BUILDING THE FUTURE WE WANT.

WASTE MANAGEMENT AND MINIMISATION PLAN 2018-2028
Quality Information

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<th>Document</th>
<th>DRAFT WASTE MANAGEMENT AND MINIMISATION PLAN</th>
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<td>Date</td>
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**Version 1 09 February 2018**

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<th>Prepared by</th>
<th>Reviewed by:</th>
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Foreword

This draft plan reflects a significant change in direction for the management and minimisation of solid waste in the Ruapehu District.

This change in direction has largely been prompted by the planned closure of the Taumarunui landfill, following the expiry of the current consent in 2020. In considering the options available for the future management of the district’s waste, council have also considered the potential implications for other waste services.

Maximising diversion of waste from landfill is aligned with our strategic objectives as a community, and in particular cost effectiveness, environmental and sustainability goals. The closure of the landfill, and the resulting need to transport all landfill waste out of the district, further supports the desire to maximise the quantity of waste we divert and therefore minimise the quantity of waste we need to send to landfill.

The vision Council is putting forward at the core of this draft waste management and minimisation plan (WMMP) is:

“Minimising Waste to Landfill”

This approach is aligned with the waste hierarchy, reflects the New Zealand waste strategy, and acknowledges our responsibility to manage our waste responsibly and minimise the impact on our environment.

Although the Waste Minimisation Act doesn’t require us to update our WMMP until 2021, changing circumstances mean that a new direction and therefore a new WMMP is needed. As required, we have also updated the waste assessment which provides the data and background to the WMMP. This technical document is available as an appendix to the draft WMMP.

Council feels that this change in direction is the necessary and responsible path to take for the district. We invite you to review the information provided in the draft WMMP and the waste assessment documents, consider the options set out, and provide us with feedback.

DON CAMERON
MAYOR
1 Introduction

This Waste Management and Minimisation Plan (WMMP) sets out Ruapehu District Council’s plans for managing waste in our community. It has been prepared in accordance with the requirements of the Waste Minimisation Act 2008 (WMA).

1.1 What happens with our waste?

Ruapehu District Council (Council) operates a landfill at Taumarunui, where just over 4,000 tonnes of rubbish was landfilled in the 12 months to June 2017 - this included a significant amount of material that could have been recycled, or organic waste that could have been composted. For example, nearly 70% of kerbside rubbish collected from households could be recycled or composted instead of being sent to landfill.

1.2 What is waste and why is it a problem?

Most of the things we do, buy and consume generates some form of waste. This not only costs money when we have to throw things away but, if we don’t manage it properly, it can cause problems with the environment and with people’s health.

In this WMMP, terms like ‘rubbish’, ‘recycling’, and ‘waste’ will be used that may not be familiar to you or may mean something different to the way they are used here. Definitions are provided at the end of this draft WMMP in Appendix 3.

The Waste Minimisation Act defines waste as:

“material that has no further use and is disposed of or discarded”

The Act also describes ‘waste minimisation’ as reducing waste and increasing the reuse, recycling, and recovery of waste and diverted material. ‘Diverted material’ is anything that is no longer required for its original purpose, but still has value through reuse or recycling. For example – your empty drink aluminium can is waste to you, but is worth money to metal recycling companies and so becomes ‘diverted material’ if it is recycled.

Our WMMP covers all solid waste and diverted material in the district, whether it is managed by Council or not. This does not necessarily mean that Council is going to have direct involvement in the management of all waste – but there is a responsibility for Council to at least consider all waste in our district, and to suggest areas where other groups, such as businesses or householders, could take action themselves.

Liquid and gaseous wastes are not included except where they interact with solid waste systems. This includes hazardous wastes like chemicals, and the outputs from wastewater treatment plants.

1.3 Why do we need a plan?

Managing waste and ensuring good outcomes for the community can be a complex task. We need to look after the environment, take care of people’s health, and make sure that this is done at an acceptable cost to the community. To achieve these outcomes will require all parts of the community to work together.
City and district councils have a statutory role in managing waste. Councils are required under the Waste Minimisation Act 2008 (WMA) to promote effective and efficient waste management and minimisation within their city or district. Councils also have obligations under the Health Act 1956 to ensure that our waste management systems protect public health. A key part of doing this is to adopt a Waste Management and Minimisation Plan (WMMP).

This WMMP sets the priorities and strategic framework for managing waste in our district. Once the plan is adopted, the actions will be carried forward into our long term and annual plans to ensure the resourcing is available to deliver the plan’s goals and objectives.

In line with the requirement of section 50 of the WMA, our WMMP needs to be reviewed at least every six years after its adoption. Councils may elect to review any or all aspects of the Plan at any time prior to this, if they consider circumstances justify such a review.

While it has only been two years since the last waste management and minimisation action plan was developed, a number of actions have been completed such as education and engagement around services, audits, and infrastructure improvements. There is also now greater clarity on the council’s plans with respect to the Taumarunui landfill; with the preferred option now to close the landfill and instead prioritise waste reduction and diversion. This issue forms a significant part of this WMMP.

### 1.4 What does the plan have to contain?

The plan must meet requirements set out in the Waste Minimisation Act, including to:

- Consider the ‘Waste Hierarchy’ which sets priorities for how we should manage waste (see figure 1)
- Ensure waste does not create a ‘nuisance’
- ‘Have regard to’ the New Zealand Waste Strategy and other key government policies, which emphasise reducing harm and improving the efficiency of resource use
- Consider the outcomes of the ‘Waste Assessment’ (this is a review of all information that we have about the current waste situation in Ruapehu district, including rubbish from households and businesses)
- Follow the Special Consultative Procedure set out in the Local Government Act (2002).
1.4.1 The waste hierarchy

The ‘waste hierarchy’ refers to the idea that reducing, reusing, recycling and recovering waste is preferable to disposal (which in New Zealand usually means a landfill). The waste hierarchy can be shown like this:

Figure 1: The Waste Hierarchy

Source: www.mfe.govt.nz
1.5 Other relevant strategies and plans

As well as aligning to Council’s LTP and Annual Plans, the WMMP must also support or align with other strategies and plans.

Relevant government policy for local government over the last three terms (2009 – 2017) has focused on the following areas:

- fiscal responsibility, transparency and accountability;
- efficiency; through service reviews, joint working, and amalgamation;
- sustainable procurement, with a particular focus on innovation and partnership working; and
- economic growth.

It is not yet clear what direction will be taken by the new government with respect to local government.

Other key strategies related to waste include the New Zealand Waste Strategy which has two goals – to reduce harm, and to improve resource efficiency.

The Horizons Regional Council adopted the ‘One Plan’ in November 2014\(^1\). This document covers the requirements of the consolidated regional policy statement, the regional plan, and the regional coastal plan for the region.

In the One Plan, the regional council states that it recognises “the need to focus on the full life cycle of waste from generation to disposal, and that waste is a wasted resource.”

1.6 The structure of our plan

This plan is in three parts

**Part A: The Strategy:** This contains the core elements of the strategy including vision, goals, objectives, and targets. It essentially sets out what we are aiming to achieve, and the broad framework for working towards the vision.

**Part B: Action Plan.** The action plan set out the proposed specific actions to be taken to achieve the goals, objectives, and targets set out in Part A. Part B also sets out how we will monitor and report on our actions and how they will be funded.

**Part C: Supporting Information.** This part contains the background information that has informed the development of our WMMP. Most of this information is contained in the Waste Assessment, which is included in Part C.

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\(^1\) Available at [www.horizons.govt.nz/publications-feedback/one-plan](http://www.horizons.govt.nz/publications-feedback/one-plan)
2 Ruapehu District Council vision, goals, objectives and targets

This section sets out what we want to try and achieve through our plan. It has been developed after listening to the views of people in our community, considering how we can work best together, and taking into account all of our obligations. Council wants to hear your views on the proposed direction for waste management and minimisation in the Ruapehu district.

2.1 Our vision

“Minimising Waste to Landfill”

This vision reflects the aspirations of the Ruapehu district community. It reflects the intended direction for the district away from relying on landfill disposal within the district to, instead, putting maximum effort into diversion from landfill and using landfill disposal as last resort.

This approach is aligned with the waste hierarchy, reflects the New Zealand waste strategy, and acknowledges our responsibility to manage our waste responsibly and minimise the impact on our environment; particularly as all landfill waste must be transported out of the district following the closure of the Taumarunui landfill.

2.2 Tangata whenua worldview of waste management

This vision aligns with tangata whenua principles such as kaitiakitanga and mauri, taking an integrated view of the environment and aiming to protect land, air and water from the possible negative impacts resulting from the inappropriate management of waste.

Traditionally, tangata whenua societies produced only organic wastes which could be managed by returning these to the land. In modern times, this is no longer possible due to the increase in volumes and a shift to non-organic and potentially hazardous waste types.

Kaitiakitanga, mauri, and the waste hierarchy are seen as an aligned set of principles that support our vision of minimising the amount of waste we send to landfill.

2.3 Goals and objectives

Our vision will be realised through achieving a set of supporting goals and objectives set out in the table below.

In some areas it makes sense for councils to collaborate to gain efficiencies, share risk and achieve greater outcomes for our communities. Where it aligns and makes sense, Ruapehu District Council will work with other territorial and regional councils, private and community sectors, and central government to achieve shared goals and objectives.

Goal 1: A community committed to reducing, reusing, and recycling and minimising waste sent to landfill

<table>
<thead>
<tr>
<th>Code</th>
<th>[Council] Objectives (CO)</th>
</tr>
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<tbody>
<tr>
<td>CO1</td>
<td>Provide sustainable services that are cost-effective to the community as a</td>
</tr>
<tr>
<td>Code</td>
<td>Objective</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>CO2:</td>
<td>Improve and modify collections and facilities so that more material, and a wider range of items, can be diverted from landfill</td>
</tr>
<tr>
<td>CO3:</td>
<td>Prioritise other waste reduction, reuse and recovery &amp; recycling initiatives which align with other council objectives such as social &amp; business development; and environmental protection</td>
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with other council objectives such as social & business development; and environmental protection

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<tbody>
<tr>
<td><strong>T3</strong></td>
<td>All waste initiatives and services implemented during the term of this WMMP take into consideration broader council social and environmental objectives during the development and assessment of costs and benefits stages</td>
</tr>
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<tbody>
<tr>
<td><strong>T4</strong></td>
<td>A minimum of three new initiatives are implemented by 2020 which focus on waste reduction, reuse or recovery/recycling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>CO3</strong></th>
<th>Improve council access to information on waste and recovered materials in both Council-contracted and private sector activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>T5(a)</strong></td>
<td>By 2020, all council-controlled waste contracts include clauses requiring the contractor to provide data on all refuse and diverted materials collected (both council services and other services) and this requirement is notified at the tender stage of procurement</td>
</tr>
</tbody>
</table>

| **T5(b)** | By 2020, introduce a waste licensing system which includes a mechanism to collect waste data relating to council and privately collected waste |

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### SMART Targets

The targets developed for this plan are SMART targets. The list below shows how our targets are in line with each of the criteria:

- **Specific:** Each target relates to a defined waste stream
- **Measureable:** The targets are all quantified and based on data that is currently available
- **Achievable:** The targets are based on outcomes from specific actions, and the level of performance we are aiming for is in line with best practice already achieved by other councils in New Zealand or overseas
- **Relevant:** These targets will be good indicators of how well we are progressing towards our vision, goals and objectives
**Time-Related:** We are trying to meet the targets by 2022, and will set annual targets for the purposes of monitoring progress.
3 What we have considered

In preparing this WMMP we have taken into account a wide range of considerations including the following:

- The potential future costs of operating a landfill in the district
- Costs of alternative management approaches
- Information on the waste we generate and manage in our district
- Projections of how our population, visitor numbers, and economy might change over time
- The waste hierarchy
- Public health
- Tangata Whenua worldview on waste

The detail of the above information is contained in the Waste Assessment (and other supporting documentation) which is presented in Part C.

We have also taken into account a large number of plans, policies and legislation and their requirements. These include the following:

- The Waste Minimisation Act (WMA) 2008
- The Local Government Act (LGA) 2002
- The Hazardous Substances and New Organisms (HSNO) Act 1996
- The Resource Management Act (RMA) 1991
- The Health Act 1956
- The Health and Safety at Work Act 2015
- Climate Change (Emission Trading) Amendment Act 2008
- The New Zealand Waste Strategy (NZWS)
- Regional Policy Statement (the One Plan) for the Horizons Region (2014)
- The Council’s Long Term Plan

Further information on the above plans, policies and legislation and how it has been considered in the formulation on this plan is contained in the Waste Assessment.
4 The waste situation

4.1 Long term and global considerations

There is increasing awareness of waste issues globally, for example with the issues of plastic waste in the oceans, the amount of food that is wasted, and recently with the role of China in the global recycling markets becoming more uncertain. While consumption and populations continue to grow, waste management and minimisation will continue to be an important issue locally and globally.

4.2 Summary of national waste situation and activities

The management requirements in New Zealand for landfills have become more strict, and operating landfills has become more expensive, partly due to the regulations and partly due to extra costs like the $10 per tonne waste disposal levy (paid to government) and the inclusion of landfills in the New Zealand emissions trading scheme. Apart from a decrease during the global financial crisis in 2011 and 2012, the amount of waste sent to landfill in New Zealand has been increasing fairly rapidly. New Zealand is now sending a third more waste to landfill than we did back in 2009 when the waste disposal levy was introduced.

With the change of government in late 2017, it is now more likely that there will be changes made to national regulation and tools such as the landfill levy, which is currently $10 per tonne, product stewardship schemes, and the emissions trading scheme. This makes it particularly important that Council takes full consideration of the possible future cost of operating their own landfill.

There may also be more work done on the lack of data in New Zealand, following on from previous projects that focused on municipal waste going to landfills.

A national project focusing on farm waste is in the final stages, with trials of various options taking place around the country. The outcomes of these trials will be important for Ruapehu district, with so much farming activity in our area.

4.3 Our district

In 2016, just over 4,000 tonnes of waste was sent to Taumarunui landfill, with an unknown quantity sent to the NZDF landfill in Waiouru. This consisted of waste collected at the kerbside through the Council collection, waste sent to landfill from the resource recovery centres around the district, and waste that is taken directly to the landfill by private contractors, householders, and businesses.

An estimated total 12,000 tonnes of solid waste from Ruapehu were disposed of to land in the last year. This includes other waste that does not go to ‘Class 1’ landfills. Waste disposed of at Class 2-4 landfills is estimated nationally to be approximately double the quantity of waste that is sent to a Class 1 landfill, like Taumarunui.

Just under 3,000 tonnes of waste was recovered in 2016, largely through the Council kerbside collection and resource recovery centres.
4.4 Composition of waste to landfills

A survey was undertaken of the waste being thrown into the Taumarunui landfill, and the following chart shows the types of materials we throw out. The biggest single amount is food waste, and most of this material could be recovered for composting. We also throw away lots of plastic, paper, metal, and glass which can be recycled.

**Figure 2: Composition of Landfill Rubbish**

However the rubbish surveyed at the landfill was mostly made up of bags, and so there is probably a higher proportion of construction and demolition waste and other industrial-type wastes going into the landfill.

4.5 Material diverted from landfill

Although we are throwing away about 4,000 tonnes of material into landfill each year, we are recovering nearly 3,000 tonnes each year as well. Material that is recovered from landfill is called ‘diverted material’.

The main materials diverted from the district are glass bottles and jars, paper/card, metals, and greenwaste. All recyclable materials are bulked at the Taumarunui landfill/transfer station, and transported for recycling at facilities in Auckland or north Waikato.

Greenwaste is chipped and stored on the landfill site.

E-waste is also collected and recycled through the South Waikato Achievement Trust in Tokoroa.

Tonnages are available as a collated figure being transported out of the Taumarunui facility. These are shown below, along with greenwaste.
Table 2: Material diverted from landfill

<table>
<thead>
<tr>
<th>Tonnes/annum</th>
<th>2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper/cardboard</td>
<td>576</td>
</tr>
<tr>
<td>Plastics type 1 &amp; 2</td>
<td>173</td>
</tr>
<tr>
<td>Glass bottles and jars</td>
<td>1,331</td>
</tr>
<tr>
<td>Greenwaste</td>
<td>560</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2,640</strong></td>
</tr>
<tr>
<td>Diversion Rate</td>
<td>40%</td>
</tr>
</tbody>
</table>

4.6 Waste minimisation performance

The services provided by Council currently show a 42% diversion rate. When compared to other councils, the amount of waste sent to landfill per person each year is average at 368kg.

The last WMMAP did not include any targets.

