



**Horowhenua District Waste Assessment**

Prepared for  
Horowhenua District Council  
Prepared by  
Tonkin & Taylor Ltd  
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## Acknowledgements

This document is based on the template set out in the Ministry for the Environment's document Waste Assessment and Waste Minimisation and Management Planning, A Guide for Local Authorities.

A range of people and organisations have contributed to the preparation of this Waste Assessment. They include:

Horowhenua District Council Councillors and staff

EnviroWaste Services Limited

Levin Container Rubbish

Pareraukawa

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## Introduction

This Waste Assessment establishes the planning foundations for a Regional Waste Minimisation and Management Plan (WMMP) for the Horowhenua District by describing the waste situation, setting the vision, goals, objectives and targets for the district, and developing options for meeting future demand. Much of the information presented in this Waste Assessment will be summarised in the final WMMP.

This Waste Assessment contains three parts:

- Part 1 – Where are we now?

This covers policy context, the current waste situation, including waste flows, waste infrastructure and services, and forecast of future demand. This will be summarised in the WMMP.

- Part 2 – Where do we want to be?

Part 2 includes the vision, goals, objectives and targets for the waste assessment, which will form part of the WMMP.

- Part 3 – How are we going to get there?

Part 3 identifies options and assesses the suitability of each option (as required by Section 51 of the Waste Management Act 2008 (WMA)) and includes a summary of the outcome of consultation with the Medical Officer of Health. The preferred options from the Part 3 assessment will be presented in the WMMP.

## Purpose of the Waste Assessment

This draft Waste Assessment and associated draft Waste Minimisation and Management Plan (WMMP) summarises the current situation for waste minimisation and management in Horowhenua and sets out how the Council will progress efficient and effective waste management and minimisation. It paves the way forward, considering current policy and the legal framework and Horowhenua District vision, with an overarching suite of guiding goals and objectives.

This Waste Minimisation and Management Plan fulfils Council's obligations under the Waste Minimisation Act (WMA) (2008). The plan uses the waste hierarchy (Figure 1) as a guide to prioritising activity, focussing on reducing waste before recycling or recovery of materials. Where materials cannot be recycled or recovered the focus is on safe treatment and disposal.

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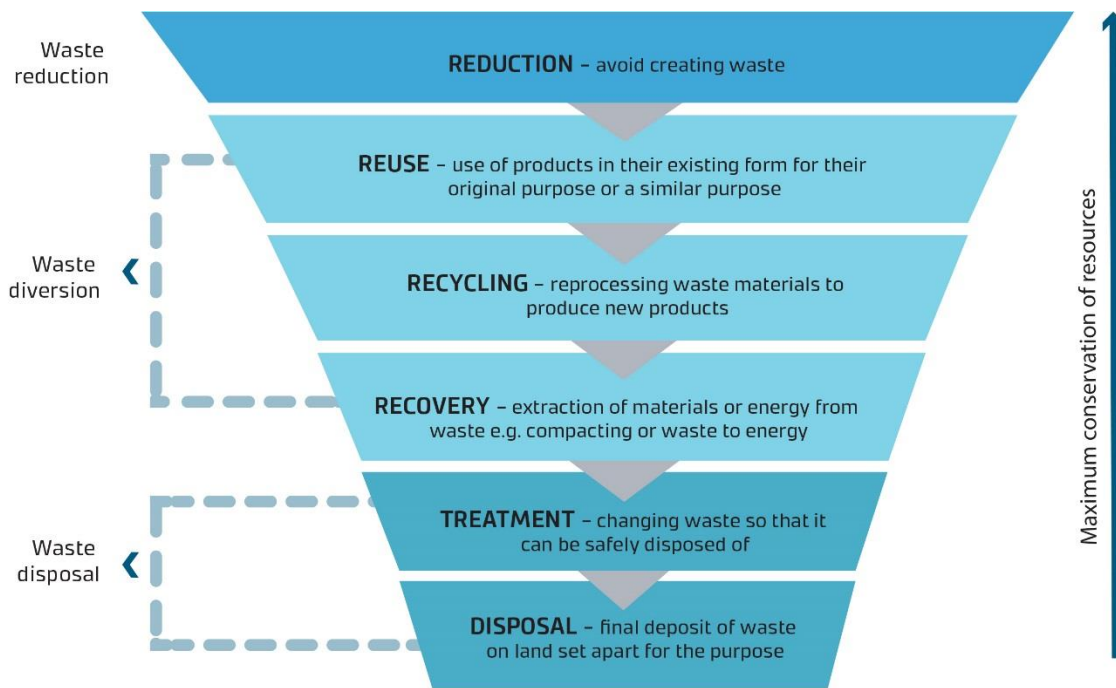


Figure 1 The Waste Hierarchy

## Scope

This Waste Assessment and the associated Waste Minimisation and Management Plan covers solid waste generated in the Horowhenua District. The focus is on materials entering the waste management system (collection, processing and disposal). Other materials are relevant but not specifically addressed including wastewater treatment solids, industrial by-products and materials re-used on site.

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## PART 1 - THE WASTE SITUATION

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## 1 Policy context

The New Zealand Waste Strategy<sup>1</sup> (NZWS) provides a useful summary of the New Zealand policy context for waste minimisation and management. A diagram from the NZWS laying out the policy context is reproduced as Figure 2.

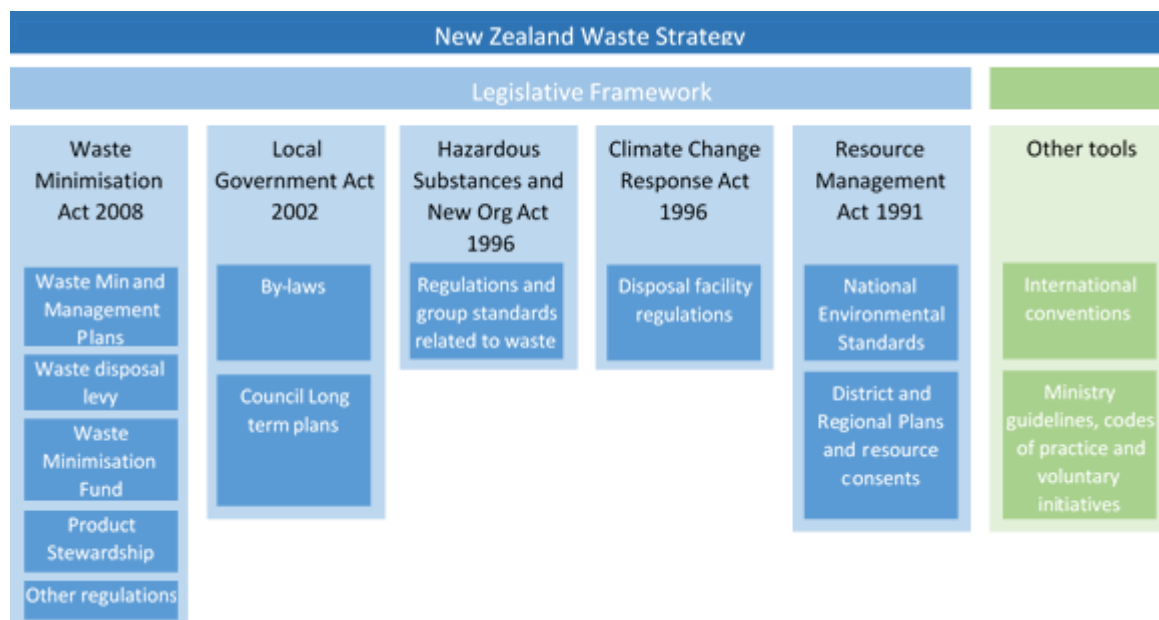


Figure 2: Policy context for waste minimisation and management in New Zealand<sup>1</sup>

There is a wide range of statutory documents and associated policy that impacts on waste minimisation and management in the Horowhenua District. These are summarised in Table 1 and the remainder of Section 1.

**Table 1 Relevant policy for waste in the Horowhenua District**

National	Manawatu - Whanganui Region	Horowhenua
Waste Minimisation Act 2008	Horizons One Plan	Long Term Plan 2015-2025
Health Act 1956		Horowhenua District Plan
Hazardous Substances and New Organisms Act 1996		Solid Waste Management Bylaw incl licence terms and conditions
Resource Management Act 1991		Solid Waste Asset Management Plan
Local Government Act 2002		Previous Waste Minimisation and Management Plan
Climate Change Response Act 2002		
NZ Waste Strategy 2010		
NZ Emissions Trading Scheme		

<sup>1</sup> The New Zealand Waste Strategy: Reducing harm, improving efficiency (ME1027), 2010.

## 1.1 Statutory requirements for Waste Assessments and WMMP

This Waste Assessment establishes the planning foundations for the Horowhenua Waste Minimisation and Management Plan (WMMP) by describing the waste situation, setting the vision, goals, objectives and targets for the district, and developing options for meeting future demand.

A WMMP must contain a summary of the Council's objectives, policies and targets for waste management and minimisation. The plan should clearly communicate how the Council will deliver on these objectives.

Section 43 of the WMA states that a WMMP must provide for:

- a *objectives and policies for achieving effective and efficient waste management and minimisation within the territorial authority's district*
- b *methods for achieving effective and efficient waste management and minimisation within the territorial authority's district, including -*
  - i *collection, recovery, recycling, treatment, and disposal services for the district to meet its current and future waste management and minimisation needs (whether provided by the territorial authority or otherwise); and*
  - ii *any waste management and minimisation facilities provided, or to be provided, by the territorial authority; and*
  - iii *any waste management and minimisation activities, including any educational or public awareness activities, provided, or to be provided, by the territorial authority*
- c *how implementing the plan is to be funded*
- d *if the territorial authority wishes to make grants or advances of money in accordance with section 47, the framework for doing so.*

A WMMP must have regard to the waste hierarchy, the New Zealand Waste Strategy, and a Council's most recent Waste Assessment.

## 1.2 National policy

### 1.2.1 Waste Minimisation Act 2008

The Waste Minimisation Act 2008 (WMA (2008)) sets a framework to encourage a reduction in the amount of waste generated and disposed of in New Zealand, minimising the environmental harm of waste and providing economic, social and cultural benefits for New Zealand.

The main elements of this Act include:

- A levy imposed on all waste that is landfilled.
- Product stewardship schemes for businesses and organisations.
- Allows local authorities to create bylaws relating to waste management and minimisation.
- Requires waste operators to undertake waste reporting.
- Establishes a Waste Advisory Board to give independent advice to the Minister for the Environment on related issues.

Territorial authorities, such as Horowhenua District Council, are required by the WMA (2008) to promote waste management and minimisation within the territorial authority's district. Part of this responsibility involves the creation and adoption of a Waste Management and Minimisation Plan (WMMP), updated every six years, which details current and planned objectives and policies, methods and funding for achieving effective and efficient waste management and minimisation. This

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plan must also have regard for the New Zealand Waste Strategy (see below). The Plan must also consider the following methods of waste management and minimisation (listed in descending order of importance):

- Reduction
- Reuse
- Recycling
- Recovery
- Treatment; and
- Disposal.

### **Waste Levy**

There is currently (early 2018) a \$10 per tonne levy on materials disposed of to landfills accepting household waste. The Ministry for the Environment are required by the WMA to periodically review the levy. The most recent review<sup>2</sup> made three recommendations to support targeted investment in areas that will return the greatest waste minimisation outcomes for New Zealand. These are:

- **Strategy:** develop a clear vision, strategy and set of outcomes for the future direction of the waste disposal levy.
- **Data:** invest in developing a national waste data collection and evaluation framework that targets key information to prioritise waste issues and measure the effectiveness of the waste disposal levy.
- **Approach:** develop and implement a staged approach to applying the waste disposal levy across additional classes of landfills.

A parallel evaluation of the waste levy in New Zealand<sup>3</sup> noted the potential impact of raising the levy rate and/or extending the coverage of the levy.

### **Product Stewardship**

While the WMA provides for mandatory product stewardship schemes to date no compulsory schemes have been implemented in New Zealand. A range of voluntary schemes have been accredited by the Ministry for the Environment<sup>4</sup>. The Ministry's approach has been to consider mandatory schemes only where there significant environmental harm has been established. In practice this means only voluntary schemes have been established in New Zealand to date (mid 2017).

Many other jurisdictions have implemented container deposit schemes, often with a focus on beverage containers (glass and plastic bottles). There is potential to create a deposit scheme using the product stewardship aspects of the WMA or provisions relating to setting levies on specific waste materials. There is some support for a container deposit scheme in New Zealand. Key considerations for Horowhenua District Council will be understanding the impact of deposits on kerbside and recycling station operations. Deposits may provide an additional source of revenue but may also result in others targeting materials if they have an increased value.

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<sup>2</sup> Review of the effectiveness of the waste disposal levy 2017 (<http://www.mfe.govt.nz/publications/waste/review-of-effectiveness-of-waste-disposal-levy-2017>)

<sup>3</sup> The New Zealand Waste Disposal Levy - Potential Impacts of Adjustments to the Current Levy Rate and Structure (<http://www.wasteminz.org.nz/wp-content/uploads/2017/06/NZ-Waste-Disposal-Levy-Final-Report-Eunomia-30-May-2017.pdf>)

<sup>4</sup> See <http://www.mfe.govt.nz/waste/product-stewardship/accredited-voluntary-schemes>

### 1.2.2 The New Zealand Waste Strategy 2010

While the WMA (2008) outlines the regulatory requirements of businesses and organisations, the New Zealand Waste Strategy provides high-level strategic direction around where to focus effort to manage waste, and ways in which this can be achieved. The key aim of the Strategy is 'Reducing Harm, Improving Efficiency'. This aim is further defined as:

- Reducing the harmful effects of waste on both the environment and human health, and
- Improving the efficiency of resource use to reduce the impact on the environment and human health and gain any potential economic benefits.

The strategy highlights other tools and legislative requirements that businesses and organisations should consider when reviewing waste management.

### 1.2.3 Other national policy

As noted in Table 1, there are several other policy documents of relevance to waste minimisation and management in Horowhenua. These are noted below with content drawn from the MfE Guide for Waste Minimisation and Management Planning<sup>5</sup>.

#### 1.2.3.1 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 of the Act includes requirements for information to be included in the long-term plan (LTP), including summary information about the WMMP.

#### 1.2.3.2 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 minimisation and management through controls on the environmental effects of waste minimisation and management 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 onto 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.

<sup>5</sup> Waste Assessments and Waste Management and Minimisation Planning – A Guide for Territorial Authorities, MfE 2015.

Under Section 31 of the RMA, local authority responsibilities include 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 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 (NPS) and for the setting of National Environmental Standards (NES). There is currently one enacted NES that directly influences 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.

### **1.2.3.3 Climate Change Response Act 2002, New Zealand ETS**

The Climate Change Response Act 2002 and associated regulations is 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, including landfill operators, 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 their emission unit surrender obligations.

### **1.2.3.4 Litter Act 1979**

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.

Councils powers under the Litter Act can be used to address illegal dumping issues that may be included in the scope of a Council’s WMMP.

### **1.2.3.5 Health Act 1956**

The Health Act 1956 places obligations on Councils (if required by the Minister of Health) 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). The Act specifically identifies certain waste management practices as nuisances (Section 29) and offensive trades (Third Schedule). The Health Act enables Councils to raise loans for certain sanitary works and/or to receive government grants and subsidies, where available.

### 1.2.3.6 Hazardous Substances and New Organisms Act 1996

The purpose of the Hazardous Substances and New Organisms (HSNO) Act 1996 is to protect the environment, and the health and safety of communities, by preventing or managing the adverse effects of hazardous substances and new organisms. The Act covers waste hazardous substances but not mixtures of materials that have not been manufactured.

## 1.3 Regional policy

### 1.3.1 Horizon One Plan

The Regional Policy Statement (RPS) component of the Horizon One Plan (2014) provides a broad overview of resource management issues within the region, and identifies policies and methods for achieving integrated management of natural and physical resources.

The One Plan has several policies relating to Waste including:

- Policy 3-8: Waste policy hierarchy
- Policy 3-9: Consent information requirements
- Policy 3-10: Cleanfills, composting and other waste reduction activities.
- Policy 3-11: Landfill management

There are also relevant methods including:

- Method 3-1: Regional Territorial Authority Waste Forum
- Method 3-2: Public information - Waste

The One Plan also contains regional rules including those potentially relevant to waste management activity. A summary of the activities covered by rules in the plan is provided below.

- Discharge of organic waste materials include compost and biosolids to agricultural land (14-7 and 14-8, permitted or restricted discretionary activity).
- Offal holes and farm dumps (14-10, permitted activity).
- Discharge of cleanfill material (12-21, permitted activity).
- Composting (14-22, permitted activity).
- Burning of a range of waste materials including paint, treated timber, rubber (15-9, prohibited activity).

There are also generic rules covering soil disturbance, discharge of contaminated material to land and to land where contaminants may enter water, and diversion of watercourses that are likely to be relevant for many waste management activities.

## 1.4 Local policy

### 1.4.1 Council's Long Term Plan

Horowhenua District Council (HDC) must produce a Long Term Plan (LTP) every three years. The LTP must include information on activities, goods or services provided by Council, and specific funding and financial management policies and information.

The plan sets out five Community Outcomes for the Horowhenua District. These are:

- A healthy local economy and a District that is growing
- A sustainable environment

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- A community of knowledge, culture and diversity where people are proud to live
- Safe, resilient and healthy communities
- Positive leadership and effective partnerships

The rationale for the Solid Waste activity is summarised in Table 2. The solid waste activity was not included in the Infrastructure Strategy prepared for the 2015-2018 LTP because the activity was the subject of review considering options for long term investment and operations. Asset Management Planning for solid waste activity informed the 2015-18 LTP.

