis for prudent risk management
- Enable the organisation to understand the level of risk associated with each decision as well as the Council's aggregate exposure to risk
- Improve accountability and assurance of control
- Enable the Council to avoid threats and seize opportunities
- Foster an organisational culture based on reasonable foresight and responsible hindsight.

The Council's standardised risk assessment method explicitly follows the process part (section 5) of AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines.

Risk analysis involves consideration of the sources of risk, their consequences and the likelihood that those consequences may occur.

The following consequences are considered:

- Climate Change
- Health & Safety
- Asset performance/Service Delivery
- Environmental/Historical/Cultural
- Financial
- Political/Community/Reputational
- Relationship with Iwi
- Legal compliance
- Information/Decision support

Consequences of an event are rated 1 - 5 (Insignificant to Extreme). Likelihood is then rated 1 – 5 (Rare to Almost certain) to calculate a risk level rated 1 – 5 (Very Low to Very High).

The objective of risk analysis is to separate the low impact risks from the major impact risks, and to provide data to assist in the evaluation and treatment of the risks.

The five specific Community Outcomes that guide the Stormwater and Flood Protection risk analysis are also used to inform the Stormwater and Flood Protection levels of service:

- Our unique natural environment is healthy and protected
- Our urban and rural environments are people-friendly, well planned and sustainably managed
- Our infrastructure is efficient, cost effective and meets current and future needs

- Our region is supported by an innovative and sustainable economy
- Our communities are healthy, safe, inclusive and resilient

As noted in the Issues section, there is potential for future Level of Service changes around the Freshwater NPS / NES, urban growth, and implementation of a risk-based decision making framework in this area.

ix Financial summary

Detailed financial statements and forecasts are provided in section 6 – Financial Summary. Tables 6-1 and 6-2 include a breakdown of projected expenditure by project.

Tables ES-4 and ES-5 below show total projected operational and capital expenditure on stormwater and flood protection for 2021 – 2031 by expenditure type.

***Projected expenditure for Stormwater*:** is relatively constant over the term of the plan.

Operational expenses are in the range $850k to $900k per annum over the next 10 years.

Capital expenditure is predicted to be in the range $5.5M to $8M per annum, including level of service upgrades, renewals and growth projects. Major projects to be included within the first 3 years include: Rutherford Street, Konini Street, Wastney Terrace, Centennial Park stormwater outfall and Tahunanui Hills stormwater upgrades. The slight spike above $7M per annum in years 2029/30 and 2030/31 relates to an increase in projected expenditure on growth projects and Level of Service upgrades

Projected expenditure for Flood Protection: is higher in the first 2 and last 2 years of the 10 year plan.

Operational expenses are constant at just over $200k per annum over the 10 years.

Capital expenditure is just under $5M per annum for the first 2 years and reduces after 2022/23 when the construction of the Saxton Creek Stage 4 upgrade is expected to be largely complete. This project is expected to receive co-financing of $7.5M through the Ministry of Business Innovation & Employment - Provincial Development Unit's COVID Response and Recovery Fund (CRRF).

From 2023/24 – 2027/28 capital expenditure is forecast to be in the range $1.5M - $2.5M per annum but increases over the last 3 years of the 10 year plan to above $3M per annum due to major upgrades on the Maitai River, Jenkins Creek and Poormans Valley Stream coinciding in the same years. These catchments have been identified as a priority for flood mitigation response based on flood risk.

Table ES-4: Projected Operational Expenditure 2021 - 31

Group Account	2021/22 AMP (2021/31)	2022/23 AMP (2021/31)	2023/24 AMP (2021/31)	2024/25 AMP (2021/31)	2025/26 AMP (2021/31)	2026/27 AMP (2021/31)	2027/28 AMP (2021/31)	2028/29 AMP (2021/31)	2029/30 AMP (2021/31)	2030/31 AMP (2021/31)
6510 Stormwater	**857,541**	**864,501**	**883,541**	**886,671**	**898,921**	**870,131**	**897,481**	**886,771**	**864,191**	**875,581**
Base Expenditure	340,541	337,501	371,541	397,571	357,701	366,771	361,951	371,061	366,271	375,431
Unprogrammed Expenses	210,000	210,000	210,000	212,100	214,220	216,360	218,530	220,710	222,920	225,150
Programmed Expenses	307,000	317,000	302,000	277,000	327,000	287,000	317,000	295,000	275,000	275,000
6520 Flood Protection	**213,880**	**213,880**	**218,880**	**225,590**	**227,310**	**229,069**	**230,817**	**232,596**	**234,404**	**236,218**
Base Expenditure	76,180	76,180	76,180	76,940	77,700	78,490	79,260	80,050	80,860	81,665
Unprogrammed Expenses	95,000	95,000	95,000	95,950	96,910	97,879	98,857	99,846	100,844	101,853
Programmed Expenses	42,700	42,700	47,700	52,700	52,700	52,700	52,700	52,700	52,700	52,700

Table ES-5: Projected Capital Expenditure 2021 - 31

Group Account	2021/22 AMP (2021/31)	2022/23 AMP (2021/31)	2023/24 AMP (2021/31)	2024/25 AMP (2021/31)	2025/26 AMP (2021/31)	2026/27 AMP (2021/31)	2027/28 AMP (2021/31)	2028/29 AMP (2021/31)	2029/30 AMP (2021/31)	2030/31 AMP (2021/31)
6510 Stormwater	**6,650,000**	**5,800,000**	**5,180,000**	**6,870,000**	**6,615,000**	**6,920,000**	**6,180,300**	**6,200,000**	**7,760,000**	**7,880,000**
Renewals	210,000	270,000	350,000	195,000	1,625,000	1,630,000	610,300	210,000	510,000	200,000
Capital Growth	150,000	100,000	190,000	1,130,000	180,000	180,000	830,000	1,160,000	950,000	2,580,000
Capital Increased LOS	6,290,000	5,430,000	4,640,000	5,545,000	4,810,000	5,110,000	4,740,000	4,830,000	6,300,000	5,100,000
6520 Flood Protection	**4,825,000**	**4,865,000**	**2,320,000**	**2,100,000**	**2,160,000**	**1,550,000**	**1,790,000**	**3,115,000**	**4,165,000**	**3,915,000**
Renewals	0	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Capital Growth	30,000	70,000	130,000	350,000	960,000	0	0	0	0	0
Capital Increased LOS	4,795,000	4,765,000	2,160,000	1,720,000	1,170,000	1,520,000	1,760,000	3,085,000	4,135,000	3,885,000

x Monitoring and improvement programme

The Plan is a regularly revised and evolving document and will be reviewed annually and updated at least every three years to coincide with the Annual and Long Term Plans and to incorporate improved decision making techniques, updated asset information, and Council policy changes that may impact on the levels of service.

The Plan will be improved throughout its lifecycle as further information about the stormwater system and flood protection assets are collected in terms of condition, performance and service delivery. Council is committed to advanced data collection and management systems that will allow for a greater appreciation of the performance and condition of Council assets.

Council will report variations in the adopted annual plan budgets against the original activity management plan forecasts and explain the level of service implications of budget variations.

Internal Audit

Internal audits will be taken every three years to assess the effectiveness of the plan in achieving its objectives. The internal audit will also assess the adequacy of the asset management processes, systems and data.

Statutory Audit

The Local Government Act requires that an independent, annual audit of the operations of the Council be carried out.

Benchmarking

Benchmarking (trending) of the activity through Audit NZ, Local Government NZ and Water NZ benchmarking initiatives is carried out at the request of these organisations to give increased understanding of:

- The efficiency and efficiency variations of individual activities.
- Effects of any programmes instigated by the Activity Management Plan.
- Operating costs over range of individual activities.

Examples of types of benchmarking that are to be considered include tracking progress, responsiveness to service calls, operation costs i.e. $/metre/year and energy costs. As data is obtained and implications understood the benchmarking can be used for additional or revised Levels of Service and can be incorporated into a graphical display.

Water NZ annual performance reviews include benchmarking of a range of measures across all territorial and unitary authorities that are operators of 3 Waters networks. Results for the stormwater activity in 2018/19 are provided in Appendix H.

The effectiveness of this Plan will be monitored by the following procedures:

- Financial expenditure projections prior to year end
- Resource consent monitoring as required by consents
- Tracking progress against Key Performance Indicators laid out in Long Term Plans
- The ongoing updating of the asset register of stormwater and flood protection assets when repairs are carried out and the attributes are compared with the asset register attributes

- The development of stream/ river catchment flood modelling, stormwater reticulation and secondary flowpath modelling on a catchment by catchment basis

Table ES-6: Improvement Programme

Improvement Programme	Improvement Actions
Expand sustainable practice throughout the stormwater and flood protection activity	Implement the Code of Practice which sets out standards and good practice methods for undertaking work within water courses.
Improve linkage to Environmental Activity & Transport Activity Management Plans including creating a chart to show the links	Combined Stormwater and Transport Business cases have been undertaken but a chart showing the links is still required. Collaboration with the Science and Environment team on freshwater quality is being put in place through a cross Council working group to plan responses to the NPS-FM.
Review Levels of Service (especially in relation to sustainability & infiltration)	Levels of Service have been reviewed for this AMP but the Action for Healthy Waterways Package is still in progress and further direction will be provided by the Whakamahere Whakatū Nelson Plan as well as from Central Government through a new NES relating to wastewater overflows.
Develop Risk Management Plans	Risk Management Plans are proposed under the Central Government Action for Healthy Waterways package and further direction / detail is expected on these during 2020.
Complete computer flood modelling for streams and rivers taking into consideration climate change effects.	This was achieved in 2018/19 although further updates are in progress due to new NIWA storm rainfall data (HIRDSv4)
Complete stormwater network modelling to inform Stormwater Strategies	The Stoke Stormwater network model has been completed. Central Nelson and Port Hills/ Tahunanui network models are in progress.
Complete Stormwater Strategies for the five urban areas: Stoke, Tahunanui, Central Nelson, Port Hills, Atawhai taking into consideration future climate change effects.	The Stoke Stormwater Strategy has been completed. The Tahunanui Stormwater Strategy is in progress.
Develop a Stormwater Quality Improvement Strategy to enable freshwater quality targets in the Nelson Plan to be met.	New implementation action – subject to freshwater quality provisions that will be set in Nelson Plan
Complete a Stormwater renewal strategy to manage the bow wave of renewals expected from the 2050's onwards	New implementation action primarily focussed on the stormwater network. This strategy will include a framework for prioritising and implementing condition assessments.
Review condition assessments and improve accessibility of this information.	New CCTV inspection viewer is currently being developed to improve accessibility of this information and provide analysis on condition of surveyed assets.
Ongoing refinement of lifecycle decision making and financial forecasts, including review of asset life expectancy	The stormwater renewal strategy will investigate and provide guidance on the expected base life of assets. Asset values are being reviewed in 2020.
Develop Flood Protection Strategies for critical assets such as open channels, streams and	Critical stormwater and flood protection assets including open channels and streams have been

Improvement Programme	Improvement Actions
rivers taking into consideration future climate change	identified through the 3 waters natural hazards resilience project. Flood Protection Strategies are being progressed for urban areas of the city following a risk based approach.
Improve accuracy of data through review and modification of collection, storage, and auditing	Asset data accuracy is being reviewed through the development of Stormwater network models and the 3 Waters Natural Hazards resilience project. Further work is required to update asset data, especially ownership data.
Develop drain ownership policy based on NTLDM standards to guide operations and maintenance activities. Update GIS asset ownership to align with this policy	Stormwater asset ownership to be updated before this policy can be put in place.
Expand focus on inter-relationship of network components and development of improved strategies for maintenance, renewals, and upgrades	Stormwater upgrades are being prioritised through the stormwater strategies, supported by network modelling. A stormwater renewal strategy will be developed to prioritise renewals.
Investigate reporting processes and procedures from Infor and maintenance contractors to ensure that the appropriate levels of service and asset management reporting is available	An update to the system has been made that automates level of service reporting, although Service Requests still need to be analysed to determine number of storm events that exceed network capacity.
Investigate better reporting options regarding blockages to pipe network so that service requests identify whether a roading or stormwater issue	This relates to the updating of asset ownership data referred to above. Typically sumps and laterals located within the carriageway are roading assets.
Update customer service information collection processes to include specific information that relates to stormwater and flood protection levels of service, such as incidents resulting in flooding of habitable floors.	This improvement action has been completed for the flooding of habitable floor measure. Improved reporting for this measure will apply from 2020/21.
Improve reporting on response times. The median time reported is currently based on 50% of requests	An update to the system has been made which automates reporting of response times.
Extend stormwater network into priority catchments for the Inflow & Infiltration Programme	Priority catchments being identified. Washington Valley stormwater upgrade is planned to reduce known inflow & infiltration (I&I) issues in that catchment, which relate to stormwater entering the sewer network.

Nelson City Council
te kaunihera o whakatū

Infrastructure Committee

1 October 2020

REPORT R14835

Draft Solid Waste Activity Management Plan 2021-31

1. Purpose of Report

1.1 To approve the Draft Solid Waste Activity Management Plan 2021-31 (SWAMP) as the version to inform the Long Term Plan 2021-31 (LTP).

2. Recommendation

That the Infrastructure Committee

1. ***Receives*** ***the report Draft Solid Waste Activity Management Plan 2021-31 (R14835) and its attachment (A2462529); and***

2. ***Approves*** ***the Draft Solid Waste Activity Management Plan 2021-31 (A2468611) as the version to inform the Long Term Plan 2021-31; and***

3. ***Notes*** ***that the Draft Solid Waste Activity Management Plan 2021-31 will be updated and, the final Activity Management Plan approved, after the adoption of the Long Term Plan 2021-2031.***

3. Background

3.1 Draft Activity Management Plans (AMPs) are prepared for the approval of the Committee to inform the development of LTP's. This Draft AMP will inform the development of the 2021-31 LTP.

3.2 Following consultation on, and adoption of the LTP, the AMPs will be updated to align with the adopted LTP. The final updated AMPs will be brought back to Council early in 2021/22 for adoption.

3.3 The draft AMP takes account of previous Council and Committee resolutions and feedback at workshops on the proposed work programme and budgets. Officers have undertaken a high level review of budgets across Council activities however, the AMPs are at different stages of development and amendments may be required to the draft Plan once all

AMPs have been received by their respective committees and, the cumulative effect of the AMPs has been considered at the workshops in December 2020 and January 2021. Officers will update the Plan after these workshops. The final AMP will be brought to the Committee for approval after it has been updated to include decisions made during the LTP process.

4. Discussion

4.1 The SWAMP sets out the background to Council's solid waste activities and includes details of the following:

- Areas of focus for the activity during 2021-31;
- Levels of Service;
- The activity budgets for operations and maintenance, renewals and capital expenditure.

4.2 This SWAMP was developed within the context of the current Nelson Tasman Joint Waste Management and Minimisation Plan dated December 2019.

4.3 A workshop was held with Council on 23 June on solid waste priorities for 2021-31.

4.4 The SWAMP reflects discussions on priorities following the workshop including:

- The potential provision of a residential kerbside kitchen waste collection service;
- Replacement of the residential kerbside wheelie bins for recyclables;
- The introduction of solar-powered street litter bins in the CBD;
- Diversion from landfill of construction and deconstruction waste;
- Planning for product stewardship;
- Climate change mitigation and adaptation.
- Community engagement to reduce the creation of waste.

4.5 A separate Activity Management Plan is being developed for the landfills managed by the Nelson Tasman Regional Landfill Business Unit.

4.6 The Executive Summary of the Draft SWAMP is appended to this report as Attachment 1.

4.7 The Draft Solid Waste AMP 2021-31 (A2427836) is a significant document and is available on the Council's website, 2021-31 Activity

Management Plans page (www.nelson.govt.nz/2021-31-activity-management-plans) and was also circulated to all councillors on 24 September 2020 with a hard copy placed in the councillor's lounge.

5. Options

5.1 The preferred option is for Council to approve the Draft SWAMP, as the version to inform the LTP 2021-31.

Option 1: Approve the Draft SWAMP	
Advantages	• Meet requirements of Local Government Act 2002 • Reflects the input of the JWMMP and from Councillors during the workshop
Risks and Disadvantages	• Nil
Option 2: Do not approve the Draft SWAMP	
Advantages	• Nil
Risks and Disadvantages	• Fail to meet requirements of Local Government Act 2002

6. Conclusion

6.1 The SWAMP 2021-31 has been prepared to inform the LTP and will support Council in meeting its obligations under section 93 and Schedule 10 of the Local Government Act 2002.

Author: Margaret Parfitt, Manager - Transport and Solid Waste

Attachments

Attachment 1: A2462529 Solid Waste Activity Management Plan Executive Summary ⇩

Important considerations for decision making

1. Fit with Purpose of Local Government

The Draft SWAMP supports the social, economic and environmental wellbeing of the Nelson community by putting in place the planning for good quality local infrastructure that is efficient, effective, and appropriate to present and anticipated future circumstances as defined under the Local Government Act 2002.

2. Consistency with Community Outcomes and Council Policy

Solid Waste activity supports the following community outcomes:

"Our infrastructure is efficient, cost effective and meets current and future needs" and "Our communities are healthy, safe, inclusive and resilient."

3. Risk

Not adopting the draft activity management plans will leave Council without a document to support the goal of developing and adopting the LTP.