4.6.1 Projections of future demand

Total waste and recovered material quantities in Ruapehu District are estimated to grow slowly over the next ten years in line with population and economic growth. For the purposes of projecting total waste quantities, it has been assumed that kerbside refuse, greenwaste, and all recyclables will grow in line with population. Council population projections have been used for estimating kerbside recycling and refuse. It is assumed that other waste to landfill (mainly industrial/commercial/institutional waste and drop-off materials) and construction/demolition waste will grow at a similar rate as GDP.

4.7 Key issues

The Waste Assessment looked across all aspects of waste management in the district, (including some of the data presented in this section), and identified the main areas where we could improve our effectiveness and efficiency in managing and minimising waste.

Local council issues: issues under council’s area of control are:

1. **Landfill disposal**: Council has the choice between continuing to use the landfill at Taumarunui (which would need a new consent), or using the site for other purposes and using a landfill out of the district. The landfill at Waikouru is also close to the end of its life, although this is not in Council’s direct control.

2. **Kerbside recycling**: Increasing the capacity of the kerbside recycling collection, so that householders are able to have the majority of their recycling collected at the kerbside.
3. **Food Waste:** Food waste is likely to represent a large proportion of the waste being landfilled. This is potentially the biggest opportunity to improve diversion.

4. **WaioRu Kerbside Services:** Although not directly in Council’s control, Council has a significant role to play in ensuring that these residents receive comparable services to the rest of the district.

5. **Farm waste:** While originating in similar locations to rural waste, farm waste is usually very specific types of material and requires specific management. These include things like silage wrap, drench and farm chemical containers, leftover chemicals, veterinary supplies etc. Estimates suggest that there could be substantial quantities of farm waste in the district, and we need to make sure this is well understood and managed.

6. **Cleanfill Disposal:** Formal cleanfill disposal (class 4 landfills) are not easily accessible in the district.

7. **Data and Monitoring:** Although there is some composition data, the composition of waste going into the landfill is not well understood.

8. **Regulation:** Council does not have a bylaw

Addressing these issues is a key focus of the WMMP.
5 Introduction

The following action plan sets out how Council intends to work towards the vision, goals, and objectives, and address the issues outlined in Part A of the WMMP.

The action plan aims to set out clear, practical initiatives that Ruapehu District Council will implement, either on our own or jointly. While the action plan forms part of the WMMP, they are intended to be useful ‘living’ documents that can be regularly updated to reflect current plans and progress. Under the WMA the plans can be updated without triggering the need for a formal review of the WMMP, as long as the changes are not significant and do not alter the direction and intent of the strategy as set out in Part A. These changes would be made as part of the annual planning process.

5.1 Considerations

This action plan is a strategic document outlining high level intentions for actions to meet our obligations under the WMA.

Further work will be required to determine the costs and feasibility of some projects, which may impact how, when or if they are implemented. Detailed assessments of some actions will be carried out prior to their implementation.

In some instances, the delivery of the actions set out in this action plan will depend on the development or amendment of contractual arrangements with providers. The nature of these contractual arrangements cannot be pre-empted and may impact the nature, timing or cost of these projects.

5.2 Council’s intended role

Council intends to oversee, facilitate and manage a range of programmes and interventions to achieve effective and efficient waste management and minimisation within the district. Council will do this through our internal structures responsible for waste management. We are responsible for a range of contracts, facilities and programmes to provide waste management and minimisation services to the residents and ratepayers of the Ruapehu District.
## 6 Action plan

### 6.1 Summary of actions and proposed methods for achieving waste management and minimisation

Table 4: Proposed Methods

<table>
<thead>
<tr>
<th>Action Area</th>
<th>Key Actions</th>
<th>Issues Addressed and What it Will Do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection Services</td>
<td>Extend kerbside recycling collection, introduce food waste collection, expand resource recovery centres</td>
<td>Ensure maximum diversion of key waste streams for householders</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Close Taumarunui landfill, use alternative disposal point, establish Class 4 landfill at Taumarunui</td>
<td>Minimise Council’s exposure to potential future landfill management costs</td>
</tr>
<tr>
<td>Regulation</td>
<td>Introduce a solid waste bylaw to support other WMMP actions</td>
<td>Ability to use regulatory powers if necessary, and clarify roles and responsibilities</td>
</tr>
<tr>
<td>Monitoring and measuring</td>
<td>Increase monitoring of waste streams</td>
<td>Target future actions towards areas of greatest potential</td>
</tr>
<tr>
<td>Education</td>
<td>Increased education and engagement to support new services</td>
<td>Customers will understand new services and use them effectively</td>
</tr>
<tr>
<td>Leadership and Management</td>
<td>Negotiate with NZDF regarding Waiouru</td>
<td>Householders in Waiouru will have access to services comparable with the rest of the district</td>
</tr>
<tr>
<td>Regulation</td>
<td>Reference &amp; Title</td>
<td>Description</td>
</tr>
<tr>
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</tr>
<tr>
<td>Bylaws</td>
<td>Develop and implement a solid waste bylaw that is aligned to and supports any changed services or operations, following the expiry of the consent for Taumarunui landfill in 2020 and tendering services</td>
<td>New</td>
</tr>
<tr>
<td>Enforcement</td>
<td>Take enforcement action against those that dump rubbish illegally where possible</td>
<td>Existing</td>
</tr>
</tbody>
</table>

Rationale: Ruapehu District Council currently does not have a solid waste bylaw. It would be sensible to develop and adopt one that is aligned with any changes to services and management options, particularly with the significant changes that are proposed. Continued enforcement action against those that dump illegally will support the implementation of more positive management options.

<table>
<thead>
<tr>
<th>Data</th>
<th>Reference &amp; Title</th>
<th>Description</th>
<th>New or existing action</th>
<th>Timeframe</th>
<th>Funding</th>
<th>Strategic Goals &amp; Hierarchy Position</th>
<th>Contribution to Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Develop a data strategy that is aligned with the national waste data framework will ensure that Council is collecting accurate and appropriate</td>
<td>New</td>
<td>2018</td>
<td>$15 - $25k – waste levy</td>
<td>General support and guides future actions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
aligned with the national waste data framework:

- data to use in future waste assessments.
- This may involve carrying out ‘SWAP’ composition studies, and/or using a weighbridge to collect data on the quantity of wastes from kerbside rubbish and recycling collections.

**Rationale:** Better data on a wider range of waste streams will provide essential information to support procurement processes, enable Council to better prioritise waste management and minimisation activities in future, and to benchmark against other local authorities.

### Communications

<table>
<thead>
<tr>
<th>Reference &amp; Title</th>
<th>Description</th>
<th>New or existing action</th>
<th>Timeframe</th>
<th>Funding</th>
<th>Strategic Goals &amp; Hierarchy Position</th>
<th>Contribution to Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extended education and engagement</strong></td>
<td>Extend education and engagement to provide additional information on existing services and, in particular, about new services should these be introduced</td>
<td>New</td>
<td>As required</td>
<td>$5-8k, depending on scope of change – levy funding</td>
<td>General support and specific support of any service changes</td>
<td></td>
</tr>
<tr>
<td><strong>Home composting scheme</strong></td>
<td>Provide subsidised home composting bins, along with targeted education and support to ensure these are used. Target households that would not have access to the kerbside collection system.</td>
<td>New</td>
<td>2019</td>
<td>$5K annually – levy funding</td>
<td>General support, and a small contribution to diversion from landfill</td>
<td></td>
</tr>
</tbody>
</table>
Rationale: the community needs to understand the motivations and reasons for actions Council takes, and how they can support these. When/if services are changed or new services are introduced, a one-off campaign will be needed to ensure that householders use services to the maximum potential possible and that contamination is minimised.

### Collections

<table>
<thead>
<tr>
<th>Reference &amp; Title</th>
<th>Description</th>
<th>New or existing action</th>
<th>Timeframe</th>
<th>Funding</th>
<th>Strategic Goals &amp; Hierarchy Position</th>
<th>Contribution to Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve kerbside recycling</td>
<td>Improve existing services, by increasing capacity for the recycling collection and expanding the range of materials collected</td>
<td>New</td>
<td>2020-21</td>
<td>Waste levy initially, rates thereafter</td>
<td>Direct contribution to diversion from landfill</td>
<td></td>
</tr>
<tr>
<td>Introduce a food waste collection</td>
<td>Introduce a kerbside food waste collection</td>
<td>New</td>
<td>2020-21</td>
<td>Waste levy initially, rates thereafter</td>
<td>Direct contribution to diversion from landfill</td>
<td></td>
</tr>
<tr>
<td>Extend RRCs</td>
<td>Increase range of materials accepted at resource recovery centres and transfer station, potentially including reuse and farm waste</td>
<td>New</td>
<td>2020-21</td>
<td>Waste levy initially, rates thereafter</td>
<td>Direct contribution to diversion from landfill</td>
<td></td>
</tr>
</tbody>
</table>

Rationale: Currently the kerbside recycling collection suffers from lack of capacity for all recyclables from a household. Extending the service would ensure that householders can divert the maximum quantity of recyclables from landfill.

Introducing a kerbside food waste collection will divert a significant proportion of waste from landfill. Food waste can be processed locally into a beneficial product.
Farm waste is a specific waste stream which requires specific management and services. A project is currently underway trialling various services that are targeted at farm wastes. Council could implement the outcomes of this project, once results are known.

**Infrastructure**

<table>
<thead>
<tr>
<th>Reference &amp; Title</th>
<th>Description</th>
<th>New or existing action</th>
<th>Timeframe</th>
<th>Funding</th>
<th>Strategic Goals &amp; Hierarchy Position</th>
<th>Contribution to Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alter Taumarunui site, and use an alternative disposal point</td>
<td>Allow Taumarunui landfill consent to expire and use an alternative disposal point, establishing a Class 4 (cleanfill) disposal site</td>
<td>New</td>
<td>2020</td>
<td>Rates</td>
<td>Direct contribution to diversion from (class 1) landfill</td>
<td></td>
</tr>
</tbody>
</table>

Rationale: Analysis shows that continuing to operate a landfill in the district is likely to cost more in the long term than using an alternative out of district option. This is particularly true if other services are developed or introduced, such as extended kerbside recycling and a new food waste collection.

**Leadership & Management**

<table>
<thead>
<tr>
<th>Reference &amp; Title</th>
<th>Description</th>
<th>New or existing action</th>
<th>Timeframe</th>
<th>Funding</th>
<th>Strategic Goals &amp; Hierarchy Position</th>
<th>Contribution to Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiouru</td>
<td>Work with NZDF to develop a</td>
<td>Extension of</td>
<td>2019</td>
<td>Waste levy</td>
<td>Could contribute</td>
<td></td>
</tr>
</tbody>
</table>

21  DRAFT RUapeHU DISTRICT COUNCIL WMMP
<table>
<thead>
<tr>
<th>Services</th>
<th>comprehensive service delivery and waste management plan for Waiouru</th>
<th>existing and/or rates</th>
<th>to diversion from landfill, depending on what services are provided</th>
</tr>
</thead>
</table>

Rationale: There are questions about how long Waiouru landfill will be available, and whether services provided to these householders can be the same as those for the rest of the district. Council will need to work closely with NZDF to resolve these issues.
7 Monitoring evaluating and reporting progress

7.1 Monitoring and Reporting

Progress on development and implementation of the WMMP will be reported to Council through the Chief Executive on an annual basis, or more frequently as required to review progress and make decisions in respect to the WMMP and its implementation.

Actions with significant financial implications will be referred to Council for decisions at the appropriate time.

This WMMP contains a number of actions with carrying timeframes (refer to Part B), as well as a set of waste minimisation targets (refer section Error! Reference source not found.).

Each of these actions and targets will be reported against in terms of progress to the Chief Executive and then to Council.
8 Funding the plan

The Waste Minimisation Act 2008 (s43) (WMA) requires that the Councils include information about how the implementation of this Plan will be funded, as well as information about any grants made and expenditure of waste levy funds.

8.1 Funding local actions

There are a range of options available to local councils to fund the activities set out in this plan. These include:

- Uniform Annual General Charge (UAGC) - a charge that is paid by all ratepayers
- User Charges - includes charges for user-pays collections as well as transfer station gate fees
- Targeted rates - a charge applied to those properties receiving a particular council service (kerbside collection)
- Waste levy funding - The Government redistributes funds from the $10 per tonne waste levy to local authorities on a per capita basis. By law 50% of the money collected through the levy must be returned to councils. This money must be applied to waste minimisation activities
- Waste Minimisation Fund - Most of the remaining 50% of the levy money collected is redistributed to specific projects approved by the Ministry for the Environment. Anyone (including councils) can apply to the WMF for funding for projects
- Sale of recovered materials - The sale of recovered materials can be used to help offset the cost of some initiatives
- Private sector funding - The private sector may undertake to fund/supply certain waste minimisation activities, for example in order to look to generate income from the sale of recovered materials etc. Council may look to work with private sector service providers where this will assist in achieving the WMMP goals.

Funding considerations take into account a number factors including:

- Prioritising harmful wastes;
- Waste minimisation and reduction of residual waste to landfill;
- Full-cost pricing - ‘polluter pays’;
- Public good vs. private good component of a particular service;

---

2 In accordance with s46 (2) of the Act, the Councils can charge fees for a facility that are higher or lower than required to recover the costs to provide the service, providing the incentives or disincentives will promote waste minimisation.
• That the environmental effects of production, distribution, consumption and disposal of goods and services should be consistently costed, and charged as closely as possible to the point they occur to ensure that price incentives cover all costs;
• Protection of public health;
• Affordability; and
• Cost effectiveness.

The potential sources of funding for each of the actions are noted in the tables in Part B of the WMMP. Budgets to deliver the activities set out in this plan will be carefully developed through our Annual Plan and Long Term Plan processes. The approach taken will be to implement as many of the activities as possible while controlling costs and, where possible, taking advantage of cost savings and efficiencies. It is anticipated that by setting appropriate user charges, reducing costs through avoided disposal, more efficient service delivery from joint working, and targeted application of waste levy money, the increased levels of waste minimisation as set out in this WMMP will be able to be achieved without overall additional increases to the average household cost.

8.2 TA Waste levy funding

Council receive, based on population, a share of national waste levy funds from the Ministry for the Environment. It is estimated that at the current rate of $10 per tonne our council’s total share of waste levy funding will be approximately $48,000 per annum (in 2018).

The WMA requires that all waste levy funding received by Councils must be spent on matters to promote waste minimisation and in accordance with their WMMP.

Waste levy funds can be spent on ongoing waste minimisation services, new services, or an expansion of existing services. The funding can be used on education and communication, services, policy research and reporting, to provide grants, to support contract costs, or as infrastructure capital.

We intend to use our waste levy funds for a range of waste minimisation activities and services as set out in the Action Plans – including participating in regional, sub-regional and national activities.

In addition, we may make an application for contestable waste levy funds from the Waste Minimisation Fund, either separately, with other Councils, or with another party. The Waste Minimisation Fund provides additional waste levy funds for waste minimisation activities.
Part C: Supporting information

Glossary of terms
Calculation of Targets
Waste Assessment
**A.1.0 Glossary of Terms**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;D Waste</td>
<td>Waste generated from the construction or demolition of a building including the preparation and/or clearance of the property or site. This excludes materials such as clay, soil and rock when those materials are associated with infrastructure such as road construction and maintenance, but includes building-related infrastructure.</td>
</tr>
<tr>
<td>Cleanfill</td>
<td>A cleanfill (properly referred to as a Class 4 landfill) is any disposal facility that accepts only cleanfill material. This is defined as material that, when buried, will have no adverse environmental effect on people or the environment.</td>
</tr>
<tr>
<td>Disposal</td>
<td>Final deposit of waste into or onto land, or incineration</td>
</tr>
<tr>
<td>Diverted Material</td>
<td>Anything that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be disposed of or discarded.</td>
</tr>
<tr>
<td>Domestic Waste</td>
<td>Waste from domestic activity in households.</td>
</tr>
<tr>
<td>ETS</td>
<td>Emissions Trading Scheme</td>
</tr>
<tr>
<td>Food waste</td>
<td>Any food scraps – from preparing meals, leftovers, scraps, tea bags, coffee grounds</td>
</tr>
<tr>
<td>Green waste</td>
<td>Waste largely from the garden – hedge clippings, tree/bush prunings, lawn clippings</td>
</tr>
<tr>
<td>Hazardous waste</td>
<td>Waste that can cause harm or damage, to people or the environment, like strong chemicals. Shouldn’t go in to landfills.</td>
</tr>
<tr>
<td>ICI</td>
<td>Industrial, Commercial, Institutional</td>
</tr>
<tr>
<td>Landfill</td>
<td>Tip or dump. A disposal facility as defined in S.7 of the Waste Minimisation Act 2008, excluding incineration. Includes, by definition in the WMA, only those facilities that accept ‘household waste’. Properly referred to as a Class 1 landfill</td>
</tr>
<tr>
<td>LGA</td>
<td>Local Government Act 2002</td>
</tr>
<tr>
<td>LTP</td>
<td>Long Term Plan</td>
</tr>
<tr>
<td>Managed Fill</td>
<td>A disposal site requiring a resource consent to accept well-defined types of non-household waste, e.g. low-level contaminated soils or industrial by-products, such as sewage by-products. Properly</td>
</tr>
</tbody>
</table>
referred to as a Class 3 landfill.