**Table 2 Rationale for solid waste activity (Horowhenua LTP, 2015)**

Activity	Community Outcome	Council Role
Provision of landfill and static recycling stations. These help reduce waste and minimise its negative environmental effects.	<ul style="list-style-type: none"> <li>• A sustainable environment</li> <li>• Safe, resilient and healthy communities</li> </ul>	Provider
Provision of waste transfer stations, recycling, and refuse collection. These help reduce waste and minimise its negative environmental effects.	<ul style="list-style-type: none"> <li>• A sustainable environment</li> <li>• Safe, resilient and healthy communities</li> </ul>	Provider
Provision of waste minimisation education to the Community.	<ul style="list-style-type: none"> <li>• A sustainable environment</li> </ul>	Provider/Advocate

#### **1.4.2 Asset Management Plan - Solid Waste**

The Council has an Asset Management Plan - Solid Waste that provides the detail on asset management and associated costs. The Asset Management Plan - Solid Waste is updated every three years to inform the development of the relevant Long Term Plan. The current Plan is in review (February 2018) as part of the preparation of the 2018 - 2021 Long Term Plan.

The Asset Management Plan - Solid Waste covers:

- Landfill and transfer stations.
- Refuse collection.
- Waste minimisation and recycling.

The purpose of the plan is to *“provide for the ongoing assessment and management of the solid waste activity by outlining the particular actions and resources required to meet the desired community outcomes, as defined in the Council’s levels of service, in the most cost effective and sustainable manner”*.

#### **1.4.3 Solid Waste Management By-Law**

Council has a solid waste management bylaw that came into force in July 2014. The bylaw sets out requirements for the collection and processing of waste and provides for the licensing of collection and processing activities. The associated licence for collectors requires those licenced to provide waste collection services to also provide (or provide for) recycling services.

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## 2 Waste infrastructure and services

### 2.1 Collection

The collection system for the Horowhenua District is represented schematically in Figure 3.

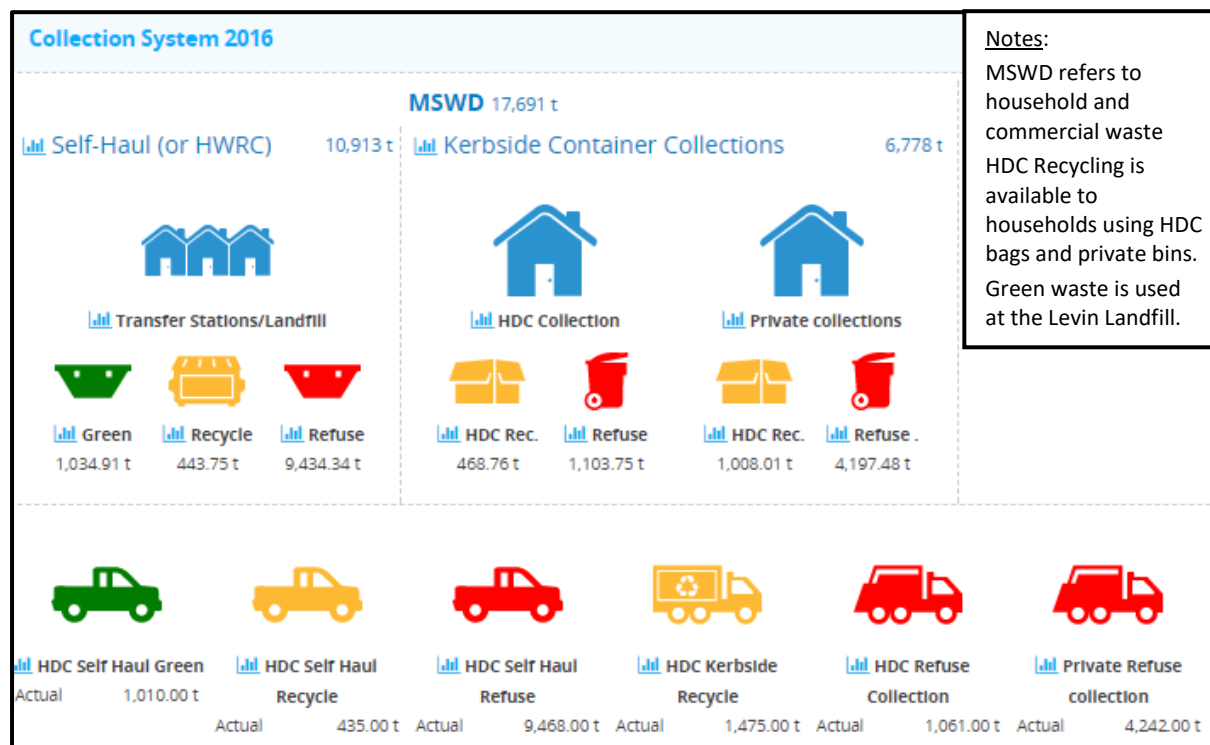


Figure 3 Horowhenua District waste collection system (2016 figures)

#### 2.1.1 Residential collection

Levin Container Rubbish (LCR) collects refuse bags throughout the district on behalf of Council. LCR also provides a kerbside recycling service as a sub-contractor to EnviroWaste Services Limited (ESL). LCR, Low Cost Bins, ESL, Lucy's Min Bins and Waste Management NZ Limited (WMNZ) offer wheelie bin collection services for households on a commercial basis. LCR collect Council bags and their own wheelie bins at the same time. This allows LCR to service rural areas with the higher cost (lower property density) shared between Council bag and LCR's private customers.

Kerbside collection of refuse in bags and recycling in crates is available in urban and rural areas in the district (95% of residents have access to a kerbside service). Alternatively, the public may take household refuse and recycling to the transfer stations across the district, see Section 2.2.

Collection frequency is generally weekly although commercial services are offered on a fortnightly or monthly basis. Garden waste collections are available on a commercial basis.

Health and safety is an important issue for the collection of refuse and recycling with key risks including operating in a live traffic environment, manual handling of refuse bags and recycling crates, dangerous items in refuse and recycling (broken glass, needles, putrescible materials). Common approaches to eliminating or mitigating these risks include:

- Automated collection e.g. wheelie bins, often with remote lifting arms for refuse and recycling containers.
- Specialised collection vehicles with left hand drive, standing driving position, low entry and side loading.

The Horowhenua collection services address some, but not all of the safety risks inherent in refuse and recycling collection services.

The recycling collection for the majority of households involves manual emptying of recycling crates into the collection vehicle with sorting of materials at the Levin Container Rubbish yard in central Levin. The glass recovered from the kerbside crates is currently stockpiled at Levin Landfill and used for drainage or other construction activity. In some cases the glass is too contaminated with other materials and only suitable for disposal with general waste.

### **2.1.2 Commercial or industrial waste**

Waste (both refuse and recycling) from commercial and industrial premises in Horowhenua District is currently collected and disposed of via Levin Transfer Station, direct to market or directly to Levin Landfill. No data is currently available about materials collected for recycling, treatment or disposal out of the District. Many national business with a local presence have comprehensive waste management and recycling systems in place, for example Progressive Enterprises (Countdown), Food Stuffs (New World, Pak n Save) and the Warehouse Group all operate waste management systems where some material is recovered and recycled (paper and cardboard) and organic material (food waste) is diverted with only residual waste disposed of at local Landfill.

### **2.1.3 Litter and illegal dumping**

Litter bins are provided in the urban centres and popular visitors spots throughout the District. Litter bin collection is undertaken by Recreational Services Limited (Parks and Gardens) and Higgins (Road Network Maintenance) with their scope currently including:

- Litter bin emptying.
- Cleaning up after fly tipping.

Illegal dumping does occur including adjacent to transfer stations when they are closed.

## **2.2 Waste transfer and processing**

### **2.2.1 Transfer stations and recycling drop-off**

Transfer stations, where waste can be dropped off by the public, are located at Levin (owned and operated by MidWest Disposals Ltd), Foxton and Shannon. Static recycling drop-off points are provided year round at Levin, Foxton, Shannon, Opiki and Tokomaru with seasonal sites at Foxton Beach, Waitarere and Waikawa. The sites are operated under contract to HDC except Levin Transfer Station.

All of the green waste and most of the glass captured at the transfer stations and recycling stations is used at Levin Landfill. Glass from Foxton Transfer station is taken to Palmerston North's Awapuni Resource Recovery Park for recovery and transport to Auckland for recycling. Glass is used for construction (drainage, roads) unless it is too contaminated. Garden waste is shredded and mulched prior to use to make top soil replacement for landfill capping.

No weighbridge is currently installed at the Council operated transfer stations. Material from these sites is weighed as it enters Levin Transfer Station and/or using local weighbridges e.g. Turks in Foxton. This means loads entering the transfer stations are charged on the basis of an assumed weight or estimated volume.

The Council operated transfer stations are in reasonable condition and have adequate space for the quantity of material they are required to manage. Both sites are configured with a raised off-loading area with waste deposited directly into the pit (Foxton) or Huka bins (Shannon). There is potential to

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make changes from an operational and health and safety perspective at each site. Examples could include:

- Moving away from the general public loading into the transfer pit (Foxton) or huka bins (Shannon)
  - There is a risk of falls into the bins or transfer pit during unloading, sometimes managed by dumping of material on a ‘flat floor’ with pushing/loading undertaken by transfer station staff.
  - Flat floor designs can enable basic sorting before pushing waste into bins or the transfer pit.
- Considering amended opening hours

The recycle stations are of variable age with condition reflecting the period of time they have been in operation.

The Levin Transfer Station accepts well over 10,000 tonnes of material each year and is configured with a relatively steep constructed ramp to allow users to load materials directly into huka bins for transport to Levin Landfill. While the transfer station is a Midwest Disposal facility the site would benefit from re-development and there may be potential for Council to be involved in the development process.

The Horowhenua District waste management system and estimated quantities for 2016 are presented in Figure 4. Facility details are provided on the following pages. Figure 4 is a screen shot from a model of the Horowhenua waste management system developed for this Waste Assessment.

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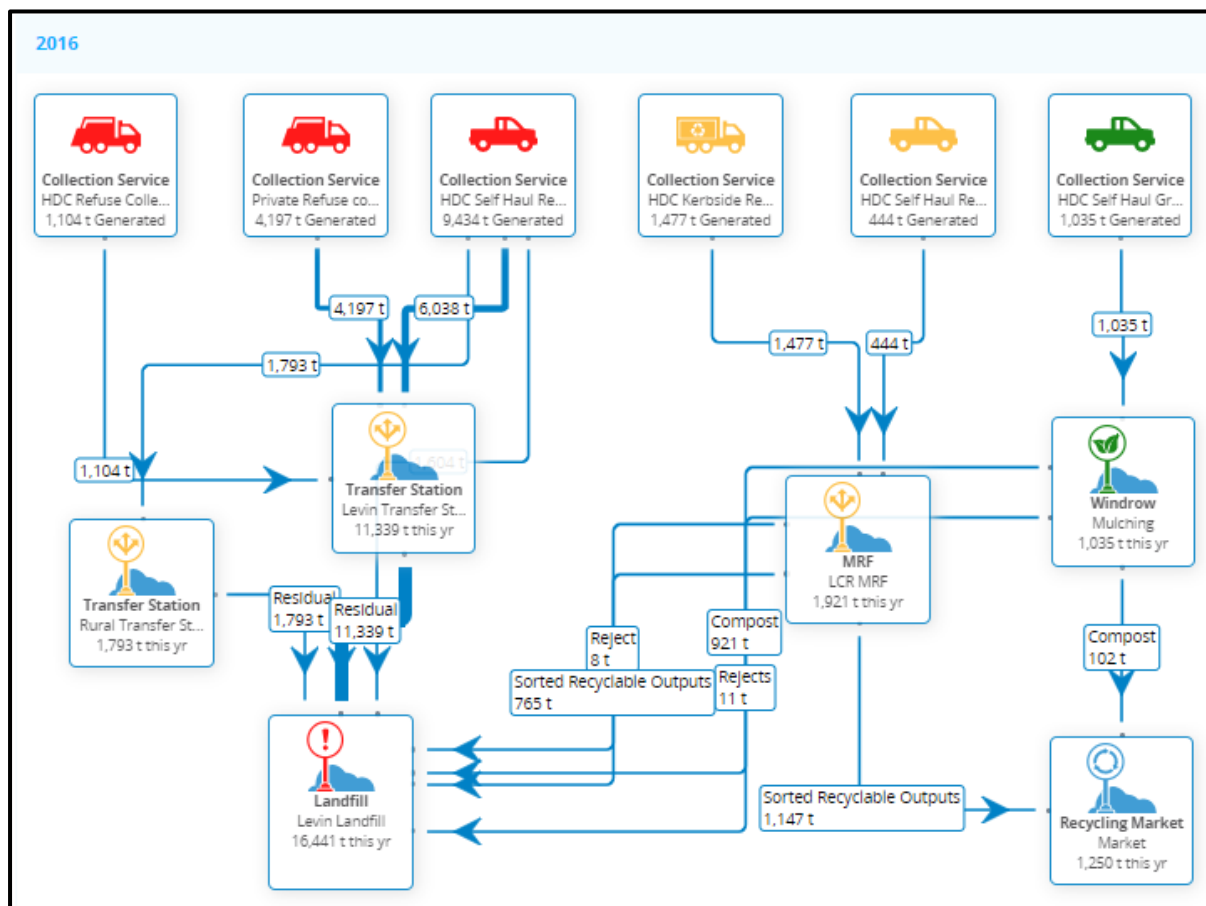


Figure 4: Waste flow diagram - collection, processing and disposal (2015/16 figures)

### 2.2.2 Materials processing

Levin Container Rubbish operate a basic sort line for recyclable materials collected at the kerbside. This is currently operating at capacity and delivers mixed quality of materials. Glass is currently stockpiled at Levin Landfill and used in the place of aggregate at the landfill site. Other materials are marketed by LCR.

Commercial recyclables are handled through the LCR, consolidated on some sites (e.g. major retailers like supermarkets) or transported out of the district for consolidation and market or re-processing.

### 2.2.3 Markets for recyclable materials

Paper, plastics and cans are consolidated and processed in New Zealand (cardboard, some plastics, and colour separated glass) or exported for re-processing (some plastics, some paper, scrap metals). International markets for recyclable materials are subject to periodic uncertainty with the most recent (late 2017, early 2018) being the China's National Sword initiative that seeks to improve the quality of recyclable materials imported into China.

At the time of writing (early 2018) a number of New Zealand local authorities are advocating strongly for a container deposit scheme similar to those in place in many states in Australia. Typical proposals target beverage containers with a small refund payable on their return to an approved reception point. Introduction of this type of scheme is likely to have an impact on recyclable material markets with recovery rates likely to rise (increasing supply). In some cases kerbside recycling schemes are able to claim refunds for eligible materials i.e. the scheme could provide another source of revenue for kerbside recycling.

### 2.2.4 Other processing

#### Composting

Paranui Organics use wood waste and poultry manure to produce compost for sale to the general public and garden centres around the lower central north island. Their processing site is located north of Foxton.

Garden waste from Levin and Foxton Transfer stations is shredded and stockpiled at Levin Landfill. The resulting mulch is used as a soil conditioner at Levin Landfill (borrow area and former landfill cells)

#### Energy

Mitchpine Products Limited, north of Levin, have a wood waste fired boiler supplying a portion of the heat requirements for their site.

## 2.3 Landfills

The Levin Landfill is located 8 km west of Levin on Hokio Beach Road. The site was developed by Council. The day to day operation of the landfill is contracted to Midwest Disposals Limited (Midwest). The current contract for landfill operations and management expires in 2021.

All residual waste from the district is transported to Levin Landfill. The landfill has sufficient volume to provide refuse disposal for the Horowhenua District for well in excess of the consented period of 20 years. Current operations include accepting over 15,000 TPA from Kapiti Coast District with current projections suggesting the site will be completed around 2030.

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A key aspect of the arrangement with Midwest is the disposal of materials from Kapiti controlled by Midwest. This additional tonnage significantly reduces the per tonne cost of operating the Levin Landfill. Detailed analysis of the costs and revenue for the landfill operation indicates operating the landfill for Horowhenua sourced waste only would increase the per tonne cost significantly and may make out of district disposal more attractive financially.

Landfill charges reflect capital and operating costs and the landfill levy (\$10 per tonne at the time of writing). The current government have indicated their intention to examine waste policy including the waste levy. This may result in changing the levy including increasing the amount charged per tonne and/or expanding the range of facilities subject to the levy<sup>6</sup>.

## 2.4 Costs for waste management

### 2.4.1 Council funding

The 2015-25 Long Term Plan sets the budget for the waste management activity with provision to make amendments if required through the Annual Plan process. Funding for operations is through targeted rates and user charges. Funding for capital projects is from general rates. Expenditure is dominated by payments to contractors with finance costs and internal charges also featuring. This mix of funding and expenditure is projected in the 2015-2025 Long Term Plan to continue to 2025.

Refuse collection and transfer station services attract user charges. The user charges at Council operated transfer stations do not cover the full cost of providing the service with the shortfall covered from the targeted rate for waste management and general rates. The user charges for refuse collection (via bag sales) cover the full costs of providing the service with a small surplus.

This approach is consistent with the principles set out in the 2012 Waste Minimisation and Management Plan whereby Council costs for waste management services are, where possible, covered by the users of that service.

The kerbside recycling services are funded by a levy on all refuse collection services. Private service providers can either provide their own service or contract with the Council contractor to do so. In most cases they work with the Council contractor with Council paying a management fee and a contribution based on their market share for refuse collection. This a relatively complex arrangement for funding recycling and in practice the Council management fee appears to fund a large component of the recycling activity.

### 2.4.2 User charges

Proposed rates for kerbside collection include (2017/18 figures):

- Council refuse bag (60 L): \$4.00 per bag<sup>7</sup>.
- Commercial wheelie bin services<sup>8</sup>:
  - \$150 - \$190/year for an 80L bin.
  - \$250 - \$400/year for bins ranging in size from 120 - 240 L.

Collection and transfer station services attract user charges. The user charges at Rural Transfer stations do not cover the full cost of providing the service with the shortfall covered from the targeted rate for waste management. The user charges for refuse collection (via bag sales) cover the full costs of providing the service and contribute to the recycling service. When compared with

<sup>6</sup> For example construction and demolition or industrial landfills.

<sup>7</sup> Including \$1.00 per bag contribution to kerbside recycling service.