4. Financial impact

There are no direct funding implications from the recommendation. Indirect funding requirements will be set out in the proposed LTP and are subject to a consultation process with the community

5. Degree of significance and level of engagement

This matter is of high significance because the adoption of a LTP is a statutory requirement under the Local Government Act 2002. Therefore consultation with the community will occur in the form of publicly advertising the consultation document and calling for submissions.

6. Climate Impact

The SWAMP has been drafted giving consideration to the potential impacts and risks climate change presents to the district. Examples of proposed adaption, mitigation and leadership actions are demonstrated throughout the document.

7. Inclusion of Māori in the decision making process

Iwi will be approached directly for comment prior to calling for LTP public submissions.

8. Delegations

The Infrastructure Committee has the power to consider and approve Activity Management Plans.

Areas of Responsibility:

- Solid Waste management, including transfer stations and waste minimisation
- Recycling

Delegations:

- Developing, approving, monitoring and reviewing policies and plans, including activity management plans and the Infrastructure Strategy

Attachment 1 (A2462529)

Overview

This Solid Waste Activity Management Plan (AMP) is action-focused. It provides an account of Council owned and/or controlled assets and services, which are under the responsibility of the solid waste activity, and outlines the management approach to effectively meet demand and expectations now and into the future.

The purpose of the AMP is to provide a waste minimisation and waste management plan to manage and divert waste prior to it reaching the landfill. In simple terms the boundary of the AMP is the weighbridge of the York Valley landfill. While there are areas of common interest any activity on the landfill side of the weighbridge is the responsibility of the Nelson Tasman Regional Landfill Business Unit (NTRLBU).

The AMP gives effect to Nelson City Council's vision of a Smart Little City, Council priorities and guidance, and also key plans including the Nelson Tasman Joint Waste Management and Minimisation Plan 2019 (JWMMP).

This AMP and its financial strategy moves the operational direction from a business-as-usual responsive method to one that takes a proactive approach. This includes being more creative in asset utilisation, the instigation of new services, and exploring various options of management and procurement.

The AMP outlines risks and challenges facing waste management, including the impacts of climate change, and it includes risk management and mitigation solutions.

Key to achieving the waste reduction targets set in the JWMMP is a recognition that the community has an active role to play. The AMP recognises that it is more desirable to provide services and activities which actively contribute to reducing waste. Avoiding the creation of waste and supporting a culture where our community chooses not to create waste is the central premise of all waste minimisation activities in this plan.

The financial structure of solid waste makes it a 'closed account' with activities and actions funded through gate fees, waste disposal levies from central government, and the landfill levy paid to each Council by the NTRLBU. This makes solid waste independent of residential rates.

This plan focuses on ensuring that not only are assets and waste services maintained in a cost-effective manner, but that an appropriate, environmentally and culturally sound waste management disposal option is available for all waste produced in Nelson. Waste creation and waste minimisation are considered in residential and non-residential settings and in response to our changing local, national and global environment. This includes incorporating the residential intensification in the Nelson city centre, and a move to greater responsibility for re-using and recycling materials locally.

The Purpose of the Plan

The AMP outlines a strategic direction for managing solid waste assets and services to meet current and future demands and priorities.

The AMP has been developed to respond to key themes and priorities, which will be referred to throughout the plan. Without considering their order of importance these include:

1. A population that is growing and aging
2. Working with stakeholders, and iwi partners
3. Community engagement
4. Mitigating and managing the effects of climate change
5. Taking responsibility for emissions which are produced by solid waste activities
6. The Future Development Strategy, including an increase in residential intensification
7. A vision for Nelson as a Smart Little City
8. Government legislation impacting local and council business
9. Improvements in services
10. Asset utilisation and efficacy of assets

This AMP informs the Long Term Plan, and is consistent with the Infrastructure Strategy and the Financial Strategy.

It gives effect to the JWMMP. It ensures that that asset renewal, activity delivery, and service procurement decision-making are consistent with achieving long-term outcomes for waste minimisation.

Asset Description

As any resource, service, or item of economic value, from which any company would gain future economic value is considered an asset, the Solid Waste assets can be considered in three parts.

1) Physical assets which are items owned by Council and which have a positive economic value.

2) Physical assets owned by Council which have costs but do not have associated revenue. These are 'negative value assets'. This is primarily the closed Atawhai Landfill.

3) Agreements for delivery of services which will restrain expenses in the future and which also utilise privately owned assets.

1) Physical assets under the management of Solid Waste (positive value)

Asset	Quantity	Replacement cost	Remaining 'life'
Cast iron streetlitter bins that do not tilt (excluding the metal liner)	25	$100k	11 yrs
Cast iron streetlitter bins with seagull proof lids that do not tilt	49	$254k	15 yrs
Metal bin liners	163	$25k	1-2 yrs
Metal rubbish bins that tilt for emptying	43	$104k	6 yrs
Plastic rubbish bins which hook onto existing posts	34	$6k	2 yrs
Brazier style refuse bin	7	$13k	10
Transfer station compaction Hoppers	1	$1.2M	15 yr (partial replacement of hopper walls etc)
Nelson Waste Recovery Centre (NWRC) building over the hopper area including Gantry crane for loading bins of compacted refuse or greenwaste onto trucks	1	$1.5M	25+
Post-compactor cartage containers	7	$350k	5-7 yrs
NWRC recycling area barn	1	$450k	25+ yrs
NWRC recycling area old sorting shed.	1	$380k	25+ yrs
NWRC kiosk building	1	$250k	10+ yrs
Residential recycling bins 240 litre	19475	$745k	5-7 yrs
Residential recycling bins 120 litre	2785	$105k	5-7 yrs
Stainless steel recycle bins in CBD and sports fields	4	$50k	9 yrs
Total		**$5.53M**	

Table 1 : Solid waste assets (excluding land) highlighted in red indicate replacement within the term of the AMP. These include metal bin liners, some rubbish bins, cartage containers and residential recycling wheelie bins. The replacement capex renewal cost within this AMP is approximately $1.9M.

2) Atawhai Landfill (Negative value asset)

The Atawhai landfill was closed to new disposal in 1987 and incurs no Emission Trading Scheme (ETS) or waste levy costs. However post-closure emissions require testing, emission monitoring, and maintenance of wells, which are all costs without an associated revenue (current opex $30k p.a.) As the landfill can only continue to accrue costs and risk, without any tangible benefit to Nelson, this is considered a negative value asset.

There are also potential risks to land and stakeholders which could cost Council in mitigation. (Detailed in Focus area 15 of the AMP)

3) Contracts and agreements for services

Contracts and agreements for services are a financial guarantee of service and therefore have a value in their future service to be provided. Operational experience and knowledge of the methodology is in itself an asset, which negates the need for conducting trials when developing future agreements and contracts. The transfer station kiosk is managed by Council staff.

	contract	**expiry**	**Who**
Street litter including tidy town	2906	Expires 2021 RFT is scheduled	Nelmac
Recycling	2974	Expires 2023. RFT is scheduled	Nelmac
Transfer Station	4018	5+2+2 until 2029	Fulton Hogan

Table 2: Contracts and agreements providing services to solid waste. A Request for Tender (RFT) is scheduled at least nine months in advance of the expiry of the existing contract.

Key Issues

The following presents the key issues of solid waste and the proposed solutions and management practices relating to those issues. These are detailed in individual focus areas in section 6 of the AMP. Management of each of these issues will be through innovative waste management solutions that are economically and environmentally efficient, taking into account carbon emissions, social responsibility and community engagement.

1. **Meeting the JWMMP target of 10% per capita reduction in waste by 2030.**

A 10% reduction will require significant engagement with residents, new services and solutions, and better recycling and reuse. The waste minimisation programme provides a toolkit including education and engagement and behavioural change programmes. There are incentive programmes such as grants and subsidies, and also opportunities for collaboration with our community to both avoid the creation of waste, and through better waste disposal choices to reduce waste to landfill.

It is projected that the proposed kerbside kitchenwaste service could annually divert over 4,000 tonnes of organic material from landfill. This would be 75% of the JWMMP 10% target. The diversion from landfill of construction and deconstruction material which is estimated at over 1,500 tonnes, and the annual diversion of 700 tonnes of tyres would raise the combined diversion to over 6,000 tonnes. These three activities would potentially achieve the 10% target several years earlier than expected.

2. Supporting a culture where people choose not to create waste

A clear statement in the JWMMP is that community collaboration to effectively avoid or reduce the creation of waste is a critical part of achieving our goal of a 10% per capita reduction by 2030. For this reason, waste minimisation activities are a key component of this plan, with an updated allocation of resources to reflect the importance of this area. The global and national understanding of the importance of circular design and economy is also reflected in these programmes, with closing the loop on resource use being an underpinning principle.

The waste minimisation work programme will address several key areas:

- Leadership – Council Walking the Talk
- Community – enable a culture where people choose to reduce or avoid waste.
- Individual priority waste streams identified on an annual basis based on data and strategic priorities – for example, food waste, single use plastics, textile waste and construction and demolition waste.

A priority within this area is the need for collaboration with the community, from partnership with Tasman District Council to deliver the JWMMP, to working with Iwi, business and industry, community groups and schools. Waste minimisation programmes will use a range of tools including education, platforms for collaboration, support for school engagement through Enviroschools, grants and subsidies, and individually designed activities to support change and enable our community. The tools and resources in this work area will also be used to support other solid waste outcomes such as changes to kerbside recycling and reducing littering.

3. Impacts of Climate Change

Managing the impacts of climate change, particularly the more intense storms and sea level rise are considered in the AMP. Solid waste services will not be significantly affected by the medium-term impacts of climate change. Consideration has been given to the impacts on assets such as the NWRC and the Atawhai landfill, of sea level rise and the predicted increase in storms. It is proposed that during the term of the AMP that council keep abreast of climate change information so as to guide any future risk assessment.

4. Greenhouse Emissions through Solid Waste operations

Solid waste is not directly responsible for the emissions produced by the collections, because the emissions are produced by the contractor. However the AMP presents a holistic approach and considers the emissions from all of the services provided under contract, rather than diverting emission responsibility onto the contractors. The AMP presents opportunities for council to achieve quantifiable climate change mitigation through the reduction of greenhouse gas emissions from diverted waste and collection services.

Examples include the diversion of food waste from landfill, and engagement activities to reduce domestic food waste. The NWRC annually diverts 1,400 tonnes of greenwaste from landfill. This material is locally processed in an aerobic (does not produce methane) open windrow system, which produces compost for sale. The quantity diverted from landfill will increase as the cost of refuse disposal increases.

It is proposed that Solid Waste reduce emissions through less vehicle usage and eventually the inclusion of zero emission vehicles in all future collection contracts.

Further emission reduction will be through the diversion of emission producing material that is presently being disposed of to landfill. This includes kitchenwaste, mixed greenwaste and refuse loads from the transfer stations, and construction and demolition waste.

5. **Streetlitter**

The CBD street litter bin collection is currently a low-technology waste collection system. The emptying of the CBD bins is a manual process which puts significant physical strain on the collectors. Due to the design of the bins they cannot be partially modernised. Improvements require a complete replacement.
It is however proposed that the bins be replaced with solar-powered compacting bins. The existing bins could be re-purposed into other locations around the city (such as parks). The solar bins could be purchased, leased, or leased to own thus potentially avoiding a significant capex expenditure. Procurement options will be explored in the term of the AMP. As the bins have a larger capacity they will require less frequent collection, which reduces city traffic disruption, vehicle travel distance, and hence emissions. The bins also have side panels which are appropriate for messaging and community education. Solar bins are a Smart little City solution to pedestrian refuse in the CBD.

6. **Recycling**

Nelson City Council, and its contracted service delivery partners are only directly involved in the kerbside collection and sorting of the recyclable materials. Actual recycling occurs 'downstream'. The present contracted residential collection service, which expires in 2023, includes shared financial risk relating to commodity prices and the wheelie bins. The bins require replacement mid-AMP, and are projected to be supplied by the council at a capex spend of up to $1M. Future contracts may include the requirement for bins to be supplied by the contractor, along with quantifiable emission reduction through zero carbon collection vehicles.

Waste minimisation will also include engagement at a national as well as at a local level to promote the removal of the non-recyclable plastic types from the consumption stream as well as the waste stream. This will improve recycling commodity recovery ensuring that resources are managed to contribute to a circular economy. This will also entail council engaging with commercial as well as residential waste producers. In Nelson collection of recyclables from commercial premises is on a user-pays basis. It is proposed that a review be conducted to validate the proportion of actual recycling which occurs following the user-pays collections.

7. **Product Stewardship**

Product Stewardship is a central government directed policy which will lead to compulsory recycling for products including packaging, plastics, e-waste and tyres. An example of product stewardship is a 'container deposit' which guarantees a refund value for set commodities.

Recycling
As the collection methodology may be included in product stewardship this will potentially influence the costs of the recyclable collection. Due to the guaranteed value for returning certain items community groups and charities may use this as a fund-raiser creating competition for high value recyclables resulting in kerbside being only the low value materials. This could lead to higher contract costs or more shared risk costs to council.

Tyres
Product stewardship will require the recycling of tyres or the use of the Golden bay Cement tyre incineration plant. Golden Bay Cement have an operational plant in Northland and have received $13M from central government for a South Island plant. Presently tyres are cut or shredded and disposed to landfill. Council will assist in the establishment of tyre collection for recycling and divert existing tyre collection systems to the tyre recycling service and will maintain an association with any such private enterprise to ensure close management of the site and to avoid the 'Tyre Mountains' that have developed in other regions.

E-Waste
Product stewardship will require recycling or reuse of e-waste. Council has developed a strong relationship with local community groups which it has supported through e-waste recycling subsidies and grants. Nelson Environment Centre (NEC) have expressed an interest in expanding their e-waste recycling at the NWRC which will provide a local solution and local employment.

8. **Construction and Deconstruction**
Currently unsorted materials from construction sites are disposed to landfill. This is primarily due to the labour-cost of sorting the materials. It is also common practice that buildings are demolished rather than deconstructed. There is an identified need for a methodology to divert the materials and to encourage the deconstruction of buildings. It is proposed to further the work of waste minimisation with the building sector and to assist the communication and cooperation between the construction sector, the deconstruction sector, and community groups. The aim is to divert materials generated at construction and deconstruction sites away from landfill. The community groups are presently developing sites from which they can use or re-sell the materials. While this reduces emission producing tonnage from landfill it also has identifiable social outcomes in employment, and training. One group intends to build houses for donation with construction waste. Council will be the conduit between the companies and groups but will not establish the sites or purchase any assets to facilitate this.

9. **Community expectations and Government priorities.**
The AMP considers how to respond to the community expectations, and national government and council priorities, which have demonstrated an increased priority for waste reduction, and better management of all waste streams.

Kitchenwaste
In the 2020/21 annual plan submissions there was significant support for a kerbside kitchenwaste collection service. There are a range of potential collection and processing options to be considered early in the term of the AMP.
At the completion of the 2020/21 trial a review will be conducted, and if it is the decision of Council to proceed, Expressions of Interest will be sought so that the processing system that most aligns with Council policies and priorities can be pursued. Kitchenwaste will potentially have the largest single-activity effect on tonnes to landfill and also on carbon emissions. It would also increase operational expenses. However it is presently projected that, as per the financial summary, the collection and processing costs would be offset by the increase to the central government waste disposal levy. This increase in the cost of disposal will provide solid waste with the required increase in revenue.

CBD Recycling

There has been strong interest in a recycling service in the CBD. The expectation is that pedestrians should have access to recycling rather than only to refuse bins. Previous CBD recycling has been less than successful due to contamination. This has included items such as foodwaste, mattresses, furniture, hazardous products, gas cylinders, and packaging from commercial deliveries. It is proposed to place alongside some of the solar compacting other solar compacting bins dedicated to recycling. Due to the narrow mouth bin design this reduces the opportunity for contamination. It is further proposed that there be sited in the CBD at least two 'reverse vending machines'. These machines can only accept bottles, aluminium cans, and some plastics. Due to the machine's association with the container deposit scheme it also rewards the recycler through phone credits or donations to charity.

