PAPAIOEA
PALMERSTON
NORTH
CITY

PALMERSTON NORTH CITY COUNCIL

ATTACHMENTS

AGENDA

COUNCIL
UNDER SEPARATE COVER

9:00 AM, WEDNESDAY 14 FEBRUARY 2024

COUNCIL CHAMBER, FIRST FLOOR
CIVIC ADMINISTRATION BUILDING
32 THE SQUARE, PALMERSTON NORTH

COUNCIL MEETING

14 February 2024

Under Separate Cover

REPORTS

7. 2024-34 Draft Long Term Plan Consultation Material Update

1. Draft Consultation Document Page 4

12. Summary of Waste Assessment 2023

1. Palmerston North Waste Assessment 2023 Page 68

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Planning Palmy's Path

Have your say
5 April – 5 May

Draft Long-Term Plan 2024-34
Consultation Document

PAPAIOEA PALMERSTON NORTH CITY

Kia ora

Trying to plan for ten years is hard at the best of times.

Looking back at the last decade, we'd never have expected (and certainly didn't plan for) a global pandemic, soaring inflation and interest rates, supply shortages, and much more. Some of these things continue to impact how we plan for our city for the next decade, plus we need to factor in new legal requirements for waters, growth and seismic upgrades to our facilities. A change in government will also see some changes for our work, especially in the water area.

Our draft Long-Term Plan is a balance between meeting all of the new legal requirements, maintaining our infrastructure, and continuing to look after the needs of our community. Striking that balance has seen months of work, going over every expense and project. We're keen to hear if you think we've got that right.

This is the blueprint for ensuring our city is a great place to live, visit, and do business over the next ten years and for future generations. It's a roadmap that outlines the services, projects, and priorities aimed at taking care of our city and community. It helps us determine what work we need to do, when, how much it will cost, the funding required, and what that means, ultimately for rates over the coming years.

By far the biggest challenge we have in front of us is a financial one, and we'll now need to look at more external funding including exploring new types of funding, to ensure we can afford to do the work we're required to do. This consultation document outlines that, and the impact for you, in detail.

We also want your feedback on a few key topics too, like expanding or creating new community facilities, whether we change our entire rating system, and our plan of attack for seismic upgrades for our Central Library and Te Manawa museum.

There's a lot to read – but we are here to help answer every question you have and hear your ideas, any concerns, and feedback.

We're listening.

Please make sure your voice is heard as we shape the future of the city that we're all so proud to call home.

Grant Smith JP
Mayor

Waid Crockett
Chief Executive

Five facts to know about our Long-Term Plan.

We know there's a lot to read in our proposed Long-Term Plan.
Here are the five key things you need to know.

1.

Cost increases, including interest rates on our debt, inflation, insurance, electricity and software make up 8.0% of our Year 1 rates increase before we even started looking at the legally or critically required work we need to do.

We've cut a lot of existing budgets and new projects to get Year 1's rates down to 11.7%.

We can assure you that we have considered every expense to keep rates down.

2.

We're continuing to look after our community, with **investments in housing, community facilities, transport and water.**

3.

The amount of work we're legally required to do in regards to water, growth and seismic upgrades mean **we're looking into alternative funding and different financing options to be able to do this essential work.**

4.

We're proposing moving to a new hybrid rating system. This means 70% of your general rates on your property's land value and 30% on capital value. Read the options in this document and search our website for what the options mean for you.

5.

We're here to answer questions, and to listen. Please come and chat to us at one of our many sessions. Make sure you have your say and ensure your voice is heard to help shape our city's future.

PALMY

PAPAIOEA PALMERSTON NORTH CITY

What you've been telling us

Consultation is good, I appreciate efforts to keep the information simple and not complicated.

Absolutely beautiful place to live. Amazing, friendly, happy people, I would love to move back.

We hope a lot more homes such as these will go up (Papaioea Place). Affordable, livable, cheap and health conscious and safe. We pray that three or four bedrooms are in your scheme as well.

The smaller suburb parks often lack equipment and are not maintained at all.

Just more transparency please. I would like to see more reporting on the different areas that councillors are involved with.

Palmerston North is a real great place for families because it is a good solid stable place to live with good facilities and services for that kind of thing.

The emphasis on cycling as a transport road use is very slow, too slow.

Fix the roads.

I've used this intersection (Ferguson / Pitt Street) five times a week for 30 years. So pleased the area has finally been improved.

I think the direction of travel is good. The development of the Māori wards and relationship with Rangitāne is helping to make an inclusive, dynamic City.

Take opinions of your ratepayers into account when making expensive decisions. It is their money you are spending.

Recreation facilities we find are relatively safe for my moko, so we're very happy.

Most footpaths are safe, a few places less so for elderly. Good progress with intersection upgrades. Hopefully will alleviate pressure during rush hour.

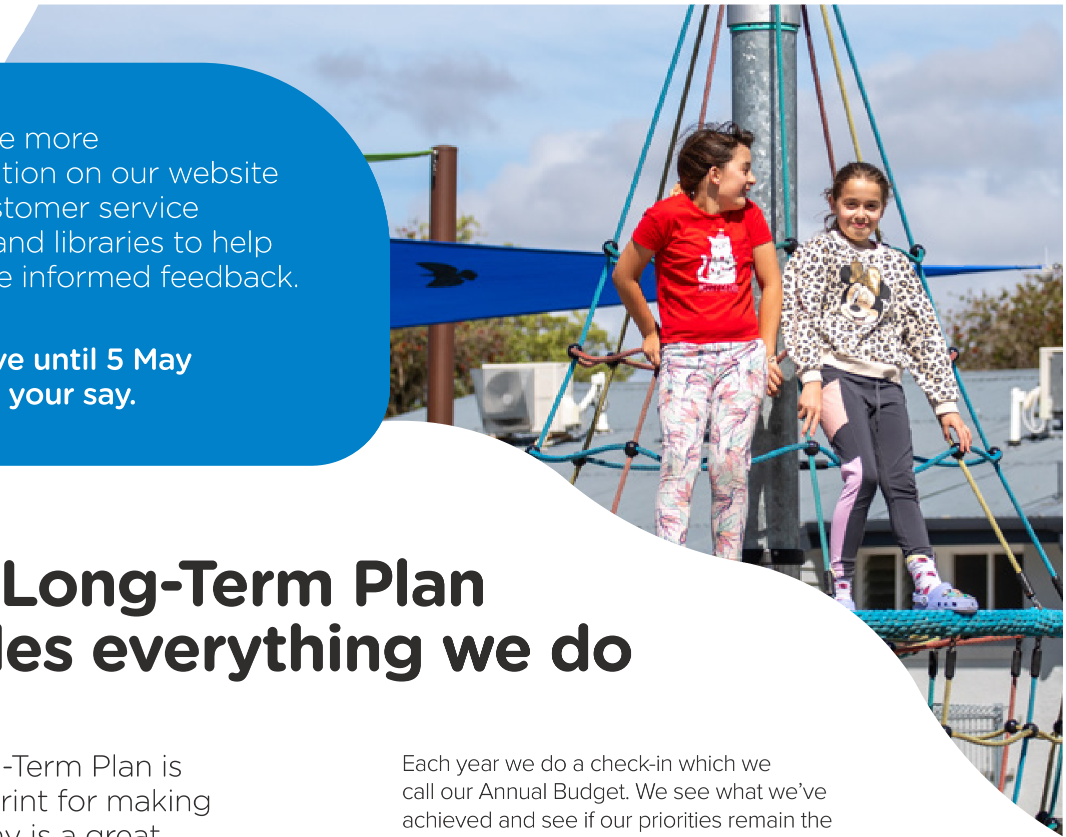
Staff are always friendly, practical, and approachable when I have had contact with them seeking advice or help.

I biked all over Palmy as a child but not now, it's too dangerous.

This feedback comes from our annual residents survey and from our social media channels

We have more information on our website and customer service centre and libraries to help you give informed feedback.

You have until 5 May to have your say.



Our Long-Term Plan guides everything we do

Our Long-Term Plan is the blueprint for making sure Palmy is a great place to live, work, visit, play and do business.

It's our roadmap that shows the services, projects and priorities for taking care of our city and community for the next decade. Our plan helps us determine what work the Council needs to do, when, and how much it will cost. It also helps us determine what your rates will be in the coming years. We review our Long-Term Plan, in consultation with you, every three years to make sure it's still meeting Palmy's needs.

Each year we do a check-in which we call our Annual Budget. We see what we've achieved and see if our priorities remain the same or need altering. You get to have your say on this each year too, usually in March.

Our consultation document which you're reading right now outlines the big parts of the puzzle – the challenges, the finances, and what it means for you. We want your feedback on our plan as a whole, but there's also a handful of topics we especially want you to weigh in on to make sure we get it right.

These include reviewing our rating system, upgrades to or new community facilities, and seismic upgrades to our city centre landmark buildings like Te Manawa and Central library.

Your wellbeing is at the heart of everything we do

We know Palmerston North is a great place to be and we want people to enjoy living, working, visiting and doing business here.

To ensure that's the case, we have a vision that sets the direction for all the work we do.

Our vision for the city is

He iti rā, he iti pounamu

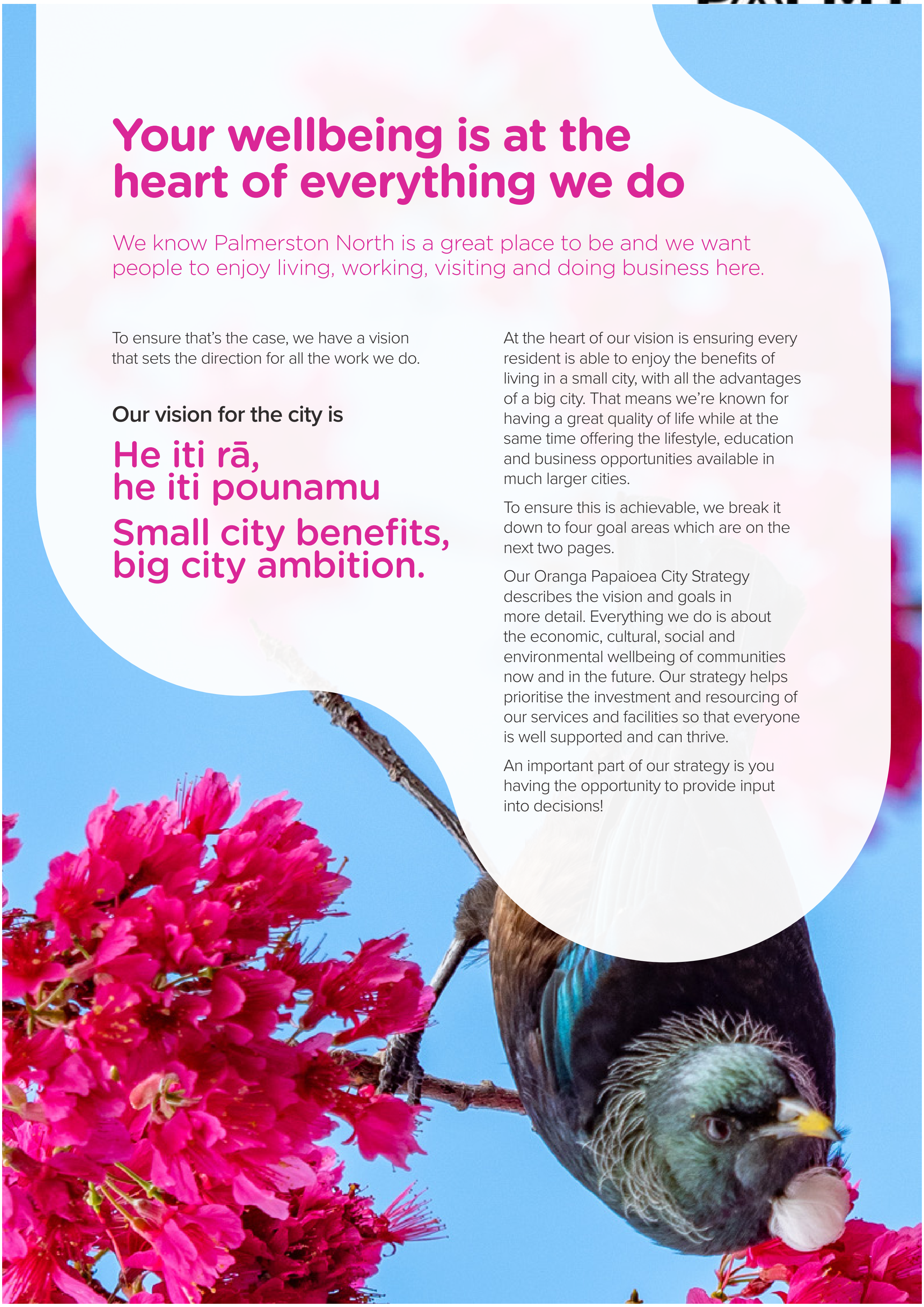
Small city benefits, big city ambition.

At the heart of our vision is ensuring every resident is able to enjoy the benefits of living in a small city, with all the advantages of a big city. That means we're known for having a great quality of life while at the same time offering the lifestyle, education and business opportunities available in much larger cities.

To ensure this is achievable, we break it down to four goal areas which are on the next two pages.

Our Oranga Papaioea City Strategy describes the vision and goals in more detail. Everything we do is about the economic, cultural, social and environmental wellbeing of communities now and in the future. Our strategy helps prioritise the investment and resourcing of our services and facilities so that everyone is well supported and can thrive.

An important part of our strategy is you having the opportunity to provide input into decisions!



Our four goals are:

Whāinga 1: He tāone auaha, he tāone tiputipu

Goal 1: An innovative and growing city

Ngā hua
Outcomes

- a city that fosters pride, and supports the aspirations of people and communities
- a business environment that encourages investment and delivers career opportunities in a range of sectors
- enough land and infrastructure to enable housing development and business growth
- the efficient movement of goods and services alongside safe and affordable transport options for people
- a globally connected city that fosters opportunities for local people, businesses and organisations
- an economy that embraces innovation and new ideas and uses resources sustainably
- a resilient, low carbon economy

Whāinga 2: He tāone whakaihiihi, tapatapahi ana

Goal 2: A creative and exciting city

Ngā hua
Outcomes

- a vibrant city that connects people and where creativity is built into our cityscape
- an arts community and cultural facilities that are well supported and invested in
- our unique heritage preserved and promoted
- opportunities to celebrate our many cultures
- access to exciting well-managed events and activities throughout the city and our neighbourhoods
- places across the city and its neighbourhoods for communities to participate in play and recreation

Whāinga 3: He hapori tūhonohono, he hapori haumaru

Goal 3: A connected and safe community

Ngā hua
Outcomes

- access to services and facilities that are inclusive and appropriate for their needs
- the support they want to live healthy lives
- access to healthy and affordable housing
- opportunities to contribute to the design of their city
- access to safe and accessible community places
- opportunities to contribute to Council decision-making

Tell us what you think about these goals in our submission form

Whāinga 4: He tāone toitū, he tāone manawaroa

Goal 4: A sustainable and resilient city

Ngā hua
Outcomes

- a sustainable, low-emissions city
- a resilient city and communities, prepared for the impacts of climate change
- a circular economy with more resource recovery and less waste
- a healthy, thriving ecosystem, including native biodiversity and food security
- the Manawatū River and waterways restored to a healthy, respected and connected state
- sustainable urban planning with a low-carbon built environment
- a safe, affordable, sustainable and resilient water supply
- effective, low-carbon, wastewater collection and treatment
- appropriate infrastructure and development to avoid and minimise the effects of flood events
- access to relevant information and education to support more sustainable choices

We break these goals down into 14 plans

Our plans have actions and projects to ensure we meet our vision and goals

We want to hear your views on our **Oranga Papaioea City Strategy** and whether you think our vision and goals are right for our city.

You can read the full strategy at pncc.govt.nz/xxxxxxx
Let us know your thoughts on the submission form!

We've achieved a lot over the last three years

Despite some fairly big challenges we've made a lot of positive progress for, and with, our community over the last three years, since we adopted our last Long Term-Plan. Some of the things we've delivered helping to improve our community's social, cultural and environmental wellbeing are:

Housing/Community facilities

- A new Bunnythorpe Community Centre
- Created an additional 38 new social housing units at Papaioea (Constructed 83 homes in total as well as a tenants lounge)
- Tamakuku Terrace subdivision development stage 1 complete
- Seismic strengthening at our water plants and crematorium
- New animal shelter
- Major housing rezoning projects underway
- Central Energy Trust Arena entrance plaza, artificial turf and pit upgrades completed

Transport

- Park Rd/Cook St intersection upgraded
- Ferguson/Pitt widening and intersection upgraded
- Cuba St (Taonui to Rangitikei Street) upgraded
- Featherston St cycleway under construction
- Highbury shops safety upgraded
- NZ Transport Agency – Waka Kotahi and Council formally partner on the Palmerston North Integrated Transport Initiative (PNITI)

Resource Recovery

- Food scrap collection trial completed
- Rubbish bag trial completed
- We introduced tyre and tetrapak recycling

Parks

- Memorial Park playground and splashpad opened
- New and improved river entrances at Victoria Esplanade, Albert St and Karaka Grove
- Turitea Pā lookout opened
- Urban Eels sanctuary created
- Cloverlea, Savage, Awapuni Park playground upgraded
- Trialled and continued under 5 free swimming with a caregiver at the Lido, Freyberg and Splashhurst

Water

- Duplicate main for Turitea Dam completed, providing added resilience for our drinking water supply
- Railway Road Bore completed to support growth in the area
- Nature Calls wastewater consent lodged
- Introduced Summer Water Use to change the approach to water restrictions. This resulted in three summers without restrictions, so far

Community wins!

- Our volunteer rescue emergency support team deployed 26 times in the past 3 years
- Hundreds of tamariki took part in our City Library Summer Reading programme
- New advisory boards established
- Māori wards now on council
- First Puanga Matariki events have been held
- Sister City established with Mihara City, Japan
- Formal establishment of the Palmy Business Improvement District (BID)
- Hosted more than 9,500 public events at Central Energy Trust Arena/Palmy Conference + Function Centre
- Supported our neighbours during multiple civil defence responses
- Almost 3000 community events held at Central Energy Trust Arena
- 5x more CCTV cameras available for city centre crime prevention. This comes following upgrades, reconfiguration of software and installation of new cameras

We're planning for the Palmy of the future

In the next 10 years

The population of Palmy is expected to **grow by 9.3%**.

103,980 people are expected to live in the city by 2034.

To make sure everyone has a home, we need to ensure there is **enough land available to build 400 new homes each year, or 4,000 in total over the next 10 years.**

We are aiming to rezone **176 hectares of land** in stages to industrial to support business growth at Te Utanganui, the Central New Zealand Distribution Hub.

% of population by ethnicity

European	58.1%
Māori	19.7%
Asian	16.0%
Pacific	6.1%

We have some challenges

These things have had a major impact on our draft Long-Term Plan – they've shaped our plans, our budgets and the options we need your feedback on.

In our Long-Term Plan, we have a number of projects reliant on external funding. These are detailed throughout this consultation document. If we do not get external funding, we will need to look at finding other ways to fund projects, pausing work, stopping projects, or looking at making changes to other council projects so we can fund this work.

Tell us what you think about this in our submission form

Climate change

The past year's weather events around the country have demonstrated how important it is that we look at how we can reduce our emissions and make better choices to help prepare for the impacts of climate change on our community. For us this includes work to help manage flood water, planting more trees and supporting people and businesses to reduce their emissions.

Inflation, insurance, and power bills

Those cost-of-living pressures you're facing are also hitting us – the cost for goods, materials and services have increased significantly. We're also having to pay far more for our insurance and power bills for all of our facilities.

Interest rates and increasing debt

Just like the rising repayments you may be facing on your personal loans or mortgages, interest rates for our debts have also increased. We're also increasing the size of our debt to fund more work. This means we're having to pay more towards debt than we were previously.

Cost of living for our residents, businesses and ratepayers

We know it's hard out there financially for our residents and businesses, and we've been conscious of that every step of the way to limit the rate increase as much as we can – while still being able to provide the services you enjoy and maintain our infrastructure.

Change in government direction

A change in government isn't a challenge as such, but as we get new direction from them, that may change our work or potential funding. While the new coalition government has only been in place for a few months, we already know of some of these. They include not proceeding with the previous government 3 waters reforms, as well as repeated changes to the Resource Management Act. The Government has said it will be making changes in the future to make it easier to consent new infrastructure.

We also have a range of challenges to do with growth, housing, water and transport. These are outlined in more detail over the following pages.

Our city's growth is driving a lot of our work

Most of us already know that Palmy is the place to be, but others are starting to cotton on, leading to significant growth in our city.

By 2034 we're expecting a population of more than 103,000 people – 9,000 more than now. That means more housing will be needed within our existing urban areas, as well as expanding into new areas. We're also seeing commercial and industrial growth as our city becomes known for being one of the fastest growing freight hubs in the country. Many big companies already call us home, and many more are wanting to. KiwiRail's plan to have a freight hub to the northeast of the city will only drive that growth more as part of Te Utanganui – Central New Zealand Distribution Hub.

Whether it's residential growth or industrial growth, the work behind the scenes remains the same. It starts with investigating and beginning the process of rezoning land for this growth, which you can read more about in the following pages and in our proposed Future Development Strategy, which we're also consulting on at the moment.

We also need to make sure we have the infrastructure and funding to support this growth. Where we are developing in existing areas, that typically means we will need to install bigger water pipes and more pump stations, as well as safety and efficiency improvements for our roads. Where we are developing in new areas that means new roads, new water pipes, pumps and connections and new parks and community facilities. Other service providers also need to be involved to provide things like telecommunications, fibre, gas and so on.

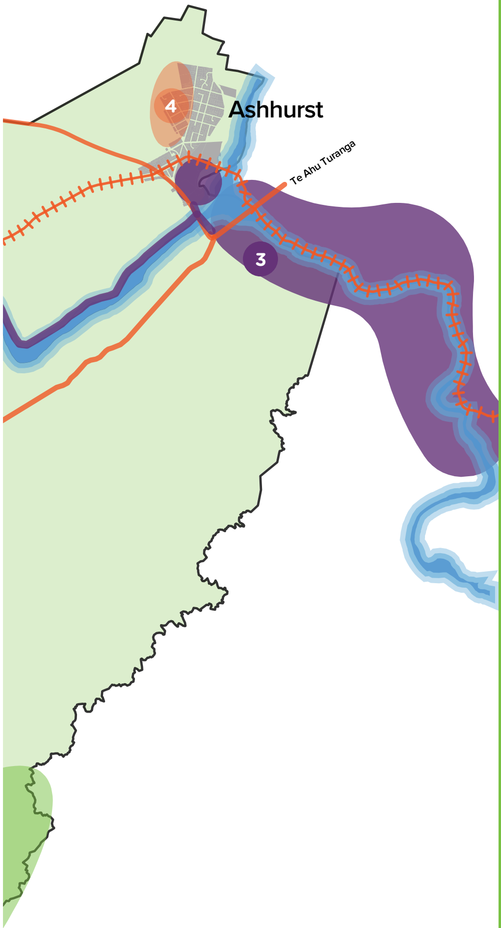
This is costly work – the infrastructure costs associated with this growth in our Long-Term Plan is $291M. There's also $2M in operational costs as we carry out important investigations and modeling to ensure we're allowing development in the right place.

While developers pay fees for new developments in the city to help support these large infrastructure costs, we need to borrow to cover the upfront costs. Given the constraints on our borrowing, we will need to look at other funding options for this work. If we can't seek external funding, this may slow down some of this important development for our city, including Aokautere, Kākātangiata and Ashhurst.

You can read the full Future Development Strategy at pncc.govt.nz/xxxxxxx

The following water, transport and housing sections outline our growth needs, and what we're doing, in more detail.

Our spatial plan



Mapping the Future

Sustainable Growth (Industrial)

1. Te Utanganui - Central NZ Distribution Hub
2. Longburn (Wet Industries)

Sustainable Growth (Residential)

1. Whakarongo
2. Aokautere
3. Kākātangiata
4. Ashhurst
5. Mātangi
6. Napier Road
7. Proposed Urban Intensification

City Centre Transformation

1. Streets for People street upgrades
2. Civic and cultural landmark facilities requiring seismic work
3. Central Energy Trust Arena
4. Heritage Support Package
5. Palmy BID

Manawatū River Network

1. Victoria Esplanade Masterplan and Projects
2. Manawatū River Shared Pathway
3. Te Apiti Biodiversity and Recreation
4. Te Motu o Poutoa (Anzac Park)

City-wide Partners:

Rangitāne o Manawatū, Businesses,
Massey University, Food HQ, NZ Defence,
Te Whatu Ora Mid-Central, Palmerston North Airport,
Central Governement and neighbouring Councils

Manawatū River and Tributaries

Biodiversity Corridors

Urban Areas

Rail

Regional Freight Ring Road

City Boundary

Water poses our biggest challenge

Under the past government, the management and operation of drinking, wastewater and stormwater was going to be handed over to a new entity. The new government has said that won't be the case, and we're awaiting further guidance on its plan for water.

The Minister for Local Government has informed us that the new coalition government will repeal the Three Waters legislation and introduce its 'Local Water Done Well' approach which is its plan for water management.

The government says the principles of this approach are:

- Introducing greater central government oversight, economic and quality regulation.
- Fit-for-purpose service delivery models and financing tools, such as improving the current council-controlled organisation model and developing a new class of financially separate council-owned organisations.
- Setting rules for water services and infrastructure investment.
- Ensuring water services are financially sustainable. Financial sustainability means revenue sufficiency, balance sheet separation, ring-fencing and funding for growth.

The government has said it will work with all councils this year to determine what that looks like. That advice from the government means we've planned and budgeted work for water for the next decade in our draft Long-Term Plan.

Water is the largest portion of council capital spending over the next decade with nearly a billion dollars of capital spending needed.

There are a few key reasons why there is such a large cost for water for our city in the future.

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They include:

New drinking water quality assurance rules

Our water comes from both the Turitea Dam in the Tararua Ranges and a number of bores around our city. New drinking water quality assurance rules will require us to add reservoirs or ultraviolet (UV) treatment to some of our bores. This is to guarantee the treatment is effective. We've switched off two bores while we do work over the coming year to ensure they meet the new standards.

You can read more about these changes at taumataarowai.govt.nz

Growth areas need water

As we grow our city with more homes and businesses, we need to make sure we have enough water to meet demand. This will require us to build pipes to areas of development, pump stations to move the drinking or waste water around our city from homes and businesses, stormwater management for heavy rain, and in some instances we may need to build new water bores to supply growing areas like Milson and Kelvin Grove/Whakarongo.

Mitigating climate change

Doing everything we can to reduce the impact of large rainfall events for our city is essential. Over the coming decade, we will be doing more work on this front. This will include things like installing larger underground pipes, creating wetland type environments and maintaining our streams. We'll also be working closely with developers to ensure new developments are well designed to cope with more intense rainfall events in the future.

We've had to strike a balance between doing a lot more work, while managing the cost for our ratepayers

Over the next decade, we're spending and doing more work maintaining our water infrastructure than we are currently. We had wanted to spend around $80M more on work over the decade in the drinking water and wastewater areas to support growth and upgrade more of our infrastructure. We have removed these proposed projects to help keep us within our updated debt limit. Stormwater budgets, which help mitigate the impacts of increased heavy rainfall events, have not been removed. You can give feedback on our proposed work on our submission form.

Over the next decade, we're planning to spend $989M on water projects.
Projects over $10M include:

$647M	on our Nature Calls wastewater project
$32M	on drinking water standard upgrades
$27M	on stormwater work to support growth at Kākātangiata
$10M	on drinking water needs to support growth at Kākātangiata
$10M	water supply growth for Whakarongo
$20M	on stormwater work for growth in Aokautere
$25M	on stormwater upgrades across the city
$15M	to reduce the chance of flooding across the city
$11M	to replace key water mains for your drinking water
$10M	water supply growth for North East Industrial Zone

*Through IFF and an additional levy for ratepayers See page 18

Nature Calls wastewater project

Our current consent for how we treat and discharge wastewater (the water that goes down the drains inside your home or business) expires in the coming years.

We're required to apply for a new consent for the treatment and discharge of our wastewater for the next 30 years. Horizons Regional Council is currently processing our consent application, which will see some of the highest quality treated wastewater in New Zealand be discharged to a combination of the Manawatū River and land. It will go to the river when it is in high flow, typically in winter, and to land in summer. This ensures the best outcome for our awa (river). We've spent the past five years investigating and determining this option, working with our community and stakeholders every step of the way.

The cost for this project is made up of things like: the consenting process and investigations and reports, buying or leasing land (we need up to 700 hectares), installing water pipes from our treatment plant to the land site, irrigation equipment, building a new discharge location at the river, upgrading and installing new technology and processes at the treatment plant and much more. Currently, we have a very high level cost estimate of $647M. We will get more certainty on this as we work through the detail design during the consenting phase.

That's an eye-watering amount for everyone involved. It's so much money that we can't borrow enough to fund it through normal council borrowing mechanisms.

We're not the first council to be in this position with a large infrastructure project, and we certainly won't be the last.

The foresight of our Elected Members means we were somewhat prepared for this outcome. Eighteen months ago we commissioned a report from PWC to give us advice about how we could fund Nature Calls if there happened to be a change in government. That means we knew the tools available and that's helped save valuable time.

So, what's the plan for now?

We're proposing to fund Nature Calls through a 'special purpose vehicle' in the Infrastructure Funding and Financing Act. This allows councils to borrow money for specific projects through a government agency, Crown Infrastructure Partners. We would apply and, if successful, work with them to come up with the terms of the borrowing. It will be like a mortgage – they lend us money over a term such as 30 years, and we pay it back with interest in annual installments. We're proposing this would start when construction of the project is due to start.

Ratepayers would have a rates bill like normal, but one line on the rates bill would be the levy for Nature Calls. Council would collect this money and then pay back the debt directly to Crown Infrastructure Partners.

Council does not have the debt capacity to fund this programme itself, and we will need to keep borrowing money for other things like transport and property based projects. Using this type of funding means that we wouldn't exceed our borrowing limit.

There are some downsides though – our ratepayers would still need to pay the annual levy for this debt and it will be significant.

Early estimates are that the levy could be $1,000 per year, for at least 30 years, on top of rates.

This tool is used by other councils already. Tauranga is using it to fund some transport projects, and Wellington has also used it for a large wastewater project. However, ours is for a much larger amount of money.

It is still early days, and we will need to have conversations with Crown Infrastructure Partners to work out the terms of how this could work. We will be consulting with ratepayers about these terms, including the levy charge. We'll also look at the options to reduce the amount needed to borrow. This could include things like getting government funding or talking to businesses or other organisations who currently manage their own wastewater treatment and discharge, to consider joining us.

It's likely we could use this model over time for other projects too, like some of our growth areas to help fund the roading and water infrastructure that's needed.

If Council is unable to proceed with funding Nature Calls by debt provided through an IFF arrangement, an alternative funding source(s) would need to be identified or the programme would unlikely be able to proceed in its current form. Alternative funding sources could include a government subsidy. We'd be exploring this anyway with the proposed IFF arrangement to reduce the impact on ratepayers. Other funding sources could include a public – private partnership (PPP) where a private company finances, builds, and potentially operates the infrastructure, charging Council (and ratepayers) over a period of time.

What happens when the government finalises its plan for water?

Once we know more about the government's approach to water we can adapt our plans.

For as long as we are looking after our community's water, you can be assured that we will continue to provide the great water services you've come to expect from us. That includes maintaining our infrastructure and ensuring our water meets all health standards.

And, we will continue to keep you informed every step of the way.

You can read more about the history of Nature Calls at pncc.govt.nz/xxx

You can give feedback on our plans for water in the 'general feedback' section of our submission form!

We want to be able to move people and goods around efficiently and safely

Over the past few years, we've heard your concerns loud and clear – you want better roads and we're working hard to make that happen.

Our roads are a tricky challenge though – they were built decades ago and were not built to cope with the number of vehicles and heavy trucks using them as they do today, which is only increasing. We also have another complicating factor that most other cities don't have to deal with – underlying weak supporting clay soils beneath our roads. This means water absorbs easily and can lead to pavement cracks, potholes or damage in our roads more quickly.

Rebuilding roads once they have completely deteriorated so that they need to be replaced rather than repaired is very costly, sometimes costing 20 times more than if they are kept on top of. Fixing all our roads isn't going to be something that happens overnight, but you can be assured that we will continue to be investing in improving our roads. Currently, we spend $13M a year in our road maintenance contract which looks after road repairs, drainage, road vegetation, traffic signage, footpaths, reseals, pavement reconstruction, street sweeping, streetlights, cycle paths and structural maintenance for culverts and bridges.

We have a partnership with NZ Transport Agency – Waka Kotahi, which funds around half the cost of our transport projects.

Over the past year we formally entered a partnership called Palmerston North Integrated Transport Initiative (PNITI) to make major changes to improve our transport network.

This includes 70 new major projects over the next 30 years and will help us to build a more balanced network that allows for more people to walk, cycle or use public transport to get around. By creating a system that allows for all transport modes we can reduce the congestion on our roads and reduce the wear and tear of the road surfaces. We don't yet know if any of these projects will change as a result of any potential changes in the new government.

We know people are keen to see trucks stop using our residential streets, and that will come to life in time with a ring road around our city, as well as a second bridge across the river. But, to get the government funding for those projects, we need to do other core transport-related projects first to make our city streets safer, offer more choices for people to travel and ensure we're planning new or upgraded roads to support new residential and industrial growth.

Projects to do this include new roads, safer intersections, cycleways throughout our city, and making it safer and easier for people to choose to walk or catch a bus, and slowing down and making it easier for pedestrians to use our city centre safely.

Over the next decade, we're spending $481M on new transport projects. Around $210M of that will come from NZ Transport Agency – Waka Kotahi.

You can read more about this project at **nzta.govt.nz**

The list below outlines proposed new transport projects that will cost more than $10M. The amount stated is the total cost of the project. We've assumed that for these projects we may receive around $210M from NZ Transport Agency – Waka Kotahi

- **$88M** on low-cost measures to meet government direction
- **$69M** on improvements for key streets in the city
- **$55M** on shared pathways (including Manawatū to Ashhurst River Pathway and Feilding to Palmy shared pathway)
- **$31M** on cycleways in the city
- **$32M** on new roads in Kākātangiata
- **$28M** on improving roads in Aokautere to support growth
- **$23M** for new roads to support industrial growth in the north-east of our city (Te Utanganui)
- **$22M** for our City Centre Transformation – Street upgrade programme
- **$21M** for a new bus hub to replace the Main St terminal
- **$16M** to replace bridges around Bunnythorpe to support growth
- **$12M** for safety improvements for Stoney Creek Rd
- **$12M** for safety improvements for Kelvin Grove Rd

We want everyone to have a place they can call home.

Our city needs 400 new homes each year to make sure everyone has a home, and we're working hard to make that goal achievable. You can be assured that when it comes to housing for our community, we've got all fronts covered.

- **Rezoning land at Aokautere, Ashhurst, Roxburgh Crescent and Kākātangiata to the west of the city.**
  Rezoning is where we allow different types of development in an area, than what had been there before. These projects are still in the investigations, consulting or hearing stages, but are expected to result in more than 8000 additional homes available in our city. Development at Aokautere, Ashhurst and Kākātangiata are subject to Council seeking external funding for new infrastructure required to service growth in these areas.
- **Planning or working on construction projects that help support growth – primarily water and transport work.**
  This work is at Kikiwhenua, Hokowhitu Lagoon, Napier Road, Whakarongo, and Mātangi (Whiskey Creek by Cloverlea and Milson).
- **Investigating a medium density zone in our urban area to allow people more housing options.**
  Housing in this zone could be a bit taller, up to three storeys, and closer together. Section sizes in this zone could also be smaller, with landowners able to subdivide down to 150m^2. The types of housing within the medium density residential zone could include duplexes, multi-units, town houses and apartments. This would widen the range of housing options available from what we have today, which are mostly stand-alone homes on single sections. We expect to consult with our community on this in 2024.
- **Developing land ourselves at Tamakuku Terrace.**
  We're converting unused land on James Line into subdivision sections for people to build their dream home. The final stage of this development is proposed to take place in 2024/25 which will bring another 35 sections to the market.
- **Use of Council land for housing.**
  Plans are underway to provide around 50 or more homes. These homes will be on the Huia St Reserve on the corner of Park Rd and Fitzherbert Ave.
- **Looking into options to deliver more social housing units.**
  These are on the site of the old Summerhays Bowling Club on Summerhays St.
- **We are planning on investing more money in social housing for our community.**
  This will be on top of the 442 properties we already have.
- **We're also proposing spending $230,000 a year on three pilot initiatives to respond to homelessness**.
  This includes an outreach service to connect rough sleepers with appropriate support, trial of a local Housing First wrap around support programme, and a Flexi-fund people could apply to for support with small costs if they were at risk of losing their tenancy due to unforeseen circumstances.

We expect tenants to cover most of the cost of operating the council's social housing. These costs continue to increase, so ratepayers will need to increase the level of subsidisation if the council is to maintain its policy of limiting rents to 25% of tenant's income. We have decided to consider some different models for how we deliver our social housing. If we propose any changes to our social housing as a result of this investigation, then we will consult the community about that proposal. There won't be any change made to our model of social housing delivery without more conversations with those who are affected.

Similarly, we're also looking at options for the repayments for our new animal shelter. Dog owners currently pay the overwhelming majority of these costs, but these costs are expected to increase significantly with our repayments for the new facility. If we had significant increases there is a risk that some people may not register their dogs, and that we'd also have difficulties rehoming dogs. We're conscious that there is an element of public safety that we need to consider with animal management in our city. We'll be looking at options to help cover these increasing costs, which could include how the costs are distributed amongst our ratepayers but would also look at options for whether the animal shelter could be used in different ways in the future – e.g. as an overflow facility/kennels etc.

Council housing projects over the next decade that would cost more than $10M are:

$17M on additional social housing units. A portion of this to be allocated to the Summerhays St redevelopment.

$18M for Huia St Reserve housing.

Once the type of housing is determined, we'll have a better indication of ongoing operational costs or revenue.
These projects are in the later years of our Long-Term Plan, so will be included in future Long-Term Plans, which will also be consulted on.

You can give feedback on our plans for housing in the 'general feedback' section of our submission form!

We've looked at a range of options to keep rate increases down

Despite all of these challenges, the cost of living for our residents, businesses and ratepayers has been top of mind for us as we work on our draft Long-Term Plan for your feedback.

To get rates down to 11.7% in Year 1 we've used a range of tools we have available to help minimise costs where possible.

These include both financial and service level options.

We've looked at a range of financial measures:

Increasing our debt limit

We borrow money just like you may do for big purchases, and it works the same – we borrow a certain amount of money and pay it off in installments over a set time period. Just like how banks test that you can afford to pay your mortgage, the same thing is done to us to ensure we don't borrow more money than what our community can pay back. Borrowing also means that debt is paid for over time, which means current ratepayers aren't lumbered with all the costs of future generations.

We borrow money for capital programmes which are typically our infrastructure projects – like building a new building, transport projects or getting new equipment. We're increasing the amount we're able to borrow, which means we can do more projects to improve services for you. The risk of this is that, just like for your mortgage, interest rates change over time. If they go up this will cost us more to pay off that debt. Currently we borrow up to 200% of our operating revenue and are proposing to increase this to 250%.

Keeping costs down

We know you don't want to pay more rates, and we don't want to have large increases for our community. But we also need to balance that with maintaining our assets to ensure they don't degrade further and continue to provide the services you love.

Months of work has gone into getting rates down to this point – we have looked at everything we spend money on and assessed whether it's needed or not, and what we can do to reduce costs. This process was done initially by staff to reduce the rating impact, and then Elected Members reviewed and reduced these further.

Seek co-funding for some work

There are many things we do where another organisation often chips in to help cover the costs. We've always done this through co-funding for transport projects with NZ Transport Agency – Waka Kotahi, grants for many of our library and playground initiatives, partnerships for our Central Energy Trust Arena and Central Energy Trust Wildbase Recovery and many more.

We're planning on doing this far more in the future, and in some cases we've decided work will not occur unless we get co-funding.

We've outlined in our supplementary information what these proposals will look like.

We'd love your feedback!

Increase fees and charges

Some of our services are based on a user-pays model, which means that only the people that use them pay, rather than all ratepayers. These fees and charges are across the board and can include things like rubbish bags, e-waste disposal, commercial water use, cemetery or sports field fees, obtaining a building or resource consent, hiring a facility, parking meters, dog registration and many more. We've looked at increasing these charges to cover the cost of providing these services.

These include XXXXX (to be added after council meeting).

Slow down or stop projects or improvements

There are instances where we have delayed when we were planning to do some work or projects, or just decided to stop them. These are explained throughout our document.

Stage the timing of replacements

Lots of the assets that provide our services require replacement over time. We call these renewals and things like road repairs, roofs, park benches and water pipes are just a few examples. These types of projects are funded through rates, not borrowing, so we can slow down these renewals over time. This means we can keep rates lower, but it means we may not meet your expectations and may have more urgent repairs if some of our assets fail, e.g. a water pipe bursting.

Over the past few years, you've been asking us to take a look at the system we use to determine rates

Rates are a form of tax that all property owners pay to fund the services provided by their council.

Rates make up roughly 77% of the money needed to run our city, with the remainder coming from things like fees and charges as well as government and other subsidies, along with small amounts of rental revenue and sponsorship agreements.

Each year we prepare budgets that determine how much money we need to get from rates, and then that sum is distributed between our different types of ratepayers – residential, commercial/industrial and rural.

Currently the rating system is made up of the following elements:

- A uniform annual general charge (UAGC) for all properties – this is a rate all ratepayers pay;
- Fixed annual charges to fund water supply, wastewater disposal and treatment and recycling and rubbish collection;
- A general rate based on land value (LV) with the level of the rate varying depending on the use made of the property.

While some councils use a property's land value (LV) as the basis for how much general rates the property owner pays, many others use capital value (CV), which is the total value of the property (the land value plus any buildings/improvements). Some of you have been asking us to do this instead.

As rates are a tax some people believe rates should have a relationship to wealth or ability to pay. That is subjective, and you may think one option is better than the other. The proposed changes are likely to affect everyone to some extent so it's important you use our website to see what it means for your property.

Over the past year we've undertaken a thorough review of the current rating system and possible options. We considered:

- What the level of rates would be for individual properties for each of the options. We also looked at whether the overall outcome would result in an appropriate split for different categories of ratepayers (e.g. rural or residential);
- Whether the options align with our planning objectives to encourage more development to support residential and commercial growth in our existing urban areas;
- Whether implementation of a different rating system is practical from 1 July 2024;
- Whether the preferred option would give flexibility for us to make further changes (if required) in future.

Following our review we have decided the following components of the rating system should remain:

- The General Charge (UAGC) for all properties (remaining at $200 for 2024/25);
- Fixed annual charges to fund drinking water, wastewater treatment and discharge and recycling and rubbish collection;
- Properties are to be categorised by use (e.g. commercial/rural/residential) and the level of the general rate to be based on accordingly;
- Each of the categories of property should pay a similar proportion of the total general rates required as under our current system.

An additional change we're proposing to come into effect from 1 July 2024 is to reduce the level of discount on the general rate that is currently provided to properties outside of the urban serviced area, in particular, properties between 0.2 and 5 hectares. These properties are generally classified as rural. We would do this regardless of the option selected.

The options detailed and the examples are based on the draft budget for 2024/25. Following consultation there will most likely be some changes to the budget before it is finalised in June. This means the actual rates set for 2024/25 could change slightly from what the website search tool will show.

Option one

A hybrid option with the majority of general rates being based on land value, and the remainder on capital value (around a 70/30 split)

We think that using a combination of land and capital value to determine rates would be appropriate for our city at this point in time.

We're proposing that 70% of what would normally be set as the general rate would continue to be calculated using a property's land value, and the rest using the capital value.

The part that is calculated using the capital value would be to cover costs for work that comes under our 'Goal 1' which includes things like roading, land rezoning and development to ensure there are more houses and businesses, and supporting economic wellbeing.

This would also mean that utilities under a road (such as energy, water and communication networks) will be rated for the first time and we intend for them to be rated in the same way as other commercial/industrial properties. Utility companies will be the only ratepayers impacted by this change.