<sup>8</sup> Based on a review of prices published on service provider's websites, recycling contributions not stated.

similar areas bag prices are high but this reflects the contribution towards the cost of kerbside recycling.

**Table 3 : Refuse bag retail costs - selected New Zealand councils**

Area	Refuse Collection	Bag Charges
Horowhenua	Council - bags	\$4.00/bag
Palmerston North	Council - bags	\$2.60/bag
Manawatu District	Council - bags	\$1.60/bag
Hastings	Council - bags	\$2.40/bag
New Plymouth	Council - bags	\$3.30/bag
Porirua, Wellington, Lower Hutt	Council - bags	\$2.50/bag
Whangarei	Council - bag	\$2.80/bag
Far North	Commercial - bag	\$3.00/bag
Kaipara	Council - bag	\$3.00/bag

Charges at the Levin Transfer Station and Council operated transfer stations in Foxton and Shannon are noted in Table 4.

**Table 4 : Horowhenua rubbish & recycling - fees & charges**

Activity/Service	Charge	
	Levin	Council
Disposal of official HDC Refuse Bag (up to 4)	\$5.00	Free
Disposal of Private Plastic Bags (<10kgs)	\$5.00	4.70
Disposal of Private Plastic Bags (10kgs +)	\$5.00	n/a
Cars - General	\$28.00	\$24.00
Cars - Green	\$13.00	\$12.00
Car boot - General	\$20.00	\$17.00
Car boot - Green	\$10.00	\$9.00
Vans/Ute/Utility - General	\$42.00	\$43.00
Vans/Ute/Utility - Green	\$15.00	\$17.00
Trailers - General (up to 2m <sup>3</sup> ) up to 2.4m long x 1.2m wide	\$53.50	\$43.00
Trailers - Green (up to 2m <sup>3</sup> ) up to 2.4m long x 1.2m wide -	\$19.00	\$16.00
Large Trailers - General (per m <sup>3</sup> ) up to 4.0m long x 1.2m wide (min \$45.00)	\$178.70/T	\$26.00/m <sup>3</sup>
Large Trailers - Green (per m <sup>3</sup> ) up to 4.0m long x 1.2m wide (min \$20.00)	\$76.00/T	\$12.00/m <sup>3</sup>
Car Bodies (Foxton only)	n/a	Free
Paint Exchange	Free	Free
Waste Oil	\$1.00/Ltr	\$2.00/Ltr
Tyres (per tyre)	\$6.00	\$6.00
Truck/Tractor Tyres (per tyre)	\$25.00	\$12.00
Fridge/Freezer (per item)	\$40.00	\$31.00
General Whiteware (per item)	\$19.00	\$17.50
LPG Bottles/Tanks (per item)		\$6.00

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## 2.5 Waste infrastructure - issues identified

In collating and considering information about the delivery of waste services in the Horowhenua District, a number of issues were identified. These issues represent challenges in delivering effective services and achieving the aims of the NZ Waste Strategy - reducing environmental harm and maximising resource efficiency. In many cases the issues also present opportunities for Council, the community and/or the private sector to improve waste minimisation and management in the District.

The issues identified include:

- Illegal dumping of waste as an ongoing issue including at transfer station gates when closed.
- The Foxton and Shannon transfer stations and network of recycling drop-off points are subsidised by rates.
- The cost for refuse bags is high compared to neighbouring Council areas.
- Rural residents are offered a roadside collection service (refuse and recycling) that is costly to operate on a per resident and per tonne basis.
- The funding arrangements for kerbside recycling are complex.
- Glass and garden waste are currently used at Levin Landfill, there are likely to be higher value uses for these materials.
- Commercial and construction waste makes up a large proportion of material disposed of to landfill from the Horowhenua District with limited information available regarding diversion activity focussed on these waste streams.
- The current kerbside collection service for recyclable materials poses health and safety risks (broken glass, manual handling) and limited capacity.
- Cost of services and sources of revenue may change over time
  - Increase or decrease in materials disposed of (and associated costs and revenue) at Levin Landfill
  - Value of recyclable materials may vary on New Zealand and international markets.
  - There is potential for changes in how the waste levy is applied (levy rate, types of facilities covered).
  - There is potential for the introduction of a container deposit scheme in New Zealand (that would have an impact on the value of recyclable materials).

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### 3 Waste quantity and composition

#### 3.1 Timeframe

This document focuses primarily on the period between 2012 and 2017. Waste quantities, composition and flows prior to this period are detailed in the Council's previous Waste Minimisation and Management Plan. Where appropriate, comparison has been made between the quantities and predictions made in this report and what has actually happened.

#### 3.2 Population

Statistics New Zealand estimate the Horowhenua population as 31,900 in 2016. The projected population (medium projection) in 2043 is 41,500. There were 12,633 occupied dwellings in the District on census night in 2013.

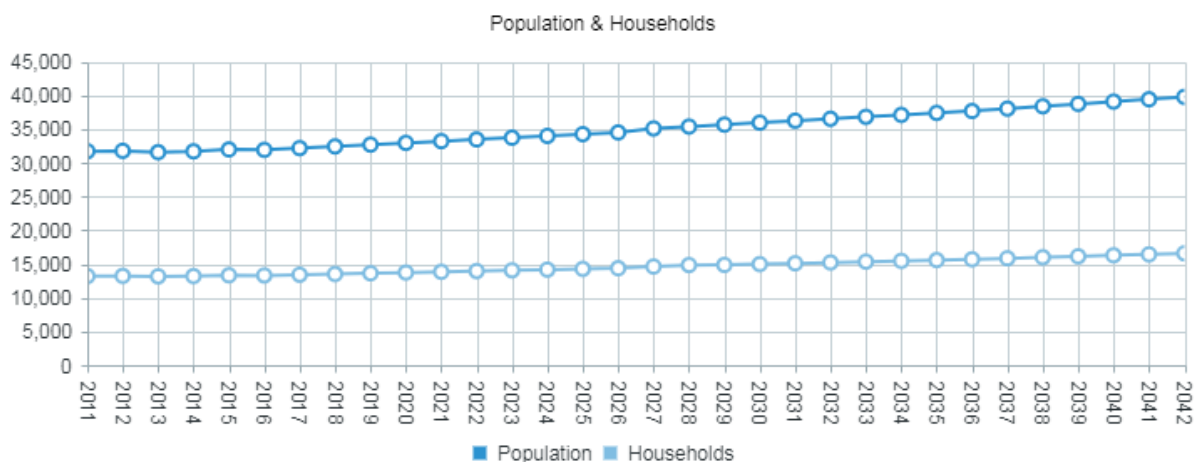


Figure 5: Projected population and household increase<sup>9</sup>

#### 3.3 Waste composition

Waste composition audits provide information about the make-up of a waste stream, and can help identify materials that make up large or disproportionate parts of the waste stream to target when forming waste management and minimisation strategies. For this Waste Assessment typical waste composition data is used rather than data specific to Horowhenua District. This provides a general indication of likely waste composition in the Horowhenua District.

Data is presented in Table 5 and Figure 6. Key points to note include:

- Putrescible material (garden waste and food scraps) make almost 50% of waste collected from households and almost a quarter of waste disposed of to landfill.
- Plastic is a significant portion of the waste stream. More detailed data for other districts suggests a significant portion of plastics are those that are not collected for recycling.
- Timber and rubble are significant for general landfilled waste.

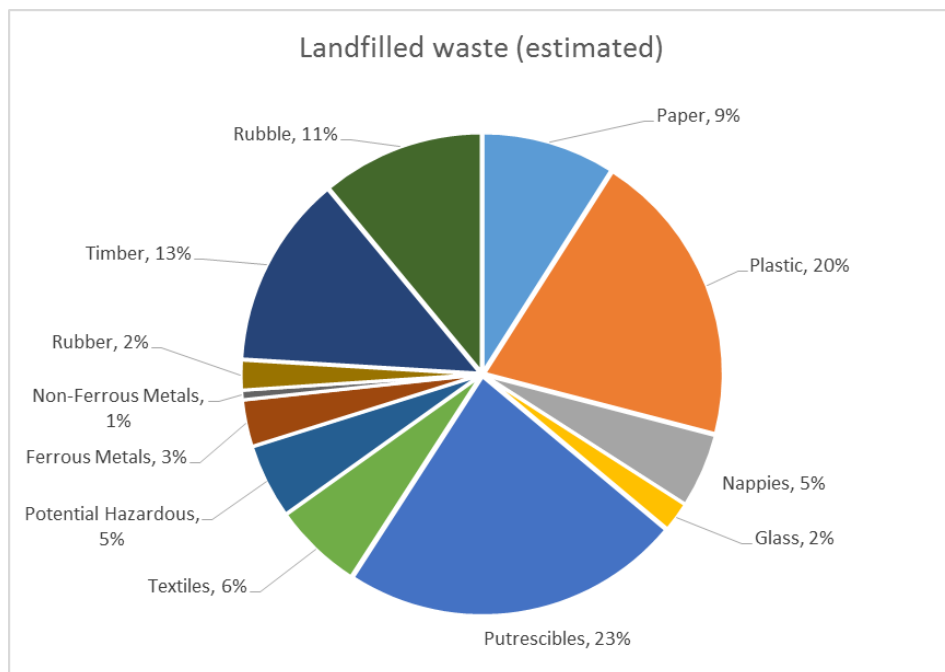
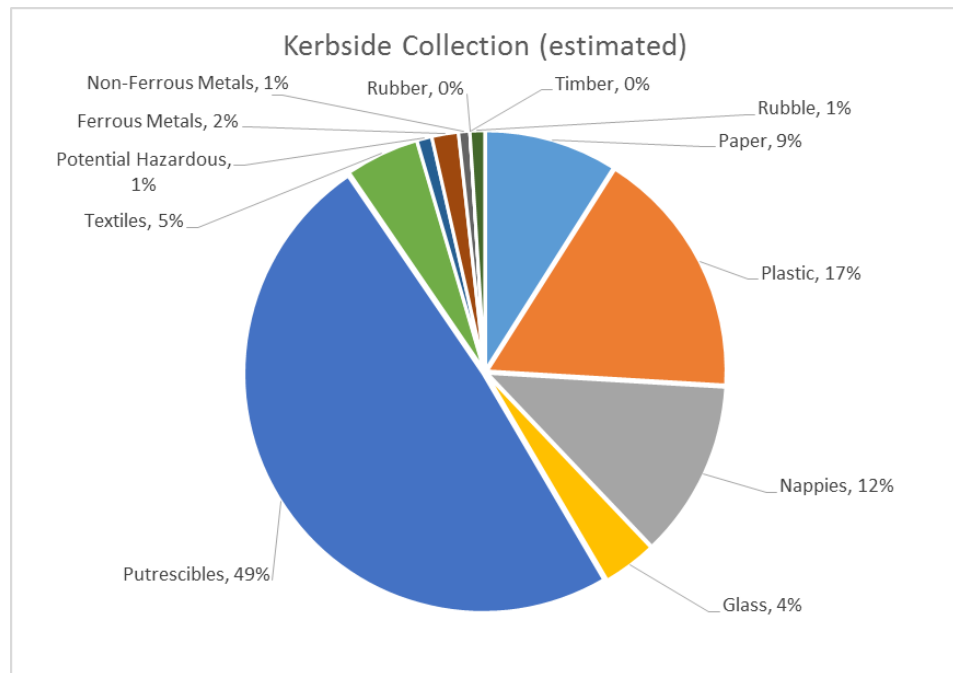
<sup>9</sup> Horowhenua Socio-Economic projections, July 2017, Sense Partners for Horowhenua District Council.



**Table 5 Waste composition**

Primary Category	Kerbside collection	Direct to landfill
Paper	9%	9%
Plastic	17%	20%
Nappies	12%	5%
Glass	4%	2%
Putrescibles	49%	23%
Textiles	5%	6%
Potential Hazardous	1%	5%
Ferrous Metals	2%	3%
Non-Ferrous Metals	1%	1%
Rubber	0%	2%
Timber	0%	13%
Rubble	1%	11%
TOTAL	100%	100%

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Figure 6 Refuse Composition - kerbside and landfilled

Material taken directly to landfill or transfer station (self haul) material tends to have a larger proportion of bulky items (timber, rubble) and the putrescible fraction has a higher proportion of garden rather than food waste.

### 3.4 Waste quantities

#### 3.4.1 Kerbside waste quantities

As noted above, Kerbside refuse in Horowhenua is collected in compactor trucks and transported to Levin Transfer station or landfill for disposal. Households can use Council refuse bags (sold at a range of retail outlets) or use one of several commercial collection services. Council also offer a

crate based kerbside recycling service. Table 6 provides a summary of materials collected from the kerbside in the Horowhenua District. The total amount of refuse collected at the kerbside has been estimated using Council's estimated market share of 20% based on total bag sales per annum. Average bag weight is assumed to be around 7kg reflecting typical bag weights around New Zealand.

**Table 6 Horowhenua District - kerbside waste quantities<sup>10</sup>**

	2013	2014	2015	2016
Kerbside Refuse Collection (estimated)	3,836	5,156	5,239	4,913
HDC recycle collection	600	600	1,569	1,705
Total Kerbside Waste	4,436	5,756	6,808	6,618
Recycling Rate (%)	14%	10%	23%	26%

### 3.4.2 Waste quantities at refuse transfer stations and landfill

Refuse and recyclable materials from the Horowhenua District are either transported directly to Levin Landfill or taken to one of three transfer stations noted in Section 2.2. Table 7 summarises the quantity of materials managed through the Horowhenua District transfer stations and landfills.

**Table 7: Horowhenua District - estimated waste quantities via transfer stations or direct to landfill<sup>11</sup>**

	2013	2014	2015	2016
Refuse to Foxton and Shannon	677	1,044	1,018	1,323
Refuse to Levin transfer station and to landfill	5,000	6,979	6,731	7,883
Recycle at transfer stations	870	935	1,580	1,563
Total waste to landfill (excluding household collections)	5,677	8,023	7,749	9,206
Recycling rate (%)	13%	10%	17%	15%
Total waste landfilled	9,513	13,213	12,801	13,755
Total waste recycled	1,470	1,535	3,149	3,268
Recycling rate (%)	10%	20%	19%	17%

### 3.4.3 Unquantified waste

There are several waste streams that are known to exist but are difficult to quantify. Examples include rural waste managed on farms, materials captured as part of commercial activity (e.g. scrap metal, industrial by-products, commercial recycling) and waste materials managed within manufacturing operations (e.g. biosolids from food processing operations applied to land, wood processing residues). This means that both waste disposed to landfill and waste diverted/recovered are likely to be underestimated.

<sup>10</sup> Data sourced from waste collection and transfer station contract reporting and weighbridge records at Levin Transfer Station.

<sup>11</sup> Data sourced from waste collection and transfer station contract reporting.

There is an increasing level of interest in rural waste across New Zealand. As the rural sector considers the implications of current waste management approaches it is likely that increasing quantities of materials from farming activities will enter the Council waste management system, either via the transfer station network or through commercial on-farm collections.

### 3.5 Collection and drop off system performance

Combining the waste composition data with data on the quantity of waste disposed of to landfill and recycled provides a basis for determining the capture of various materials 'available' in the waste stream<sup>12</sup>. A summary assessment drawing on estimated quantities and composition is presented in Table 8.

**Table 8: Horowhenua waste management system performance**

	Bags/Bins		General		HDC Recovery	
	Composition	Tonnes/yr	Composition	Tonnes/yr	Tonnes/yr	Recovery %
Total	100%	5,303	100%	9,468	2,920	17%
Paper/card	14%	731	10%	964	718	30%
Plastic	20%	1,077	21%	2,017	228	7%
<i>Recyclable plastic</i>	2%	125	1%	68	228	54%
Organics	49%	2,599	11%	1,057	1,010	22%
<i>Garden Organics</i>	14%	757	4%	403	1,010	47%
Ferrous	2%	95	3%	297	48	11%
Non Ferrous	1%	40	1%	61	22	18%
Glass	4%	194	1%	116	882	74%
Timber	3%	150	15%	1,403	0	0%
Other	8%	415	38%	3,555	0	0%

The available data suggests there are opportunities to capture additional recyclable material through the transfer stations and kerbside collections including organic material, timber, metals, paper, plastics and glass. Specifically:

- **Paper/cardboard** recovery is a relatively low 30%, it should be possible to increase the capture of paper and cardboard at both kerbside and transfer stations.
- Overall **plastic** recovery is low but the data suggests recovery of recyclable plastic is relatively high. Again it should be possible to increase the capture of materials at both kerbside and transfer stations.
- **Organic** waste recovery is under-estimated (there are no figures for material captured by commercial collections) but there is a significant amount of material that could be targeted. There is also a need to identify long term use for material that is currently captured once capping is completed on older areas of Levin Landfill.
- **Metals** recovery is likely to be under-estimated, further detail is required on scrap dealer recovery but the data suggests there may be materials available for recovery in waste passing through the transfer station network.
- **Glass** recovery is at a good level. As noted in Section 2 some of the glass recovered is too contaminated for use and is disposed of with general waste. Further work is required to

<sup>12</sup> From Table 5, Table 6 and Table 7

improve the quality of glass captured at the kerbside and identify higher value markets than the current use for low grade aggregate at Levin Landfill.

As noted in Table 7, recovery via transfer stations is around 20%. This suggests there is potential to increase the recovery of materials with a focus on areas with low recovery and reasonable value. Examples include paper/cardboard and metals.

There are other materials present in the waste stream that require careful management to avoid negative impacts. These include:

- Hazardous waste (chemicals, e-waste, used oil, asbestos)
- Difficult or special waste (tyres, bulk waste, dead animals)
- General waste (household and commercial waste)

Waste from certain sources can also present challenges or opportunities and is worthy of consideration. Examples include:

- **Rural waste** - waste from the business of farming including agricultural plastics (wrap and chemical containers), unwanted chemicals, timber and machinery (including maintenance related waste like used oil).
- Waste from **major processing sites** - examples include waste treatment residuals (for example sludge), packaging (pallet wrap, broken pallets) and containers (cleaners, ingredients, oil).