**MfE**  Ministry for the Environment

**MGB**  Mobile garbage bin – wheelie bin.

**MRF**  Materials Recovery Facility

**MSW**  Municipal Solid Waste

**New Zealand Waste Strategy**  A document produced by the Ministry for the Environment in 2010. Currently being reviewed.

**NZWS**  New Zealand Waste Strategy

**Putrescible, garden, greenwaste**  Plant based material and other bio-degradable material that can be recovered through composting, digestion or other similar processes.

**Recovery**  a) extraction of materials or energy from waste or diverted material for further use or processing; and

b) includes making waste or diverted material into compost

**Recycling**  The reprocessing of waste or diverted material to produce new materials

**Reduction**  a) lessening waste generation, including by using products more efficiently or by redesigning products; and

b) in relation to a product, lessening waste generation in relation to the product

**Reuse**  The further use of waste or diverted material in its existing form for the original purpose of the materials or products that constitute the waste or diverted material, or for a similar purpose

**RRP**  Resource Recovery Park

**RTS**  Refuse Transfer Station

**Rubbish**  Waste, that currently has little other management options other than disposal to landfill

**Service Delivery Review**  As defined by s17A of the LGA 2002. Councils are required to review the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance
A review under subsection (1) must consider options for the governance, funding, and delivery of infrastructure, services, and regulatory functions.

**TA**
Territorial Authority (a city or district council)

**Transfer Station**
Where waste can be sorted for recycling or reprocessing, or is dumped and put in to larger trucks for transport to landfill

**Treatment**
a) means subjecting waste to any physical, biological, or chemical process to change its volume or character so that it may be disposed of with no or reduced adverse effect on the environment; but

b) does not include dilution of waste

**WA**
Waste Assessment as defined by s51 of the Waste Minimisation Act 2008. A Waste Assessment must be completed whenever a WMMP is reviewed

**Waste**
Means, according to the WMA:

a) Anything disposed of or discarded, and

b) Includes a type of waste that is defined by its composition or source (for example, organic waste, electronic waste, or construction and demolition waste); and

c) To avoid doubt, includes any component or element of diverted material, if the component or element is disposed or discarded.

**Waste Assessment**
A document summarising the current situation of waste management in a locality, with facts and figures, and required under the Waste Minimisation Act.

**Waste Hierarchy**
A list of waste management options with decreasing priority – usually shown as ‘reduce, reuse, recycle, reprocess, treat, dispose’

**WMA**
Waste Minimisation Act (2008)

**WMMP**
A Waste Management and Minimisation Plan as defined by s43 of the Waste Minimisation Act 2008

**WWTP**
Wastewater treatment plant

**Zero Waste**
A philosophy for waste management, focusing on Council/community partnerships, local economic development, and
viewing waste as a resource. Can also be a target (but not in this case).
A.2.0 How the targets are calculated

The targets are based on estimates that we have made of how much impact the actions set out in this plan should have. The estimates are based on the outcomes of modelling we did to calculate what would happen when we undertake the proposed actions in the plan and what the cost impacts would be.

The targets have also been structured to align with the draft Indicators in the National Waste Data Framework.

A.2.1 Target 1: Total kg per person to landfill.

The amount of general waste sent to landfill per person is predicted to decrease significantly from 0.368 kg per person in 2016/17, to 0.175 kg per person in 2022/23.

It is important to note that although the usually resident population of the district is not predicted to increase during this time, the total quantities of waste are predicted to increase slightly due to visitor numbers. If visitor numbers are lower than predicted, then this target may be exceeded. If the usually resident population of the district does unexpectedly increase, then the target may be more difficult to achieve.

A.2.2 Targets 2, 2a,2b and 2c: A decrease in kerbside household waste to landfill

The amount of material that is diverted to landfill is predicted to increase significantly following the introduction of new collection services, other services, and facilities.

The total amount of diverted material per person is currently 222 kg per person per annum. In 2022/23, this is predicted to increase to around 600 kg per person per annum.

As above, if visitor numbers are lower than predicted and the total waste stream does not increase, this target may be more difficult to reach. If the usually resident population of the district does unexpectedly increase, then the target may be easier to achieve.

Target 2 aligns with the draft National Waste Data Framework Indicator 2A. Target 2a aligns with the draft National Waste Data Framework Indicator 3A.
Acknowledgements

Disclaimer

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

The Waste Assessment provides the logic and background to the long term management and minimisation of waste in the Ruapehu District, as set out in the draft Waste Management and Minimisation Plan 2018 (WMMP 2018).

Waste management and minimisation is an important part of achieving Council’s vision. The purpose of waste management and minimisation is to efficiently provide services, facilities, and an environment that attracts people to the area and encourages good health, education and stewardship for all residents.

Council regards this activity, which sets out how all waste streams in the District will be managed and/or minimised, as an essential service for the public good. Council’s role is to ensure that a full Waste Assessment, covering all waste streams in the district, are identified and that management and/or minimisation options for these waste streams are identified in the WMMP 2018 action plan. These actions are not necessarily the responsibility of the Council; however Council is required to identify, and provide for the management and/or minimisation of ALL waste streams in the district regardless of whether these are household waste streams or from businesses and industry.

Key Issues

Council is required to identify the current management of all waste streams, predict future demand for waste management and minimisation services, and identify gaps where current or planned services do not meet the predicted demand. The WMMP 2018 then puts forward a number of actions that are intended to mitigate these gaps.

Key gaps identified in this waste assessment include:

- Landfill disposal: operating consents for the main landfill at Taumarunui, and the smaller New Zealand Defence Force landfill at Waiouru, are both close to expiry;
- Kerbside recycling: the capacity of the existing kerbside recycling service does not meet the needs of many householders;
- Food waste: a significant proportion of waste going to landfill is food waste, which makes landfill disposal more costly and environmentally harmful. These wastes could instead be separated and processed to provide a valuable soil amendment product;
- Kerbside services for Waiouru: these services are provided via the New Zealand Defence Force and Council should have a more extensive role in the design and provision of these services;
- Farm wastes: agricultural activity in the district suggests that there are likely to be significant quantities of specific waste streams that arise from these activities. These need to be better understood and, potentially, better managed;
- Cleanfill disposal: formalised cleanfill disposed (class 4 landfills) is not easily accessed within the district;
- Data and monitoring: the composition of waste going in to the existing landfills is not well understood; and
- Regulation: Council does not currently have a specific solid waste bylaw.
Projected Financials

Project expenditure on operational and capital costs are as shown in the two tables below.

**Operational Expenditure**

**Capital Expenditure**
1 Introduction

This Waste Assessment has been prepared for Ruapehu District Council (the Council) in accordance with the requirements of the Waste Minimisation Act 2008 (WMA). This document provides background information and data to support the Council’s waste management and minimisation planning process.

1.1 Structure of this Document

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

Introduction

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

Manawatu-Wanganui Region

This section presents a brief overview of key aspects of the region’s geography, economy, and demographics that influence the quantities and types of waste generated and potential opportunities. It also provides an overview of regional waste facilities, and initiatives that may be of relevance to how we manage our waste.

Our District

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

Waste Infrastructure, Services, Data and Performance Measurement

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

Gap Analysis and Future Demand

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

Statement of Options & Council’s Proposed Role

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

Statement of Proposals

The statement of proposals sets out what actions are proposed to be taken forward. The proposals are identical to the actions that will be put forward in the upcoming Waste Management and Minimisation Plan (WMMP) so the Waste Assessment simply references the WMMP for this section.
Appendices

The appendices contain additional waste management data and further detail about waste management and minimisation infrastructure (fixed and moveable) with the exception of Waiouru\(^1\). This section includes the statement from the Medical Officer of Health as well as additional detail on legislation.

1.2 Purpose of this Waste Assessment

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

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

- a description of the collection, recycling, recovery, treatment, and disposal services provided within the territorial authority’s district
- a forecast of future demands
- a statement of options
- a statement of the territorial authority’s intended role in meeting demands
- a statement of the territorial authority’s proposals for meeting the forecast demands
- a statement about the extent to which the proposals will protect public health, and promote effective and efficient waste management and minimisation.

1.3 Legislative Context

The principal solid waste legislation in New Zealand is the Waste Minimisation Act 2008 (WMA). The stated purpose of the WMA is to:

“encourage waste minimisation and a decrease in waste disposal in order to

(a) protect the environment from harm; and

(b) provide environmental, social, economic, and cultural benefits.

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

The WMA requires every TA to complete a formal review of its existing waste management and minimisation plan at least every six years. The review must be consistent with WMA sections 50 and 51. Section 50 of the WMA also requires all TAs to prepare a ‘waste assessment’ prior to reviewing its existing plan. This document has been prepared in fulfilment of that requirement. The Council’s existing Waste Assessment and WMMP were

\(^1\) Waste infrastructure in Waiouru is not owned or operated by the Council, but rather by the New Zealand Defence Force (NZDF) and are located on NZDF property.
included as part of the Waste Management and Minimisation Asset Management Plan 2015-25.

Council is carrying out a full review of the WMMP, including a waste assessment, earlier than might ordinarily be required due to timeframes on key decisions such as continued operation of the Council-owned landfill. The current resource consent to operate the Council-owned landfill expires in October 2020.

Further detail on key waste-related legislation is contained in Appendix A.4.0.

1.4 Scope

1.4.1 General

As well as fulfilling the statutory requirements of the WMA, this Waste Assessment will build a foundation that will enable Council to update its WMMP in an informed and effective manner. In preparing this document, reference has been made to the Ministry for the Environment’s ‘Waste Management and Minimisation Planning: Guidance for Territorial Authorities’.

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

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

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

The New Zealand Waste Strategy 2010 also makes clear that TAs have a statutory obligation (under the WMA) to promote effective and efficient waste management and minimisation in their district. This applies to all waste and materials flows in the district, not just those controlled by councils.

1.4.2 Period of Waste Assessment

The WMA requires WMMPs to be reviewed at least every six years, but it is considered prudent to take a longer-term view. The horizon for the WMMP is not fixed but is assumed to be centred on a 10-year timeframe, in line with council’s long term plans (LTPs). For some assets and services, it is necessary to consider a longer timeframe and so this is taken into account where appropriate.

1.4.3 Consideration of Solid, Liquid and Gaseous Wastes

The guidance provided by the Ministry for the Environment on preparing Waste Management and Minimisation Plans states that:

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

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

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

In addition to the Council-owned and operated landfill in Taumarunui, the nearest landfills to the Ruapehu District are a New Zealand Defence Force (NZDF) facility in Waiouru, Bonny Glen landfill in the Manawatu, Waitomo District Council’s landfill in Te Kuiti, and Taupo District Council’s landfill near Taupo. The large Envirowaste municipal landfill at Hampton Downs is only around 20km further from Taumarunui than Bonny Glen.

There are also six refuse transfer stations (RTSs) and seven closed landfills in the district.

This Waste Assessment is focused on solid waste that is disposed of to land or diverted from land disposal, including solid waste collected and disposed of by commercial enterprise as well as waste collected by the council.

The WMMP also considers disposal of biosolids, specifically waste products from the waste water treatment systems (sludge).

1.4.4 Public Health Issues

Protecting public health is one of the original reasons for local authority involvement in waste management. The New Zealand Waste Strategy 2010 contains the twin high-level goals of “Reducing the harmful effects of waste”, and “Improving the efficiency of resource use”. In terms of addressing waste management in a strategic context, protection of public health can be considered one of the components entailed in “reducing harm”.

Protection of public health is currently addressed by a number of pieces of legislation. Discussion of the implications of the legislation is contained in Appendix A.4.0.

1.4.4.1 Key Waste Management Public Health Issues

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

- Population health profile and characteristics
- Meeting the requirements of the Health Act 1956
- Management of putrescible wastes
- Management of nappy and sanitary wastes
- Potential for dog/seagull/vermin strike
- Timely collection of material
- Locations of waste activities
- Management of spillage
• Litter and illegal dumping
• Medical waste from households and healthcare operators
• Storage of wastes
• Management of biosolids/sludges from WWTP
• Management of hazardous wastes (including asbestos, e-waste, etc.)
• Private on-site management of wastes (i.e. burning, burying)
• Closed landfill management including air and water discharges, odours and vermin
• Health and safety considerations relating to collection and handling.

1.4.4.2 Management of Public Health Issues

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

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

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

1.5 Strategic Context

1.5.1 New Zealand Waste Strategy

The New Zealand Waste Strategy: Reducing Harm, Improving Efficiency (NZWS) is the Government’s core policy document concerning waste management and minimisation in New Zealand. The two goals of the NZWS are:

1. Reducing the harmful effects of waste
2. Improving the efficiency of resource use.

The NZWS provides high-level, flexible direction to guide the use of the tools available to manage and minimise waste in New Zealand. These tools include:

• The Waste Minimisation Act 2008
• Local Government Act 2002
• Hazardous Substances and New Organisms Act 1996
• Resource Management Act 1991
The flexible nature of the NZWS means that councils are able to decide on solutions to waste management and minimisation that are relevant and appropriate to local situations and desired community outcomes.

Section 44 of the WMA requires councils to have regard to the NZWS when preparing their WMMP.

For the purpose of this Waste Assessment, the council has given regard to the NZWS and the current WMMP (2015).

### 1.5.2 International Commitments

New Zealand is party to the following key international agreements:

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

### 1.5.3 National Projects

A number of national projects are underway, aimed at assisting TAs, business and the public to adopt waste management and minimisation principles in a consistent fashion.

#### 1.5.3.1 National Waste Data Framework Project

The first stage of the National Waste Data Framework (NWDF) project, led by WasteMINZ, was funded by a grant from the Waste Minimisation Fund. The development of the NWDF took the following form:

- A staged development approach, focusing initially on the most important elements while also setting out a clear ‘upgrade’ path to include other elements.
- The first stage of the NWDF (which has been completed) includes data on waste disposed of at levied disposal sites (Class 1 landfills) and information on waste services and infrastructure as well as other areas where practicable.
- Subsequent stages of the NWDF will include more detailed data on diverted materials and waste disposed of at non-levied disposal sites.
The first stage of the NWDF is complete. WasteMINZ is now working on the implementation phase. The NWDF will only be successful if it is widely adopted and correctly applied. The implementation report clearly sets out a range of options to move the NWDF forwards.

The Council intends to be a part of the implementation of the NWDF by using the categories and terminology of the NWDF in the Waste Assessment and the forthcoming revised WMMP.

1.5.3.2 National Standardisation of Colours for Bins

Until recently, councils and businesses in New Zealand had used a variety of colours to indicate what waste streams can be placed in what bins. This was viewed as possibly creating confusion when colours were used inconsistently and increasing the likelihood of contamination.

In October 2015 WasteMINZ, the Glass Packaging Forum, and councils around New Zealand agreed on a standardised set of colours for mobile recycling and rubbish bins, crates and internal office bins. Companies wishing to implement nationwide recycling schemes are strongly encouraged to use these colours both for their bins and also on their signage. This will ensure that the colours used are consistent with both public place recycling and household recycling. The recommended colours are:

For bin bodies:

For 240 litre and 120 litre wheeled bins, black or dark green should be used. These colours maximise the amount of recycled content used in the production of the bins.

For bin lids, crates and internal office bins:

- Red should be used for rubbish
- Yellow should be used for commingled recycling (glass, plastic, metal and paper combined)
- Lime green should be used for food waste and food waste/garden (referring to green) waste combined; noting that food waste-only collections are strongly encouraged to use a smaller bin size than combined food and garden collections.
- Dark Green should be used for garden waste.
- Light Blue should be used for commingled glass collections (white, brown, green glass combined).
- Grey should be used for paper and cardboard recycling.

Council’s kerbside recycling crates are currently mid-blue, and the official residual waste collection bags are pink. The kerbside recycling crates were already in use in 2015 when these guidelines were released.

1.6 Local and Regional Planning Context

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

Council’s current TYP\(^3\) is for the period 2015-2025. A key part of the ten year plan (TYP) is the vision that has been set for the Council. The vision is:

“Ruapehu is the District of choice, where adventure begins and life is enhanced.”

This is supported by Ruapehu’s mission which is “Building a vibrant community based on efficient leadership and service delivery.”