This option would also see us treat commercially zoned vacant land as commercial/industrial (for the purposes of the CV based rate) rather than the current miscellaneous category used for the LV based rates. Without this change, rates for this land would have reduced and this would be at odds with our planning objective that owners are encouraged to develop their land.

The hybrid option is preferred because it would also limit the extent of change experienced by the most adversely impacted ratepayers. This includes those residential and commercial/industrial ratepayers with highly valued improvements (relative to the LV). However, this also means property owners with lower levels of improvements on higher valued land may not get as much of a rates reduction than the full CV option.

This hybrid option, if chosen, would come into effect from 1 July 2024.

Our preferred option

Pros

- Reduces the rates for properties that have relatively low levels of improvements on high value land.
- Increases rates for people that have significant improvements on lower value land.
- Marginally expands the rating base to include utilities (e.g. power and phone infrastructure) located in the street.

Cons

- Properties with lower levels of improvements on higher valued land may not get as much rates reduction compared to the full CV option.
- It may be confusing for ratepayers to understand how this system works.

Option two
Capital Value (CV)

For many years, and especially after the last revaluations, many of you have asked us to change the rating system to Capital Value (CV).

Capital value is pretty well understood, as it's the number used when you are purchasing a property, and would also mean we had the same rating system as many other towns and cities throughout New Zealand. Capital Value is made up of the value of the property (the land value and any buildings or improvements). This would see us use your CV at the point of revaluation (every three years) to determine your rates, just as we do now with land value.

This option would see a full change to our rating system, unlike the hybrid option.

This option would also see us treat commercially zoned vacant property as commercial/industrial (for the purpose of CV based rate) rather than the current miscellaneous category used for the LV based rates. Without this change rates for such land would have reduced and this would be at odds with our objectives to encourage owners to develop their land.

We've not identified this as our preferred option due to the significant impact it would have on some property owners including the commercial/industrial sector that play a vital role to our city's economy and employment. Changes to a full CV would reduce rates significantly for some people, but raise them significantly for others.

Due to this level of impact, if this option was preferred by our community, and our council chose to move to this rating system, it would need to be phased in over a three-year period. This is what other councils have also done when they've moved to a CV based system.

On our website we are showing you what the rates would be if we transitioned immediately to 100% CV. This will ensure people see the true impact to them.

Pros

- Easy for people to understand as it's based on the market value of the whole property (including improvements) as at the revaluation date.
- Changes in rates following a city revaluation are likely to be less volatile as the CV has historically seen smaller percentage increases for capital value than for land value.
- Rates are a tax and the CV is more likely to reflect ratepayer's ability to pay than the LV.
- Benefits those with low valued improvements on high valued land.
- Marginally expands the rating base to include utilities (e.g. power and phone infrastructure) located in the street.

Cons

- The impact of changing from the current LV rating system for some ratepayers with a very high CV compared to LV is severe.
- Potential rates for some commercial/industrial properties may discourage further development in the city, particularly in areas on the outskirts of the city.
- There may be less incentive to develop vacant residential land as well as new medium density housing developments as the rates would be lower for unimproved land than under a LV system.

Option three
Maintain the present system – general rate based on LV but include a change to the system so that the present level of discount for rural/semi-serviced properties (between 0.2 and 5 hectares) is reduced

While this option is essentially status quo, the change for rural/semi-serviced properties needs to be noted as we're proposing this is the case for all three options. This is the only change to the 'status quo'.

Pros

- Incentivises development of land as the rates are unchanged when improvements are added to the property.

Cons

- LV may not be an accurate indicator for your ability to pay and therefore a LV based rate may not be considered fair by those who believe this is an important principle for a rating system.
- Revaluations historically in our city tend to see larger percentage increases in land values compared to capital values, meaning there is potentially more volatility in the rates based on LV than CV.

Please make sure you check our website to see what each option looks like for you for your property

**He aha te mea nui?
Māku e kii atu, he tāngata,
he tāngata, he tāngata.**

**What is the most important thing in the world?
Well, let me tell you, it is people, it is people, it is people.**

You are at the core of what we do – and over the coming years some of our big projects are focused on the places you love to spend time in our city.

We're preparing our community facilities for future needs

With a growing city, some of our community facilities are bulging at the seams, some are no longer fit for purpose, and there is potential for new facilities too.

Our goal is to have a connected community, but for that to happen we're going to need to invest in some upgrades and new facilities.

We've spent a lot of time working with the community and stakeholders, completing feasibility and financial assessments, creating masterplans and even early-stage concept designs for these projects.

You can read all of this important background information on our website at pncc.govt.nz/xxxxxx

Multicultural Centre

$750K

Pasifika Centre

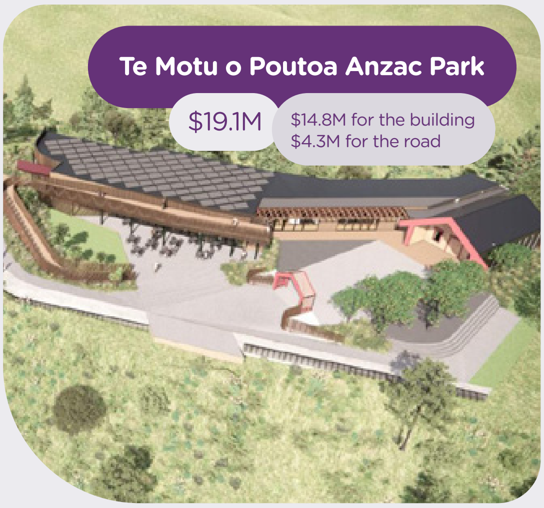
$3.9M

Te Pātikitiki Library

$3.6M

Awapuni Community Library Hub

$29.1M



Te Motu o Poutoa Anzac Park

$19.1M

$14.8M for the building
$4.3M for the road

Central Energy Trust Arena

$36M

These are all very high level concept pictures. No detailed design has been done on any of these projects and what they will look like

Over the next decade, proposed work includes:

Multicultural Centre

Lease space for multicultural communities to use for activities, events and services.

We're proposing to lease a city centre facility to provide a dedicated space for multicultural communities. With more than 130 ethnicities in our city, and Palmy being one of the 13 locations for refugee resettlement, we need space for these communities to gather for events and activities, and space for the delivery of services to meet their needs.

Currently, multicultural community groups are trying to use locations around the city for events, but there aren't enough facilities of the right size.

The Manawatū Multicultural Centre in Hancock Community House is also no longer fit for purpose for the types of activities and services they deliver. We're proposing leasing a facility in the city centre, and we expect we will need to do a complete refurbishment of the space to ensure it is fit for purpose. We have some external funding available that may be able to help contribute to this fit out.

We're proposing to do this in Year 1. A city centre location would help support local businesses and add to the vibrancy of our city centre. We believe the lease for a facility could be up to $100,000 per year and it's likely we will need to spend $750,000 on making it fit for purpose.

The Manawatū Multicultural Council would pay a lease for the new facility to help cover the costs, and it would also be available for bookings for multicultural events and activities.

Pasifika Community Centre

Expand and refurbish existing building.

Our Pasifika Community Centre at Bill Brown Park is in desperate need of expansion to cope with the huge number of people attending events.

We're planning on spending $3.9M in Year 2 on this upgrade to ensure we can continue to meet the needs of our communities that use this space. This includes expanding the main hall area for events, installing a commercial sized kitchen for community use, and workspaces for people to work from – which could include agencies hosting drop-in sessions for the community. Draft concept images on our website show the potential for a Fale to be built at the centre too. This was a community desire, but is not currently budgeted or planned for in this Long Term Plan.

Te Pātikitiki Library

Expand and refurbish existing building.

This library located in Highbury is an important hub for the local community, but it's in need of some refurbishment and expansion to cope with the growth occurring in this area. We're proposing a $3.6M expansion in Year 2. While the traditional collection area where books are wouldn't be increased in size, it would have meeting rooms that could be booked by the community as well as a kitchen for the public to use. Draft concept images on our website show the potential for future play areas around the facility but these are not proposed nor budgeted for in this Long Term Plan.

On the submission form, we will be asking you to provide feedback on each of these projects.

This is being done incase you have different views about different projects.

Te Motu o Poutoa Anzac Park

Create a civic marae with public facilities, as well as visitor and education attractions at Te Motu o Poutoa Anzac Park.

This is one of our most culturally significant sites in the city and a memorial site for those who fought for our country in various conflicts around the world. In 2019 we entered into a formal co-management agreement with Rangitāne o Manawatū to preserve this wāhi tapu (sacred place) and help to more confidently represent the mana and identity of this ancestral site for Rangitāne and the fallen. The proposed visitor attraction would include a building to cater for a variety of uses including a café, meeting rooms, shop and gallery, with capacity to host overnight stays. It would be available for cultural and civic events, education and casual drop-in visits – everyone would be welcome.

We'd also upgrade Cliff Rd which leads to the top of the site as part of this project. Council would fund the roading upgrade ($2.1 of $4.3M) as well as contribute $9.8M to the project. Rangitāne would fund $2M, and the remaining $3M would be funded through an external partnership.

At this stage, the assumption we've made in our draft Long-Term Plan is that in Year 1 and Year 2 we will be working on the detailed design. This is primarily funded from existing funding Council has received from government. We'd begin looking for co-funding during this time, but having the detailed design will provide further information potential co-funders will be interested in, closer to construction. Construction would not occur until external funding and Rangitāne's funding was confirmed. Our plan has construction scheduled to occur between 2025-2027, but those dates may change subject to when funding is confirmed. More information about the park and its significance for Rangitāne can be found on our website.

Central Energy Trust Arena

We're proposing to replace Arena 5 at the Central Energy Trust Arena, as well as build new turfs, toilets and changing blocks.

Our Central Energy Trust Arena is home to more than 3,000 events each year, bringing in more than $100M to our local economy annually.

We've already completed upgrades to the facility – with new speedway pits, an entrance plaza, and an artificial turf. The next stage of work proposed is replacing Arena 5 on the corner of Cuba St and Pascal St before demolishing the current Arena 5 venue. Arena 5 is home to Barber and Bell Halls, Waldegrave Lounge, Gym and Speedway offices.

The buildings are deteriorating quickly, no longer fit for purpose for community needs, and Barber Hall specifically needs seismic repairs before 2034 if it is to remain in the current location. The new facility will be a multi-use indoor stadium, able to accommodate a wide variety of community activities, including community sport, to meet the growing demand.

We're also planning on building a new artificial turf which we would seek co-funding for. Realignment of the back fields will also occur, with all turfs then shaped like a quad, and around them there will be new changing room facilities, toilets, storage, shelter for spectators, and trees situated throughout. These turfs will be designed for multi-use, including rugby and football, which clubs use for sports and events for all ages. The sporting community has been asking for more turfs to help meet the demand for school, casual, training and competition sports. We would complete the artificial turf first, with work starting later this year and next. The work around the other turfs would occur in years 2, 3, 5 and 6.

Replacing Arena 5 with a new building would occur in years 2, 4, and 5. Our draft Long Term Plan has the costs of this project at $36M over years 1-6. All of our Central Energy Trust Arena facilities have hireage fees, which means that while we pay the upfront cost of the development, revenue does help contribute to the maintenance of the facility.

We're also proposing, in partnership with Massey University and Central Football, to create a new artificial turf at Massey's public sporting facilities. These facilities are well used by the community and help bring major sporting events to our city's local economy. Our contribution would be $850,000, but it's reliant on considerable external funding before construction occurs.

Awapuni Community Library Hub

Build a new Awapuni Community Library Hub, which includes expanded community space within a new library.

We lease our current Awapuni library, and it is far too small for what will soon be the suburb with the highest population in our city. This past year we've also had to shut it down for vital repairs to take place due to the age of the building.

Our libraries are very well used, with 5.4 visits per capita, compared to the Australasian standard of 4.5. Our libraries in our suburbs have higher visitor numbers than the Central Library, due to them being homes for community meetings and connection points in neighbourhoods.

We're proposing ending that lease and building a new facility across the road on the site of St Mark's Church (the Church is in favour of this). The 1500sqm building would be home to a library and community facility that could free up space at the Awapuni Community Centre.

This 'community library hub' model is similar to what other cities have created to bring communities together into a shared space. The project provides us with an opportunity to create a sustainable, agile, and future proofed site that can establish a focal point in the Awapuni Community and continue to grow with us in the future – it can include things like meeting spaces and a community kitchen.

The Awapuni hub would also be built to high building standards so it could be a civil defence centre if needed.

We're proposing to start building in Year 2. Building early means that when seismic repairs take place at our Central Library, we would have a large library available for our community. We'd still have a temporary option in the city centre though, as we know how important the foot traffic of people using the library is for businesses in our city centre. The total cost of the Awapuni Community Library Hub, including land purchase is $29.1M.

Option one
Proceed with plan as proposed

Pros

- Community needs are met, and our goal of having a vibrant and welcoming city with a connected community is realised.
- Facilities are future-proofed for community needs long-term.
- Additional spaces are provided for communities to meet, host events, play sport and be together – improving social, cultural and physical wellbeing.
- A new community library hub will have benefits for Awapuni, but also the rest of the city's residents who choose to use it.
- The Awapuni Community Library Hub would provide resilience during a potential civil defence response.
- The Awapuni Community Library Hub would be able to take on additional library services and staff when the Central Library is getting seismically strengthened.
- Restore and enhance the mana and identity of Te Motu o Poutoa Anzac Park.
- Meet Rangitāne's aspirations for Te Motu o Poutoa Anzac Park and strengthen the partnership with Council, and the community.
- Education facilities provided for children in our city to learn more about Te Motu o Poutoa Anzac Park and Rangitāne history.
- A civic marae will allow us to formally welcome dignitaries and others to our city.
- No more sunk maintenance costs in keeping Barber Hall operating long-term.
- Economic development for the city because of people using the new facilities or bringing events to the city.
- Increased revenue opportunities due to the user-pays model for some of these facilities.

Cons

- One project, Te Motu o Poutoa, relies on external and co-funding. If those funds cannot be found, the project would likely be delayed.
- People may prefer to see the costs used on other projects, or saved.
- Increased debt and related repayment costs
- New facilities will require new operations and maintenance budgets.

Financial impact

- The Pasifika Centre – $3.88M
- Te Pātikiki Library – $3.55M
- Central Energy Trust Arena upgrades – $36M
- New Awapuni Community Library Hub – $29.1M
- Te Motu o Poutoa would cost $19.1M for the roading upgrade and the construction. This project relies on Rangitāne and external funding.
- The fitting out and lease for the Manawatū Multicultural Council costs will include an additional retrofitting cost for the facility, expected to be a few hundred thousand dollars, as well as an annual lease which could be up to $100,000.

These projects would add $80.6M to council's debt. Known operating costs in Year 1 are $366,000 increasing to $8.8M in Year 10. $6M of this relates to debt and interest payments. The other $2.8M covers costs for things like lease payments and insurance, power and rates. Every $1.3M of operating costs would add 1% to rates each year.

Option two
Supportive of project/s, but with some conditions

In this option, you can let us know what you would do differently.

It's important for us to know what projects you are in favour of, but that you'd like to make some comments on for us to consider further. Please share feedback about why you would like to proceed with some projects, and the reasons why you'd like to see changes made to others.

Financial impact

Would depend on the project and the changes made.

Pros

- Our community may provide insight and information we hadn't thought of or considered.
- Lower debt and repayment costs if scope of project was reduced, or delayed.

Cons

- Depending on the project, some of the pros detailed in our preferred options may not be realised.
- If the upgrades to Central Energy Trust Arena were not supported, Council would need to consider what this means for Arena 5 long term, with seismic upgrades being needed to continue operating. This could impact the city's local economy which is boosted by events.

Option three
Do not proceed with any of the projects

This option would mean you don't support any of the projects occurring. Please explain your reasons for this in the submission form.

Pros

- Our community may provide insight and information we hadn't thought of or considered.
- We wouldn't need to borrow money to fund these projects, which means ratepayers wouldn't have repayment costs.

Financial impact

We wouldn't need to borrow money to fund these projects, which means ratepayers wouldn't have repayment costs. The money could be reallocated to another area of council services, or it could be saved.

Cons

- We believe there are significant impacts to not proceeding with any projects and this outcome would negatively affect the economic, social, and cultural wellbeing of our community, as none of the pros identified in Option 1 would be realised.
- If the upgrades to Central Energy Trust Arena were not supported, Council would need to consider what this means for Arena 5 long term, which needs seismic strengthening to continue operating. This could impact the city's local economy which is boosted by events.

We need to strengthen some of our city's favourite facilities

Time is ticking for us to seismically strengthen some of our facilities and structures.
Palmy is considered a high seismic risk area.

We have 26 buildings that have been considered 'earthquake prone' because they meet less than 34% of the new building standard (below 34% NBS).

Buildings or other structures can be considered earthquake prone due to their age, size, shape or construction materials. For some of our properties the fix is relatively simple, but for others it's far more significant.

We have until 2039 to get all our buildings or structures up to at least the 34% standard. However, the clock is already ticking on a few of our buildings such as The Regent Theatre, Central Library, and Te Manawa which all need to be addressed before 2033.

While the buildings are considered earthquake prone, they are not considered dangerous so are still ok to be used over the coming years.

Twenty-six is a lot of buildings to get through, and the cost will be high – both for the seismic upgrades but also if we need to move some of these operations (like the library or museum) during construction. Seismic upgrades can be done in different ways – strengthening, rebuilding, retrofitting or partial or full demolition of the building.

For the 26 buildings in total, we used a set of criteria to decide the order in which to complete the seismic upgrades.

Those criteria include:

- Business continuity (would we need to close all or part of the building),
- How critical the facility is especially for a civil defence response,
- Priority buildings under the legislation (this only includes The Regent Theatre),
- Occupancy (how many people work and visit the building),
- The importance of the building under legislation,
- Heritage value, iwi value and how it aligns with our other strategies,
- We also considered potential costs and other work that needs to be done in the building which could be done as part of the seismic work or after it (e.g. a new roof is needed).

We're proposing to only do eight buildings over the next decade, and the rest would be considered and completed in the following five years. We're estimating the costs for the next decade to be $170M (eight buildings), and then about $32M for the rest. By doing the eight most critical buildings first we can ensure there are enough specialist contractors available and those most used and needed by the community are completed.

Those eight critical buildings costs and timings are:

- The Regent Theatre – $13M construction in years 2 and 3
- The Central Library – $65M, seeking 90% external funding, construction in years 4 and 5
- Te Manawa Museum of Art, Science and Heritage – $67M, seeking 90% external funding, construction in years 6 and 7
- Civic Administration Building (Council's city centre office complex) – $17M construction in years 8 and 9
- Caccia Birch House – $6M, seeking 80% external funding, construction in Year 10
- Crematorium underway now
- Wastewater Treatment Plant underway now
- Water Treatment Plant underway now.

You can see the list of all 26 buidlings and structures on our website.

The costs for seismic upgrades are highly indicative – we need to decide what type of strengthening is needed for each of the buildings or structures and then work on the detailed design. In Year 1, we will be working on design and other lead-in work for the Library, Regent and Te Manawa.

For some of these projects in our city centre, we have also assumed the need for more planning work and to seek some form of co-funding. This is explained in more detail over the following pages. Every project will see us work with stakeholders, undertake a procurement exercise for the best price, and have our Elected Members consider the project multiple times before going ahead.

We know these are very big costs and they're top of mind for us. The cost of seismic upgrades can often be the same cost as demolishing and rebuilding a facility. We expect the costs for Te Manawa and the Library will be similar for seismic, or rebuilds that maintain heritage features. This level of detail will be worked through over the coming years. It's essential we spread these costs out for our ratepayers. These first eight facilities are essential services for our community so we have assumed they will all be replaced/upgraded in some shape or form. In the future we will ask you about what you'd like to see for the remaining structures/facilities.

You can give feedback on this work in the 'general comment' section on our submission form'

Our City Centre landmarks have an opportunity to shine brighter

With the Central Library, Te Manawa, and Council's offices all needing seismic upgrades, there is an opportunity for us to seek co-funding, and make these facilities even better than they are now!

The seismic upgrades detailed on earlier pages will cost significant sums – but some also have the opportunity to transform our city centre. If you've been to Christchurch recently, you'll have seen the impact of this firsthand with their new Library and Conference Centre. Tauranga, Invercargill, Hamilton, and many other cities are doing the same with these facilities – with diggers already on site.

We've been looking at what this could look like in Palmy over the past few years too. Rather than just seismic strengthening, how do we draw more people and businesses into our city centre through these iconic cultural institutions? How do we get more people living in our city centre? How could the work on these facilities tell our history, support local businesses, better connect our residents and make our city centre more vibrant?

We've set up a steering group made up of Elected Members, and representatives from business, iwi, tourism, and Te Manawa to plot the path forward for us. We've heard from some of these other cities too. They've explained their process and how they've attracted co-funding to ensure ratepayers aren't the only ones footing the bill.
Tauranga for example has its ratepayers only paying half the cost of the works, with the rest coming from a mix of other funds.

Co-funding can work in various ways- it could be that we lease a building, we could have public private partnerships, or we could receive external grants from government or other funding bodies. We haven't done the groundwork yet to know what is possible in our city- but based on work in other cities we know these are valid options to consider both for better outcomes for our community, and financial reasons.

Our preferred option is that we spend the next three years building on our existing planning and get expert advice about the programme of work and funding, and consulting with you again before proceeding.

In the coming three years, we would be getting seismic design work started for the Regent Theatre and the Central Library, and construction will need to start on The Regent in that time too.

We are proposing to spend $100,000 in Year 1, $102,000 in Year 2 and $104,000 in Year 3 on investigating partnership and for funding opportunities and scoping out the potential for these facilities. There are additional costs involved in the design and construction of these projects.

As we've also explained on the previous page, the costs for seismic upgrades and a rebuild of a facility are expected to be similar due to the nature of these facilities and their locations. This detail will be worked on over the coming year. We've assumed 90% co-funding for the construction of these projects. That means for the estimated $132M for the library and Te Manawa, we would fund $14M. If we cannot seek external funding, we will need to look at alternative options, scope, and other Council projects to ensure we can do the legally required changes

You can read more of our 2019 masterplan for this work which we will use as a starting point. That's on our website at **pncc.govt.nz/xxxxx**

ITEM 7 - ATTACHMENT 1

Option one

Build on our existing planning and continue work to look at the buildings as a collective project and explore co-funding opportunities.

Pros

- We can investigate funding models to help pay for construction and ongoing maintenance, which will help save ratepayers money upfront and over time.
- We can spend a bit more time investigating any housing options before going ahead. This would bring added vibrancy to our city centre, help with housing supply, and could help fund some of the developments.
- We can ensure the plan looks at what other services might be needed in these areas in terms of infrastructure planning (water, transport etc.) to coordinate construction.
- We can ensure improvements have a green focus to help the planet, our resilience and electricity costs long term for ratepayers (e.g. solar, rainwater tanks).
- Planning the development of the facilities together will help us manage the risks and costs more effectively.
- By looking at the facilities together – this will be more appealing for co-funders. It will also show a commitment to private developers that our city centre is a place to invest which will help our local economy and provide jobs.
- You get to provide another round of feedback once we have a more firm plan in place.
- This is the best time to look at this investment and the benefits, rather than once construction is complete.
- This option best meets cultural, economic, and social outcomes for our community.

Cons

- Seismic improvements could be delayed if the planning and funding model work takes longer than expected. (We're assuming three years from planning to having a development deal in place).
- We may need to do some 'patch repairs' to some areas of these buildings that need work in the short term (e.g. the Central Library's roof).
- We could struggle to find one or more funding partners which means we may have to proritise what work gets completed.

Financial impact

$308,000 over three years to conduct further investigation and funding analysis. These costs exclude the construction costs explained on page x.

These projects would add $52M to council's debt. Debt repayment and interest costs will add $300,000 to Year 1 increasing to $3.6M in Year 10. The total interest and repayment costs over the 10 years is $17.8M.

Our preferred option

Option two
Only do the required seismic upgrades of these facilities in their current location, and still seek 90% external funding

Pros

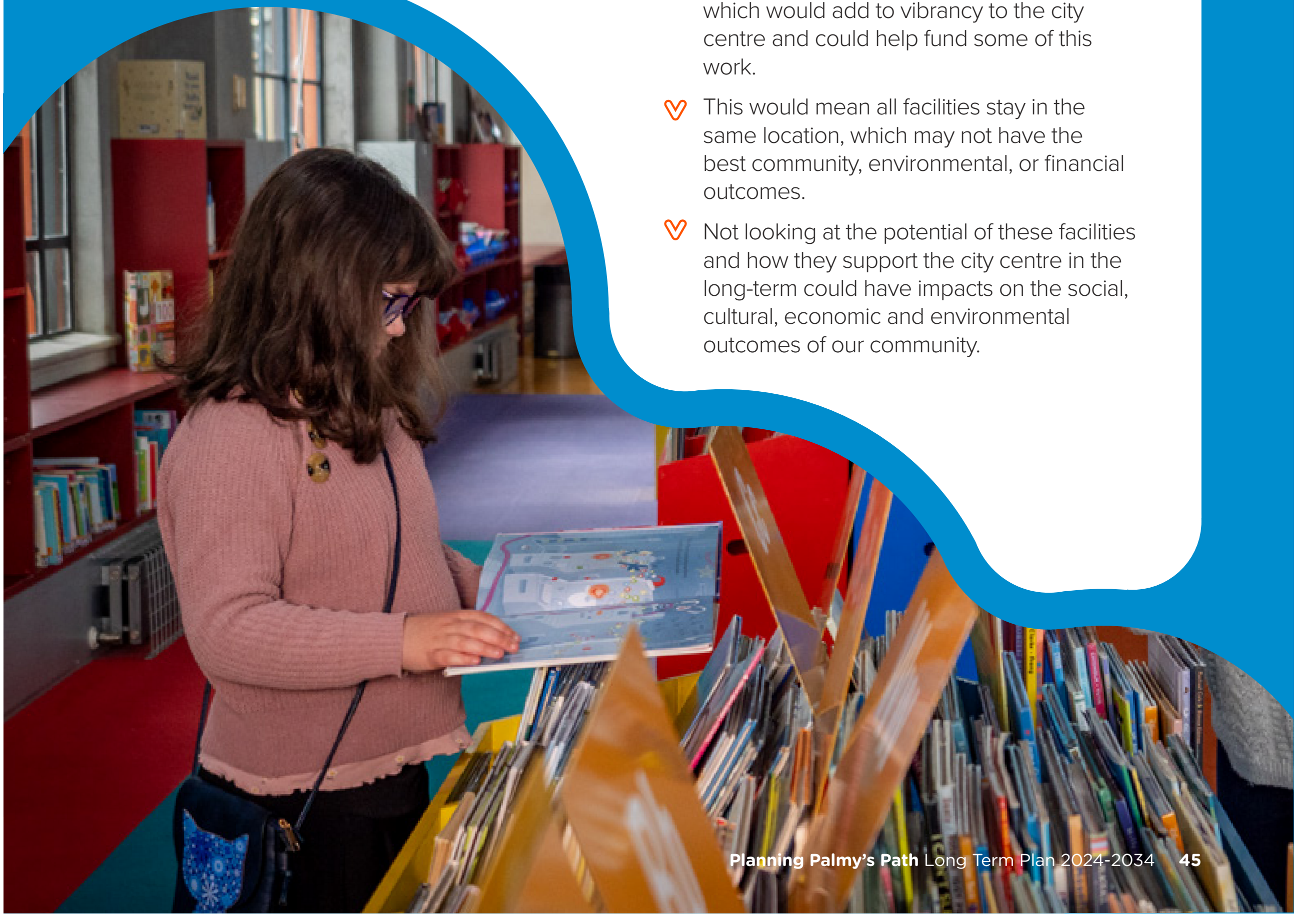
- Seismic upgrades may be able to get underway sooner than Option 1, depending on the time needed for stakeholder engagement and engineering design for each facility.

Financial impact

Construction costs are outlined on page x.

Cons

- Ratepayers could end up paying the same amount but miss out on other opportunities and economic potential for the city that may come from a collective project with a co-funding arrangement.
- This will likely be less appealing to external funders, which may mean our ratepayers bear more costs.
- This option may not see green infrastructure included as we would primarily focus on only the seismic work – this could see a cost over time as the impacts of climate change become felt.
- This doesn't provide options for housing which would add to vibrancy to the city centre and could help fund some of this work.
- This would mean all facilities stay in the same location, which may not have the best community, environmental, or financial outcomes.
- Not looking at the potential of these facilities and how they support the city centre in the long-term could have impacts on the social, cultural, economic and environmental outcomes of our community.



We'll continue to look after our infrastructure

Our Infrastructure Strategy is our roadmap for how we'll manage our infrastructure, when and how we will do the work and how much it will cost.

You can read more about our Infrastructure Strategy on our website **pncc.govt.nz/ltp**

The most significant infrastructure issues that we will need to address in the next 30 years are:

- Supporting growth and liveability in our city
- Delivering the levels of service that you're used to receiving
- Managing the deteriorating condition of our aging assets
- Responding to risks and resilience issues from climate change and natural hazards
- Responding to challenges from increasing standards of compliance

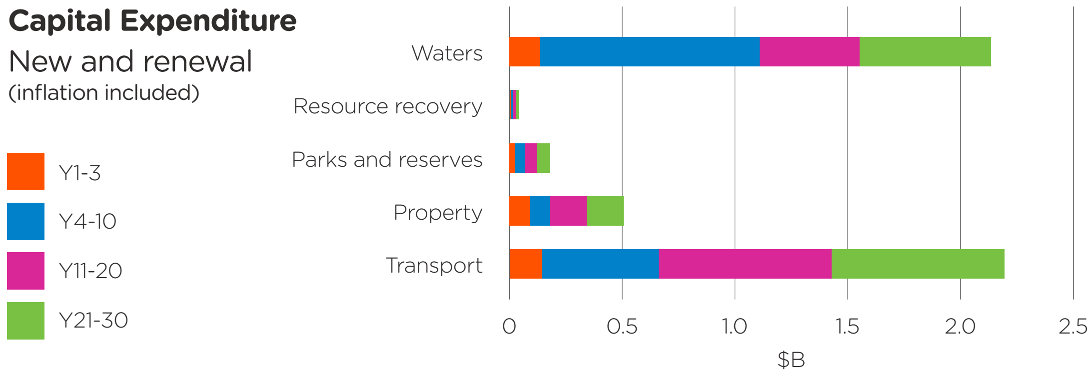
Key projects include:

- Nature Calls wastewater project
- Seismic upgrades
- Upgrades to community facilities
- Providing infrastructure for residential growth
- Replacement/refurbishment of existing assets
- Central Energy Trust Arena
- Te Motu o Poutoa
- Food waste collection
- Social housing
- Palmerston North Intergrated Transport Initiative – which is a range of transport projects in our city centre, and in our growth areas like Te Utanganui. These include safety improvements, cycleways, a new bus terminal in the city, city centre transport upgrades and longer-term projects to support freight movements around our city through an 'outer ring road'. This work is done in partnership with the NZ Transport Agency – Waka Kotahi
- Roading renewals and improvements
- Walking and cycling Improvements
- Drinking water upgrades
- Stormwater resilience

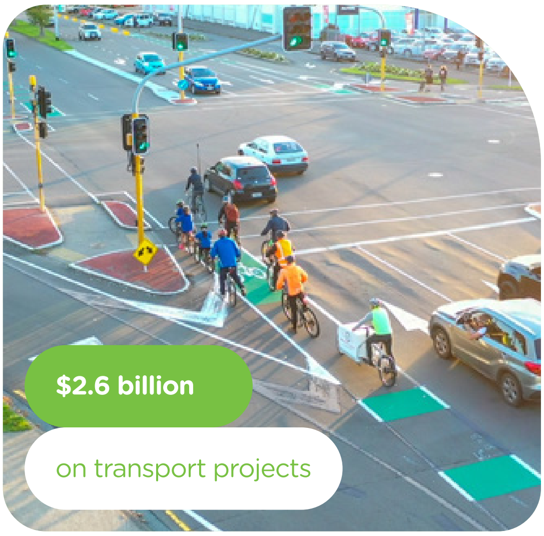
Capital Expenditure

New and renewal

(inflation included)



In the next 30 years, new or replacement infrastructure includes:



Our Financial Strategy guides what we do with money to reach our community's goals

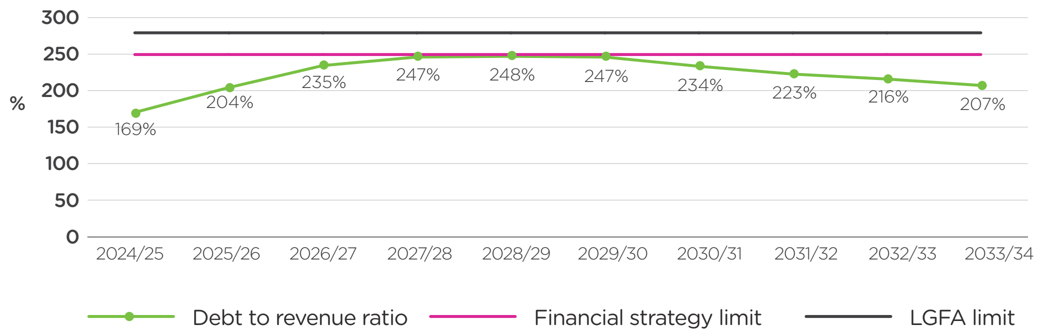
Our Financial Strategy helps guide decisions on budgeting, investment, and revenue generation to help ensure funds are used wisely, services are maintained or improved, and that we have a plan for managing any challenges.

The key points of our Financial Strategy are:

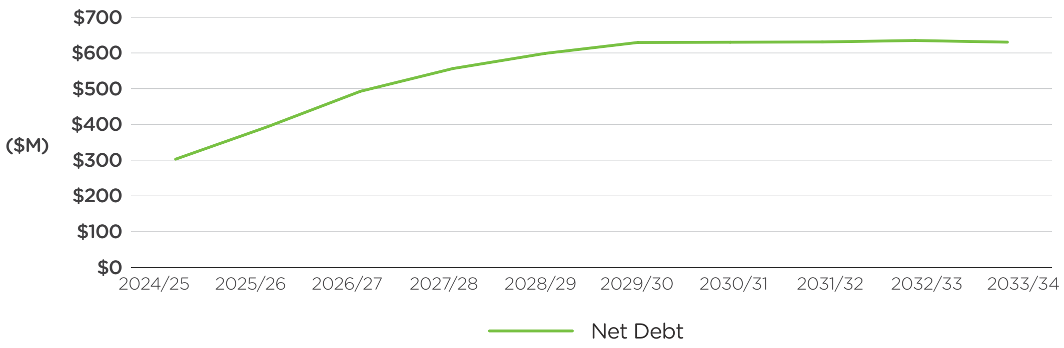
- Our Nature Calls wastewater project poses the largest financial challenge to Council. We do not have the financial capacity to borrow to fund this from our normal funding sources. In our draft plan we have assumed we will be able to use the IFF fund for this project. You can read more about this on page x.
- We have assumed Council will be responsible for providing the water activities throughout the 10 years of our Long-Term Plan. Once we have the new government's direction for its 'Local Water' approach we will be able to shape our plans to fit that. Even though we've assumed that we're responsible for delivering water, we've had to make some hard calls and cut the level of capital spend in the water budgets from Year 4 onwards – to help with the affordability of our plan.
- Over the next decade we will be spending $2.3billion dollars on capital projects. That is made up of $1.559M on Capital New, $291M on Capital Growth and $442M on Capital Renewal. Due to scale of the capital projects proposed, we'll need to borrow more than our current borrowing limits would allow. As a result we have decided to increase Council's maximum debt limit (measured by the net debt to revenue ratio) from 200% to 250%. This ratio is still considered to be prudent and is less than the maximum of 280% available through Council's key borowing source – the NZ Local Government Funding Agency.
- To help ensure we are able to remain within the updated debt limit, it is planned to accelerate the debt repayment between Year 4 and Year 10 of the plan.
- Our latest assessment shows that to protect our infrastructure assets we need to significantly increase the amount we spend on replacing and renewing them. This draft Long-Term Plan provides for a progressive increase in this renewal spending.
- We will look at our land and assets and consider whether they could be used differently to reduce costs.
- We've assumed that many of our projects will need to be funded from more than just debt. We already get some funding from the NZ Transport Agency – Waka Kotahi as well as other external grants to help with projects. We're hoping to add to this with tools like the IFF and Public Private Partnerships (leasing properties rather than owning them). Some projects we've tagged for external funding include some growth programmes, Te Motu o Poutoa Anzac Park and seismic upgrades to our Central Library and Te Manawa. Every project would be looked at separately to determine the co-funding we need. If we can't find the best solution for our ratepayers, we'll have to re-scope, stop or re-prioritise this work ahead of other projects.
- Like other cities in New Zealand, our proposed rates increases throughout the term of the plan are higher than previously assumed would be necessary. If we end up using the IFF for Nature Calls, our ratepayers will have a large levy in addition to their rates from around Year 4. If we use a similar tool for growth programmes, this could also impact some ratepayers.

Borrowing limits	Policy maximum	Forecast level at 30 June 2025	Forecast maximum during 10 years	Forecast level at 30 June 2034
Net external debt as a percentage of total assets	20%	13%	20%	14%
Net external debt as a percentage of total revenue	250%	169%	248%	207%
Net interest as a percentage of total revenue	15%	8.2%	12.5%	10.6%
Net interest as a percentage of annual rates income	20%	10.6%	15.3%	12.7%
Liquidity	110%	115%	115%	108%

Debt to revenue ratio



Net debt forecast



Your rates over the next decade will need to increase significantly

For the first year of the Long-Term Plan (2024/25), total rates will need to increase by 11.7% to fund increased operating costs and to service our debt that we borrow for capital projects.

Operational costs are generally the day to day costs involved for a Council running a city, while capital costs are generally our construction projects.

Around half of the increase we are currently facing is to cover increased interest costs and repayment of our current debt used to fund past infrastructure projects. We use debt to help fund these big projects to spread the cost over those who will benefit from the asset over its life. They work like a mortgage with us paying interest and principal back each year.

We've also had some big increases to our insurance and utility (power and gas) costs – just like you have. As we've also been updating our software over the last few years, this has meant we've had to increase our licensing costs to access these programmes – it's really expensive and unfortunately we need them to help keep the city running.

Like other cities in New Zealand our proposed rates increases throughout the term of the plan are higher than previously assumed would be necessary.

The Year 1 cost increases for our operational areas are below:

Operating cost	Impact on rates for 2024/25 (Year 1)
Interest costs on debt	4.0%
Debt repayment	2.2%
Rolling average renewal increase	0.8%
Labour costs – market movement	3.6%
Utilities and insurance	0.4%
Software licenses	0.6%
All other (Contractors, professional services, materials, revenue [excluding rates] etc.)	0.1%

Our proposed total rate increases over the next ten years

Year 1 2024/25	Year 2 2025/26	Year 3 2026/27	Year 4 2027/28	Year 5 2028/29	Year 6 2029/30	Year 7 2030/31	Year 8 2031/32	Year 8 2032/33	Year 10 2033/34
11.7%	9.9%	9.8%	9.0%	7.8%	6.6%	5.9%	6.1%	4.2%	4.2%

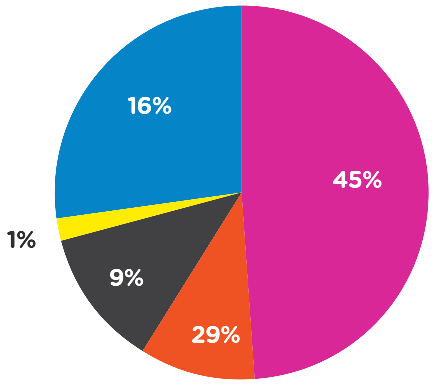
This shows the total increase in rates council needs. Each property will differ. You can search your proposed increase for Year 1 on our website. The numbers will be different for different property owners, depending on which rating system is chosen. Rates are reviewed annually as part of our Annual Budget.

At this stage, we have assumed that the cost of the planned Nature Calls project will be funded through the IFF tool.

It will be in addition to the rates increases shown, but would be shown on your rates bill as a separate levy. We think this levy will start to be phased in around Year 4, or after construction has started.

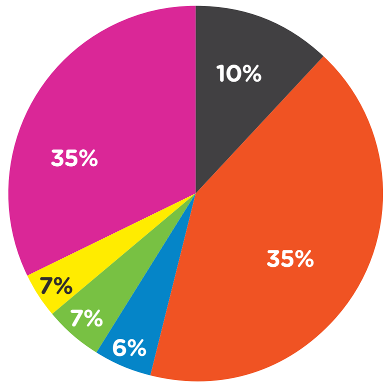
It is too soon in the planning process to know with any certainty how much the repayments will be but early estimates are that the levy for each ratepayer could be at least $1,000 per year over 30 years (over and above your rates costs).

What are the proposed sources of funds?



- Rates
- Subsidies, grants and external funding
- Fees, charges, sales and other income
- Development contributions
- Additional loans

What is it proposed that money will be spent on?



- Operations and maintenance
- Finance costs (e.g. interest)
- Loan repayment
- Capital expenditure to meet additional demand
- Capital expenditure to improve the level of service
- Capital expenditure to replace existing assets

Rates for 2024/25

We're proposing that for 2024/25, rates will continue to be made up of a portion that has fixed charges (like recycling or water charges) and a portion based on the rateable value of the property.

The charges below are for our 'preferred' hybrid rating system. They will change depending on the rating system selected.

The fixed charges are shown in the following table:

Charge type	Charge	What it pays for
Water	$430	The cost of providing water
Wastewater	$386	The cost of treating and disposing of wastewater
Kerbside Recycling	$144	The cost of kerbside recycling
Rubbish and Public Recycling	$64	General rubbish and recycling costs, including transfer stations, cleaning up fly tipping, community education
General	$200	Contributes to paying for all other Council services and helps ensure all properties contribute a more equal share of cost rather than it all being based on the land value

All properties are charged the General and Rubbish and Public Recycling charges. Those who have access to the other services are also charged for them.

Non-residential properties are also charged a wastewater charge based on the number of toilets they have and are billed separately for water they use, which is metered.

Here are some examples of rates you may pay for your home or business

These examples are based on our preferred option following our rates review, which proposes some changes to the rating system.

Our preferred option would see the introduction of a new targeted rate for Transport and Economic Development based on the capital value of a property, with the general rates remaining based on land value.

This change would see approximately 30% of the general rate being transferred from the land value to the capital value base.

It's important you read pages xxxxxxx to determine the impact of the rates review for you, and to give feedback.

We're only showing a few examples – you can search what this means for your property on our website.

	Single Unit Residential				Two Unit residential			
Land Value	$360,000	$455,000	$468,000	$540,000	$450,000	$525,000	$561,000	$625,000
Capital Value	$590,000	$690,000	$739,000	$840,000	$675,000	$770,000	$829,000	$920,000
	Quartile 1	Median	Average	Quartile 3	Quartile 1	Median	Average	Quartile 3
General Rates $ Incl. UAGC of $200	1,446	1,775	1,820	2,069	2,390	2,755	2,930	3,241
Targeted Rates based on CV $	495	579	620	705	888	1,013	1,091	1,210
Targeted Rates for services $	1,024	1,024	1,024	1,024	2,048	2,048	2,048	2,048
Total Proposed Rates $	2,965	3,378	3,464	3,798	5,326	5,816	6,069	6,499
Increase $ above 2023/24	230	229	258	278	468	503	537	579

	Non-Residential (Commercial/Industrial)				Miscellaneous			
Land Value	$385,000	$620,000	$1,022,000	$1,110,000	$295,000	$550,000	$916,000	$965,000
Capital Value	$610,000	$1,030,000	$2,402,000	$2,295,000	$400,000	$720,000	$1,746,000	$1,445,000
	Quartile 1	Median	Average	Quartile 3	Quartile 1	Median	Average	Quartile 3
General Rates $ Incl. UAGC of $200	5,310	8,429	13,764	14,932	1,505	2,633	4,252	4,469
Targeted Rates based on CV $	1,471	2,484	5,794	5,536	439	789	1,914	1,584
Targeted Rates for services $	450	450	450	450	64	64	64	64
Total Proposed Rates $	7,231	11,363	20,008	20,918	2,008	3,486	6,230	6,117
Increase $ above 2023/24	252	496	2,490	2,124	78	150	875	492

	Rural/Semi-serviced (between 0.2 + 5Ha)				Rural/Semi-serviced (5Ha or more)			
Land Value	$435,000	$520,000	$549,000	$590,000	$520,000	$730,000	$1,373,000	$1,218,000
Capital Value	$950,000	$1,180,000	$1,202,000	$1,390,000	$551,000	$1,102,000	$1,585,000	$1,670,000
	Quartile 1	Median	Average	Quartile 3	Quartile 1	Median	Average	Quartile 3
General Rates $ Incl. UAGC of $200	1,451	1,696	1,779	1,897	775	1,007	1,719	1,547
Targeted Rates based on CV $	677	841	857	991	211	423	608	641
Targeted Rates for services $	64	64	64	64	64	64	64	64
Total Proposed Rates $	2,192	2,601	2,700	2,952	1,050	1,494	2,391	2,252
Increase $ above 2023/24	689	864	883	1,022	30	184	195	269

Non-residential examples do not include any rates for wastewater based on the number of toilet pans or water charged by meter. The proposed charge per pan is $XX. Metered water is charged on the basis of a fixed amount (depending on the size of the connection) and the balance by volume used. Increases are proposed for metered water. The examples do not include the rate for central city commercial properties to fund the Palmy BID.