### 3.6 Waste quantity and composition data - issues and constraints

While there is some information available about the quantity and composition of waste generated in the Horowhenua District the data is incomplete. The available data needs to be interpreted considering that:

- There is a mix of volume based estimates and measured weights.
- The source of waste is not always clear.
- There is limited data on market share, coverage, set out rate or participation rates for kerbside collection or refuse and recyclable material.
- The data regarding quantity of waste collected or processed is not complete. For example:
  - The quantity of waste composted by commercial composters has not been quantified.
  - The quantity of waste collected from commercial premises for recycling
  - The quantity of waste generated on rural properties and processed or disposed on site

There is a by-law in place (refer Section 1.4.3) that provides for collection of data on collection services including quantities of material collected, destination for disposal or processing and coverage, set out and participation rates. Implementation of the data provisions in the by-law in close consultation with collection and processing companies operating in the Horowhenua District will improve the availability and quality of data available.

There is also potential to improve the reporting of waste materials handled by contractors on behalf of Council. Reporting on activity as part of contract obligations should include appropriately detailed reporting on waste source, quantity and destination.

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## 4 Delivery of waste minimisation and management services

The Council has adopted a mixed private sector, user pays and rates funding approach to delivery of waste minimisation and management services in the district. Where there is a community desire for specific service but difficulty in making the service fully commercial viable Council has provided supporting funding. Services with a public good component are funded by Council, for example kerbside recycling, servicing of litter bins, cleaning up illegal dumping, and the management of closed landfills.

The funding for kerbside recycling is a mixed Council and user pays model with refuse collection companies responsible for providing a recycling service to their customers. In practice most companies rely on the Council provided service and pay a levy to the Council contractor to address their obligations under the waste by-law.

Council owns some of the key infrastructure for waste minimisation and management in the district. This includes Levin Landfill, the Foxton and Shannon transfer stations, recycling stations and litter collection bins. The privately owned Levin Transfer Station is a key part of the waste management system in Horowhenua and has a material impact on Council costs through directing refuse to the Levin Landfill.

Council provides information on waste minimisation and management on their website and contracts educational services for schools.

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## 5 Forecast of future demand

Forecasts of waste ‘generated’ have been developed using population projections, historic waste quantities and the emerging factors such as the increasing participation of rural properties in the kerbside collection service. In this context waste generation refers to material entering the waste management system i.e. collected or taken to transfer stations.

There are several factors which point towards significant uncertainty in the forecasts, these need to be factored into any decisions made based on forecast demands. These factors include:

- Transport of waste out of the District
- The impact of the current (regional and national) focus on rural waste, it is possible there will be a resulting significant increase in commercial quantities of rural waste such as plastic wrap, chemical containers and treated timber (fencing/construction).
- The impact of varying economic activity - forestry, dairy, sheep and beef, small scale manufacturing.

Figure 7 provides a summary of forecast waste generation. This includes material collected and disposed of to landfill and material collected for recycling. If current performance is maintained and linked to population and household numbers waste generation remains relatively static (baseline forecast). If historic trends continue waste generation is projected to increase significantly (default forecast). Figure 8 and Figure 9 shows waste flows and projected quantities based on the baseline projection in Figure 7 and the existing waste management infrastructure.

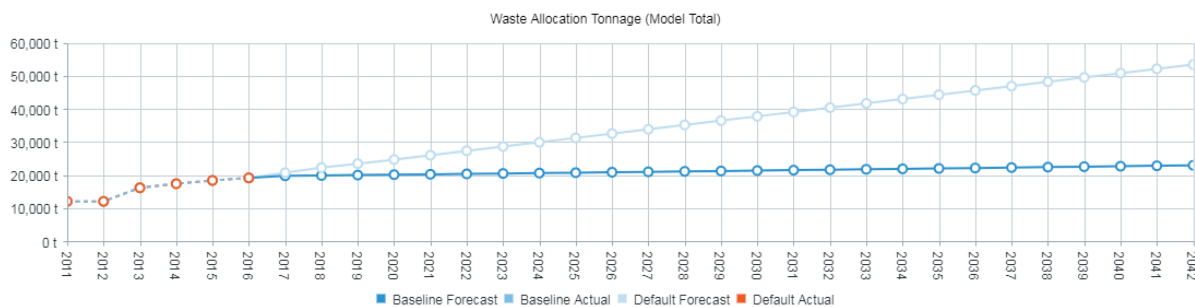


Figure 7: Forecast waste generation (kerbside, self haul)

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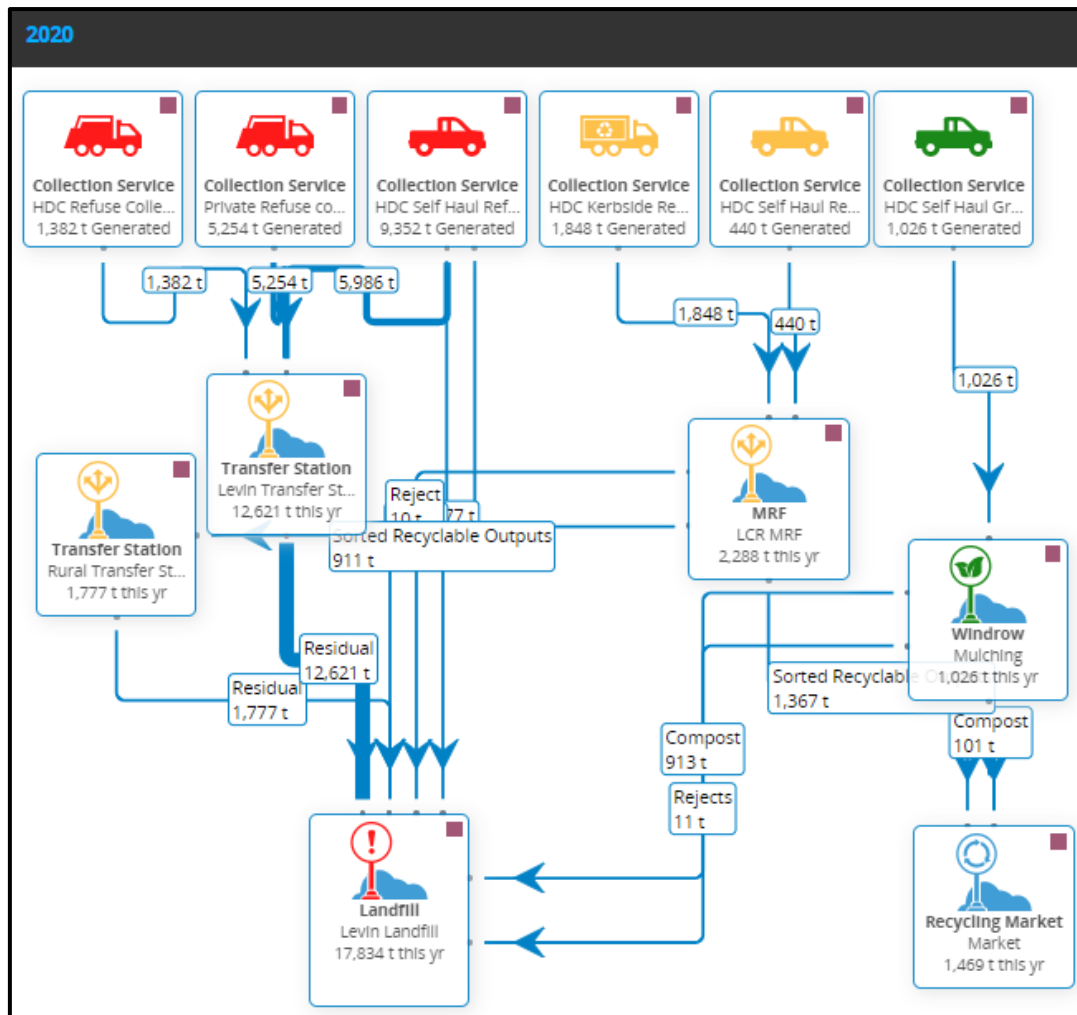


Figure 8: Forecast waste flow in 2020/21

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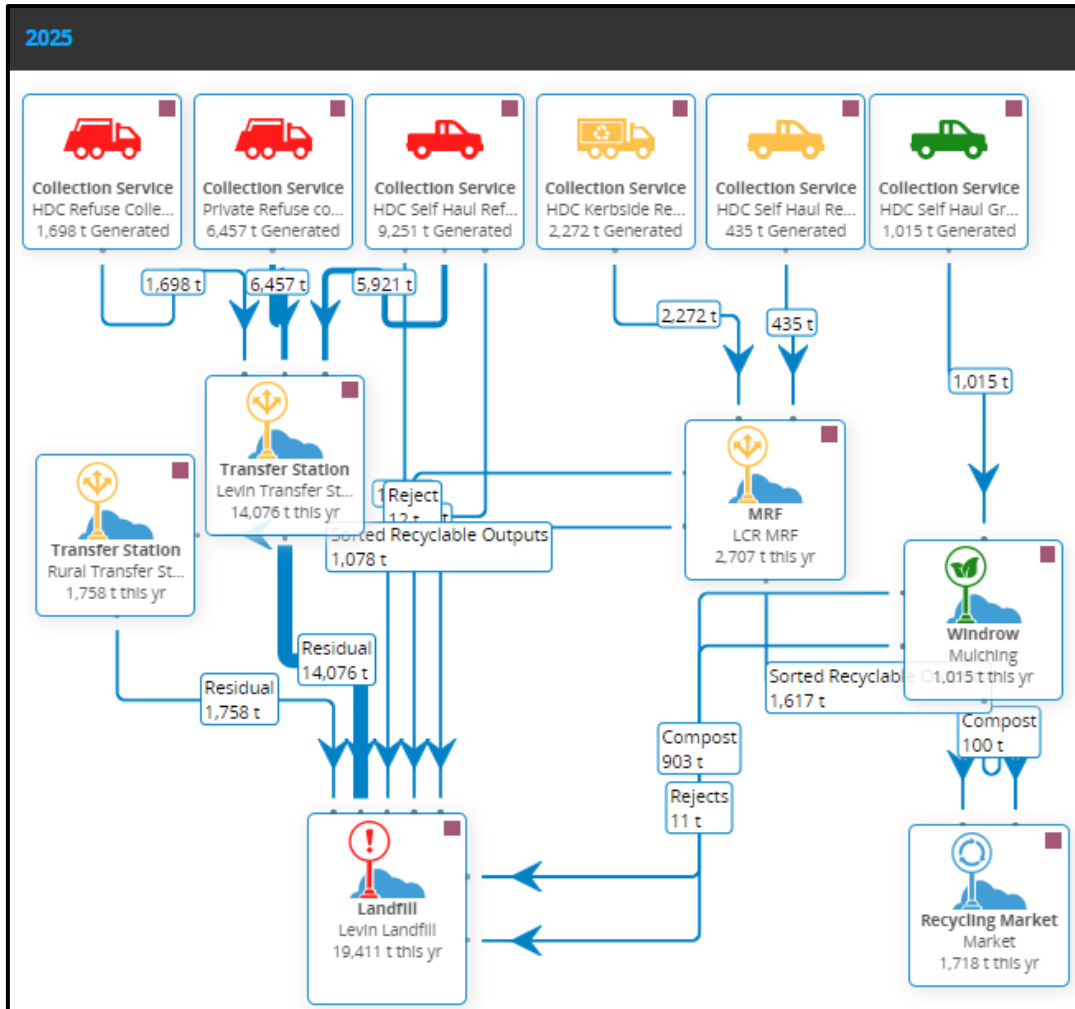


Figure 9: Forecast waste flow in 2025/26

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## PART 2 - WHERE DO WE WANT TO BE?

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## 6 Where do we want to be?

### 6.1 Background

The preparation of this Waste Assessment has included review of the Vision - Goals - Objectives framework set out in the previous Waste Minimisation and Management Plan. The relationship between Vision, Goals and Objectives is illustrated in Figure **Error! Reference source not found.**<sup>13</sup> and defined in Table 9<sup>13</sup>.

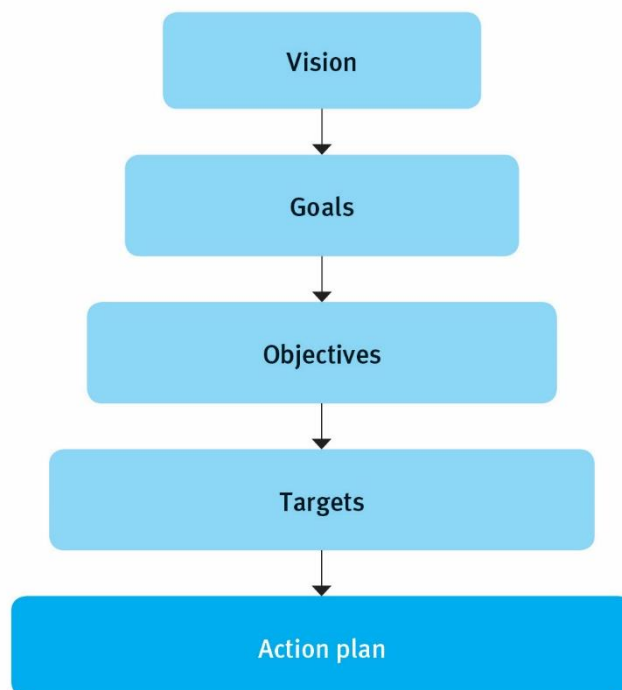


Figure 10: Vision, goals, objectives and targets

Table 9 provides definitions for vision, goals, objectives and targets.

**Table 9: Definitions for vision, goals, objectives and targets (adapted from MfE 2015)**

Vision	The aspirational outcome for the Horowhenua District - providing an overall direction and focus.
Goal	What the Council wants to achieve through the WMMP. The goal is not aspirational; it is achievable. It is a major step in achieving Council's vision for the WMMP.
Objective	The specific strategies and policies to support the achievement of the goals. Objectives are 'SMART' (specific, measurable, achievable, relevant and timely).
Target	A clear and measurable way to determine how well the Council is achieving its goals. Targets should also be SMART.

<sup>13</sup> Sourced from Waste Assessments and Waste Management and Minimisation Planning – A Guide for Territorial Authorities, MfE 2015.

## 6.2 Vision, goals, objectives and targets

The vision for waste minimisation and management in the Horowhenua Region is<sup>14</sup>:

To deliver community benefits and reduce waste [or work towards to zero waste].  
Businesses and households in Horowhenua will be provided with efficient and effective waste minimisation and management services that recognise waste as a resource.

The goals for waste minimisation and management in the Horowhenua District are to:

- 1 Avoid and reduce waste where we can.
- 2 Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled.
- 3 Maximise community benefits - employment, reuse of materials for economic benefit, cost effective services.

The objectives for waste minimisation and management in the Horowhenua District are:

- 1 To avoid creating waste
- 2 To make it easy and safe to recycle
- 3 To ensure households and businesses have access to appropriate disposal of residual waste
- 4 To create opportunities for Horowhenua District - community partnerships, jobs, new products, more efficient businesses
- 5 To reduce illegal dumping
- 6 To improve community understanding of issues and opportunities for waste minimisation and management in the Horowhenua District.
- 7 To work with other territorial authorities, central government, industry and other parties to improve waste minimisation and management in New Zealand.

Table 10 provides a summary of the Vision - Goals and Objectives presented above and associated targets for waste minimisation and management in the Horowhenua District.

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<sup>14</sup> This vision has been developed in workshops with Horowhenua District Council Councillors and staff.

Table 10: Vision - Goals - Objectives - Targets

<b>Vision:</b>	<b><i>To deliver community benefits and <u>reduce waste</u> [work towards to zero waste]. Horowhenua businesses and households will be provided with efficient and effective waste minimisation and management services.</i></b>	
<b>Objective</b>	<b>Relevant Goal(s)</b>	<b>Target(s)</b>
1. <i>To avoid creating waste</i>	<ul style="list-style-type: none"> <li>1. Avoid and reduce waste where we can.</li> <li>3. Maximise community benefits - employment, reuse of materials for economic benefit, cost effective services.</li> </ul>	<p>1.1 To reduce the total quantity of waste disposed of to landfill from Horowhenua on a per capita basis. The current figure is 536 kg per person.</p> <p><b>Waste disposal &lt; 400 kg per person each year</b></p>
2. <i>To make it easy to recycle</i>	<ul style="list-style-type: none"> <li>1. Avoid and reduce waste where we can.</li> <li>2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled.</li> <li>3. Maximise community benefits - employment, reuse of materials for economic benefit, cost effective services.</li> </ul>	<p>2.1 <i>Increase in the proportion of material captured for recycling at kerbside and transfer stations. The current figures are 21% and 13% respectively.</i></p> <p><b>Kerbside recycling &gt; 40% by 2023</b></p> <p><b>Recycling<sup>15</sup> at Refuse Transfer stations &gt; 50 % by 2023</b></p> <p>2.2 <i>85% of people are satisfied with their recycling service. 2015/16 (Currently 75% satisfaction vs Annual Plan Target 75%).</i></p> <p><b>Residents satisfaction &gt; 85%</b></p>
3. <i>To ensure households and businesses have access to safe disposal of residual waste</i>	<ul style="list-style-type: none"> <li>2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled.</li> <li>3. Maximise community benefits - employment, reuse of materials for economic benefit, cost effective services.</li> </ul>	<p>3.1 <i>Satisfaction with kerbside refuse and transfer station services. Currently 75% satisfaction vs Annual Plan Target 75%.</i></p> <p><b>Residents satisfaction &gt; 75%</b></p>

<sup>15</sup> Including diverting materials for composting and reuse.