The TYP also includes the following strategic goals for the district that are relevant to waste management and minimisation (some goals not included):

- Provide a safe environment for residents and visitors.
- Facilitate effective consultation processes to seek community input into decision-making and advocacy on key issues.
- Provide a sustainable environment to residents and visitors.
- Towards waste minimisation and a sustainable environment.
- That the impact of waste on our environment is minimised.

The following outcomes are targeted (once again not all detail is included):

- Strong voice – leadership and advocacy:
  - Council is proactive, transparent, accountable and takes an active, consultative approach to finding solutions.
- Safe, healthy communities and people – caring for our people and providing safe living:
  - Quality regulation, regulatory services and infrastructure supports health communities.
  - The impact of waste on our environment is minimised.
  - Core infrastructure (including waste management and minimisation) endeavours to keep pace with changing demand.
  - Excellent standards of safety and welfare are promoted and respected.
- Thriving and prosperous economy and lifestyles – providing opportunities:
  - That planning and regulatory functions balance economic growth and environmental protection.
- Vibrant and diverse living – providing for diversity:
  - That the traditions, values and history of all ethnic groups are respected.
- Our places – natural and beautiful – caring for our environment:
  - That Council plans for and works with the community to ensure that our environment is accessible, clean and safe and that our water, soil and air meets acceptable, affordable standards.

The waste management and minimisation activity is described as being responsible for the “collection and disposal of refuse and recycling in the District”, with a risk of serious public health and environmental concerns if this is not done in a suitable manner. It is noted that

landfill waste can result in significant environmental effects, such as leachate contaminating soil and water, while landfill gases can contribute towards climate change.

Landfill disposal of waste is acknowledged as having a significant financial cost also; and that this cost is likely to increase with the planned closure of Council’s landfill in 2020 and with the potential implications of the emissions trading scheme.

The TYP states that Council is actively working to minimise the amount of waste produced, and presumably going to landfill, by providing a kerbside recycling collection and working towards removing organics from the waste stream.

Waste management and minimisation contributes towards the following outcomes from the TYP:

- That the impact of waste on our environment is minimised.
- Excellent standards of safety and welfare are promoted and respected.
- Core infrastructure endeavours to keep pace with changing demand.
- That Council plans for and works with the community to ensure that our environment is accessible, clean and safe and that our water, soil and air meet acceptable, affordable standards.

Waste management and minimisation is seen as contributing towards sustainability by reducing both the amount of waste generated, and the use of natural resources. Environmental impacts are to be lessened through appropriate management of the landfill and other waste facilities.

The TYP refers to one major solid waste infrastructure project, which is the development of a sorting facility for waste transfer out of the district. This is estimated to cost $260,000, and is planned for 2019 – 2021.

### 1.6.2 Asset Management Plan 2015 – Waste Management and Minimisation

The 2015 AMP for waste management and minimisation describes the strategies, work programmes, and long term financial forecasts for waste management and minimisation activities. It was intended to be a tactical plan which provides the link between the outcomes contained in the TYP, the LoS provided by the Council, and the management of assets and risks. The AMP states that the objective is “to provide a desired level of service in the most cost effective manner while demonstrating responsible stewardship for present and future customers.”

This AMP was prepared alongside the 2015-2025 TYP, and incorporates the Waste Assessment and WMMP. This section focuses on the asset management sections of the AMP. Comment on the 2015 Waste Assessment and WMMP can be found in section 8 of this waste assessment.
The AMP covers the time period from 2015 to 2025, and follows the International Infrastructure Management Manual\(^4\) method for preparing an asset management plan. While the application of the IIMM and asset management in general is intended for the management of assets such as solid waste facilities, in the case of Ruapehu District Council the AMP has been extended to include much of the requirements of the WMA for a waste assessment and WMMP.

Growth in visitor numbers and holiday homes is discussed, and the implications of this and other growth factors are discussed in the context of demand for rubbish and recycling services. The AMP describes the challenges that Council experiences in meeting the service expectations of the Ruapehu district community and visitors, without incurring rapidly increasing costs.

Council is responsible for a number of assets that are related to solid waste management and minimisation, including the municipal landfill at Taumarunui, seven transfer stations, and seven closed landfills.

The transfer stations are expected to require replacement of major components every five to ten years, with the intention being to continue to the current LoS.

The AMP states that the existing municipal landfill in Taumarunui will close before the current consent expires in 2020, with residual waste being transported out of the District. The landfill site also hosts a transfer station. The intention set out in the AMP is that the transfer station would remain, with supporting services possibly developed on the site such as additional transfer facilities and a cleanfill.

Several capital expenditure projects are planned for the ten year period of the AMP. Significant projects are:

- Various improvements and developments at Taumarunui municipal landfill - $774,000 over ten years;
- Weighbridge and associated works at Waimarino - $432k over ten years; and
- National Park RTS improvements - $145k over ten years.

Some decisions made between 2015 and 2018 have resulted in a change of focus from that set out in the 2015 AMP, particularly regarding where and what improvements are made to support service delivery.

### 1.6.3 Horizons Regional Council

The Ruapehu District falls within the Manawatu/Whanganui region, managed by the Horizons Regional Council.

The Horizons Regional Council adopted the ‘One Plan’ in November 2014\(^5\). This document covers the requirements of the consolidated regional policy statement, the regional plan, and the regional coastal plan for the region.

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

Waste is defined as “any material, solid, liquid or gas that is unwanted or unvalued and discarded or discharged.”

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

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

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

The waste management objective included in the One Plan is:

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

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

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

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

**Policy 3-8 Waste policy hierarchy**

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

(a) reducing the amount of waste produced
(b) reusing waste
(c) recycling waste
(d) recovering resources from waste
(e) appropriately disposing of residual wastes.

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6 Glossary section of the One Plan
Policy 3-9 Consent information requirements – waste policy hierarchy and hazardous substances

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

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

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

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

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

Policy 3-11 Landfill management

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

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

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

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

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

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


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

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

Cleanfills are defined as landfills only accepting:

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

a) Combustible, putrescible (except that cleanfill material can contain up to 5% by weight putrescible matter), degradable or leachable components

b) Hazardous substances

c) Products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices
d) Materials that may present a risk to human health

e) Liquid waste.

This definition departs from the waste acceptance criteria set out in the 2016 Technical Guidelines for Disposal of Waste to Land\(^7\) in two key respects – firstly the criteria allow no more than 2% of biodegradable material by volume per load; and manufactured materials such as concrete and brick are permitted to make up no more than 5% by volume per load.

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

**Method 3-1 Regional Territorial Authority Waste Forum...** Work with the territorial authorities to achieve a regionally consistent approach to waste and to progress Region-wide waste issues and implement agreed initiatives, including:

- hazardous waste disposal facilities
- recycling facilities
- resource recovery network waste exchange
- public information
- waste education schools
- consistent waste data collection and reporting
- development of Region-wide waste reduction targets in line with the New Zealand Waste Strategy 2002
- cleanfill management and monitoring
- waste minimisation and cleaner production in business/trade sectors
- economic instruments including incentives for waste reduction

**Method 3-2 Public Information:** Easily accessible information will be developed and provided to increase public awareness on waste issues generic to the Region, including:

- cleanfill management and guidelines
- waste minimisation
- availability of waste disposal and recovery facilities (including for campervans)
- fly tipping
- hazardous substances
- burning of waste
- offal pits and farm dumps
- septic tank discharges
- composting

Some actions in the One Plan are now obsolete, as they refer to requirements for waste planning under the Local Government Act (2002) rather than the Waste Minimisation Act (2008). The One Plan also refers to the New Zealand Waste Strategy 2002, particularly with respect to targets, even though this document was reviewed in 2010 and any specific targets removed.

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

\(^7\) Available on [www.wasteminz.org.nz](http://www.wasteminz.org.nz)
The Horizons Regional Council acknowledges that there are references in the One Plan that are now dated and perhaps even obsolete, but also notes that the changes which took place following the introduction of the Waste Minimisation Act in 2010 have significantly reduced any statutory role they play in solid waste management and planning, beyond a consenting and monitoring role.
2  Our District

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

2.1 Manawatu-Wanganui Region

Ruapehu District is the northernmost part of the region. The two main urban centres in the region are both to the south; Palmerston North and Whanganui.

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

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

Figure 1: Map of Region and Territorial Authority Areas
2.2 Physical Characteristics

2.2.1 Overview

The Ruapehu District is a land-locked area encompassing 6,733km², with a usual resident population of 11,838\(^8\) (in 2016 the estimated population was 12,450). Ruapehu is one of New Zealand’s largest districts by land area but has a relatively small and dispersed population base. It is also a growing tourist destination, and has a significant number of visitors each year.

Figure 2: Map of District

Source: Ruapehu District Council

\(^8\) Statistics New Zealand, census 2013
2.2.2 Geography

The district’s landscape is varied, ranging from pastoral hill country and indigenous forest to the volcanic plateau of the Desert Road and New Zealand Army land at Waiouru. In the East the district features the Tongariro National Park, which includes the mountains Tongariro, Ngauruhoe and Ruapehu and in the west, the Whanganui National Park, which encompasses much of the Whanganui River.

The district borders with Rangitikei and Wanganui Districts in the south, extends to Waitomo District in the north, stretches east to Taupo District and west to Stratford District. Townships are located throughout the district.

Taumarunui is the main service centre for the surrounding farms (sheep, cattle and deer) and forestry plantations, as well as the gateway for tourism, and is becoming the centre for the cycle ways in the area.

Ohakune caters for the ski industry and cycle ways, as well as the surrounding horticultural and farming activity.

Raetihi is a rural township servicing farming, market gardening and forestry. It forms a gateway to the historic Whanganui River settlement of Pipiriki, which is an important end point for Whanganui River tours.

At the southern end of the district, Waiouru features the army base on State Highway 1. The Ruapehu environment is pristine, with a relatively low number of heavy industries or high intensity residential development. This environment makes the district attractive to tourists who seek to visit natural and unspoilt landscapes. The numbers of tourists continues to grow and, with the advent of the cycleway projects under development, this is expected to grow substantially.

2.2.3 Climate

At the northern end of the district, the climate is warm and temperate. At an altitude of 171m, Taumarunui has a significant amount of rainfall during the year (an average of 1442mm). This is true even for the driest month. The average annual temperature is 12.9 °C, reaching low-mid 30s in the summer and -1 or -2 in the winter.

At the southern end of the district, the climate is also classified as warm and temperate. The altitude ranges between 500m and 600m and the temperature averages 10.9 °C. In a year, the average rainfall is 1353 mm.

The southern-most town of Waiouru, situated on State Highway 1, is generally cooler than the rest of the district due to its altitude of 792m. The average annual temperature is 9.6°C in Waiouru with regular snowfalls in the winter. Rain averages 1103mm.
2.2.4 European Settlement

The remoteness of the area, and some resistance by early Maori, made it one of the last areas in New Zealand to be settled by Europeans.

The first major European influence came in the 1840s, with missionaries on the southern reaches of the Whanganui River. Its advantage as an access and trading route saw regular steamboat services commence in the late 1890s, firstly to Pipiriki then, eventually, to Taumarunui. Tourism and trade flourished. The main riverboat trade ceased in the 1920s due to improved roads.

Completed in 1908, the main trunk railway is New Zealand's most significant land route and one of its greatest engineering achievements. Running through the heart of the district; the dense forest, steep inclines and deep gullies gave rise to ingenious solutions such as the Raurimu Spiral and the Makatote Viaduct. Passenger services began in 1909.

2.2.5 Demographics

The usually resident population of Ruapehu District in 2013 was 11,838\(^9\) (in 2016 the estimated population was 12,450). The population of the district has declined by 12% between 2001 and 2013. Under all population scenarios (high, medium and low) Ruapehu District’s population is projected to decline. Under the high population growth scenario, population is projected to be around 11,000 people in 2043. Under the low scenario, population is projected to decline to just under 7,000 people. The district’s usually resident population is forecast to remain stable over the next ten years\(^10\).

In spite of this; given the steadily increasing visitor numbers to the district, the increase in Council’s investment into economic development, and the support from central government for improving visitor infrastructure, it is anticipated that the usually resident population will increase to cater for visitor industry growth. Council has undertaken four ratepayer surveys (2008, 2010, 2013, and 2016) to track the holiday home environment within the district and attempt to quantify the level of use of these homes. Whilst this survey is an important information source for understanding the holiday home environment; due to its nature and the variance in responses that is likely to occur across the survey timeframes, it should be noted that the results come with a high level of uncertainty. However, given the importance of holiday home visitor numbers to establishing an estimated peak population for the district, it is necessary to use this information to estimate future holiday home visitor numbers whilst recognising its level of uncertainty.

Based on the survey responses, between 2008 and 2016 there was an average annual increase of 4% in the number of holiday homes across the district (but primarily in Ohakune). For the purposes of estimating future holiday home population change, this 4% annual growth rate has been used and combined with a 4.5 person average occupancy.

Historic population distribution and growth are shown in the following table:

\(^9\) Statistics New Zealand
\(^10\) Internal forecasts prepared for the 2018 – 2028 planning period, provided by Ruapehu District Council. More detail available in Appendix A.1.0.
Table 1: Population Distribution by Ward 1996 – 2013

<table>
<thead>
<tr>
<th>Ward</th>
<th>1996</th>
<th>2001</th>
<th>2006</th>
<th>2013</th>
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<td>6750</td>
<td>6636</td>
<td>6063</td>
<td>-0.21</td>
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<tr>
<td>Waimarino Waiouru</td>
<td>6447</td>
<td>5226</td>
<td>4860</td>
<td>3945</td>
<td>-0.39</td>
</tr>
<tr>
<td>National Park</td>
<td>1,125</td>
<td>1,029</td>
<td>984</td>
<td>879</td>
<td>-0.22</td>
</tr>
<tr>
<td>Ohura</td>
<td>1503</td>
<td>1293</td>
<td>1095</td>
<td>951</td>
<td>-0.37</td>
</tr>
<tr>
<td>TOTAL</td>
<td>16,743</td>
<td>14,298</td>
<td>13,575</td>
<td>11,838</td>
<td>-0.29</td>
</tr>
</tbody>
</table>


Apart from the usually resident population, another key figure for the district is the peak population – including residential-type holidaymakers staying in their own holiday homes, or renting someone else’s.

The table below shows the peak population in 2016, and the forecast for the peak population for the district over the next six years:

Table 2: Peak Population 2016 - 2023

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohakune</td>
<td>7,090</td>
<td>7,317</td>
<td>7,555</td>
<td>7,800</td>
<td>8,056</td>
<td>8,321</td>
<td>8,596</td>
<td>8,882</td>
</tr>
<tr>
<td>Taumarunui</td>
<td>6,305</td>
<td>6,358</td>
<td>6,415</td>
<td>6,474</td>
<td>6,534</td>
<td>6,597</td>
<td>6,662</td>
<td>6,730</td>
</tr>
<tr>
<td>Waiouru</td>
<td>923</td>
<td>927</td>
<td>930</td>
<td>935</td>
<td>939</td>
<td>943</td>
<td>947</td>
<td>952</td>
</tr>
<tr>
<td>Rural Waimarino (Tangiwi)</td>
<td>2,310</td>
<td>2,348</td>
<td>2,389</td>
<td>2,430</td>
<td>2,474</td>
<td>2,519</td>
<td>2,565</td>
<td>2,613</td>
</tr>
<tr>
<td>National Park</td>
<td>1,874</td>
<td>1,927</td>
<td>1,983</td>
<td>2,040</td>
<td>2,100</td>
<td>2,161</td>
<td>2,225</td>
<td>2,291</td>
</tr>
<tr>
<td>Raetihi</td>
<td>1,776</td>
<td>1,804</td>
<td>1,832</td>
<td>1,863</td>
<td>1,894</td>
<td>1,926</td>
<td>1,960</td>
<td>1,995</td>
</tr>
<tr>
<td>Raurimu</td>
<td>840</td>
<td>850</td>
<td>860</td>
<td>872</td>
<td>883</td>
<td>895</td>
<td>907</td>
<td>921</td>
</tr>
<tr>
<td>Other</td>
<td>3,370</td>
<td>3,393</td>
<td>3,416</td>
<td>3,441</td>
<td>3,467</td>
<td>3,493</td>
<td>3,520</td>
<td>3,550</td>
</tr>
<tr>
<td>TOTAL</td>
<td>24,489</td>
<td>24,925</td>
<td>25,381</td>
<td>25,853</td>
<td>26,345</td>
<td>26,855</td>
<td>27,384</td>
<td>27,934</td>
</tr>
</tbody>
</table>

Source: Internal forecasts prepared for the 2018 – 2028 planning period, provided by Ruapehu District Council

The following table shows key demographic metrics for the district
### Table 3: Key Demographic Indicators (2013 census)

<table>
<thead>
<tr>
<th>Demographic Indicator</th>
<th>Ruapehu District</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households (occupied dwellings)</td>
<td>4,755 (66%)</td>
<td>89%</td>
</tr>
<tr>
<td>Average household size</td>
<td>2.5 people</td>
<td>2.7 people</td>
</tr>
<tr>
<td>One person households</td>
<td>30.8%</td>
<td>23.5%</td>
</tr>
<tr>
<td>Median income</td>
<td>$24,000</td>
<td>$28,500</td>
</tr>
<tr>
<td>Home ownership</td>
<td>55.0%</td>
<td>64.8%</td>
</tr>
<tr>
<td>Formal qualifications</td>
<td>9.4%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Building consents</td>
<td>22</td>
<td>NA</td>
</tr>
<tr>
<td>Ethnically European</td>
<td>69.5%</td>
<td>74.0%</td>
</tr>
<tr>
<td>Ethnically Maori</td>
<td>42.5%</td>
<td>14.9%</td>
</tr>
</tbody>
</table>


Tangata Whenua are three main iwi; Ngati Tuwharetoa, Ngati Haua, and Ngati Maniapoto in the North, and two main iwi; Ngati Rangi and Ngati Uenuku in the South. The district has a significant maori population, with nearly half of the residents identifying as maori compared to 14.9% nationally. Council recognises this through their ‘Tangata Whenua Values and Maori Land’ policy, within the District Plan, and by including iwi representatives on working parties and sub-committees and working with the iwi liaison group.