What your rates cover each week

This is based on a residential property with a land value of $468,000 and a capital value of $739000. These are costed on our 'preferred' hybrid rating system.

$9.17
13.77%
Recreation and play

$1.80
2.7%
Active and public transport

$8.27
12.42%
Water

$4.00
6.01%
Resource recovery

$5.00
7.52%
Arts and heritage

$4.70
7.06%
Community support

$3.03
4.55%
Housing

$0.96
1.44%
Biodiversity and the Manawatū river

$1.40
2.10%
Community safety and health

$11.14
7.42%
Wastewater

$5.87
3.91%
Governance and active citizenship

$4.24
6.39%
Libraries

$3.28
4.92%
Economic development

$3.06
2.04%
Stormwater

$0.04
0.06%
Organisational performance and strategic investments

$0.54
0.81%
Urban design

$0.68
1.02%
Climate change mitigation and adaption

=

$XX.XX
per week for average ratepayer

We need your feedback on some other topics too!

We'd love your feedback on how we engage you in our decision making.

All councils are required to have a Significance and Engagement Policy. The policy governs how we determine the importance or significance of an issue, proposal, or decision, and in turn how we'll engage with our community as part of the decision-making process.

Read more at pncc.govt.nz/XXX

We're also seeking your feedback on increases to our fees and charges

While some of the services provided by Council are funded by rates, fees and charges are another way we fund some of the things we do. We have a wide range of fees and charges, that work on a user-pays model. This means all ratepayers don't need to pay for these things.

We review these annually. Read more on proposed changes at pncc.govt.nz/fees

TBC

You can give feedback on our updated Revenue and Financing Policy

The Revenue and Financing Policy outlines how we plan to fund the operating costs and capital expenditure for each of the Council's activities. It guides our approach to the setting of fees and charges and rates.

TBC

We'd also like your feedback on our rates remission and postponement policies.

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Xxxxxxxxxxxxxxxxxxx Xxxxxxxxxxxxxxxxxxx xxxxxx xxxxxxx xxx xxxx xxxxxXxxxxxxxxxxxxxxxxxx Xxxxxxxxxxxxxxxxxxx xxxxxx xxxxxxx xxx xxxx xxxxxXxxxxxxxxxxxxxxxxxx wording to come from Steve.

Read these proposed policies at pncc.govt.nz/policies

TBC

Want to talk to our Elected Members about your submission?

That's easy for us to arrange! Simply tick the box on the submission form to let us know you'd like to speak at a hearing.

We want it to be as easy as possible for you to give feedback on a range of topics, so hearings for these consultations will be part of our Long-Term Plan consultation sessions in mid-May.

We'll be in touch to confirm the day, and time to speak, as well as the topics you'd like to cover.

We need you to also give feedback on our proposed strategy to guide Palmy's future growth

The government requires Palmerston North City Council and Horizons Regional Council to have a strategy for future development for the Palmerston North district, which outlines how the wider district grows over the next 30 years.

Projects that help our city grow are included in our draft Long-Term Plan. This includes $291M spending on infrastructure.

Our draft strategy outlines how we're working on plans for housing growth in a number of areas at the edge of the city like Aokautere, Kikiwhenua and Kākātangiata to the west of the city. We're also planning to enable more growth within the city by allowing homes in some areas to be built higher and closer together.

To support economic growth, we're planning some expansion around the current North East Industrial Zone. This would allow the city and surrounding district to capitalise on our central position in the national freight and logistics network, through our Te Utanganui, Central New Zealand Distribution Hub masterplan.

Please read our proposed Future Development Strategy and have your say at **pncc.govt.nz/xxxx**

You can take a look at our draft strategy (and Statement of Proposal) and provide your feedback by making a submission at pncc.govt.nz/futuregrowth or by filling in a hardcopy submission form which is available at our Customer Service Centre and community libraries.

The consultation period runs from 15 March 2024 - 5 May 2024

As both Palmerston North City Council and Horizons Regional Council will be hearing submissions, hearings for your feedback will be held separately to our Long-Term Plan hearings, but with similar timeframes. If you'd like to talk to Elected Members, it's important you select this option on your submission form

Following hearings, we consider all the submissions, make any changes, and adopt the Future Development Strategy as our plan for growth in Palmy over the next 30 years.

We want your feedback on our plans for reducing waste in our city!

Our goal is to continue to make it easy for our residents to choose to reduce, reuse and recycle, rather than sending more waste to landfills.

The Waste Management and Minimisation Plan (WMMP) outlines how we will manage our waste in the future. We review our Waste Management and Minimisation Plan (WMMP) at least once every six years. We're doing this review early so we can include it as part of the consultation on our Long-Term Plan.

Read our draft Waste Management and Minimisation Plan and have your say at **pncc.govt.nz/xxxxxx**

Key new projects as part of our Plan are:

- Introducing a city-wide kerbside food scraps collection service.
- Working with the construction sector to get more demolition material being reused or recycled rather than sent to landfill.
- Upgrading important machinery in our Recycling Centres so that we can continue to process your recycling.
- Investigating whether there is a need for a new site for green waste and recycling drop-off.
- Monitoring contamination of recycling bins and illegal dumping more intensively in the future.

Let us know your thoughts on proposed changes to our Development Contributions Policy.

If you're subdividing your land, planning to build a home or build or expand a business, it's likely you'll need to pay development contributions.

Development contributions are paid on any subdivision or development that generates extra demand on infrastructure in our city. This helps reduce the financial burden on ratepayers and ensure our city infrastructure is fairly funded.

Our policy for how we set contributions is reviewed every three years, and we're keen to hear your thoughts.

Our proposed changes to the policy are:

- Changing the contributions required for developments. We're proposing an increase in the contributions for residential development and a corresponding decrease in the non-residential fee to more equitably distribute the cost of growth, which supports economic development in our city.
- Proposing new development contribution areas for Roxburgh Crescent and the Matangi development area, which was formerly known as Whiskey Creek, which is the area on the cusp of Cloverlea and Milson.
- Updating the household growth projections contained within the Policy.
- Amending appendix maps relating to water, wastewater, stormwater and local reserves to show changes in infrastructure over the past three years.
- Updating development contributions fees schedule which shows how much people pay.

We have a lot more information available on our website.

You can read more at pncc.govt.nz/policy

Come and chat to us!

We know you'll have questions and ideas and we're here to help.

We have both topic specific and general sessions. For topic specific sessions we will have specialist staff from those areas able to answer your questions on those topics. For the general sessions we won't have those specialist staff available.

Have your say
xx April – xx May

TBC

Join us online!

Facebook Live/Youtube Q+A xxxxxxxx date and time. Join us for a live 'ask us anything' session. This session will be livestreamed on Council's Facebook and Youtube channels and kept there for future viewing.

Fill in a submission form

We've got three easy ways you can do this!

- Head on over to page xxx and fill it in and post it to us at

  Long-term plan submissions
  Palmerston North City Council
  Freepost PX33317
  Palmerston North DX Sort

- Fill in a hardcopy form at one of our libraries or customer service centres and drop it in the submission box
- Head to our website and do it now **pncc.govt.nz/ltp**

Chat to one of the decision makers, aka **our Elected Members**

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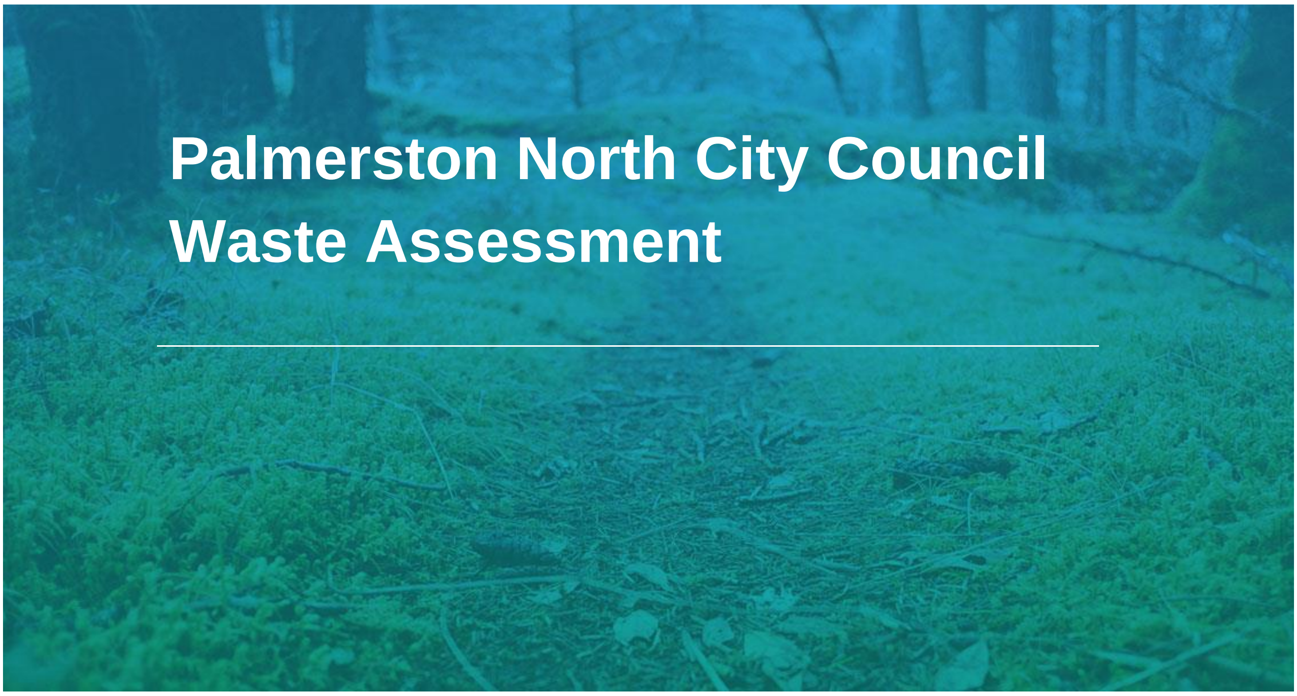
PAPAIOEA
PALMERSTON NORTH CITY

ITEM 12 - ATTACHMENT 1



Palmerston North City Council Waste Assessment

November 2023

Approved by

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Acknowledgements

Disclaimer

Eunomia Research & Consulting has taken due care in the preparation of this report to ensure that all facts and analysis presented are as accurate as possible within the scope of the project. However, no guarantee is provided in respect of the information presented, and Eunomia Research & Consulting is not responsible for decisions or actions taken on the basis of the content of this report.

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1 Introduction

This Waste Assessment has been prepared for Palmerston North City Council (Council) by Eunomia Research & Consulting (with the s1upport of Waste Not Consulting) in accordance with the requirements of the Waste Minimisation Act 2008 (WMA). This document provides background information and data to support the Council's waste management and minimisation planning process.

1.1 Structure of this Document

This document is arranged into a number of sections designed to help construct a picture of waste management and minimisation in the district. The key sections are outlined below.

Introduction

The introduction covers a number of topics that set the scene. This includes clarifying the purpose of this Waste Assessment, its scope, the legislative context, and key documents that have informed the assessment.

Horizons Region

This section presents a brief overview of regional plans that influence the quantities and types of waste generated and potential opportunities. It also provides an overview of regional waste facilities, and initiatives that may be of relevance to how the district manages its waste.

The City

This section presents a brief overview of key aspects of the city's geography, economy, and demographics that influence the quantities and types of waste generated and potential opportunities.

Waste Infrastructure, Services, Data and Performance Measurement

These sections examine how waste is currently managed, where waste comes from, how much there is, its composition, and where it goes.

Gap Analysis and Future Demand

This section provides an analysis of what is likely to influence demand for waste and recovery services in the district and region and identifies key gaps in current and future service provision, and the Council's ability to promote effective and efficient waste management and minimisation.

Statement of Options & Council's Proposed Role

These sections develop options available for meeting the forecast future demand and identify the Council's proposed role in ensuring that future demand is met, and that the Council is able to meet its statutory obligations.

Statement of Proposals

The statement of proposals sets out what actions are proposed to be taken forward. The proposals will be carried forward into the Waste Management and Minimisation Plan (WMMP).

Appendices

The appendices include the consultation response from the Medical Officer of Health as well as additional detail on the national context.

1.2 Purpose of this Waste Assessment

This Waste Assessment is intended to provide an initial step towards the development of a WMMP by the Council and sets out the information necessary to identify the key issues and priority actions that will be included in the draft WMMP.

Section 51 of the WMA outlines the requirements of a waste assessment, which must include:

- a description of the collection, recycling, recovery, treatment, and disposal services provided within the territorial authority's area;
- a forecast of future demands;
- a statement of options available to meet the forecast demands with an assessment of suitability of each option;
- a statement of the territorial authority's intended role in meeting the forecast demands;
- a statement of the territorial authority's proposals for meeting the forecast demands; and
- a statement about the extent to which the proposals will protect public health, and promote effective and efficient waste management and minimisation.

1.3 Legislative Context

Government is currently working on new comprehensive legislation to replace both the WMA and the Litter Act (1979). Some decisions have been made on what the new legislation will entail, and further advice on some aspects will be provided in late 2023. The new legislation will then be drafted by the Parliamentary Counsel Office based on these decisions. The draft legislation will then go through the select committee process, and be enacted in 2025.

The stated purpose of the WMA is to:

> "encourage waste minimisation and a decrease in waste disposal in order to
>
> (a) protect the environment from harm; and
>
> (b) provide environmental, social, economic, and cultural benefits.

To further its aims, the WMA requires councils to promote effective and efficient waste management and minimisation within their district. To achieve this, all councils are required by the legislation to adopt a WMMP.

The WMA requires every TA to complete a formal review of its existing WMMP at least every six years. The review must be consistent with WMA sections 50 and 51. Section 50 of the WMA also requires all TAs to prepare a 'waste assessment' prior to reviewing its existing plan. This document has been prepared in fulfilment of that requirement. The Council's existing Waste Assessment (including a review of the last WMMP) was produced in December 2018, and a new WMMP was adopted in June 2019.

Further detail on key waste-related legislation is contained in Appendix A.2.0.

1.4 Scope

1.4.1 General

As well as fulfilling the statutory requirements of the WMA, this Waste Assessment will build a foundation that will enable Council to review and/or update its WMMP in an informed and effective manner, as required. In preparing this document, reference has been made to the Ministry for the Environment's 'Waste Management and Minimisation Planning: Guidance for Territorial Authorities'[1], while noting that this guidance dates back to 2015 and has, to an extent, been superseded through practice.

A key issue for this Waste Assessment will be forming a clear picture of waste flows, waste management options and waste reduction/diversion opportunities in the region. The WMA requires that a waste assessment must contain:

"A description of the collection, recycling, recovery, treatment, and disposal services provided within the territorial authority's district (whether by the territorial authority or otherwise)".

This means that this Waste Assessment must take into consideration all waste and recycling services carried out by private waste operators as well as the Council's own services. While the Council has reliable data on the waste flows that they control, data on those services provided by private industry is limited. Reliable, regular data on waste flows is important if the TA chooses to include waste reduction targets in their WMMP. Without data, targets cannot be readily measured.

Te rautaki para | Waste strategy, the New Zealand waste strategy (NZWS) released in 2023, also repeatedly refers to central and local councils as being the key agencies by which many goals could be achieved, contributing to reduction in waste generation and the move to a low carbon and low waste circular economy.

1.4.2 Period of Waste Assessment

The WMA requires WMMPs to be reviewed at least every six years, but it is considered prudent to take a longer-term view. The horizon for the WMMP is not fixed but is assumed to be centred on a 10-year timeframe, in line with council long term plans (LTPs). For some assets and services, it is necessary to consider a longer timeframe and this is taken into account where appropriate. Therefore, the period of the Waste Assessment looks forward over at least the next ten years, and sometimes longer (in the case of facilities, e.g. landfill consenting).

---

[1] Ministry for the Environment (2015), Waste Management and Minimisation Planning: Guidance for Territorial Authorities

1.4.3 Consideration of Solid, Liquid and Gaseous Wastes

The guidance provided by the Ministry for the Environment on preparing WMMP's states that:

"Councils need to determine the scope of their WMMP in terms of which wastes and diverted materials are to be considered within the plan".

The guidance further suggests that liquid or gaseous wastes that are directly managed by a TA, or are disposed of to landfill, should be seriously considered for inclusion in a WMMP.

Other wastes that could potentially be within the scope of the WMMP include gas from landfills and the management of biosolids from wastewater treatment plant (WWTP) processes.

The nearest landfill to Palmerston North is Bonny Glen landfill, which has a landfill gas capture system in place.

In line with the Council's previous WMMP, this Waste Assessment is focused on solid waste that is disposed of to land or diverted from land disposal, including solid waste collected and disposed of by commercial enterprise as well as waste collected by the council.

However, given the current government work on restructuring water services (including waste water), this WA and any resulting WMMPs will not include management of solid wastes resulting from these activities.

1.4.4 Public Health Issues

Protecting public health is one of the original reasons for local authority involvement in waste management. Te rautaki para, the new Waste Strategy, refers to protection of human health as one of the outcomes from successful recovery of resources.

Protection of public health is currently addressed by a number of pieces of legislation. Discussion of the implications of the legislation is contained in Appendix A.2.0.

1.4.4.1 Key Waste Management Public Health Issues

Key issues that are likely to be of concern in terms of public health include the following:

- population health profile and characteristics;
- implications of pandemic management, e.g. increases in some waste materials;
- meeting the requirements of the Health Act 1956;
- management of putrescible wastes;
- management of nappy and sanitary wastes;
- potential for dog/seagull/vermin strike;
- timely collection of material;
- locations of waste activities;
- management of spillage;
- litter and illegal dumping;
- medical waste from households and healthcare operators;
- storage of wastes;
- management of biosolids/sludges from WWTP;
- management of hazardous wastes (including asbestos, e-waste, etc.);

- private on-site management of wastes (i.e. burning, burying);
- closed landfill management including air and water discharges, odours and vermin; and
- health and safety considerations relating to collection and handling.

1.4.4.2 Management of Public Health Issues

From a strategic perspective, the public health issues listed above are likely to apply to a greater or lesser extent to virtually all options under consideration. For example, illegal dumping tends to take place ubiquitously, irrespective of whatever waste collection and transfer station systems are in place. Some systems may exacerbate the problem (infrequent collection, user-charges, inconveniently located facilities etc.) but, by the same token, the issues can be managed through methods such as enforcement, education and by providing convenient facilities.

In most cases, public health issues will be able to be addressed through setting appropriate performance standards for waste services. It is also important to ensure performance is monitored and reported on and that there are appropriate structures within the contracts for addressing issues that arise. There is expected to be added emphasis on workplace health and safety under the Health and Safety at Work Act 2015. This legislation could impact on the choice of collection methodologies and working practices and the design of waste facilities, for example.

In addition, public health impacts will be able to be managed through consideration of potential effects of planning decisions, especially for vulnerable groups. That is, potential issues will be identified prior to implementation so they can be mitigated for.

1.5 Strategic Context

1.5.1 New Zealand Waste Strategy

The 2023 New Zealand Waste Strategy (NZWS) is the first time New Zealand's national strategic direction for waste has been reviewed since 2002, and unsurprisingly takes quite a different approach to the previous Strategy.

The vision of the 2023 NZWS, Te rautaki para, is:

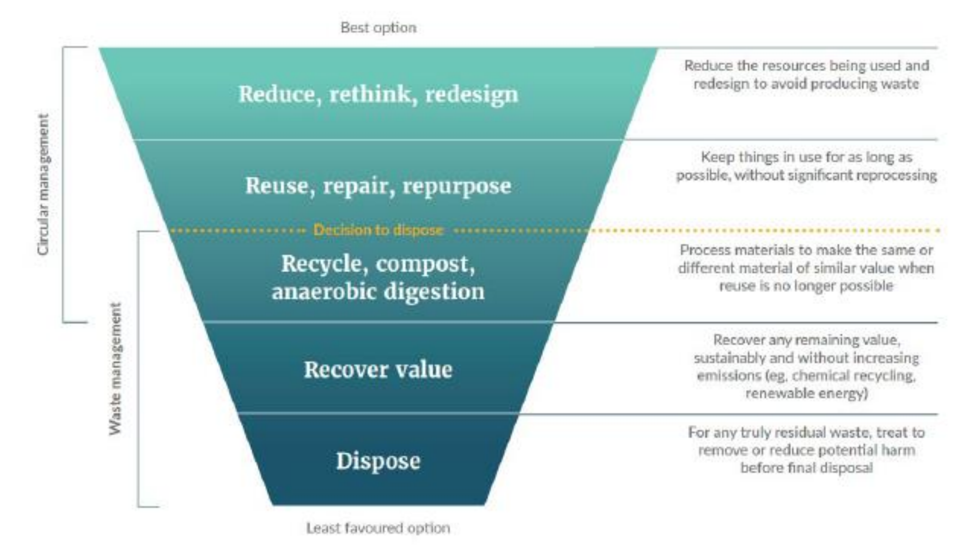
> *"By 2050, Aotearoa New Zealand is a low-emissions, low-waste society, built upon a circular economy.*
>
> *We cherish our inseparable connection with the natural environment and look after the planet's finite resources with care and responsibility"*

This vision is supported by six guiding principles:

- Take responsibility for how we make, use, manage and dispose of things
- Apply the waste hierarchy preferences to how we manage materials
- Protect and regenerate the natural environment and its systems
- Deliver equitable and inclusive outcomes
- Ensure our systems for using, managing and disposing of materials are financially sustainable
- Think across systems, places and generations

A revised waste hierarchy is included in Te rautaki para, shown below; intended to illustrate which options are the best, and which are least favoured – the general principle being that options towards the top of the hierarchy have better waste minimisation outcomes and less environmental impact that those towards the bottom of the hierarchy.

Figure 1: Revised Waste Hierarchy



The strategy has three phases:

- Embedding circular thinking into systems (by 2030)
- Expanding to make circular normal (to 2040)
- Helping others do the same (by 2050)

Each of the three phases has associated goals, some of which are particularly relevant to a Waste Assessment and WMMP process; others more relevant to central government, the wider public, the community/private sector, or other local government roles such as contaminated land management.

The key role for local government is described in the Strategy as:

- getting involved in implementing the strategy and the process of developing the action and investment plan – using the strategy as a starting point for WMMPs;
- looking for opportunities to work with other councils, particularly on facilities and services that support a 'national circular resource management network';
- supporting local community groups and non-governmental organisations with waste reduction initiatives;
- incorporating national behaviour change programmes in local activity;
- ensuring planning and consenting processes consider the need for waste management infrastructure and services; and
- planning and resourcing contaminated land management including vulnerable landfills.

The Strategy has three targets to be achieved by 2030:

- Reduce waste generation by 10% per person
- Reduce waste disposal by 30% per person
- Reduce biogenic methane emissions from waste by at least 30%

However, at this point no baseline has been set.

Further detail on the implications of the Waste Strategy is set out in Appendix A.2.1.

Section 44 of the WMA requires councils to have regard to the NZWS when preparing their WMMP. For the purpose of this Waste Assessment, we have given regard to the NZWS and Council's current WMMP.

These sections are discussed in more detail in Appendix A.2.0.

1.5.2 Waste Minimisation Act 2008

As signalled during consultation and in the recently-released Te rautaki para, MfE is also currently working on a review of the WMA to improve or amend provisions and consider new provisions. The provisions for use of landfill levy funds (the government's fee which is added to every tonne of waste disposed of to landfills) and the administrative and decision-making processes around this use will also be reviewed and improved. This review will also consider whether, and how, the Litter Act (1979) could be reviewed to better integrate with and support the WMA. In July 2023, MfE proactively released cabinet papers, a regulatory impact statement, and minutes of decisions for the initial stages of this process (occurring during March 2023). These proposals include the intention to replace the WMA and the Litter Act with a new single Act.

The WMA has been amended by the 2021 waste disposal levy regulations[2], which set out the progressive increase and expansion of the landfill levy starting 1 July 2021; and supplemented by regulations banning specific items, including microbeads[3] (2017), plastic shopping bags[4] (2018), and numerous tranches of plastics packaging during 2022 and 2023, as described in section **Error! Reference source not found.**.

Currently, the WMA provides for half of the revenue from the waste levy to be distributed to councils. These funds are provided pro rata, based on population, and must be spent on waste minimisation and in accordance with each authority's WMMP. There have been indications that issues with the current levy distribution may be addressed. One such issue is the amount of levy paid to councils that have a low residential population, but very high visitor numbers that create waste that needs to be accommodated in services and infrastructure.

The waste disposal levy is outlined further in the following subsection.

---

[2] https://www.legislation.govt.nz/regulation/public/2021/0068/latest/LMS474556.html#LMS474591

[3].https://www.legislation.govt.nz/regulation/public/2017/0291/latest/DLM7490715.html?search=ts_act%40bill%40regulation%40deemedreg_microbeads_resel_25_a&p=1

[4] https://www.legislation.govt.nz/regulation/public/2018/0270/6.0/whole.html

1.5.3 Other Relevant Waste Initiatives

1.5.3.1 Container Return Scheme

Container return schemes (CRS) place a deposit on all containers when sold. This deposit can then be redeemed by consumers when they return the containers. These schemes are in wide use worldwide including Australia and are designed to promote higher rates of recovery of containers and reduce littering by providing an incentive to consumers.

In 2019, the MfE funded a project led by Auckland Council and Marlborough District Council on the research and design of a potential container return scheme for New Zealand. The outcomes from this project were reported to MfE, who analysed the information and produced advice for ministers.

As part of the 'Transforming Recycling' consultation, MfE then consulted on a detailed implementation proposal for a container return scheme in New Zealand; and feedback indicated widespread support.

In early 2023, government announced that the CRS development would be put on hold. This position has since been softened to a 'delay' but it remains unclear when, or how, a CRS would be introduced for New Zealand.

The implementation document proposed a deposit of 20c per container for a wide range of beverage containers, excluding 'fresh milk' (the logic being that this product is rarely consumed outside the home and can be recycled in kerbside collection). Depending on the details of the eventual container return scheme, and the extent to which containers may be captured in the scheme, two key effects on household kerbside recycling collections are likely:

- The quantity of containers collected in a kerbside collection would reduce; and
- The value of containers that are part of the CRS, but are still collected in a kerbside collection, will likely result in income for the 'owner' of the items. Usually, the owner is either Council and/or its contractor; so the impact of material lost from kerbside recycling schemes may be mitigated to some extent by deposit redemptions.

Possible implications for Council may be that the frequency of recycling collections could be reduced due to lower volumes of material.

1.5.3.2 Kerbside Standardisation

In 2019 MfE completed a national review of kerbside collections and made recommendations as to how to achieve consistency across the country. The report was completed in 2020[5], and MfE then considered implementing the three main recommendations:

1. A standard set of items accepted in kerbside recycling collections
2. Glass collected separately to other material streams

---

[5] https://www.wasteminz.org.nz/wp-content/uploads/2020/08/Final-1.0-Standardising-Kerbside-Collections-in-Aotearoa.pdf

3. A weekly kerbside food scraps collection service for households.

MfE consulted on a detailed implementation proposal for kerbside standardisation in New Zealand as part of the 'Transforming Recycling' consultation document[6].

The proposals included, alongside the points above from the original review, options to achieve the diversion of food scraps from businesses. The three possible options set out in the consultation document are:

- Phasing in source-separation of food scraps only from businesses that produce or sell food;
- Phasing in source-separation of food scraps from all businesses; or
- Prohibiting the disposal of food scraps to landfill entirely (which would also preclude disposal of food scraps from household sources).

In March 2023, MfE announced its decisions regarding kerbside standardisation alongside the release of Te rautaki para. The key aspects are:

- standardising materials in existing council kerbside recycling collections by 1 February 2024 to: glass bottles and jars, paper and cardboard (including pizza boxes), plastic bottles and containers grades #1, #2, and #5, and aluminium/steel tins and cans;
- requiring council kerbside recycling to be provided to households in urban areas (defined as those with more than 1000 people[7]) by 2027; and
- Council food scraps collections to be provided to households in urban areas (defined as above) by 2030, or earlier, by 1 January 2027 if a nearby processing option is available. The former timeline applies to Palmerston North.[8]

MfE advised it will also be working on business food scrap diversion by 2030.

Kerbside standardisation excludes tetrapak and other gabletop/liquid paperboard containers, foil, aerosols, soft plastics, polystyrene, and plastic bottles and containers #3, 4, 6 and 7. Councils will have the discretion to choose whether or not to include compostable bin liners in organic waste collections, and can also choose whether to collect glass separately or comingled with other materials; although best practise is recognised as separated glass collection.

Kerbside standardisation will only apply to council-provided services (either in-house or via a contractor) for now, with the hope that the private and community sector will choose to align their kerbside services with these requirements. However, MfE have indicated that they intend to provide for kerbside standardisation to be regulated more widely through the new version of the WMA.

The kerbside standardisation changes also include performance standards for household waste kerbside diversion, and reporting requirements for private waste companies.

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[6] https://environment.govt.nz/assets/publications/Transforming-recycling-consultation-document.pdf
[7] As defined by StatsNZ as 'small urban areas' or larger, and shown on the StatsNZ Arc GIS system based on 2022 data.
[8] Defined as within 150km of a 'main centre'.

The performance standards relate to kerbside recycling and food waste, and set an increasing proportion of kerbside waste diverted from landfill:

- 30% by July 2026
- 40% by July 2028
- 50% by July 2030

Councils that do not comply with the requirements to collect a standard set of materials, and/or meet the minimum diversion requirements, can have all or part of their waste levy allocation withheld. Once withheld, this is not available at a later date (i.e. even if the council becomes compliant shortly after the due date, the levy funds will not then be released).

Councils that do not comply with the requirement to provide a kerbside recycling and food scraps collection service to householders in applicable urban areas will not, at this point, have waste levy funds withheld; however, it is likely that there will be regulatory requirements introduced for these aspects at a later date, and it would be very difficult for a council to achieve the minimum diversion requirements without having these services in place.

The performance requirements will be enacted by a gazette notice under the WMA, and the two household kerbside collection provisions will be enacted by a regulation issued by the Governor-General.

MfE have also clarified that 'provision' of services will require a TA to provide these either through in-house services or a contract.

Palmerston North's kerbside recycling services are largely aligned with kerbside standardisation, except that aerosols and lids will need to be removed from the kerbside recycling collection by 1 February 2024. However, Council will need to introduce a food scraps collection service to all households in Palmerston North City and Ashhurst by 1 January 2030.

1.5.3.3 Priority Products

The WMA allows for products to be named as a 'priority product'. Once a product has been named as such, an extended producer responsibility approach must be taken and a regulated product stewardship scheme developed. The goal of product stewardship schemes is to place the full cost of managing end of life products with the producers/importers, retailers, and consumers; not the general community and/or councils.

The first seven priority products named are:

1. Plastic packaging
2. Tyres
3. Electrical and electronic products (e-waste including large batteries)
4. Agrichemicals and their containers
5. Refrigerants
6. Farm plastics
7. Single-use plastic packaging

MfE has taken a 'co-design' approach, which involves industry developing and operating product stewardship schemes with central government oversight. Progress on the schemes, and parties involved, are summarised below.

Priority product	Progress made	Lead agency/ies
Tyres	Consultation on proposed regulations late 2021 Scheme accredited October 2020 Regulation in effect from late 2023	Tyrewise
Large batteries	Consultation on proposed regulations late 2021 Accreditation expected late 2023 Regulation in effect from 2024	Battery Industry Group
Refrigerants (and other synthetic greenhouse gases)	Consultation on regulations in late 2022 Scheme accreditation mid 2023 Regulation in effect from 2024	Synthetic Refrigerant Stewardship group
Farm plastics, agrichemicals and containers (farm waste)	Consultation on regulations planned late 2023	The Agrecovery Foundation
Electrical and electronic products (e-waste)	Scheme design in 2023 Consultation on regulations in 2024	TechCollect
Plastic packaging	Co-design underway	Packaging Forum and Food & Grocery Council

1.5.3.4 Product Bans

In April 2022, MfE announced that regulations had been passed to enable the implementation of the first tranche of bans for problematic plastic items. These regulations include:

- plastic cotton buds;
- plastic drink stirrers;
- oxo- and photo-degradable plastic products;
- certain PVC food trays and containers (pre-formed and rigid);
- polystyrene takeaway packaging; and
- expanded polystyrene food and beverage packaging.

The bans took effect from 1 October 2022.

Two more 'tranches' of bans are planned. From 1 July 2023 the following were banned:

- plastic produce bags;
- plastic tableware;
- plastic straws; and
- non-compostable plastic produce labels.

From mid-2025, all other PVC and polystyrene food and beverage packaging will also be banned.

1.5.3.5 Infrastructure Investment Strategy

With the increased and expanded landfill levy comes an increased pool of funds that can be invested in waste management and minimisation initiatives.

MfE is developing a proactive strategic investment plan for waste infrastructure, supported by a detailed stocktake of current infrastructure and prioritisation of possible new infrastructure. The goal of this work is to give a national view of the waste investment New Zealand needs over the next 15 years. The outcomes will be incorporated into the action and investment plan that will supplement Te rautaki para, and will be released in the first half of 2024.

In April 2023, MfE released a summary report of a 2021 infrastructure assessment[9].

1.5.3.6 Data and Monitoring

Alongside the increase and expansion of the waste levy, MfE is developing protocols to collect data from the additional facilities that will now be paying the landfill levy (Class 2-4 landfills). MfE has also adopted regulations that enable the collection of some data from Class 5 fills and transfer stations[10], and has proposed an approach for performance reporting by councils in the current consultation. These protocols will be included in the revised National Waste Data Framework, which will be released in late 2023.

MfE has also indicated that it is likely the new WMA will also include requirements for waste operators to be licensed by a central agency, and to report data on the quantities of waste handled; and that requirements for construction site waste management plans will be included in a revision of the Building Act. It is not clear what the timeframes or specific requirements will be.

1.5.4 Emissions Reduction Plan

The Climate Change Commission (CCC) was established to provide impartial expert evidence to government to support initiatives that would reduce greenhouse gas emissions and address climate change mitigation and adaptation, contributing towards the goals set out in

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[9] Eunomia (2023) "Waste and Resource Recovery Infrastructure and Services Stocktake Summary Report", available at www.mfe.govt.nz

[10] https://www.legislation.govt.nz/regulation/public/2021/0069/latest/whole.html

the Climate Change Response Act 2002. The CCC reviewed the waste sector and provided its final advice to government in the Emissions Reduction Plan (May 2022)[11].

The advice of the CCC is that, unless waste management practices and policy settings in New Zealand change significantly, we will not meet the targets set in the 2002 Act:

> "*current policies will not deliver the emissions reductions we must achieve.*"

Comprehensive action is required to reduce waste overall, divert waste from landfill disposal, and improve/extend landfill gas capture systems.

The main source of biogenic methane emissions from the waste sector is the anaerobic decomposition of organic wastes in landfill (94% in 2019).

The key actions for the waste sector are:

- enable households and businesses to reduce organic waste (reduction of food scraps at home and in businesses, and participation in improved kerbside collections);
- divert more organic waste from landfill (improve household kerbside collections of food and garden waste, invest in processing and recovery infrastructure for organics, require organic waste to be separated);
- reduce and divert construction and demolition waste (minimisation, sorting and processing infrastructure, separation of material);
- bans or limits for organic waste to landfill – potentially by 2030;
- increase gas capture from Class 1 landfills (regulations requiring gas capture, investigate additional gas capture); and
- improve waste data including a national operator licensing scheme (which will improve information on greenhouse gas emissions).

The Plan includes a 'waste pathway to 2035' which is highly consistent with Te rautaki para. Key actions over the next ten years include:

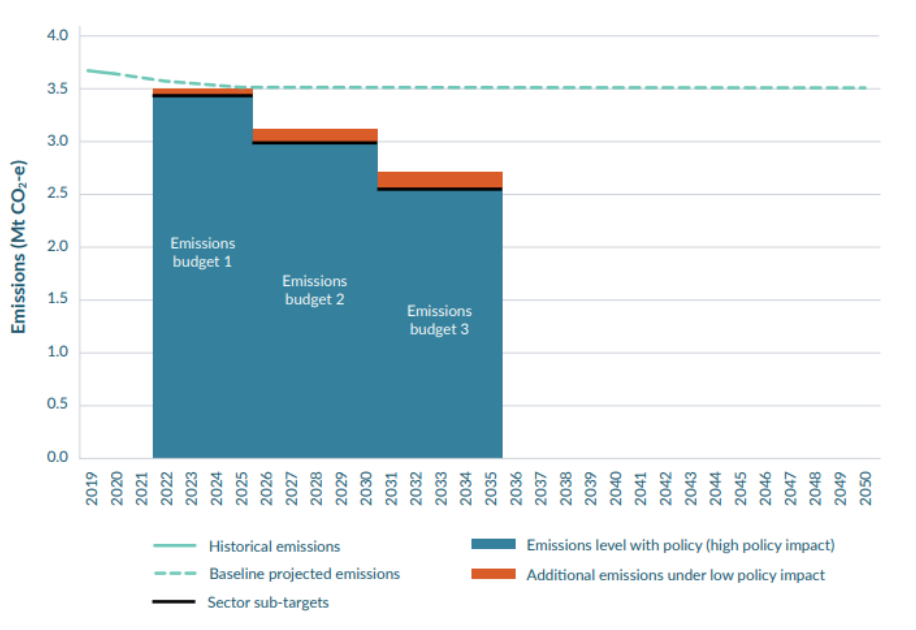
- 2023: organic waste prevention programmes and increased investment in resource recovery
- 2024: new waste legislation, national waste reporting, wider coverage of kerbside organics collections, more organics recovery/processing
- 2025: new regulations to drive emissions reduction, national waste licensing, all Class 1 landfills capturing gas
- To 2030: possibly organic waste landfill limits or bans
- To 2035: target of 40% reduction in biogenic methane (from 2017 levels)

New Zealand has a long-term target of net zero greenhouse gases by 2050, and a specific target for biogenic methane of 24 – 47% reduction by 2050 under the Climate Change Response Act (2002).

It is worth noting that even with all of the initiatives proposed the waste sector would still fall short of achieving the first sub-target (2022 – 2025) but would come very close to the target in the period 2026 – 2035, as shown in the chart below:

[11] https://environment.govt.nz/assets/publications/Aotearoa-New-Zealands-first-emissions-reduction-plan.pdf

Figure 2: Total projected methane emissions from waste showing the impact of proposed combined waste policy options



Source: Ministry for the Environment. 2022. *Te hau mārohi ki anamata | Towards a productive, sustainable, and inclusive economy.* Wellington: Ministry for the Environment. This assumes 40% of food waste diverted to composting and 60% to anaerobic digestion and 100% of green waste to composting.

1.5.5 Waste Disposal Levy and Information Reporting

In April 2021 the government introduced regulation to expand the scope of the levy from Class 1 landfills to also include classes 2-4,[12] and to require operators of industrial monofills and Class 5 fills to report data on the quantity of waste received. Section 3.2 defines the different types and classes of fills.

The table below shows the timetable and rates for the new levy regime:

Table 1: Levy Rates by Disposal Facility Type and Year

DISPOSAL FACILITY CLASS	1-Jul-21	1-Jul-22	1-Jul-23	1-Jul-24
Municipal landfill (class 1)	$20	$30	$50	$60
Construction and demolition fill (class 2)		$20	$20	$30
Managed fill (class 3)			$10	$10

[12] https://www.legislation.govt.nz/regulation/public/2021/0069/latest/whole.html

Controlled fill (class 4)			$10	$10

https://www.mfe.govt.nz/waste/waste-and-government

As the landfill levy is expanded and raised, there will be an impact on the quantity of material going to the different destinations; however, the extent to which this occurs, and for which materials, depends on a number of other factors. The potential impacts are explored further in appendix A.2.0.

The requirement for all fills to at least report data on the quantity of waste received will provide much greater understanding of the role that all types of facilities play in waste management. These requirements take effect from the beginning of 2023 at the latest with Class 3/4 disposal facilities, cleanfills, transfer stations, and industrial monofills the last to start reporting (from 1 January 2023).

1.5.6 Emissions Trading Scheme (ETS)

Since 2013, Class 1 landfill owners have been required by the Climate Change (Emissions Trading) Amendment Act 2008 to surrender emission units to cover methane emissions. If any solid waste incineration plants are constructed (without energy recovery), this act would also require emission units to be surrendered to cover greenhouse gas emissions from the incineration of household wastes.

The number of emissions units that needs to be surrendered is based on a calculation of how much methane is generated from a tonne of waste. As a starting point, landfills use a default emissions factor for waste (DEF). This is the methane assumed to be generated by each tonne of waste and is currently set at 0.91 tonnes of CO_2-e (CO2 equivalent) per tonne of waste.

However, landfill operators can reduce their liabilities under the ETS through use of a unique emissions factor (UEF). The UEF is a calculation of actual methane released by the specific landfill. This can be done by either capturing the methane that is generated or showing (based on the type of waste going into the landfill) that the landfill generates a different amount of methane to the default.

1.5.6.1 Carbon Price

The other component of the calculation of a landfill's liability under the ETS is the price of carbon. New Zealand units (NZU)[13] currently change hands for $45, up from a recent low of $37[14].

The cost of NZUs has been increasing steadily for the last couple of years, due largely to changes made to the types of offsets that are eligible under the ETS; however, the market has recently been disrupted due to uncertainty over the future of the ETS, and several large funds failing to complete transactions. Class 2-5 fills and closed landfills (along with certain other excluded landfills) are not currently covered by the ETS.

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[13] NZUs are carbon credits that are officially accepted to offset liabilities under the NZETS
[14] Accessed from https://www.carbonnews.co.nz/tag.asp?tag=Carbon+prices

The implications of the ETS and carbon prices are explored further in appendix A.2.8.

1.5.7 Resource Management Act Review

Government has resolved to replace the Resource Management Act (RMA) with two new Acts; the Spatial Planning Act, and the Natural and Built Environment Act. These are currently making their way through Parliament as Bills.

The increased abilities and requirements for spatial planning will have a positive impact on waste management; in particular infrastructure, as demand and supply of waste infrastructure will be an essential consideration under a spatial planning approach.

However, there is no specific reference to waste in the Bills, and so the extent to which waste planning will be undertaken successfully for the Horizons region (by the applicable Regional Planning Committee) will depend on local implementation of the provisions.

The Bills both propose a more significant role for iwi in regional-scale planning, which could result in an approach that is more aligned with Te Ao Māori principles and a circular economy approach to waste management and minimisation.

1.5.8 International Commitments

New Zealand is party to the following key international agreements:

- Montreal Protocol – to protect the ozone layer by phasing out the production of numerous substances
- Basel Convention – to reduce the movement of hazardous wastes between nations
- Stockholm Convention – to eliminate or restrict the production and use of persistent organic pollutants
- Waigani Convention – bans export of hazardous or radioactive waste to Pacific Islands Forum countries

1.6 Local and Regional Planning Context

This Waste Assessment and the resulting WMMP will be prepared within a local and regional planning context whereby the actions and objectives identified in the Waste Assessment and WMMP reflect, intersect with, and are expressed through other planning documents. Key planning documents and waste-related goals and objectives are noted in this section.