Levels of Service

Table 3: levels of service

ACTIVITY	COMMUNITY OUTCOME	LEVEL OF SERVICE	PERFORMANCE MEASURE	PERFORMANCE TARGET			
				21/22	22/23	23/24	24/25
Waste minimisation engagement programme	Our unique and natural environment is healthy and protected Our communities are healthy, safe, inclusive and resilient	Whole community engagement	Reduction of waste per capita by 10% by 2030	Total waste less than 565Kg /capita	Total waste less than 545Kg /capita	Total waste less than 525Kg /capita	Total waste less than 500Kg /capita
Divert materials from landfill	Our unique and natural environment is healthy and protected Our infrastructure is efficient, cost effective and meets current and future needs	Maximise the diversion of reusable resources Maximise the diversion of organic materials	Increase in diverted tonnes through e-waste, reuse shops, etc	Create 2021 baseline	Increase of 2% above 2021 baseline	Increase of 3% above 2021 baseline	Ongoing 4% above 2021 baseline
			Reduction in Greenhouse gas emissions (through greenwaste diversion)	NWRC greenwaste diverted More than 1115t /yr	NWRC greenwaste diverted More than 1142t/yr	NWRC greenwaste diverted More than 1171t/yr	NWRC greenwaste diverted More than 1200t/yr
			Quantifiable diversion of general organic material from landfill.	Reduction from previous year	Reduction from previous year	Reduction of 5% from 2019 JWMMP organic	Reduction of 6% from 2019 JWMMP organic
Managing and reducing street litter	Our unique and natural environment is healthy and protected	Streets are clear of litter	Reduction in justifiable complaints	Reduction in Service requests	Reduction in Service requests	Reduction in Service requests	Reduction in Service requests

	Our infrastructure is efficient, cost effective and meets current and future needs		Litter removal services are provided promptly	Reduction in complaints	Reduction in complaints	Reduction in complaints	Reduction in complaints	Reduction in complaints
			Reduction is greenhouse gas emissions associated with providing services	Reduction in line with council targets	Reduction in line with council targets	Reduction of 200t CO_2 /yr from 2020 calculation	Ongoing Reduction of 200t CO_2/yr from 2020 calculation
Provision of domestic kerbside recycling collection service	Our unique and natural environment is healthy and protected Our infrastructure is efficient, cost effective and meets current and future needs	That all residents have reliable access to a kerbside collection service Appropriate materials are managed in accordance with Council policies	Contractual expectations relating to safety and working standards are maintained.	Reduction in service requests relating to collection	Reduction in service requests relating to collection	Reduction in service requests relating to collection	Reduction in service requests relating to collection
			Glass is colour sorted	Higher than 95%	Higher than 95%	Higher than 95%	Higher than 95%
			Community is educated on sorting and cleaning recyclable materials	Contamination less than 179t/yr	Contamination less than 174t/yr	Contamination less than 169t/yr	Contamination less than 164t/yr
Nelson Waste Recovery Centre (NWRC) Refuse and Greenwaste	Our infrastructure is efficient, cost effective and meets current and future needs	That residents have access to a facility for the disposal of residential and light commercial refuse	Transfer station meets contractual operational expectations in regard to service and safety	No contractual failures	No contractual failures	No contractual failures	No contractual failures

Future Demand

Future demand for Solid Waste services can be viewed as;

1) Demand according to volume modelling in relation to existing services.

2) Demand according to new expectations from residents.

3) Demand from central government or council guidance.

Considering existing services, combined with demand volume modelling, it can be determined that Nelson's growing population and future residential development in the city centre, combined with the existing trend of an increase in waste per capita, is likely to lead to an increase in service demand for existing waste services.

There is also a need to model demand according to expectations from the public for new waste management systems. These include services such as foodwaste or kitchenwaste, greenwaste, e-waste, and residents have also expressed more interest in being informed about what happens to the collected recyclables. There is a, not unreasonable, expectation that not only should recyclables be collected but that they should also be recycled safely and responsibly. Recent local and national coverage relating to exporting of recycling, plastic bags, and environmental impacts of waste has raised awareness but also expectations that these products will be recycled in a socially and environmentally responsible way. However generally residents are looking to council for the solutions rather than individual residents taking financial or operational responsibility for their own waste. A key part of managing this expectation will be the need to build community capacity to avoid or reduce waste and develop a circular economy approach to how resources are used in the future.

As an example of expectations; Central government priorities are focussed on a reduction of carbon emissions through less waste to landfill and steps towards a circular economy. Residents generally want a service of waste management which removes their waste while meeting their environmental or social concerns.

The needs of both parties may be influenced at a national level by activities such as the introduction of a mandatory product stewardship scheme and broadening/increasing waste levy activities. However at a local level this will involve developing a collaborative approach between council and residents, supported by tools and resources to enable our community to avoid/reduce waste.

Management of both expectations and demands requires an accurate and ongoing measurement of waste from each source, with the results guiding management or planning for the most effective means for service delivery. For this reason we require more data collection from previously unrecognised diversion, such as re-use shops, and to be engaged in the York Valley landfill waste assessments and administrative decisions relating to disposal codes and customer disposal criteria. This is further defined in monitoring and improvement section of the executive summary.

Lifecycle Management Plan - Assets

The historical strategy has been to maintain and the replace required assets, usually with a like-for-like, while following a policy of appropriate end of life management. However ownership of an asset restricts operational options. The purchase of an asset

with a 10 year lifespan ensures the activity will be completed for that timespan in that manner. This limits the introduction of improvements or new technologies and where after a period of time, if an asset fails to align with council intentions, financial reasons limit options for asset renewal.

Because in some areas of solid waste technology is advancing quickly, providing solutions to an innovative and rapidly moving market, the AMP proposes a change to the traditional asset ownership model.

Although this is a significant change from the approach in the previous Solid Waste AMP this plan proposes that asset ownership be reviewed against alternative financial options such as lease, lease to own, or potentially included in the service contract and to be supplied by the contractor. This would allow the greatest flexibility and offer the greatest opportunity to be at the forefront of technology and environmental improvements. The review would identify increases or decreases to costs, and determine whether a capex or opex model would be the most appropriate.

It is proposed that assets be managed in relation to their efficacy in delivering the required services. Where an asset is failing to meet the required operational standard a full review will be conducted into the purpose of the asset and whether it should be removed, modified, or replaced. Exact replacement would only occur if the asset is contemporary technology, or consideration would then be made as to whether this was an opportunity to adopt an alternative option of technology. This review may nullify the need for the asset or it may result in the asset being altered, substituted or supplied as part of a service contract.

Existing assets will be maintained in line with existing plans through the term of their asset life with appropriate maintenance in line with the asset use, and then disposal will be in line with both the AMP and the waste hierarchy. Assets will be repurposed where possible, recycled as required, and disposed of in a manner that is both environmentally sound and economical.

Significant asset replacements during the term of the plan are indicated in Table :1 which includes at least part of the hopper and compactor mechanism at the NWRC. There has been little technological improvement since its instigation so this is proposed for this to be a like-for-like capex replacement. Replacement of the kerbside recyclables wheelie bins in 2024-25, could possibly be changed to being part of the new service contract and thus become an opex spend, while the old bins would be recycled. Streetlitter bins are due for a technology upgrade which is designed to improve both the collection service and lower the collection emissions. There are lease options for alternate bins so streetlitter bins may become either opex or capex. Once replaced, the stainless steel CBD recycle bins will be repurposed.

Lifecycle management plan - Services

Solid waste has services which are performed on behalf of council through service contracts. These include the recyclables collection service, the streetlitter bins, water blasting in the CBD, and the refuse hoppers and cartage for the Nelson Waste Recovery Centre. (Table 2)

The services performed on behalf of solid waste are managed through effective contract management. The contract management of services has its own lifecycle with contracts

being produced to align not only within existing council policies but to recognise the importance of the Long Term Plan (LTP). This has allowed a pro-active approach such as when recent contracts have included social outcomes and emission monitoring prior to these being a formal procurement requirement in council contracts.

In future contracts the length of the contract term and the conditions of the contract will be sufficiently agile to take into account the environmental direction of the policies of central government, as well as supplying certainty of service.

During the life of the contract the working relationships and close contract management intends that all parties are aware of the political, social, and economic environment under which they operate. The contracts maintain a cooperative approach which ensures the use of appropriate technology, that service is of the required standard, and which also considers the ongoing viability of the contractor.

Prior to the end of any contract the service and the contract are reviewed to determine the improvements to services that could be applied to any future contract. This provides the opportunity to include expectations such as zero emission collection vehicles, social outcomes, and potentially improvements in health & safety or technology.

All contracts are developed, evaluated, awarded, and managed in line with Nelson council policies and procedures which ensures a coherent, cooperative document.

Risk Management Plan

The AMP considerations of risk management planning and significant risks includes following.

Nelson City Council is committed to using risk management principles and techniques to understand and appropriately manage all internal and external factors and influences which affect the achievement of its objectives. Doing this will:

1. Provide a reliable basis for sound decision making
2. Increase the likelihood of achieving objectives
3. Provide an agreed basis for prudent risk taking
4. Enable the organisation to understand the level of risk associated with each decision as well as the Council's aggregate exposure to risk
5. Improve accountability and assurance of control
6. Enable the Council to avoid threats and seize opportunities
7. Foster an organisational culture based on reasonable foresight and responsible hindsight.

The Council's standardised risk assessment method explicitly follows the process part (section 5) of AS/NZS 31000:2009.

Risk analysis involves consideration of the sources of risk, their consequences and the likelihood that those consequences may occur.

The following consequences are considered:

- Safety and Health
- Asset performance/Service Delivery
- Environmental/Historical/Cultural
- Financial
- Climate Change
- Political/Community/Reputational
- Relationship with Iwi
- Legal compliance
- Information/Decision support

Consequences of an event are rated 1 - 5 (Insignificant to Extreme). Likelihood is then rated 1 – 5 (Rare to Almost certain) to calculate a risk level rated 1 – 5 (Very Low to Very High).

The objective of risk analysis is to separate the low impact risks from the major impact risks, and to provide data to assist in the evaluation and treatment of the risks.

Table 5: Summary of risks to the main solid waste activities. Consequences of an event are rated 1 - 5 (Insignificant to Extreme). Likelihood is then rated 1 – 5 (Rare to Almost certain) to calculate a risk level rated 1 – 5 (Very Low to Very High).

	Health & safety	Asset performance	Service delivery	Environmental	Financial	Political / reputational	Information / Support
NWRC	Risk of incidents, traffic, residents actions	Hoppers, cranes, buildings, site,	Multiple contracts in place. Strong management required	Risk of environmental incidents from inappropriate residents behaviour	Required machinery replacement or significant site modification	Residents have high expectations of the site	Data collection
Risk rating	3	3	2	2	2	3	1
Greenwaste	Risk of incidents, traffic, residents actions	Dependency on Hoppers, cranes, buildings, site,	FH contract in place for collection and cartage	Risk of environmental incidents from inappropriate residents behaviour	Dependent on a private company for processing	Residents have high expectations of the service	Data collection
	3	3	1	1	2	1	1
Recyclables collection	Kerbside activity has risks partially contracted out.	Service is dependent on Nelmac maintenance	Monitoring systems and close contract management	Risk of collected materials contaminating the environment	Dependency on markets for materials and international agreements	Residential expectation. Political changes influencing collections	Data collection and monitoring and tracking collections
Risk rating	3	3	2	1	4	3	1
Streetlitter	Kerbside activity has risks partially contracted out.	Service is dependent on Nelmac maintenance	Monitoring systems and close contract management	Risk of collected materials contaminating the environment	Disposal site for collected material	Residential expectation	
Risk rating	2	3	2	1	1	2	
Kitchenwaste	Kerbside activity has risks partially contracted out.	Service is dependent on private collector maintenance	Monitoring systems and close contract management	Risk of collected materials contaminating the environment	Disposal site for collected material	Residential expectation	
Risk rating	2	3	2	1	2	2	

Financial Summary

The revenue of solid waste is derived from the Waste Disposal Levy from central government, the 'gate revenue', and also Nelson's share of the Landfill Local Disposal Levy from the NTRLBU. In explanation;

1. The waste Disposal levy (WDL) is a fee charged by central government for waste to landfill. While presently $10 per tonne it will, by 2023, be $60 per tonne. A share (approximately 50% based on population) is returned to the region to fund waste activities.
2. The 'gate' is the revenue derived from the NWRC where residents pay for the disposal of refuse and greenwaste.
3. The Landfill Disposal levy (LDL) is the share Nelson receive from the NTRLBU.

Solid waste activities operate in a 'closed account' with revenue streams which are retained within the activity, in effect making the activity financially independent of council rates. The cost of all projects for solid waste are compiled and the revenue from the waste disposal levy and the gate takings at the NWRC are deducted. The balance is the amount of revenue required from the landfill levy. If this amount is obtained from the landfill business unit the solid waste budget balances without any further revenue being required. Where the landfill revenue is less than expected solid waste activities are adjusted to match ensuring an independently balanced budget.

Councils do not liaise with either the NTRLBU or each other to determine the value of the LDL that they will request. The ability for Council to deliver on its objectives is dependent in a large part by the quantum of the LDL received from the NTRLBU. For the 2021/22 financial year NCC requested $3M and TDC requested $2.7M. Both councils therefore received $2.7M. As this resulted in an effective shortfall of $300k some initiatives cannot be undertaken or have to be delayed, or would have had to be funded from rates. The AMP recognises that in a post Covid-19 environment it will prove challenging to add costs to an already tight financial outlook consequently for each year the program will be moulded to suit the available LDL without the expectation of funding from rates.

Table 6 : Financial summary of solid waste activities

No.	**Opex**	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31
1	Waste minimisation	$357k	$357k	$357k	$357k	$357k	$357k	$357k	$357k	$357k	$357k
2	Nelson Waste Recovery Centre	$1.62M	$1.62M	$1.62M	$1.62M	$1.62M	$1.62M	$1.62M	$1.62M	$1.62M	$1.62M
3	Greenwaste	$126k	$126k	$145k	$145k	$160k	$160k	$160k	$160k	$160k	$160k
4	Recyclable kerbside	$1.43M	$1.43M	$1.7M	$1.7M	$1.7M	$1.7M	$1.7M	$1.7M	$1.7M	$1.7M
5	Kitchen waste kerbside	$200k	$800k	$1.3M	$1.3M	$1.3M	$1.3M	$1.3M	$1.3M	$1.3M	$1.3M
6	Streetlitter	$250k	$225k	$225k	$100k	$100k	$100k	$225k	$225k	$225k	$100k
Subtotal	**Total expenses**	**$3.98M**	**$4.56M**	**$5.34M**	**$5.36M**	**$5.36M**	**$5.36M**	**$5.36M**	**$5.36M**	**$5.36M**	**$5.36M**
7	Gate revenue	$860k	$860k	$860k	$860k	$860k	$860k	$860k	$860k	$860k	$860k
8	WDL	$200k	$1M	$1.4M	$1.4M	$1.4M	$1.4M	$1.4M	$1.4M	$1.4M	$1.4M
9	Streetlitter funded from transport activity	$172k	$225k	$225k	$225k	$225k	$225k	$225k	$225k	$225k	$225k
Subtotal	**Total Revenue Excluding LDL**	**$1.23M**	**$1.8M**	**$2.2M**	**$2.2M**	**$2.2M**	**$2.2M**	**$2.2M**	**$2.2M**	**$2.2M**	**$2.2M**
10	Projected LDL required	$2.7M	$2.7M	$3.1M	$3.0M	$3.0M	$3.0M	$3.1M	$3.1M	$3.1M	$3.0M
	Capex										
11	NWRC hopper and cartage bins partial replacement			$150k		$250		$500			
12	Recycle wheelie bins				$370k	$370k					

Comments; Refer to column 1

1. Waste minimisation projects including; construction and deconstruction $45k, Polystyrene $15k, Minimisation at council facilities $20k, waste minimisation at events $15k, Community engagement $120k, e-waste subsidy $20k, compost subsidy $15k, compost education $25k, Schools $30k, resources $10k JWMMP $31k, SWAP $11K.
2. The NWRC will incur an increase in costs due to the increase in the WDL for refuse disposal. This will be directly proportional to the increases in gate revenue, so no increase is demonstrated in this table to either NWRC or gate revenue.
3. Greenwaste disposal costs will increase as the volume diverted from landfill increases (due to the increased refuse disposal costs caused by the WDL).
4. Recyclable kerbside costs starts with existing contract costs and increases in allowance for the use of EV vehicles. This does not include the potential for the wheelie bins being included in the contract. The 2021/23 totals also include an allowance for shared risk relating to variable commodity values.
5. Kitchenwaste It is proposed that a residential kitchenwaste kerbside collection service starts in 2023. The table demonstrates costs to establish the service.
6. Streetlitter includes the lease or lease-to-own of the solar powered compactor bins therefore they are not a capex item. The value in the table is the amount above the existing budgeted streetlitter amount which has been included as revenue (line 9) and is what would be required if a lease option of procurement is used.
7. The gate revenue at the NWRC will increase in direct proportion to the increase in costs of disposal so no increase has been applied to either cost or revenue.
8. The WDL line demonstrates the increase of revenue to Nelson, due to the increase in the WDL from $10 to $60/ tonne. As approximately 50% of the levy is returned to Nelson solid waste activity, by 2023/24 it will return approximately $1.4M/yr.
9. The amount presently budgeted for streetlitter collection in the existing bins. If leased solar bins are instigated the total cost will be the amount in line 6 plus the amount in line 9.
10. The LDL required for Nelson from the NTRLBU. If this amount is not realised activities will be adjusted to ensure that this amount matches the actual LDL for that year.
11. Capex item ‘partial replacement of hoppers and cartage containers is dependent on volumes which produce ‘wear and tear’. If volumes decrease or increase the time to which the cost is applied may move accordingly.
12. As they have not been included in the opex section wheelie bins have been included as a capex item although it is proposed that they be included in the collection contract. Either option has the same bottom line result.

Monitoring and Improvement Programme

The AMP has guiding documents such as the JWMMP which in itself has performance and waste diversion targets. That these targets will be met is taken as a given, but the AMP targets go beyond a reduction in waste. It is the intention of this AMP that the paradigm of solid waste be shifted from waste disposal to waste recovery.

This summary has already stated the need for improved data collection and for decisions to be directed by that data. This does not require any program to be individually economical but that every program should be able to yield an identifiable environmental, economic, social or cultural benefit.