The district has a very low home permanent occupancy rate, most likely due to a high number of holiday homes.

The proportion residents holding formal qualifications is low compared to the country as a whole – 9.4% compared to 20.0%.

Ruapehu district has a higher than average number of one-person households (30.8% compared to the national average of 23.5%) and the average household size is also lower (2.5 people compared to 2.7).

The population profile for Ruapehu in 2013 is shown in the chart below:
The median age (half are younger, and half older, than this age) is 37.8 years for people in Ruapehu district. For New Zealand as a whole, the median age is 38 years.

13.2 percent of people in Ruapehu district are aged 65 years and over, compared with 14.3 percent of the total New Zealand population.

23.4 percent of people are aged under 15 years in Ruapehu district, compared with 20.4 percent for all of New Zealand.

The population profile for the maori population is quite different.

Figure 3: Population Profile for Ruapehu (2013 census)

Figure 4: Population Profile for Maori in Ruapehu (2013 census)
Nearly 70% of the Maori population are under 40; compared to the population as a whole at 53%.

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

Figure 5: Total Population (Age group and sex)

Ruapehu, 2013 Census

The population is generally fairly similar to the average New Zealand population distribution; with a few small differences. There are more children under the age of 10; and fewer in the 40 – 49 years age group. There are also fewer very elderly people; this is largely a reflection of the composition of the Maori community which has less than 6% of the population aged over 65, compared to 14.3% in New Zealand as a whole.

While the number of households in the district is growing, most of this growth is in the unoccupied dwellings category. The table below shows growth in households, occupied and unoccupied, from 2001 to 2013.

Table 4: Occupied Households Growth

<table>
<thead>
<tr>
<th>Town/Area</th>
<th>2001</th>
<th>2006</th>
<th>2013</th>
<th>% change per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taumarunui</td>
<td>1,902</td>
<td>1,932</td>
<td>1,812</td>
<td>-0.4</td>
</tr>
<tr>
<td>Ohakune</td>
<td>492</td>
<td>438</td>
<td>429</td>
<td>-1.1</td>
</tr>
<tr>
<td>Raetihi</td>
<td>363</td>
<td>342</td>
<td>345</td>
<td>-0.4</td>
</tr>
</tbody>
</table>
Waipoua in particular is showing a significant decrease in the number of usually occupied dwellings.

**Table 5: Unoccupied Households Growth**

<table>
<thead>
<tr>
<th>Town/Area</th>
<th>2001</th>
<th>2006</th>
<th>2013</th>
<th>% change per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taumarunui</td>
<td>369</td>
<td>258</td>
<td>393</td>
<td>0.5</td>
</tr>
<tr>
<td>Ohakune</td>
<td>519</td>
<td>564</td>
<td>816</td>
<td>4.8</td>
</tr>
<tr>
<td>Raetihi</td>
<td>75</td>
<td>108</td>
<td>123</td>
<td>5.3</td>
</tr>
<tr>
<td>National Park</td>
<td>147</td>
<td>135</td>
<td>174</td>
<td>1.5</td>
</tr>
<tr>
<td>Waiouru</td>
<td>183</td>
<td>123</td>
<td>117</td>
<td>-3.0</td>
</tr>
<tr>
<td>Tangiwai</td>
<td>231</td>
<td>195</td>
<td>297</td>
<td>2.4</td>
</tr>
<tr>
<td>Remainder</td>
<td>420</td>
<td>411</td>
<td>489</td>
<td>1.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,944</td>
<td>1,794</td>
<td>2,409</td>
<td>2.0</td>
</tr>
</tbody>
</table>


The total number of rateable units in the district is expected to increase 5% year on year over the next ten years.

Council has carried out research into the number of ‘holiday homes’ in the district, which are a subset of unoccupied households. These show that on average, there are 4.4 occupants for each holiday home when occupied. The number of holiday homes is predicted to rise over the next ten years. Ohakune, in particular, and the areas to the east and south have significant and increasing proportions of holiday homes as a proportion of total households.

The proportion of homes that are usually occupied is expected to decrease particularly in National Park, as the usually resident population decreases and more holiday homes are built.
Table 6: Proportion of Holiday Homes (2013)

<table>
<thead>
<tr>
<th>Ward</th>
<th>Number of holiday homes in 2013</th>
<th>Percentage of total number of households in 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taumarunui</td>
<td>232</td>
<td>10.5%</td>
</tr>
<tr>
<td>Ohakune</td>
<td>828</td>
<td>66.5%</td>
</tr>
<tr>
<td>Raetihi</td>
<td>129</td>
<td>27.6%</td>
</tr>
<tr>
<td>National Park</td>
<td>252</td>
<td>89.4%</td>
</tr>
<tr>
<td>Waiouru</td>
<td>14</td>
<td>4.1%</td>
</tr>
<tr>
<td>Rural Waimarino/Tangiwai</td>
<td>132</td>
<td>17.0%</td>
</tr>
<tr>
<td>Remainder</td>
<td>127</td>
<td>6.9%</td>
</tr>
</tbody>
</table>


This can have significant implications for waste management and minimisation, as users of holiday homes can create quite different types of waste at different times to permanently occupied homes.

The district experiences significant numbers of day and night visitors in both summer and winter months. Overall visitor numbers for the district are increasing, with an estimated 10% increase over the next ten years.

1.1.1 Summary
The key demographic trends are:

- Slowly decreasing ‘usually resident’ population
- Increasing numbers of holiday homes and an increasing ‘peak population’
- Increase in the number of older residents (50-69 years of age) and a decrease in the number of couples without children
- More single-person households
- Youth tend to leave the district for further education, moving to Hamilton and Palmerston North particularly.

2.3 Economy

Gross domestic product (GDP) in Ruapehu measured $497m in the year to March 2015, up 5.3% from a year earlier. New Zealand’s GDP increased by 3.6% over the same period. Economic growth in Ruapehu District averaged 1.0% over the last 10 years compared with an average of 1.9% in the national economy.

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11 Ministry of Business and Innovation figures, from the Waste Management and Minimisation AMP (2015)
As at 2015 the most significant component of the Ruapehu economy was ‘agriculture, forestry and fishing’ making up 22.7% of GDP. The next largest contributor was ‘public administration and safety’ at 9.8% of GDP. At a detailed level sheep, beef, cattle and grain farming accounted for 14.6% of total GDP and central government, defence, and safety contributed 8.8%.

Strong visitor numbers, emerging tourist opportunities, and the growth in holiday homes combine to ensure that tourism continues to be an important sector for the district. The tourism industry contributed $35.3m towards the Ruapehu District’s GDP in 2015 (compared to $9.9m in 2012). This amounted to 7.1% of the economic output, up 6.8% for the 10 years to 2015. The industry employed approximately 931 people in 2015, 16% of the district’s total employment, up from 15% in 2005. Economic output in Ruapehu District’s tourism industry increased by 0.1% in 2015, compared with a 3.9% increase in New Zealand. However, over the last 10 years, growth in the industry has averaged -0.5%, compared with a national average of 1.7%.

Ruapehu District attracts almost a million visitors yearly and these tourists visit some of its biggest attractions, including the Ruapehu Alpine Lift ski areas, the Tongariro National Park, and increasingly, cycle trails.

### 2.3.1 Ruapehu Alpine Lifts

Between 2011 and 2015 there was a 10% decrease in skier numbers on the mountain as a whole; however the capital investment program of $100m currently underway by Ruapehu Alpine Lifts intends to broaden the appeal of the mountain and increase the number of skiing visitors.

### 2.3.2 Tongariro National Park

Tongariro National Park is New Zealand’s oldest national park and is a significant drawcard for tourists, both domestic and international. The park includes the Whakapapa and Turoa ski fields as well as important walks such as the Tongariro Alpine Crossing. Visitor numbers at three sites around the Central Plateau (Taranaki Falls, Tongariro Alpine Crossing and Tongariro Northern Circuit) peaked in 2010 but have shown an upward trend again over the last 5-6 years.

### 2.3.3 Cycle Trails

The Ruapehu District is developing a reputation as a destination for off-road mountain biking. Two ‘Great Rides’ are located within the district; the Timber Trail to the north and the Mountains to Sea cycle trail to the south.

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Infometrics (2015), Page 41.
2.3.4 Visitor numbers

In the last 10 years the district has experienced 23% growth in overnight visitors. If the current growth trend remains static, night visitors would increase from 443,496 in 2015/16 to approx. 545,500 in 25/26.

Anecdotally and on consideration of the nature and type of tourist activities in the district, we can state that the district will be receiving a significant number of day visitors. However at this time there is not a robust information source for the number and trend in day visitors to the district.

2.4 Implications of Economic and Demographic Trends

Ruapehu’s economy seems relatively stable at present, with forecasted visitor numbers showing the ongoing strength of the tourism industry and the increasing contribution of summer activities. Agriculture is a key contributor to the economy and is likely to be producing significant quantities of farm wastes.

The number of people that usually live in Ruapehu is expected to continue the slight decreasing trend. However increasing numbers of unoccupied dwellings, including holiday homes, mean that the rating base for Council is likely to increase over the next ten years.

Many of these new properties are likely to be used by visitors to the district. These visitors are likely to have quite different waste management and minimisation needs to the permanent residents of the district. Peak quantities will occur at the peak of the summer and winter tourist season, and weekend visitors will need a way to manage their waste at the end of their visit. Although there is a chance that a proportion of them will be repeat visitors and possibly even the owners of the properties they are visiting, many of them will be new to the district and unfamiliar with services.
3 Waste Infrastructure

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

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

**Figure 6: Key Waste Facilities in Ruapehu District**

Not shown on this map is the NZDF landfill at Waiouru, in the southeast of the district.

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

In April 2016, the Waste Management Institute of New Zealand (WasteMINZ) released the final version of the Technical Guidelines for Disposal to Land. These guidelines set out new standards for disposal of waste to land and, if the Horizons Regional Council implements the new guidelines, then there will be significant changes to the operation of cleanfill sites in the region, including tighter controls.

The definitions of the four classes of landfills provided in the guidelines are summarised in below.

**Class 1 - Municipal Landfill**

A Class 1 landfill is a site that accepts municipal solid waste. A Class 1 landfill generally also accepts C&D waste, some industrial wastes, and contaminated soils. Class 1 landfills often use managed fill and clean fill materials they accept as daily cover. A Class 1 landfill is the equivalent of a “disposal facility” as defined in the WMA.

**Class 2 - C&D/Industrial Landfill**

A Class 2 landfill is a site that accepts non-putrescible wastes including construction and demolition wastes, inert industrial wastes, managed fill, and clean fill. C&D waste and industrial wastes from some activities may generate leachates with chemical characteristics that are not necessarily organic. Hence, there is usually a need for an increased level of environmental protection at Class 2 sites.

**Class 3 – Managed Fill**

A Class 3 landfill accepts managed fill materials. These comprise predominantly clean fill materials, but may also include other inert materials and soils with chemical contaminants at concentrations greater than local natural background concentrations.

**Class 4 - Cleanfill**

A cleanfill is a landfill that accepts only cleanfill materials. The principal control on contaminant discharges to the environment from clean fills is the waste acceptance criteria.

The actual wording used in the guidelines is provided in Appendix A.3.1

### 3.1.1 Class 1 Landfills

There are two Class 1 landfill disposal facilities (as defined above) in Ruapehu District. The table below lists the landfills that are known to currently receive municipal waste from Ruapehu District.

**Table 7: Class 1 landfills accepting waste from Ruapehu District**

<table>
<thead>
<tr>
<th>Name &amp; Owner/Operator</th>
<th>Description</th>
<th>Location</th>
<th>Capacity and Consent</th>
</tr>
</thead>
</table>

---

There are a number of landfills that are within reach of the Ruapehu District and could be alternative disposal points.

**Table 8: Class 1 landfills accessible from Ruapehu District**

<table>
<thead>
<tr>
<th>Name &amp; Owner/Operator</th>
<th>Description</th>
<th>Location</th>
<th>Capacity and Consent</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Waikato Regional Landfill, EnviroWaste Services Ltd</td>
<td>Non-hazardous residential, commercial and industrial solid waste, including special wastes. Sludges with less than 20% solid by weight are prohibited.</td>
<td>Hampton Downs, Waikato District</td>
<td>Consented to 2030</td>
</tr>
<tr>
<td>Landfill Name</td>
<td>Waste Type</td>
<td>District</td>
<td>Consented Capacity/Years</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Taupo District Council, Taupo District</td>
<td>No gas capture system in place. Taupo Council and non-Council wastes</td>
<td>Broadlands Road landfill, Taupo</td>
<td>Consented to 2027.</td>
</tr>
<tr>
<td>Bonny Glen Landfill, Midwest Disposal Ltd</td>
<td>Municipal landfill with gas capture and waste water treatment.</td>
<td>Marton, Rangitikei</td>
<td>Recently extended consent; now for 12.7M cubic metres</td>
</tr>
<tr>
<td>Rotorua District Landfill, Rotorua District Council</td>
<td>Non-hazardous residential, commercial and industrial waste, including special wastes (although bylaw may be reviewed to exclude these in future).</td>
<td>Atiamuri SH30, Rotorua District</td>
<td>Consented to 2030. Currently mothballed while undergoing feasibility assessment.</td>
</tr>
<tr>
<td>Tokoroa Landfill. South Waikato District Council</td>
<td>Municipal waste landfill. Landfill and recycling drop-off South Waikato Council and non-Council wastes No gas capture system in place</td>
<td>South Waikato District</td>
<td></td>
</tr>
<tr>
<td>Waitomo District Landfill, Waitomo District Council</td>
<td>No gas capture system in place</td>
<td>Waitomo District</td>
<td>Consented until 2020. Consented capacity of 232,000 tonnes. 17 years of capacity at current rates.</td>
</tr>
</tbody>
</table>

Taumarunui landfill is expected to close in 2020 and the current intention of Council is that residual waste will be transported out of the district, with the landfill site remediated and used as a transfer station and for diverting materials like cleanfill.
Waiouru landfill is currently in use by the NZDF Army Camp at Waiouru and reportedly by most residents and businesses in the town. There is anecdotal evidence that waste comes to the landfill from out of the district, from as far as Taipake. Disposal at this landfill is relatively uncontrolled; although the facility is staffed much of the time, the requirements of managing the landfill mean that the entrance is frequently open access. There is potential to improve security and monitoring at the landfill at some stage in the future.

Alternative landfills for residual waste from Taumarunui include the Waitomo District Council landfill in Te Kuiti, the Taupo District Council landfill, Bonny Glen Landfill near Marton (Rangitikei), and the North Waikato Regional Landfill at Hampton Downs, north of Hamilton. Travelling distances are fairly similar for the two large landfills from Taumarunui – a 380km round trip to Bonny Glen, compared to a 428km round trip to Hampton Downs.

Future options for landfill disposal are a key issue for this waste assessment, and the subsequent WMMP.

### 3.1.2 Transfer Stations

Refuse transfer stations (RTS) provide for those that can’t or choose not to make the journey to a landfill. In Ruapehu, the Council landfill is a significant distance from most of the southern part of the district. Council operates seven RTS sites around the district to ensure that remote communities have access to a full range of facilities and so that those without a kerbside collection have the opportunity to recycle and dispose of waste.

Fees are generally charged for refuse; although if this is contained in an official pink council bag there is no charge. Householders can drop off recycling for free and at two sites, reuse stores are operated and household hazardous waste are accepted.

The function of the individual sites varies. The table below summarises the facilities and services available at each site.