<b>Vision:</b>	<b><i>To deliver community benefits and reduce waste [work towards to zero waste]. Horowhenua businesses and households will be provided with efficient and effective waste minimisation and management services.</i></b>	
<b>Objective</b>	<b>Relevant Goal(s)</b>	<b>Target(s)</b>
4. <i>To create opportunities for Horowhenua District - jobs, new products, more efficient businesses</i>	<ol style="list-style-type: none"> <li>1. Avoid and reduce waste where we can.</li> <li>2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled.</li> <li>3. Maximise community benefits - employment, reuse of materials for economic benefit, cost effective services.</li> </ol>	<p>4.1 To publish a summary of available data on waste generation and management with each Annual Report. <b>Summary data published in Annual Report</b> <b>To create a grant scheme to support new initiatives to reduce waste</b></p>
5. <i>To reduce illegal dumping</i>	<ol style="list-style-type: none"> <li>2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled.</li> </ol>	<p>5.1 Reduction in illegal dumping incidents and quantity of material illegally dumped in the Horowhenua District. <b>Quantity of illegally dumped waste &lt; 2015/16 figure</b> <b>The number of illegal dumping incidents is &lt; 2015/16 figure.</b></p> <p>5.2 Residents satisfaction with litter and illegal dumping. Currently 73 % satisfaction vs Annual Plan Target 75 %. <b>Residents satisfaction &gt; 75 %</b></p>
6. <i>To improve community understanding of issues and opportunities for waste management in the Horowhenua District.</i>	<ol style="list-style-type: none"> <li>1. Avoid and reduce waste where we can.</li> <li>2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled.</li> <li>3. Maximise community benefits - employment, multi-use facilities, reuse of materials for economic benefit, cost effective services.</li> </ol>	<p>6.1 Schools programmes delivered by Council <b>Waste education is provided to &gt;300 school aged students each year.</b></p> <p>6.2 Council (or contractors) promote waste minimisation at events in the District. <b>Council promotes waste minimisation at &gt; five events in the District each year.</b></p>

<b>Vision:</b>	<i>To deliver community benefits and reduce waste [work towards to zero waste]. Horowhenua businesses and households will be provided with efficient and effective waste minimisation and management services.</i>	
<b>Objective</b>	<b>Relevant Goal(s)</b>	<b>Target(s)</b>
7. To work with other territorial authorities, central government, industry and other parties to improve waste minimisation and management in New Zealand.	<ol style="list-style-type: none"> <li>1. Avoid and reduce waste where we can.</li> <li>2. Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled.</li> <li>3. Maximise community benefits - employment, multi-use facilities, reuse of materials for economic benefit, cost effective services.</li> </ol>	7.1 To support the implementation of product stewardship schemes in Horowhenua. <b>&gt; 4 new product stewardship schemes available to Horowhenua businesses and households.</b>

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### 6.3 Council's intended role

Council will continue to adopt a largely user pays approach to delivery of waste transfer and disposal services in the District. Where there are services with a public good component Council will provide funding in whole or in part. Examples include kerbside recycling, rural transfer stations, servicing of litter bins, cleaning up illegal dumping, and the management of closed landfills.

Council will continue to own and support the operation of some key infrastructure for waste minimisation and management in the District. This includes the transfer stations in Foxton and Shannon and recycling centres across the District.

Council will provide information on waste minimisation and management to the community and make staff available for education purposes. Council will also work closely with other promoters of effective waste minimisation and management.

### 6.4 Protecting public health

Waste, particularly putrescible and hazardous waste, has the potential to be detrimental to health. Therefore, a key objective of any waste minimisation and management system is to protect public health. The risk of public health impacts can be significantly reduced by avoiding, where possible, and carefully managing, where not, contact with waste. In practice this means:

- Containing waste effectively, including:
  - Providing appropriate containers at point of generation e.g. workspace, kitchen, etc.
  - Providing appropriate containers for storing waste prior to collection - these may be reusable (wheelie bins) or single use (rubbish bags).
  - Providing dedicated public drop off areas at transfer stations and landfills.
  - Regular collection and disposal.
  - Suitable collection and transport vehicles.
  - Disposal at a well constructed and operated landfill including provision of appropriate barrier systems such as base liner and adequate daily, intermediate and final cover.
- Excluding as far as possible vermin<sup>16</sup> that may spread waste or associated contaminants.

The measures proposed in the WMMP have been developed with public health objectives at the forefront.

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<sup>16</sup> For example rodents, other stray animals, insects (flies, wasps).



## PART 3 - HOW ARE WE GOING TO GET THERE?

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## 7 Options Identification and Analysis

### 7.1 Introduction

Section 51 of the WMA requires that a Waste Assessment contain a statement of options available to meet the forecast demands of the district with an assessment of the suitability of each option.

This section summarises the identification and evaluation of options to meet the forecast demands of the district and to meet the goals set out in Section 6. The preferred options from this assessment will be incorporated into the WMMP as methods and feature in the Action Plan.

For the Horowhenua District, the total quantity of waste generated is forecast to increase over the life of this plan in line with population and economic activity. Infrastructure planning needs to take account of this growth.

The available data suggests that there is potential to increase the diversion of material from the current estimate of around 17 % across the waste management system. There are also ongoing issues with illegal dumping, challenges with obtaining robust data on waste and recycling activity and the potential for increasing quantities of materials entering the waste stream from rural properties. The focus of option identification and evaluation has been addressing these issues alongside meeting forecast demands.

### 7.2 Identifying options

There are a wide range of approaches to providing waste minimisation and management services and programmes that could be adopted. A useful way to consider options is the model set out in Figure 11.

Effective waste minimisation and management relies on a combination of infrastructure (including collection), education/information and regulation or policy, with the right data informing strategic and operational decision making.

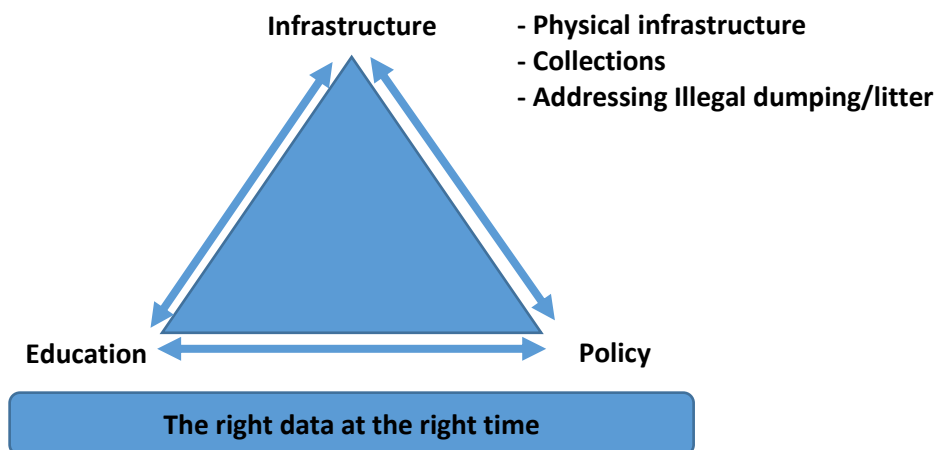


Figure 11: Effective Waste Minimisation and Management

For this waste assessment, options have been identified by considering key challenges for waste minimisation and management in the Horowhenua District (Refer Sections 2.5 and 3.5), referencing

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approaches adopted elsewhere and looking for new solutions where appropriate. Options have also been considered with reference to the current recovery rates of key materials<sup>17</sup> (see Section 3.5).

Based on the model set out in Figure 11 options considered can be grouped as follows.

#### Infrastructure

- Providing **collection** services - collection of waste, recyclable materials (at kerbside or transfer station), organic waste and/or bulky items, litter bins.
- Providing **physical infrastructure** - fixed location or mobile drop off facilities, waste sorting, waste processing and/or disposal facilities.
- **Managing the negative impacts of waste** - litter/illegal dumping clean-up, closed landfills.

#### Education

- Changing behaviour - **education** programmes targeting schools, businesses and/or households
- Support infrastructure - **information** on how to use collection and drop-off services to maximise recovery and maintain the quality of recovered materials (to maximise their value).
- Contributing to national education/information programmes.

#### Policy

- Implementation of licensing provisions in the existing by-law (funding, service level, litter, data provision).
- Data collection via licensing of waste operators (as above).
- Targeted data collection, for example waste surveys.
- Making information on waste issues and opportunities available.
- Grant co-funding for projects that deliver on the goals and objectives for waste minimisation and management.
- Working with Councils and other stakeholders to progress national debate on waste issues and policy.

These options focus on the priority waste streams identified through the review of the current situation in Section 3.5 and summarised in Table 11.

**Table 11: Priority wastes and waste sources**

Recyclable materials	Other materials requiring active management include:	Waste sources
• Organic Waste	• Hazardous waste	• Rural waste
• Glass	• Difficult or special waste	• Industrial processing
• Paper/Cardboard	• General waste	
• Metals	• e-waste	
• Plastics		
• Timber		

### 7.2.1 Collection options

The current collection system including private sector services is well used by residents across the district with the cost of Council refuse collection recovered through bag sales. The kerbside recycling collection is funded through rates and a levy on waste collection charges. There is some

<sup>17</sup> Key materials include paper/card, plastics, glass, organic waste, metals, glass and timber

illegal dumping (of generic rubbish bags and a range of bulky wastes), predominantly at transfer stations outside opening hours. Wheelie bins are available in most parts of the district and available data suggests that commercial bin services are used by over 80% of households.

As noted previously, the percentage of waste materials diverted from landfill is relatively low (estimated at around 22 % of waste collected at the kerbside) with many other areas in New Zealand achieving 30 % diversion or more. Available composition data suggests there is potential to increase the capture of materials at the kerbside. Glass collected at the kerbside is currently used at Levin Landfill (for drainage or other low grade fill material). There is potential for higher value use of this material subject to achieving suitable quality - sorting by colour and minimising contamination.

There is a refuse bylaw in place with provisions covering licencing, provision of recycling collection services alongside refuse collection and quality of service. The by-law is actively implemented with a licensing regime implemented and some data provision from waste collectors operating in the District.

#### Current arrangements

- Refuse collection provided by Council, funded by bag sales, and the private sector.
- Recycling collection provided by Council, funded by rates and waste collection charges.
- Refuse bylaw in place and actively implemented by Council

#### Issues

- Provision of roadside collection in rural areas is relatively costly.
- Low capture of recyclable materials at the kerbside.
- There are health and safety risks associated with bag and crate based collections.
- Illegal dumping of household waste.

#### Refuse Collection

The current refuse collection system is fully funded by user charges. Considering approaches adopted elsewhere, Council could:

- Continue to provide user pays collection service across the District i.e. Council selling refuse bags with collection services provided by Council or a contractor on their behalf. This system is common across New Zealand and currently costs households in Horowhenua \$4.00 per bag or around \$200 per year depending on the number of bags used.
- A Council run, targeted rate funded refuse bag service i.e. Council provide bags and associated collection service funded by a targeted rate for serviced properties. There are examples of this approach in New Zealand e.g. Hamilton, New Plymouth. Considering similar systems in other parts of New Zealand and current user charges for refuse collection in Horowhenua a rates funded system of this type is anticipated to cost \$130 - \$150 per serviced household as a targeted rate.
- A Council run, targeted rate funded<sup>18</sup> refuse wheelie bin service i.e. Council provide a wheelie bin collection service for refuse funded by a targeted rate for serviced properties. There are examples of this approach in New Zealand e.g. Auckland, Rotorua, Whakatane, Greymouth. Considering similar systems in other parts of New Zealand and costs for private

**Objective:**  
Maintain current level of service

**Objective:**  
Consistent level of service, avoid fragmented collection services

**Objective:**  
Consistent level of service, avoid fragmented service, limit bin size

<sup>18</sup> Wheelie bin based collections are typically rates funded and provided to all households. Some Councils in New Zealand offer options (bags or bins) with variable charging. There are no established pay per lift/use systems in place, Waikato District have a small scale sticker based pay per use system and Auckland Council is exploring options for an RfID (electronic tag) based system.

collection in Horowhenua, a rates funded system of this type of service is anticipated to cost \$130 - \$150 per serviced household as a targeted rate for small wheelie bins<sup>19,20</sup>.

- Continue to provide user pays collection service across the District i.e. Council selling refuse bags with collection services provided by Council or a contractor on their behalf. Amend the Solid Waste by-law to limit receptacle size and/or weekly capacity. This approach has been implemented in Taupo with new wheelie bin services limited to 140L. This approach balances the flexibility of a user pays bag service for small households while allowing households to use a wheelie bin based system if desired.
 

<b>Objective:</b> Maintain current level of service and limit private wheelie bin size
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- Council could exit the provision of refuse collection services in rural parts of the district, allowing rural residents to either procure a private sector collection service or transport their waste to their local transfer station. This is consistent with some rural areas in other parts of New Zealand.
 

<b>Objective:</b> Reduce cost of collection.
---
- Council could exit service provision altogether, allowing residents to select a private sector provider for roadside collection or transport their waste to the nearest transfer station (Foxton, Shannon or Levin). This approach has been adopted in some locations in New Zealand (Kaipara, Kapiti, Western Bay of Plenty).
 

<b>Objective:</b> Reduce cost to Council
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- Council could exit collection services altogether, allowing residents to bring household refuse to new drop-off points as well as selecting a private sector provider for roadside collection or transporting their waste to the nearest transfer station (Foxton, Shannon or Levin). This approach is used for rural areas in some parts of New Zealand.
 

<b>Objective:</b> Reduce cost to Council, provide a low cost service.
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### Recycle collection

The current recycling collection system is funded by a targeted rate, waste levy funds and the surplus from the waste collection revenue. Considering approaches adopted elsewhere Council could consider:

- Continue the existing Council run, targeted rates funded recycle crate service. Current costs to Council are around \$50 per year for each serviced property but are likely to increase with a new contract as a result of falling value of collected materials, increasing cost of managing safety risks and general operating cost increases.
 

<b>Objective:</b> Maintain current level of service
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- A Council run, targeted rates funded wheelie bin and recycle crate based service. This is a common approach in New Zealand with paper, cardboard, plastics and tins collected in wheelie bins (140-240 L) and glass collected in recycle crates. In some cases glass is collected in wheelie bins. Charges per household are in the range \$50-\$125 per household each year typically levied as a targeted rate.
 

<b>Objective:</b> Increase recycling rate by providing additional capacity
---
- A Council run, targeted rates funded recycling wheelie bin service. This is the approach adopted in Auckland, Christchurch, Southland and the Bay of Plenty with all materials collected in a single 240 L wheelie bin. Providing this service relies on having access to a sorting facility that can handle a
 

<b>Objective:</b> Increase recycling rate by providing additional capacity and simple service
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<sup>19</sup> Reflecting a discount on commercial available services (\$150 - \$190 for an 80L wheelie bin).

<sup>20</sup> An alternative is to offer a larger bin on fortnightly servicing schedule, this is done in Central Otago in New Zealand and multiple locations in Australia.

fully mixed recyclables stream<sup>21</sup>. Charges for this service depend on the specific service configuration but are likely to be in the range \$75-\$125 per household.

- Council could exit the provision of recycling collection services in rural parts of the district, allowing rural residents to either procure a private sector recycling collection service or transport their recyclable materials to their local transfer station. This is consistent with some rural areas in other parts of New Zealand.
- Council could exit recycling collection altogether, allowing residents to select a private sector provider for roadside recyclables collection or transport their recyclable materials to the closest transfer station or recycle station. This approach has been adopted in some locations in New Zealand (Kapiti, Western Bay of Plenty).

**Objective:**

Reduce cost of collection.

**Objective:**

Reduce cost to Council (contract management)

### Organic waste collection

There are private sector provided organic waste collection services available in Horowhenua. Councils around New Zealand are increasingly looking at offering organic waste collection services to address the high proportion of organic waste in refuse bag or bins. Existing services in New Zealand target garden waste (Whakatane, South Taranaki, commercial services) or garden and food waste (Christchurch, Selwyn, Timaru). New Plymouth District Council and Palmerston North City Council are considering organic waste collection options. Auckland Council and Hamilton City Council are commencing the roll out of a food waste only service in 2018, in part excluding garden waste to avoid competing with existing commercial garden waste collections.

Considering approaches adopted elsewhere Council could consider:

- A Council run, targeted rates funded organic waste collection service i.e. Council providing a bag or bin based collection service funded by a targeted rate for serviced properties. Examples in New Zealand include Auckland (roll out starting), Whakatane, Christchurch and Timaru.
- A Council run, targeted rates funded organic waste collection service with individual properties able to opt in to the service i.e. Council providing a bag or bin based collection service funded by a targeted rate for properties that have joined the service. Examples in New Zealand include Selwyn and South Taranaki.

**Objective:**

Increase recovery by providing a universal service

**Objective:**

Increase recovery by providing an optional service

### 7.2.2 Physical infrastructure options

The physical infrastructure in Horowhenua is adequate to handle the quantity of waste generated in the District including future projections through to around 2030. The percentage of waste materials diverted from landfill is estimated at around 13 % based on the data collected for this Waste Assessment. This is low compared with similar areas in New Zealand with most areas achieving 30 % diversion or more.

Council provides a network of transfer and recycle stations that offer easy access for the community but are relatively costly to operate. National initiatives to improve the management of rural waste streams (for example plastic wrap, chemical containers and treated timber) means there may be an increase in the quantity of material entering the Council waste management system in rural areas.

#### Current arrangements

<sup>21</sup> There is no suitable facility in the southern part of the North Island i.e. a new service of this type would need to establish a new facility. This may push the price up by a significant factor.

- Disposal of refuse at Levin Landfill.
- Three transfer stations and seven recycle stations in the District, funded by user charges and targeted rate revenue (Council transfer stations and recycle stations).
- Commercial composting by Paranui Organics (poultry manure, bark, ...).
- Sorting of kerbside recyclable materials by Levin Container Recycling at their Levin depot.
- Glass from Foxton is transported to Palmerston North for onward shipping to Auckland.

#### Issues:

- Low diversion at transfer stations - recyclables, organic waste with variable provision for capture of materials for recycling or composting.
- Use of 'recovered' materials for landfill operations.
- Transfer station configurations
  - Safety of site users, particularly risk of falls in pit or waste bins
  - Ease of recovery/sorting.
- Large proportion of commercial waste disposed of at the Levin Landfill
- Rural waste<sup>22</sup> increasingly entering the Council waste management system - via commercial collections, rural roadside collections and transfer stations.
- The Levin Landfill is currently accepting waste from Horowhenua and Kapiti Districts, this may change in the future impacting on the costs vs. revenue for the landfill operation.