In this AMP there is a strong operational focus which will achieve not only diversion from landfill but the processing of diverted materials in a socially conscious, environmentally sound, and potentially economically sustainable manner. However improvements to the service contracts such as the introduction of new technologies like zero emission vehicles and improved streetlitter and CBD recycling collection systems will also create an awareness of better practice, and encourage residents to take more responsibility for their waste and waste reduction. Community engagement through education, subsidies to encourage alternative waste management such as home composting, and the introduction of a kerbside kitchenwaste service will make residents as aware of waste reduction as they have become about exported recycling.

To achieve this wider program there is a need to review all data, and ensure that the social engagement be sufficiently flexible so as to bring forward or push back projects and to align them with the highest degree of awareness, and to maximise their ability to succeed. This will require a constant updating of data, and set annual reviews of that information. Where a project is not meeting expectations there must be the accepted intent to change or re-focus that activity.

This requires collection of information that is not presently collected or compiled, including the weights and types of diverted material by companies with which Council do not have service agreements. This AMP suggests that a review is conducted to determine the ability or appropriateness of accessing this information so as to build an accurate Nelson-wide picture of all waste streams. This could include a system of reporting by charities or NGOs and also utilisation of landfill information beyond the purposes for which it is presently collected. The cost of this would be aggregated across exiting Solid Waste activity lines.

Nelson City Council
te kaunihera o whakatū

Infrastructure Committee

1 October 2020

REPORT R13687

Hampden Street Closure - monitoring results and next steps

1. Purpose of Report

1.1 The purpose of this report is to summarise and analyse the results of the year-long monitoring and the public feedback on the Hampden Street West trial closure and to inform next steps.

2. Summary

2.1 The Hampden Street/Waimea Road intersection was identified by officers and the Waka Kotahi New Zealand Transport Agency (NZTA) as a high crash risk intersection, with a high risk of crashes involving vulnerable road users which could result in death or serious injury. The public also expressed concern about safety at this intersection through submissions to Council's Annual Plan in 2019 and public forum presentations to the Council Infrastructure Committee.

2.2 Based on the safety concerns, a number of options were reviewed and presented to the 15 August 2019 Works and Infrastructure Committee. Due to the time lapsed and the COVID19 lockdown that full report is appended as Attachment 1.

2.3 Following the decision by the Committee in August 2019, the trial closure of Hampden Street West commenced in October 2019 to see if safety improvements could be achieved. The trial was set to run for up to 12 months with ongoing monitoring of the traffic flows in the area. Council asked for a follow-up report to be presented after six months of the closure, to review the impact of the closure.

2.4 The COVID-19 shut down prevented officers from bringing a follow up report to the Committee within six months of the closure and with very few vehicles on the road all traffic counting was suspended. Monitoring re-commenced on 28 May. This current report considers information gathered to date and the full monitoring report is appended as Attachment 2.

2.5 Data collected to date shows safety improvements but also some concerns about perceived negative impacts. Based on the data and public feedback, officers recommend that the trial closure of Hampden Street West remains in place for a further 12 months to allow the

gathering of more data to guide future decisions. These could include whether to cease the trial or progress a permanent road closure or other measures.

3. Recommendation

That the Infrastructure Committee

1. ***<u>Receives</u> the report Hampden Street Closure - monitoring results and next steps (R13687) and its attachments (A2476129, A2466857, and A2472740); and***

2. ***<u>Approves</u> the continuation of the Hampden Street Closure trial for a period of approximately 12 months, and***

3. ***<u>Notes</u> that any temporary trial traffic measures planned for Locking Street will be discussed with the residents and the Chair of the Infrastructure Committee prior to implementation.***

4. Background

4.1 The report R10230 entitled 'Hampden Street/Waimea Road Intersection Safety Improvements' was presented to the Works and Infrastructure (W&I) committee on 15 August 2019, which resolved as follows:

> *"<u>Approves</u> the installation of trial measures, for an approximate period of 12 months, to temporarily close the entry/exit into Hamden Street (West) from Waimea Road to vehicle traffic as detailed in report R10230; and*
>
> *<u>Notes</u> that the impacts of the trial will be monitored and the results reported back to the Works and Infrastructure Committee before any decision on any permanent road closures are made"*

4.2 Council resolved on 19 September 2019 as follows:

> "*<u>Requests</u> an officer report to the Works and Infrastructure Committee, or its successor, within six months of the commencement of the trial closure of the Hampden Terrace/Waimea Road intersection, evaluating the trial closure".*

4.3 COVID-19 alert levels prevented officers bringing the six month report back to the Committee and all traffic counts were suspended. This report includes all monitoring information gathered since mid-2019, pre and post COVID-19 lockdown.

5. Discussion

Traffic monitoring and analysis

5.1 The traffic monitoring results are summarised in Attachment 2. In summary, the temporary closure of Hampden Street West resulted in nearly 1,500 vehicle movements being diverted to surrounding streets per day resulting in a more appropriate use of the network.

5.2 Traffic counts show the temporary closure increased active mode activity in the area. This increase could be attributed to the temporary closure as a result of the risk at that intersection being mitigated. As an example cycle counts from Kawai Street show daily cycle traffic in the area has nearly doubled from 20 to 39.

Crash History

5.3 In the last ten years (2009-2019) there have been nineteen crashes (three severe) at the Waimea Road/Hampden Street West intersection, often involving vulnerable road users. Since the temporary closure 12 months ago there have been no recorded crashes at the intersection.

5.4 A full report on crashes since the temporary closure for the wider Hampden Street 'area of influence' has been analysed and is included in the monitoring report. The crash history parameters include crashes of all severities, at any time of day and from any cause. Crashes since 6 October 2019 have occurred on Waimea Road; Motueka Street, Franklyn Street, Kawai Street, Vanguard Street, Tipahi Street and Locking Street. None of these crashes appear to be caused by the temporary closure. The crash numbers for the wider area are consistent with previous years.

5.5 Acknowledging that many cycle and pedestrian incidents go unreported, response from the residents and staff living/working near the intersection, who were very concerned about safety pre-temporary closure, is that there have been no "near misses" since the intervention.

6. Public Feedback

6.1 Engagement with and feedback from the community has been sought in a number of ways: direct letters to Hampden Street residents prior to the closure; a residents meeting; letters/emails to 457 local residents in January 2020 to encourage feedback; and the creation of a Hampden St Safety Investigation Shape.Nelson page which had 77 responses. More recently (July 2020) emails were sent to all who attended the meeting requesting any feedback.

6.2 Public feedback on the trial closure of Hampden Street West has been largely positive. Key themes from the stakeholder's feedback indicate positive health outcomes, improved safety for pedestrians and cyclists, no major incidents or crashes since the closure. The opposition that has been voiced includes traffic changes on Locking Street, inconvenience to

through and rat running traffic, and increased pedestrian safety risk on Franklyn Street.

6.3 Support for the continuation of the temporary closure was received in August 2020 from key stakeholders including:

- Fire and Emergency New Zealand
- St John Ambulance
- NZ Police
- Automobile Association NZ
- NMDHB

6.4 Whilst the majority of feedback has been positive, some concerns and some opportunities exist that require a longer trial period for the closure to fully explore and resolve issues. These include creating a sense of 'place' where whanau can meet their tamariki and mingle with other members of the community. The temporary closure presents a further opportunity to improve place making and safety of the cul-de-sac to remove any potential conflict between u-turning and illegally parked vehicles in Hampden Street West at school pick up and drop off times.

6.5 Before the temporary closure of Hampden Street West Locking Street carried an average of 250 vehicles per day (ADT). Post-closure Locking Street carries an average of 328 vehicles per day. Feedback from Locking Street residents suggests that increased daily traffic volumes have impacted on their feelings of safety, especially in regards to active mode users and the perceived increasing conflict with motor vehicles in the shared road space. The average increase in vehicle movements in the morning 2 hour peak during school term is 16. The average increase in the afternoon 4 hour peak during school term is 15 (the morning peak is 7am to 9am and the afternoon peak is 2pm to 6pm). Further analysis shows this equates to an average increase of 5 vehicle movements per hour at peak times on Locking Street. The daily increase in traffic movements during school term is 160 vehicles. With only 31 of the increase accounted for in the peak hours, clearly the majority of the traffic movement increases are outside of peak hours.

6.6 The speed data from Locking Street indicates general non-compliance with the signposted 30kph limit, with 37kph northbound and 36kph southbound as the recorded 85th percentile averages. Some concerns about speed were raised prior to the closure of Hampden Street West. Council officers propose to investigate the possibility of further traffic calming/rat-running deterrents for Locking Street and to discuss those findings with Locking Street residents to determine next steps in November.

6.7 Feedback from Roundhay retirement complex was that the closure has caused some inconvenience and a lower perception of safety on Kawai and Franklyn Streets for residents.

7. Safety improvements

7.1 The increased traffic volumes on Franklyn Street between Waimea Road and Kawai Street raised community concerns regarding the lack of crossing facilities for pedestrians being unsafe and a barrier to active travel to school. To mitigate this, and until a longer term option is fully investigated, a pedestrian refuge has been installed on Franklyn Street.

7.2 Outside of this project, but occurring during the temporary closure period improvements have been made with a new footpath installed on the western side of Kawai Street, resurfacing of Kawai Street and widening of kerb build-outs at the Kawai Street/Franklyn Street intersection.

7.3 Officers will work with Locking Street residents to resolve their concerns regarding the safety of Locking Street. Tactical trial measures will be used to test their impact and effectiveness. Similar measures will be used at both the intersection of Kawai Street and Hampden Street, and at the temporary road closure location to improve safety and behaviour. Examples of the types of measures which will be considered for trialling include those shown in Attachment 3. These are easily installed and removed as required.

8. Legal considerations

8.1 Under the Local Government Act 1974, Schedule 10, clause 11(b), the Council may temporarily close any road or part of a road to all traffic or any specified type of traffic where, in order to resolve problems associated with traffic operations on a road network, experimental diversions of traffic are required.

8.2 There is no requirement under Schedule 10 of the LGA 74 for the Council to carry out any formal consultation process prior to a trial closure under clause 11(b). As referred to above, however, officers have carried out extensive engagement with people affected by this trial.

8.3 Officers consider that the trial closure may be extended for a further approximate 12 month period under this provision. Officers originally considered that a period of approximately 12 months would be required in order to gather adequate information on the impacts of the trial to support decision making on any permanent solutions. Due to the significant impact of COVID -19 on driver and community behaviour patterns, however, the collection a full 12 months of comparable traffic data has not been possible. Officers consider that a further approximate 12 months is required in order to gather adequate data and other information to inform any decision on a permanent road closure or other measures.

9. Options

9.1 Having considered the monitoring results and public feedback, the following two options for the intersection have been identified - Stop the Hampden Street Closure trial and reopen Hampden Street to full traffic movement or retain temporary closure to allow time to gather more data.

Officers recommend option 2.

Option 1: Stop the Hampden Street Closure trial and reopen Hampden Street to full traffic movement	
Advantages	• No further costs incurred on traffic counts and officer time analysing the results.
Risks and Disadvantages	• Increased safety risk for vulnerable users, such as cyclists and pedestrians will return. • Loss of opportunity to support modal shift. • Lost opportunity for place making. • Encourages inappropriate use of the network. • Requires removal of increased parking on Waimea Road when closure occurred. • Risk that those who have provided positive feedback will feel unheard.
Option 2. Retain temporary closure to allow time to gather more data and explore concerns and opportunities to inform a future decision regarding permanent closure Hampden Street West at Waimea Road	
Advantages	• Retains safety improvements on Waimea Road and Hampden Street West for vulnerable users such as cyclists and pedestrians that have, during the trial period, that have been shown to work. • Retains improvements to the function and appropriate use of the network. • Provides an opportunity for place making. • Allows time to work with community to mitigate the concerns regarding the "knock-on-effects" of the trial closure. • Supports active travel to work/school.

	• Improved amenity and liveability on Hampden Street West and some adjacent streets due to the removal of through traffic. • Provides time to align intersection improvements with the Nelson Future Access Project. • Provides an opportunity to collect more data – traffic, cyclist and pedestrian volume and direction data and allows the opportunity to compare monthly data with like for like (November 2019 vs. November 2020). • Allows time to prepare a robust and fully informed report to inform any future decision regarding permanent closure or otherwise.
Risk and Disadvantages	• The perceived adverse effects for users and residents of Locking Street, Kawai Street North (between Alfred and Franklyn Streets) and Franklyn Street require mitigation and the costs involved with this are not fully understood.

10. Conclusion

10.1 The temporary closure of Hampden Street West has been successful in alleviating the crash risk between cyclists and motor vehicles at the intersection with Waimea Road. The interventions seem to support mode shift by removing the barriers to using active modes in the area but more data is required.

10.2 Based on the data and public feedback, officers recommend that the trial closure of Hampden Street West remains in place for a further 12 months to enable more data to be collected to guide future decisions.

Author: Margaret Parfitt, Manager - Transport and Solid Waste

Attachments

Attachment 1: A2476129 Previous report R10230 15 August 2019 regarding Hampden Street Closure ⇩

Attachment 2: A2466857 Monitoring report for Hampden Street West trial closure ⇩

Attachment 3: A2472740 Examples of temporary speed control and placemaking. ⇩

Important considerations for decision making

1. Fit with Purpose of Local Government

The continuation of the trial closure of Hampden Street West supports work toward the social and economic wellbeing of the Nelson community by enabling the movement of people and goods around the network in a way that creates a safer, more accessible, better connected and more resilient transport system.

2. Consistency with Community Outcomes and Council Policy

This report supports the community outcome: "Our communities are healthy, safe, inclusive and resilient."

3. Risk

Providing the opportunity for feedback by the community on the Hampden Street West trial closure has reduced the risk of making a decision which is not supported by the public. Officers consider that sufficient engagement has been carried out and that additional time is required to trial measures to mitigate some concerns.

4. Financial impact

Continuation of the closure will incur some cost in ongoing monitoring, but this can be catered for within existing budgets.

5. Degree of significance and level of engagement

Trialling the closure was an important change for a relatively large group of people, including nearby residents and businesses, Hampden Street school and Nelson College, as well as pedestrians, cyclists and drivers using Waimea Road. However, in terms of the Significance and Engagement Policy, this is a low cost and reversible decision. It is therefore considered of medium significance.

Throughout the trial period feedback has been sought from stakeholders on the trial through letters and creation of a Shape Nelson page. Further engagement is planned with sections of the immediate community to mitigate concerns they have raised.

At the end of the extended trial a consultation will be carried out before any permanent changes are implemented.

6. Climate Impact

The report recommendation has considered the potential impacts and risks climate change presents to the City. Encouragement or support of active

travel modes which may result in reduced transport emissions and is an example of adaption and leadership.

7. Inclusion of Māori in the decision making process

No engagement with Iwi has been undertaken in preparing this report.

- **Delegations**

The Infrastructure Committee has the following delegations to consider

Areas of Responsibility:

- Transport network, including, roading network and associated structures, walkways, cycleways and shared pathways, footpaths and road reserve, street lighting, traffic management control and parking.

Delegations:

- The committee has all of the responsibilities, powers, functions and duties of Council in relation to governance matters within its areas of responsibility, except where they have been retained by Council, or have been referred to other committees, subcommittees or subordinate decision-making bodies.

Nelson City Council
te kaunihera o whakatū

Works and Infrastructure Committee

15 August 2019

REPORT R10230

Hampden Street/Waimea Road Intersection Safety Improvements

1. Purpose of Report

1.1 To approve a temporary trial for safety improvements at Hampden Street west (between Kawai Street and Waimea Road) that will guide a future preferred option.

2. Summary

2.1 The Hampden Street/Waimea Road intersection has been identified by officers and the New Zealand Transport Agency (NZTA) as a high crash risk intersection, with a high risk of further crashes involving vulnerable road users which could result in death or serious injury. Public concern has been expressed about safety at this intersection as a result of past crashes and through submissions to this Council's Annual Plan.

2.2 Localised consultation with stakeholder groups, local businesses, schools and residents of Hampden Street west and Hampden Terrace has been undertaken to determine the acceptability of implementing a trial restriction on some or all vehicle turning movements at the intersection. This report details the trial options, and the likely effectiveness of these options in reducing the crash likelihood and severity at the intersection.

3. Recommendation

That the Works and Infrastructure Committee

1. ***Receives*** ***the report Hampden Street/Waimea Road Intersection Safety Improvements (R10230) and its Attachments (A2234700, A2215043 and A2231370); and***

2. ***Approves*** ***the installation of trial measures, for an approximate period of 12 months, to temporarily close the entry/exit into Hampden Street (west) from Waimea Road***

to vehicle traffic as detailed in report R10230; and

3. <u>Notes</u> that the impacts of the trial will be monitored and the results reported back to the Works and Infrastructure Committee before any decision on any permanent road closures are made.

4. Background

4.1 An aerial view of the intersection is shown in Attachment 1. There have been injury crashes resulting from collisions between light vehicles and cyclists at the Hampden Street west/Waimea Road intersection due to volumes of traffic, queueing traffic, and drivers letting turning vehicles through gaps, against cyclists travelling downhill towards the City Centre at speed on the left side of northbound stationary or slow traffic.

4.2 There have been a total of 14 reported crashes between 2012 and 2019 and seven of these crashes involved vulnerable road users:

- six crashes were motor vehicle vs cycle crashes, resulting in one serious injury and four minor injuries.
- one crash was a motor vehicle vs pedestrian crash, resulting in one minor injury.
- five crashes involving cyclists have occurred as a result of motor vehicles attempting to enter Hampden Street west by turning right off Waimea Road or by going straight across from Hampden Street east.