**Table 9: Services Available at RTS**

<table>
<thead>
<tr>
<th>Location and hours of RTS</th>
<th>Staffed</th>
<th>Refuse</th>
<th>Recycling</th>
<th>Hazardous Waste</th>
<th>Greenwaste</th>
<th>Whiteware etc for recycling</th>
<th>Reuse Shop</th>
<th>Weighbridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohura Tu, F, Sa 1pm – 5pm</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Ongarue Tu, F, Sa 8am – midday</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Taumarunui M, Tu, W, F, Sa 10am – 5pm</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Su 1pm – 5pm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The recycling facilities at each site vary, but usually entail a shipping container with slots feeding into fadges inside. These fadges are then used to transport the material for recycling. Usual materials accepted are steel, tin and aluminium cans; plastics #1 and #2; paper and cardboard. Beside the shipping container are usually located a bank of wheeled bins which are used for colour-separated glass collection.

Rubbish can be dropped off for a fee, or if contained in an official pre-paid Council bag, no additional charge at the RTS.

The RTS sites are secure and, with the exception of Pipiriki, are staffed during open hours.

RTS are closed on Christmas Day and New Year’s Day, and most are operated on behalf of the Council by Envirowaste. The only exception to this is Pipiriki, which is operated on behalf of Council by Whanganui District Council’s contractor, Opus.

The only RTS with a weighbridge is Taumarunui, where the transfer station is co-located with the landfill. Charges at the weighbridge are:

- $150 per tonne for domestic waste
- $240 per tonne for commercial waste
- $50 per tonne for greenwaste
- $300 per tonne for special waste
- $1,200 per tonne for polystyrene

### 3.1.3 Closed Landfills

There are seven closed landfills in the district. These are listed in the table below.

#### Table 10: Closed landfills in Ruapehu District

<table>
<thead>
<tr>
<th>Location</th>
<th>Status</th>
<th>Date closed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consented Closed Landfills</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Raetihi
- Council owned land (purchased in 2017)
- 1999/2000

### Karioi
- Road reserve
- 1995

### Ohura
- Privately-owned land; Council made payment in 1982 but subdivision has not gone through
- 2001/02

### Ongarue
- Privately-owned land; Council has purchased but title transfer has not occurred
- 1997

### Owhango
- Privately-owned land; leased by Council
- 1996

#### Unconsented Closed Landfills

**Kakahi**
- Crown-owned land
- All refuse removed

**Ohakune**
- Council-owned land
- 2002/03

### 3.1.4 Class 2-4 Landfills

Research estimates that waste disposed of to land other than in Class 1 landfills accounts for approximately 70% of all waste disposed of, and these operators are not required currently to pay the waste levy to central government.\(^\text{15}\) Other disposal sites include Class 2-4 landfills and farm dumps.

The Horizons Regional Council actively encourages cleanfills as a ‘waste reduction activity’ and states that they will be ‘generally allowed’. There are not specific provisions for cleanfills as a permitted activity. There are no formal reporting requirements for these cleanfills, nor are they monitored on a proactive basis. The definition of cleanfill in the One Plan allows more biodegradable material and more manufactured materials like brick and concrete than the 2016 Technical Guidelines for Disposal of Waste to Land\(^\text{16}\).

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\(^{15}\) Ministry for the Environment (2014) Review of the Effectiveness of the Waste Disposal Levy. The report estimates 56% of material disposed to land goes to non-levied facilities, 15% to farm dumps and 29% to levied facilities.

\(^{16}\) Available on [www.wasteminz.org.nz](http://www.wasteminz.org.nz)
For this reason, and because few of these cleanfills are open to the public and many are temporary or short term associated with roading projects, it is very difficult to list these fully.

In the MfE’s 2002 “A Guide to the Management of Cleanfills” ‘cleanfill’ is defined as: “Material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:

- combustible, putrescible, degradable or leachable components
- hazardous substances
- products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices
- materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos or radioactive substances
- liquid waste.”

Class 2 landfills can be an issue for effective and efficient waste management as, for some materials, Class 2 landfills are competing directly with other options such as composting sites and Class 1 landfills. However, Class 2 landfills are much less costly than Class 1 landfills to establish and require much lower levels of engineering investment to prevent discharges into the environment. Class 2 landfills also have much lower compliance costs than Class 1 landfills and are not required to pay the waste levy. Because of these differing cost structures, Class 2 landfills charge markedly less for disposal than Class 1 landfills.

There are three consented class 2 landfills in the district, accepting timber processing waste:

**Table 11: Consented Class 2 landfills in Ruapehu District**

<table>
<thead>
<tr>
<th>Facility</th>
<th>Location</th>
<th>Materials and Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winstone Pulp International – Kariori</td>
<td>State Highway 49, Ohakune</td>
<td>Timber processing wastes. Possible maximum capacity of 140,000 m3 although consent could be extended. Multiple consents held with Horizons Regional Council.</td>
</tr>
<tr>
<td>Winstone Pulps International – Waimarino</td>
<td>Forestry Road, Tangiwai</td>
<td>Timber processing waste? No information available</td>
</tr>
</tbody>
</table>

Given the high levels of agriculture in the district, it is likely that there are also a number of unofficial class 2-4 landfills on private land. The quantity of waste that might be being disposed of in this way is discussed in more detail in section 5.3.2.
3.1.5 Assessment of Residual Waste Management Infrastructure

The main consented municipal landfill in the district, in Taumarunui, is nearing capacity. If the landfill is to be extended past the current consent expiry date of 2020, an extension to this consent will be required or a new consent required. It may be difficult to extend the current consent given that the landfill is currently unlined, with no gas capture system. There is now a weighbridge at this facility. A new consent would most likely apply to a new cell at the existing landfill site, which could be constructed to higher standards than the existing. However this would probably involve an increasing in total cost of the facility.

The other consented landfill is operated by the NZDF, at Ohakune. This landfill is similarly unlined without gas capture, and use is not fully monitored with no weighbridge in place. The intention of the NZDF with respect to this landfill is unclear.

The acceptance of wastes at class 2 landfills that could potentially be put to beneficial use, such as composting, is an issue. The relatively low cost of disposal to sites other than a Class 1 landfill will drive commercial operators’ behaviour in determining where to dispose of material. Council does not have the option of using disposal prices as a mechanism to drive more preferable waste management practices, as the class 2 landfills are under private control.

Cleanfills are generally a permitted activity under the Horizons Council One Plan. Largely as a result of this, there is very little information available about what quantities are being disposed of in this way, nor what type of material is being disposed of. Lack of information and monitoring means that waste could be disposed of in this way that requires better management, resulting in negative environmental consequences in the future.

3.2 Hazardous Waste Facilities and Services

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

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

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

Most disposal is either to Class 1 landfills or through the trade waste system. Some of these treatments result in trans-media effects, with liquid wastes being disposed of as solids after treatment. A very small proportion of hazardous wastes are ‘intractable’, and require exporting for treatment.
These include polychlorinated biphenyls, pesticides, and persistent organic pollutants. Household hazardous waste is accepted at two of Council’s transfer stations; Taumarunui and Waimarino. Council will not accept non-household hazardous waste at any of its facilities. Enquiries for disposal of larger non-household hazardous waste are referred to Envirowaste who have the capability of accepting some forms of hazardous waste at their own facilities.

3.2.1 Agrecovery and Plasback Rural Recycling

Stewardship programmes that operate in the district include the Agrecovery and Plasback rural recycling schemes, and the Resene Paintwise reuse/recycling scheme.

The Agrecovery and Plasback programmes provide New Zealand’s primary sector with responsible and sustainable systems for the recovery of ‘on farm’ plastics and the disposal of unwanted chemicals. It currently provides three nationwide programmes:

- Containers for the recovery of agrichemical, animal health and dairy hygiene plastic containers
- Wrap for the recovery of used silage wrap and pit covers
- Chemicals for the disposal of unwanted and expired chemicals in agriculture

Council provides local promotional support to these programmes.

There are two container collection sites in the district; PDC Barn Ltd in Taumarunui and Fruitfed Supplies Ltd in Ohakune.

There are no paintwise collection points in Ruapehu district, but there is a retailer point in Taumarunui.

3.3 Recycling and Reprocessing Facilities

There are no recycling processing facilities within the district.

3.3.1 Recycling and Reprocessing Facilities Outside the District

Recycling from the Ruapehu district is processed at a number of facilities outside the district. The available options include:

<table>
<thead>
<tr>
<th>Table 12: Other Recycling and Reprocessing Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facility</strong></td>
</tr>
<tr>
<td>O-I NZ Ltd</td>
</tr>
<tr>
<td>SIMS Pacific</td>
</tr>
<tr>
<td>MetalCo</td>
</tr>
<tr>
<td>Business/Service</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Oji Fibre Solutions</td>
</tr>
<tr>
<td>MyNoke Ltd</td>
</tr>
<tr>
<td>Resene PaintWise Collection (Taupo, Te Awamutu, Fielding, Whanganui)</td>
</tr>
<tr>
<td>Agrecovery</td>
</tr>
<tr>
<td>Various retail outlets (Pak’n Save, Warehouse, New World)</td>
</tr>
<tr>
<td>E-waste – South Waikato Achievement Trust, Tokoroa</td>
</tr>
<tr>
<td>Reclaim</td>
</tr>
</tbody>
</table>

### 3.3.2 Assessment of Recycling and Reprocessing Facilities

Ruapehu district has reasonable access to recycling and reprocessing facilities, although most of them (with the exception of e-waste acceptance and initial processing) are at a significant distance.

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

4.1 Council-provided Waste Services

Ruapehu District Council have a contract with Envirowaste Ltd (EnviroNZ Ltd) to provide kerbside collection services (to most towns) and collect waste and recycling from drop off points and transfer stations throughout most of the district, and manage the district’s landfill in Taumarunui. There is an agreement with the New Zealand Defence Force (NZDF) to extend their refuse and recycling services to the surrounding community, including use of their landfill. The Council pays an annual sum to the NZDF for this service. Kerbside services or local drop-off points/transfer stations are available to around 95% of the population of the district.

A litter collection is carried out in public places.

4.1.1 Collection Services

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

4.1.1.1 Kerbside Refuse

Table 13: Council Kerbside Refuse Collections

<table>
<thead>
<tr>
<th>Kerbside collection service</th>
<th>Charges/ funding</th>
<th>Refuse collection contractor</th>
<th>Contract review dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly kerbside rubbish collection</td>
<td>User pays ($3.80 for large bag, $2.20 small)</td>
<td>Envirowaste</td>
<td>November 2018</td>
</tr>
</tbody>
</table>

4.1.1.2 Kerbside Recycling

Table 14: Council Kerbside Recycling Collections

<table>
<thead>
<tr>
<th>Kerbside collection service</th>
<th>Materials</th>
<th>Refuse bag/wheelie bin collection contractor</th>
<th>Contract review dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly kerbside recycling collection (blue crate, plus paper/cardboard)</td>
<td>Glass bottles and jars, plastics 1 and 2, paper and cardboard, metal cans and tins</td>
<td>Envirowaste</td>
<td>November 2018</td>
</tr>
</tbody>
</table>
4.1.2 Other Council Services

In addition to the services described above, there are other waste-related programmes and services provided by the Council e.g. rates-funded clean ups of illegal dumping, and provision of litter bins in public places.

Table 15: Other Council Solid Waste Services

<table>
<thead>
<tr>
<th>Service</th>
<th>Contractor</th>
<th>Contract expiry date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litter bins</td>
<td>Downer (Parks and Reserves Contractor)</td>
<td>2021</td>
</tr>
<tr>
<td>Illegal dumping removal</td>
<td>Downer</td>
<td>2021</td>
</tr>
</tbody>
</table>

4.1.3 Waste Education and Minimisation Programmes

The Council funds zero waste education in primary schools (including paper for trees and worm farms), operates a cloth nappy scheme, and supports a local reusable shopping bag initiative. Council also part funds the Enviroschools and Para Kore programmes operating in the district.

4.1.4 Solid Waste Bylaws

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

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

Ruapehu District Council does not have a specific solid waste bylaw in place.

4.1.5 Litter Control and Enforcement

Illegal dumping is monitored and investigated, with fines given where possible.

4.1.6 Public Litter Bins

Ruapehu District council provide and empty public litter bins in town centres and parks and reserves in Taumarunui. A programme to install recycling bins alongside general litter bins is being undertaken and will continue until joint litter and recycling bins are located in all of these places.

4.1.7 Abandoned Vehicles

The Council compliance team responds to calls identifying abandoned vehicles. The process followed results either in a vehicle being claimed by the registered owner (sometimes vehicles have been stolen), or following the appropriate time frame, abandoned vehicles are
removed by one of the several car wreckers within the district. There are no environmentally adverse issues identified with this process.

4.1.8 Street Cleansing

Council undertakes street cleansing through its parks and reserves contract. The waste has historically been stockpiled in one of number of contractor yards in the district or, in some instances, where appropriate it is disposed of as fill material combined with other vegetation or wood chips.

4.1.9 Rural and Farm Waste

Council does not provide any services specifically for rural or farm wastes, although these residents can use the transfer stations located around the district.

4.1.10 Hazardous Waste

Household quantities of hazardous waste is accepted at Taumarunui and Waimarino transfer stations.

4.1.11 E-waste

Without a national product stewardship scheme, the e-waste treatment and collection system will continue to be somewhat precarious. Currently, companies tend to cherry-pick the more valuable items, such as computers and mobile phones. As a result, the more difficult or expensive items to treat, such as CRT TVs and domestic batteries, will still be sent to landfill combined with other waste product.

A reasonable service for e-waste is currently in place using transfer stations, with charges for CRT monitors/TVs ($28), LCD screens ($17), printers/fax machines ($13), and photocopiers ($48). All other e-waste is accepted at no charge.

This e-waste is stored and processed appropriate in partnership with the South Waikato Achievement Trust.

4.2 Assessment of Council-provided Solid Waste Services

For a small, rural council serving a widely distributed community, Ruapehu District Council provide a reasonable level of service. 95% of residents have access to kerbside services and, the 7 transfer stations make disposal and recycling facilities relatively accessible. There is some concern regarding the community neighbouring the army camp at Waiouru, as these households are currently dependent on the NZDF for their services. It is unclear how the NZDF decide what services they provide, nor what future plans there are for this community.

There is scope to further improve the levels of service through expanding the range of recyclable and recoverable materials accepted at kerbside, giving consideration the use of wheeled bins to improve health and safety outcomes, and looking further at the range of materials that can be separated for recovery at transfer stations.
4.3 Funding for Council-provided Services

Most services are funded through rates charges to businesses and households, with the exception of the kerbside rubbish collection service which is user-pays.

Individuals and businesses pay to dispose of any waste that is non-recyclable.

4.4 Non-Council Services

There are a few non-Council rubbish removal services available in the district.

Envirowaste provide rubbish collections at various scales, along with basic recycling services (glass and paper/cardboard).

Rubbish can also be removed by the local Jim’s Mowing franchisee, and by Budget Waste Removal based in Taupo.

4.4.1 Assessment of Non-Council Services

Non-Council services offered are very much focused on rubbish removal services, with limited recycling options available.
5 Situation Review

5.1 Waste to Class 1-4 Landfills

5.1.1 Definitions Used in this Section

The terminology that is used in this section to distinguish sites where waste is disposed of to land are taken from the National Waste Data Framework which, in turn, are based on those in the WasteMINZ Technical Guidelines for Disposal to Land (summarised in section 3.1).

5.2 Overview of Waste to Class 1-4 Landfills

It is believed that most of the residual waste produced in the district is disposed of to Taumarunui landfill. A small quantity is disposed of to the NZDF landfill in Waiouru.

There are probably small quantities that travel out of the district near the boundaries; and also small quantities that are disposed of to formal or informal class 2-4 landfills.

5.3 Waste Quantities

5.3.1 Waste to Class 1 Landfills

Prior to 2014, there was no transfer station or weighbridge at the Taumarunui landfill and therefore all quantities prior to this time are estimated.

Waste disposed of to the landfill annually has been variable, with a significant increase noted from the 2015/16 and 2016/17 financial years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>3,520</td>
</tr>
<tr>
<td>2010</td>
<td>3,385</td>
</tr>
<tr>
<td>2011</td>
<td>3,342</td>
</tr>
<tr>
<td>2012</td>
<td>3,552</td>
</tr>
<tr>
<td>2013</td>
<td>3,481</td>
</tr>
<tr>
<td>2014</td>
<td>2,723</td>
</tr>
<tr>
<td>2015</td>
<td>3,255</td>
</tr>
<tr>
<td>2016</td>
<td>4,025</td>
</tr>
</tbody>
</table>

The significant increase noted from 2015/16 financial year to 2016/17 may be due to a change of operator, and change in operations, in the Ohakune area where volumes are still calculated manually.