#### Processing

While the current infrastructure in the district is adequate, there is potential to add additional facilities or activities to enable increased diversion of material from landfill. Materials that could be targeted include:

- Recyclable materials collected at kerbside or from businesses.
- Commercial and industrial waste
- Construction and demolition waste e.g. timber, concrete and demolition rubble
- Garden waste - lawn clippings and prunings
- Food and other highly putrescible waste

The options to be considered include:

- Upgrade the current sorting facility (Levin Container Rubbish) in central Levin or establish a new sorting operation in Levin. The current operation is designed around a crate based, fully co-mingled materials stream and manual sorting. Glass in particular from this sorting operation and recycling stations is heavily contaminated. Any change to the materials collection approach is likely to require change to the sorting component of the system.
- Transport recyclable material collected at kerbside for sorting out of the district. There are sorting operations in Palmerston North (50 km) and Lower Hutt (100 km). In both cases they process materials from two stream (separate glass) kerbside collections. Any change to the materials collection approach is likely to require change to the sorting component of the system.
- Implement bulk waste collection from the roadside (inorganic

**Objective:**  
Improve the recovery of materials (with collection system)

**Objective:**  
Improve the recovery of materials (with collection system)

**Objective:**  
Increase the diversion of material from landfill

<sup>22</sup> Waste from farming activities including plastic wrap, chemical containers and fencing materials material has traditionally been stored or disposed of on individual farms.

collection). A bulky waste collection addresses materials that are either stockpiled on site or transported to a transfer station. Similar services elsewhere may target refuse only or allow for recovery of recyclable and/or organic waste materials.

- Implement sorting of mixed dry waste loads - commercial or construction waste. This could occur at one or more of the transfer station sites or another location. Examples of this approach include basic sorting of loads dumped on a sorting floor/pad through to highly complex sorting systems. Marlborough District Council have recently commissioned a relatively sophisticated waste sorting facility targeting general waste and there are several construction waste sorting operations in Auckland.
- Processing of garden and/or food organics collected at transfer station or through kerbside collections. Currently organic waste collected at transfer station is mulched and used at Levin Landfill. In future an alternative use for this material will need to be found. Manawatu District and Palmerston North City both compost garden waste.

**Objective:**  
Increase the diversion of material from landfill

**Objective:**  
Increase the diversion of organic material from landfill



Figure 12 Marlborough Waste Sorting Centre<sup>23</sup>

## Landfill

The current arrangements for disposal are in place until at least 2021 based on current contracts and associated commercial arrangements. From 2021 there are several options that could be considered with factors including the acceptance of residual waste from outside Horowhenua District, Council control of Horowhenua residual waste and ongoing capital and operating costs for the Levin Landfill.

The options to be considered post 2021 include:

- Continuing the operation of the Levin Landfill beyond 2021 under similar contractual terms covering landfill operations, acceptance of waste from Kapiti Coast and from the Levin Transfer Station. It is possible that the current arrangement cannot be replicated beyond 2021.
- Continue operation of the Levin Landfill beyond 2021 under revised contractual terms covering landfill operations and measures to secure sufficient waste to enable the site to operate cost effectively. Key considerations include funding, regulation of waste collection in Horowhenua, ownership and operations of the Levin Transfer Station and management of waste from Kapiti or other out of District landfill 'clients'.

**Objective:**  
Maintain the current situation.

**Objective:**  
Maintain access to local disposal, change commercial arrangements

<sup>23</sup> From <http://www.marlborough.govt.nz/Services/Recycling-Resource-Recovery/Waste-Sorting-Centre.aspx>



- Dispose of Council controlled waste at an alternative landfill. Bonny Glen (Marton), Spicer (Porirua) and Silverstream (Lower Hutt) are all a similar distance from Levin. Key considerations include transport distance, travel time, disposal charges, long term security of access and the net financial impact for Council.
- Levin Landfill could be closed at the completion of the current cell (Cell 3) with material disposed of an alternative site. This would involve landfill closure in 2019 rather than 2021. As for closure in 2021 options include Bonny Glen (Marton), Spicer (Porirua) and Silverstream (Lower Hutt). Key considerations include transport distance, travel time, disposal charges, long term security of access and the net financial impact for Council.

**Objective:**  
Maintain access to cost effective disposal for the community.

**Objective:**  
Maintain access to cost effective disposal for the community.

There are several aspects of providing the infrastructure components of the waste management system in Horowhenua that are not options but are noted here for completeness. These include:

- Continuing to monitor illegal dumping including at transfer and recycling sites.
- The requirements for the processing of recyclables collected from the roadside will be determined in part by the collection methodology adopted.
  - A fully co-mingled collection would require new sorting infrastructure.
  - If glass is collected separately it may be possible to establishing sorting infrastructure in Levin<sup>24</sup> or make use of existing facilities in Palmerston North or Wellington.

### 7.2.3 Options to manage the negative impacts of waste

In the context of waste minimisation and management it is important to recognise that there a negative impacts of waste generation and management. Some of these are historical (e.g. unmanaged closed landfills) and some are related to mis-use of existing systems or illegal activity.

Management of closed landfills across the District is planned with appropriate budgets allocated through the Long Term and Annual Planning process. No change is proposed to the currently planned activity.

Some litter bins are highly utilised by park/facility users, servicing is included in road maintenance and parks maintenance contracts. In other parts of New Zealand these issues have been addressed by removing litter bins, configuring the bins to prevent the deposit of large waste items and/or increasing capacity. Taupo District Council, Waikato District Council (Raglan) and Thames Coromandel District Council (Whiritoa) are all using the Big Belly system combining small openings, a compactor bin system and remote notification of contractors when the bins are full.

Current arrangements include:

- Programme of monitoring and works at closed landfills.
- Illegal dumping collected by Council contractors.
- Litter bins in selected locations around the District, serviced under contract to the Council.

Issues:

- Illegal dumping in some areas.

### 7.2.4 Education options

Providing clear information is an important aspect of successfully implementing a waste minimisation and management plan or programme. Information needs to clearly explain what is

<sup>24</sup> Sorting can be automated, manual; (hand picking) or a combination of the two.

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required of people using waste and recycling services, including visitors to the District. Communications should also set out the costs and benefits of waste minimisation and management. Information should explain **why** it is important to minimise waste and **how** to use the facilities available to residents and businesses in the District.

Education activities in Horowhenua are focussed on supporting schools providing funding for Zero Waste Education programme<sup>25</sup> - education for sustainability under the NZ Curriculum. This is focussed on helping students (and by extension their families) **why** it is important to effectively minimise and manage waste.



Other areas Council could get involved with include

- Providing simple and clear information for households and businesses explaining **how** to use the waste management systems and services available in the district. For example partnering with business organisations like the Sustainable Business Network.
- Getting involved in collaborative information campaigns like the Love Food, Hate Waste campaign.



### 7.2.5 Policy options

Providing the right policy framework for effective waste minimisation and management is a critical component of Horowhenua District Council's role. This includes the Horowhenua District Plan, funding initiatives under the Waste Minimisation and Management Plan and regulation under the bylaw. This Waste Assessment considers funding and by-law components.

#### Funding

Services for households and businesses are funded through user charges (refuse) and a levy and rates (recycling). As noted in the discussion on collection options, there is potential to consider funding of refuse collection services through targeted rates - effectively compulsory user charges recovered through the rating system. There is also potential to fund activities through general rates - current examples in Horowhenua include collection of litter and illegal dumped material.

Rates funding of services provides a guaranteed income to cover anticipated costs, but in most cases, involves a standard charge regardless of how much an individual uses a particular service. There are examples in New Zealand of Councils imposing a variable target rate depending on the service being used. For example in Selwyn District the targeted rate for refuse and recycling varies depending on refuse collection (bag or bin), recycling and organic waste collection service selected.

Some Councils provide grant funding for waste minimisation activity by community groups and businesses. This provides an opportunity for businesses to test ideas that may be risky or commercially unattractive. It also provides a mechanism for Council to support community action on waste minimisation and management.

#### Regulation

The Council's Solid Waste Bylaw 2014 has provisions covering receptacles, litter infringements, recycling, disposal of materials, provision of recycling collection, waste management at special events, waste management facilities and licencing of collectors and facilities including data provision. The bylaw has been implemented, but data provision is limited outside Council contractors. Arrangements for funding recycling collection could be changed to simplify Council's role in determining market share and funding implications.

<sup>25</sup> <http://www.zerowasteeducation.co.nz>

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## National policy debate and implementation

As noted previously, Council will work with other territorial authorities, central government, industry and other parties to improve waste minimisation and management in New Zealand. In part this involves engaging in the broader policy debate working with industry partners and organisations like Local Government New Zealand, the Waste Management Institute of New Zealand and the Product Stewardship Council.

Council can also work with accredited product stewardship schemes to maximise services available to Horowhenua businesses and residents. Schemes operating in Horowhenua include Resene's Paintwise, Plasbak, AgRecovery, Re:Mobile. Council can support existing supporting services and advocate for introduction or expansion of services in Horowhenua.



### Actions proposed:

- Develop criteria for making grants available from Council's allocation of Waste Levy funds. Provisionally criteria will be based on contribution to the vision, goals and objectives for waste minimisation and management with consideration of co-funding. Applications for funding should also be assessed for their ability to deliver the promised benefits i.e. due diligence on organisation capability, governance and accountability.
- Develop an implementation plan for the existing Solid Waste Bylaw 2014. This will focus on improving reporting arrangements. With a relatively small number of collection providers operating in the District, Council is in a position to develop pragmatic but effective reporting requirements. This will require consultation with the collection providers to improve the operation of the reporting and licensing regime.
- Continuing regular reporting on progress against the WMMP targets as part of the Horowhenua District Annual Report.
- Collaborating with local government organisations, non government organisations (NGO) and other key stakeholders to progress national activity on waste minimisation and management policy.

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## 7.3 Assessing options

### 7.3.1 Assessment criteria

The options noted above need to be considered in light of Council's strategic direction for waste minimisation and management. This means assessing their ability to contribute to the vision, goals and objectives noted in Section 4 while providing good value for money. The criteria used for assessing options are noted in Table 12.

**Table 12: Assessment criteria**

Criteria	Goal/Objectives	Comment
Rates	Maximise community benefits - employment, cost effective services.	Options that minimise Council funding are preferred
Household costs	Maximise community benefits - employment, cost effective services., Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled., To ensure households and businesses have access to appropriate disposal of residual waste, To reduce illegal dumping	Options that minimise cost to households or businesses are preferred
Waste diversion	Avoid and reduce waste where we can., Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled., To make it easy and safe to recycle, To improve community understanding of issues and opportunities for waste minimisation and management in the Horowhenua District.	Options that make it easy to avoid waste or divert unwanted material from landfill are preferred.
Protecting people	Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled., To make it easy and safe to recycle, To ensure households and businesses have access to appropriate disposal of residual waste	Options that minimise risks to health and safety are preferred. Options that are not protective of public health are not considered.
Protect our environment	Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled., To make it easy and safe to recycle, To ensure households and businesses have access to appropriate disposal of residual waste	Options that minimise the negative impacts of waste minimisation and management are preferred.
Community engagement	Avoid and reduce waste where we can., Maximise community benefits - employment, cost effective services., To create opportunities for Horowhenua District - community partnerships, jobs, new products, more efficient businesses	Options that are supported by the community and enable partnerships with the community are preferred
Economic Opportunity	Maximise community benefits - employment, cost effective services., To create opportunities for Horowhenua District - community partnerships, jobs, new products, more efficient businesses	Options that provide local economic opportunities are preferred.
Innovation	Manage waste responsibly - make it easy to recycle and safely dispose of the materials that can't be recycled., To make it easy and safe to recycle, To ensure households and businesses have access to appropriate disposal of residual waste	Options that involve innovation or new approaches are preferred.

### 7.3.2 Long list options assessment

Table 13 to Table 17 summarise the assessment of collection and physical infrastructure options. Options identified for further consideration are noted and discussed further in Section 7.3.3

**Table 13:- Refuse collection options evaluation**

	Comment	Rates	Household costs	Waste diversion	Protecting people	Protect our environment	Community engagement	Economic Opportunity	Innovation	Conclusion
<b>Refuse Collection</b>										
Bag based, user pays collection	Status Quo	Small contribution to Council overhead	\$180 or more	No change	No change	No change	No change	No change	No change	✓ Consider in short-list as base case.
Bag based, rates funded collection	Provide 52 bags per household	\$120 - \$150	\$120 - \$150	No change	No change	No change	No change	No change	No change	✗ Don't consider further, Council preference for user pays
Wheelie bin based (80-120L weekly or 240L fortnightly), rates funded collection	Could provide options for bags or larger bins	\$125 - \$200	\$125 - \$175	Small increase (shift of some private customers to smaller bin)	Improvement (automated collection)	Small improvement - less litter	Parts of community opposed - losing Council bag service	Minimal change (automated collection)	Reflects current practice in leading Councils	✓ Consider in short-list with refinements as noted, H&S and efficiency benefits
Private wheelie bin (140L or less, by-law control) or Council user pays bag	Could provide options for bags or smaller bins	Small contribution to Council overhead	\$180 or more	Increase (shift of private customers to smaller bins)	No change	No change	Parts of community opposed - losing access to large wheelie bin service	No change	Reflects current practice in Taupo, balance Council service with private sector	✓ Consider in short-list noting need to consult with community on any bylaw changes.
Council exit provision of roadside refuse collection in rural areas	May impact on viability/cost of private sector services in rural areas	Small contribution to Council overhead	\$180 or more in rural areas.	Minimal change	Small improvement (likely move to automated collection)	Minimal change	Parts of community opposed - rural areas losing service	Minimal change	Consistent with current practice in Horowhenua	✗ Don't consider further, Council committed to consistent level of service
Council exit provision of refuse collection services	Likely to be small reduction in diversion as more people use bins	Likely to increase (loss of contribution to Council overhead).	\$180 or more	Reduced diversion - likely shift to larger wheelie bins for some	Improvement (likely move to automated collection)	Small improvement - less litter	Parts of community opposed - losing Council bag service	Minimal change (automated collection)	No change (most households already use bins)	✓ Consider further, Council market share very low.
Council exit provision of refuse collection services, provide drop-off points in townships	Lower cost bags with free drop off, likely shift to private bins rather than drop-off points	Likely to increase (loss of contribution to Council overhead).	\$100 - \$150	Reduced diversion - likely shift to larger wheelie bins for some	Improvement (remove risk for manual handling and roadside collection)	Anticipate small increase in illegal dumping	Parts of community opposed - losing Council roadside service	Minimal change (automated collection)	Minimal change (most households already use bins), compromise for rural areas.	✗ Don't consider further, risk of illegal dumping at drop off points, if Council exists private sector likely to take majority of customers.

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Table 14:- Recycling collection options evaluation

Recycle Collection											
Crate based collection kerbside sort of recyclable materials	Status quo, m funded by rates and levy on refuse collection	\$25 - \$50	\$75 - \$100	No change	No change	No change	No change	No change	No change	✓	Consider in short-list as base case.
Wheeler bin + glass crate based collection service	Could provide options where wheeler bins are difficult to use e.g. bags	\$50 - \$75	\$50 - \$75	Increase	Improvement (automated collection)	Small improvement - less litter	Minimal reduction - single crew vehicles	Similar staff requirements, potential for local sorting	Reflects current practice in leading Councils	✓	Consider in short-list, increase capacity, H&S and efficiency benefits
Wheeler bin based collection service	Could provide options where wheeler bins are difficult to use e.g. bags, no local processing capability	\$75 - \$100	\$75 - \$100	Increase	Improvement (automated collection)	Small improvement - less litter	Reduction - single crew vehicles, unlikely to sort in Levin	Reduction - single crew vehicles, unlikely to sort in Levin	Reflects current practice in Auckland and Christchurch	✓	Consider in short-list, increase capacity, H&S and efficiency benefits, would require new sorting infrastructure in southern North Island
Council exit provision of roadside recycling collection in rural areas	May balance loss of collection with improved recycle stations	Minimal saving	Minimal per household saving	Decrease (rural areas only)	Minimal change	Minimal change	Parts of community opposed - rural areas losing service	Similar staff requirements	Move 'backwards' in terms of service for rural areas	✗	Don't consider further, Council committed to service provision
Council exit provision of recycle collection services	Assume similar model to Kapiti Coast - refuse collection must be accompanied by recycle collection service.	Saving on recycle contract of around \$3-400,00 per year	\$180 or more	Reduced diversion - likely shift to larger wheeler bins for some	Improvement (likely move to automated collection)	Small improvement - less litter with move to bin based collections	Parts of community opposed - losing universal recycling collection	Similar staff requirements	Move 'backwards' in terms of service for District unless private sector is required to provide a service	✓	Don't consider further, Council committed to service provision

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Table 15:- Other collection options evaluation

	Comment	Rates	Household costs	Waste diversion	Protecting people	Protect our environment	Community engagement	Economic Opportunity	Innovation	Conclusion
<b>Other Collections</b>										
Private sector offering green waste collection services	Status quo	Not applicable	Full user pays	No change	No change	No change	No change	No change	No change	✓ Consider in short-list
Council provided, universal organic waste collection service	Service could target garden organics, food organics or both	\$110 - \$130	\$110 - \$130	Increase	Likely automated collection (bins)	No change	New activity	New activity so new roles for collection and/ or processing	Reflects current practice in some leading Councils	✓ Consider in short-list
Council provided, opt-in organic waste collection service	Service could target garden organics, food organics or both	\$120 - \$150	Cost recovery via use charges or opt in target rate	Increase	Likely automated collection (bins)	No change	New activity	New activity so new roles for collection and/ or processing	Reflects current practice in some Councils	✓ Consider in short-list
Bulky Waste Collections	Offer a bulky waste collection service, potentially as a replacement of little used rural transfer sited and/or for urban residents	Likely to be a rates funded service	Likely increase via (targeted) rate but could be linked to rural transfer station changes	Depends on configuration of service, target 30-50% diversion	Requires careful design to address H&S issues with bulky waste collection	Reduction in illegal dumping of bulky waste	Likely to be support for new service but resistance to charging	Local staff required for collection and processing/ sorting	Depends on configuration, bulky waste with a focus on recovery is innovative for NZ	✓ Consider in short-list, raised as option by community.
Problem waste drop off	Offer drop off for problem waste where services are not already available in Horowhenua	Likely to be a mix of rates and producer funding depending on material	No direct cost to households	Small increase	No change	Improved management of problem wastes incl diversion from landfill to treatment	Likely to be support but limited to those with understanding of problem waste issues.	No change (within transfer station existing activity.	Reflects current practice for most Councils	✓ Carry through to Action Plan with consideration of funding through LTP.