1.6.1 Long Term Plan

The Council's draft LTP is scheduled to be adopted in June 2024, with the overarching vision: *He iti rā, he iti pounamu – Small city benefits, big city ambition.*

This vision is supported by four strategic goals:

- Whāinga 1: He tāone auaha, he tāone tiputipu
  Goal 1: An innovative and growing city
- Whāinga 2: He tāone whakaihiihi, tapatapahi ana
  Goal 2: A creative and exciting city
- Whāinga 3: He hapori tūhonohono, he hapori haumaru
  Goal 3: A connected and safe community

- Whāinga 4: He tāone toitū, he tāone manawaroa
  Goal 4: A sustainable and resilient city"

While waste management contributes to a number of the goals, the most directly relevant one is for Palmerston North to be 'a sustainable and resilient city'.

The 2021 LTP established funding for processing the stockpile of mixed glass at Awapuni, various investigations focused at minimising waste to landfill, and a trial of food scraps collections. Capital funding was also allocated to enable ongoing improvements and updates to waste infrastructure such as the materials recovery facility (MRF), composting sites, and recycling drop-off points. In new capital projects, a replacement of the MRF was programmed for 2027/28, and new recycling drop-off points were planned for 2024/25 and 2025/26. Regular projects were also funded to enable the diversion of additional materials in 2021/22, 2023/24, and 2025/26.

New projects proposed for the 2024 LTP include the introduction of a household kerbside food scraps collection in year 5 (2029-30 financial year) to meet the government requirements, and undertaking an investigation in the years prior to that as to the best way to meet the government requirements. These proposals are supported by others to increase education, communications and engagement budgets; and to continue with a resource recovery fund. There is also a proposal to undertake a wider investigation into waste service provision (including kerbside rubbish collections).

1.6.2 Horizons Regional Council

The Horizons Regional Council, which covers the Manawatu/Wanganui region, adopted the 'One Plan' in November 2014[15]. This document covers the requirements of the consolidated regional policy statement, the regional plan, and the regional coastal plan for the region.

In the One Plan, the regional council states that it recognises "the need to focus on the full life cycle of waste from generation to disposal, and that waste is a wasted resource." The Plan goes on to discuss specific requirements with respect to hazardous substances and contaminated land.

Waste is defined as "*any material, solid, liquid or gas that is unwanted or unvalued and discarded or discharged."*[16]

Chapter Three of the One Plan sets out the objectives, policies and methods relating to waste.

Increased quantities of waste produced and hazardous substances used is resulting in concern in several areas:

- Wasted resources and an increasing need for appropriate disposal
- Potential for poor management of hazardous substances
- Potential for land contamination, leading to risks to people and environment.

The waste management objective included in the One Plan is:

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[15] Available at www.horizons.govt.nz/publications-feedback/one-plan
[16] Glossary section of the One Plan

"The Regional Council and Territorial Authorities must work together in a regionally consistent way to:

(i) Minimise the quantity of waste generated in the Region and ensure it is disposed of appropriately,
(ii) Manage adverse effects from the use, storage, disposal and transportation of hazardous substances, and
(iii) Manage adverse effects from contaminated land.

Solid waste facilities such as landfills, transfer stations and resource recovery facilities should be recognised as being physical resources of regional and national importance; and these should be managed in a way that considers the significant benefits derived from the assets.

The One Plan includes four policies intended to give effect to the objective above. These policies are as follows:

Policy 3-8 Waste policy hierarchy

Wastes, including solid, liquid, gas and sludge waste, must be managed in accordance with the following hierarchy:

(a) reducing the amount of waste produced

(b) reusing waste

(c) recycling waste

(d) recovering resources from waste

(e) appropriately disposing of residual wastes.

Policy 3-9 Consent information requirements – waste policy hierarchy and hazardous substances

Where a proposal has the potential to give rise to significant adverse effects on the receiving environment, an assessment must be required, as part of the consent information requirements for all discharges to air, land, water and the coastal marine area, of:

(a) reduction, reuse, recycle and recovery options for the discharge in accordance with Policy 3-8, and

(b) any hazardous substances that may be present in the discharge, and alternatives to those hazardous substances.

Policy 3-10 Cleanfills, composting and other waste reduction activities

Waste reduction activities will be encouraged, in particular by generally allowing cleanfills and composting activities.

Policy 3-11 Landfill management

Landfills must generally be designed, constructed, managed, operated, remediated and monitored in line with appropriate guidelines and national environmental standards. Taking into account the applicability of these guidelines and standards in relation to the type and scale of activity proposed, the following guidelines may be considered appropriate:

(a) Centre for Advanced Engineering Landfill Guidelines, April 2000

(b) Ministry for the Environment, Module 1: Hazardous Waste Guidelines – Identification and Record Keeping, June 2002, ME637

(c) Ministry for the Environment, Module 2: Hazardous Waste Guidelines, Landfill Waste Acceptance Criteria and Landfill Classification, May 2004, ME510

(d) Ministry for the Environment, A guide to the Management of Cleanfills, January 2002, ME418

(e) Ministry for the Environment, A guide to the Management of Closing and Closed Landfills in New Zealand, May 2001, ME390

(f) Ministry for the Environment, Guide to Landfill Conditions, May 2001, ME389

(g) Ministry for the Environment, Good Practice Guide for Assessing and Managing the Environmental Effects of Dust Emissions, September 2001

(h) Landfill gas collection and destruction or reuse in accordance with the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and other toxics) Regulation 2004.

Cleanfills are defined as landfills only accepting:

"*materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:*

a) Combustible, putrescible (except that cleanfill material can contain up to 5% by weight putrescible matter), degradable or leachable components
b) Hazardous substances
c) Products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices
d) Materials that may present a risk to human health
e) Liquid waste.

This definition departs from the waste acceptance criteria set out in the 2016 Technical Guidelines for Disposal of Waste to Land[17] in two key respects – firstly the criteria allow no more than 2% of biodegradable material by volume per load; and manufactured materials such as concrete and brick are permitted to make up no more than 5% by volume per load.

The non-regulatory methods associated with the objective and policies above are:

Method 3-1 Regional Territorial Authority Waste Forum… Work with the territorial authorities to achieve a regionally consistent approach to waste and to progress Region-wide waste issues and implement agreed initiatives, including:
- hazardous waste disposal facilities
- recycling facilities
-resource recovery network waste exchange
- public information
-waste education schools
- consistent waste data collection and reporting

[17] Available on www.wasteminz.org.nz

- development of Region-wide waste reduction targets in line with the New Zealand Waste Strategy 2002
- cleanfill management and monitoring
- waste minimisation and cleaner production in business/trade sectors
- economic instruments including incentives for waste reduction

Method 3- 2 Public Information: Easily accessible information will be developed and provided to increase public awareness on waste issues generic to the Region, including:
- cleanfill management and guidelines
- waste minimisation
- availability of waste disposal and recovery facilities (including for campervans)
- fly tipping
- hazardous substances
- burning of waste
- offal pits and farm dumps
- septic tank discharges
- composting

Some actions in the One Plan are now obsolete, as they refer to requirements for waste planning under the Local Government Act (2002) rather than the WMA. The One Plan also refers to the NZWS 2002, particularly with respect to targets, even though this document was reviewed in 2010 and any specific targets removed.

Although the One Plan was not adopted until 2014, large sections of the Plan were notified for consultation as early as 2007 and so referred to strategies and legislation that were in effect at this time. As no submissions were received with respect to the waste section of the Plan, it was not possible to update this section prior to final adoption.

The Horizons Regional Council acknowledges that there are references in the One Plan that are now dated and perhaps even obsolete, but also notes that the changes which took place following the introduction of the WMA in 2010 have significantly reduced any statutory role they play in solid waste management and planning, beyond a consenting and monitoring role.

2 The City

This section presents a brief overview of key aspects of the city's geography, economy, and demographics. These key aspects influence the quantities and types of waste generated and potential opportunities for the Council to manage and minimise these wastes in an effective and efficient manner.

2.1 Manawatu-Wanganui Region

Palmerston North City is one of the two main urban centres in the region, along with Whanganui.

Local authorities in the region comprise ten territorial authorities and the Manawatu-Wanganui Regional Council, trading as Horizons Regional Council. The region completely covers five territorial authorities (Palmerston North City and Whanganui, Manawatu, Horowhenua and Ruapehu Districts), and part of five (Tararua, Rangitikei, Stratford, Waitomo and Taupo Districts) – these five territorial authorities are also included in the regions of Waikato, Bay of Plenty, Taranaki, Hawkes Bay, and Wellington.

The land area of the region covers 22,215 hectares and has a diverse geography, which is dominated by two river systems – the Manawatu, which is characterised by rolling farmland, and the Whanganui, which travels through forest-covered mountains and hills.

Figure 3: Map of Region and Territorial Authority Areas

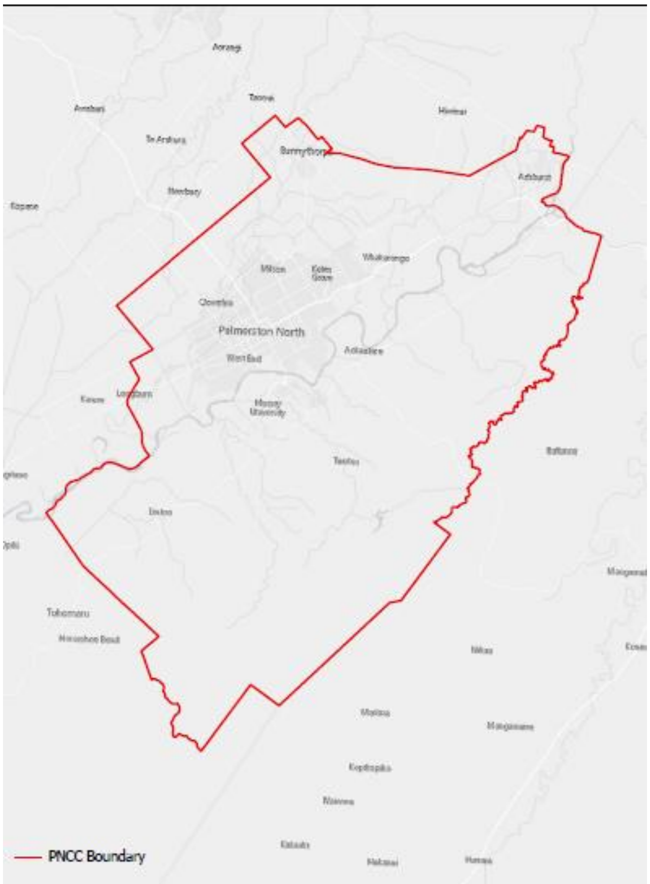
Source: http://www.localcouncils.govt.nz/lgip.nsf/wpg_URL/Profiles-Councils-Manawatu-Wanganui-Regional-Council-Main?OpenDocument

2.2 Physical Characteristics

2.2.1 Overview

Palmerston North City has a land area of 395 square kilometres, and is located in the eastern part of the Manawatu plains near the foothills of the Tararua ranges. It is one of the two main urban centres in the Manawatu-Wanganui region (along with Whanganui).

Figure 4: Map of District



Source: Palmerston North City Council

2.2.2 Geography

Palmerston North is situated about 140km north of Wellington.

The urban area is bordered on the southeast by the Manawatu river, while the city boundaries extend into the Tararuas. The city is predominantly flat and urban in nature, but also includes agricultural land to the south and northeast.

Palmerston North is located on predominantly flat land on the northern banks of the Manawatu river; although the city extends into the foothills of the Tararua ranges to the south, and the Ruahines to the east. The small towns of Ashhurst, Bunnythorpe and Longburn have been included in the city's area since boundary changes in 2012.

2.2.3 Climate

Palmerston North's climate is temperate with an average of 13.3C; and with average rainfall of 980mm per annum and around 200 rain free days annually.

The area is known for sustained wind, especially in spring, particularly in the foothills of the Tararua and Ruahine ranges[18]. Close to the city are the largest series of 'wind farms' in the southern hemisphere, with 286 turbines providing power for around 50,000 homes[19].

2.2.4 Demographics

Palmerston North had an estimated 91,800 residents in June 2023 (Estimated Resident Population Figures 2023). It should be noted that the boundaries of the city were also extended between the 2013 and 2018 census, which would account for a proportion of the additional residents.

Council's population projections for Palmerston North are shown in the following table:

Table 2: Population Projections to 2043

Projection	2019	2024	2029	2034	2039	2044	Change 2019 – 2044: number	Change 2019 – 2044: average annual percent
Population	89,300	95,139	99,383	103,980	107,977	111,605	22,305	1.0

The average rate of growth for Palmerston North is projected to be 1.0% between 2019 and 2044, compared to previous growth projects of 0.4% - 0.8% on average. This is considered to be a 'medium' forecast, and reflects the accelerating growth over the last few years with an average increase of 1.2% per annum over the period 2018 - 2023.

The forecasts assume that population will increase by 1.1% annually between 2021 and 2031, and that households will increase by 1.4% over this time. This aligns with a national trend towards smaller households, alongside an expected increase in the number of larger, multi-generational households due to a growing number of Māori and Pacific families, both nationally and in our city. The media age of our people is younger than the national media age due to a greater proportion of children under 15 years and higher numbers of under-30's studying in our city.

Particularly important is the Council's direction in focusing new greenfields residential development around Whakarongo, and a new sub-division near Longburn. Some additional

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[18] Collated from www.pncc.govt.nz, www.niwa.govt.nz, and www.en.climate-data.org.
[19] Summarised from www.windenergy.org.nz

development is also possible around Aokautere and Ashhurst, and there is an overall trend of increasing infill housing.

The following table shows key demographic metrics for Palmerston North City

Table 3: Key Demographic Indicators (2018 census)

Demographic indicators	Households (Occupied Dwellings)	HH Size	Median income	Home ownership	Building consents
Palmerston North City	30,618	2.76 people	30,000	62.8%	426 (2022 year)
New Zealand	NA	2.7 people	31,800	64.6%	NA

Source: Compiled from http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-a-place.aspx?

In the 2018 Census, the majority of the population identified themselves as ethnically European (75.9%, a decrease from the 2006 census and above the NZ average of 70.2%) with a second large ethnic group identifying themselves as Maori (18.7%, an increase from the 2006 census and slightly above the NZ average).

Latest trends indicate a decline in the proportion of the population identifying as ethnically European alongside an increase in the share of the population identify as Māori, Pacifica and Asian. This trend is expected to continue in the city.

The city had 30,618 occupied dwellings at the 2018 census, and a lower than average number of unoccupied dwellings (2,016, or 6% compared to 10.3% nationally). The median income in the city is $30,000, under the national average ($31,800). The proportion of permanent Palmerston North residents that own their own home is close to the national average – 62.8%, compared to 64.6% nationally.

In 2023, the number of dwellings in Palmerston North is estimated to have increased to 34,800 with a rise in the median income to $68,600 compared with $73,960 nationally.

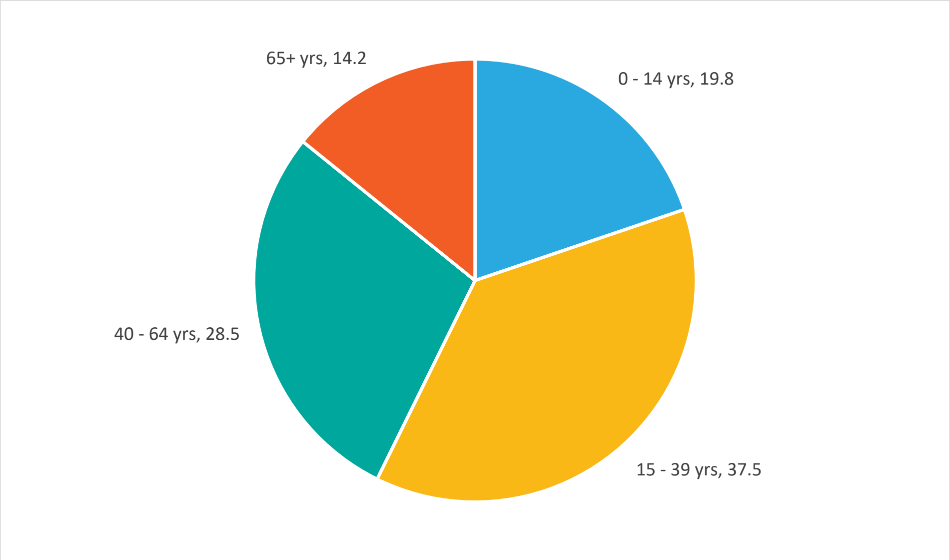
Palmerston North city maintains a relatively high Maori population. This is largely due firstly to high numbers of Maori employed at Linton Military Camp (particularly a major expansion of the number of staff employed at the camp in the early 1990s) and a significant increase in Maori participation in tertiary education between 1996 and 2006. There are high Maori populations in the catchment regions for the tertiary institutions based in Palmerston North so increased participation in tertiary education by Maori increases the level of migration by young Maori people to the city.

The average household size in Palmerston North City was 2.76 people, compared with 2.6 in New Zealand as a whole. The number of single person households is expected to rise over the next 30 years, primarily due to an ageing population. The number of larger multi-generational households is also expected to increase due to a growing number of Māori and

Pacifica families in the city. These two factors are projected to keep the average household size stable at around 2.6 people per household.

The population profile for Palmerston North City in 2018 is shown in the chart below:

Figure 5: Population Profile for Palmerston North City (2018 census)

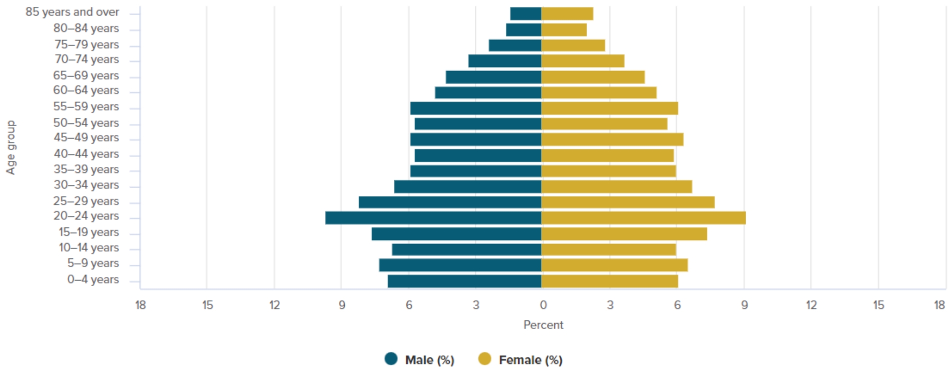


The median age (half are younger, and half older, than this age) is 34 years for people in Palmerston North. For New Zealand as a whole, the median age is 37.4 years.

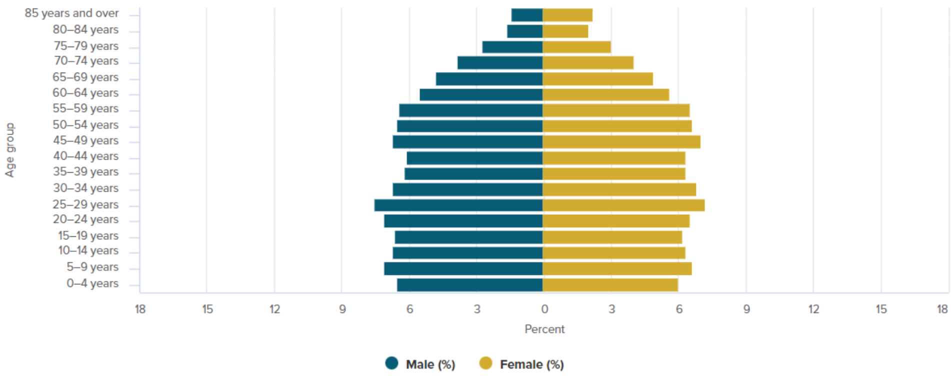
The age distribution of the population relative to NZ as a whole is shown in the figures below.

Figure 6: Total Population (Age group and sex)

Palmerston North City, 2018 Census



New Zealand, 2018 Census



The population shows a bulge in the 15-29 year age group. This clearly reflects the influence of the tertiary sector in attracting students to the area, and the presence of two major New Zealand Defence Force bases in the region. This is balanced to a degree by slightly lower numbers in the 30-44 age brackets, probably as a result of graduates moving outside of the city in pursuit of careers.

Projections have been based on the Council figure of 34,800 occupied dwellings.

Table 4: Households and Projected Household Growth

Number of households	2024	2029	2034	2039	2044	2049
Palmerston North	35,057	36,536	38,384	39,936	41,272	42,449

Source: PNCC population and household projections, May 2023

2.3 Economy

Palmerston North is the major economic hub for the Manawatu-Whanganui region for education, research health services, retailing, business services such as banking and finance, insurance, and professional services, government administration, agribusiness and logistics. The city's growing economic influence within the region is demonstrated by the number of people continuing to work in Palmerston North from surrounding areas, and the expansion of the city's labour market region over the past 25 years. Projected growth in the economy will lead to more industrial, commercial and residential development, all of which requires additional infrastructure capacity.

The tertiary education, health services, research and central government (including defence forces) sectors play a big part in the city's economy. However, businesses that support both the rural sector and nationwide wholesale and retail operations, coupled with industry-leading distribution & logistics businesses also make a significant contribution to the local economy.

The city also has a major role as a service centre in the lower half of the North Island.

The largest employer in the city is the health care and social assistance sector, with 14.1 percent of all employees in the city as at March 2023. The education and training sector accounts for 11.1 percent of the Palmerston North workforce. The city is home to major educational and research institutions, including Massey University, UCOL - Universal College of Learning, Te Wānanga O Aotearoa and the International Pacific College (IPC). Significant research institutions based in the city in addition to Massey University include Plant and Food Research, Ag Research, Landcare Research, the Fonterra Research Centre, the Riddett Institute, the Hopkirk Research Institute and the Leather & Shoe Research Association.

2.4 Partnership with Rangitāne o Manawatū

The Council signed a Partnership Agreement in 2019 that formally acknowledges the status of Rangitāne as mana whenua. This has created a reciprocal working relationship with Iwi leadership to align their priorities with those of Council across the suite of Council Strategies and Plans.

Rangitāne are also represented on Council by Iwi appointees to Council's Community Development, Economic Development, and Environmental Committees. Rangitāne are also represented on the Rangitāne Co-management Committee for Te Motu o Poutoa (Anzac Park). This latter Committee may also expand its mandate in the future to cover other ancestral sites of significance to the Iwi.

The Council has established a Māori Ward called Te Pūao, represented by two councillors, for the 2022 and 2025 elections. These councillors represent the specific interests of the wider Māori community and sit alongside Rangitāne appointees to Committees. They are full members of the Council and therefore also sit on the Committee of Council.

Council staff and management meet regularly with Iwi leaders regarding a very broad set of projects and programmes. In particular there is a monthly hui called Te Whiri Kōkō that traverses the range of activities that are relevant to Iwi. The Council provides capacity funding to support this engagement and acknowledges the significant contribution that mana whenua bring to the City, including the specific Treaty-based legislative responsibilities that must be led by local government.

3 Waste Infrastructure

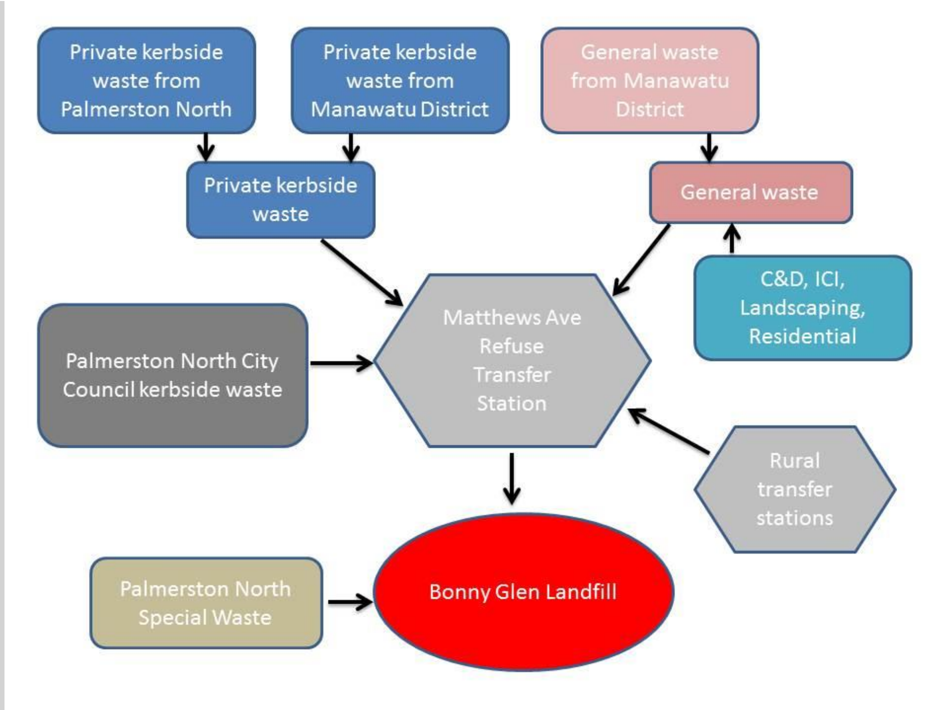
The facilities available in Palmerston North are a combination of those owned, operated and/or managed by the Council, and those that are owned and/or operated by commercial entities or community groups.

This inventory is not to be considered exhaustive, particularly with respect to the commercial waste industry as these services are subject to change. It is also recognised that there are many small private operators and second-hand goods dealers that are not specifically listed. However, the data is considered accurate enough for the purposes of determining future strategy and to meet the needs of the WMA.

3.1 Summary of Waste Management in Palmerston North

The figure below shows the main waste flows in Palmerston North.

Figure 7: Key Waste Flows in Palmerston North



As this diagram shows, a high proportion of waste landfilled from Palmerston North is channelled through the Matthews Ave refuse transfer station (RTS), which is operated by EnviroNZ Ltd (previously Envirowaste Services). Waste from the small Council transfer station in Ashhurst is also taken to this RTS before going to landfill. Waste from Matthews Avenue RTS is bulk-hauled to Bonny Glen landfill, situated west of Marton, for disposal.

Minor quantities of kerbside waste and general waste from Manawatu District are understood to be disposed of at Matthews Avenue RTS, as are special wastes from Palmerston North. It has not been possible to quantify these waste streams.

The three major waste operators in Palmerston North are EnviroWaste Services Ltd, Waste Management NZ Ltd (Midwest Disposals Ltd, owner of Bonny Glen landfill, is jointly-owned by these waste operators) and Low Cost Bins (a relatively recent entrant to the market).

Palmerston North City Council provides weekly kerbside collections of prepaid rubbish bags and a rates-funded two-stream recycling collection. These collection services are delivered by Council.

Both EnviroWaste Services Ltd and Waste Management NZ Ltd provide kerbside waste collections and gantry bin services to residential and commercial customers and front-loader bin services, primarily to industrial, commercial, and institutional customers.

The inventory of facilities and services has been generally categorised with reference to the waste hierarchy (as defined by the WMA).

3.2 Disposal Facilities

In 2021, MfE adopted regulations to extend the landfill levy and apply information requirements to waste facilities that do not pay the landfill levy. These regulations also established legal definitions for various types of facilities. Previously, these facilities had been categorised according to the 2016 Waste Management Institute of New Zealand (WasteMINZ) Technical Guidelines for Disposal to Land.[20] As there are differences, albeit slight, between the two; the legal definitions take precedence[21].

The definitions of the seven types of facilities in the regulations are summarised below.

Class 1 - Municipal Disposal Facility

Accept any of the following:

- Household waste
- Green waste
- Waste from commercial or industrial sources
- Waste from institutional sources
- Waste that is not accepted at Class 2-5 disposal facilities.

Class 2 – Construction and Demolition Disposal Facility

Accepts waste from construction and demolition activities. Does not accept Class 1 waste.

Classes 3 and 4 – Managed or Controlled Fill Disposal Facility

Accepts any of the following:

- Inert waste material from construction and demolition activities
- Inert waste material from earthworks or site remediation

Does not accept Class 2 waste.

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[20] www.wasteminz.org.nz/pubs/technical-guidelines-for-disposal-to-land-april-2016/

[21] www.legislation.govt.nz; the guidelines are currently being revised so that they are more consistent with the MfE definitions; however there will not be a separate definition of 'industrial monofill' in the guidelines – these facilities will be either Class 1 or Class 2 fills under the guidelines.

Class 5 – Cleanfill Facility

Accepts only virgin excavated natural material (such as clay, soil, or rock) for disposal

Industrial Monofill Facility

A facility that accepts disposal waste that:

- Discharges or could discharge contaminants or emissions
- Is generated from a single industrial process (e.g. steel or aluminium making, or pulp and paper making) carried out in one or more locations.

The actual wording used in the regulations and examples of types of waste accepted at each facility is provided in Appendix A.3.0.

The regulations also define a transfer station as a facility that receives waste and where waste is then transferred to a final disposal site or for further processing. Significantly, if a site does not accept waste that is then transferred to a final disposal site (i.e. residual waste), it is not a transfer station (but is instead a recycling drop-off site or similar) and isn't required to report data.

3.2.1 Class 1 Disposal Facilities

There are two Class 1 landfill disposal facilities (as defined above) near Palmerston North, with none within the city boundaries. These landfills are Bonny Glen, near Marton, and Levin Landfill. The table below provides a detailed description of each landfill.

Table 5: Class 1 landfills accessible from Palmerston North

Name & Owner/Operator	Description	Location	Capacity and Consent
Bonny Glen Landfill (Manawatu Waste – joint venture of EnviroNZ and Waste Management NZ Ltd)	Municipal landfill accepting non-hazardous residential, commercial and industrial waste primarily from the surrounding region. Gas capture in place, largely flared off	West of Marton	Consented to 2050. Anticipated capacity for 50-80 years.

Levin Landfill (Horowhenua District Council, operated by MidWest Disposals Ltd)	Municipal landfill accepting non-hazardous residential, commercial and industrial solid waste Approx 39% of waste comes from inside Horowhenua, remainder from Kapiti DC	Levin	Currently not operating. At its present rate of volume use, it is projected that the consented area will last for approximately 20 years.

The recent extension of the consent at Bonny Glen landfill ensures that Palmerston North has access to a Class 1 facility including a gas capture system for many decades to come. Anecdotal evidence suggests that pricing at Bonny Glen is competitive with other large landfills in the North Island, such as Hampton Downs in north Waikato and Silverstream landfill in Wellington.

3.2.2 Transfer Stations and Recycling Drop-off Points

RTS and drop-off centres provide for those that can't access a landfill directly. General public access is not usually possible at Bonny Glen landfill, for example. Waste can be dropped off at these sites by the public and commercial collectors after paying a gate fee, and the waste is subsequently compacted before transport to a Class 1 landfill.

There is a smaller RTS operated by Council at Ashhurst, in addition to the large Matthews Ave RTS operated by EnviroNZ.

Table 6: Transfer Stations in Palmerston North

Facility Description	Operation	Hours	Materials accepted
Ashhurst Transfer Station (Mulgrave Street)	Council	Tuesday 1 – 3pm Saturday 10am – 4pm	Recycling, green waste, and residual waste
Matthews Ave Transfer Station (31 Matthews Ave)	EnviroNZ	Mon – Fri 7am – 5pm Sat and Sun 9am – 4.30pm	Green waste, residual waste, cleanfill, scrap metal, whiteware (for degassing)

Ferguson Street Recycling Centre	Council	Mon – Fri 7.30am – 4.30pm Sat 8am – 4.30pm Sun 10am – 3pm	Recycling, motor oil, e-waste, cooking oil, liquid paperboard containers, child restraints, batteries, fluorescent bulbs
Awapuni Resource Recovery Centre	Council	Mon – Sat 7.30am – 4.30pm Sun midday – 4pm	Recycling, green waste, and hub for recycling tyres and flat glass

Once general waste is deposited at the Matthews Ave RTS, the waste is then compacted and bulked for transport to Bonny Glen landfill. Waste from Ashhurst is transported to Matthews Ave before disposal at Bonny Glen.

3.2.2.1 Assessment of Transfer Stations and Recycling Drop-off Centres

Palmerston North is relatively well catered for in terms of transfer station and drop-off facilities. Although the privately-owned transfer station in the main urban area is located in the north of the city, it is within 10-15 minutes' drive of most parts of Palmerston North.

The Matthews Ave Transfer Station itself doesn't separate many materials, apart from steel; however the operators attempt to encourage customers to separate wastes beforehand – such as timber and batteries.

The Ferguson St recycling centre accepts a wide range of items including motor oil, e-waste, cooking oil, liquid paperboard containers, vehicle child restraints, batteries, fluorescent bulbs Closed Landfills

There are two closed landfills for which the Council has ongoing management and monitoring responsibility; Awapuni and Ashhurst. Council carries out regular monitoring and inspection of closed landfills to ensure that they are remediated and managed according to the requirements of their resource consents.

The Awapuni landfill operated from 1950 until 31 January 2007. An estimated 2.5 million tonnes of rubbish were deposited in the landfill over its lifetime. Resource consents relating to stormwater, leachate and landfill gas remain operative until 2029. Separate resource consents are held for the green and organic waste composting and the landfill gas activities. Landfill gas is extracted from the site, through a network of 30 wells. Landfill gas is piped to the nearby waste water treatment plant (WWTP) and, along with the gas from the anaerobic digestors at the WTTP, drives the gas engine to create electricity.

The Ashhurst closed landfill is a small unlined landfill that was used between approximately 1950 and 1995 by the Ashhurst township and surrounding small communities for the disposal of municipal solid waste. In 1989 Council inherited the landfill from the Oroua County Council. It is estimated that approximately 15,000 m^3 of rubbish was disposed of at the Ashhurst closed landfill. There are no leachate controls or gas collection systems in operation, but groundwater is from the site is monitored in accordance with the consent conditions.

There is also a closed landfill in the city under private ownership – a Massey University facility at the Turitea campus.

3.2.3 Class 2-5 Landfills

Research estimates that waste disposed of to land other than in Class 1 landfills accounts for approximately 70% of all waste disposed of.[22] Operators of Class 2 landfills have been required to keep records from 1 January 2022, and to pay a $20 levy from 1 July 2022 (this will increase to $30 from 1 July 2024. Classes 3 and 4 facilities have been required to report quantities from 1 July 2022, and pay a $10 levy from 1 July 2023. Although theoretically data could be accessed from Class 2-4 facilities by requesting this from MfE, these facilities are not required to record the geographical area that waste comes from and so, with facilities accepting waste from catchments larger than a single TA area, there is no way to allocate quantities to any particular district or city.

Other disposal sites include Class 5 cleanfills and farm dumps.

The Horizons 'One Plan' states that waste reduction activities, which are perceived as including cleanfills, will be encouraged. Cleanfill is defined as landfills only accepting:

> "*materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:*
>
> *a) Combustible, putrescible (except that cleanfill material can contain up to 5% by weight putrescible matter), degradable or leachable components*
> *b) Hazardous substances*
> *c) Products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices*
> *d) Materials that may present a risk to human health*
> *e) Liquid waste.*

This definition departs from the waste acceptance criteria set out in the 2022 Technical Guidelines for Disposal of Waste to Land[23] in two key respects – firstly the criteria allow no more than 2% of biodegrable material by volume per load; and manufactured materials such as concrete and brick are permitted to make up no more than 5% by volume per load. This definition also differs from the MfE regulations, which defines cleanfills as not accepting any non-inert material at all.

Horizons states that cleanfills are a permitted activity if they accept less than 2,500m^3/year and must be sited appropriately with regard to landscape type and slope stability.

For this reason, and because few of these cleanfills are open to the public and many are temporary or short term associated with roading projects, it is very difficult to list these

[22] Ministry for the Environment (2014) Review of the Effectiveness of the Waste Disposal Levy. The report estimates 56% of material disposed to land goes to non-levied facilities, 15% to farm dumps and 29% to levied facilities.
[23] Available on www.wasteminz.org.nz

individually. With disposal sites now required to register with MfE, it may be possible for TAs to request a list of sites. However, once again there is no information collected on the geographical source of the waste accepted and so knowing where the sites are is of limited value.

Class 2-5 landfills can be an issue for effective and efficient waste management as, for some materials, these disposal sites are competing directly with other options such as composting sites and Class 1 landfills. However, Class 2-5 landfills are much less costly than Class 1 landfills to establish, require much lower levels of engineering investment to prevent discharges into the environment, and pay a lower levy or no levy at all. Because of these differing cost structures, Class 2 landfills generally charge less for disposal than Class 1 landfills.

3.2.4 Assessment of Residual Waste Management Infrastructure

Bonny Glen landfill is the most significant disposal asset in the region and Palmerston North is effectively dependent on this for residual waste disposal. Dependence on disposal facilities outside of the city means that there is a lack of control in respect of critical infrastructure which presents a certain level of vulnerability. This can be mitigated to an extent through engagement in regional planning and collaboration between Council and Rangitikei District Council.

A recent significant extension to the landfill's consent has enabled it to become a genuinely regional facility with capacity for at least 50 years.

Cleanfills over a certain size are able to be identified as they require resource consents to operate. Facilities under this size (2,500 m^3 per annum) are permitted activities and as such are not readily identifiable.

3.3 Hazardous Waste Facilities and Services

The hazardous waste market comprises both liquid and solid wastes that, in general, require further treatment before conventional disposal methods can be used. The most common types of hazardous waste include:

- Organic liquids, such as those removed from septic tanks and industrial cesspits
- Solvents and oils, particularly those containing volatile organic compounds
- Hydrocarbon-containing wastes, such as inks, glues and greases
- Contaminated soils (lightly contaminated soils may not require treatment prior to landfill disposal)
- Chemical wastes, such as pesticides and agricultural chemicals
- Medical and quarantine wastes
- Wastes containing heavy metals, such as timber preservatives
- Contaminated packaging associated with these wastes.

A range of treatment processes are used before hazardous wastes can be safely disposed.

Most disposal is either to Class 1 landfills or through the trade waste system. Some of these treatments result in trans-media effects, with liquid wastes being disposed of as solids after treatment. A very small proportion of hazardous wastes are 'intractable', and require exporting for treatment.

These include polychlorinated biphenyls, pesticides, and persistent organic pollutants.

There are three participants in the Palmerston North hazardous waste market; EnviroNZ (through their subsidiary, ChemWaste), Waste Management NZ Ltd, and Disbin which specialises in sanitary waste.

Council trialled a household hazardous waste collection event in 2018, in partnership with 3R. This event was a success and has been held at regular intervals since, with three since the first event in 2018. An event was held in October 2023, and collected 1,300kg. The intention is to hold these on a biennial basis in future.[24]

3.4 Recycling and Reprocessing Facilities

There are a number of processing and recycling facilities in Palmerston North that handle waste material from the city. Some of these facilities also process waste materials from outside the city. These are listed below.

Table 7: Details of Facilities in Palmerston North

Name/Operator	Type	Key services/waste streams	Location	Capacity & Estimated Operational life
Awapuni Resource Recovery Park / Council	Material recovery facility	Kerbside recyclables from Palmerston North City	Awapuni Closed landfill	Processes around 5,500 tonnes per annum (TPA) of comingled recycling, and 2,600 TPA of glass
Awapuni Resource Recovery Park / Council	Composting	Greenwaste, pallets/untreated timber, plasterboard, foodwaste, agricultural/food processing residues	Awapuni Closed landfill	Processes 11,000 tonnes pa ongoing
Macauley Metals	Scrap metal	Accept scrap metal for recycling at a yard on the access road to Awapuni RRP	Awapuni Closed Landfill	Ongoing operation
OJI FullCircle	Bulking	Bulking and baling of paper & card	Awapuni Closed landfill	Processes 14,000 tonnes pa ongoing

[24] https://3r.co.nz/news/case-study-palmerston-north-city-council/

Budget Plastics	Reprocessing	Plastic	Valour Drive, Palmerston North	Processes 4,500 tonnes pa, ongoing

3.4.1 Recycling and Reprocessing Facilities Outside Palmerston North

There are a wide range of recycling and reprocessing facilities outside the city. The key facilities are listed below.

Table 8: Other Recycling and Reprocessing Facilities

Name/Operator	Type	Key services/waste streams	Location	Capacity & Estimated Operational life
Paranui Composting	Composting	Organic waste from the region	Paranui Road Foxton	N/A
Hawk Group	Reprocessing	Fibre (paper/card)	Hawkes Bay	Processes 10,000 tonnes pa, ongoing
Visy Glass	Reprocessing	Colour-sorted glass	Penrose, Auckland	Processes 130,000 tonnes pa, ongoing
SIMS Pacific	Reprocessing	Ferrous metals	Otahuhu, Auckland	Processes 5,500 tonnes pa, ongoing
OJI Fibre Solutions	Reprocessing	Fibre – paper and some card	Auckland, Kinleith	Processes 160,000 tonnes pa, ongoing
MyNoke	Vermicomposting	Organic wastes	Kinleith, Tokoroa	Currently expanding
Flight Plastics	Reprocessing	Plastic	Wellington	10,000 capacity however limited at present by end markets
Central Environmental	Reprocessing	Concrete, hotmix, rubble, timber	Feilding	

3.4.2 Assessment of Recycling and Reprocessing Facilities

Palmerston North, with its lower north island location, has a number of potential processing options within reach in Wellington, Hawkes Bay, and Auckland for a wide range of materials.

Within the context of current legislative and policy arrangements there is reasonable provision for e-waste collection and recovery within the region – although there is still scope for greater levels of recovery from non-household sources. The cost of separate disposal of e-waste compared to landfilling is a disincentive for greater recovery.

There is little construction and demolition waste recovery in the city or nearby, although Central Demolition (operating as Central Environmental) recover concrete, and are in the process of establishing a mixed construction and demolition waste facility.

4 Waste Services

4.1 Council-provided Waste Services

A range of collection, drop-off, and resource recovery services are provided to Palmerston North households and businesses by Council.

4.1.1 Collection Services

The tables below outline the key refuse and recycling collection services provided by Council.

Table 9: Council Kerbside Collections

Kerbside collection service	Charges/funding	Refuse collection contractor	Contract review dates
Weekly collection of residual waste from 60L/40L bags	User pays charges for approximately 32,300 households: $2.90 per 60L bag, $2.20 per 40L bag (can be used by anyone, including businesses)	Council in-house service	NA
Fortnightly collection of dry recyclables from a 240L wheeled bin, glass from a crate, alternate weeks	Targeted rates for approximately 32,300 households; user pays service for businesses (around 100)	Council in-house service	NA
Collection of food waste, paper towels, and compostable packaging for businesses	User pays services for businesses, $6 per pick up from an 80L or 240L bin	Council in-house service	NA

4.1.2 Other Council Services

In addition to the services described above, there are other waste-related programmes and services provided by the Council e.g. removal of illegal dumping, provision of litter bins, event waste recycling, and support of community clean-up events.

4.1.3 Waste Education and Minimisation Programmes

PNCC provides a range of communication and education initiatives to inform ratepayers, schools and services users of the available waste services and to promote waste minimisation. Key communication and education initiatives that Council supports include:

- Coordination and delivery of communication and education initiatives;
- direct engagement with businesses signed up to our commercial collection services, and co-design of bespoke systems where required;
- Provide tours of the MRF;
- Online educational resources;
- Direct communications as necessary to promote existing or new services, and service level changes;
- Recycling and waste minimisation information for households including recycling ; calendars, guides, bin labels, new resident packs and no junk mail stickers;
- Home composting promotion including online information and workshops;
- Waste minimisation guidance for tertiary students; and
- Signage and posters at recycling drop-off points advising how to recycle and how materials are recycled into new products.

4.1.4 Solid Waste Bylaws

In addition to key strategic waste infrastructure assets, the Council also has responsibilities and powers as regulators through the statutory obligations placed upon them by the WMA. The Council operates in the role of regulator with respect to:

- management of litter and illegal dumping under the Litter Act 1979
- trade waste requirements
- nuisance-related bylaws.

Council adopted their Waste Management and Minimisation bylaw in 2016. This is a comprehensive, wide ranging regulatory tool.