4.3 Under-reporting of cyclist and pedestrian crashes can be as high as 55%. Through the Council Annual Plan process a submitter spoke of a first-hand experience of a "near miss" with her child crossing at Hampden Street west, and other near misses have been confirmed by staff of local schools and businesses.

4.4 Officers have been aware of a safety issue at this intersection and some small improvements such as signage and line marking have been undertaken. Any major investigation and subsequent capital work has been delayed pending outcomes of studies into Nelson City's southern arterial connection including the current Nelson Future Access Project.

4.5 Rat-running between Vanguard Street and Waimea Road occurs using Hampden Street west, Kawai Street, Alfred Street and Franklyn Street. This increases safety risks on these residential roads as well as impacting on amenity values. In addition to rat-running concerns in 2014 a petition was submitted to Council which requested speed tables to help control speeds on Hampden Street west in this area. At that time the speed

count data did not support the need for speed humps as an appropriate treatment.

4.6 In addition to the concern regarding safety at the intersection itself, there is community concern about the safety risks having potential for suppressing desirable active travel to school.

5. Discussion

5.1 The aim of this report is to look at ways of implementing effective safety improvements at the Hampden Street west/Waimea Road intersection on a temporary trial basis. The emphasis is on improvements that can be implemented simply and quickly.

5.2 Replacing the existing signalised pedestrian crossing on Waimea Road with traffic signals at the intersection and associated introduction of a "Barnes Dance" exclusive pedestrian crossing phase, has been requested by some members of the community. Modelling shows this could introduce further delays to Waimea Road traffic. Although installing new traffic signals could allow for safe crossing locations for pedestrians and cyclists, it is a high cost option (in excess of $1M). In the light of a larger body of work, the Nelson Future Access Study, currently underway, it is not considered prudent to consider such a large scale and expensive solution at this time. In the interim the existing signalised pedestrian crossing on Waimea Road would remain unaltered.

5.3 Options of grade separation by an underpass or overbridge are outside of the scope of this report and do not address the immediate safety concerns identified for cyclists and walkers crossing Hampden Street west.

5.4 However the current safety risks demand urgent attention and as a result, several low cost but effective options have been developed to mitigate the risk. An outline of Option 1 and 2 trial concepts consulted on is appended as Attachment 2.

- **Option 1: Temporary trial — full closure of Hampden Street west.** Install planter boxes or similar to block entry and exit for motorised vehicles. Carry out line-marking and sign changes to suit.
- **Option 2: Temporary trial — partial closure of Hampden Street west**. Install planter boxes or similar to allow a left turn-out only from Hampden Street. Carry out line-marking and sign changes to suit.
- **Option 3**: **Do Minimum –** Formalise and extend the on-road cycle lane and make it more conspicuous, consult on and remove three parking spaces outside 76-76A Waimea Road, remove yellow hatched box from cycle lane and extend yellow hatching on the traffic lane to improve visibility. Extend No-Stopping lines on Hampden Street west.

5.5 When considering closure of the intersection to some or all turning movements, opinions and preferences from those residents who are likely to be most affected has been sought. Support and acceptance on a local level is important due to the likelihood of drivers from elsewhere parking on Hampden Street west and Hampden Terrace and using private driveways to perform U-turns.

Feedback

5.6 Feedback from residents and businesses on Hampden Street west and Hampden Terrace is shown in Attachment 3. Hampden Street west becomes Hampden Terrace from Kawai Street westward. A total of 22 out of 47 residents and businesses responded to the request for feedback. A summary is provided below:

Option	Responses in favour	% of respondents in favour (rounded)
Option 1 – Full closure	11	52%
Option 2 – Left-out only	7	33%
Neither Option – (apply Option 3)	3	14%

5.7 In addition to residents and businesses in the area the following key stakeholders were consulted;

- Hampden Street School
- Nelson College
- Automobile Association
- Fire Service
- Ambulance service
- Police
- Nelsust
- Bicycle Nelson Bays

Stakeholder feedback is included in Attachment 3 and summarised in table format below.

Option	Responses in favour	% of respondents in favour
Option 1 – Full closure	3	38 %
Option 2 – Left-out only	4	50%
Neither Option – (apply Option 3)	1	12 %

5.8 Officers have discussed options with NZTA regarding this intersection in the context of the Nelson Future Access Study. NZTA advice is to proceed with some intervention given the cycle versus car crash record. In regard to feedback on the specific options NZTA considers it too early for definitive guidance but advised that any option that puts the right traffic on the right class of road (reduces rat running) is likely to align with the outcomes of the Network Operating Hierarchy work that is currently underway.

6. Funding

6.1 The costs shown in the table below include contingency, consultant work to date, line marking, signage, planter placement, safety audit, engagement and communications. The project would be funded through the NZTA "Low Cost / Low Risk" work category and attracts a 51% NZTA subsidy.

Option	Total Cost Estimate
Option 1 – Full closure	$55,000
Option 2 – Left-out only	$55,000
Neither Option – (apply Option 3)	$10,000

7. Monitoring

7.1 Any restriction on movements at the intersection of Hampden Street west and Waimea Road may impact on surrounding intersections such as Franklyn Street/Waimea Road and Franklyn Street /Kawai Street. Pre and post monitoring will be carried out to ascertain the effectiveness of the trial at site as well as consequences elsewhere, and will include camera and tube traffic counts at five surrounding locations. Crashes, traffic volume effects and vulnerable road user safety will be evaluated on an ongoing basis during the trial.

8. Legal

8.1 Under the Local Government Act 1974, Schedule 10, Section 11(b), the Council may temporarily close any road or part of a road to all traffic or any specified type of traffic where, in order to resolve problems associated with traffic operations on a road network, experimental diversions of traffic are required.

8.2 No formal notice period is required by law but Council would carry out in advance of any trial extensive engagement and communication with the wider community to advise of the trial.

8.3 Officers consider that a trial closure for a period of approximately 12 months can be considered as "temporary" closure under 11(b) Schedule 10 provided that it is supported by good reasons, such as the need to gather adequate information on the impacts of the trial to support decision making on any permanent solutions.

9. Options

9.1 Three options were analysed as detailed in item 5.3. Option 1 is the preferred option.

Option 1 (Preferred): Temporary trial — full closure of Hampden Street west	
Advantages	• Complete removal of all vehicle turning movements in and out of Hampden Street west will provide significant safety benefits which target the cyclist crash issue. • Complete removal of all vehicle turning movements in and out of Hampden Street west will provide significant safety benefits for pedestrians crossing Hampden Street west. • In predictive safety modelling, full closure of Hampden Street west results in greatest risk reduction of fatal and serious injury crashes. • Inability for drivers to use Hampden Street as a rat run will increase amenity. • Resident satisfaction with reduced speeds and traffic volumes. • Significant general intersection safety improvements. • Will allow access/egress for active transport modes only.

Risks and Disadvantages	• Potential congestion issues if drivers drop-off or pick-up school children and carry out three-point turns within Hampden Street west. • Local residents could be concerned at an increased number of reversing vehicle manoeuvres in their driveways. • Potential for knock-on effects in terms of traffic volumes and crashes (crash migration) on nearby intersections, particularly the Franklyn Street/Waimea Road intersection.
Option 2: Temporary trial partial closure of Hampden Street west	
Advantages	• Elimination of problematic vehicle movements (in terms of actual crashes and crash likelihood), which will prevent right turn-in, straight across, and right turn-out of Hampden Street west. • Restricted vehicle turning movements into and out of Hampden Street west will provide some safety benefits for pedestrians crossing Hampden Street west. • Rat-running reduction and increased amenity, although there is a possibility that some drivers would still attempt entry into Hampden Street, particularly during off-peak hours.
Risks and Disadvantages	• Left turn-out from Hampden Street west would still cause a potential conflict and safety issue with exiting vehicles versus downhill cyclists. • Potential for knock-on effects in terms of traffic volumes and crashes (crash migration) on nearby intersections, particularly the Franklyn Street/Waimea Road intersection.
Option 3: Do the Minimum	
Advantages	• Low cost and potentially long lasting. • Improves the on-road cycling facility and visibility of cyclists using it. • Improved road marking will clarify the legal aspects of the current marked cycle lane arrangement. • Minor intersection safety improvements.
Risks and Disadvantages	• Removal of three parking spaces.

	• Does not remove the turning movements which have been the cause of numerous injuries.

10. Conclusion

10.1 Full closure (Option 1) for a period of approximately twelve months is preferred as it provides the most significant safety benefits targeted towards vulnerable road users. A period of public engagement is required before implementation to raise awareness of any trial closure.

11. Proposed Next Steps

11.1 Carry out detailed design, safety audit and source material (planters etc) - September 2019

11.2 Public awareness campaign. A full communications plan will be implemented. It will include school newsletters, public notices, Our Nelson, VMS boards, radio, social media, letters to key stakeholders. To commence early September 2019.

11.3 Carry out pre-implementation monitoring – August/September 2019.

11.4 Implement trial – October 2019 (during school holidays).

11.5 Full assessment of trial after 12 months to determine long term suitability – including traffic counts, crash patterns, feedback from residents and schools and other stakeholders – September/October 2020

11.6 If appropriate and permanent closure is the best solution a programme of works will be set in place to make this happen and this will include a Special Consultative Procedure.

Author: **Andy High, Senior Engineering Officer**

Attachments

Attachment 1: A2234700 Aerial view of Hampden Street/ Waimea Road intersection

Attachment 2: A2215043 Location and options

Attachment 3: A2231370 Feedback re Hampden Steet closures

Important considerations for decision making
1. Fit with Purpose of Local Government Improving the safety of this intersection will promote the social and economic wellbeing of the community. Carrying out a low-cost trial by using planter boxes and road marking changes to prevent access to/from Hampden Street West will allow the public to provide feedback (and contribute to local decision making) prior to investment in a permanent solution.
2. Consistency with Community Outcomes and Council Policy Road safety improvements support the following community outcome: 'Our infrastructure is efficient, cost effective and meets current and future needs'. This project is also closely aligned with the Road Safety Action Plan in the Transport Asset Management Plan 2018–2028, which includes the following objective: 'Achieving safer outcomes by working with communities to identify and deliver local land transport safety programmes and activities.'
3. Risk Closing vehicular access between Hampden Street West and Waimea Road, or limiting turning movements, has a strong likelihood of reducing crashes at this leg of the intersection, particularly for vulnerable road users. There is a risk of local residents being dissatisfied with increased car journey distances and/or vehicle manoeuvring in private driveways.
4. Financial impact The trial is a low-cost option as it involves re-use of existing planter boxes to close the Hampden Street West access to Waimea Road. If the trial is shown to be successful after 12 months, construction of a permanent full closure/cul-de-sac is estimated to cost $200,000 and can be funded from Low Cost/Low Risk. It is anticipated that a permanent solution which has been shown to improve safety at this section would closely align with the Government Policy Statement's safety criteria and would therefore attract a 51% subsidy by NZTA.
5. Degree of significance and level of engagement Trialling a closure is an important change for a relatively large group of people, including nearby residents and businesses, Hampden Street school and Nelson College, as well as pedestrians, cyclists and drivers using Waimea Road. However, in terms of the Significance and Engagement Policy, this is a low cost and a reversible decision. It is therefore considered of medium significance.

Therefore, preliminary feedback has been sought from stakeholders on the proposed trial (and the two options). If the Committee approves the proposed trial, further engagement will be carried out with stakeholders to raise awareness about the upcoming changes. At the end of the trial a special consultative procedure will be carried out before any permanent changes are implemented.

6. Inclusion of Māori in the decision making process

No specific engagement with Māori has been undertaken in preparing this report, although Ngati Tama ki Te Waipounamu Trust has been consulted as an organisation located in this area and supported Option 1.

7. Delegations

The Works and Infrastructure Committee has the following delegations to consider road safety improvements.

Areas of Responsibility

Roading network, including associated structures, bridges and retaining walls, walkways, footpaths and road reserve, landscaping and ancillary services and facilities, street lighting and traffic management control.

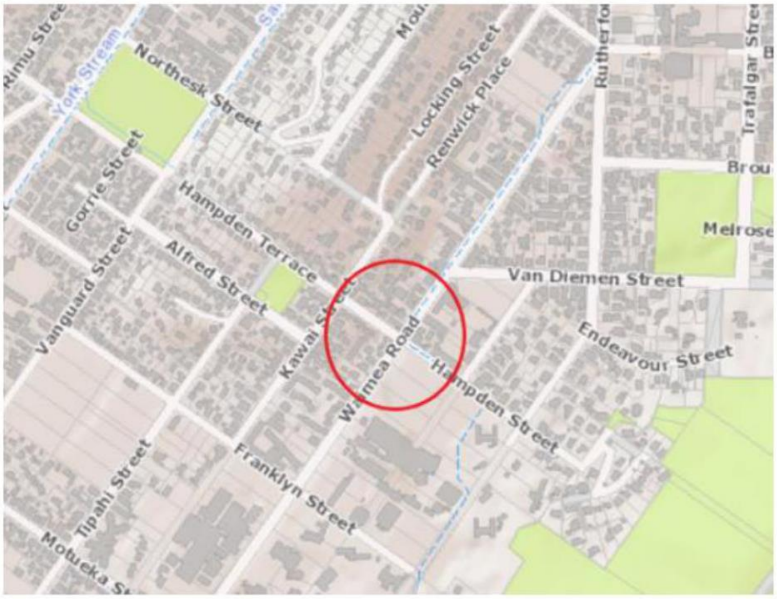
Powers to Decide

To perform all functions, powers and duties relating to the areas of responsibility conferred on Council by relevant legislation and not otherwise delegated to officers.

Item 7: Hampden Street/Waimea Road Intersection Safety Improvements: Attachment 1

11

Attachment 2 : Location and Options



A2232575 Location and Options Attachment 1

Hampden Street (West) Intersection Safety Improvements

Option 1 – Temporary full closure

- Re-use some existing planter boxes to close the road to through traffic and provide a protected pedestrian pathway, including kerb ramps. Install reflectors to make them visible at night.
- Install TURNING DIFFICULT signs at Kawai/Hampden intersection, and NO ENTRY and ROAD CLOSED signs where appropriate.
- Ensure No Stopping lines allow room for turning vehicles.
- Remove Give Way line-marking on Hampden Street West.
- Remove right turn bay and clear zone line-marking (yellow crosshatching) and extend flush median line-marking on Waimea Road.
- Install planter boxes or bollards on footpaths to ensure no unwanted vehicle paths are available.

A2232575 Location and Options Attachment 1

13

Option 2 – Temporary left turn-out only

- Re-use some existing planter boxes to close the road to vehicles entering Hampden Street west from Waimea Road and to provide a protected pedestrian pathway, including kerb ramp. Install reflectors to make them visible at night.
- Install signage and line marking for left-turn-out only
- Install NO ENTRY signs and NO RIGHT TURN signs as appropriate.
- Ensure No Stopping lines allow room for turning vehicles.
- Remove right turn bay and clear zone line-marking and extend flush median line-marking on Waimea Road.
- Install LOOK FOR CYCLES signage for left turn-out movement.
- Install planter boxes or bollards on footpaths to ensure no unwanted vehicle paths are available.

A2232575 Location and Options Attachment 1

ATTACHMENT 2: FEEDBACK ON OPTIONS

OPTION & Description of RESPONDENT	COMMENT
PREFERS OPTION ONE- FULL CLOSURE	
RESIDENTS – Hampden Terrace	Intersection is a bottleneck of traffic, both ways and difficult for those entering and exiting Hampden Street at peak hours.
	Only lived there a short time, but tries to avoid the intersection.
RESIDENTS Hampden Street	Best safety for vulnerable groups especially at peak times. Speeding cars always a problem. Parked cars make it difficult for drivers to see pedestrians crossing the road, especially children. People underestimate high speeds on street, and are using it as a shortcut. Backing out of drives is a game of chance. Council should do everything it can to encourage cyclists in Nelson by improving their safety.
	Happy with Option 1. Thinks it will reduce accidents in the area
	Safer for the kids in the neighbourhood.
	Fully supportive — lived there 24 years. Will improve resident access and deter high speeds. Surprised no one has been killed! Drop-off and pick-up/pedestrian chaos with limited driver visibility.
	Very supportive of Option 1 and has concerns regarding safety of Option 2 for downhill cyclists. For Option 2, he thinks people will still drive into Hampden West irrespective.
	Thinks Option 2 would still be dangerous for pedestrians and cyclists. Has big concern for knock-on effects at Franklyn St, particularly for pedestrians/children.
	Great for the kids especially on school days.