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Table 16:- Physical infrastructure options evaluation

	Comment	Rates	Household costs	Waste diversion	Protecting people	Protect our environment	Community engagement	Economic Opportunity	Innovation	Conclusion
<b>Processing Infrastructure</b>										
Sorting of kerbside recyclables - local	Sorting of co-mingle paper, plastic and cans locally	Incl in kerbside recycling cost	Incl in kerbside recycling cost	No change	New facility, safety in design, H&S system	No change	Community likely to be mildly supportive of local processing	Local jobs retained	No change, potential to link with dry waste sorting	✓ Provide for this option in procurement for new recycling collection contract
Sorting of kerbside recyclables - out of district	Sorting of co-mingle paper, plastic and cans at existing operation - Lower Hutt or Palmerston North	Incl in kerbside recycling cost	Incl in kerbside recycling cost	No change	Existing facility, established H&S system	No change	Community likely to be ambivalent about out of district processing	Loss of local jobs	No change	✓ Provide for this option in procurement for new recycling collection contract
C&I Waste Sorting	Blenheim sorting centre provides an indicator of costs: \$3.3M (250-300k annual finance, assume cost recovery)	NA, estimate an additional \$15-20 per tonne cost	Full cost recovery, Council to fund investment from user charges	Target 50% diversion of C&I waste	Managed through design and operational procedures	Extend life of Levin Landfill.	Likely to be some support for initiative to recover materials prior to landfill	Local staff required for construction and operation	Relatively new approach for NZ - limited examples around NZ.	✓ Consider in short-list, potential to increase diversion
C&D Waste Sorting	Establish centre along the lines of the Blenheim facility or put in place charging to incentivise	NA, estimate an additional \$15-20 per tonne cost	Full cost recovery, Council to fund investment from user charges	Target 75% diversion of C&D waste	Managed through design and operational procedures	Extend life of Levin Landfill.	Likely to be some support for initiative to recover materials prior to landfill	Local staff required for construction and operation	Relatively new approach for NZ - limited examples around NZ.	✓ Consider in short-list, potential to increase diversion
Local organic waste processing	Council to establish processing of organic waste (garden and/or food waste) for beneficial use	Potential capital investment, (partly) recovered through user charges (transfer stations or targeted rate)	User charges, discount to refuse disposal	Enables diversion, relies on capture of organic waste through transfer stations or collections	New facility, safety in design, H&S system	Extend life of Levin Landfill.	Community likely to be mildly supportive of local processing and diversion of organic waste	Local staff required for construction and operation	Standard approach in New Zealand	✓ Provide for this option in procurement for new transfer station contract and business case for organics collection
Commercial processing of organic waste	Council to contract for processing of organic waste (garden and/or food waste) for beneficial use - in or out of District	Contract costs (partly) recovered through user charges (transfer stations or targeted rate)	User charges, discount to refuse disposal	Enables diversion, relies on capture of organic waste through transfer stations or collections	Existing facility, established H&S system	Extend life of Levin Landfill.	Community likely to be mildly supportive of local processing and diversion of organic waste	Depends on whether contractor operates in Horowhenua	Standard approach in New Zealand	✓ Provide for this option in procurement for new transfer station contract and business case for organics collection

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**Table 17: Levin Landfill options evaluation**

	Comment	Rates	Household costs	Waste diversion	Protecting people	Protect our environment	Community engagement	Economic Opportunity	Innovation	Conclusion
<b>Levin Landfill</b>										
Continue operation of the Levin Landfill beyond 2021 under replicating the current arrangement	Status quo, may not be able to replicate current approach	No change	No change	No change	No change	No change	Likely to be some support for in district disposal but discomfort with ongoing landfill operation	No change	No change	✓ Consider as example of current situation
Continue operation of the Levin Landfill beyond 2021 with a new arrangement (HDC controlled waste or HDC including Levin Transfer Station)	Considerations include funding, regulation of collection, Levin Transfer Station and securing additional waste	Increase (less revenue from landfill operations) and/or increased disposal costs	Increase (less Council revenue from landfill operations) and/or increased disposal costs	No change	No change	No change	Likely to be some support for in district disposal but discomfort with ongoing landfill operation	No change	Depends on arrangement, potential for a range of conventional and innovative approaches.	✓ Consider as status quo from 2021. consider both with and without Levin Transfer Station refuse.
Dispose of Council controlled waste at an alternative landfill. Bonny Glen (Marton), Spicer (Porirua) and Silverstream (Lower Hutt) are all a similar distance from Levin.	Considerations include transport (distance, time), disposal charges, long term security and net financial impact for Council.	TBC - less revenue from landfill but disposal cost may be significantly lower	TBC - less revenue from landfill but disposal cost may be significantly lower	Improved - if Council pays only for waste disposed there is financial benefit in diversion	No change	No change - requirement manage historic impacts at Levin Landfill will remain	Likely to be some support for landfill closure but discomfort with out of district disposal	Small change - loss of operational roles	Depends on arrangement, potential for a range of conventional and innovative approaches.	✓ Consider both 2019 (Cell3 completeD) and 2021 (Cell 1B, end of contract) as options

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Table 18: Other options

	Comment	Rates	Household costs	Waste diversion	Protecting people	Protect our environment	Community engagement	Economic Opportunity	Innovation	Conclusion
<b>Other Options</b>										
Promote home composting	Promote home composting (worm farming) for food waste	Within baseline activity	No change	Reduce material coming into the Council collection system	No change	No change	Support those in the community dealing with some of their own waste	No change	No change	✓ Carry through to WMMP Action Plan
Grant Funding criteria	Offer co-funding for community or business projects that support WMMP Vision	Small increase (levy funds)	No change	Target diversion with funding criteria	No change	No change	Opportunity for motivated community members and businesses to access funding.	Opportunity for motivated community members and businesses to access funding.	Funding criteria designed to promote innovation	✓ Carry through to WMMP Action Plan
By-law revision and implementation	Improve data capture, limit container size, clarify funding for recycle collection	Within baseline activity	No change	Target increased diversion through limiting household refuse container size.	No change	No change	Improve data to support communications activity.	Impact on business providing collection services.	No change	✓ Carry through to WMMP Action Plan
Engage in national policy debate	Work with LGNZ, WasteMINZ and others to participate in waste policy debate.	Within baseline activity	No change	No change - address problem wastes and key issues at a national level.	No change - but target high harm wastes.	No change - but target high harm wastes.	Limited local impact.	No change	Support innovation at a national level.	✓ Carry through to WMMP Action Plan - seek community views
										✓ Carry through to WMMP Action Plan

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### 7.3.3 Detailed options evaluation

The options noted for further consideration in Section 7.3.2 can be considered as individual 'components' of the waste management system or as a full package. This section considers:

- Refuse collection.
- Recycling collection.
- Organic waste collection.
- Options for bulky waste.
- Options for sorting/recovery of materials at transfer stations.
- Options for future operation of the Levin Landfill.

Other activities proposed include actions to improve management of litter, education activities and policy implementation. These are discussed below.

The two options to manage litter and associated illegal dumping impacts have very different benefits and challenges. Removing litter bins will reduce litter related costs but potentially result in illegal dumping issues without appropriate communication support. Providing additional bins or increasing capacity will increase costs but with careful design it may be possible to reduce or maintain costs at present levels. Given the balance benefits and challenges the logical next step is to present the two options to the community for feedback.

The education activities proposed are relatively low cost and provide a key supporting role for other actions explored and proposed in this Waste Assessment. The policy actions proposed support other actions (funding for collection) or provide a key supporting role for other actions explored and proposed in this Waste Assessment. On this basis these options are carried through to the action plan without further evaluation.

#### 7.3.3.1 Collection

##### Refuse collection

The long list evaluation flagged four **refuse collection** options for further consideration, as follows:

- Bag based, user pays collection
- Wheelie bin based collection (rates funded)<sup>26</sup>
  - 80 -120 L wheelie bin (weekly) or 240 L wheelie bin (fortnightly)
- Council bags alongside private wheelie bins with by-law control on receptacle size
- Council exit refuse collection service.

These options were evaluated in more detail using the evaluation framework noted in Section 7.3.1 and high level modelling of cost and anticipated diversion (assessment criteria). The outcome of the evaluation is summarised in Table 19 with the limiting kerbside refuse capacity through provision of Council service or using the by-law to limit container size providing the highest overall scores.

**Table 19 Refuse collection - detailed Evaluation**

Criteria	1. User pays refuse	2. MGB (80-120 L weekly or 240 L fortnightly) refuse	3. MGB (140 L or less, by-law control) or bag	4. Council exit refuse collection
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<sup>26</sup> This option could be replicated using controls on waste receptacle through the existing waste by-law. Taupo District Council have a by-law in place that limits the size of waste receptacles to less than 140L.

Criteria	1. User pays refuse	2. MGB (80-120 L weekly or 240 L fortnightly) refuse	3. MGB (140 L or less, by-law control) or bag	4. Council exit refuse collection
Household costs	\$4.00/week	\$0.00/week	\$4.00/week	\$5.00/week
Rates	\$0.9 M/year	\$2.6 M/year	\$1.0M/year	\$0.8M/year
Waste diversion	17 %	20 %	20 %	17 %
Protecting people	No change in H&S impact	Small improvement in H&S	Small improvement in H&S	Small improvement in H&S
Protect our environment	No change	Environment 4	Environment 4	Environment 4
Community engagement	Community ambivalent	Community mildly supportive or part of community advocating	Community mildly supportive or part of community advocating	Parts of the community opposed
Economic Opportunity	No change in local employment	No change in local employment	No change in local employment	No change in local employment
Innovation	Standard service or approach in NZ	Small improvements on standard approach across NZ	Small improvements on standard approach across NZ	Similar to current approach
Comments	Status quo	Small wheelie bin or large wheelie bin fortnightly for refuse, targeted rate funded. Reduced bag breakage litter.	Council bags alongside private wheelie bins with by-law control on receptacle size	Council service (10-20% of market) picked up by private sector. May be an issue for part of the community
Score	53	61	64	53

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### Kerbside recycling collection

The long list evaluation identified four **recycling collection** options for further consideration, as follows:

- Crate based collection of recyclable materials
- Wheelie bin + glass crate based collection service (two stream recycling)
  - Single option (240 L wheelie bin + glass crate)
  - Crates or smaller bin option (for rural or difficult access sites)
- Wheelie bin based collection service (single stream recycling)
- Council exit provision of a kerbside recycling service (assume a two stream service provided like Kapiti).

These options were evaluated in more detail using the evaluation framework noted in Section 7.3.1 and high level modelling of cost and anticipated diversion (assessment criteria). The outcome of the evaluation is summarised in Table 20 with a two stream council run collection funded by a targeted rate providing the highest overall score.

**Table 20 Recycling collection - detailed evaluation**

Criteria	1. Crate recycle/sort	5. MGB (co-mingle) + Crate (glass)	6. MGB (co-mingle)	7. Council exit recycle collection
Household costs	\$4.00/week	\$4.00/week	\$4.00/week	\$5.00/week
Rates	\$0.9 M/year	\$1.4 M/year	\$1.4 M/year	\$0.5 M/year
Waste diversion	17 %	38 %	38 %	14 %
Protecting people	No change in H&S impact	Small improvement in H&S	Small improvement in H&S	Small improvement in H&S
Protect our environment	No change - litter, refuse collection, illegal dumping	Slight improvement (reduced litter)	Slight improvement (reduced litter)	Slight improvement (reduced litter)
Community engagement	Community ambivalent	Community mildly supportive or portion of community advocating	Community mildly supportive or portion of community advocating	Parts of the community opposed
Economic Opportunity	No change in local employment	Small loss of local employment	Significant loss of employment	Small loss of local employment
Innovation	Standard service or approach in NZ	State of the art, leading level of service	State of the art, leading level of service	Standard service or approach in NZ
Comments	Status quo	Move to automated collection with off-site sorting. Removes manual handling but may require sorting out of Levin. Reduced wind-blown litter.	Move to automated collection with off-site sorting. Reduces manual handling no suitable sorting facility in lower North island. Reduced wind-blown litter.	Require private sector to provide recycle service (Kapiti model), linked to refuse collection exit as well. Move to automated collection likely.
Score	53	63	61	47

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## Organic waste collection

The long list evaluation identified three options for collection of **organic waste** for further consideration, as follows:

- Private sector, garden waste collection services (the status quo)
- Council provided, universal organic waste collection
  - Garden waste or food and garden organics (240 L wheelie bin)
  - Food only (24 L bin)
- Council provided, opt in organic waste collection (likely garden waste focus)

These options were evaluated in more detail using the evaluation framework noted in Section 7.3.1 and high level modelling of cost and anticipated diversion (assessment criteria). The outcome of the evaluation is summarised in Table 21 with collection of garden, food and garden organic or food only scoring the same.

**Table 21 Organic collection - detailed evaluation**

Criteria	1. Private garden waste	9. GO collection	10. FOGO Collection	11. FO Collection	12. GO Collection (Opt in)
Household costs	\$4.00/week	\$4.00/week	\$4.00/week	\$4.00/week	\$7.00/week
Rates	\$0.9 M/year	\$1.5 M/year	\$1.9 M/year	\$1.7 M/year	\$1.1 M/year
Waste diversion	17 %	28 %	41 %	39 %	23 %
Protecting people	No change in H&S impact	No change in H&S impact	No change in H&S impact	No change in H&S impact	No change in H&S impact
Protect our environment	No change - litter, refuse collection, illegal dumping	No change - litter, refuse collection, illegal dumping	No change - litter, refuse collection, illegal dumping	No change - litter, refuse collection, illegal dumping	No change - litter, refuse collection, illegal dumping
Community engagement	Community ambivalent	Community mildly supportive or portion of community advocating	Community mildly supportive or portion of community advocating	Community mildly supportive or portion of community advocating	Community mildly supportive or portion of community advocating
Economic Opportunity	No change in local employment	Small increase in local employment	Small increase in local employment	Small increase in local employment	No change in local employment
Innovation	Standard service or approach in NZ	State of the art, leading level of service	State of the art, leading level of service	State of the art, leading level of service	Small improvement on standard approach across NZ
Comments	Status quo	Garden organics collection in large wheelie bin, fortnightly. Targeted rate funded.	Garden and food organics collection in large wheelie bin, fortnightly. Targeted rate funded. Lower capture of food waste in combined bin.	Food organics collection in small wheelie bin. Targeted rate funded.	Optional garden organics collection in large wheelie bin, fortnightly. Households buy annual service, estimate 20% uptake.
Score	53	60	60	60	57

### 7.3.3.2 Physical infrastructure

The long list consideration of physical infrastructure options identified three activities worthy of further consideration. These were:

- Bulky Waste Collections - offering collection of bulky material (that can't be collected in roadside bags, wheelie bins or crates) for disposal or recycling. Depending on the way the service is delivered materials may be removed for sorting or reuse.
- Commercial and Industrial (C&I) Waste Sorting - sorting of C&I waste loads to recover recyclable materials including paper/card, metals, plastics prior to disposal to Levin Landfill.
- Construction and Demolition (C&D) Waste Sorting - sorting of C&D waste loads to recover recyclable materials including timber, rubble/concrete and metals prior to disposal to Levin Landfill.

These options could be implemented individually or in various combinations. In some cases they could be combined with various collection options, for example Bulky Waste collection to off-set rural transfer station changes. All of the options evaluated score similar to or more than the status quo. On this basis Council will consider each option in more detail. If detailed analysis supports implementation detailed business case(s) will be prepared for consideration and inclusion in the 2021-31 LTP.

**Table 22 Physical infrastructure options - detailed evaluation**

Criteria	13. Bulky Waste Collection	14. C&I Waste Sorting	15. C&D Waste Sorting
Household costs	\$4.00/week	\$4.00/week	\$4.00/week
Rates	\$1.5 M/year	\$1.3 M/year	\$1.2 M/year
Waste diversion	25 %	31 %	31 %
Protecting people	Small increase in H&S risk	Negative impact on H&S	Negative impact on H&S
Protect our environment	Environment 4	No change - litter, refuse collection, illegal dumping	No change - litter, refuse collection, illegal dumping
Community engagement	Community mildly supportive or portion of community advocating	Community ambivalent	Community ambivalent
Economic Opportunity	Small increase in local employment	Small increase in local employment	Small increase in local employment
Innovation	Similar to current approach	Small improvements on standard approach across NZ	Small improvements on standard approach across NZ
Comments	Collection of bulky waste from households - on demand or scheduled. Target rate funded. Assume sorting of material after collection (link to kerbside, C&I or C&D sorting)	Sorting of dry C&I waste with a focus on key commodity streams (cardboard, metals, clean film, timber). Cost recovery via charging, product sale and avoided disposal costs	Sorting of dry C&D waste with a focus on key commodity streams (metals, rubble, timber). Cost recovery via charging, product sale and avoided disposal costs
Score	58	53	53

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### 7.3.3.3 Levin Landfill

The long term future of the Levin Landfill has been the subject of a range of detailed analyses considering engineering aspects and financial modelling. The landfill is currently operated on Council's behalf by MidWest Disposals Limited who are contracted until 2021. Key aspects of the current arrangement include:

- Disposal of out of district waste attracting significant revenue for Council.
- Disposal of refuse from Levin Transfer Station (owned and operated by MidWest Disposals Limited).
- Revenue sharing arrangements for all non Council controlled waste disposed of at the landfill.
- Funding of historic and current landfill capital expenditure.

Council have considered a number of options including closure of the landfill on completion of the current cell (expected mid 2019), closure at the completion of the current operations contract (2021) and continuing operation of the landfill to utilise consent airspace. Both out of district waste and material from Levin Transfer Station could be disposed of elsewhere. This means that it is possible that the quantity of waste entering the site will drop significantly in the future.