4.1.5 Hazardous Waste

As discussed in the previous section, Council run occasional household hazardous waste collection events and education material about managing various potentially hazardous wastes.

4.1.6 Service Delivery Models

At present kerbside recycling and council refuse collection services are delivered in-house, as is operation of the Awapuni RRP, and Council RTS and recycling centres. As required by the Local Government Act, Council has assessed their service delivery for waste management and has concluded that the in-house delivery model is providing cost-effective high-quality services.

With the likely increasing complexity of waste and resource recovery arrangements needed to deliver effective and efficient waste management and minimisation, there will be a growing need for a diverse range of expertise. The abilities of the private and community sectors provide one option to meet this requirement. Service delivery models can also encompass partnership and mixed ownership arrangements and working collaboratively.

4.2 Assessment and Funding of Council-provided Solid Waste Collection Services

Council provides a weekly residual waste collection service from user-pays bags which offers flexibility to households while also encouraging use of waste diversion options. All other services, such as the comprehensive kerbside recycling service that is available to households, are funded through general or targeted rates. This approach may encourage the preferred behaviours such as recycling and other waste diversion, although recent research challenges this assumption. The risk with a user-pays bag collection service is that Council can lose market share to private sector wheeled bin-based services. Council provides a biennial household hazardous waste collection.

Businesses can also access the kerbside recycling collection on a user-pays basis, which is likely to make recycling more feasible for those businesses that have household-type recycling streams (mixed and in smaller quantities).

There are no council services for organic waste collection, apart from a user-pays food scraps collection for businesses. Council currently has a trial household food scraps collection underway.

There is little need for the collection and management of rural-type wastes such as agricultural chemicals and wrap.

Council has a comprehensive bylaw and employs a waste minimisation officer and is in the process of employing a second waste minimisation officer to work with businesses.

4.3 Non-Council Services

There are a number of non-Council waste and recycling service providers operating in the city; in particular residual waste collection from wheeled bins, and garden waste collection.

The table below describes the kerbside collection services provided by the private sector.

Table 10: Non-Council Kerbside Collections

Kerbside collection service	Charges/funding	Refuse collection provider
Weekly collection of household residual waste from wheeled bins	User pays charges varying depending on size – 80L to 240L bins available	Waste Management, EnviroNZ (Budget Waste), Low Cost Bins, Lucy's bins

Weekly or fortnightly collection of garden waste from wheeled bins	User pays charges varying depending on size – 80L to 240L bins available; also large 1m3 bags from some providers	Environ (Budget Waste), Greensaway, Jim's Mowing, Crewcut, Waste Management, JJs Waste
Regular collection of commercial residual waste and recycling in various containers	User pays charges depending on type, size, and frequency	Waste Management, EnviroNZ, Low Cost Bins, JJs Waste
Regular collection of hazardous and medical waste	User pays charges depending on type, size and frequency of collection	Medi Chem, Chemwaste (EnviroNZ), Waste Management, Interwaste, 3R and some smaller specialist companies
Ad hoc removal of waste	User pays charges depending on type and quantity of waste	Jim's Mowing, Rubbish and Junk Removals, Flexi Bin, Trades Mate, Budget Bins

4.3.1 Assessment of Non-Council Services

The commercial collection market is reasonably competitive with two large private sector operators offering services, along with a number of smaller businesses offering both regular and ad hoc removal, and access to council services. Low Cost Bins is a relatively recent entry to the market and is picking up a share of both the household and commercial customer base.

The commercial market for recyclables materials also seems to be relatively well catered for with a range of collection and drop-off options.

There does appear to be scope for greater diversion of organic waste from the waste stream whether this is through council or non-council services.

While facilities for handling of medical wastes exists, there is a notable lack of readily available data on commercial medical and hazardous waste flows, and with better data it would be possible to better identify potential opportunities for improved waste minimisation.

5 Situation Review

5.1 Waste to Class 1-5 Disposal Sites

5.1.1 Definitions Used in this Section

The terminology that is used in this section to distinguish sites where waste is disposed of to land are taken from the MfE regulations, defining seven types of disposal sites. These seven types are defined in Appendix A.3.0.

5.2 Overview of Waste to Class 1-5 facilities

Virtually all waste from Palmerston North that is landfilled goes to Bonny Glen landfill, near Marton. Some waste travels directly from the source to Bonny Glen (mainly special wastes and some private household kerbside waste); but the majority passes through the Matthews Ave RTS first.

5.3 Waste Quantities

5.3.1 Waste to Class 1 Landfills

Analysis of the Matthews Avenue RTS weighbridge records during May and June 2022 gives an average residual waste flow to Bonny Glen landfill of 894 tonnes per week. This is compared to a similar period in 2017, when 794 tonnes per week was calculated.

An annual tonnage has been estimated based on the seasonal variability of waste flows at other landfills for which annual data has been provided. Waste tonnages are generally lowest in the June-August period, with weekly waste tonnages at this time of year generally 10% below the average weekly waste flow. What is understood to be minor amounts of waste from Manawatu District are included in this total.

Table 11: Annual Tonnage of Waste to Bonny Glen Landfill from Matthews Ave RTS 2022

	Tonnes per annum
Total seasonally-adjusted waste to landfill	54,870
Population (2022, Council figure)	90,400
Total seasonally-adjusted waste to landfill per capita	0.607 per capita
Total seasonally-adjusted waste to landfill per capita 2017	0.544 per capita

5.3.2 Waste to Class 2-5 Landfills

As discussed earlier in this report, MfE does now receive tonnage reports from operators of Class 2-5 facilities and industrial monofills. However, as there are none of these disposal facilities within the city, and information is not reported on the geographical source of the waste received at these types of facilities, there is no way to ascribe a particular portion to Palmerston North.

As discussed earlier in this report, there is very little information available regarding most cleanfilled waste as Horizons do not require these facilities to be consented unless they take very large quantities (over 2,500 tonnes per year).

A 2011 MfE report on non-levied disposal facilities stated:[25]

> *No information about cleanfill quantities was compiled for this report because the few sites with available data are unlikely to be indicative of what is happening around the country.*

Several other studies have attempted to quantify the disposal of waste to Class 2-4 landfills, often on a per capita basis, with widely-varying results. In practical terms, the lack of precise data about disposal of waste to Class 2-5 landfills makes it impossible to reliably monitor any changes over time in the disposal of major waste streams, such as construction and demolition waste.

Based on estimates prepared for similar councils, such as Tauranga and Hamilton, there may be around 115,425 tonnes per annum going to Class 2-5 facilities from Palmerston North at present.

5.4 Waste to Class 1 Landfill

5.4.1 Composition

The composition of the overall waste stream being disposed of at Bonny Glen landfill from Matthews Avenue RTS is calculated by combining four separate waste streams:

1. Combined kerbside waste - Composition as analysed in the kerbside SWAP survey
2. General waste - Composition as analysed at the Matthews Ave RTS SWAP survey of general waste
3. Rural transfer station waste – composition based on surveys when the material reaches Matthews Ave RTS; and
4. Special waste – primarily road sweepings, assumed to be compostable greenwaste (leaves) and other material such as road grit and potentially hazardous contamination.

The table below shows the activity source of the waste streams received at Matthews Avenue RTS.

Table 12: Overall Waste Activity Sources (May – June 2022)

Activity sources of waste loads at Matthews Avenue RTS – May – June 2022	Percentage of loads surveyed	Percentage of total weight	Tonnes per week
Construction and demolition	21%	14%	126
Industrial/commercial/institutional	25%	43%	388

[25] Ministry for the Environment (2011) *Consented Non-levied Cleanfills and Landfills in New Zealand: Project Report*. Wellington: Ministry for the Environment

Landscaping and earthworks	3%	1%	12
Residential	37%	3%	30
Subtotal – general waste	86%	62%	556
Council kerbside waste collections	10%	7%	60
Private kerbside waste collections		24%	216
Subtotal – kerbside rubbish	10%	31%	277
Rural transfer stations	0%	0.2%	2
Special waste (road sweepings)	4%	7%	59
TOTAL	**100%**	**100%**	**894**

Notable differences from the last time this survey was carried out include:

- An overall 100 tonne increase per week – largely attributed to road sweepings (60 tonne increase), construction and demolition (14 tonne increase), ICI (67 tonne increase). These increases are balanced against a decrease in residential waste (15 tonne decrease).
- Road sweepings were not passing through Matthews Ave RTS during the last survey, and instead were taken directly to Bonny Glen by a private contractor. As the charges were allocated to this private contractor's account, they were not visible at the time as being waste from Palmerston North.
- Kerbside waste has reduced slightly (277 tonnes in 2022 compared with 293 in 2017) with this reduction observed in both council's collection tonnages and those from private operators.
- Waste from rural transfer stations (essentially Ashhurst) has reduced from 5 tonnes per week in 2017 to 2 tonnes per week in 2022 (it is worth noting that this coincided with a price increase).

Table 13 on the next page includes an extrapolation of the composition from the visual surveys applied to the annual tonnage of 54,870 tonnes per annum to Bonny Glen landfill. ***The reliability of this extrapolation is uncertain, however, as it does not take seasonal variations of waste composition into account. The extrapolated composition results should be considered to be of an indicative nature only.***

Table 13: Composition of Levied Waste to Class 1 Landfills

Matthews Avenue RTS – overall waste composition (May – June 2022)	Proportion of total	Tonnes per annum (indicative only)
Paper	8.5%	4,664
Plastics	16.5%	9,054
Organics	29.1%	15,967
Ferrous metals	2.8%	1,536
Non-ferrous metals	1.1%	604

Glass	3.0%	1,646
Textiles	5.1%	2,798
Sanitary paper	5.9%	3,237
Rubble	10.2%	5,597
Timber	15.4%	8,450
Rubber	1.1%	604
Potentially hazardous	1.3%	713
TOTAL	100.0%	54,870

5.4.2 Diversion Potential

Various materials are diverted from landfill in Palmerston North through recycling, reuse, and recovery. Services available include Council's kerbside recycling collection, private recycling collections, recycling drop-off points, the Awapuni Resource Recovery Park, and the Matthews Ave RTS. Used clothing, reusable wood, and scrap metals can also be diverted.

As well as the various drop-off options, greenwaste can also be composted at home, or collected in a private green waste collection service.

Table 16 shows the proportion of *all waste* currently disposed of to landfill that could potentially be diverted using existing systems and available options. The table also shows the tonnes per week (and per annum, estimated) of each material that could have been diverted. The data on the individual materials has been taken from the Waste Not Consulting SWAP surveys.

Table 14: Diversion Potential of Palmerston North Waste Stream – 2022

Palmerston North general waste diversion potential 2022	Proportion of total	Tonnes per week	Tonnes per annum
Recyclable and recoverable materials			
Paper - Recyclable	3.7%	33	1,706
Paper – cardboard	3.3%	29	1,532
Plastic – recyclable	1.2%	10	536
Ferrous metals	2.8%	25	1,301
Non-ferrous metals	1.1%	10	533
Glass – recyclable	1.8%	16	857
Textiles – clothing	1.7%	15	803
Rubble – Cleanfill	1.6%	14	733

Timber – Reusable	0.3%	3	151
Subtotal	17.5%	156	8,151
Compostable materials			
Organics - food scraps	13.5%	121	6,307
Organics – compostable greenwaste	12.0%	107	5,598
New plasterboard	1.5%	14	709
Timber – Untreated/unpainted	1.4%	12	636
Subtotal	28.4%	254	13,250
TOTAL – Potentially divertible	**45.9%**	**410**	**21,401**

Overall, nearly half of the waste going to Class 1 landfill (45.9%) could have been diverted through recycling or composting – at the last SWAP in 2017, this figure was 66%; representing a significant improvement in management of wastes.

Food scraps is the largest single material stream, at 13.5% of total weight or around 6,307 tonnes per year. Compostable greenwaste (excluding material like flax and cabbage tree leaves) was the second largest single material stream, at 12% or just under 6,000 tonnes per year. Both material streams are close to the entire recyclable component, at a total of 17.5% or over 8,000 tonnes per year.

It is worth noting that these are theoretically divertible quantities, as no waste system is capable of capturing 100% of a material. It is possible that some items may also not be in a recoverable form at the point of capture.

The table below shows the *activity source* of the divertible materials going to landfill from Matthews Ave. This is a useful analysis as it shows which activities should be targeted (and therefore what type of services are required to which customer group) to maximise efforts to divert certain materials.

Table 15 - Overall waste to landfill from Matthews Ave RTS 2022 - Divertible materials by activity source

Matthews Ave RTS - Divertible materials - By activity source - May/June 2022	C&D	ICI	Landscaping & earthworks	Residential	Council kerbside rubbish	Other kerbside rubbish
	Tonnes per week					
Paper - Recyclable	0.0	13.8	0.0	0.9	3.2	14.8
Paper - Cardboard	1.7	24.4	0.0	1.3	0.4	1.6
Plastic - Recyclable	0.1	5.0	0.0	0.1	0.9	4.2

Food scraps	0.0	29.2	0.1	1.3	29.7	60.6
Compostable greenwaste	0.1	3.9	5.6	1.9	2.7	50.5
Ferrous metals	1.5	15.2	0.0	3.1	1.0	4.0
Non-ferrous metals	0.0	7.8	0.0	0.1	0.4	1.9
Glass - Recyclable	0.0	4.4	0.0	0.1	0.6	11.3
Textiles - Clothing	0.0	8.3	0.0	1.5	1.8	3.7
Rubble - Cleanfill	9.7	1.1	3.2	0.1	0.0	0.0
New plasterboard	13.4	0.2	0.0	0.1	0.0	0.0
Timber - Reusable	2.0	0.8	0.0	0.1	0.0	0.0
Timber - Untreated/ unpainted	5.6	5.7	0.0	0.8	0.0	0.0
TOTAL	**34.0**	**119.7**	**9.0**	**11.4**	**40.6**	**152.6**

Source: Waste Not Consulting Ltd, Palmerston North City Council SWAP 2022

For example, if food scraps were to be targeted, it is clear that the primary opportunity is in kerbside household rubbish (with a combined total of 90.3 tonnes per week). The high proportion of householders using private wheeled bin rubbish collections, and the known impact this has on participation in recycling and food scraps collections, means that successfully capturing food scraps will depend on the business practices of the private sector operators.

The second biggest opportunity is with ICI (industrial, commercial and institutional) at 29.2 – this would include sources such as medical facilities, educational institutions, and the Defence Force base. Targeting compostable greenwaste would require a focus on private kerbside household waste collections.

There are also significant quantities of recyclables (paper, cardboard, glass, and metals) in both the ICI and private kerbside household waste collections.

Table 16 shows the proportion of the *general waste* currently disposed of to landfill that could potentially be diverted using existing systems and available options (both Council-provided and otherwise). The table also shows the tonnes per week of each material that could have been diverted. The data on the individual materials has been taken from the Waste Not Consulting SWAP surveys.

Table 16: Diversion Potential of Palmerston North General Waste Stream – 2022

Palmerston North general waste diversion potential 2022 – excludes kerbside waste and rural transfer stations	Percentage of total (%)	Tonnes per week
General waste recyclable materials		

Paper - Recyclable	2.6	15
Paper – cardboard	4.9	27
Plastic – recyclable	0.9	5
Ferrous metals	3.6	20
Non-ferrous metals	1.4	8
Glass – recyclable	0.8	5
Textiles – clothing	1.8	10
Rubble – Cleanfill	2.5	14
Timber – Reusable	0.5	3
Subtotal	19.1	106
Compostable materials		
Organics - food waste	5.5	31
Organics - greenwaste	2.1	12
Rubble - New plasterboard	2.4	14
Timber – Untreated/unpainted	2.2	12
Subtotal	12.2	68
TOTAL – Potentially divertible	31.3	174

It may be possible to include new plasterboard into the composting process at Awapuni Resource Recovery Park.

Recyclable and recoverable materials make up 19.1% of general waste, or about 106 tonnes per week. Recyclable paper/cardboard, ferrous metals, and textiles were the three largest recyclable components of general waste.

Compostable materials made up 12.2% of the general waste. Food waste was the largest compostable component, at 5.5% of general waste or 31 tonnes per week. Compostable greenwaste made up 2.1% of the general waste stream, although it should be remembered that the survey was carried out in May/June, normally a time of year where green waste is lower than at other times.

Overall, approximately 31.3% of the general waste, or 174 tonnes per week, could have been diverted from landfill disposal via various methods[26].

Since the last audit (carried out in 2017), a few significant changes have been noted. The overall proportion of the waste stream that could potentially be recovered has reduced from 37.3% in 2017 to 31.3% in 2022. The main waste types that have contributed to this increase are recyclable paper and cardboard (1.8% decrease, 5 tonnes per week), ferrous metals (1.0% decrease, 3 tonnes per week), textiles/clothing (1.0% decrease, 4 tonnes per week), compostable greenwaste (3.2% decrease, 24 tonnes per week) and timber (reusable and unpainted/untreated – 3.2% increase, 9 tonnes per week – noting that unpainted/untreated timber is a new category for this survey).

Overall, this shows an improving picture for general waste going to landfill, and suggests that diversion measures for waste other than kerbside-collected waste are succeeding in diverting more from landfill. However, as mentioned earlier, the high proportion of kerbside waste that is collected by private operators makes this a challenging waste stream to influence.

5.5 Kerbside-collected Waste

Kerbside refuse in Palmerston North was surveyed in accordance with the SWAP in late May 2022.

The SWAP survey calculated the composition of kerbside refuse for the total waste stream, but also for individual components e.g. Council refuse bags, 120/140L wheeled bins, and 240L wheeled bins. This section presents the primary composition of the entire kerbside refuse stream first, and then explores the differences between the three components. Detailed composition data is presented in the Waste Not Consulting SWAP report.

5.5.1 Composition of the Full Kerbside Stream

The composition from the kerbside SWAP survey is used to estimate the composition of the combined kerbside waste stream, including kerbside rubbish bags collected by Council and wheeled bins collected by four private operators.

The following assumptions have been made:

1. The composition of waste in 120/140 litre wheeled bins is the same as found in other SWAP audits (as insufficient numbers were located during the survey to provide reliable composition data);
2. A minor amount of kerbside waste from Manawatu may be included at Matthews Ave; the quantity is not significant and the composition is assumed to be the same as Palmerston North kerbside waste; and
3. Approximately 5-10% of kerbside waste originates from non-household properties, but this is assumed to have the same composition as domestic kerbside waste.

[26] Note that this is a theoretical figure, as no recovery or diversion system is capable of diverting 100% of any material from landfill disposal. Figures and breakdown taken from Waste Not Consulting's Palmerston North City Council SWAP report, July 2017.

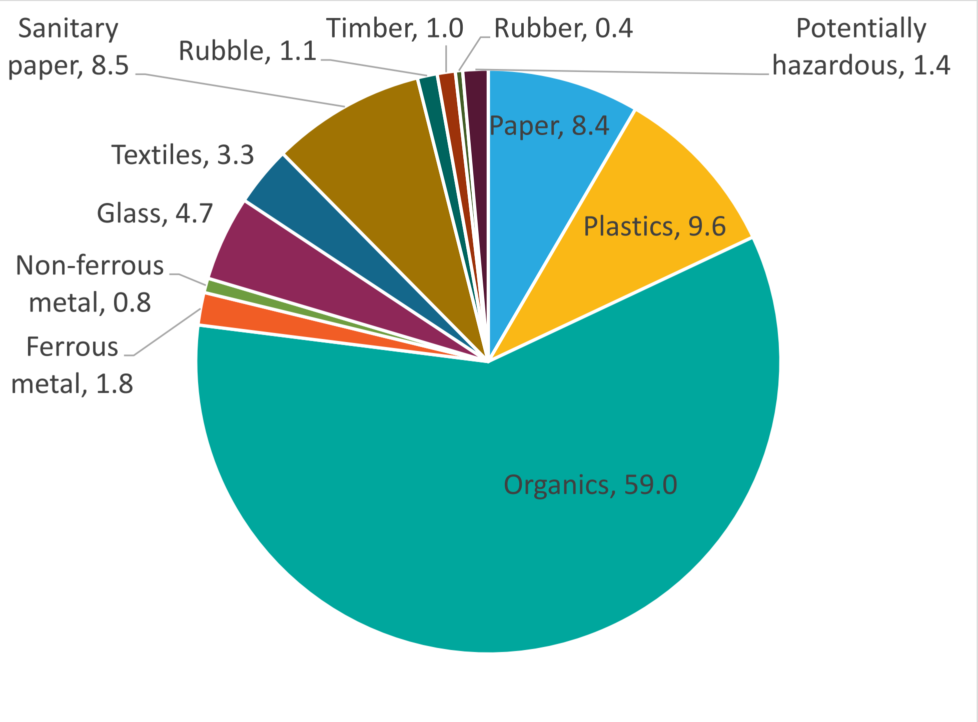
To use the composition data collected for privately-collected wheeled bins and estimate an overall composition, it is necessary to understand the proportional split between the different sized containers used by customers. To determine this, the two largest private operators were asked to provide this data, which both agreed to do. A split of 12% 80 litre bins, 24% 120/140 litre bins, and 64% 240L bins has therefore been applied (which is the same proportional split as the previous audit).

The primary composition of the combined kerbside waste stream is shown below. The estimated composition of the combined waste stream has been converted into an average weekly tonnage using the tonnage figure for kerbside waste shown in section 5.3.

Table 17: Primary composition of Palmerston North kerbside waste (weighted average 2022)

Composition of kerbside waste (weighted average from July and November 2017)	Proportion of total (%)	Tonnes per week
Paper	8.4	23
Plastics	9.6	27
Organics	59.0	163
Ferrous metal	1.8	5
Non-ferrous metal	0.8	2
Glass	4.7	13
Textiles	3.3	9
Sanitary paper	8.5	23
Rubble	1.1	3
Timber	1.0	3
Rubber	0.4	1
Potentially hazardous	1.4	4

Figure 8: Primary composition of Palmerston North kerbside waste (weighted average 2017)



Organic material was the largest primary component of the combined kerbside waste stream, comprising 59.0% of the total. Plastics was the second largest component at 9.6%, and sanitary paper (which includes nappies, tissues, and paper towels) was the third largest component at 8.5%.

5.5.2 Diversion Potential of Palmerston North kerbside waste

Common means used by local authorities to divert domestic waste materials from landfill disposal are by providing systems for the collection or diversion of recyclable and compostable materials. Palmerston North City Council provides a kerbside recycling service to households and recyclable materials can also be dropped off at the Awapuni Resource Recovery Park, Ferguson Street recycling centre, and Ashhurst rural transfer station.

For the diversion of organic materials, green waste can be disposed of separately at Matthews Avenue RTS, Ashhurst rural transfer station, or Awapuni Resource Recovery Park. Private green waste collections are also available. Both kitchen waste and green waste can be composted at home by residents, and at shared community gardening and composting sites.

Table 18 shows the proportion of the Palmerston North combined kerbside waste stream that could have been diverted using these methods. This waste stream includes both Council kerbside rubbish bags and privately-collected wheelie bins. The table also shows the tonnes per week of each material that could have been diverted. The data on the individual materials has been taken from the Waste Not Consulting SWAP surveys.

Table 18: Diversion Potential of Palmerston North Kerbside Waste Stream – 2022

Palmerston North kerbside waste diversion potential 2022	Percentage of total (%)	Tonnes per week
Kerbside recyclable materials		
Paper - Recyclable	7.2	20
Plastics - #1, #2 and #5	1.9	5
Ferrous metals - Steel cans	0.5	1
Non-ferrous metals - Aluminium cans	0.6	2
Glass - Bottles/jars	4.3	12
Subtotal	14.5	40
Compostable materials		
Organics - food scraps	32.6	90
Organics - greenwaste	21.4	59
Subtotal	54.0	149
TOTAL – Potentially divertible	68.5	189

Approximately 14.5% of the combined kerbside waste stream (or 40 T/week) could have been recycled through the kerbside recycling collection or at a drop-off facility. Paper comprised 50% of the recyclable materials.

A further 54.0% could have been composted. Food scraps comprised 60% of compostable materials.

In total, 68.5% of kerbside waste from Palmerston North (or 189 tonnes per week) could have been diverted from landfill disposal by either recycling or composting.

Other materials, such as clothing and other metals, are also recoverable, but have not been included in these calculations.

5.5.3 Comparative Composition of Kerbside Refuse Components

The data presented above is for the entire kerbside waste stream. The table below presents the primary composition data for each separate kerbside waste stream – Council bags, 120/140L wheeled bins, and 240L wheeled bins. For ease of comparison, the columns with the kg per container figures have been shaded for each container type.

Table 19: Primary Composition Data for each Kerbside Rubbish Collection Method

Primary Composition Category	% of Council bags (%)	Kg per bag (kg)	Kg per set out (kg)	% of 80L wheeled bins (%)	Kg per bin (kg)	% of 240L wheeled bins (%)	Kg per bin (kg)
Paper	7.5	0.52	0.66	6.2	0.53	9.1	1.50
Plastics	10.6	0.72	0.93	8.3	0.72	9.2	1.51
Organics	58.9	4.03	5.15	61.7	5.33	58.9	9.70
Ferrous metals	1.6	0.11	0.14	0.9	0.08	1.8	0.29
Non-ferrous metals	0.7	0.05	0.06	0.6	0.05	0.9	0.15
Glass	1.7	0.12	0.15	1.1	0.09	6.8	1.13
Textiles	3.9	0.27	0.34	1.9	0.17	3	0.49
Sanitary paper	12.6	0.86	1.10	10.6	0.91	6.9	1.14
Rubble	0.4	0.03	0.03	4.0	0.35	0.9	0.14
Timber	0.4	0.03	0.03	3.9	0.34	0.6	0.09
Rubber	0.4	0.03	0.03	0.4	0.03	0.2	0.03
Potentially hazardous	1.3	0.09	0.12	0.5	0.05	1.8	0.29
TOTAL		6.86	8.75		8.65		16.47

The data shows clearly that households using large wheeled bins place out more waste for the kerbside refuse collection than households using Council bags or an 80L wheeled bin private collection. Almost half of the difference in weight between an average 80L wheeled bin and a 240L wheeled bin is organic waste – 5.33kg in an 80L bin compared to 9.70kg in a 240L wheeled bin. Other notable differences are in paper, plastics, and glass making up another 2.8kg increase in 240L wheeled bins.

5.5.4 Comparative Diversion Potential of Kerbside Refuse Components

In addition to placing out larger quantities of waste in general, households that use wheeled bins also divert less material than households using Council bags. The table below compares the potentially divertible waste for each container type. For ease of comparison, the columns with the kg per container figures have been shaded for each container type.

Table 20: Potentially Divertible Materials for each Kerbside Rubbish Collection Method

Potentially divertible material	% of Council bags (%)	Kg per bag (kg)	Kg per set out (kg)	% of 80L wheeled bins (%)	Kg per bin (kg)	% of 240L wheeled bins (%)	Kg per bin (kg)
Kerbside recyclable materials							
Paper – recyclable	5.8	0.40	0.51	4.2	0.36	8.2	1.36
Plastics #1 - #7 containers	1.6	0.11	0.14	1.7	0.15	1.9	0.32
Ferrous metals – steel cans	0.5	0.04	0.05	0.4	0.04	0.5	0.08
Non-ferrous metals – aluminium cans	0.6	0.04	0.05	0.6	0.05	0.6	0.09
Glass – bottles and jars	1.1	0.07	0.09	1.0	0.09	6.6	1.09
Subtotal	9.6	**0.66**	**0.84**	7.9	**0.68**	17.9	**2.95**
Compostable materials							
Organics – food waste	49.4	3.38	4.32	34.9	3.02	24.7	4.07
Organics – green waste	5.0	0.34	0.44	16.3	1.41	29.0	4.77
Subtotal	54.4	**3.73**	**4.76**	51.2	**4.42**	53.7	**8.85**
TOTAL – potentially divertible	64.0	**4.38**	**5.60**	59.1	**5.11**	71.6	**11.79**

Comparison of the shaded columns demonstrates that households using large wheeled bins have 2.95kg of potentially recyclable material in their kerbside refuse, compared to households using Council's bags or 80L wheelie bins at 0.84 and 0.68kg. Similarly, households using large wheeled bins for refuse collections put out between 11.79kg of compostable material, compared to 5.60/5.11kg for households using Council bags/80L wheeled bins.

The difference is particularly dramatic when looking specifically at green waste, with households using Council bags including almost no green waste at 0.44kg, compared to households using large wheeled bins with 4.77kg.

This suggests that households using Council bags for refuse collection manage their green waste through other methods, such as home composting or transporting it to one of the green waste drop off or RTS points.

5.6 Diverted Materials

5.6.1 Overview of Diverted Materials

Diverted materials in Palmerston North include green waste, other organic material, and recyclables such as paper, card, glass, metals and plastic.

A large proportion of diverted organic waste is composted within Palmerston North at the Awapuni resource recovery park.

Other materials generally leave the city for further processing, with much of the fibre (paper/card) being transported to Hawk Packaging in the Hawkes Bay or to an OJI Fibre Solutions site. Glass and metals are generally transported to Auckland, with some metals and most plastic being sold to varying New Zealand reprocessors and the rest exported.

5.6.2 Material Diverted Through Kerbside Recycling and Drop-Off Facilities

Council holds data for their kerbside recycling collection and drop-off facilities.

Table 21: Kerbside Recycling and Drop-Off Facilities

Tonnes/annum Financial year	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Kerbside comingled recycling	4,005	3,593	3,576	3,686	3,592	2,979
Kerbside glass	1,793	1,821	1,899	1,911	1,872	1,606
Food waste	354	306	376	479	608	650
Commercial comingled recycling	45	51	58	83	83	105
Commercial glass	68	85	67	90	76	95
Drop-off comingled recycling	1,008	1,856	2,317	2,288	2,398	2,201
Drop-off glass	863	926	941	703	1,414	1,492
Drop-off organics	8,278	7,419	7,867	8,413	8,623	8,726
TOTAL	**16,414**	**16,057**	**17,101**	**17,653**	**18,666**	**17,854**

The most notable change in the most recent year is the drop in kerbside recycling; which is so far unexplained. It may be reflective of the general economic conditions, with the price of living resulting in households simply consuming less (as discussed later in section 7.1.2, there is a clear relationship between economic activity and waste generation). It is not possible to assess whether there is a similar impact on landfill rubbish, due to lack of access to full data.

Apart from the most recent year, the amount of material diverted through kerbside collections and drop-off points has increased over the last three years, with a significant increase between the 2015/16 and 2016/17 financial years largely made up of kerbside glass, and green waste increases. Recent years have been affected by the national drop in kerbside recycling quantities that was caused by COVID-19 pandemic management.

5.6.3 Commercially-Diverted Materials

All available data for commercially-collected diverted materials has been provided by operators. No data has been available for some waste streams, and no attempt has been made to quantify:

- Scrap metal
- Concrete
- Textiles
- Construction and demolition wastes
- Tyres (although there is some data relating to tyres taken to Council facilities)
- Second-hand goods

Table 22: Commercially-Collected Diverted Materials

Diverted materials, excluding council and private domestic kerbside recycling collections	Tonnes/annum 2022
Cardboard/paper/containers	13,200
Plastics	425
Organics	490
TOTAL	**14,115**

Apart from a small amount of green waste that is removed from the city by a private operator, the vast majority of green waste from Palmerston North is processed at Awapuni Resource Recovery Park by Council.

However, there is a significant quantity of fibre, and a small quantity of plastics, that is collected and processed by the private sector.

5.7 Current Performance Measurement

This section provides comparisons of several waste metrics between Palmerston North and other territorial authorities. The data from the other districts has been taken from a variety of research projects undertaken by Eunomia Research & Consulting and Waste Not Consulting.

5.7.1 Per Capita Waste to Class 1 Landfills

The total quantity of waste disposed of at Class 1 landfills in a given area is related to a number of factors, including:

- the size and levels of affluence of the population
- the extent and nature of waste collection and disposal activities and services
- the extent and nature of resource recovery activities and services
- the level and types of economic activity
- the relationship between the costs of landfill disposal and the value of recovered materials
- the availability and cost of disposal alternatives, such as Class 2-4 landfills
- seasonal fluctuations in population (including tourism).

By combining Council's population estimates and the Class 1 landfill waste data in section 5.3.1 , the per capita per annum waste to landfill in 2022 from Palmerston North can be calculated as in Table 23 below. The estimate includes special wastes but excludes non-levied cleanfill materials.

Table 23: Waste Disposal per Capita[27]

	Tonnes per annum
Total seasonally-adjusted waste to landfill	54,870
Total seasonally-adjusted waste to landfill per capita	0.606 per capita
Total seasonally-adjusted waste to landfill per capita 2017	0.544 per capita

This figure varies significantly throughout New Zealand, with a national average of 0.663. Other similar cities/districts where this has been calculated recently include Western Bay (0.560), Hamilton (0.668 tonnes/capita/annum), the Otago region (0.608), Queenstown Lakes (0.833) and Rotorua (0.533[28]). The national average figure is approximately 0.750 per person per annum.

Areas with lower per capita waste generation tend to be rural areas or urban areas with relatively low levels of manufacturing activity. The areas with the highest per capita waste generation are those with significant primary manufacturing activity or with large numbers of tourists.

[27] Estimate provided by Waste Not Consulting based on a number of datasets held
[28] Estimated from publicly available information

5.7.2 Per Capita Domestic Kerbside Refuse to Class 1 Landfills

The quantity of domestic kerbside refuse disposed of per capita per annum has been found to vary considerably between different areas. There are several reasons for this variation.

Kerbside refuse services are used primarily by residential properties, with small-scale commercial businesses comprising a relatively small proportion of collections (typically on the order of 5-10%). In districts where more businesses use kerbside wheelie bin collection services - which can be related to the scale of commercial enterprises and the services offered by private waste collectors - the per capita quantity of kerbside refuse can be higher. There is relatively little data in most areas on the proportion of businesses that use kerbside collection services, so it is not usually possible to provide data solely on residential use of kerbside services.

Evidence indicates that the most important factor determining the per capita quantity of kerbside refuse is the proportion of households that use private wheelie bin collection services. Households that use private wheelie bins, particularly larger, 240-litre wheelie bins, tend to set out greater quantities of refuse than households that use refuse bags. As a result, in general terms the higher the proportion of households that use private wheelie bins in a given area, the greater the per capita quantity of kerbside refuse generated.

The disposal rate of domestic kerbside refuse for Palmerston North was calculated to be 215kg per capita in 2021/22.

Table 24 compares the per capita rate of disposal of kerbside refuse in Palmerston North with other urban areas in New Zealand. Data for the other districts has been taken from SWAP surveys conducted by Waste Not Consulting.

Table 24: Per Capita Disposal of Kerbside Refuse – Comparison with Other Areas

District/city and year of data	Kilos kerbside rubbish collected per capita per year	Commentary
Hamilton 2022	83	Rates-funded fortnightly 120L wheelie bins (with weekly food scraps)
Christchurch 2011	110	rates-funded fortnightly 140L wheelie bins (with weekly organic)
Gisborne 2017	122	rates-funded bags with stickers
Waikato District 2022	131	Bags and wheeled bins
Ashburton 2021	144	rates-funded weekly 80L wheelie bins, private wheelie bins

Waikato region 2020	149	Various
Whangarei 2017	153	user-pays rubbish bags and private wheelie bins
Auckland 2016	156	user-pays rubbish bags, rates-funded wheelie bins, and private wheelie bins
Bay of Plenty region 2020	160	user-pays rubbish bags, rates-funded wheelie bins, and private wheelie bins
Central Otago 2022	168	Rates-funded fortnightly 240L wheelie bins
Taupo 2022	183	user-pays rubbish bags and private wheelie bins
Dunedin 2018	187	user-pays rubbish bags and private wheelie bins
Palmerston North 2022	215	user-pays rubbish bags and private wheelie bins

Of the urban areas that have been assessed, Hamilton city has the lowest per capita disposal rate of kerbside rubbish. Hamilton City Council introduced new services in August 2020, which resulted in a significant increase in performance. A weekly food scraps collection started, and the weekly collection of two rubbish bags per household was replaced with a fortnightly collection from a 120L wheeled bin. Christchurch City has the second lowest per capita disposal rate of kerbside refuse. This is associated with the diversion of organic waste through the council's kerbside organic collection and the council's high market share.

Performance generally depends on the type of waste collection services available, and the service choices made by residents.

It is not clear what is behind the 7% increase in the per capita disposal rates between 2017 and 2022. It is possible that in 2022, a proportion of privately-collected kerbside rubbish disposed of directly to Bonny Glen has been captured in the analysis; it may also be a result of a higher proportion of households using private wheelie bin services than in 2017 or a higher number of people now undertaking their work from home. However, there is not enough information to conclude for certain what is responsible without further surveying.

5.7.3 Per Capita Kerbside Recycling

Per capita recycling rates for Palmerston North are calculated in Table 25.

Table 25: Per Capita Kerbside Recycling

Kerbside recycling (tonnes)	2017/18 financial year	2021/22 financial year	2022/23 financial year
Glass	1,793	1,722	1,606
Other material	4,005	3,592	2,979
Total kerbside recycling	5,798	5,464	4,585
Population	87,300	90,400	90,400
Kg/capita/annum	66	60	51

Table 26: Per Capita Kerbside Recycling – Kg/Capita/Annum

District	Kg/capita/annum	System Type
Palmerston North City Council 2022/23	*51 kg*	*Fortnightly glass crate, fortnightly comingled 240L wheeled bin*
Napier City Council	52 kg	Fortnightly bags or crates
Wellington region	53 kg	Various systems
Ashburton District	62 kg	Weekly bags or crates depending on area
Hamilton City Council (2022)	61 kg	Fortnightly glass crate and comingled 240L wheeled bin
Tauranga City Council	65 kg	Private wheelie bin collection (note that this was before glass was excluded)
Palmerston North City Council 2017/18	*67 kg*	*Fortnightly glass crate, fortnightly comingled 240L wheeled bin*
Invercargill City Council	69 kg	Fortnightly 240-litre wheeled bin, comingled
Waipa District	73 kg	Weekly/Fortnightly 55-litre crate, separate paper collection

Waikato District	74 kg	Weekly 55-litre crate, separate paper collection
Dunedin City	77 kg	Fortnightly 240-litre wheeled bin, fortnightly crate for glass
Horowhenua District	81 kg	Weekly crate
Auckland Council	84 kg	Fortnightly 240-litre commingled wheelie bins or 140-litre wheelie bin with separate paper collection
Waimakariri District Council	85 kg	Fortnightly 240-litre wheeled bin, commingled
Christchurch	109 kg	Fortnightly 240-litre wheeled bin

While data on kerbside recycling collections is readily available, accurate and reliable data relating to the total quantity of diverted materials, which includes commercial recycling, is not available for most districts.

5.7.4 Council Bag Share of Domestic Kerbside Refuse Market

To determine the relative numbers of the different bin sizes in use, the three major private waste operators were asked to provide the relevant data. This data was provided by one of the private waste operators. Based on this, it is assumed that 12% of bins in service are 80-litre bins, 24% are 120/140-litre bins, and 64% are 240-litre bins. It has been further assumed that data provided by the single private waste operator is representative of all kerbside waste wheelie bins. In addition, tonnages were supplied by one operator that transports collected waste directly to landfill.

The share of the kerbside refuse collection market is summarised below.

Table 27: Estimated Usage of Different Waste Receptacles

Estimated usage	Council rubbish bags	80L wheeled bins	120/140L wheeled bins	240L wheeled bins	TOTAL
Assumed percentage of bins in service (by weight)	NA	7%	18%	74%	100%
Percentage of total weight in kerbside waste	16%	6.5%	16.5%	61%	100%

The key risk for Council is that any attempt to divert material from landfill through kerbside recycling or any new services will be hampered by lack of control over the refuse collection market. This applies particularly to those customers using 240L wheeled bins, as data shows that these containers are far more likely to include recyclables and organic waste.

6 Review of the 2019 Waste Management and Minimisation Plan

As required by the WMA, Council has carried out a review of their last WMMP, which was adopted in 2019.

This was the third WMMP adopted by Council, and had a vision of 'Minimising Waste to Landfill'.

The vision was supported by three goals, which were further supported by eight objectives.

Goal	Objectives
G1: A community committed to minimising waste sent to landfill	O1: Provide sustainable services that are cost-effective to the community as a whole O2: View waste as a resource, improving and modifying collections and facilities so that more can be diverted from landfill O3: Prioritise waste reduction, reuse and recovery and recycling initiatives which align with other council objectives such as being an eco-city, sustainable urban development, and demonstrating best practice O4: Promote, encourage, and emphasise reduction, reuse, and recycling O5: Remove or reduce barriers that are preventing the community from making best use of existing waste diversion services, and any potential new services
G2: A community that considers and, where appropriate, implements new initiatives and innovative ways to assist in reducing, reusing, and recycling wastes	O6: Process and manage waste locally wherever feasible and cost-effective O7: Investigate and implement new services, facilities, or other initiatives that will increase the amount of waste reduced, reused, or recycled
G3: Minimise environmental harm and protect public health	O8: Consider the environmental impact and public health implications of all waste management options and choose that that are cost-effective to the community, while also protecting environment and public health.

6.1 Targets

The target in the 2019 WMMP was based on diverted waste. The baseline was set according to the best data available relating to the 2017/18 year, which suggested a current diversion achievement of 38%[29].

The action plan was analysed and the potential contribution to waste diversion estimated, and on that basis a target of increased diversion was calculated. By the conclusion of the plan, the target was to increase diversion to 48% (by 2025).

Key actions that could contribute to achieving this target include regulating private collection providers, introducing a household kerbside food waste collection service, and improving services for construction and demolition waste.

6.2 Key Issues

The key issues identified at the time of the last Waste Assessment and WMMP were:

- A significant proportion of waste going to landfill was organic waste, with food waste present across all kerbside rubbish collection systems.
- There was a significantly higher proportion of material that shouldn't be going to landfill in rubbish from
- households with private wheeled bin collections (particularly those with large bins), included green waste which is insignificant in the Council rubbish bag collection
- Many households used a wheelie bin service for rubbish rather than use the Council-provided bagged service
- Lack of facilities to recycle or otherwise divert construction and demolition waste, in particular with a predicted increase in construction activity
- Licensing provisions in the Council waste bylaw were not yet implemented, so there was little data available on private operator activities and non-Council waste streams in general
- While there were services to manage household hazardous waste, limited funding prevented the ability to offer a consistant service. Community could still engage directly with chemical waste collectors (at a cost).
- Community engagement, understanding and awareness of waste issues could have been improved further
- More recyclables could have been diverted from both domestic and commercial properties
- E-waste collection and processing capacity in the district, while better than many areas, still had some room for improvement
- Industrial and commercial waste generally presented scope for increased diversion, with paper/card the main material type currently diverted

These issues were all addressed in the 2019 WMMP action plan.

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[29] It should be noted that this figure was later revised, as it was found that there were waste streams going straight to landfill from Palmerston North that should have been added to this calculation.

6.3 Actions

The table below shows the actions from the previous WMMP, and a brief comment on the extent to which each has been achieved.