ATTACHMENT 2: FEEDBACK ON OPTIONS

OPTION & Description of RESPONDENT	COMMENT
BUSINESSES	Safest for cyclists and school children. Corner is very congested in the mornings. Also supportive of Option 2.
	Often witnesses issues caused by queuing traffic, speeding cyclists and pedestrians/children crossing small busy space, resulting in some serious and many near-miss accidents. Any inconvenience to access building and carparks will be far outweighed by safety benefits. Also supportive of Option 2.
OTHER KEY STAKEHOLDERS	**Police**: Two-fold benefits of full closure 1. Will avoid city-bound cyclist conflict with turning/crossing traffic. 2. Will prevent conflicts whereby manoeuvring vehicles on Hampden West are at risk of being hit by vehicles turning left off Waimea Rd.
	Hampden St School: Make residents only parking on Hampden West ☐ extend No Stopping lines. For Hampden East he suggests Left Turn-out only. Wants traffic lights re-locating to this intersection. Wants cycleway along the base of Grampians as best safety for school kids.
	Ambulance service St John Ambulance report that they have attended 12 incidents at the intersection between 2013-18 Peak times for crashes they have attended is between 2 and 5 pm. St John main concerns is the congestion caused at this intersection impending the ability of our ambulances to response safely and without delay to potential life threating incidents. Factors for the congestion are the same as in the crashes. St John supports either option, but preferred is full closure. This will differently reduce all factors through intersection.

ATTACHMENT 2: FEEDBACK ON OPTIONS

OPTION & Description of RESPONDENT	COMMENT
PREFERS OPTION 2 PARTIAL CLOSURE (left out only)	
RESIDENTS – Hampden Terrace	Concerns re: usage of alternative routes and migration of safety issues – Kawai and Franklyn intersection unsafe, surfacing of Kawai St, hospital entranceway. Wants traffic lights moved to Hampden/Waimea intersection
	Agrees that local residents will be greatly affected. Alternative routes all pose different problems. Thinks Kawai/Franklyn is dangerous due to poor visibility. Locking St is unsuitable. Wants good signage with Option 2 to direct vehicles onto alternative route to get to Hampden West.
	Her sister (driver of vehicle going straight across Hampden Street) was involved in a crash with a downhill cyclist. Has concerns with parking on Waimea Rd affecting visibility at Hampden West. Accepts that Option 1 may be necessary for safety.
	Thinks Option 1 is too isolating and will cause more accidents at Hampden/Kawai intersection. Thinks that intersection is more dangerous with poor sightlines and vehicles cutting the corner.
	Would be hugely affected by Option 1. Thinks consultation period is inadequate. Wants public meeting before W&I meeting.
	Only lived there a short time, but tries to avoid the intersection.
RESIDENTS – Hampden Street	Would agree to Option 1 if it was widely supported by others.
OTHER KEY STAKEHOLDERS	**Bicycle Nelson Bays** Option 2 would be most preferred but has concerns regarding people using Van Diemen and Hampden St East to perform alternative route to head south on Waimea Rd.

ATTACHMENT 2: FEEDBACK ON OPTIONS

OPTION & Description of RESPONDENT	COMMENT
	Thinks that Option 2 would be best for residents
	Nelson College: Option 2 is preferred but not keen without other factors being considered, although he does accept that Option 1 would be best for safety. Has concerns with both options. Thinks there will be issues with school pick-ups and that there may be knock-on effects on Hampden St East and Franklyn/Waimea. Has concerns regarding existing situation at Kawai/Franklyn and at Kawai/Hampden Terrace
	Automobile Association: Members could live with either option, but suggests that Option 2 be implemented first as it is less disruptive, and then if not successful, move to Option 1.
	Fire Service After a canvas our crews essentially believe option 2 would be most suitable as it would give us the option of entering off Waimea road during emergency response providing the turning isn't too tight.

ATTACHMENT 2: FEEDBACK ON OPTIONS

OPTION & Description of RESPONDENT	COMMENT
NEITHER OPTION PREFERRED	
RESIDENTS - Hampden Terrace	Already major issues — thinks it'll be even more of a nightmare for residents using the route. Delay decision and hold public meeting.
RESIDENTS - Hampden Street	Concerned re insufficient consultation, emergency service/ambulance access. Concerned re emissions caused by additional vehicles down Alfred/Franklyn, u-turning for school drop-offs, intersection working OK now, congestion at Vanguard/Alfred and Franklyn/Waimea. Thinks both options are ridiculous — not aware there is a problem. Thinks that turning restrictions are frustrating and time-wasting. Will be hugely inconvenienced. Why is this suddenly deemed to be an issue? Concern at lack of notice and wants public meeting.
BUSINESSES	Against both options, but alternative design supplied. Sketch provided of an island in the middle of the intersection to limit/direct movements
OTHER KEY STAKEHOLDERS	**NELSUST**: Thinks Option 2 is dangerous due to potential to block cycle lane. Concern about increased use of Locking St, and knock-on effects elsewhere. Wants lights at Franklyn/Waimea intersection and lights/barn dance at Hampden/ Waimea

Attachment 2:

Traffic volume data and analysis

Key Facts:

- Pedestrian movements have increased on Hampden Street West since the closure. In the morning peak in July 2020 there were 212 pedestrian movements compared with only 140 in March 2017. This increase is made more significant by the fact that pedestrian movements are effected by seasonal variances and typically decrease in winter.
- Hampden Street West cycle counts in August 2019 recorded 29 cyclist movements over 24 hours. In July 2020, 96 active mode movements were recorded in the 6 peak hours alone. (Roughly 50% of these were cyclists, the other 50% is made up of scooter and skateboard users).
- There were 167 pedestrians and 45 cyclists/scooters safely crossing Hampden Street West through the closure at peak times.
- Counts show 16 extra vehicles on Locking Street between 7-9am. (August '19 – Feb '20)
- Counts show 15 extra vehicles on Locking Street between 2-6pm. (August '19 – Feb '20)
- There were 738 extra vehicles per day on Franklyn Street between Waimea and Kawai (2791 to 3529) (24h period) (August '19 – Feb '20)
- There were 358 LESS vehicles per day on Alfred Street (1143 to 785) (24h period)

1. A traffic monitoring system was setup for the Hampden Street West trial closure. Pre-closure traffic counts were undertaken in August and October 2019.

2. Post-closure traffic counts started on the first day of the closure, (7 October 2020) and remain in place today.

3. Due to the COVID-19 lockdown vehicle counts temporarily ceased at midday Tuesday 24 March 2020. Vehicle counts

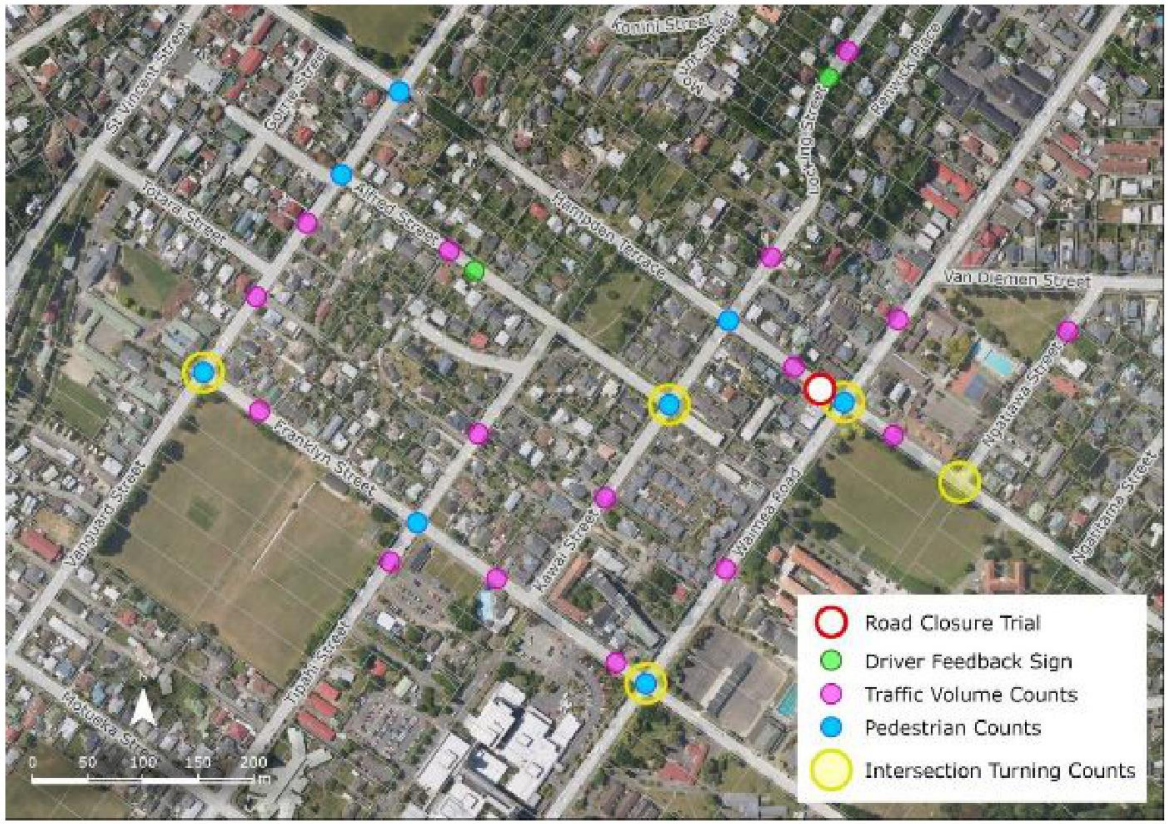
recommenced on Thursday 28 May 2020 whilst New Zealand was under Lockdown Level 3.

4. The data shows traffic volumes reverted to pre-COVID-19 levels during alert levels 1 and 2. However, changing travel patterns, more people working from home, COVID-19 lockdown related restrictions on public transport and the move back to Level 2 alert levels in August 2020 has meant historic traffic volume data and data from March 2020 onwards is difficult to compare.

5. Pedestrian and cycle counts were last carried out on 26 February 2020. In addition, site observations, traffic counts and pedestrian and cycle monitoring were carried out on Hampden Street West at the closure on Wednesday 29 July throughout the peak periods of 7-9 am and 2-6 pm.

6. Historic cycle counts indicate that there was minimal cycle activity on Hampden Street West pre-closure. In 2013, 34 cycle movements were registered in a day, 33 in 2015 and 29 in 2019 (all pre closure). Observations throughout 2020 (post closure) indicate the level of active mode use has risen with close to 100 scooter, skater and cyclist movements observed during the peak hours* in July. *(7-9am & 2-6pm = 6 hours total).

7. The locations of the monitoring points for traffic volume are shown in the image below. *note driver feedback sign provides current travel speed information



8. Vanguard Street, Franklyn Street and Waimea Road all experience traffic volume growth post-closure due to the diversion of traffic away from the local road network onto the roads with a collector or arterial function which represents a more appropriate use of the network

9. With the exception of the COVID-19 shut down traffic volume counts have been in place continuously since the closure which allows for comparison between 5 day (weekdays) and 7 day counts. The weekday counts are higher across the board due to commuter traffic, rat-running, school pick-up and drop-off traffic and hospital traffic.

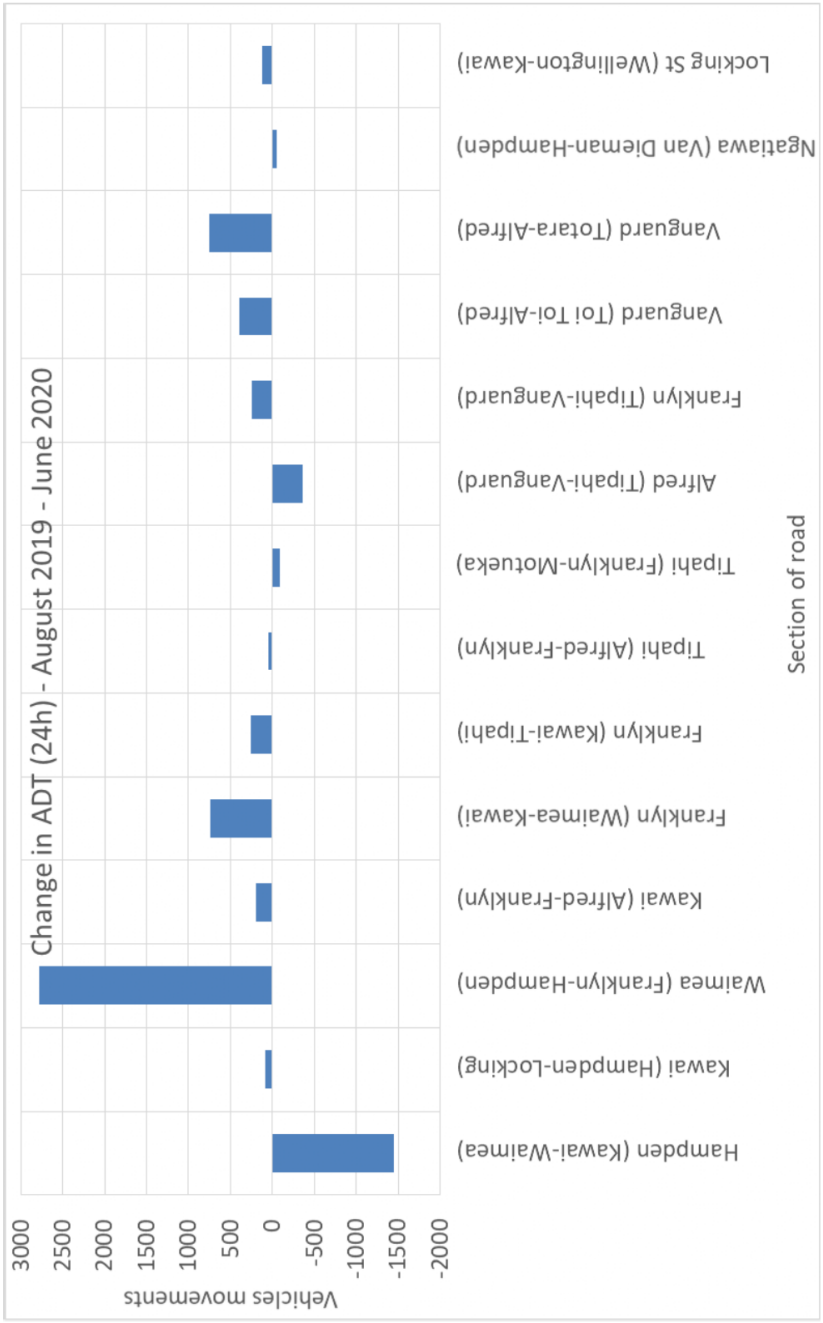
10. The traffic count analysis in this report is done using five days (weekday) counts and school term traffic count dates unless specified.

11. The table below shows the net changes in average daily traffic as a result of the closure. In summary, the closure of Hampden Street resulted in nearly 1500 vehicle movements to be diverted to surrounding streets per day resulting in a more appropriate use of the network.

**The One Network Road Classification (ONRC) is a national NZTA classification system, which divides New Zealand's roads into six categories based on how busy they are, whether they connect to important destinations, or are the only route available.*

Street Name	ONRC*	ADT August 2019 (Pre closure)	ADT June 2020 (post closure)
Waimea Road (Hampden Street-Franklyn Street)	**Arterial**	**18215**	**19264**
Vanguard Street (Alfred Street-Totara Street)	**Primary Collector**	**11415**	**11558**
Franklyn Street (Waimea Road – Kawai Street)	**Primary Collector**	**2791**	**3415**
Tipahi Street (Franklyn Street – Motueka Street)	**Primary Collector**	**1955**	**1794**
Alfred Street (Vanguard Street-Tipahi Street)	**Secondary Collector**	**1143**	**698**
Hampden Street West	**Access**	**1463**	**<50**
Kawai St (Alfred Street-Franklyn Street)	**Access**	**645**	**832**
Locking Street	**Access**	**252**	**373**

12. The table below shows the average daily traffic volumes (on weekdays) pre-closure vs. post-closure. This table demonstrates the increased volumes on some streets are an appropriate use of the network.



[redacted]

Traffic Monitoring Analysis

1. The data is indicating that the people who previously drove up/down Hampden Street West and onto the local road network to avoid traffic on the arterials now continue on Waimea Road and use Franklyn or Motueka Streets if they need to head east/west. This is a more appropriate use of the network.

2. The data indicates that traffic that once used a combination of Alfred Street, Kawai Street and Hampden Streets to make an East/West movement now use Franklyn Street.

3. The data indicates that the removal of the right turn option out of Hampden Street West onto Waimea Road combined with the increase in traffic at the Franklyn Street/Waimea Road intersection has resulted in eastbound traffic using Motueka Street or even Boundary Road to connect with Waimea Road before proceeding south.

4. The data and some feedback from stakeholders indicates that a small number of local residents living in the Alfred St area who used Hampden Street West to head in the city centre now use Locking Street.

5. **Hampden Street West**: The table below shows the distribution of traffic movements along Hampden Street West inside and outside of school holidays, before and after the closure.