The options have been evaluated considering costs to Council (operations contract, disposal of household and refuse transfer station waste (Foxton, Shannon). Revenue has also been considered with most future scenarios representing a drop in revenue i.e. a net increase in cost to Council. Financial modelling for the landfill has assumed the site will operate for the term of the current resource consent (to 2037). Over this term revenue from covers financing and operational costs with provision for aftercare.

Key considerations include:

- The role of Levin Transfer Station in directing the majority of waste from Horowhenua District to Levin Landfill or elsewhere.
- Commercial arrangements for the operation of Levin Landfill.
- Potential contractors or partners for landfill operations.
- Sources of refuse to be disposed of at Levin Landfill i.e. potential users.
- Financing arrangements for historic and current development and operations including closure and aftercare.

Any decision on the future of Levin Landfill will take into account community views, risk (historic, current and future), the cost to Council and the value of the Landfill as a strategic asset for the District. While the evaluation presented in

Table 23 attempts to balance a range of factors costs are still a significant factor. This means that options that minimise net cost (after revenue) are likely to be preferred unless there is a significant difference for other criteria. The key differentiator is the quantity of waste disposed of at Levin Landfill although the likely cost of disposal at an alternative facility for Council controlled waste means this is the least preferred option.

Previous analysis of options has identified the importance of other components of the waste infrastructure in Horowhenua (collections, transfer stations) and potential for a partnership with the private sector. There are several companies that 'control' a significant amount of waste that could be committed to Levin Landfill. In the lead up to 2021 Council needs to:

- Determine the future of public waste disposal facilities in Levin e.g. Levin Transfer Station, potential alternative options including a transfer facility at Levin Landfill or an alternative Transfer Station in Levin.

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- Determine likely commercial opportunities for waste handling and disposal in Levin and Horowhenua.
- Continue to monitor options for management of waste for disposal from the District considering cost, community views and environmental impacts.

**Table 23 Levin Landfill options - detailed evaluation**

Criteria	16a. Continue operation of Levin Landfill under current terms	16b. Continue operation of Levin Landfill (HDC controlled waste only)	16c. Continue operation of Levin Landfill (HDC controlled + TS waste only)	17. Close Levin Landfill at 2021
Household costs	\$4.00/week	\$4.00/week	\$4.00/week	\$4.00/week
Rates <sup>27</sup>	\$1.0 M/year	\$1.5 M/year	\$1.1 M/year	\$2.5 M/year
Waste diversion	17 %	17 %	17 %	17 %
Protecting people	No change in H&S impact	No change in H&S impact	No change in H&S impact	No change in H&S impact
Protect our environment	No change - litter, refuse collection, illegal dumping	No change - litter, refuse collection, illegal dumping	No change - litter, refuse collection, illegal dumping	No change - litter, refuse collection, illegal dumping
Community engagement	Parts of the community opposed	Community ambivalent	Community ambivalent	Community mildly supportive or portion of community advocating
Economic Opportunity	No change in local employment	No change in local employment	No change in local employment	Small loss of local employment
Innovation	Similar to current approach	Similar to current approach	Similar to current approach	Similar to current approach
Comments	Continue with current commercial arrangement and quantity of waste. From around 2030 waste will need to be exported from Horowhenua adding almost 1M per year in costs	Continue operation of Levin Landfill with HDC controlled waste only (HDC Collections, Foxton/Shannon Transfer Stations and some private collections). Significant loss of revenue	Continue operation of Levin Landfill with HDC waste only (HDC Collections, Foxton/Shannon Transfer Stations, Levin Transfer Station and private collections). Significant loss of revenue	Cease operation of Levin Landfill with HDC waste disposed of at our of district landfill. Significant loss of revenue
Score	52	48	54	45

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<sup>27</sup> Estimated annual rates impact post 2021 in 2017 terms i.e. no cost escalation.

### 7.3.4 Preferred options

Based on the detailed option evaluation, the preferred configuration of the waste management system is summarised in Table 24.

**Table 24 Preferred Waste Management System Configurations**

System Component		Preferred Option(s)	
<b>Existing Components</b>			
Refuse collection	User pays bag (status quo)	Investigate limiting receptacle size via bylaw	
Recycle collection	Rates funded wheelie bin + glass crate <sup>28</sup>		
Levin Landfill	Confirm medium term strategy.		
Transfer stations	Foxton and Shannon transfer stations	Investigate options for Levin transfer facilities	
<b>To Investigate</b>			
Organic collection	Private sector services (status quo)	Rates funded service Food and/or garden	Opt in service, food and garden or garden only
Bulky waste	Bulky waste collection (bi-annual)	Bulky waste collection (on-demand)	Bulky waste voucher
C&I waste	C&I waste sorting		
C&D waste	C&D waste sorting		

The education activities proposed are relatively low cost and provide a key supporting role for other actions explored and proposed in this Waste Assessment.

The policy actions proposed support other actions (funding for collection) or provide a key supporting role for other actions explored and proposed in this Waste Assessment.

### 7.4 Proposed actions

Based on the analysis and discussion presented in the preceding sections the following options should be included in an action plan for the Horowhenua District Council Waste Minimisation and Management Plan.

#### Infrastructure actions

- Progress procurement for a new refuse collection contract as a continuation of the existing service (user pays refuse bags) with a strong focus on managing health and safety and managing market share.
- Progress procurement for a new recycling collection contract focussed on reducing health and safety risks, producing high quality recyclable materials and increasing the capture of recyclable materials from households. Consider local and out of district sorting of co-mingled paper, plastics and cans.

<sup>28</sup> Considerations will include provisions for sorting of materials (in Levin or elsewhere). A Levin based sorting facility may be able to be configured to allow for sorting of dry waste from transfer stations or bulky waste collections. There is available capacity for sorting of paper/plastic/cans in Wellington and Palmerston North.

- Progress procurement for a new transfer station operations contract (Foxton and Shannon) focussed on maintaining an acceptable level of service and maximising recovery of materials including recyclable materials, organic waste and reusable items.
- Complete detailed analysis of organic waste collection options including the status quo (private sector services), a food and garden waste collection and food waste only collection.
- Complete detailed analysis<sup>29</sup> of optimising services for bulky household waste including the role of transfer stations, potential for a voucher system and potential bulky waste collections.
- Complete detailed analysis of sorting of C&I and/or C&D waste prior to disposal of residual material. Include examination of linkages with sorting of kerbside recyclable materials and bulky waste collections.
- Council to confirm a medium term strategy for Levin Landfill that provides for full funding of historic and current development, operations, closure and appropriate management after closure.
- Work with producers and importers to improve the management of hazardous waste, including providing options in the District for specific waste streams like e-waste.

#### Education actions

- Continue to update and maintain information on the Council website regarding waste and recycling collection and drop off services in the Horowhenua District.
- Provide clear information and education to promote the effective use of private sector (for example farm plastics, soft plastics recycling, Paintwise) and Council operated recycling services.
- Disseminate information to all residents (including holiday makers/temporary residents) including national programmes like Love Food Hate Waste.
- Maintaining school education programme, support environmental education activities for schools, homes and businesses.
- Provide information to the community about the negative impact of illegal dumping and alternatives available to the community (kerbside collection, commercial skip bins and transfer stations).

#### Policy Actions

- Develop criteria for making grants available from Council's allocation of Waste Levy funds. Provisionally criteria will be based on contribution to the Vision, Goals and Objectives for waste minimisation and management with consideration of co-funding. Applications for funding should also be assessed for their ability to deliver the promised benefits i.e. due diligence on organisation capability, governance and accountability. Consideration also needs to be given to ensuring that funding supports new or expanded activities rather than supporting the status quo.
- Review and amend the existing Solid Waste Bylaw (2014). This will focus on licensing, provision of recycling and consider limiting receptacle size<sup>30</sup>. With a small number of collection providers operating in the District Council is in a position to develop pragmatic but effective approach. This will require consultation with the collection providers prior to

<sup>29</sup> Consider cost of service, diversion of materials, fairness/equity, safety and protection of the environment (illegal dumping).

<sup>30</sup> The bylaw could limit size of new containers (120-140 L is common for Council provided collections or where limits have been introduced elsewhere). For existing containers collection frequency could be limited to provide similar weekly capacity e.g. fortnightly collection of 240L wheelie bin.

formally notifying any proposed changes. The target implementation for the updated bylaw is December 2018.

- Continue to report on progress against the targets in the WMMP in Annual Reports.
- Collaborate with local government organisations, non government organisations (NGO) and other key stakeholders to progress national activity on waste minimisation and management policy.
- Continue to actively address illegal dumping activity including where possible identifying perpetrators and if required undertaking clean-up activity.

#### Indicative costs

The evaluation of options included a high level estimate of costs for various actions. Appropriately staged option investigation, procurement and policy design can be accommodated within Council's existing budget for waste services. New contracts, new services and capital investment will all have an impact on costs.

**Table 25 Cost impact of proposed actions (potential actions in *italics*)**

Year	Contracts/Services	Policy and Investigations
2017/18	No change from current	New contracts procurement
2018/19	New refuse, recycling and transfer station contract (estimate approx. 30% or 0.25M increase per annum).	Bylaw amendment Grant funding scheme development.
2019/20	No change from 2018/19	Investigate organic waste options
2020/21	No change from 2019/20	Investigate bulky, commercial and construction waste options
2021/22	No change from 2020/21	<i>LTP proposals for organic, bulky, commercial and/or construction waste recovery.</i>
2022/23	No change from 2021/22	<i>Potential procurement for organic and bulky waste recovery service</i>
2023/24	No change from 2022/23 <i>Potential new organic and/or bulky waste service (est 0.75 - 1.0M increase)</i>	<i>Potential procurement for commercial and construction waste recovery service.</i>

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## 8 Statement of proposals

The Council's 2012 Waste Management and Minimisation Plan (WMMP) was developed following completion of a Waste Assessment in 2012 which evaluated current quantities and composition of waste and diverted materials in the district, existing services, future demand for services and practicable options for addressing the various waste and diverted materials streams. The Waste Assessment has been reviewed and updated to reflect the changes that have occurred locally, regionally and nationally since that time and also to meet the requirements of the Waste Minimisation Act 2008 (WMA).

Under the WMA, Council is required to review and adopt changes to the Waste Management and Minimisation Plan (WMMP) every 6 years from 2012. Therefore, the first review is to be completed by 1 July 2018. The Plan must contain a summary of Council's waste management and minimisation objectives policies, methods and funding to achieve effective and efficient waste management and minimisation within the district. The Plan must also include a commitment to waste minimisation through consideration of the waste hierarchy and must have regard to the New Zealand Waste Strategy and the most recent Waste Assessment undertaken by Council. In addition Council must ensure that nuisance is not caused by the collection, transport and disposal of waste.

The purpose of the WMMP is to provide the basis on which future policies, service provision and facilities will be provided to manage the district's waste, and to minimise the quantities requiring disposal while making the best use of Council's resources and fostering sustainability.

This Waste Assessment has identified that almost 18,000 tonnes of waste was generated in the district in 2016. 83% of this waste was landfilled with the remainder diverted via kerbside recycling and recycling stations. The Waste Assessment has identified a range issues and opportunities to be addressed, including:

- While there is some information available about the quantity and composition of waste generated in the Horowhenua District the data is incomplete.
- There is a by-law in place that provides for collection of data and requires private sector household waste collection to help fund recycling collection. However it is not currently operating as expected with Council covering most of the cost of recycling services.
- Illegal dumping of waste is an ongoing issue.
- The Council operated transfer stations in Foxton and Shannon that are costly to operate on a per resident and per tonne basis.
- Commercial and construction waste makes up a large proportion of material disposed of to landfill from the Horowhenua District, with limited information available regarding diversion activity focussed on these waste streams.
- The current kerbside collection service for recyclable materials poses health and safety risks (broken glass, manual handling) and limited capacity.

The overall vision of the WMMP is *“to deliver community benefits and reduce waste [ or work towards zero waste]. Businesses and households in Horowhenua will be provided with efficient and effective waste minimisation and management services that recognise waste as a resource.”*

A series of waste minimisation and management targets are proposed:

- To reduce disposal of waste to landfill from Horowhenua District to below 400 kg per person.
- To recycle at least 40 % of waste collected at the roadside from households.
- To recover or recycle at least 50 % of the waste taken to transfer stations in the Horowhenua District.

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- Over 85 % of residents are satisfied with kerbside recycling, refuse and transfer station services.
- Over 75 % of residents are satisfied with Council litter and illegal dumping services.

To address the issues identified and meet the key targets, Council proposes a range of actions. The actions reflect the need to balance policy, provision of services including infrastructure and community engagement. In all cases the focus is on enabling the Horowhenua community to manage their waste according to the waste hierarchy, preferring waste avoidance, reduction and recycling over recovery and disposal of residual material. Actions relate to both continuing and enhancing existing activities and starting new activities and initiatives. The Action Plan is dynamic and needs to be responsive to changes in demand, resources and external circumstances. Making such changes and adjustments is anticipated as an integral part of this WMMP.

The Action Plan includes actions focusing on waste minimisation and management infrastructure, information and education for the community and getting the right policy framework in place.

#### **(FROM SECTION 7.4)**

The action plan as set out in the following pages has been developed to enable the Horowhenua District Council and Horowhenua community to work towards achieving the Vision - Goals - Objectives set out in the Waste Minimisation and Management Plan. The Action Plan provides a detailed plan of action for years one and two with long term actions mentioned but not detailed. Where actions have operational or financial implications they need to be confirmed in the Councils core planning documents - the Long Term Plan and Annual Plan.

The Waste Assessment recommended the following options be included in an action plan for the Horowhenua District Council Waste Minimisation and Management Plan.

#### **Infrastructure actions**

- Progress procurement for a new refuse collection contract as a continuation of the existing service (user pays refuse bags) with a strong focus on managing health and safety and managing market share.
- Progress procurement for a new recycling collection contract focussed on reducing health and safety risks, producing high quality recyclable materials and increasing the capture of recyclable materials from households. Consider local and out of district sorting of co-mingled paper, plastics and cans.
- Progress procurement for a new transfer station operations contract (Foxton and Shannon) focussed on maintaining an acceptable level of service and maximising recovery of materials including recyclable materials, organic waste and reusable items.
- Complete detailed analysis of organic waste collection options including the status quo (private sector services), a food and garden waste collection and food waste only collection.
- Complete detailed analysis<sup>31</sup> of optimising services for bulky household waste including the role of transfer stations, potential for a voucher system and potential bulky waste collections.
- Complete detailed analysis of sorting of C&I and/or C&D waste prior to disposal of residual material. Include examination of linkages with sorting of kerbside recyclable materials and bulky waste collections.
- Council to confirm a medium term strategy for Levin Landfill that provides for full funding of historic and current development, operations, closure and appropriate management after closure.

<sup>31</sup> Consider cost of service, diversion of materials, fairness/equity, safety and protection of the environment (illegal dumping).

- Work with producers and importers to improve the management of hazardous waste, including providing options in the District for specific waste streams like e-waste.

#### Education actions

- Continue to update and maintain information on the Council website regarding waste and recycling collection and drop off services in the Horowhenua District.
- Provide clear information and education to promote the effective use of private sector (for example farm plastics, soft plastics recycling, Paintwise) and Council operated recycling services.
- Disseminate information to all residents (including holiday makers/temporary residents) including national programmes like Love Food Hate Waste.
- Maintaining school education programme, support environmental education activities for schools, homes and businesses.
- Provide information to the community about the negative impact of illegal dumping and alternatives available to the community (kerbside collection, commercial skip bins and transfer stations).

#### Policy Actions

- Develop criteria for making grants available from Council's allocation of Waste Levy funds. Provisionally criteria will be based on contribution to the Vision, Goals and Objectives for waste minimisation and management with consideration of co-funding. Applications for funding should also be assessed for their ability to deliver the promised benefits i.e. due diligence on organisation capability, governance and accountability. Consideration also needs to be given to ensuring that funding supports new or expanded activities rather than supporting the status quo.
- Review and amend the existing Solid Waste Bylaw (2014). This will focus on licensing, provision of recycling and consider limiting receptacle size<sup>32</sup>. With a small number of collection providers operating in the District Council is in a position to develop pragmatic but effective approach. This will require consultation with the collection providers prior to formally notifying any proposed changes. The target implementation for the updated bylaw is December 2018.
- Continue to report on progress against the targets in the WMMP in Annual Reports.
- Collaborate with local government organisations, non government organisations (NGO) and other key stakeholders to progress national activity on waste minimisation and management policy.
- Continue to actively address illegal dumping activity including where possible identifying perpetrators and if required undertaking clean-up activity.

#### Indicative costs

The evaluation of options included a high level estimate of costs for various actions. Appropriately staged option investigation, procurement and policy design can be accommodated within Council's existing budget for waste services. New contracts, new services and capital investment will all have an impact on costs. Indicative cost impacts are summarised in Table 26.

<sup>32</sup> The bylaw could limit size of new containers (120-140 L is common for Council provided collections or where limits have been introduced elsewhere). For existing containers collection frequency could be limited to provide similar weekly capacity e.g. fortnightly collection of 240L wheelie bin.



**Table 26 Cost impact of proposed actions (potential actions in *italics*)**

Year	Contracts/Services	Policy and Investigations
2017/18	No change from current	New contracts procurement
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2019/20	No change from 2018/19	Investigate organic waste options
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2023/24	No change from 2022/23 <i>Potential new organic and/or bulky waste service (est 0.75 - 1.0M increase)</i>	<i>Potential procurement for commercial and construction waste recovery service.</i>

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## 9 Consultation with the Medical Officer of Health

Comment from Community and Public Health's Medical Officer of Health for the Horowhenua District is included as Appendix A.

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## 10 Applicability

This report has been prepared for the exclusive use of our client Horowhenua District Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Tonkin & Taylor Ltd

Report prepared by:

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Senior Consultant

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Simonne Eldridge  
Project Director

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**Appendix A: Letter/Comments from Community  
and Public Health**

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