Table 28: Review of the Previous WMMP Action Plan

Action	Planned timeframe and *progress*	Contribution to target and commentary
Implement the provisions in the Council's Waste Management and Minimisation Bylaw, particularly provisions relating to licensing and data collection of companies providing waste services, and zero-waste events. Rubbish collection companies could be required to provide a minimum level of education to their customers (to be agreed with Council) and to encourage their customers to use the Council's diversion services alongside their own rubbish collection service.	Planned for 2019 *Temporarily put on hold due to indications that central government were planning a national waste operator licensing scheme.* *Private waste companies were surveyed to find out what data they currently collect. Through this process, some were not willing to provide data to Council citing commercial sensitivity. It became apparent that a third-party data collection platform would be required to collect and aggregate data from the private collectors, however there was no budget to allow this to occur* *To ensure visibility across the waste streams in the city, PNCC will likely need to address licencing provisions in the bylaw. However, there is still uncertainty regarding the detail of the new legislative requirements and our ability to licence and collect data under the new proposed legislation.*	General support Residents would be more aware of waste management issues, and could make informed choices about the way they manage their waste.
Use the existing Bylaw to introduce rules for the companies that collect rubbish from households, so that they can no longer collect rubbish bins that contain lots of materials that could have been diverted through existing or new services	2020, with implementation through to 2024 *As above* *This would need to occur after R01 was implemented.* *Material limits may partially be address through legislation.* *The Emissions Reduction Plan has an action to remove organic waste from landfill by 2030, and the Container*	***1,300 tonnes per annum diverted from landfill (estimated)*** This method has not yet been proven in New Zealand, although several other councils have the ability to do this; therefore the potential impact of introducing rules like this is only an estimate. These rules would cover recycling, green waste, and would also cover food waste if/when collection services for these materials were introduced by Council. Green waste could instead be home composted or taken to a drop off point or the Awapuni Resource Recovery Park; householders can also organise a private green waste collection. Recyclables could instead be put into the Council's kerbside

	return Scheme (which is currently deferred until after the 2023 general election) aims to incentivise recycling. *PNCC will either need to licence the private waste collectors through the bylaw to ensure visibility across waste streams in the city, and/or work with the private waste providers.* *The performance measures introduced in the new waste strategy will require all councils to reduce the waste sent to landfill. Working with the private sector is a key element to meeting these targets.*	recycling collection, which accepts a wide range of materials, or taken to a drop-off centre or Awapuni Resource Recovery Park. The cost of this proposal relates largely to enforcement of the rules which is an unknown cost at this stage.
Continue to take enforcement action against those that dump rubbish illegally, and work in partnership with community group to identify and address problem spots	Ongoing *Continues to be undertaken on an ongoing basis in partnership with Manawatu District Council* *Manawatu District Council inspect all reported incidences of illegal dumping. Since July 2019, 109 infringements have been issued relating to illegal dumping. The incidences of illegal dumping are continuing to increase year on year, as expected with the increasing waste levy.*	General support
Council will continue to undertake occasional surveys in accordance with the solid waste analysis protocol to monitor performance and identify opportunities for improvement.	As necessary *SWAP surveys undertaken for this Waste Assessment*	General support and guides future actions
Council will continue to improve their internal data collection and analysis, and ensure that it is possible to identify trends over time where possible.	*Ongoing* *Continually working on improving internal data collection and analysis* *Data capture and analysis systems constantly being improved to increase efficiency and reliability. This*	General support, guides future actions, and provides data for performance reporting on KPIs

	will be key to ensuring we can accurately report to MfE. *Historically, resources to develop, implement and manage this area on a large scale has been stretched.* *Progress made towards upgrading our systems to better capture, maintain and manage our data particularly through the Awapuni weighbridge.* *A focus was put on better understanding the cost of providing our operations and services along with improving our internal analytical capability in the Resource Recovery Division.*	
Maintain current education and engagement	Existing *Maintained. Council has made all information relating to waste reduction available on a new website hub. A campaign was also run in early 2022 encouraging residents to 'break up with the trash in their life'* *Various educational campaigns have occurred since 2019, however COVID had an impact on momentum. Education and engagement have been largely through digital formats during this time, including the Plastics Campaign after the materials accepted in kerbisde recycling were changed, and the development of the recycling section on the PNCC website.* *PNCC has given support to Environment Network Manawatu (ENM) to deliver 3 Future Living Skills workshops since 2022.* *Tours of the material recovery facility (MRF) resumed – with six tours held since July 2022, and*	General support

	four booked for the next few months. Alongside this a standardised presentation was developed for these tours aimed at intermediate aged children to adults, with a condensed version for younger children. *In addition, several social media videos were also created including the popular Palmy 10/7 clip which highlighted the challenges council is facing in respect to illegal dumping.*	
Carry out specific communication and education if new services are introduced, if existing services are changed, or if regulatory changes are made (e.g. 240L bin ban)	New *Carried out as required, e.g. introduction of recycling services for tyres, liquid paperboard, cooking oil, changes in accepted materials, etc.* *Communication of new services occurs as required through a variety of mediums depending on the requirements. These include media releases, radio interviews and advertisements, social media, local newspapers, bus backs, brochures and posters.*	General support
Establish a community-led zero waste action group, support by Council through coordination and some funding, to deliver project areas prioritised and planned by the community	New *Zero Waste Action Group has been established, and regular (bi-monthly) meetings are held with interested sector groups* *Due to availability of attendees the Zero Waste Action Group was paused during 2022/23. ENM have expressed interest in hosting this group through a more formal arrangement.* *The Resource Recovery Activities Team will also consider options to coordinate these with our internal resources.*	General support

Investigate the establishment of a competitive fund for waste minimisation projects	New *Council has introduced the Resource Recovery Fund, a new contestable fund available for any projects that promote or contribute to reducing, reusing, and recycling; with an overall goal of reducing waste to landfill. $40,000 has been committed to this fund on an ongoing annual basis, with grants available between $2,500 and $15,000 per project. The initial round was opened in March 2022.* There have been two rounds of the resource recovery fund since its establishment in 2022. There has been a total of 19 applications, with 8 successful projects being awarded funding.	General support
Work closely with iwi and other regional partners to ensure culturally appropriate waste management methods where possible, particularly relating to bio-solids	Existing *Ongoing* *Waste waster biosolids strategy being developed as part of the wastewater discharge consenting programme; develop din conjunction with Rangitane*	General support
Maintain existing kerbside recycling collections, and make best use of any data collected from RFID tags (e.g. areas that are not using the collection well for targeted comms etc)	Ongoing *Ongoing, and maintained apart from low resources during COVID-19 pandemic management and six week pause of glass recycling collections*	General support and guides future actions
Maintain existing kerbside rubbish bag collection service	Ongoing *Ongoing*	
2020 – 2021: investigation 2023: implementation		

Action	Planned timeframe and *progress*	Contribution to target and commentary
Implement the provisions in the Council's Waste Management and Minimisation Bylaw, particularly provisions relating to licensing and data collection of companies providing waste services, and zero-waste events. Rubbish collection companies could be required to provide a minimum level of education to their customers (to be agreed with Council) and to encourage their customers to use the Council's diversion services alongside their own rubbish collection service.	Planned for 2019 *Temporarily put on hold due to indications that central government were planning a national waste operator licensing scheme.* *Private waste companies were surveyed to find out what data they currently collect. Through this process, some were not willing to provide data to Council citing commercial sensitivity. It became apparent that a third-party data collection platform would be required to collect and aggregate data from the private collectors, however there was no budget to allow this to occur.* *To ensure visibility across the waste streams in the city, PNCC will likely need to address licencing provisions in the bylaw. However, there is still uncertainty regarding the detail of the new legislative requirements and our ability to licence and collect data under the new proposed legislation.*	General support Residents would be more aware of waste management issues, and could make informed choices about the way they manage their waste.
Use the existing Bylaw to introduce rules for the companies that collect rubbish from households, so that they can no longer collect rubbish bins that contain lots of materials that could have been diverted through existing or new services	2020, with implementation through to 2024 *As above* *This would need to occur after R01 was implemented.* *Material limits may partially be address through legislation.* *The Emissions Reduction Plan has an action to remove organic waste from landfill by 2030, and the Container return Scheme (which is currently deferred until after the 2023 general election) aims to incentivise recycling.*	***1,300 tonnes per annum diverted from landfill (estimated)*** This method has not yet been proven in New Zealand, although several other councils have the ability to do this; therefore the potential impact of introducing rules like this is only an estimate. These rules would cover recycling, green waste, and would also cover food waste if/when collection services for these materials were introduced by Council. Green waste could instead be home composted or taken to a drop off point or the Awapuni Resource Recovery Park; householders can also organise a private green waste collection. Recyclables could instead be put into the Council's kerbside

	PNCC will either need to licence the private waste collectors through the bylaw to ensure visibility across waste streams in the city, and/or work with the private waste providers. *The performance measures introduced in the new waste strategy will require all councils to reduce the waste sent to landfill. Working with the private sector is a key element to meeting these targets.*	recycling collection, which accepts a wide range of materials, or taken to a drop-off centre or Awapuni Resource Recovery Park. The cost of this proposal relates largely to enforcement of the rules which is an unknown cost at this stage.
Continue to take enforcement action against those that dump rubbish illegally, and work in partnership with community group to identify and address problem spots	Ongoing *Continues to be undertaken on an ongoing basis in partnership with Manawatu District Council* *Manawatu District Council inspect all reported incidences of illegal dumping. Since July 2019, 109 infringements have been issued relating to illegal dumping. The incidences of illegal dumping are continuing to increase year on year, as expected with the increasing waste levy.*	General support
Council will continue to undertake occasional surveys in accordance with the solid waste analysis protocol to monitor performance and identify opportunities for improvement.	As necessary *SWAP surveys undertaken for this Waste Assessment*	General support and guides future actions
Council will continue to improve their internal data collection and analysis, and ensure that it is possible to identify trends over time where possible.	Ongoing *Continually working on improving internal data collection and analysis* *Data capture and analysis systems constantly being improved to increase efficiency and reliability. This will be key to ensuring we can accurately report to MfE.*	General support, guides future actions, and provides data for performance reporting on KPIs

	Historically, resources to develop, implement and manage this area on a large scale has been stretched. *Progress made towards upgrading our systems to better capture, maintain and manage our data particularly through the Awapuni weighbridge.* *A focus was put on better understanding the cost of providing our operations and services along with improving our internal analytical capability in the Resource Recovery Division.*	
Maintain current education and engagement	Existing *Maintained. Council has made all information relating to waste reduction available on a new website hub. A campaign was also run in early 2022 encouraging residents to 'break up with the trash in their life'* *Various educational campaigns have occurred since 2019, however COVID had an impact on momentum. Education and engagement have been largely through digital formats during this time, including the Plastics Campaign after the materials accepted in kerbisde recycling were changed, and the development of the recycling section on the PNCC website.* *PNCC has given support to Environment Network Manawatu (ENM) to deliver 3 Future Living Skills workshops since 2022.* *Tours of the material recovery facility (MRF) resumed – with six tours held since July 2022, and four booked for the next few months. Alongside this a standardised presentation was developed for*	General support

	these tours aimed at intermediate aged children to adults, with a condensed version for younger children. *In addition, several social media videos were also created including the popular Palmy 10/7 clip which highlighted the challenges council is facing in respect to illegal dumping.*	
Carry out specific communication and education if new services are introduced, if existing services are changed, or if regulatory changes are made (e.g. 240L bin ban)	New *Carried out as required, e.g. introduction of recycling services for tyres, liquid paperboard, cooking oil, changes in accepted materials, etc.* *Communication of new services occurs as required through a variety of mediums depending on the requirements. These include media releases, radio interviews and advertisements, social media, local newspapers, bus backs, brochures and posters.*	General support
Establish a community-led zero waste action group, support by Council through coordination and some funding, to deliver project areas prioritised and planned by the community	New *Zero Waste Action Group has been established, and regular (bi-monthly) meetings are held with interested sector groups* *Due to availability of attendees the Zero Waste Action Group was paused during 2022/23. ENM have expressed interest in hosting this group through a more formal arrangement.* *The Resource Recovery Activities Team will also consider options to coordinate these with our internal resources.*	General support

6.4 WMMP Review Summary

It is important to note that the WMMP is being reviewed partway through the six year action plan period, with some actions not yet scheduled for completion or implementation.

However, there has been significant progress made on the action plan, and where actions have not been completed on schedule, there have been obvious reasons why – for example, the disruptions caused by COVID-19 pandemic management.

Considering this progress, the significant new requirements that have been set by central government, and the release of Te rautaki para with a new strategic direction of the circular economy; it is considered appropriate that Council agree to progress with development of a new WMMP, revoking and replacing the 2019 Plan.

7 Future Demand, Gap Analysis, and Options

7.1 Future Demand

There are a wide range of factors that are likely to affect future demand for waste minimisation and management. The extent to which these influence demand could vary over time and in different localities. This means that predicting future demand has inherent uncertainties. Key factors are likely to include the following:

- Overall population growth
- Economic activity
- Changes in lifestyle and consumption
- Changes in waste management approaches

In general, the factors that have the greatest influence on potential demand for waste and resource recovery services are population and household growth, construction and demolition activity, economic growth, and changes in the collection service or recovery of materials.

The last couple of years have also demonstrated how unpredictable factors can influence demand and provision of services; with COVID-19 pandemic management making normal waste services difficult to deliver at times due to lock-downs and staffing shortages, and disaster-related wastes requiring management often with very short notice.

7.1.1 Population

Table 29: Population Projections to 2043

Projection	2018	2022	2028	2033	2038	2043	Change 2013 – 2043: number	Change 2013 – 2043: average annual percent
Population	83,300	90,400	97,950	101,610	105,840	110,680	27,180	1.3

7.1.2 Economic Activity

Palmerston North's GDP in the year to September 2021 was $5,483M – an annual increase of 4.6% (compared to New Zealand as a whole, at 3.7%). Annual earnings have increased by 8.3% in the year to December 2020, compared to 4.7% nationally. Median earnings have also increased more than the national average. Although the number of businesses and employers has dropped slightly, and the survival rate of businesses has decreased slightly, the overall picture appears to be one of strong economic growth[30].

[30] Palmerston North City Council's "Economic Dashboard for Palmerston North"

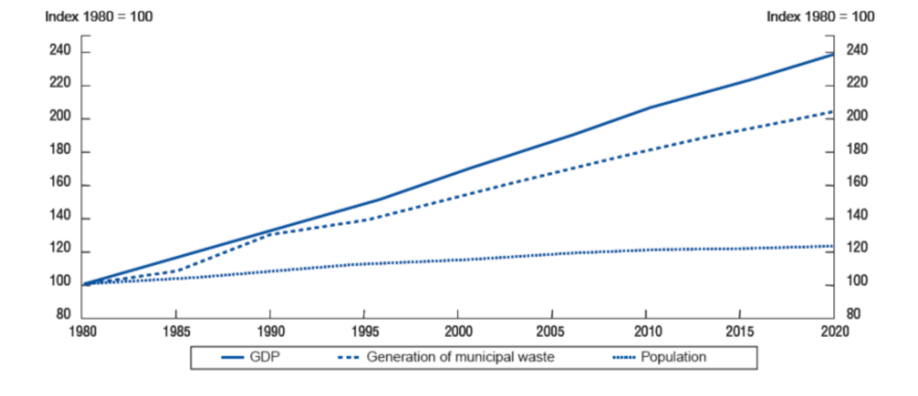
This has been softened somewhat recently, as in the rest of the country, by rising interest rates, high living costs, and ongoing supply chain difficulties. However, the economy continues to perform well, with the most recent measures of GDP suggesting a provisional 1.2% growth in the year to June 2022 (with national growth at 0.9%).

Ongoing issues with recruiting and retaining staff is reflected in employment growth and very low unemployment at 2.8% (to June 2022). Employment was mostly sourced in the financial and insurance services, retail, and healthcare sectors.

While the construction sector has contributed strongly to growth, this is reducing as the housing market softens and the number of sales reduces. The contraction in the sector is also seen in building consent numbers with a drop of 18% in the year to June 2022[31].

For reference, Figure 9 below shows the growth in municipal waste in the OECD plotted against GDP and population.

Figure 9: Municipal Waste Generation, GDP and Population in OECD 1980 - 2020



Source: OECD 2001.

Research from the UK[32] and USA[33] suggests that underlying the longer-term pattern of household waste growth is an increase in the quantity of materials consumed by the average household and that this in turn is driven by rising levels of household expenditure.

The relationship between population, GDP, and waste seems intuitively sound, as an increased number of people will generate increased quantities of waste and greater economic activity is linked to the production and consumption of goods which, in turn, generates waste.

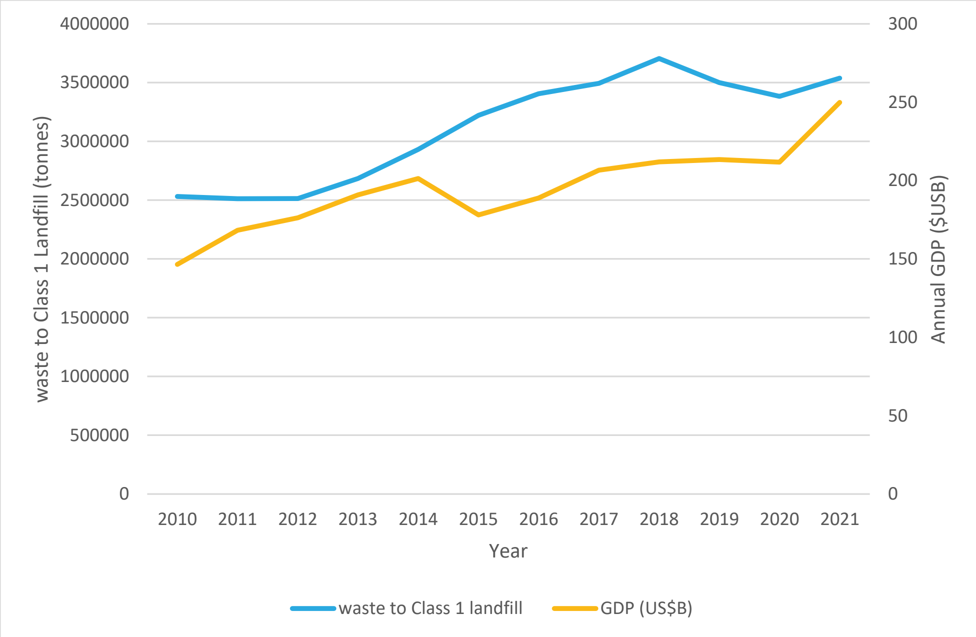
Total GDP is also a useful measure as it takes account of the effects of population growth as well as changes in economic activity. The chart suggests that municipal solid waste growth

[31] Palmerston North City Council's "Quarterly Economic Monitor June 2022"
[32] Eunomia (2007), *Household Waste Prevention Policy Side Research Programme*, Final Report for Defra, London, England
[33] EPA, 1999. National Source Reduction Characterisation Report For Municipal Solid Waste in the United States

tracks above population growth but below GDP. The exact relationship between GDP, population, and waste growth will vary according to local economic, demographic, and social factors.

Figure 10 below shows the annual tonnes sent to Class 1 landfill disposal, against the annual GDP of New Zealand (in billions of US$). This relationship is not a complete picture, as Class 1 landfills tonnes are a subset of all waste disposed of in New Zealand, and this further does not represent waste produced, but only waste disposed of to Class 1 landfills. This data also can only be shown from 2010, as this was the first time that waste to Class 1 landfill disposal was measured accurately.

Figure 10: Waste to Class 1 Disposal and GDP (2010 - 2021)



As Palmerston North's population is anticipated to experience steady growth, and the economy is currently performing strongly, it is likely that Palmerston North will experience an approximately similar increase in waste generated assuming no change to waste behaviour or resource recovery rates.

7.1.3 Changes in Lifestyle and Consumption

Consumption habits affect the waste and recyclables generation rates. For example, there has been a national trend in the decline in newsprint production since 2005, likely as a result of increasing online news consumption[34]. Anecdotally, this has been accompanied by an increase in the use of printed direct mail ('junk mail') both in real terms and as a proportion

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[34] http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10833117

of the overall paper/cardboard waste stream. This presents challenges for paper/cardboard recycling as this paper is a less desirable recycling commodity.

The ongoing growth in electronic devices will ensure that e-waste continues to be a growing waste stream, with (for example) data showing that households now tend to access the internet through multiple devices within the home and out, rather than a single home computer[35]. Electric vehicles are also becoming increasingly common[36], bringing specific end-of-life management issues for the large batteries used (noting that there is a product stewardship scheme prepared for these items).

Retail purchasing habits are also changing. Increasingly, retail transactions are occurring online. The NZ Post Full Download Report on 2020 (the most recent year available)[37] reported a 13% growth in online spending from 2019. This is a trend likely to continue; NZ Post states "online makes up only 11% of all Kiwi shopping spend. In the UK and US, online penetration is well over 20%. This leaves plenty of room to grow in New Zealand". This is likely to result in more recyclable cardboard packaging; as well as soft plastics which are more difficult to capture and manage appropriately.

Growing access to international retail websites (e.g. Ali Express, Amazon etc) also means that there is an expanding range of products that can be ordered quickly, easily and often for a very low price, with the associated required packaging. This easier access to retail products and cheaper prices means the volume of purchases being made is increasing and may also be creating a more disposable approach to the items being bought. It's likely that these lower purchase prices would translate to lower quality products with a shorter lifespan and due to being bought online, returning for repair is very unlikely.

The ongoing restrictions and outright bans of various plastic packaging types, along with a general public perception that plastic packaging is to be avoided[38], is likely to have contributed to the growing variety of 'compostable' packaging types available in New Zealand[39]. These packaging types can vary significantly from a simple paper-based moulded container, which can easily be recycled or composted, to clear rigid packaging that looks and behaves in a similar way to petrochemical-based plastics. New Zealand currently doesn't have any clear standards or defined terminology around 'compostable' packaging, and there is a risk that adding these packaging types to composting processes will result in a lower quality end product[40] - for example, there is growing concern globally about the presence of persistent chemicals like PFAS in compostable packaging[41].

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[35] Data from www.stats.govt.nz 'Household Use of Information and Communication Technology' accessed September 2018
[36] Electric vehicle imports continue to climb | Stats NZ
[37] Accessible from www.nzpostbusinessiq.co.nz
[38] Motivation for rethinking plastics | Office of the Prime Minister's Chief Science Advisor (pmcsa.ac.nz)
[39] Use-case-consultation-paper-02.06.2021.pdf (packagingforum.org.nz)
[40] compostables-packaging-position-statement.pdf (environment.govt.nz)
[41] Understanding PFAS in food packaging - The Packaging Forum

7.1.4 Changes in Waste Management Approaches

There are a range of drivers that mean methods and priorities for waste management are likely to continue to evolve, with an increasing emphasis on diversion of waste from landfill and recovery of material value. These drivers include:

- Increased cost of landfill - landfill costs have risen in the past due to higher environmental standards under the RMA, introduction of the Waste Disposal Levy (currently $30 per tonne for Class 1 disposal facilities) and the New Zealand Emissions Trading Scheme. The current price for carbon credits, and the ongoing increases in the landfill levy, will make disposal prices a more significant consideration in waste management practices.
- Infrastructure investment - an increased landfill levy and other funding sources will drive increased investment in waste infrastructure. MfE are currently working a long-term strategic waste infrastructure investment plan.
- Te rautaki para – with a strong focus on reducing emissions and waste, to achieve a more circular economy
- Kerbside standardisation now requires that kerbside recycling and kerbside food waste collections are introduced, with associated performance standards for councils based on kerbside diversion; this will increase existing community demand for kerbside services where they don't already exist.
- Waste industry capabilities - as the nature of the waste sector continues to evolve, the waste industry is changing to reflect a greater emphasis on recovery and is developing models and ways of working that will help enable effective waste minimisation in cost-effective ways. COVID-19 pandemic management presents ongoing challenges in resourcing, both staff and vehicles.
- Local and national policy/legislative drivers, including actions and targets in the WMMP, bylaws, and licensing; and the possible requirement for construction site waste management plans through the Building Act.
- Business collection systems: As one of the few councils that provides an organic waste collection service to some businesses, the proposals within the kerbside standardisation proposals for business food waste collections at various scales would have a lower impact than in other places. Council may be looked to as a provider of more extensive collection services, at least to those businesses that only produce small quantities of food waste and may be able to simply use a standard domestic-scale kerbside collection (on a user-pays basis).
- Recycling and recovered materials markets - recovery of materials from the waste stream for recycling and reuse is heavily dependent on the recovered materials having an economic value. This particularly holds true for recovery of materials by the private sector. Markets for recycled commodities are influenced by prevailing economic conditions, by commodity prices for the equivalent virgin materials, and by market controls in key destinations such as China. The risk is linked to the wider global economy through international markets, and the impact of the China National Sword policies has demonstrated this.

7.1.5 Summary of Demand Factors

The analysis of factors driving demand for waste services in the future suggests that demand will increase over time as a result largely of population growth and economic activity. It is likely that some new waste management approaches will be introduced as a result of the central government work programme, which could create demand in specific areas. Initial indications are that, for Palmerston North City, this new demand is likely to be largely related to ongoing efforts to divert organic waste from landfill, including possible household food scraps collections (and extended business collections), and recovery of construction wastes. There is also likely to be an increasing focus and demand in other waste activities and types, including:

- Disaster waste – recent events have highlighted the need for proactive disaster waste management plans, particularly with respect to local resilience where there is reliance on waste infrastructure located elsewhere in the region, or outside the region
- Equity of service provision, particularly relating to the impact of user-pays rubbish collections on lower socio-economic communities considering the relatively low apparent benefit for waste diversion
- Smaller but difficult waste streams such as soft plastics, packaging that isn't accepted in kerbside recycling collections, 'compostable' packaging as replacements for what will become banned packaging items, farm wastes; and
- The impact of a possible future container return scheme.

7.2 Future Demand – Gap Analysis

The aim of waste planning at a territorial authority level is to achieve effective and efficient waste management and minimisation. The following significant 'gaps' or key issues have been identified:

- Compliance with government requirements for kerbside standardisation and performance standards requires that Council provides a household kerbside food scraps collections to the city;
- Large amounts of organic waste (particularly food waste) going to Class 1 landfill;
- Low Council market share in the domestic kerbside refuse market, which will create risk for Council in monitoring progress towards government performance standards and is likely to result in lower participation in recycling and food scraps collection services;
- A significantly higher proportion of divertible material in refuse placed out for private wheeled bin collections, including the presence of green waste which is very insignificant in the Council refuse bag collection
- There is a general lack of data relating to private waste collections and waste going to Class 2-5 fills;
- Lack of facilities to recycle or otherwise divert construction and demolition waste (apart from some timber and concrete), in particular with ongoing high levels of construction activity;
- Provision for reuse is limited;
- Proactive iwi liaison is limited;
- Medical waste management will become an increasing issue with an ageing population; and
- Disaster waste management is becoming an increasing issue; and

- Licensing provisions in the Council waste bylaw not yet implemented, and so little data available on private operator activities and non-Council waste streams in general.

7.2.1 Waste Streams

Composition data discussed earlier in sections 5.4.1 and 5.4.2 showed that there is significant scope to divert more from the domestic residual waste stream, and also scope to divert from the commercial waste stream (although less certain in quantities).

Priority waste streams that could be targeted to further reduce waste to landfill would include: (e.g.)

- More kerbside recyclables both from domestic and commercial properties
- Organic waste, particularly food waste from domestic properties; and garden waste from households that use private wheeled bin refuse collection services
- Construction and demolition waste is a significant part of the waste stream which may be able to be recovered
- E-waste collection and processing capacity in the district, while better than many areas, has room for improvement
- Industrial and commercial waste generally presents scope for increased diversion, with paper/card the main material type currently diverted.

Infrastructure to manage the increased quantities and new waste streams will be required.

7.2.2 Compliance with Government Requirements

The kerbside recycling collection is largely compliant with government requirements.

However, Council will need to introduce a household kerbside food scraps collection by 1 January 2030. The district will also need to comply with performance standards requirements for diversion of household kerbside waste from landfill – 30% by 1 July 2026 (40% by 1 July 2028 and 50% by 1 July 2030). This figure will include household waste that is collected by private companies, as well as that from Council's collections.

While the introduction of a kerbside household food scraps collection will increase the diversion rate, this isn't required until 1 January 2030 and the first performance target date is under two years away. A key risk is that Council currently isn't able to make an accurate assessment of the kerbside diversion figure. Although private operators will be required to report kerbside data to MfE, this is unlikely to be available to Council on a regular basis and it will not be until MfE has completed their calculations (incorporating both council and private data) that the final diversion performance will be known.

Households that use large wheeled bins for their rubbish collection throw out more recyclables and organic waste, particularly garden waste. If householders are able to continue using these large bins for rubbish collections, this is going to have a negative impact on progress towards achieving the performance standards.

As the payment of waste levy funds for Palmerston North is contingent on achieving the performance standards, it will be a much higher priority for Council compared to private operators, and the negative impact of failing to meet the targets will be on waste minimisation activities funded through the landfill levy.

7.2.3 Other National Initiatives

As previously discussed, central government has made significant progress in waste management and minimisation over the last few years.

Particularly relevant initiatives include:

- Waste infrastructure investment and strategic direction
- Emissions Reduction Plan and the corresponding increased focus on diverting organic wastes from landfill
- Kerbside standardisation, including food waste diversion from households
- Container return scheme and the potential implications for kerbside recycling collections (although currently on hold)
- Performance standards for councils
- Extended producer responsibility, including several accredited product stewardship schemes
- Identification and subsequent bans of many undesirable items.

These national initiatives will have a significant impact on the district, yet this is difficult to predict until further details are known.

7.2.4 Household Waste Diversion

Household waste diversion continues to be problematic for Council. The high proportion of residents using private wheeled bin rubbish collection services is likely resulting in poor participation in the kerbside recycling service, and low diversion of green waste.

High levels of contamination in kerbside recycling is a national and persistent problem.

This is also a concern for the impact of possible new services Council may introduce, such as a household food scraps collection service.

7.2.5 Non-Household Waste Diversion

Businesses have access to services enabling them to divert key recyclables such as aluminium cans, glass, and paper/card. They can also access Council's kerbside recycling collection, which also accepts a range of plastic packaging, and an organic waste collection.

There are few services that enable the diversion of construction and demolition waste.

Although there are licensing provisions in the Council waste bylaw, these have not yet been fully implemented and so there is little data available on private operators' activities and non-Council waste streams in general. While MfE have indicated that national waste operator licensing will be included in new waste legislation, this is several years away yet and would require the data to be reported to MfE, rather than to TAs. It is also uncertain whether the data would be recorded by geographical source, which may mean it cannot be broken down to a district/city level.

7.2.6 Iwi Liaison

The usual consultation methods were used during the development of the 2019 WMMP, along with proactive approach made to mana whenua (although this was not very productive).

With the national focus on a circular economy approach to waste management (which closely aligns to the Māori world view), there is increasing awareness of the need for the wider waste management industry to engage more proactively with iwi, and to be good treaty partners.

This waste assessment covers off the Māori world view in a generic sense only.

7.2.6.1 Medical Waste

Medical waste can be an issue at home and in medical facilities. Generally, it is comprised of:

- Hazardous waste (which can be sharps, such as needles, or non-sharps such as infectious waste or radioactive);
- Controlled waste (such as potentially infectious bodily fluids); and
- Non-hazardous waste (which is general waste or recyclables).

At home, non-hazardous waste can generally be managed through usual general refuse and recycling services (although there are some exceptions through either the size of the item, or the sheer quantity). However, the management of hazardous and controlled wastes at home can be difficult, and with the increasing prevalence of in-home medical care, this is becoming a more significant problem.

Anecdotally, a significant proportion of in-home medical waste is disposed of through general waste and recycling systems[42]. This could result in significant health and safety concerns for the collection and processing staff.

Ideally, in-home medical care would include provision for appropriate handling and disposal of medical wastes. However, for various reasons such as lack of awareness or cost, this is not always the case.

For healthcare in medical facilities, The Pharmacy Practice Handbook states:[43]

> *4.1.16 Disposal of Unused, Returned or Expired Medicines*
>
> *Members of the public should be encouraged to return unused and expired medicines to their local pharmacy for disposal. Medicines, and devices such as diabetic needles and syringes, should not be disposed of as part of normal household refuse because of the potential for misuse and because municipal waste disposal in landfills is not the disposal method of choice for many pharmaceutical types. Handling and disposal should comply with the guidelines in NZ Standard 4304:2002 – Management of Healthcare Waste.*

While Council is not responsible for the provision of medical waste management services for either home-based care or medical facilities, it would be beneficial for Council to work

[42] Of 7,145 patients cared for at home by Capital & Coast DHB staff in 2016, only 200 had a specific medical waste collection service in place. https://www.stuff.co.nz/dominion-post/news/93705822/needles-sanitary-waste-and-pharmaceuticals-putting-waste-workers-at-risk

[43] https://nzpharmacy.wordpress.com/2009/06/09/disposal-of-unwanted-medicines/

proactively with the health service and other medical service providers to ensure that appropriate services are being offered and put in place.

7.2.6.2 E-waste

Without a national product stewardship scheme, the e-waste treatment and collection system will continue to be somewhat precarious. Currently, companies tend to cherry-pick the more valuable items, such as computers and mobile phones. As a result, the more difficult or expensive items to treat, such as CRT TVs and domestic batteries, will often still be sent to landfill as customers choose not to pay the fee.

7.2.6.3 Reuse

There is no provision for the recovery of reusable items in the district.

In other areas, such as Auckland, this material is recovered both through a charged collection service, and by establishing a network of community resource recovery centres (CRRCs).

7.3 Statement of Proposals

This section sets out the range of options available to the Council to address the key issues that have been identified in section 7.2 above. Options presented in this section would need to be fully researched, and the cost implications understood, before being implemented.

These sections present the high-level options to address the key issues described above.

The Council's roles could be:

Strategic: Simply identify the need at a strategic level, with other sectors able to respond to the need as they wish

Facilitation/Leadership: Take a facilitation and leadership role in addressing the need, such as by creating working groups focusing on a particular material e.g. construction waste

Regulator: Use regulatory tools available to councils to create an environment that encourages solutions, such as requiring construction site waste management plans, banning certain materials from rubbish, etc.

Funder: Making funding available for specific initiatives that address a gap in some way e.g. funding pilot projects or funding set-up costs that can then operate commercially

Provider: Take direct action by providing services or facilities that address the need.

1. Compliance with government requirements for kerbside standardisation and performance standards requires that Council provides a household kerbside food scraps collections to the city; and
Large amounts of organic waste (particularly food waste) going to Class 1 landfill

Option	Description	Likely impact	Council's role; funding
1A	Council undertakes a full review of options for household kerbside food scraps collections, and implements the preferred option/s by 1 January 2030, primarily:	See below	Provider; rates, waste levy funds
Either	Council introduces a kerbside food scraps collection service to householders starting no later than 1 January 2030, including a kerbside container, kitchen caddy, and liners	This type of service is likely to capture between 40%-60%of the food scraps in the household kerbside rubbish waste stream.	Provider; rates and/or waste levy

Or	Council introduces a food and garden organics collection service to householders starting no later than 1 January 2030; including a kerbside wheeled bin (80L to 140L), kitchen caddy and liners	This type of service is likely to capture between 40%-60%of the food scraps in the household kerbside rubbish waste stream, and 60% of garden waste.	Provider; rates and/or waste levy
1B	Council develops or procures organic waste processing, appropriate for the types/quantities of organic wastes to be processed (i.e. food waste only or mixed food and garden, etc)	Collected organic waste is likely to require local processing, as there is currently no private sector composting facility available nearby	Provider/funder; rates and/or waste levy
1C	Council introduces regulation to ban organic waste from residual waste containers (over 5% by weight) and uses licensing provisions to require private waste operators to enforce the provision	Supporting action	Regulator; Rates funded

2. Low Council market share in the domestic kerbside refuse market, which will create risk for Council in monitoring progress towards government performance standards and is likely to result in lower participation in recycling and food scraps collection services

Option	Description	Likely impact	Council's role; funding
2A	Council undertakes a review of waste collection services and implements any preferred changes; primarily:	See below	Provider; rates and/or user-pays charges

Either:	Council introduces a weekly rates-funded household kerbside rubbish collection from 80L wheeled bins	Households will be more likely to use the Council service, resulting in Council having more insight into the kerbside waste stream and households being more likely to use diversion services provided	
Or:	Council introduces a rates-funded component into the user-pays bag collection service, such as 52 bags per rated property as a baseline allocation, with subsequent bags paid for	Households will be more likely to use the Council service, resulting in Council having more insight into the kerbside waste stream and households being more likely to use diversion services provided	
Or:	Council introduces a user-pays household kerbside rubbish collection from wheeled bins; either a pay per collection system or a pay by volume system.	Households will be more likely to use the Council service, resulting in Council having more insight into the kerbside waste stream and households being more likely to use diversion services provided (slightly more for this option than for above)	
2B	Council introduces a local bylaw that requires waste operators to be licensed; as part of this licensing introduce conditions requiring that operators provide ongoing reporting on quantities and number of customers	Council will be able to monitor performance against government kerbside diversion targets	Regulator; rates funded

2C	Council introduces a local bylaw that requires waste operators to be licensed; as part of this licensing introduce conditions preventing the provision of large wheeled bins for household kerbside rubbish collections	Households will be more likely to use diversion services provided, i.e. kerbside recycling and also organic waste services when introduced	Regulator; rates funded

3. A significantly higher proportion of divertible material in refuse placed out for private wheeled bin collections, including the presence of green waste which is very insignificant in the Council refuse bag collection			
Option	Description	Likely impact	Council's role; funding
3A	Provide an effective service to capture and divert recyclable material		
3A	Council introduces a local bylaw that requires waste operators to be licensed; as part of this licensing introduce conditions preventing the provision of large wheeled bins for household kerbside rubbish collections (note, also 3B)	Households using smaller wheeled bins put significantly less divertible waste in the rubbish	Regulator; rates funded
3B	Council undertakes a review of waste collection services and implements any preferred changes (see 2A above)	See above	Provider; rates and/or user-pays charges

4. There is a general lack of data, particularly relating to private waste collections and waste going to Class 2-5 fills

Option	Description	Likely impact	Council's role; funding
4A	Council implements the bylaw provisions that requires waste operators to be licensed; as part of this licensing introduce conditions requiring that operators provide ongoing reporting on quantities and number of customers, types of waste and activity source data (similar to 3A)	Council will be able to monitor performance against government kerbside diversion targets and gain a much better understanding of what waste is going where	Regulator; rates funded
4B	Undertake audits and reviews of waste flows to better understand opportunities for waste management and minimisation	Council will be able to monitor performance more accurately and is better able to identify and prioritise opportunities	Funder, provider; rates and/or waste levy funds

5. Provision for reuse is limited

Option	Description	Likely impact	Council's role; funding
5A	Development of a community reuse centre lead by mana whenua and/or community group/s, potentially facilitated by Council – this could take the form of seed funding to enable a waste minimisation fund grant, and/or provision of space at Awapuni	Reuse centres can divert many tonnes of reusable items from landfill disposal, and also provide another avenue to raise awareness and deliver education, while providing low-cost goods back to the community	Provider and/or facilitator and/or funder; rates and/or waste levy funds

5B	A user-pays bookable collection service for reusable items and e-waste for resale, repair, and/or safe disposal	Maximises the effectiveness of the reuse centre by capturing more material	As above
5C	Repair café for reusable items needing repair and electronic items needing certification	As above	As above
5D	Council provides storage space at Awapuni for items between collection and sale	As above	Provider; rates and/or waste levy funds and/or user charges

6. Proactive iwi liaison is limited			
Option	Description	Likely impact	Council's role, funding
6A	Establish a regular waste forum with mana whenua, where updates can be provided on key projects and progress towards targets, and partnership working options are identified and pursued	Mana whenua contributions can be maximised and iwi are informed by Council	Facilitator; rates funded

7. Medical waste management will become an increasing issue with an ageing population			
Option	Description	Likely impact	Council's role; funding

7A	Council establishes a working relationship with Te Whatu Ora to identify and deliver collaborative options to improve medical waste management	Medical waste is managed in the most effective and efficient way possible within systems available	Facilitator; rates funded

8. Disaster waste management

Option	Description	Likely impact	Council's role; funding
8A	Council continues involvement in the development of a national approach to disaster waste management, and prepares a local disaster waste management plan	Disaster waste is forecast and planned for to the best of Council's ability	Provider; rates funded

9. Licensing provisions in the Council waste bylaw not yet implemented, and so little data available on private operator activities and non-Council waste streams in general

Option	Description	Likely impact	Council's role; funding
9A	Council implements the provisions in the local waste bylaw in full	The local waste sector will be more regulated, data is available on private sector services, and waste can be managed and minimised more effectively in future	Regulator; rates and/or user charges

10.Supporting Action			
Option	Description	Likely impact	Council's role, funding
10A	Community-wide waste minimisation education and awareness raising by Council or other suitable agencies	Supports most other options	Provider/facilitator/funder; rates and/or waste levy funds
10B	Provide a local fund for waste minimisation projects (e.g. Resource Recovery Fund)	Supports many other options, particularly option 5 and 10A	Funder; waste levy funds
10C	Council liaises with neighbouring councils and regions to identify and progress options for collaboration	Supports many other options	Provider; rates funded (staff time) or rates and/or waste levy funds (any collaborative projects)
10D	Continue to take action against illegal dumping and littering, using the Litter Act or replacement	Supports many other options	Provider; rates funded and/or income from infringement notices
10E	Council will continue to improve their internal data collection and analysis where possible, and ensure trends and issues can be identified	Supports many other options	Provider; rates funded
10F	Undertake targeted communication campaigns when required by service changes, or if regulatory changes are made (e.g. material limits in rubbish collections)	Supports many other options	Provider; rates and waste levy funded

10G	Work closely with iwi and other regional partners to ensure culturally appropriate waste management methods where possible	Supports many other options	Provider; rates and waste levy funded
10H	Encourage households to make use of existing services for garden waste, such as home composting, delivery to a drop off centre, or private collections	Supports many other options	Provider; rates and waste levy funded
10K	Provision of existing RDOPs and Awapuni Resource Recovery Park will be maintained and the network improved/extended where possible	Maintains existing diversion performance	Provider; rates, user-charges and waste levy

7.4 Statement of Council's Intended Role

7.4.1 Statutory Obligations and Powers

Councils have a number of statutory obligations and powers in respect of the planning and provision of waste services. These include the following:

- Under the WMA each Council "must promote effective and efficient waste management and minimisation within its district" (s 42). The WMA requires TAs to develop and adopt a WMMP.[44]
- The WMA also requires TAs to have regard to the NZWS 2010. The Strategy has two high levels goals: 'Reducing the harmful effects of waste' and 'Improving the efficiency of resource use'. These goals must be taken into consideration in the development of the Council's waste strategy.
- Under Section 17A of the Local Government Act 2002 (LGA) local authorities must review the provision of services and must consider options for the governance, funding and delivery of infrastructure, local public services and local regulation. There is substantial cross over between the section 17A requirements and those of the WMMP process in particular in relation to local authority service provision.
- Under the Local Government Act 2002 (LGA) Councils must consult the public about their plans for managing waste.
- Under the Resource Management Act 1991 (RMA), TA responsibility includes controlling the effects of land-use activities that have the potential to create adverse effects on the natural and physical resources of their district. Facilities involved in the disposal, treatment or use of waste or recoverable materials may carry this potential. Permitted, controlled, discretionary, non-complying and prohibited activities and their controls are specified within district planning documents, thereby defining further land-use-related resource consent requirements for waste-related facilities.
- Under the Litter Act 1979 TAs have powers to make bylaws, issue infringement notices, and require the clean-up of litter from land.
- The Health Act 1956. Health Act provisions for the removal of refuse by local authorities have been repealed by local government legislation. The Public Health Bill is currently progressing through Parliament. It is a major legislative reform reviewing and updating the Health Act 1956, but it contains similar provisions for sanitary services to those currently contained in the Health Act 1956.

[44] The development of a WMMP in the WMA is a requirement modified from Part 31 of the LGA 1974, but with even greater emphasis on waste minimisation.

- The Hazardous Substances and New Organisms Act 1996 (the HSNO Act). The HSNO Act provides minimum national standards that may apply to the disposal of a hazardous substance. However, under the RMA a regional council or TA may set more stringent controls relating to the use of land for storing, using, disposing of or transporting hazardous substances.
- Under current legislation and the new Health and Safety at Work Act the Council has a duty to ensure that its contractors are operating in a safe manner.

Council, in determining their role, needs to ensure that their statutory obligations, including those noted above, are met.

7.4.2 Overall Strategic Direction and Role

The overall strategic direction and role is presented in the WMMP.

7.5 Statement of Proposals

Based on the options identified in this Waste Assessment and the Council's intended role in meeting forecast demand a range of proposals are put forward. Specific actions and timeframes for delivery of these proposals are identified in the Draft WMMP.

It is expected that the implementation of these proposals will meet forecast demand for services as well as support the Council's goals and objectives for waste management and minimisation. These goals and objectives will be confirmed as part of the development and adoption of the WMMP.

7.5.1 Statement of Extent

In accordance with section 51 (f), a Waste Assessment must include a statement about the extent to which the proposals will (i) ensure that public health is adequately protected, (ii) promote effective and efficient waste management and minimisation.

7.5.1.1 Protection of Public Health

The Health Act 1956 requires the Council to ensure the provision of waste services adequately protects public health.