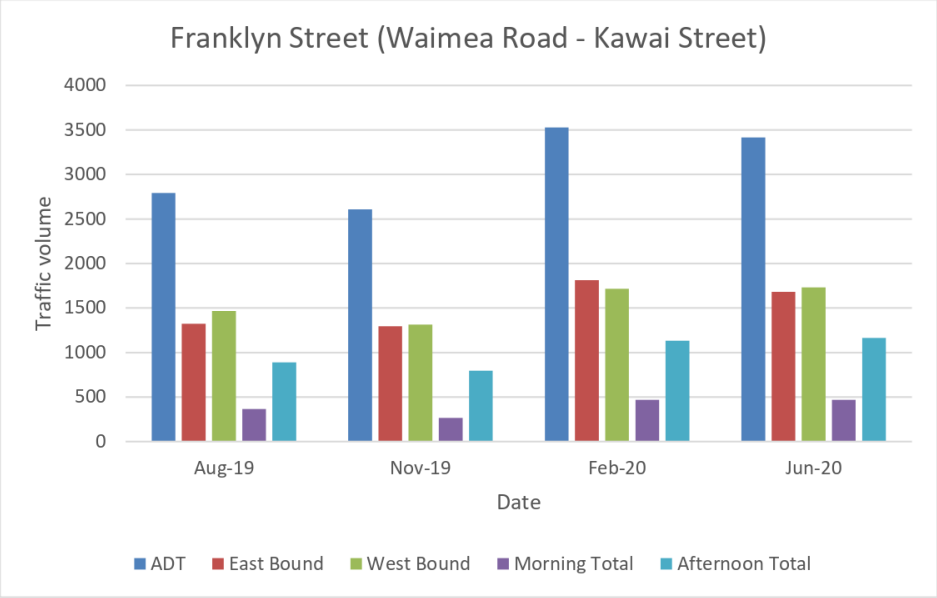
Date	AM Peak 7-9AM	PM Peak 2-6PM	Off-Peak 6PM-7AM & 9AM-2PM	ADT
Pre closure				
August 2019 Term 3	**504**	**499**	**460**	**1463**
October 2019 School Holidays	**103**	**341**	**637**	**1081**
Post closure				
8 Oct 2019 term 4	**1**	**5**	**12**	**18**

6. The distribution of traffic movements on Hampden Street inside and outside the peak hours shows that Hampden Street West was not simply a school traffic street. It carried a significant volume of vehicles off-peak likely made up of a combination of local residents and also 'rat-runners' trying to bypass congestion on the arterial routes.

7. Pre closure, 197 vehicle movements turning left out of Hampden Street West onto Waimea Road (northbound) were recorded in the PM peak. Post closure, the same movement but out of Franklyn Street onto Waimea Road increased by 110. This is likely a redistribution of vehicles that once used Alfred Street.

8. Historic cycle counts indicate that there was minimal cycle activity on Hampden Street West pre-closure. Observations throughout 2020 indicate the level of active mode use has risen with close to 100 scooter, skater and cyclist movements observed during the peak hours in July.

9. **Franklyn Street**: The most noticeable impact on Franklyn Street is the increase in traffic volumes on the section between Waimea Road and Kawai Street North.



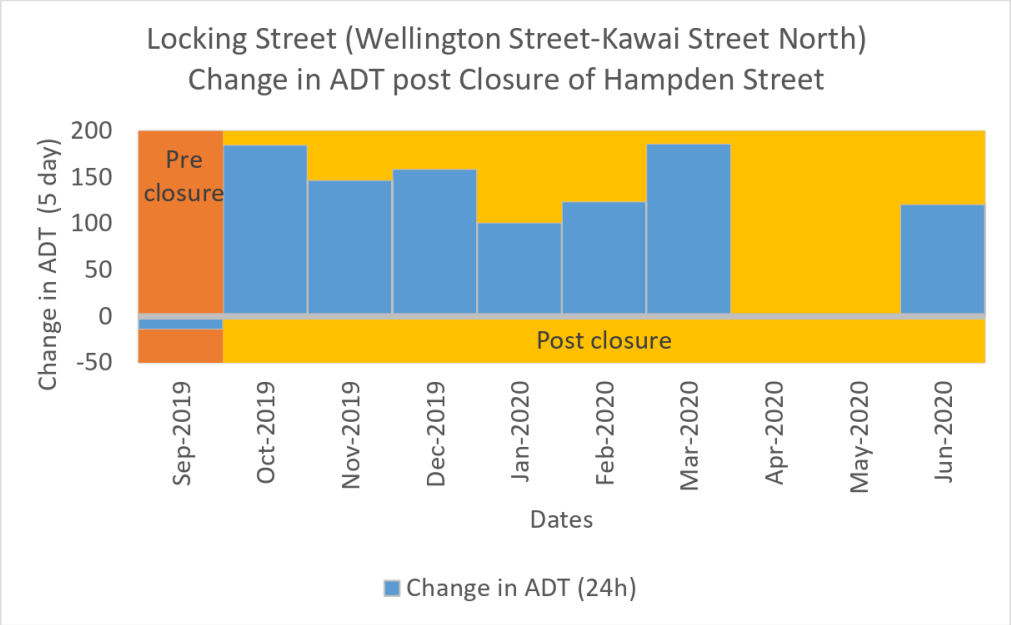
1.1 Counts show traffic exiting Franklyn Street West onto Waimea Road has increased from 545 to 704 vehicles per day. Of the 704 total, 500 of the traffic movements are in the afternoon peak. The data shows that 423 afternoon peak traffic movements are left turns onto Waimea Road (northbound) out of Franklyn Street. The increased traffic volumes on Franklyn Street between Waimea Road and Kawai Street raised community concerns regarding the lack of crossing facilities for pedestrians being unsafe and a barrier to active travel to school. To mitigate this, and until a longer term option is fully investigated, a pedestrian refuge has been installed on Franklyn Street.

10. Traffic volumes entering Franklyn Street West from Waimea Road (both directions) in the morning has been unaffected by the closure. In the afternoon peak there has been an expected growth in right turn movements off Waimea Road (southbound) in Franklyn Street West. The increase was expected because the right turn movement at Motueka Street lights when southbound on Waimea Road is prohibited and when combined with the Hampden Street closure vehicles must use Franklyn Street to head west.

11. Counts indicate that the closure had little impact on traffic exiting Franklyn Street at the Vanguard Street intersection. However there is an increase in the traffic heading South on

Vanguard Street turning left into Franklyn Street in the afternoon peaks. This traffic may have previously used Alfred Street. These traffic flow changes indicate a key movement that has been disrupted by the closure is the West-East movement up Alfred Street and into Hampden Street West. This has been replaced in part by vehicles travelling up Franklyn Street and turning left onto Waimea Road.

12. **Locking Street:** Locking Street pre-closure was carrying in the order of 250 vehicle movements per day. Post-closure, Locking Street has averaged 348 vehicle movements per day.



13. When considering the traffic counts in school-terms, Locking Street carries an average of 374 vehicle movements per day.

14. The morning peak is 7:00 AM until 9:00 AM. The afternoon peak is 2:00PM until 6:00 PM. The average increase in vehicle movements in the morning 2 hour peak during school term is 16. The average increase in the afternoon 4 hour peak during school term is 15.

15. Further analysis shows this equates to an average increase of 5 vehicle movements per hour at peak times on Locking Street.

16. The daily increase in traffic movements during school term is 160 vehicles. With only 31 of the increase accounted for in the peak hours, clearly the majority of the traffic movement increases are outside of peak hours.

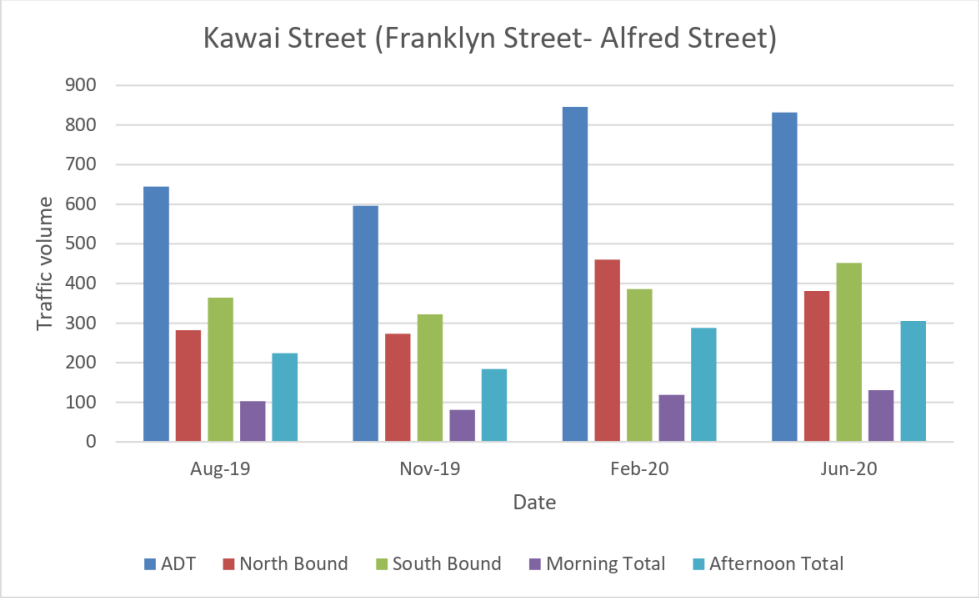
17. **Alfred Street**: Traffic movements in both directions on Alfred Street have fallen significantly, especially during the peak times, suggesting this local, residential street has reverted back to a more appropriate function and traffic volumes since the closure of Hampden Street West.

18. **Tipahi Street:** The major change was on the Motueka Street to Franklyn Street section of Tipahi Street in the afternoon northbound where traffic volumes fell from 276 to 131. In contrast the Southbound PM peak traffic grew by a small margin to 452. This indicates the closure of Hampden Street West has deterred northbound rat-run traffic on the local street network but it has not impacted the rat-run traffic southbound which appears to have simply turned right at Franklyn Street instead of Hampden Street.

19. **Kawai Street North**: On the Hampden Street to Locking Street section there has been a noticeable increase in southbound afternoon traffic movements. This is likely to be rat-run traffic avoiding Waimea Road. ADT increased by 25% (78) to 386 vehicle movements.

20. The section of Kawai Street North between Alfred Street and Franklyn Street has experienced a greater increase in daily total traffic movements, 31% (201) (see chart below). The increase is mostly attributed to the growth in northbound traffic which has risen from 282 to 413 over 24 hours. It is important to note that the growth in the February counts, especially in northbound movements, does not reflect what the majority of counts post-closure show us. December, January, June and July all show the southbound traffic flows as the dominant direction of traffic.

21. Work is needed to help understand why late February-Early March counts are so high on this section of Kawai Street but it is likely due to schools restarting and parents wishing to drop their tamariki off at school in the first few weeks as things settle.



22. Afternoon peak traffic movements increased by 24% in both directions on the Hampden St to Locking Street section of Kawai Street.

Cycle Traffic Analysis

23. Cycle counts at the Alfred Street/Kawai Street intersection indicate that cycle activity has increased post-closure. Cycle count monitoring from March 2013 recorded 54 movements. Cycle count monitoring from February 2020 recorded 71 cycle movements.

24. Following the closure, cycle traffic southbound on Kawai Street North increased from 2 recorded cyclist movements to 20 cyclist movements in the afternoon peak post-closure.

25. 33 cyclists were recorded over 24 hours at the Hampden Street west/ Waimea Road intersection in September 2015. Observations in July 2020 in the morning and afternoon peak alone recorded 96 active mode users with an estimated 50% of these on bikes. Without adding off-peak cyclists it remains clear that cycle activity has increased post closure.

26. The data shows cycle traffic on Ngatiawa Street are largely attributed to school students and some parents/teachers. Cyclist movements have increased heading left out of Ngatiawa St and

also heading straight through heading west on Hampden St. This shows more students are riding to school, a sign that the more appropriate use of the network has supported modal shift.

27. Cycle movements have increased in all direction/movements in the Kawai Street North/Alfred Street intersection area. Significantly more cycles are heading south on Kawai Street N, 12 pre closure, and 30 post closure. Cycles heading north have also increased as have all cycle movements out of Alfred Street which indicates Alfred Street is growing in popularity as a route for active modes (even uphill) likely due to the quieter street environment. It may also be attributed in part to cyclists avoiding the busy Franklyn Street/Waimea Road intersection. Counts show that month on month the traffic volumes have continued to decrease on Alfred Street.

28. Cycle traffic has increased in the majority of movements at the Franklyn Street/Vanguard Street intersection but mostly in line with seasonal (winter-summer) increases.

29. Cycle counts on Kawai Street show an increase in cycle traffic southbound from 20-39 in the peak hours, post-closure of Hampden Steet.

30. On-road counts show a decrease in cyclists turning right into Franklyn Street W from Waimea Road, however, sidewalk counts showed 19 cyclists were on the footpath making this movement. There were also 19 cyclists crossing at the refuge on Waimea Road towards Franklyn Street W. This leads us to believe they were crossing at the pedestrian refuge just north of the intersection and making their way into Franklyn Street, avoiding the intersection which has had complaints about it's safety for pedestrians and cyclists.

Pedestrians Traffic Analysis

31. The closure of Hampden Street West did not impede any pedestrian movements at the intersection. Anecdotal evidence shows the removal of 99% of traffic from Hampden Street West has created a safe and calm space for pedestrians and other active mode users.

32. Post closure observations of Hampden Street West found the majority of pedestrian traffic is made up of whanau dropping

tamariki off at school and picking them up, and also students from the nearby colleges making their way to and from school.

33. There were 147 pedestrian movements recorded on Hampden Street West post closure eastbound between 7am and 9am. There were 192 pedestrians westbound on Hampden Street West in the afternoon peak.

34. Observations of pedestrian behavior in the Hampden Street cul-de-sac (post closure) found pedestrians often spread out over the road and footpaths as they made their way up Hampden Street West because the footpaths are narrow and cannot cope with the concentrated pedestrian flows around 3pm. Vehicle traffic volumes were low and slow moving at peak times which added to the quiet/calm street environment. The street felt heavily parked at peak times as some parents avoided the school gate and picked up their tamariki in the cul-de-sac or further up the hill on Kawai Street.

Hampden St and Waimea Road - Final Copy Query

Saved sites

Hampden closure affected area

Crash date

06/10/2019 — 31/08/2020

Plain English report

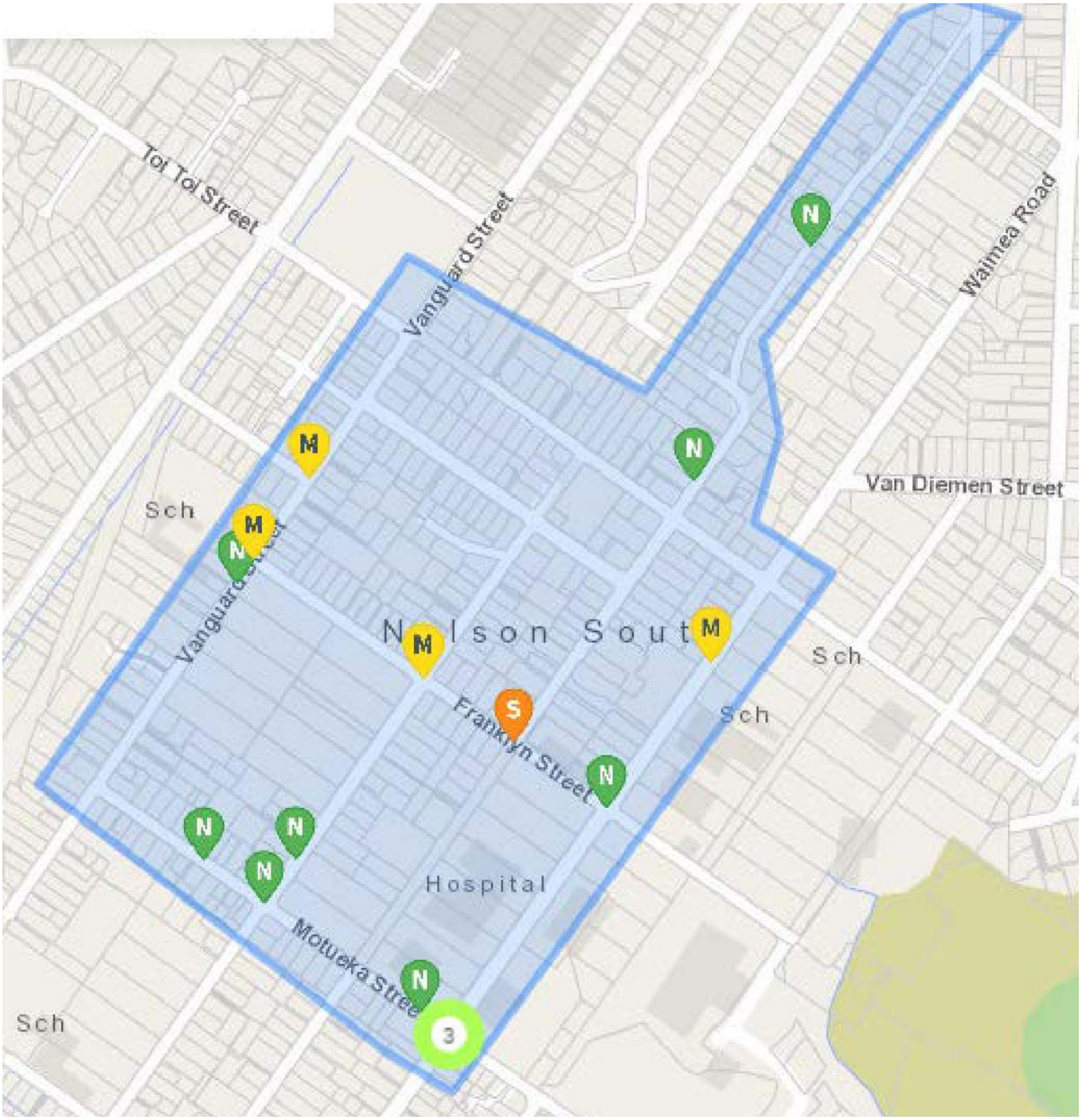
16 results from your query.