5.3.2 Other Waste Disposed of to Land

5.3.2.1 Class 2 - 4 Landfills

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

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

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Several other studies have attempted to quantify the disposal of waste to Class 2-4 landfills, often on a per capita basis, with widely-varying results.

In practical terms, the lack of precise data about disposal of waste to Class 2-4 landfills makes it impossible to reliably monitor any changes over time in the disposal of major waste streams, such as construction and demolition waste. National estimates suggest that usually waste going to these facilities is roughly twice what is going to Class 1 landfill disposal.

**5.3.2.2 Farm Waste Disposed of On-site**

Limited research has been conducted on the quantity of waste generated on farms and disposed of on-site. There are two substantive pieces of research, including one conducted in the Waikato and Bay of Plenty in 2014-18 and a 2013 study of farm waste in Canterbury. The Canterbury study found that 92% of the farms surveyed practised one of the ‘three B’ methods (burn, bury, or bulk store indefinitely) for on-site disposal of waste. The studies calculated average annual tonnages of waste for four different types of farm in the regions.

The methods currently used to manage farm wastes are far from ideal and, in some cases, have the potential to have a negative impact on the environment. Farmers generally agreed that these methods are not ideal and would like to have access to better options. However the ‘three Bs’ are perceived to have ‘no cost’ compared to alternatives that do have a financial cost associated.

The study concluded that better information, education and awareness of existing alternatives are required. A better understanding of the risks and associated indirect costs involved in the current ‘three B’ practices would support this.

There are a number of non-farm rural properties that currently aren’t able to access services from the private sector; however the number is not currently known.

The presence of hazardous wastes including agrichemicals and containers, treated timber, paints solvents, and used oil was noted in the study, and the management techniques applied to these was variable and often of concern.

The data from the Canterbury report was applied nationally, on a regional basis, in a 2014 study that produced a database of non-municipal landfills for the Ministry for the Environment. The report considered “non-municipal landfills” to include “cleanfills, industrial fills, construction and demolition fills, and farm dumps”.

As farm waste from a specific type of farms is likely to be similar around the country, the data is considered to be suitable for applying to other regions, if the correct number of farm types is used for the calculations.

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21 Tonkin & Taylor (2014), *New Zealand Non-Municipal Landfill Database*, prepared for Ministry for the Environment
Based on the data contained in the 2013 Canterbury and 2014 Waikato/BOP and national studies, the 494 farms in the district are estimated to have generated an average of 26.7 tonnes of waste per farm per annum. Of this total, 24.6 tonnes per farm are estimated to be disposed of on the farm itself through burial, burning, or indefinite bulk storage. In total, over 12,152 tonnes of waste per annum are estimated to be disposed of in this manner across the district.

### 5.4 Composition of Waste to Class 1 Landfills

Although there was a solid waste audit carried out in the district in 2012, this audit did not include a full audit of waste going into the Taumarunui landfill or kerbside waste in Taumarunui.

An average of 10 tonnes per day would come into the landfill site, but only approximately 390kg of waste was audited over two days. The description of the waste suggests that this was mostly bagged waste, and so would exclude any loads of construction and demolition (C&D) waste, trailer loads from house/land clearances, etc.

The composition of the kerbside waste that was surveyed is shown below in Figure 7. The categorisation of ‘recyclable’ and ‘non-recyclable’ is based on the materials that can be recycled in the kerbside recycling collection.

**Figure 7: Composition of Kerbside Waste (Raetihi, Rangataua, Ohakune)**
The composition of the waste surveyed at the landfill is shown below in Figure 8.

**Figure 8: Composition of waste surveyed at Taumarunui Landfill**

Once again, the categories of ‘recyclable’ and ‘non-recyclable’ are based on what can be recycled in the kerbside recycling collection. It would be possible to recycle more materials at the transfer station, such as plate glass, than could be collected at the kerbside.

### 5.5 Diverted Materials

#### 5.5.1 Overview of Diverted Materials

The main materials diverted from the district are glass bottles and jars, paper/card, metals, and greenwaste. All recyclable materials are bulked at the Taumarunui landfill/transfer station, and transported for recycling at facilities in Auckland or north Waikato.

Greenwaste is chipped and stored on the landfill site.

E-waste is also collected and recycled through the South Waikato Achievement Trust in Tokoroa.

There is little data available individually for drop-off facilities and other transfer stations in the district, as there are no weighbridges or charging for recyclables.

Tonnages are available as a collated figure being transported out of the Taumarunui facility. These are shown below, along with greenwaste.

**Table 16: Kerbside Recycling and Drop-Off Facilities**

<table>
<thead>
<tr>
<th></th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper/cardboard</td>
<td>767</td>
<td>731</td>
<td>576</td>
</tr>
</tbody>
</table>
This shows that recyclables from the district have remained fairly stable for the last few years, although the diversion rate has been decreasing.

There is no data available for commercially-collected diverted materials.

### 6 Performance Measurement

#### 6.1 Current Performance Measurement

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

**6.1.1 Per Capita Waste to Class 1 Landfills**

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

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

By combining Statistics NZ population estimates and the Class 1 landfill waste data in section 5.3.1, the per capita per annum waste to landfill in 2016 from Ruapehu district can be calculated as in Table 17 below. The estimate includes special wastes but excludes non-levied cleanfill materials.

**Table 17: Waste Disposal per Capita – Ruapehu District**

<table>
<thead>
<tr>
<th>Material Type</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastics type 1 &amp; 2</td>
<td>188</td>
<td>200</td>
<td>173</td>
</tr>
<tr>
<td>Glass bottles and jars</td>
<td>1,496</td>
<td>1,298</td>
<td>1,331</td>
</tr>
<tr>
<td>Greenwaste</td>
<td>177</td>
<td>189</td>
<td>560</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>2,628</td>
<td>2,418</td>
<td>2,640</td>
</tr>
</tbody>
</table>

Diversion Rate: 49%, 43%, 40%

This shows that recyclables from the district have remained fairly stable for the last few years, although the diversion rate has been decreasing.
Population (Stats NZ 2013 year estimate) | 11,838  
Total waste to Class 1 landfill (tonnes, 2016) | 4,025  
Tonnes/capita/annum of waste to Class 1 landfills | 0.340  
Waiouru Population (2016 estimate) | 900  
Tonnes/capita/annum of waste to Class 1 landfills less Waiouru | 0.368

However, this does not include any waste from Waiouru, as no figures are available for this. In 2016, Waiouru had a population of approximately 900\(^2\).

Table 18: Per Capita Waste to Class 1 Landfills Compared to Other Districts

<table>
<thead>
<tr>
<th>Overall waste to landfill (excluding cleanfill and cover materials)</th>
<th>Tonnes per capita per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gisborne District 2010</td>
<td>0.305</td>
</tr>
<tr>
<td>Waimakariri District 2012</td>
<td>0.311</td>
</tr>
<tr>
<td>Westland District 2011</td>
<td>0.331</td>
</tr>
<tr>
<td>Ruapehu District 2016/17</td>
<td>0.340</td>
</tr>
<tr>
<td>Carterton/Masterton/South Wairarapa Districts 2015</td>
<td>0.352</td>
</tr>
<tr>
<td>Ashburton District 2014-15</td>
<td>0.366</td>
</tr>
<tr>
<td><strong>Ruapehu District excluding Waiouru 2016/17</strong></td>
<td><strong>0.368</strong></td>
</tr>
<tr>
<td>Tauranga and WBoP District 2010</td>
<td>0.452</td>
</tr>
<tr>
<td>Napier/Hastings 2012</td>
<td>0.483</td>
</tr>
<tr>
<td>Southland region 2011</td>
<td>0.500</td>
</tr>
<tr>
<td>Wellington City &amp; Porirua City 2015</td>
<td>0.507</td>
</tr>
<tr>
<td>Christchurch City 2012</td>
<td>0.524</td>
</tr>
</tbody>
</table>

Taupo District 2013  |  0.528  
Kāpiti Coast District 2015 |  0.584  
Wellington region 2015  |  0.608  
New Plymouth District 2010 |  0.664  
Hamilton City  |  0.668  
Queenstown Lakes District 2012 |  0.735  
Rotorua District 2009  |  0.736  
Auckland region 2012  |  0.800  
Upper Hutt City & Hutt City 2015 |  0.874  

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

### 6.1.2 Diversion Potential of Waste to Class 1 Landfills

Potentially, approximately a quarter of the waste surveyed entering Taumuranui landfill could be recycled through existing systems. Another approximately 10% could be recycled if basic recovery systems are put in place at the landfill, such as plate glass, plasterboard, and untreated timber.

Materials that have been considered divertable are those which are already being recovered or otherwise diverted from landfill disposal elsewhere in New Zealand. It is recognised that no system established for the recovery of waste materials is capable of diverting 100% of that material from the waste stream, as there is always some level of contamination. The estimate that is presented, therefore, represents a theoretical maximum, rather than the proportion of the waste stream that is likely to be recovered should a full suite of diversion initiatives be established.
7 Future Demand and Gap Analysis

7.1 Future Demand

There are a wide range of factors that are likely to affect future demand for waste minimisation and management. The extent to which these influence demand could vary over time and in different localities. This means that predicting future demand has inherent uncertainties. Key factors are likely to include the following:

- Overall population growth
- Economic activity
- Changes in lifestyle and consumption
- Changes in waste management approaches

In general, the factors that have the greatest influence on potential demand for waste and resource recovery services are population and household growth, construction and demolition activity, economic growth, and changes in the collection service or recovery of materials.

7.1.1 Population

While the usually resident population of the district is predicted to remain the same, or decrease slightly, over the next ten years; the peak population is expected to increase. This has an impact on the demand for services as many holiday makers in the district stay in homes owned by themselves or others, and therefore tend to use the kerbside collection services in the same way as permanent residents would.

Table 19: Forecast Growth in Peak Population

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>24,489</td>
<td>24,925</td>
<td>25,381</td>
<td>25,853</td>
<td>26,345</td>
<td>26,855</td>
<td>27,384</td>
<td>27,934</td>
</tr>
</tbody>
</table>

*Source: Internal forecasts prepared for the 2018 – 2028 planning period, provided by Ruapehu District Council*

7.1.2 Changes in Household Numbers

For the purposes of this waste assessment, a household number forecast prepared for the ten years from 2020 was used in modelling the comparative costs of various options. This is shown below in Table 19.

Table 20: Forecasted Household Numbers 2020 - 2030

<table>
<thead>
<tr>
<th>Year</th>
<th>Household Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>7,205</td>
</tr>
<tr>
<td>2021</td>
<td>7,565</td>
</tr>
<tr>
<td>Year</td>
<td>GDP</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>2022</td>
<td>7,943</td>
</tr>
<tr>
<td>2023</td>
<td>8,340</td>
</tr>
<tr>
<td>2024</td>
<td>8,757</td>
</tr>
<tr>
<td>2025</td>
<td>9,195</td>
</tr>
<tr>
<td>2026</td>
<td>9,655</td>
</tr>
<tr>
<td>2027</td>
<td>10,138</td>
</tr>
<tr>
<td>2028</td>
<td>10,644</td>
</tr>
<tr>
<td>2029</td>
<td>11,177</td>
</tr>
<tr>
<td>2030</td>
<td>11,735</td>
</tr>
</tbody>
</table>

### 7.1.3 Economic Activity

The industry making the most significant contribution to the economy in Ruapehu district is agriculture and in particular sheep, beef cattle, and grain farming. In 2015, this industry contributed an estimated $103M or 20% of the district’s GDP, compared to 5% for the country as a whole\(^2\). Other significant growing industries are the ‘administrative and support services’ (including tourism-related activities) sector, which has grown 19% per annum over the 2010 – 2015 period, and (unsurprisingly, given the presence of the NZDF at Waiouru) the government administration, defence and public safety sector.

For reference, Figure 9 below shows the growth in municipal waste in the OECD plotted against GDP and population.

\(^2\) Ministry of Business and Innovation Modelled Territorial Authority GDP, from [www.mbie.govt.nz](http://www.mbie.govt.nz)
Research from the UK\textsuperscript{24} and USA\textsuperscript{25} suggests that underlying the longer-term pattern of household waste growth is an increase in the quantity of materials consumed by the average household and that this in turn is driven by rising levels of household expenditure.

The relationship between population, GDP, and waste seems intuitively sound, as an increased number of people will generate increased quantities of waste and greater economic activity is linked to the production and consumption of goods which, in turn, generates waste.

Total GDP is also a useful measure as it takes account of the effects of population growth as well as changes in economic activity. The chart suggests that municipal solid waste growth tracks above population growth but below GDP. The exact relationship between GDP, population, and waste growth will vary according to local economic, demographic, and social factors. To be able to use GDP and population as accurate predictors of waste generation requires establishing correlations between changes in these factors and changes in waste generation.

Ideally, co-efficients for each factor would be calculated, with an analysis, such as regression analysis, performed to determine the impact of each of the key factors, and projections conducted from this base data. However in the Ruapehu context there is insufficient historical data on the total quantities of waste generated and historical GDP to conduct any meaningful analysis.

7.1.4 Changes in Lifestyle and Consumption

Community expectations relating to recycling and waste minimisation are anticipated to lead to increased demand for recycling services.


\textsuperscript{25} EPA, 1999. National Source Reduction Characterisation Report For Municipal Solid Waste in the United States
Consumption habits will affect the waste and recyclables generation rates. For example, there has been a national trend related to the decline in newsprint. In New Zealand, the production of newsprint has been in decline since 2005, when it hit a peak of 377,000 tonnes, falling to 276,000 tonnes in 2011. Further indication of the decline in paper consumption comes from the Ministry for Primary Industry statistics shown in Figure 10.

Figure 10: Apparent Paper Consumption per Capita

7.1.5 Changes in Waste Management Approaches

There are a range of drivers that mean methods and priorities for waste management are likely to continue to evolve, with an increasing emphasis on diversion of waste from landfill and recovery of material value. These drivers include:

- Statutory requirement in the Waste Minimisation Act 2008 to encourage waste minimisation and decrease waste disposal – with a specific duty for TAs to promote effective and efficient waste management and minimisation and to consider the waste hierarchy in formulating their WMMPs.
- Requirement in the New Zealand Waste Strategy 2010 to reduce harm from waste and increase the efficiency of resource use.
- Increased cost of landfill. Landfill costs have risen in the past due to higher environmental standards under the RMA, introduction of the Waste Disposal Levy (currently $10 per tonne) and the New Zealand Emissions Trading Scheme. While these have not been strong drivers to date, there remains the potential for their values to be increased and to incentivise diversion from landfill
- Collection systems. In brief, more convenient systems encourage more material. An increase in the numbers of large wheeled bins used for refuse collection, for example, drives an increase in the quantities of material disposed of through them. Conversely, more convenient recycling systems with more capacity help drive an increase in the amount of recycling recovered.

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• Waste industry capabilities. As the nature of the waste sector continues to evolve, the waste industry is changing to reflect a greater emphasis on recovery and is developing models and ways of working that will help enable effective waste minimisation in cost-effective ways.
• Local policy drivers, including actions and targets in the WMMP, bylaws, and licensing.
• Recycling and recovered materials markets. Recovery of materials from the waste stream for recycling and reuse is heavily dependent on the recovered materials having an economic value. This particularly holds true for recovery of materials by the private sector. Markets for recycled commodities are influenced by prevailing economic conditions and most significantly by commodity prices for the equivalent virgin materials. The risk is linked to the wider global economy through international markets.