The Waste Assessment has identified potential public health issues associated with each of the options, and appropriate initiatives to manage these risks would be a part of any implementation programme.

In respect of Council-provided waste and recycling services, public health issues will be able to be addressed through setting appropriate performance standards for waste service contracts and ensuring performance is monitored and reported on, and that there are appropriate structures within the contracts for addressing issues that arise.

Privately-provided services will be regulated through local bylaws.

Uncontrolled disposal of waste, for example in rural areas and in cleanfills, will be regulated through local and regional bylaws and through central government regulation.

It is considered that, subject to any further issues identified by the Medical Officer of Health, the proposals would adequately protect public health.

7.5.1.2 Effective and Efficient Waste Management and Minimisation

The Waste Assessment has investigated current and future quantities of waste and diverted material, and outlines the Council's role in meeting the forecast demand for services.

It is considered that the process of forecasting has been robust, and that the Council's intended role in meeting these demands is appropriate in the context of the overall statutory planning framework for the Council.

Therefore, it is considered that the proposals would promote effective and efficient waste management and minimisation.

Appendices

A.1.0 Medical Officer of Health Statement

12 January 2024

Te Whatu Ora
Health New Zealand

Peter Ridge
Senior Policy Analyst
Palmerston North City Council
32 The Square
Palmerston North 4410

Tēnā koe Peter,

Re: Palmerston North City Council Waste Assessment November 2023
Medical Officer of Health comments under Section 51 – Waste Minimisation Act 2008

Thank you for the opportunity for Te Whatu Ora, National Public Health Service – MidCentral, to comment on the Palmerston North City Council Waste Assessment November 2023, as per the requirements of the Waste Minimisation Act 2008.

I, Dr Janine Stevens, Medical Officer of Health (MOoH) for Te Whatu Ora, National Public Health Service – MidCentral, make the following comments on the Palmerston North City Council Waste Assessment pursuant to Section 51(5) of the Waste Minimisation Act 2008 (WMA).

Effective waste management is essential for good public health outcomes. The purpose of the Waste Minimisation Act 2008 is to encourage waste minimisation and a decrease in waste disposal to:

a. Protect the environment from harm, and
b. Provide environmental, social, economic and cultural benefits.

Fundamentally this purpose aligns with the central idea of sustainability – not using too much and doing more with less – to help protect the environmental determinants of health. A healthy environment is a key foundation for the health and wellbeing of people, and waste minimisation has the opportunity to not only protect the health of the community via reducing direct contact with contaminated environment, but also to promote wellbeing via living in a healthy and sustainable environment.

It is important to acknowledge that poor quality environments are likely to have greater adverse impacts on the health and human rights of disadvantaged populations within our communities, including Māori, Pacific peoples, communities with lower socioeconomic status, and marginalised groups. Protection of human health through effective waste minimisation and management involves ensuring that actions taken do not further adversely impact inequitable health outcomes for disadvantaged groups, but rather provide health and wellbeing benefits.

We consider that the waste assessment is comprehensive within the limitations of the available data. It identifies gaps in information used to inform waste minimisation planning and provides guidance for development of key actions in your Waste Minimisation and Management Plan (WMMP). These key actions need to be informed by best practice and meaningful input from mana whenua and the wider community.

We support reduction of waste being sent to landfill through the aligned waste minimisation hierarchy, prioritising reuse, recycling and recovery of materials. This will decrease reliance on use of landfills and will minimise the impacts of waste on our environment and public health long term, including reducing emissions. The Waste Assessment identifies a number of key initiatives that, if successful, will provide a significant contribution to diversion of waste from landfill, most notably organic waste.

Management of hazardous waste, e-waste and medical waste are other areas noted within the Waste Assessment that provide opportunities for improvement in the future. Increasing community awareness of and accessibility to safe and cost-effective mechanisms for disposal of these waste streams, will reduce the risks to human and environmental health which result from utilisation of improper disposal methods for these materials.

We support partnership with mana whenua and key stakeholders, such as community groups, to contribute to setting waste minimisation goals and objectives. This is important as some of these groups may not typically engage in formal submission processes. The likelihood of implementing successful solutions to challenges in waste minimisation and management, will be greater with active and early community engagement. Furthermore, strong community engagement in decision making around waste minimisation actions, will limit any unintended consequences to the health of our communities from the actions taken (or any lack of action).

Creating an environment that promotes waste minimisation and behavioural change also requires a focus on supporting vulnerable groups within the community, such as rural residents, people living in low socioeconomic areas, and the elderly. Education strategies outlined in the Waste Assessment are a good starting point, however, specific consideration of more targeted and innovative approaches, to address barriers such as accessibility and cost for vulnerable groups, are necessary to improve participation in safe and effective waste minimisation and management across communities.

We look forward to reviewing the draft Waste Minimisation and Management Plan when it is available.

Ngā mihi nui,

Dr Janine Stevens
Medical Officer of Health
Te Whatu Ora, National Public Health Service – MidCentral

A.2.0 Glossary of Terms

Class 1-5 disposal facilities	Classification system for facilities where disposal to land takes place. The classification system is provided in 0 below for reference.
Cleanfill	A cleanfill (properly referred to as a Class 5 landfill) is any disposal facility that accepts only cleanfill material. This is defined as material that, when buried, will have no adverse environmental effect on people or the environment.
C&D Waste	Waste generated from the construction or demolition of a building including the preparation and/or clearance of the property or site. This excludes materials such as clay, soil and rock when those materials are associated with infrastructure such as road construction and maintenance, but includes building-related infrastructure.
Diverted Material	Anything that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be disposed of or discarded.
Domestic Waste	Waste from domestic activity in households.
ETS	Emissions Trading Scheme
ICI	Industrial, Commercial, Institutional
Landfill	A type of disposal facility as defined in S.7 of the Waste Minimisation Act 2008, excluding incineration. Includes, by definition in the WMA, only those facilities that accept 'household waste'. Also referred to as a Class 1 landfill.
LGA	Local Government Act 2002
Managed Fill	A Class 3 disposal site requiring a resource consent to accept well-defined types of non-household waste, e.g. low-level contaminated soils or industrial by-products, such as sewage by-products.
MfE	Ministry for the Environment

MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
NZ	New Zealand
NZWS	New Zealand Waste Strategy
Putrescible, garden, greenwaste	Plant based material and other bio-degradable material that can be recovered through composting, digestion or other similar processes.
RRP	Resource Recovery Park
RTS	Refuse Transfer Station
Service Delivery Review	As defined by s17A of the LGA 2002. Councils are required to review the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance of regulatory functions. A review under subsection (1) must consider options for the governance, funding, and delivery of infrastructure, services, and regulatory functions.
TA	Territorial Authority (a city or district council)
Waste	Means, according to the WMA: a) Anything disposed of or discarded, and b) Includes a type of waste that is defined by its composition or source (for example, organic waste, electronic waste, or construction and demolition waste); and c) To avoid doubt, includes any component or element of diverted material, if the component or element is disposed or or discarded.
WA	Waste Assessment as defined by s51 of the Waste Minimisation Act 2008. A Waste Assessment must be completed whenever a WMMP is reviewed
WMA	Waste Minimisation Act 2008

WMMP	A Waste Management and Minimisation Plan as defined by s43 of the Waste Minimisation Act 2008
WWTP	Wastewater treatment plant

A.3.0 Classifications for Disposal to Land

MfE have classified disposal and other waste facilities under two regulations, which enable the application of the disposal levy and the collection of data. Facilities had also previously been categorised according to the WasteMINZ 'Technical Guidelines for the Disposal of Waste to Land', and there are some slight variations between the two.

A.1.1 Technical Guidelines Definitions

Class 1 - Landfill

A Class 1 landfill is a site that accepts municipal solid waste. A Class 1 landfill generally also accepts C&D waste, some industrial wastes and contaminated soils. Class 1 landfills often use managed fill and clean fill materials they accept, as daily cover.

Class 1 landfills require:

- a rigorous assessment of siting constraints, considering all factors, but with achieving a high level of containment as a key aim;
- engineered environmental protection by way of a liner and leachate collection system, and an appropriate cap, all with appropriate redundancy; and
- landfill gas management.

A rigorous monitoring and reporting regime is required, along with stringent operational controls. Monitoring of accepted waste materials is required, as is monitoring of sediment runoff, surface water and groundwater quality, leachate quality and quantity, and landfill gas.

Waste acceptance criteria (WAC) comprises:

- municipal solid waste; and
- for potentially hazardous leachable contaminants, maximum chemical contaminant leachability limits (TCLP) from Module 2 Hazardous Waste Guidelines – Class A4.

WAC for potentially hazardous wastes and treated hazardous wastes are based on leachability criteria to ensure that leachate does not differ from that expected from non-hazardous municipal solid waste.

For Class 1 landfills, leachability testing should be completed to provide assurance that waste materials meet the WAC.

Class 2 Landfill

A Class 2 landfill is a site that accepts non-putrescible wastes including C&D wastes, inert industrial wastes, managed fill material and clean fill material. C&D waste can contain biodegradable and leachable components which can result in the production of leachate – thereby necessitating an increased level of environmental protection. Although not as strong as Class 1 landfill leachate, Class 2 landfill leachate is typically characterised by mildly acidic pH, and the presence of ammoniacal nitrogen and soluble metals, including heavy metals. Similarly, industrial wastes from some activities may generate leachates with chemical characteristics that are not necessarily organic.

Class 2 landfills should be sited in areas of appropriate geology, hydrogeology and surface hydrology. A site environmental assessment is required, as are an engineered liner, a leachate collection system, and groundwater and surface water monitoring. Additional engineered features such as leachate treatment may also be required.

Depending on the types and proportions of C&D wastes accepted, Class 2 landfills may generate minor to significant volumes of landfill gas and/or hydrogen sulphide. The necessity for a landfill gas collection system should be assessed.

Operational controls are required, as are monitoring of accepted waste materials, monitoring of sediment runoff, surface water and groundwater quality, and monitoring of leachate quality and quantity.

Waste acceptance criteria comprises:

- a list of acceptable materials; and
- • maximum ancillary biodegradable materials (e.g. vegetation) to be no more than 5% by volume per load; and
- • maximum chemical contaminant leachability limits (TCLP) for potentially hazardous leachable contaminants.

Class 3 Landfill – Managed/Controlled Fill

A Class 3 landfill accepts managed fill materials. These comprise predominantly clean fill materials, but may also include other inert materials and soils with chemical contaminants at concentrations greater than local natural background concentrations, but with specified maximum total concentrations.

Site ownership, location and transport distance are likely to be the predominant siting criteria. However, as contaminated materials (in accordance with specified limits) may be accepted, an environmental site assessment is required in respect of geology, stability, surface hydrology and topography.

Monitoring of accepted material is required, as are operational controls, and monitoring of sediment runoff and groundwater.

Waste acceptance criteria comprises:

- a list of acceptable solid materials; and
- maximum incidental or attached biodegradable materials (e.g. vegetation) to be no more than 2% by volume per load; and
- maximum chemical contaminant limits.

A Class 3 landfill does not include any form of engineered containment. Due to the nature of material received it has the potential to receive wastes that are above soil background levels. The WAC criteria for a Class 3 landfill are therefore the main means of controlling potential adverse effects.

For Class 3 landfills, total analyte concentrations should be determined to provide assurance that waste materials meet the WAC.

Class 4 Landfill – Controlled Fill

A Class 4 landfill accepts controlled fill materials. These comprise predominantly clean fill materials, but may also include other inert materials and soils with chemical contaminants at concentrations greater than local natural background concentrations, but with specified maximum total concentrations.

Site ownership, location and transport distance are likely to be the predominant siting criteria. However, as contaminated materials (in accordance with specified limits) may be accepted, an environmental site assessment is required in respect of geology, stability, surface hydrology and topography.

Monitoring of accepted material is required, as are operational controls, and monitoring of sediment runoff and groundwater.

Waste acceptance criteria comprises:

- a list of acceptable solid materials; and
- maximum incidental or attached biodegradable materials (e.g. vegetation) to be no more than 2% by volume per load; and
- maximum chemical contaminant limits.

A Class 4 landfill does not include any form of engineered containment. Due to the nature of material received it has the potential to receive wastes that are above soil background levels. The WAC criteria for a Class 4 landfill are therefore the main means of controlling potential adverse effects.

Class 5 Fil – Cleanfill

A Class 5 fill accepts only clean fill material. The principal control on contaminant discharges to the environment from Class 5 fills is the waste acceptance criteria.

Stringent siting requirements to protect groundwater and surface water receptors are not required. Practical and commercial considerations such as site ownership, location and transport distance are likely to be the predominant siting criteria, rather than technical criteria.

Clean filling can generally take place on the existing natural or altered land without engineered environmental protection or the development of significant site infrastructure. However, surface water controls may be required to manage sediment runoff.

Extensive characterisation of local geology and hydrogeology is not usually required.

Monitoring of both accepted material and sediment runoff is required, along with operational controls.

Waste acceptance criteria:

- virgin excavated natural materials (VENM), including soil, clay, gravel and rock; and
- maximum incidental inert manufactured materials (e.g. concrete, brick, tiles) to be no more than 5% by volume per load; and
- maximum incidental5 or attached biodegradable materials (e.g. vegetation) to be no more than 2% by volume per load; and
- maximum chemical contaminant limits are local natural background soil concentrations.

Materials disposed to a Class 5 fill should pose no significant immediate or future risk to human health or the environment.

The WAC for a Class 5 fill should render the site suitable for unencumbered potential future land use, i.e. future residential development or agricultural land use.

The WAC for a Class 5 fill are based on the local background concentrations for inorganic elements, and provide for trace concentrations of a limited range of organic compounds.

Note: The Guidelines should be referred to directly for the full criteria and definitions.

A.1.2 Ministry for the Environment Classifications

The Ministry for the Environment have recently extended the payment of the landfill levy to a wider range of disposal facilities, and have also required reporting of data from 'cleanfills' and transfer stations. This has entailed two regulations – the first to extend the levy to other facilities[45] and the second to require data reporting from 'cleanfills' and transfer stations[46].

These regulations establish definitions for a range of disposal and other waste facilities beyond the Class 1 landfills that were captured by the landfill levy when it was first introduced.

These are summarised in the table below:

Disposal facility class	Description	Types of waste not accepted	Examples of types of waste accepted
1 Municipal Disposal Facility	A facility, including a landfill: • where waste is disposed of		Types of waste may include (but not limited to):

[45] https://www.legislation.govt.nz/regulation/public/2021/0068/latest/LMS474556.html
[46] https://www.legislation.govt.nz/regulation/public/2021/0069/latest/whole.html

	• that operates, at least in part, as a business to dispose of waste • accepts waste that is or includes any one or more of the following: household waste waste from commercial or industrial sources waste from institutional sources (eg, hospitals, educational facilities and aged-care facilities) green waste (eg, degradable plant materials such as tree branches, leaves, grass, and other vegetation matter) waste that is not accepted at other disposal facilities in the WMA. It is not a: • class 2: construction and demolition disposal facility • class 3 and 4 managed or controlled fill disposal facility • an industrial monofill facility • a cleanfill facility.		• mixed municipal waste from residential, commercial and industrial sources • construction and demolition waste • contaminated soils • rocks, gravel, sand, clay • sludges • slurries • putrescible waste • green waste • biosolids • clinical waste • treated hazardous waste • incidental hazardous waste.
2 C&D Disposal	Accepts waste from construction and demolition activity It is not a: • class 3 and 4 managed or controlled fill disposal facility • an industrial monofill facility • a cleanfill facility.	Does not accept any of the following for disposal: • household waste • waste from commercial or industrial sources • waste from institutional sources (eg, hospitals, educational facilities, and aged-care facilities) • waste generated from a single industrial process (eg, steel or aluminium-making, or pulp and paper-making) carried out in one or more locations	Mixed construction and demolition waste including: • rubble, plasterboard, treated and untreated timber • wood products,including softboard, hardboard, particle board, plywood, MDF, customwood, shingles, sawdust • concrete, including reinforced or crushed concrete blocks • clay products including pipes, tiles • asphalt (all types), and roading materials,

		• Is not a class 3 and 4 managed or controlled fill facility	including road sub-base • plasterboard and Gibraltar board • masonry, including bricks, pavers • metal, or products containing metals, including corrugated iron, steel, steel-coated tiles, wire, wire rope, wire netting, aluminium fittings • plastic products, including plastic bags, pipes, guttering, building wrap • insulation products • laminate products, including Formica • flooring products, including carpet and underlay, vinyl/linoleum, cork tiles • paper and cardboard products, including wallpaper, lining paper, building paper • site clearance and excavation materials including soils, clays, rocks, gravel, tree stumps
3/4 Managed or Controlled Fill Disposal	Accepts any one of the following for disposal: • inert waste material from construction and demolition activities • inert waste material from earthworks or site remediation	Does not accept: • household waste • waste from commercial or industrial sources • waste from institutional sources (eg, hospitals, educational facilities, and aged-care facilities • waste generated from a single industrial	Types of waste may include (but not limited to): • lightly contaminated soil below applicable consent limits and inert construction and demolition materials, including: site facilities clearance and excavation materials including

		process (eg, steel or aluminium-making, or pulp and paper-making) carried out in one or more locations • waste material from construction and demolition activity (except for inert waste material).	soils, clays, rocks, gravel, tree stumps masonry, including bricks and pavers clay products, including pipes, tiles concrete, including crushed concrete and blocks (for reinforced concrete, exposed reinforcing must be removed) asphalt (bitumen-based only) road sub-base.
5 **Cleanfill**	A facility that accepts only virgin excavated natural material (such as clay, soil, or rock) for disposal	Any materials other than virgin excavated natural materials (VENM)	VENM such as clay, soil and rock
Industrial monofill	A facility that accepts for disposal waste that: • discharges or could discharge contaminants or emissions • is generated from a single industrial process (eg, steel or aluminium-making, or pulp and paper-making) carried out in one or more locations.	• household waste • waste from commercial or institutional sources (eg, hospitals, educational facilities, and aged-care facilities) • waste not generated by a single industrial process.	Waste generated by industrial processes such as: • steel-making • aluminium-making • pulp and paper • oil exploration and extraction
Transfer station	A facility: • that contains a designated receiving area where waste is received; and • from which waste or any material derived from that waste is: transferred to a final disposal site transferred elsewhere for further processing that does not itself provide long-term storage for waste or material derived from that waste.	N/A (no disposal of waste occurs)	N/A

A.2.0 National Legislative and Policy Context

A.2.1 The New Zealand Waste Strategy (NZWS) 2023

The NZWS 2023 provides the Government's strategic direction for waste management and minimisation in New Zealand. This strategy was released in 2023 and replaced the 2010 Waste Strategy.

The strategy aims to provide direction to central and local government, businesses (including the waste industry), and communities on where to focus their efforts to manage waste. It will be supported by an action and investment plan (AIP) which will be developed in consultation with local authorities, the waste management sector, and others; and will set out priority actions required over the next five years. The 2023 strategy has a focus on achieving a more 'circular economy' for waste and sets out a multi-decade pathway towards this.

Under section 44 of the Waste Management Act 2008, in preparing their WMMP councils must have regard to the NZWS, or any government policy on waste management and minimisation that replaces the strategy. Guidance on how councils may achieve this is provided in section 4.4.3.

A copy of the current NZWS is available on the Ministry's website.

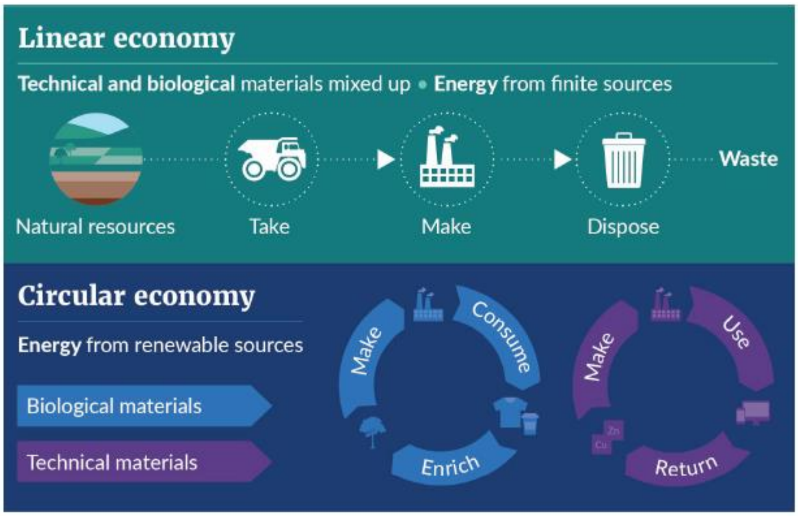
Sections of the new strategy are discussed here in more detail.

A.2.1.1 Circular Economy principles

The strategy includes some background on circular economy, including some summary figures that compare a linear economy to a circular economy, and a revised waste hierarchy. It also emphasises the role of te ao Māori in considering waste approaches.

The figures mentioned above are shown here (with permission from MfE):

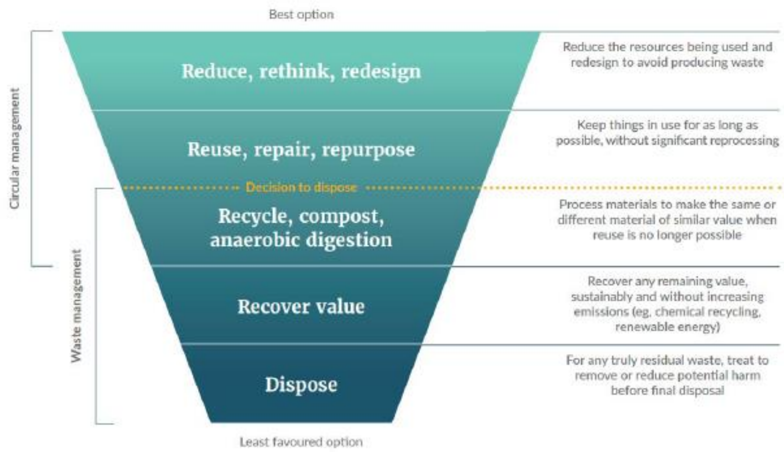
Figure 11: Characteristics of Linear and Circular Economies



Source: Te rautaki para | Waste Strategy (page 14), Ministry for the Environment 2023

The waste hierarchy is still a core principle guiding waste management and minimisation in New Zealand, but has been refined to more closely support and align with a circular economy approach.

Figure 12: Revised Waste Hierarchy



Source: Te rautaki para | Waste Strategy (page 14), Ministry for the Environment 2023

The strategy highlights several key facts that demonstrate New Zealand's relatively poor performance in waste management and minimisation:

- emissions from waste produce 9% of New Zealand's biogenic methane emissions, and 4% of our total greenhouse gas emissions, with organic waste decomposing in landfills contributing 94% of these emissions;
- on average, nearly 700 kg of waste per capita goes to municipal landfills[47] annually – compared to the OECD average of 538 kg; and trends are for this to increase;
- domestic recovery infrastructure is limited, and exporting challenging due to our relative geographic isolation and distance from markets;
- lack of data relating to waste practices, significantly non-municipal landfills and diverted materials; and
- historical management has been poor, with numerous legacy disposal sites around the country causing local environmental harm.

A.2.1.2 The Strategy

The direction of the strategy is important in many, very practical, ways; it provides a clear vision through to 2050, principles that support this vision, a phased approach with three clear stages, and targets to measure progress and encourage ambitious action.

Three key strategic issues are core to the strategy – domestic resource recovery and recycling, the role of waste to energy, and net zero emissions by 2050.

The vision is:

> *"By 2050, Aotearoa New Zealand is a low-emissions, low-waste society, built upon a circular economy.*
>
> *We cherish our inseparable connection with the natural environment and look after the planet's finite resources with care and responsibility."*

Six guiding principles are included.

A.2.1.3 A staged process

While the strategy has a view out to 2050, the work required to get there has been divided into three high level work stages:

1. 2022 – 30: embedding circular thinking into systems
2. 2030 – 40: expanding to make circular normal
3. 2040 – 50: Helping others do the same

Each stage has a number of goals, some of which are more relevant to TAs than others – Phase 1 is shown in the table below and has been addressed in the options list.

[47] 'municipal landfill', 'municipal solid waste landfill' 'sanitary landfill' and 'Class 1 landfill' are all terms that essentially refer to the same type of facility.

Phase 1 Goals – By 2030, our enabling systems are working well and behaviour is changing	
The building blocks are in place to enable change	
Strategic planning, regulatory, investment and engagement systems are in place and operating to drive and support change	TAs have a role in strategic planning at a local level (through WMMPs), which will both inform and be informed by the AIP. TAs also have a role, albeit limited compared to the national role, to contribute through local bylaws and any local funding pools that are available. TAs carry out local engagement and can support national campaigns.
We have a comprehensive national network of facilities supporting the collection and circular management of products and materials	TAs will be well placed to understand what this means at a local level, and be able to drive and coordinate the development of a network approach.
We all take responsibility for how we produce, manage, and dispose of things, and are accountable for our actions and their consequences	This is likely to be aimed mainly at personal responsibility – although TAs can encourage this attitude locally.
Specific Priorities:	• Support the creation of national planning, regulatory and investment systems. • Consider how the timing and interactions of central government and local government waste planning could best be integrated, and communicate to MfE. • Consider how to use waste levy funding to support the overall strategic framework of funding and investment, given the AIP context, direction and priorities – collaborate with other councils and with central government to a greater extent. • Support the development of simple ways for central and local government to collaborate and work in partnership.

	• Work with central government, the waste sector, and others to develop a shared view of what a ‘comprehensive national network of facilities’ looks like. • Align overall direction and approach with this. • The network needs to have nationwide coverage and include a range of products and materials, and focus on circular management options where possible. • Prioritise reducing greenhouse gas emissions. • Ensure planning and consenting teams require new builds to have appropriate space for waste management, there is space for community facilities, and feed in to regional plans to ensure they provide for a ‘coherent network’. • Identify and work with community partners to extend services into hard-to-reach areas. • Promote waste minimisation using long-term, evidence-based behaviour change programmes. • Provide timely, accurate and clear information when creating additional obligations through bylaws or introducing new services.
More activity is circular and we produce less waste	
We use fewer products and materials, and using (sic) them for longer, by making them more durable, and repairing, reusing, sharing and repurposing them	As above, TAs have a detailed understanding of what is required to enable repair, reuse, sharing and repurposing at the local level.
Resource recovery systems are operating effectively for core materials and across all regions	TAs will have a key role in developing and maintaining resource recovery systems at the local level. Regional and cross-regional collaboration will be needed to ensure these form part of a cohesive network.
We look for ways to recover any remaining value from residual waste, sustainably and without increasing emissions, before final disposal	TAs will need to consider any potential role for energy-from-waste technologies at the local and/or regional level – particularly those that operate landfills.

Specific Priorities	• Support repair initiatives by, for example, making space in resource recovery centres or other community facilities. • Think about how to cater for future reuse systems when developing infrastructure to support collection and processing of products and materials. • Take responsibility for kerbside collection of household recycling and general waste. • Find solutions to provide services to small towns and rural areas. • Implement kerbside standardisation locally. • Recover value from 'truly residual waste' without harming the environment. • Consider the purpose, feedstock, processing and potential energy production of any 'waste to energy' methodology.
Emissions and other environmental indicators are improving	
Emissions from waste are reducing in line with our domestic and international commitments	Tas will need to model and monitor emissions from their local activities.
Contaminated land is sustainably managed and remediated, to reduce waste and emissions and enhance the environment	TAs are responsible for the management of their closed landfills.
Specific Priorities	• Maximise the amount of organic waste being recycled into beneficial uses (composting and anaerobic digestion are options). • Implement standardised kerbside collections locally for organic wastes (with support and education). • Fund and invest in infrastructure to collect, process, manage and recycle organic waste (food, garden and C&D organics). • Landfill gas capture at Class 1 facilities by the end of 2026 or cease accepting organic waste. • Potentially implement landfill organics ban by 2030 at all Class 1 facilities. • Address the management of 'vulnerable landfills' if any are identified that are council's responsibility that are not already included in a closed landfill management plan.

A.2.1.4 Targets

The strategy includes targets; although it is acknowledged that there currently isn't enough (or reliable enough) data to set an accurate baseline or monitor these fully.

TAs should consider these, however, when setting targets in their WMMPs as it would make sense for these metrics to be reflected in local target setting and monitoring. This will also provide more support to the process of monitoring these targets at a national level.

A.2.1.5 Strategic Planning Cycle

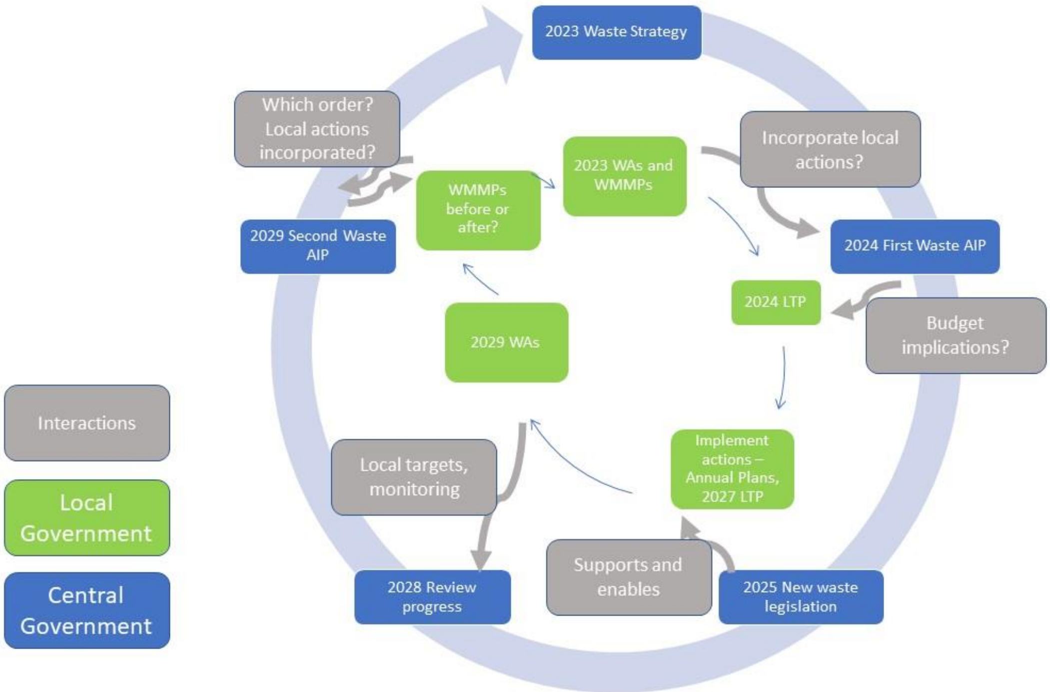
Many TAs are currently in the process of completing a Waste Assessment with a view to reviewing their WMMPs (if necessary) during the second half of 2023 so actions can be budgeted and included in 2024 LTPs. The current proposal is for the first of the MfE AIP to be out in 2024, and then a five year cycle to occur from there – so the second AIP will be due in 2029. This doesn't fit neatly with the local government planning cycle, particularly for Council which is completing a Waste Assessment during 2023 (and therefore would need to repeat this process no later than 2029).

It is not yet clear the extent to which local planning (through WMMPs) will be used to build, and be incorporated in, the AIPs. It is also not clear what the impact would be if the AIP included actions or investments that would require implementation at a local level, as is likely – and therefore may need to be included in WMMPs. Significant amendments to WMMPs do, of course, require that the full special consultative process is completed again.

The question then arises as to how TAs handle the situation where they are required, through regulation or through implementation of national AIPs and to take advantage of specific focuses for funding opportunities, to implement actions that their local communities have not had the opportunity to comment on fully through consultation.

The figure below attempts to align and show the interactions between the central and local government waste planning cycles.

Figure 13: Central and Local Government Waste Planning



A.2.1.6 Summary

The direction of the NZWS, the supporting goals, and the proposed targets all have clear implications for the future direction of waste disposal facilities in this country.

- The overall direction of the Waste Strategy is towards a circular economy, which is not supported by a landfill disposal-based linear system;
- there are specific actions relating to reducing a wide range of waste streams, and specifically and particularly organic waste – in concert with work to reduce emissions. This could extend to a ban on organic waste going to landfill; and
- the targets focus on reducing waste generation and waste disposal by 2030 – by quite significant proportions.

The overall tone of the strategic direction is not in support of continued or extended disposal of waste; and particularly not organic wastes.

A.2.2 Waste Minimisation Act 2008

The purpose of the Waste Minimisation Act 2008 (WMA) is to encourage waste minimisation and a decrease in waste disposal to protect the environment from harm and obtain environmental, economic, social and cultural benefits.

The WMA introduced tools, including:

- WMMP obligations for territorial authorities
- a waste disposal levy to fund waste minimisation initiatives at local and central government levels
- product stewardship provisions.

Part 4 of the WMA is dedicated to the responsibilities of a council, in that it "must promote effective and efficient waste management and minimisation within its district" (section 42).

To meet this requirement, councils are required to develop and adopt a WMMP. The development of a WMMP in the WMA is a requirement modified from Part 31 of the Local Government Act 1974, but with even greater emphasis on waste minimisation.

To support the implementation of a WMMP, section 56 of the WMA also provides councils the ability to:

- develop bylaws
- regulate the deposit, collection and transportation of wastes
- prescribe charges for waste facilities
- control access to waste facilities
- prohibit the removal of waste intended for recycling.

A number of specific clauses in Part 4 relate to the WMMP process. It is essential that those involved in developing a WMMP read and are familiar with the WMA and Part 4 in particular.

The WMA provides a regulatory framework for waste minimisation that had previously been based on largely voluntary initiatives and the involvement of territorial authorities under previous legislation, including Local Government Act 1974, Local Government Amendment Act (No 4) 1996, and Local Government Act 2002. The purpose of the WMA is to encourage a reduction in the amount of waste disposed of in New Zealand.

In summary, the WMA:

- Clarifies the roles and responsibilities of territorial authorities with respect to waste minimisation e.g. updating WMMPs and collecting/administering levy funding for waste minimisation projects.
- Requires that a Territorial Authority promote effective and efficient waste management and minimisation within its district (Section 42).

- Requires that when preparing a WMMP a Territorial Authority must consider the following methods of waste management and minimisation in the following order of importance:
  - Reduction
  - Reuse
  - Recycling
  - Recovery
  - Treatment
  - Disposal
  - Put a levy on all waste disposed of in a landfill.
  - Allows for mandatory and accredited voluntary product stewardship schemes.
  - Allows for regulations to be made making it mandatory for certain groups (for example, landfill operators) to report on waste to improve information on waste minimisation.
  - Establishes the Waste Advisory Board to give independent advice to the Minister for the Environment on waste minimisation issues.

Various other aspects of the WMA are discussed in more detail below.

A.2.3 Waste Levy

The waste levy originally came in to effect from 1st July 2009, adding $10 per tonne to the cost of landfill disposal at sites which accept household solid waste (essentially Class 1 disposal facilities). The levy has two purposes, which are set out in the Act:

- to raise revenue for promoting and achieving waste minimisation
- to increase the cost of waste disposal to recognise that disposal imposes costs on the environment, society and the economy.

This levy is collected and managed by the Ministry for the Environment (MfE) who distribute half of the revenue collected to territorial authorities (TA) on a population basis to be spent on promoting or achieving waste minimisation as set out in their WMMPs. The other half is retained by the MfE and managed by them as a central contestable fund for waste minimisation initiatives (the Waste Minimisation Fund).

In April 2021, the government introduced regulation to expand the scope of the levy from Class 1 landfills to also include classes 2-4.[48]

The table below shows the timetable and rates for the new levy regime:

[48] https://www.legislation.govt.nz/regulation/public/2021/0069/latest/whole.html

Table 30: Levy Rates by Fill Type and Year

LANDFILL CLASS	1-Jul-21	1-Jul-22	1-Jul-23	1-Jul-24
Municipal landfill (class 1)	$20	$30	$50	$60
Construction and demolition fill (class 2)		$20	$20	$30
Managed fill (class 3)			$10	$10
Controlled fill (class 4)			$10	$10

https://www.mfe.govt.nz/waste/waste-and-government

As the landfill levy is expanded and raised, there will be an impact on the quantity of material going to the different destinations; however, the extent to which this occurs, and for which materials, depends on a number of other factors.

One impact that has been noted in some areas of New Zealand, for example, is operators choosing to close rather than add the landfill levy to their gate fee, and undertake the administrative task of monitoring waste quantities to the extent required by the online waste levy system (OWLS). Some of these facilities don't have weighbridges in place and instead base their charges on volume estimates. To report to the OWLS, these facilities then need to translate volumes to weights, and it is on this basis that their landfill levy obligations are calculated. Therefore, any variances in conversion rates between volume and weight could result in an over- or under-calculation of the required landfill levy at the gate.

A.2.4 Product Stewardship

Under the WMA 2008, if the Minister for the Environment declares a product to be a priority product, a product stewardship scheme must be developed and accredited to ensure effective reduction, reuse, recycling or recovery of the product and to manage any environmental harm arising from the product when it becomes waste.[49]

The following voluntary product stewardship schemes have been accredited by the Minister for the Environment:[50]

- Agrecovery rural recycling programme
- Envirocon product stewardship
- Fonterra Milk for Schools Recycling Programme
- Fuji Xerox Zero Landfill Scheme

[49] Waste Management Act 2008 2(8)
[50] http://www.mfe.govt.nz/waste/product-stewardship/accredited-voluntary-schemes

- Holcim Geocycle Used Oil Recovery Programme (no longer operating)
- Interface ReEntry Programme
- Kimberly Clark NZ's Envirocomp Product Stewardship Scheme for Sanitary Hygiene Products
- Plasback
- Public Place Recycling Scheme
- Recovering of Oil Saves the Environment (R.O.S.E. NZ)
- Refrigerant recovery scheme
- RE:MOBILE
- Resene PaintWise
- The Glass Packaging Forum

Further details on each of the above schemes are available on:
http://www.mfe.govt.nz/waste/product-stewardship/accredited-voluntary-schemes

The first six priority products were named under the WMA in 2020 (shown below) and subsequently single-use packaging has been added. The first seven priority products named are:

1. Plastic packaging
2. Tyres
3. Electrical and electronic products (e-waste including large batteries)
4. Agrichemicals and their containers
5. Refrigerants
6. Farm plastics
7. Single-use plastic packaging

MfE has taken a 'co-design' approach, which involves industry developing and operating product stewardship schemes with central government oversight. Progress on the schemes, and parties involved, are summarised below.

Priority product	Progress made	Lead agency/ies
Tyres	Consultation on proposed regulations late 2021 Scheme accredited October 2022 Regulation in effect from late 2023	Tyrewise
Large batteries	Consultation on proposed regulations late 2021 Accreditation expected late 2023 Regulation in effect from 2024	Battery Industry Group

Refrigerants (and other synthetic greenhouse gases)	Consultation on regulations in late 2022 Scheme accreditation mid 2023 Regulation in effect from 2024	Synthetic Refrigerant Stewardship group
Farm plastics, agrichemicals and containers (farm waste)	Consultation on regulations planned late 2023	The Agrecovery Foundation
Electrical and electronic products (e-waste)	Scheme design in 2023 Consultation on regulations in 2024	TechCollect
Plastic packaging	Co-design underway	Packaging Forum and Food & Grocery Council

A.2.5 Waste Minimisation Fund

The Waste Minimisation Fund has been set up by the Ministry for the Environment to help fund waste minimisation projects and to improve New Zealand's waste minimisation performance through:

- Investment in infrastructure;
- Investment in waste minimisation systems; and
- Increasing educational and promotional capacity.

Criteria for the Waste Minimisation Fund have been published:

1. Only waste minimisation projects are eligible for funding. Projects must promote or achieve waste minimisation. Waste minimisation covers the reduction of waste and the reuse, recycling and recovery of waste and diverted material. The scope of the fund includes educational projects that promote waste minimisation activity.
2. Projects must result in new waste minimisation activity, either by implementing new initiatives or a significant expansion in the scope or coverage of existing activities.
3. Funding is not for the ongoing financial support of existing activities, nor is it for the running costs of the existing activities of organisations, individuals, councils or firms.
4. Projects should be for a discrete timeframe of up to three years, after which the project objectives will have been achieved and, where appropriate, the initiative will become self-funding.
5. Funding can be for operational or capital expenditure required to undertake a project.

6. For projects where alternative, more suitable, Government funding streams are available (such as the Sustainable Management Fund, the Contaminated Sites Remediation Fund, or research funding from the Foundation for Research, Science and Technology), applicants should apply to these funding sources before applying to the Waste Minimisation Fund.

7. The applicant must be a legal entity.

8. The fund will not cover the entire cost of the project. Applicants will need part funding from other sources.

9. The minimum grant for feasibility studies will be $10,000.00. The minimum grant for other projects will be $50,000.00.

Application assessment criteria have also been published by the Ministry.

The current funding round opened in October 2022 and will consider applications as they are received, and will agree to fund successful applications until funds are exhausted.

A.2.6 Local Government Act 2002

The Local Government Act 2002 (LGA) provides the general framework and powers under which New Zealand's democratically elected and accountable local authorities operate.

The LGA contains various provisions that may apply to councils when preparing their WMMPs, including consultation and bylaw provisions. For example, Part 6 of the LGA refers to planning and decision-making requirements to promote accountability between local authorities and their communities, and a long-term focus for the decisions and activities of the local authority. This part includes requirements for information to be included in the long-term plan (LTP), including summary information about the WMMP.

More information on the LGA can be found at ww.dia.govt.nz/better-local-government.

A.2.6.1 Section 17A Review

Local authorities are now under an obligation to review the cost-effectiveness of current arrangements for meeting community needs for good quality infrastructure, local public services and local regulation. Where a review is undertaken local authorities must consider options for the governance, funding and delivery of infrastructure, local public services and local regulation that include, but are not limited to:

a) in-house delivery
b) delivery by a CCO, whether wholly owned by the local authority, or a CCO where the local authority is a part owner
c) another local authority
d) another person or agency (for example central government, a private sector organisation or a community group).

Local authorities had three years from 8 August 2014 to complete the first review of each service i.e. they must have completed a first review of all their services by 7 August 2017 (unless something happened to trigger a review before then).

Other than completion by the above deadline, there are two statutory triggers for a section 17A review:

- The first occurs when a local authority is considering a significant change to a level of service;
- The second occurs where a contract or other binding agreement is within two years of expiration.

Once conducted, a section 17A review has a statutory life of up to six years. Each service must be reviewed at least once every six years unless one of the other events that trigger a review comes into effect.

While the WMMP process is wider in scope – considering all waste service provision in the local authority area – and generally taking a longer term, more strategic approach, there is substantial crossover between the section 17A requirements and those of the WMMP process, in particular in relation to local authority service provision. The S17A review may however take a deeper approach go into more detail in consideration of how services are to be delivered, looking particularly at financial aspects to a level that are not required under the WMMP process.

Because of the level of crossover however it makes sense to undertake the S17A review and the WMMP process in an iterative manner. The WMMP process should set the strategic direction and gather detailed information that can inform both processes. Conversely the consideration of options under the s17A process can inform the content of the WMMP – in particular what is contained in the action plans.

A.2.7 Resource Management Act 1991

The Resource Management Act 1991 (RMA) promotes sustainable management of natural and physical resources. Although it does not specifically define ‘waste’, the RMA addresses waste management and minimisation activity through controls on the environmental effects of waste management and minimisation activities and facilities through national, regional and local policy, standards, plans and consent procedures. In this role, the RMA exercises considerable influence over facilities for waste disposal and recycling, recovery, treatment and others in terms of the potential impacts of these facilities on the environment.

Under section 30 of the RMA, regional councils are responsible for controlling the discharge of contaminants into or on to land, air or water. These responsibilities are addressed through regional planning and discharge consent requirements. Other regional council responsibilities that may be relevant to waste and recoverable materials facilities include:

- managing the adverse effects of storing, using, disposing of and transporting hazardous wastes
- the dumping of wastes from ships, aircraft and offshore installations into the coastal marine area
- the allocation and use of water.

Under section 31 of the RMA, council responsibility includes controlling the effects of land-use activities that have the potential to create adverse effects on the natural and physical resources of their district. Facilities involved in the disposal, treatment or use of waste or recoverable materials may carry this potential. Permitted, controlled, discretionary, noncomplying and prohibited activities, and their controls, are specified in district planning documents, thereby defining further land-use-related resource consent requirements for waste-related facilities.