1-16 of 16

Site Centre: Midpoint	Crash road	Distance	Direction	Reference station	Route position	Side road	Easting	Northing	Longitude	Latitude	ID	Date	Day of week	Time	Description of events	Crash factors	Surface condition	Natural light	Wea
1622577-5429673	**VANGUARD STREET**		I			FRANKLYN STREET	1622583	5429681	173.269691	-41.283986	2020161786	19/08/2020	Wed	17:00	Car/Wagon1 SDB on VANGUARD STREET, NELSON SOUTH, NELSON hit Car/Wagon2 turning right onto AXROAD from the left	CAR/WAGON2, alcohol test below limit CAR/WAGON1, alcohol test below limit, incorrect signal	Wet	Overcast	Ligh rain
1622577-5429673	**VANGUARD STREET**	33m	S			FRANKLYN STREET	1622558	5429646	173.269388	-41.284305	2020157330	07/07/2020	Tue	05:15	Car/Wagon1 SDB on VANGUARD STREET lost control; went off road to right, Car/Wagon1 hit parked (unattended) vehicle	CAR/WAGON1, speed on straight, wheelspins/wheelies/doughnuts/drifting	Wet	Dark	Fine
1622589-5429284	**MOTUEKA STREET**	86m	W			TIPAHI STREET	1622520	5429333	173.268947	-41.287128	2020148915	02/02/2020	Sun	13:30	Car/Wagon1 EDB on Motueka Street. lost control; went off road to left, Car/Wagon1 hit fence	CAR/WAGON1, alcohol test below limit, drugs proven, other lost control	Dry	Bright sun	Fine
1622589-5429284	**MOTUEKA STREET**		I			TIPAHI STREET	1622594	5429280	173.269828	-41.287598	2020157494	07/07/2020	Tue	13:05	Car/Wagon2 turning right hit by oncoming Car/Wagon1 WDB on MOTUEKA STREET	CAR/WAGON2, failed to give way turning to non-turning traffic	Dry	Overcast	Fine
1622589-5429284	**TIPAHI STREET**	60m	N			MOTUEKA STREET	1622624	5429333	173.270193	-41.287119	2020148502	16/03/2020	Mon	16:00	Car/Wagon1 NDB on TIPAHI STREET, NELSON SOUTH, NELSON hit Car/Wagon2 manoeuvring, Car/Wagon1 hit parked (occupied) vehicle	CAR/WAGON1, emotionally upset/road rage, intentional collision, new driver/under instruction	Dry	Bright sun	Fine
1622640-5429765	**VANGUARD STREET**		I			TOTARA STREET	1622644	5429771	173.270409	-41.283176	2020148035	07/03/2020	Sat	12:10	Car/Wagon2 turning right hit by oncoming Car/Wagon1 NDB on VANGUARD STREET	CAR/WAGON1, alcohol test below limit CAR/WAGON2, alcohol test below limit, did not check/notice another party from other dirn, failed to give way turning to non-turning traffic	Dry	Bright sun	Fine
1622769-5429538	**FRANKLYN STREET**		I			TIPAHI STREET	1622761	5429542	173.271820	-41.285240	2020143811	02/02/2020	Sun	01:30	Cycle1 EDB on Franklyn hit rear end of SUV2 stopped/moving slowly	CYCLE1, reflectors inadequate or no reflectors SUV2, other inattentive	Dry	Dark	Fine
1622798-5429137	**MOTUEKA STREET**	40m	N			WAIMEA ROAD	1622765	5429160	173.271876	-41.288677	2020143040	21/01/2020	Tue	16:00	Car/Wagon1 WDB on Motueka Street hit parked veh, Car/Wagon1 hit parked (unattended) vehicle	CAR/WAGON1, too far left	Dry	Bright sun	Fine
1622798-5429137	**WAIMEA ROAD**		I			MOTUEKA STREET	1622800	5429141	173.272304	-41.288845	201987561	15/12/2019	Sun	10:06	Car/Wagon2 turning right hit by oncoming Car/Wagon1 SDB on WAIMEA ROAD	CAR/WAGON1, alcohol test below limit CAR/WAGON2, alcohol test below limit, failed to give way turning to non-turning traffic, other misjudged speed, distance or position	Dry	Bright sun	Fine

Site Centre: Midpoint	Crash road	Distance	Direction	Reference station	Route position	Side road	Easting	Northing	Longitude	Latitude	ID	Date	Day of week	Time	Description of events	Crash factors	Surface condition	Natural light	Wea
1622798-5429137	**WAIMEA ROAD**		I			MOTUEKA STREET	1622803	5429146	173.272337	-41.288807	2020144681	10/02/2020	Mon	17:20	Car/Wagon2 turning right hit by oncoming Cycle1 DIRN on WAIMEA ROAD	CAR/WAGON2, alcohol test below limit, did not check/notice another party from other dirn, failed to give way turning to non-turning traffic CYCLE1, speed on straight	Dry	Bright sun	Fine
1622798-5429137	**WAIMEA ROAD**		I			MOTUEKA STREET	1622806	5429147	173.272365	-41.288795	2020156749	27/06/2020	Sat	13:55	SUV1 SDB on Waimea road changing lanes to left hit Car/Wagon2	CAR/WAGON2, alcohol test below limit SUV1, alcohol test below limit, did not check/notice another party behind, failed to signal in time	Wet	Overcast	Ligh rain
1622871-5429467	**FRANKLYN STREET**		I			KAWAI STREET	1622858	5429475	173.272980	-41.285835	2020158724	17/07/2020	Fri	11:30	Motorcycle1 EDB on Franklyn street hit parked veh, Motorcycle1 hit parked (occupied) vehicle	MOTORCYCLE1, alcohol suspected, speed on straight, too far left	Dry	Bright sun	Fine
1622976-5429392	**KAWAI STREET**	45m	N			HAMPDEN STREET	1623074	5429761	173.275551	-41.283254	2020146705	22/02/2020	Sat	00:30	Car/Wagon1 NDB on Kawai street lost control; went off road to right, Car/Wagon1 hit retaining wall, downhill drop, letterbox, traffic sign	CAR/WAGON1, other lost control	Dry	Dark	Fine
1622976-5429392	**LOCKING STREET**	211m	N			RENWICK PLACE	1623207	5430026	173.277123	-41.280863	2020151986	25/03/2020	Wed	16:45	Bus1 NDB on LOCKING STREET hit parked veh, Bus1 hit parked (unattended) vehicle	BUS1, too far left	Null	Unknown	Null
1622976-5429392	**WAIMEA ROAD**		I			FRANKLYN STREET	1622972	5429386	173.274341	-41.286635	2020156901	27/06/2020	Sat	05:36	Car/Wagon1 NDB on Waimea Road hit Car/Wagon2 merging from the left	CAR/WAGON1, alcohol test below limit CAR/WAGON2, alcohol test above limit or test refused, did not check/notice another party from other dirn, failed to give way at priority traffic control, overseas/migrant driver fail to adjust to nz roads	Wet	Dark	Ligh rain
1622976-5429392	**WAIMEA ROAD**	103m	S			HAMPDEN STREET	1623093	5429556	173.275787	-41.285099	201972205	28/10/2019	Mon	15:45	Car/Wagon1 NDB on WAIMEA ROAD, NELSON SOUTH, NELSON hit rear end of Car/Wagon2 stop/slow for queue	CAR/WAGON1, alcohol test below limit, attn diverted by scenery/persons outside vehicle, failed to notice car slowing, stopping/stationary CAR/WAGON3, alcohol test below limit CAR/WAGON2, alcohol test below limit	Dry	Bright sun	Fine

1-16 of 16


Toi Toi Street
Vanguard Street
Waimea Road
Van Diemen Street
Sch
Nelson South
Sch
Sch
Franklyn Street
Hospital
Motueka Street
Sch
3

Hampden St and Waimea Road - Final Copy Query

Saved sites

Locking Street

Crash year

2010 — 2020

Plain English report

5 results from your query.

1-5 of 5

Crash road	Distance	Direction	Reference station	Route position	Side road	Easting	Northing	Longitude	Latitude	ID	Date	Day of week	Time	Description of events	Crash factors	Surface condition	Natural light	Weather	Junction	Control	Cra cou fata
KAWAI STREET	45m	N			HAMPDEN STREET	1623074	5429761	173.275551	-41.283254	2020146705	22/02/2020	Sat	00:30	Car/Wagon1 NDB on Kawai street lost control; went off road to right, Car/Wagon1 hit retaining wall, downhill drop, letterbox, traffic sign	CAR/WAGON1, other lost control	Dry	Dark	Fine	Nil (Default)	Nil	0
LOCKING ST		I			LOCKING TERRACE	1623118	5429867	173.276062	-41.282303	201637271	08/05/2016	Sun	02:20	Car/Wagon1 SDB on LOCKING ST lost control turning left, Car/Wagon1 hit non specific parked	CAR/WAGON1, intimidating driving, speed entering corner/curve, swung wide at intersection	Dry	Dark	Fine	T Junction	Nil	0
LOCKING STREET	211m	N			RENWICK PLACE	1623207	5430026	173.277123	-41.280863	2020151986	25/03/2020	Wed	16:45	Bus1 NDB on LOCKING STREET hit parked veh, Bus1 hit parked (unattended) vehicle	BUS1, too far left	Null	Unknown	Null	Nil (Default)	Nil	0
LOCKING STREET	234m	S			WELLINGTON STREET	1623254	5430096	173.277695	-41.280231	201966249	03/05/2019	Fri	15:20	SUV1 NDB on LOCKING STREET hit parked veh, SUV1 hit parked (unattended) vehicle	SUV1, impaired ability due to old age, too far left	Dry	Bright sun	Fine	Nil (Default)	Unknown	0
WELLINGTON ST	30m	S			LOCKING ST	1623394	5430263	173.279343	-41.278728	201736508	29/03/2017	Wed	13:36	Car/Wagon1 NDB on Wellington street hit parked veh, Car/Wagon1 hit non specific parked	CAR/WAGON1, misjudged own vehicle, too far left	Dry	Overcast	Fine	Nil (Default)	Unknown	0

1-5 of 5

Hampden St and Waimea Road - Final Copy Query

Saved sites

Hampden x Waimea

Crash year

2009 — 2019

Plain English report

19 results from your query.

1-19 of 19

Crash road	Distance	Direction	Reference station	Route position	Side road	Easting	Northing	Longitude	Latitude	ID	Date	Day of week	Time	Description of events	Crash factors	Surface condition	Natural light	Weather	Junction	Control	Crash count fatal
HAMPDEN ST		I			WAIMEA ROAD	1623156	5429648	173.276520	-41.284275	201051339	23/03/2010	Tue	17:05	Car/Wagon1 WDB on HAMPDEN ST hit rear end of Car/Wagon2 stop/slow for cross traffic	CAR/WAGON1, following too closely	Dry	Bright sun	Fine	Crossroads	Give way	0
HAMPDEN STREET		I			WAIMEA ROAD	1623152	5429651	173.276487	-41.284246	201959743	24/07/2019	Wed	09:00	Unknown1 SDB on HAMPDEN STREET hit Cyclist2 (Age 29) crossing at right angle from right	UNKNOWN1, failed to give way at priority traffic control	Wet	Bright sun	Light rain	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201612279	19/05/2016	Thu	17:25	SUV2 turning right hit by oncoming Cycle1 NDB on WAIMEA ROAD	SUV2, did not check/notice another party from other dirn, failed to give way turning to non-turning traffic, failed to give way when waved through by other dri	Dry	Twilight	Fine	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201211726	21/02/2012	Tue	08:55	Cycle1 NDB on WAIMEA ROAD hit Van2 crossing at right angle from right	VAN2, did not check/notice another party from other dirn, failed to give way at priority traffic control	Dry	Bright sun	Fine	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201417630	20/08/2014	Wed	16:36	Car/Wagon1 SDB on WAIMEA ROAD turning right hit PEDESTRIAN crossing SIDEROAD from left	CAR/WAGON1, swerved to avoid pedestrian CAR/WAGON3, other overtaking	Dry	Bright sun	Fine	Crossroads	Traffic Signals	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201819583	05/11/2018	Mon	15:34	Car/Wagon2 turning right hit by oncoming Cycle1 SDB on Waimea Road	CAR/WAGON2, alcohol test below limit, did not check/notice another party from other dirn, failed to give way turning to non-turning traffic	Dry	Bright sun	Fine	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201112112	02/07/2011	Sat	18:05	Car/Wagon1 NDB on WAIMEA ROAD hit rear end of Car/Wagon2 stopped/moving slowly	CAR/WAGON1, failed to notice control, following too closely	Dry	Twilight	Fine	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201611582	10/03/2016	Thu	07:50	Cycle1 NDB on WAIMEA ROAD hit Car/Wagon2 crossing at right angle from right	CAR/WAGON2, did not check/notice another party from other dirn, failed to give way at priority traffic control	Dry	Bright sun	Fine	Crossroads	Give way	0
WAIMEA ROAD	10m	N			HAMPDEN ST	1623162	5429656	173.276596	-41.284203	201153652	10/06/2011	Fri	14:20	Van1 SDB on WAIMEA ROAD hit rear end of Car/Wagon2 stop/slow for queue	VAN1, attention diverted by food, cigarettes, beverages, failed to notice car slowing, stopping/stationary	Wet	Overcast	Heavy rain	Crossroads	Nil	0

Crash road	Distance	Direction	Reference station	Route position	Side road	Easting	Northing	Longitude	Latitude	ID	Date	Day of week	Time	Description of events	Crash factors	Surface condition	Natural light	Weather	Junction	Control	Crash count fatal
WAIMEA ROAD	20m	S			HAMPDEN ST	1623145	5429632	173.276398	-41.284420	201411039	18/02/2014	Tue	09:00	Car/Wagon1 NDB on WAIMEA ROAD hit rear end of Car/Wagon2 stop/slow for queue	CAR/WAGON1, attn diverted by scenery/persons outside vehicle, failed to notice car slowing, stopping/stationary, speed on straight	Dry	Bright sun	Fine	Nil (Default)	Unknown	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201546661	13/10/2015	Tue	15:40	Bus1 WDB on WAIMEA ROAD hit Car/Wagon2 merging from the left	CAR/WAGON2, failed to give way at priority traffic control, new driver/under instruction	Dry	Bright sun	Fine	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201612726	13/05/2016	Fri	17:30	Car/Wagon2 turning right hit by oncoming Moped1 WDB on WAIMEA ROAD	CAR/WAGON2, alcohol test below limit, did not check/notice another party from other dirn, failed to give way turning to non-turning traffic	Wet	Overcast	Fine	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201637832	13/05/2016	Fri	18:15	Car/Wagon1 NDB on WAIMEA ROAD hit rear end of SUV2 stop/slow for signals	CAR/WAGON1, failed to notice car slowing, stopping/stationary, following too closely	Wet	Dark	Fine	Crossroads	Traffic Signals	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201518180	20/10/2015	Tue	15:44	Car/Wagon2 turning right hit by oncoming Cycle1 NDB on WAIMEA ROAD	CAR/WAGON2, did not check/notice another party from other dirn, failed to give way turning to non-turning traffic	Dry	Bright sun	Fine	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201311582	15/04/2013	Mon	08:30	Cycle1 NDB on WAIMEA ROAD hit Car/Wagon2 crossing at right angle from right	CAR/WAGON2, did not check/notice another party from other dirn, ENV: other visibility limited	Dry	Bright sun	Fine	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN ST	1623156	5429648	173.276520	-41.284275	201737789	12/04/2017	Wed	09:08	Motorcycle1 SDB on Waimea hit Car/Wagon2 merging from the left	CAR/WAGON2, did not check/notice another party from other dirn, failed to give way when waved through by other dri MOTORCYCLE1, overtaking at a junction	Wet	Overcast	Heavy rain	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN STREET	1623151	5429641	173.276474	-41.284332	201896227	17/12/2018	Mon	15:03	Cycle1 NDB on Waimea Road hit Car/Wagon2 merging from the left	CAR/WAGON2, alcohol test below limit, did not check/notice another party from other dirn, failed to give way at priority traffic control	Dry	Bright sun	Fine	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN STREET	1623154	5429643	173.276509	-41.284317	201954872	25/01/2019	Fri	10:00	Car/Wagon1 NDB on WAIMEA ROAD hit turning Car/Wagon2	CAR/WAGON2, alcohol suspected, did not check/notice another party from other dirn, failed to give way at priority traffic control, speed approaching a traffic control	Dry	Bright sun	Fine	Crossroads	Give way	0
WAIMEA ROAD		I			HAMPDEN STREET	1623158	5429652	173.276550	-41.284229	201897169	31/12/2018	Mon	13:50	Car/Wagon1 NDB on CORNER WAIMEA ROAD AND HAMPDEN STREET, NELSON SOUTH, NELSON 7010 hit turning Van2 NDB on CORNER WAIMEA ROAD AND HAMPDEN STREET, NELSON SOUTH, NELSON 7010	CAR/WAGON1, speed on straight	Dry	Bright sun	Fine	Crossroads	Give way	0

1-19 of 19

Hampden St Closure - traffic volumes

Nelson City Council
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Scale 1:5,000

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Date: 18/08/2020

Attachment 3

(A2472740)

Temporary Speed Control measures

Examples of Placemaking / tactical, temporary and innovative