In addition, the RMA provides for the development of national policy statements and for the setting of national environmental standards (NES). There are currently two enacted NESs that directly influence the management of waste in New Zealand:

- The Resource Management (National Environmental Standards for Air Quality) Regulations 2004; this NES requires certain landfills (e.g., those with a capacity of more than 1 million tonnes of waste) to collect landfill gases and either flare them or use them as fuel for generating electricity. Unless exemption criteria are met, the NES for Air Quality also prohibits the lighting of fires and burning of wastes at landfills, the burning of tyres, bitumen burning for road maintenance, burning coated wire or oil, and operating high-temperature hazardous waste incinerators. These prohibitions aim to protect air quality.
- The Resource Management (National Environmental Standards for Storing Tyres Outdoors) Regulations 2021; this NES provides nationally consistent rules for the responsible storage of tyres.

The implementation of the National Policy Statement for Freshwater Management[51] may reduce the application rates of some organic wastes to land, which is currently a low cost management option for wastes such as effluent. This may increase the quantities of these organic materials that will be available for processing, which would then impact on the types of materials requiring processing, the technologies best suited to these material mixes, and the markets for the end product.

The RMA is currently subject to extensive reform, which will entail repealing the RMA and replacing it with three separate pieces of legislation:

- National and Built Environments Act;
- Spatial Planning Act; and

[51] https://environment.govt.nz/publications/national-policy-statement-for-freshwater-management-2020/

- Climate Adaptation Act.

It is likely that this reform process will be completed before the end of 2023.

A.2.8 New Zealand Emissions Trading Scheme

The Climate Change Response Act 2002 and associated regulations is currently the Government's principal response to manage climate change. A key mechanism for this is the New Zealand Emissions Trading Scheme (NZ ETS). The NZ ETS puts a price on greenhouse gas emissions, providing an incentive for people to reduce emissions and plant forests to absorb carbon dioxide.

Certain sectors are required to acquire and surrender emission units to account for their direct greenhouse gas emissions or the emissions associated with their products. Landfills that are subject to the waste disposal levy are required to surrender emission units to cover methane emissions generated from landfill. These disposal facilities are required to report the tonnages landfilled annually to calculate emissions (this is separately to the tonnages required to be reported for the landfill levy, through the OWLS).

The NZ ETS was introduced in 2010 and, from 2013, landfills have been required to surrender 'New Zealand emissions units' or NZUs for each tonne of CO_2 (equivalent) that they produce. Until around 2017, however, the impact of the NZETS on disposal prices was limited. There were a number of reasons for this:

- The global price of carbon crashed during the GFC in 2007-8 and was slow to recover in the following years. Prior to the crash it was trading at around $20 per tonne. The price had been as low as $2, although in June 2015, the Government moved to no longer accept international units in NZETS and the NZU price increased markedly. NZUs[52] currently change hands for between $70 and $85, with prices at $74.40 at the time of writing[53].
- The transitional provisions of the Climate Change Response Act, which were extended in 2013 but have now been reviewed, meant that landfills only had to surrender half the number of units they would be required to otherwise. These transitional provisions were removed in January 2017, effectively and immediately doubling the price per tonne impact of the ETS.
- Landfills are allowed to apply for 'a methane capture and destruction unique emissions factor (UEF)'. This means that if landfills have a gas collection system in place and flare or otherwise use the gas (and turn it from methane, CH_4 into carbon dioxide, CO_2) they can reduce their liabilities in proportion to how much gas they capture. Up to 90% capture and destruction is allowed to be claimed

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[52] NZUs are carbon credits that are officially accepted to offset liabilities under the NZETS
[53] According to carbon prices on www.carbonforestservices.co.nz and https://www.carbonmatch.co.nz/

under the regulations, with large facilities applying for UEF's at the upper end of the range.

Taken together (a low price of carbon, only two-for-one surrender required, and methane destruction of 80-90%) the actual cost of compliance with the NZETS had been small for most landfills – particularly those that were able to claim high rates of gas capture. Disposal facilities typically imposed charges (in the order of $5 per tonne) to their customers, but these charges mostly reflected the costs of scheme administration, compliance, and hedging against risk rather than the actual cost of carbon.

The way the scheme has been structured has also resulted in some inconsistencies in the way it is applied – for example class 2-5 landfills and closed landfills do not have any liabilities under the scheme. Further, the default waste composition (rather than a SWAP) can be used to calculate the theoretical gas production, which means landfill owners have an incentive to import biodegradable waste, which then increases gas production which can then be captured and offset against ETS liabilities.

Recently, however the scheme has had a greater impact on the cost of landfilling, and this is expected to continue in the medium term. Many small landfills which do not capture and destroy methane are now beginning to pay a more substantial cost of compliance. The ability of landfills with high rates of gas capture and destruction to buffer the impact of the ETS will mean a widening cost advantage for them relative to those without such ability. This appears to be putting further pressure on small (predominantly Council-owned) facilities and will drive further tonnage towards the large regional facilities (predominantly privately owned).

For example, with a price of carbon at $75 per tonne, the liability for a landfill without gas capture will be $68.25 (based on a DEF of 0.91 tonnes of CO_2e per tonne of waste), whereas for a landfill claiming 90% gas capture (the maximum allowed under the scheme), the liability will be only $6.83. This type of price differential will mean it will become increasingly cost competitive to transport waste larger distances to the large regional landfills.

More information is available at www.climatechange.govt.nz/emissions-trading-scheme.

A.2.9 Litter Act 1979

Under the Litter Act[54] it is an offence for any person or body corporate to deposit or leave litter:

- in or on any public place; or
- in or on any private land without the consent of its occupier.

[54] https://www.legislation.govt.nz/act/public/1979/0041/latest/DLM33082.html

The Litter Act enables Council to appoint Litter Officers with powers to enforce the provisions of the legislation.

The legislative definition of the term "litter" is wide and includes ‘refuse, rubbish, animal remains, glass, metal, garbage, debris, dirt, filth, rubble, ballast, stones, earth, waste matter or other thing of a like nature’.

Any person who commits an offence under the Act is liable to:

- An instant fine of $400 imposed by the issue of an infringement notice; or a fine not exceeding $5,000 in the case of an individual or $20,000 for a body corporate upon conviction in a District Court.
- A term of imprisonment where the litter is of a nature that it may endanger, cause physical injury, disease or infection to any person coming into contact with it.

Under the Litter Act 1979 it is an offence for any person to deposit litter of any kind in a public place, or onto private land without the approval of the owner.

The Litter Act is enforced by territorial authorities, who have the responsibility to monitor litter dumping, act on complaints, and deal with those responsible for litter dumping. Councils reserve the right to prosecute offenders via fines and infringement notices administered by a litter control warden or officer. The maximum fines for littering are $5,000 for a person and $20,000 for a corporation.

Council powers under the Litter Act could be used to address illegal dumping issues that may be included in the scope of a council’s WMMP.

The Litter Act will be reviewed alongside the WMA and the current proposal appears to suggest merging the two Acts into one.

A.2.10 Health Act 1956

The Health Act 1956 places obligations on TAs to provide sanitary works for the collection and disposal of refuse, for the purpose of public health protection (Part 2 – powers and duties of local authorities, section 25). Where the Ministry of Health considers that a local authority is not taking the necessary action to meet these obligations and protect public health, it can require a local authority to do so.

It specifically identifies certain waste management practices as nuisances (S 29) and offensive trades (Third Schedule) and section 23 directs every local authority to improve, promote, and protect public health by inspecting its district regularly to identify any nuisance or condition likely to be offensive or harm human health. If any issues are noted, the local authority should take steps to rectify the situation. Improperly managed waste would be considered a nuisance. Section 34 enables councils to abate nuisances without notice and recover costs.

Section 54 places restrictions on carrying out an offensive trade and requires that the local authority and medical officer of health must give written consent and can impose conditions on the operation. The local authority’s responsibilities under section 54 only applies where resource consent has not been granted under the RMA (i.e., no need to give written consent twice). Local authorities should seek to coordinate with their local public health unit where offensive trades are being established, such as refuse collection and other waste treatment practices.

The Health Act enables TAs to raise loans for certain sanitary works and/or to receive government grants and subsidies, where available.[55] It also means that where TAs incur costs in meeting their responsibilities to abate nuisances by (for example) removing refuse that is likely to harm public health, the TA can seek payment of these costs.

Health Act provisions to remove refuse by local authorities have been repealed.

A.2.11 Hazardous Substances and New Organisms Act 1996 (HSNO Act)

The HSNO Act addresses the management of substances (including their disposal) that pose a significant risk to the environment and/or human health. The HSNO Act relates to waste management primarily through controls on the import or manufacture of new hazardous materials and the handling and disposal of hazardous substances.

Depending on the amount of a hazardous substance on site, the HSNO Act sets out requirements for material storage, staff training and certification. These requirements would need to be addressed within operational and health and safety plans for waste facilities. Hazardous substances commonly managed by TAs include used oil, household chemicals, asbestos, agrichemicals, LPG and batteries.

The HSNO Act provides minimum national standards that may apply to the disposal of a hazardous substance. However, under the RMA a regional council or TA may set more stringent controls relating to the use of land for storing, using, disposing of, or transporting hazardous substances.[56]

A.2.12 Health and Safety at Work Act 2015[57]

The new Health and Safety at Work Act, passed in September 2015 replaces the Health and Safety in Employment Act 1992. The bulk of this Act came into force from 4 April 2016.

The Health and Safety at Work Act introduces the concept of a Person Conducting a Business or Undertaking, known as a PCBU. The Council will have a role to play as a PCBU for waste services and facilities.

The primary duty of care requires all PCBUs to ensure, so far as is reasonably practicable:

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[55] From: MfE 2009: Waste Management and Minimisation Planning, Guidance for Territorial Authorities.
[56] From: MfE 2009: Waste Management and Minimisation Planning, Guidance for Territorial Authorities.
[57] http://www.legislation.govt.nz/act/public/2015/0070/latest/DLM5976660.html#DLM6564701

- the health and safety of workers employed or engaged or caused to be employed or engaged, by the PCBU or those workers who are influenced or directed by the PCBU (for example workers and contractors).
- that the health and safety of other people is not put at risk from work carried out as part of the conduct of the business or undertaking (for example visitors and customers).

The PCBU's specific obligations, so far as is reasonably practicable:

- providing and maintaining a work environment, plant and systems of work that are without risks to health and safety.
- ensuring the safe use, handling and storage of plant, structures and substances
- providing adequate facilities at work for the welfare of workers, including ensuring access to those facilities.
- providing information, training, instruction or supervision necessary to protect workers and others from risks to their health and safety.
- monitoring the health of workers and the conditions at the workplace for the purpose of preventing illness or injury.

A key feature of the new legislation is that cost should no longer be a major consideration in determining the safest course of action that must be taken.

WorkSafe NZ is New Zealand's workplace health and safety regulator. WorkSafe NZ will provide further guidance on the new Act after it is passed.

A.2.13 Other legislation

Other legislation that relates to waste management and/or reduction of harm, or improved resource efficiency from waste products includes:

- Biosecurity Act 1993
- Radiation Protection Act 1965
- Ozone Layer Protection Act 1996
- Agricultural Chemicals and Veterinary Medicines Act 1997.

For full text copies of the legislation listed above see www.legislation.govt.nz.

A.2.14 International commitments

New Zealand is party to international agreements that have an influence on the requirements of our domestic legislation for waste minimisation and disposal. Some key agreements are the:

- Montreal Protocol
- Basel Convention
- Stockholm Convention
- Waigani Convention
- Minamata Convention.

More information on these international agreements can be found on the Ministry's website at www.mfe.govt.nz/more/international-environmental-agreements.

A.3.0 A Circular Resource Recovery Network

Historically, our economic system has operated primarily on the basis of linear processes. This system involves extraction, processing, manufacturing, consumption and disposal (end-of-life). This system is not sustainable as it involves systematically using up non-renewable raw materials (such as minerals and fossil fuels) and degrading the natural environment, which is necessary to support life, through unsustainable agricultural and extractive activities (such as logging of native forests), and the creation of waste and pollution.

To address this, a paradigm shift is needed. This requires a change in how the economic system produces, assembles, sells, and uses products in order to minimise waste and maximise the value of materials in use. The circular economy is a model that enables resources to be kept in use for as long as possible, extract maximum value from them, and then recover and regenerate materials at end-of-life.

Within the context of enabling a circular economy, it is proposed to re-organise how the recovery of materials in the economy occurs by establish a **'circular resource network'**.

The key organising principle behind the concept of a circular resource network is that the resource recovery system should be consciously designed to facilitate the circular flow of materials through the economy, by 'completing the circle'. To date, the 'reverse logistics' aspect of the economy that is responsible for collecting widely dispersed and mixed materials has been a poor relation to the 'logistics' part of the economy that is responsible for the dispersion.

The following subsections expand on what a circular resource network concept that is designed for the circular economy could entail. The circular resource network concept borrows from and builds on the existing concept of a resource recovery network (RRN).

A.3.1 Conventional Resource Recovery Network (RRN)

The concept of a RRN is a longstanding one with various examples including Auckland Council working to develop a network of community run facilities in partnership with the Zero Waste Network[58], the development of a Māori and Pasifika Eco Park, in South Auckland[59], and Selwyn District Council recently announcing their resource recovery park concept[60].

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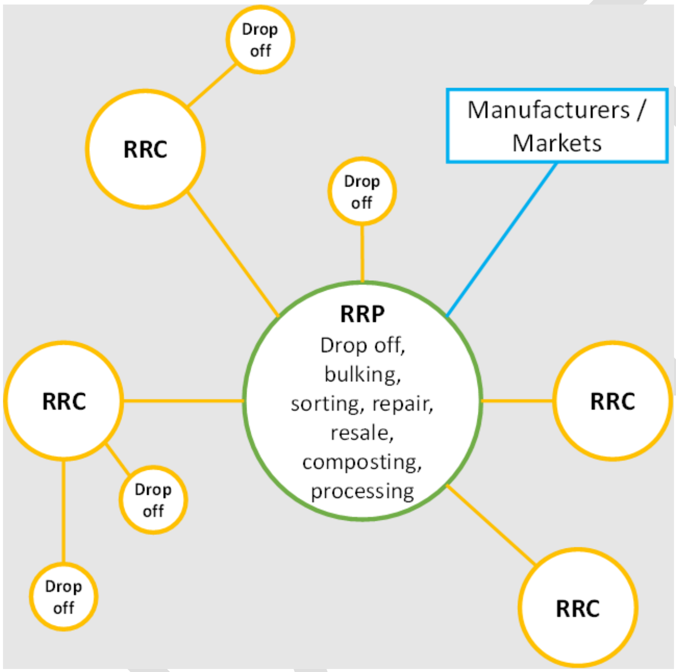
[58] https://www.makethemostofwaste.co.nz/resource-recovery-network/
[59] https://www.stuff.co.nz/business/126810349/the-1-billion-plan-to-lift-mori-and-pasifika-prosperity-in-aucklands-south-and-west
[60] https://www.selwyn.govt.nz/services/rubbish,-recycling-And-organics/recovery-park/reconnect-project

These examples (which have different approaches) can be expanded into a nationwide state of the art network of resource recovery parks (RRPs) which consist of linked (sub) regional hubs, with smaller satellite facilities (resource recovery centres or RRCs) feeding recovered materials into the hub for processing and sale. These potentially can be further supplemented by local drop off sites that feed the satellite facilities. This concept is illustrated in the figure below.

Figure 14: Network of Resource Recovery Centres Linked to Resource Recovery Parks



The functions that are performed by the RRP consolidate a range of resource recovery functions into a single site. The intent is both to provide a 'one stop shop', but also to take advantage of economies of scale and sharing of infrastructure, services, and overheads, and optimising transport of materials to reduce costs. Furthermore, by co-locating functions there can arise the possibility of synergies between the different functions. For example, reclaimed timber and building materials can provide materials for a 'Community Shed' type operation[61], or items salvaged from the waste stream can be sold at low cost to the public. The proposed form of a resource recovery network is to have a series of sites with physically co-located functions, and for these to be operated by or overseen by a single entity.

[61] https://menzshed.org.nz/about-us/what-is-a-shed/

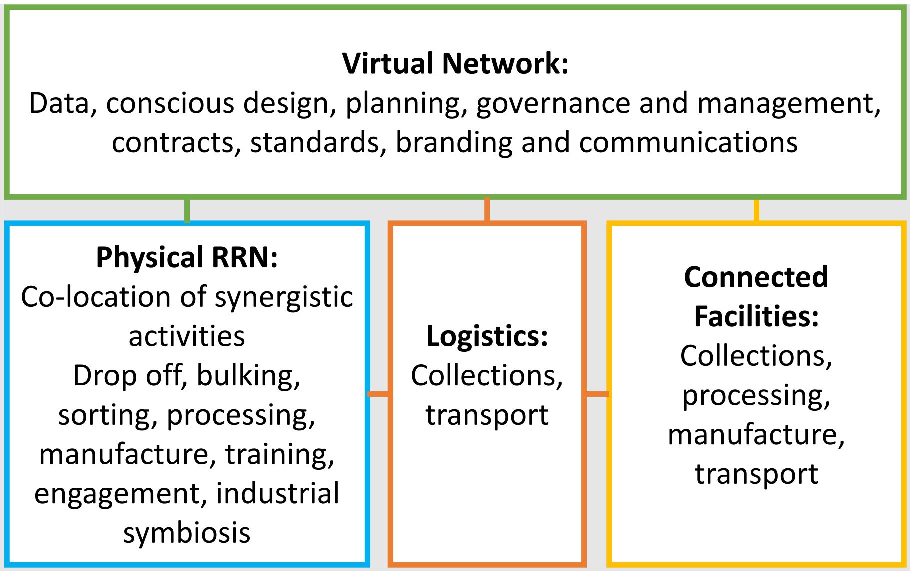
A.3.2 Expanding the Resource Recovery Network

While the conventional concept of a resource recovery network has much to recommend it, in our view there is potential to evolve it further to create the core functionality needed to enable the circular economy.

It is proposed to evolve the concept of physical co-location of synergistic activities to encompass a virtual and holistic network of sites, some co-located (where this provides efficiency gains, and is practical), but also including other sites that may be physically stand-alone sites, but which are connected to the circular resource network. The method of connection would be through supplying and receiving material, utilising network transport arrangements, operating to agreed performance standards, utilising standardised signage and specifications, providing and receiving data, and being linked through virtual directories.

A physical network of sites and logistic can be replicated virtually in an information management system. A nation-wide virtual circular resource network could, eventually, track and/or manage the flow or materials through the entire resource recovery sector in Aotearoa, and enable the optimisation of infrastructure, logistics, and services. Underpinning the virtual network is a physical network of sites and facilities that operate to agreed standards (akin to the traditional RRN concept), supplemented by standalone sites that are connected to the network. Connecting the physical network and standalone sites is a highly efficient, flexible, and low-carbon logistics network. The high-level structure of the network is illustrated in the figure below:

Figure 15: Circular Recovery Aotearoa High-Level Structure



A.3.2.1 Spatial Representation

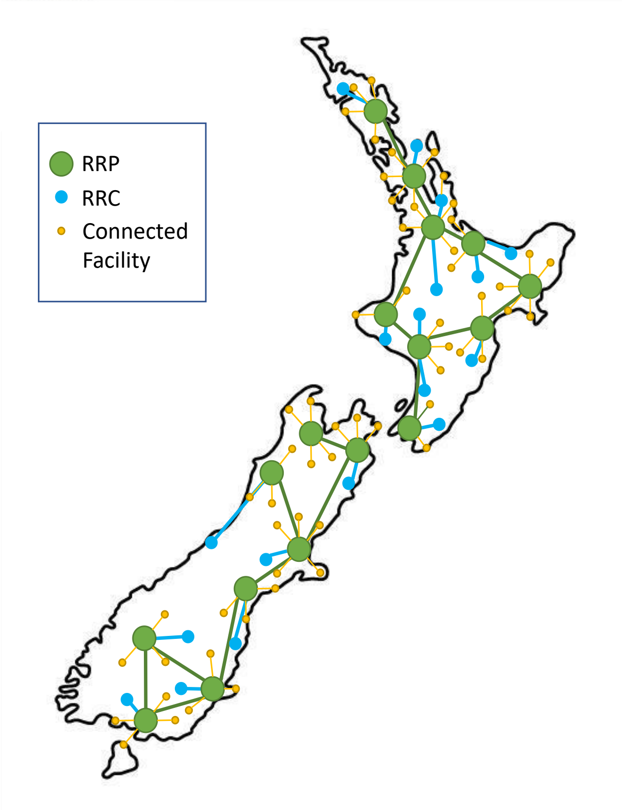
Figure 16 below shows a high-level visual representation of a national resource recovery network.

The large green dots represent regional RRPs that consolidate and process material at a regional level. Depending on the material stream, materials could also be transported between the regional hubs (for example glass being consolidated in Christchurch for shipping to Auckland for manufacture). Regional hubs could also specialise in processing certain materials and swap materials accordingly.

The mid-sized blue dots represent local RRCs that accept a full range of materials and send to the regional RRPs for bulking (or to 'connected facilities' for local processing). Not shown are smaller drop-off sites.

The small yellow dots represent the potentially hundreds of facilities that are not co-located at an RRP or RRC but are linked and operate to the standards of the network. These facilities could accept materials from the RRP or RRC for processing, or supply materials to these sites.

Figure 16: Concept Map of Circular Resource Network



A.3.2.2 Virtual Network

The core of the concept is that the reverse logistics system is actively planned and optimised to 'close the circle' and enable a circular economy. This requires planning, analysis, and data gathering and analysis functions, alongside the active ongoing management of material flows. This is what is covered by the 'virtual network' element.

The roles of the key organisations involved in the circular resource network are shown in the figure below:

Figure 17: Key Agents and Roles in the Resource Recovery Network

National Network Agency
- Design and oversight of the RRN
- Developing forecasts, identifying gaps and planning
- Setting of standards for operation
- Licensing/accreditation
- Funding and investment
- Regulation and consents for nationally significant infrastructure
- Data gathering, monitoring, dissemination, and reporting
- Operates/oversees national logistics

Regional Network Operators
- Oversees operation of key regional facilities (RR Parks and RR Centers)
- Owns/secures sites and leases to tenants to perform network compatible functions
- Planning and oversight of regional RRN
- Operates/oversees regional logistics
- Actively works to link regional stand-alone infrastructure to the network

Facility Operators
- Lease sites and operate resource recovery facilities (including some RR Parks and RR Centers)
- Undertake key functions on contract (e.g. MRFs, education, logistics etc.)
- Provides material to other network operators
- Receives material from public and other network operators
- Provides data to regional and national network agencies

A digital model could be developed of the key material flows within the resource recovery sector (ideally this would ultimately encompass a mass balance of materials through the economy, although this is likely to be more difficult to achieve and therefore a more long-term aspiration).

By digitally mapping material flows nationally, across both core facilities and connected facilities, potential gaps and issues could be quickly identified and planning undertaken to ensure the system remains optimised and is resilient and adaptive in the face of change.

The digital model would include current material flows and allow for projections and modelling of new facilities, changes to material types and quantities, logistics etc. This would enable the potential impact of new facilities and options to be investigated before implementation.

The core of the circular resource network is the establishment of a set of standards of operation that all facilities that form part of the circular resource network operate to. These standards would apply to both operations co-located at an RRP or RRC, as well as connected facilities. In this regard what is proposed is similar to a franchise model: as well as designing the overall system the government (or its agents) set the basis by which the circular resource network would function.

A.3.2.3 Physical RRN – Structure

The 'Physical RRN' is the aspect of the system that is most recognisable interface of the network. A national network could be made up of regional nodes (circular resource networks) that are linked but that can operate as independent regional entities.[62] This would enable planning with a national perspective (as noted above) but empower the governance and management at a regional level to enable agile response to regional and local requirements. It should be noted, however, that there could be a number of different models.

The role at a regional level is primarily:

- Site ownership, management, development, and leasing.
- Operating region-wide logistics to consolidate materials from RRCs and Connected Facilities at the regional RRP for bulking, sorting, processing and bulk transport or local manufacture.
- Overseeing and applying the operating standards for the network.
- Advocating for the development of the network and working with operators and stakeholders to facilitate its continued development.
- Promotion and communication with users.

Regional networks would operate to national standards that include the following (as noted above):

- Branding and communications.
- Core materials accepted and material acceptance criteria.
- Output material quality standards and contamination levels (referencing existing market specifications or official standards where appropriate).
- Customer service levels.
- Appropriate employment conditions.
- Standard contracts and agreements for supply of services, provision or sale of materials, leases etc.
- Access to and participation in online marketplaces for recovered materials generated by network participants.

The regional network operators in turn would be responsible for applying and enforcing these standards for local and connected facilities.

A.3.2.4 RRPs – Regional Hubs

The heart of a regional network consists of one or two large RRPs, where a range of key functions are co-located. The purpose of the RRP is to provide a 'hub' for the efficient

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[62] For the purposes of this exercise, it should be assumed that 'regional' broadly corresponds to current regional council and unitary council boundaries.

regional consolidation of a wide range of materials collected at the RRC and Connected Facilities, as well as those that may be collected at the RRP itself.

The core of the concept is to have regional consolidation of materials and provide a hub for the regional network. In addition, these sites could provide a 'flagship' centre with a full range of services for drop-off and community engagement etc.

The RRP all can have different mixes of facilities depending on local requirements. The logistics and flagship public facing operations could be co-located or at different sites depending on local situations.

Typical facilities may include:

- Material recovery facilities for sorting of collected comingled materials.
- Anaerobic digestion facilities to process putrescible wastes and generate biogas that is used to fuel the regional logistics collection fleet.
- Logistics sorting centre for managing the inputs and outputs of a range of facilities.
- Construction and demolition waste sorting facility.
- Wash plants and fleet management facilities for reusable containers.
- Regional consolidation and logistics for a range of product stewardship schemes such as:
    - E-waste dismantling and processing operations.
    - Used large battery (EV and stationary storage) assessment and consolidation centres.
    - Farm plastics and agrichemical containers.
    - Tyres.
    - Mattresses.
- Education centre.
- Reuse stores/mall.
- Food rescue.
- Manufacturing businesses utilising recovered materials. In some instances, these businesses are co-located to utilise others' discarded materials and surplus process heat, with ongoing work to develop industrial symbiosis models.
- Research on material reuse/recovery.
- Drop off facilities for a full range of materials.

A.3.2.5 Local RR Centres

While the RRPs are the hub of the regional networks, the RRC form the primary nodes where the majority of material is dropped off and consolidated locally. Many RRCs will start off as local transfer station sites that are upgraded and re-purposed to have a predominant focus on resource recovery. The RRCs are the local centre for community activity, with many run by community enterprises or iwi, and serve to engage, educate and empower the local communities to not only recover materials but extract and apply the value of those materials for community benefit.

There are a range of different services and facilities at each site, but a set of core facilities could include the following:

- Drop off facilities for a standard range of materials (nominally as follows):
  - Cardboard
  - Metals
  - Paper
  - Glass
  - Plastics 1,2,5
  - Shrink-wrap
  - Garden waste
  - DIY construction and demolition waste
- Dropoff/consolidation sites for current and future product stewardship schemes, for example:
  - Reusable containers
  - Single use containers
  - E-waste and batteries
  - Farm plastics and chemical containers
  - Tyres
  - Mattresses
  - Textiles
  - Paint and household chemicals
- Reuse drop off, refurbishment and resale (furniture, household items, furnishings and clothing, toys, books, tools).

Optional services and facilities could include:

- Café
- Construction and bulky materials sales yard
- Education, training
- Workshops/refurbishment
- Food rescue
- Cooking oil – biodiesel/soap manufacture
- Reusable nappies
- Mattress recycling
- Business incubator space

A.3.2.6 Logistics

A core feature of the concept is the establishment of an efficient logistics network that is able to consolidate and transport materials as efficiently as possible, including utilising back-loading, bulk transport, and using flexible methodologies to facilitate bulk transport of smaller volume materials (for example, modular bins transported on side loaders).

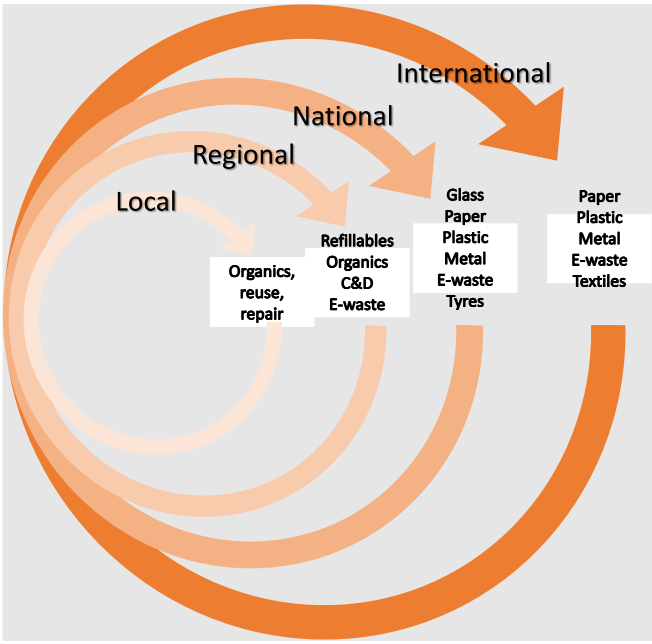
Vehicles utilised by the network could take advantage of low-carbon and waste-based technologies to minimise the carbon footprint of materials managed by the network. For example:

- Vehicles could be powered by gas/energy generated from anaerobic digestion of organic waste.
- Battery electric vehicles could utilise second-life batteries or charging infrastructure built using second life batteries.
- Bulk transport using rail (ideally electrified).

Materials are dealt with in the most appropriate manner through the network with some materials manged locally or regionally, and other materials utilising the logistics capabilities of the network to be delivered to national end uses at low cost.

The figure below illustrates how certain materials are likely to be managed locally, regionally, nationally, or internationally.

Figure 18:Geographical Circulation of Material Types



In the above indicative representation, organics (such as garden waste), reusables, and repairable items are likely to be utilised in local communities; refillables, organics that require more capital intensive processes (such as food waste or sludges), construction and demolition waste, and e-waste dismantling are likely to be undertaken on a regional level; processing and manufacture of products from glass, paper, plastic, metal, e-waste, and tyres are likely to be processed at national or sub-national scale facilities. Finally, there will be a range of materials that are sold into international commodity markets. These are likely to include paper, plastics, metals, e-waste, and textiles.

The above is intended purely for the purposes of illustration – as markets, material types, and processing technologies evolve these circles of re-integration into the economy are likely to change. The key point is that the network will involve a redistribution of different products and materials to different points and designing this redistribution to be as efficient and effective as possible will be critical to the functioning of the circular economy.

Local Logistics

A key part of the concept is to facilitate the ability to capture the widest possible range of materials by taking advantage of economies of scale to capture economic quantities. This can be achieved through a standardised modular approach to material separation and collection. An example of this is the system deployed in Upper Austria, which utilised 1 cubic metre stackable bins that can be moved using forklifts and transported on curtainsider trucks (see below).

Figure 19: Standardised Bins Being Loaded onto Curtainsider Truck

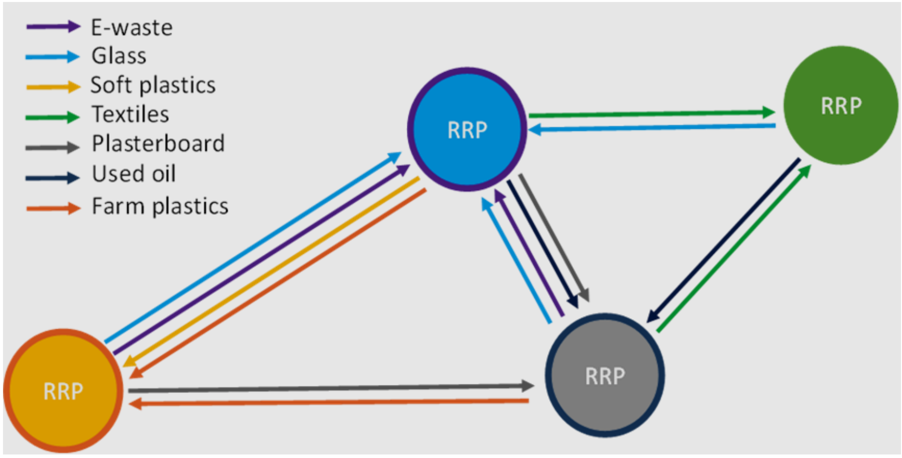
The system collects 80 different types of separated material. The possible downside of it taking time to gather economic quantities of less common material types is minimised as economic quantities can be achieved across the whole region, and the systems components are low cost and have proven efficiency.

The use of the same bins the same types of materials and common signage provides standardisation across the network, despite a wide range of operators being responsible for the individual resource recovery sites.

Inter-Regional Logistics

There is also potential to optimise the flows of materials between regional/sub regional hubs. For example, each regional hub could specialise in processing of one or more material types, with flows of materials then able to be balanced between sites, optimising logistics through backloading, as well as creating economies of scale. A hypothetical illustration is provided in the figure below.

Figure 20: Inter-Regional Logistics Model

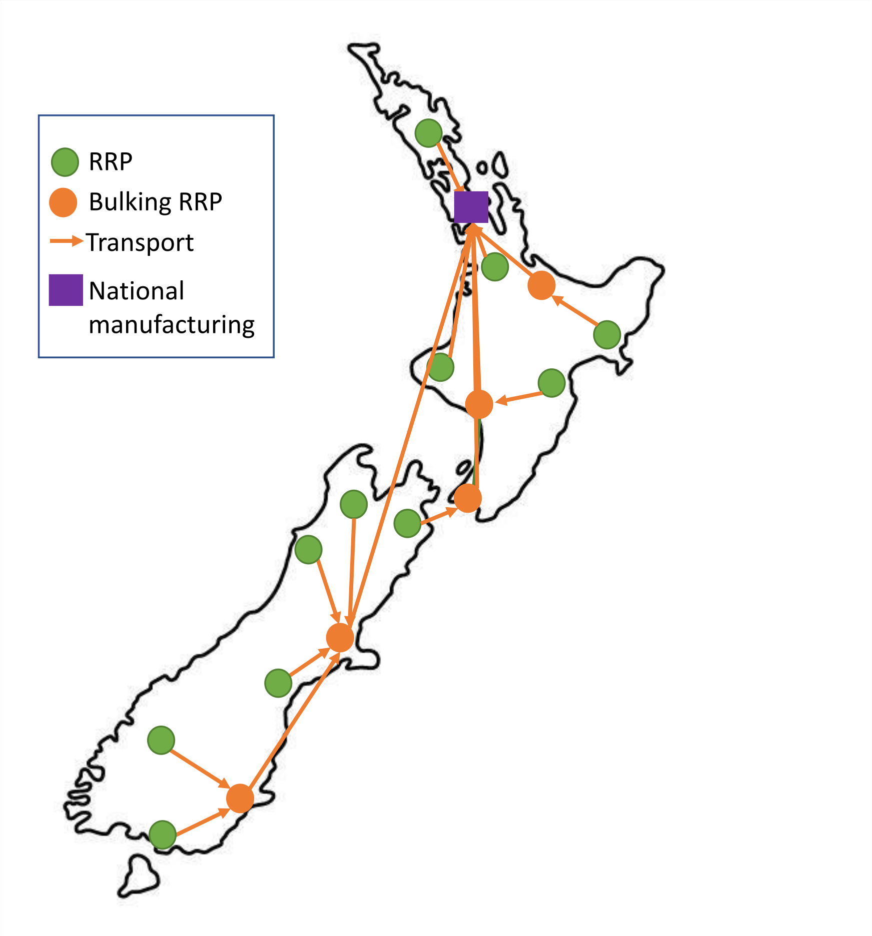


In the above hypothetical illustration, the blue RRP processes e-waste and glass from other proximate RRPs, while sending other materials such as soft plastics, farm plastics, textiles, plasterboard and used oil to other proximate RRPs. This is repeated across the RRPs, so that the quantities and movements of material are approximately balanced. The location of specialised processing and balancing of logistics would be part of the design and planning role of the national level 'virtual network'.

National Logistics

In addition to the local and inter-regional flows of materials, a range of materials handled by the network would need to go to national scale processing/manufacturing facilities (e.g. glass, paper, plastics). Logistics across the network could be optimised to take advantage of bulk transport through strategic bulking points, and there is even the possibility of constructing new national scale facilities in locations to balance national materials flows. The figure below illustrates how materials could be consolidated through regional networks to key bulking points for long-haul transport.

Figure 21: National Logistics Illustration



A.3.2.7 The Role of Local/Regional Government

Local government has historically had a major role in waste management planning and service delivery, and this is likely and desirable to continue. Local government own a significant proportion of the existing transfer station sites, and well as processing infrastructure sites and are familiar with local circumstances. Many councils are already in the process of developing resource recovery parks or local networks. These existing and planned sites could form a starting point for the physical circular resource network. It would primarily be a matter of collaborating to establish consistency and linkages across the existing and planned sites as well as promoting the development of new sites by local government.

In addition, there may be a vital role for regional entities. One of the key issues identified in the stocktake work was a lack of appropriate delivery structures for regional level infrastructure. Some facilities require a regional level approach to achieve appropriate economies of scale (for example processing of food waste, MRFs, regional bulking for key materials such as glass etc.). The proposed circular resource network concept is centred around a regional approach, with one or two regional scale RRPs that form the core hubs for collecting and consolidating material from the RRC sites, and undertaking processing and, potentially, manufacture. Key aspects of the roles for regional and local government could include:

- Service operation/contracting
- Local and regional expertise and coordination
- Local infrastructure investment and operation
- Identification and provision of appropriate sites
- Local consents monitoring, and enforcement
- Gathering and analysis of data

A.3.2.8 The Role of Iwi

Iwi also have an important role to play in the co-development of the circular resource network. The concept of resource recovery is aligned with the te ao Māori principle of kaitiakitanga, and the Para Kore programme is already in place in 476 marae across the country[63]. In addition to performing a similar role to the private and community sectors in service delivery, iwi have a role as kaitiaki of the land and people, and where resources are available, iwi can contribute financial investment and sites to the network and provide leadership in the development of the network. Key aspects of the roles for iwi could include:

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[63] https://www.parakore.maori.nz/our-story/

- Service operations
- Infrastructure investment and operation
- Guardians / developers of RR Park and RR Centre sites
- Recovering value from materials
- Ownership and sale of recovered materials
- Utilising recovered value to leverage other community outcomes (e.g. employment, training, rehabilitation)

A.3.2.9 The Role of Private Sector Operators

Private sector operators currently manage the vast majority of waste materials recovered and disposed of in NZ, whether via private commercial arrangements or under contract to the public sector, and this would be expected to continue under the proposed model. The expectation is that, for the operation of the physical circular resource network, the public sector would generally own the land and generic infrastructure (such as buildings or, concrete pads, roading etc.) but would lease the sites or contract out for the delivery and operation of the circular resource network sites (such as separation of materials, composting, processing, manufacture). Sites could have a range of private and community sector operators involved (see below). Key aspects of the roles for private sector operators could include:

- Service operations
- Infrastructure investment and operation (either privately or under contract)
- Recovering value from materials (including repair and reuse)
- Ownership and sale of recovered materials

A.3.2.10 The Role of the Community Sector

Although the community sector is a minor player in terms of the total quantity of waste materials managed in New Zealand, they have had a significant role in the industry in terms of community engagement, innovating around recovery, and extracting value from waste materials to apply to social and community outcomes. The community sector role can potentially be further embedded and given added importance in the delivery of the circular resource network concept. Community groups could not only provide services such as reuse and repair across multiple sites but could also be empowered to deliver all services on sites (as has been demonstrated in Auckland). Key aspects of the roles for community sector operators could include:

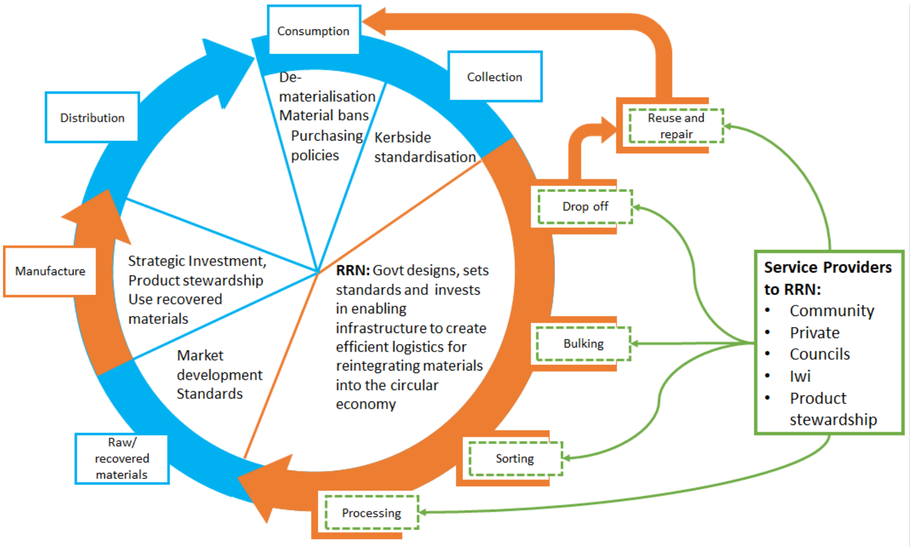
- Service operations
- Infrastructure operation
- Recovering value from materials (including repair and reuse)
- Ownership and sale of recovered materials

- Utilising recovered value to leverage other community outcomes (e.g. employment, training, rehabilitation)

A.3.2.11 Summary

The figure below illustrates how the roles and functions of a national resource recovery network could integrate to provide key reverse logistics functions in the circular economy. The orange elements of the circle are the parts that form the circular resource network.

Figure 22: Roles and Functions of a Circular Recovery Network in the Circular Economy



In the above chart material flows around in a clockwise direction. The arrows represent the material flows. The boxes indicate the key steps within the value chain. The graphic shows how different providers to the can deliver all of the key functions, but within an overall connected framework (that is established and overseen by central/regional/local government).

A.3.3 Benefits of Circular Resource Network Approach

A Circular Resource Network approach would have a range of benefits. These include:

- **Consistent with the Waste Strategy.** At its core the approach is about enabling the circular economy by building out the infrastructure required for the circular flow of materials in the economy. The circular resource network concept synthesises this into a practical approach with wide ranging applications.
- **A practical, easily articulated, investment strategy**. Because the core component of the circular resource network concept is an arrangement of physical infrastructure it is intuitively easy to communicate the intent.
- **Improved efficiency and value.** By focusing on how value can be preserved and enhanced through the resource recovery value chain rather than purely on environmental and social outcomes, it is possible to unlock the potential value of recovered materials and unleash the innovative power of the sector to achieve environmental and social outcomes.
- **Future flexibility.** Flows of materials will change over time. By government investing in the skeleton structures that enable functions, then investment is not locked into a time-limited solution. As materials, markets and processes change over time existing

infrastructure and governance can be efficiently and nationally adapted for the new functions.

- **Data harvesting.** The development of the digital model circular resource network will enable an unprecedented level of insight into recovered material flows and enable effective and intelligent planning and nimble responses by the sector to evolving situations.
- **Baskets of materials.** By co-locating and handling of a range of material and product types at single locations this enables efficiencies through the sharing of support structures and cross subsidisation, and hence the viable recovery of a wider range of materials.
- **Builds on existing infrastructure.** As noted, existing infrastructure (such as existing and planned RR Parks, and transfer stations) would form the foundation of the circular resource network, and these could be progressively integrated.
- **Provides valuable roles for all stakeholders.** The circular resource network will be significant in scale and scope, and it will require the input, collaboration, innovation, and power of all parts of the sector to fully realise its' potential.
- **'No regrets' approach.** The circular resource network concept proposed here is potentially far reaching in its scope and what it could eventually encompass. However, whatever level the concept is implemented to, it will still have multiple benefits. At a minimum it would result in the creation of a number of RR Parks or regional circular resource networks, which will still be positive outcomes.
- **Scalability.** The network can be "right"-sized in a flexible manner with the ability to effectively respond to changing circumstances.