7.1.6 Confidence Levels of Data

The confidence in data used as a basis for the financial forecasts has been assessed using the grading system from the NZWWA NZ Guidelines for Infrastructure Asset Grading Standards, as summarised below:

<table>
<thead>
<tr>
<th>Grade</th>
<th>General Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Highly Reliable</td>
</tr>
<tr>
<td></td>
<td>Data based on sound records, procedures, investigations and analysis which is properly documented and recognised as the best method of assessment.</td>
</tr>
<tr>
<td>B</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Data based on sound records, procedures, investigations and analysis which is properly documented but has minor shortcomings, eg, the data is old, some documentation is missing and reliance is placed on unconfirmed reports or some extrapolation.</td>
</tr>
<tr>
<td>C</td>
<td>Uncertain</td>
</tr>
<tr>
<td></td>
<td>Data based on sound records, procedures, investigations or analysis which is incomplete or unsupported, or extrapolation from a limited sample for which Grade A or B data is available.</td>
</tr>
<tr>
<td>D</td>
<td>Very Uncertain</td>
</tr>
<tr>
<td></td>
<td>Data based on unconfirmed verbal reports and/or cursory inspection and analysis.</td>
</tr>
</tbody>
</table>

Confidence grades have been assessed as:

<table>
<thead>
<tr>
<th>Area of work</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand forecasts</td>
<td>C - Uncertain</td>
</tr>
<tr>
<td>Service gap interpretation</td>
<td>B - Reliable</td>
</tr>
<tr>
<td>Quantities</td>
<td></td>
</tr>
<tr>
<td>Major asset groups</td>
<td>A - Highly reliable</td>
</tr>
<tr>
<td>Minor asset groups</td>
<td>B - Reliable</td>
</tr>
</tbody>
</table>
## Condition grades

<table>
<thead>
<tr>
<th>Category</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major asset groups</td>
<td>A - Highly reliable</td>
</tr>
<tr>
<td>Minor asset groups</td>
<td>B - Reliable</td>
</tr>
<tr>
<td>Unit rates</td>
<td>B – Reliable</td>
</tr>
<tr>
<td>Base lives</td>
<td>B - Reliable</td>
</tr>
</tbody>
</table>

## Remaining lives

<table>
<thead>
<tr>
<th>Category</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major asset groups</td>
<td>B - Reliable</td>
</tr>
<tr>
<td>Minor asset groups</td>
<td>B - Reliable</td>
</tr>
<tr>
<td>Valuation and depreciation</td>
<td>B - Reliable</td>
</tr>
</tbody>
</table>

## Financial forecasts

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term 1-3 years</td>
<td>B - Reliable</td>
</tr>
<tr>
<td>Mid-term 4-10 years</td>
<td>B - Reliable</td>
</tr>
</tbody>
</table>

Forecasts could be improved with more sophisticated analysis and improved knowledge of the assets as discussed elsewhere in this document.

### 7.1.7 Summary of Demand Factors

The analysis of factors driving demand for waste services in the future suggests that changes in demand will occur over time but that no dramatic shifts are expected. If new waste management approaches are introduced, this could shift material between disposal and recovery management routes.

The chart below shows population plotted against available data on waste and recycling over time:
Regression analysis on the correlation between total waste/recycling and population provides an r value of 0.506 at a 95% confidence interval. This suggests a weak correlation between waste quantities and population based on available data. However, only the last three years’ worth of data are based on weighbridge measurements. It is also likely that the available waste data is complete, as it does not account for waste going to landfill in Waiouru or out of district, waste to cleanfill, and farm waste.

Tourism and economic growth will drive small increases in the waste generated. The biggest change in demand is likely to come about through changes within the industry, with economic and policy drivers leading to increased waste diversion and waste minimisation.

7.1.8 Projections of Future Demand

It is unlikely that quantities of waste and recovered materials are going to change dramatically over the next 6-10 years. While the usually resident population is decreasing, which would usually be expected to produce a corresponding decrease in waste volumes, the visitor population is increasing, and the proportion of one-person households is also increasing.

Therefore, the waste stream is likely to remain fairly constant, with perhaps a slight increase due to peak population increasing.

7.2 Future Demand – Gap Analysis

The aim of waste planning at a territorial authority level is to achieve effective and efficient waste management and minimisation. The following ‘gaps’ have been identified:

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27 An R squared value of 1 is a perfect correlation, while a value of 0 is no correlation.
7.2.1 Waste Streams

The data available on existing waste streams is at quite a high level and with likely inaccuracies in historical data, given the absence of a weighbridge at Taumarunui until recently.

Priority waste streams that could be targeted to further reduce waste to landfill would include:

- More kerbside recyclables both from domestic and commercial properties
- Organic waste, particularly food waste both from domestic and commercial properties
- There are very limited formal cleanfill facilities available in the district
- Farm waste is a relatively unknown quantity and increased awareness of the problems associated with improper disposal may drive demand for better services
- Construction and demolition waste, in particular timber, is likely to be a more significant part of the waste stream than the audit data suggests, and this may be able to be recovered
- E-waste collection and processing capacity in the district, while better than many areas, has some room for improvement

Infrastructure to manage the increased quantities and new waste streams will be required.

7.2.1.1 Asbestos Removal

Some commonly used products that contain asbestos include roof tiles, wall claddings, fencing, vinyl floor coverings, sprayed fire protection, decorative ceilings, roofing membranes, adhesives and paints. The most likely point of exposure is during building or demolition work.

If there is to be separation of construction and demolition waste at Taumarunui, and at any possibly resource recovery sites in communities like Ohakune, training will be required to enable staff/communities to identify materials that are likely to contain asbestos.

7.2.1.2 Medical Waste

The Pharmacy Practice Handbook states:

4.1.16 Disposal of Unused, Returned or Expired Medicines

Members of the public should be encouraged to return unused and expired medicines to their local pharmacy for disposal. Medicines, and devices such as diabetic needles and syringes, should not be disposed of as part of normal household refuse because of the potential for misuse and because municipal waste disposal in landfills is not the disposal method of choice for many pharmaceutical types. Handling and disposal should comply with the guidelines in NZ Standard 4304:2002 – Management of Healthcare Waste.

Chemists in Taumarunui and Ohakune accept medical waste for appropriate disposal.

7.2.1.3 Facilities
The landfill at Taumarunui is nearing the end of its consented life, and the landfill operated by the NZDF is in a similar situation. The Taumarunui landfill would require significant improvements to meet the criteria of a class 1 landfill, and would also require a new consent. The Waiouru landfill would require even more significant improvements and would similarly require a new consent after 2020.

There are numerous drop-off points and transfer stations around the district which provide a reasonable range of services to the community, with the exception of Waiouru.

7.2.1.4 Waste Data
There is good quality high level waste data available for much of the district from the last three years, following the installation of a weighbridge at Taumarunui.

There is some kerbside waste composition data available, although none from Taumarunui, and restricted data available for total waste to landfill in Taumarunui.

There is no data available for waste composition or quantities from Waiouru.
8 Initial Review of the 2015 Waste Management and Minimisation Plan

The last WMMP for Ruapehu District was prepared in 2015, as part of the Waste Management and Minimisation Asset Management Plan (WMMAMP). As a result, the waste assessment and WMMP are in an unusual format and parts of the two documents are found in various parts of the AMP.

8.1 Data

The data used to prepare the WMMAMP is similar to the data used for this WMMP, and therefore the issues and queries raised about data in this waste assessment also apply to the AMP.

8.2 Key Issues

Issues identified in the WMMAMP as ‘problems with waste’ included:

- Leachate and landfill gas produced as a result of landfilling mixed municipal waste;
- The length of time that aftercare is required for landfills; and
- Cost to the community including financial, environmental, health, legacy care, and resource use.

The WMMAMP also identified ‘challenges ahead’ as being:

- Closure of the district landfill by 2020;
- Identification of least cost and sustainable destinations for waste post-closure;
- Building infrastructure at Taumarunui for shipment of waste out of district;
- Financial management of the increased cost of transporting waste out of the district;
- Removal of food waste from the waste stream;
- Rationalising the cost-benefit of small transfer stations;
- Connecting National Park transfer station to power and water;
- Finding an alternative e-waste recycler; and
- Developing a solid waste bylaw.

8.3 Other Issues Not Addressed

Issues not addressed in the previous WMMAMP include:

- Rural waste management;
- Cleanfill disposal options;
- Improved data;
- Increasing diversion of recyclables from both households and businesses; and
- Waiouru waste management in general.

8.4 New Guidance

New guidance from MfE on waste management and minimisation planning was released during 2015. The WMMAMP does not fully align with the new (2015) MfE Guidance. The new guidance places more emphasis on funding of plans, inclusion of targets and how
actions are monitored and reported. The WMMAMP also did not provide data in accordance with the National Waste Data Framework, as suggested by the new guidance.

8.5 Actions, Implementation Plan and Progress

The action plan from the WMMAMP was very detailed and relatively ambitious for a smaller rural council, and most actions were programmed for all five years of the life of the WMMAMP. The desired outcome from some actions isn’t immediately clear.

Although some WMMAMP actions were incorporated into other planning documents such as annual plans, the responsibility for implementing each action isn’t clear and in some cases, nor are the resources or expected funding required.

A full report on the individual actions is included in Appendix A.6.0.

Completed, or partially-completed actions, from the WMMAMP include:

- Review and adjustment of charges for waste disposal;
- Monitoring and maintenance is ongoing for closed landfills;
- Regular promotion of the kerbside recycling scheme is undertaken;
- Recycling bins have been installed next to many litter bins;
- E-waste is accepted at all transfer stations and a contractor is in place;
- All transfer stations accept whiteware and metal;
- Reusable bags are promoted for use while shopping;
- Waste education in schools continues;
- Flyers targeting those using holiday homes have been produced;
- Para Kore is funded;
- Most transfer stations have received some improvements;
- Decision made to not install a weighbridge at Waimarino transfer station; and
- Memorandum of understanding signed between Council and Horizons regarding illegal dumping and burning.

The WMMAMP does not include any specific targets.
9 Statement of Options

This section sets out the range of options available to the Council to address the key issues that have been identified in this Waste Assessment. An initial assessment is made of the strategic importance of each option, the impact of the option on current and future demand for waste services, and the Council’s role in implementing the option. Options presented in this section would need to be fully researched, and the cost implications understood before being implemented.

9.1 Key Issues to Be Addressed by WMMP

The key issues identified in this waste assessment are:

- Expiry of the consent for Taumarunui landfill in 2020
- Management and lifespan of Waiouru landfill
- Services provided to Waiouru residents
- Capacity of the kerbside recycling collection
- Data on, and understanding of, all waste streams particularly non-household, rural and farm waste
- Disposal facilities for cleanfill
- Regulation
- Growing disposal costs due to legislation and environmental management requirements
### 9.2 Regulation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Option</th>
<th>Issues Addressed</th>
<th>Strategic Assessment</th>
<th>Impact on Current/Future Demand</th>
<th>Councils’ Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Develop and implement a solid waste bylaw that is aligned to and supports any changed services or operations, following the expiry of the consent for Taumarunui landfill in 2020 and tendering services</td>
<td>Ensuring regulation is aligned to the strategic outcomes of the WMMP, as required by the WMA</td>
<td>Social/cultural: good community consultation during any review would have a positive social and cultural impact. Environmental: regulation can prevent unwanted practices such as illegal dumping Economic: there can be a financial impact from being required to manage waste more responsibly.</td>
<td>A bylaw can be used to ensure that services are used properly, and could protect against negative environmental impacts due to incorrect services use or illegal dumping.</td>
<td>Conduct review and adopt revised bylaw if necessary</td>
</tr>
</tbody>
</table>

### 9.3 Measuring and Monitoring

<table>
<thead>
<tr>
<th>Ref</th>
<th>Option</th>
<th>Issues Addressed</th>
<th>Strategic Assessment</th>
<th>Impact on Current/Future Demand</th>
<th>Councils’ Role</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Status quo – occasional composition audits, monitoring of tonnages under Council control</td>
<td>None</td>
<td>No new strategic impacts</td>
<td>No impact on current or future demand</td>
<td>Maintain existing approach</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>M1</td>
<td>Increase monitoring to provide more information in areas such as composition of waste to landfill and rural, farm and commercial wastes</td>
<td>Addresses the current lack of data, or quality of data, in various areas</td>
<td>Social/cultural: could raise awareness Environmental: services could be improved enabling more waste to be diverted from landfill. Economic: additional monitoring would come at a cost. Increased diversion from landfill could reduce costs.</td>
<td>Availability of better and more data could enable services to be altered to better address need, ensuring that more waste is diverted from landfill</td>
<td>Council to fund and manage research and incorporate the results in to future waste assessments and WMMPs</td>
</tr>
</tbody>
</table>
Develop a data strategy that is aligned with the national waste data framework will ensure that Council is collecting accurate and appropriate data to use in future waste assessments. This may involve carrying out ‘SWAP’ composition studies, and collecting data on quantity of wastes from kerbside rubbish and recycling collections.

Addresses the current lack of data, or quality of data, in various areas.

Social/cultural: could raise awareness
Environmental: services could be improved enabling more waste to be diverted from landfill.
Economic: additional monitoring would come at a cost. Increased diversion from landfill could reduce costs.

Availability of better and more data could enable services to be altered to better address need, ensuring that more waste is diverted from landfill.

Council to fund and manage research and incorporate the results into future waste assessments and WMMPs.

### 9.4 Education and Engagement

<table>
<thead>
<tr>
<th>Ref</th>
<th>Option</th>
<th>Issues Addressed</th>
<th>Strategic Assessment</th>
<th>Impact on Current/Future Demand</th>
<th>Councils’ Role</th>
</tr>
</thead>
</table>


| EE1 | Status quo – occasional general education, promotion of cloth nappies and re-usable bags, information for holiday home users. Paper 4 trees, Enviroschools, Pare Kore, and zero waste programmes funded. Joint campaign with regional council regarding illegal dumping. | None | No new strategic impacts | Little impact on current or future demand | Maintain existing approach |
| EE2 | Extend education and engagement to provide additional information on existing services and, in particular, about new services should these be introduced | Community is well-informed about available services and how to use them | Social/cultural: community will be more aware of options, more engaged in waste management and should take more ownership of their waste. Environmental: better use of services would reduce waste to landfill. Economic: providing more frequent and extensive information to the community would come at a cost. | Better and more extensive use of services could ensure more waste is diverted from landfill | Council to fund and implement extended education and engagement campaigns, particularly when/if new services are introduced |
### 9.5 Collection & Services

<table>
<thead>
<tr>
<th>Ref</th>
<th>Option</th>
<th>Issues Addressed</th>
<th>Strategic Assessment</th>
<th>Impact on Current/Future Demand</th>
<th>Councils’ Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS1</td>
<td>Status quo – existing kerbside collections.</td>
<td>None</td>
<td>No new impacts</td>
<td>No impact</td>
<td>Maintain existing services</td>
</tr>
</tbody>
</table>
| CS2 | Improve existing services, by increasing capacity for the recycling collection and expanding the range of materials collected | Will enable householders to recycle more | Social/cultural: an improved service will be provided to the community
Environmental: should result in more waste being diverted from landfill
Economic: increased cost of extended recycling should be balanced by reduced disposal costs. | More waste will be diverted from landfill. | Incorporate extended recycling services in future tendering process |
| CS3 | Introduce a kerbside food waste collection | Householders will be able to divert food waste from landfill | Social/cultural: an improved service will be provided to the community
Environmental: more waste will be diverted from landfill and used to produce a beneficial product
Economic: cost of food waste collection should be balanced by reduced disposal costs | More waste will be diverted from landfill, and used to create a beneficial product | Incorporate service into future tendering process |
|   | Increase range of materials accepted at resource recovery centres and transfer station, potentially including reuse and farm waste | More items can be separated for recovery, recycling, and reuse including farm wastes | Social/cultural: an improved service will be provided to the community, especially farmers  
Environmental: more waste will be diverted from landfill or illegal disposal  
Economic: cost of improved services may be balanced by reduced disposal costs | More waste will be diverted from landfill, but a wider range of materials will require recycling. Farm wastes will be managed in more preferable ways (to burying, burning or bulk storage) | Incorporate service into future tendering process |
|---|---|---|---|---|---|
| CS4 | Review the management of waste from roading, parks, and reserves operations. | Waste streams are understood in more detail enabling identification of any preferable management options | Social/cultural: no change as services wouldn’t be impacted  
Environmental: less waste will be disposed of in potentially sensitive environments  
Economic: improved management may result in minor cost increase | Roading wastes and parks and reserves wastes will be better understood and managed. | Carry out investigation of waste streams (types and quantities) by 2021 |
<table>
<thead>
<tr>
<th>Ref</th>
<th>Option</th>
<th>Issues Addressed</th>
<th>Strategic Assessment</th>
<th>Impact on Current/Future Demand</th>
<th>Councils’ Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN1</td>
<td>Status quo – maintain Taumarunui as a landfill</td>
<td>A disposal point is available in the medium term</td>
<td>Social/cultural: no change would be experienced by the community. Environmental: a landfill at Taumarunui would be unlikely to have a gas capture system. Leachate from a new lined cell would need to be managed. Economic: a new consent would be required, along with construction of a new cell. ETS implications would become more significant over time.</td>
<td>No change to quantity of waste disposed of to landfill, and no motivation to do so (as this would reduce economic viability of the landfill).</td>
<td>Council will need to apply for a new consent and construct a new lined landfill cell.</td>
</tr>
<tr>
<td>IN2</td>
<td>Allow Taumarunui landfill consent to expire and use an alternative disposal point</td>
<td>A disposal point is available long term</td>
<td>Social/cultural: community would experience no change. Environmental: waste would be disposed of to a fully engineered landfill with gas capture system, but would require transporting. Economic: due to reduced ETS implications, likely to cost less than continuing to use Taumarunui</td>
<td>Transport and disposal costs would be an external cost, driving diversion of waste from landfill where feasible. Council would need to approach alternative disposal points to negotiate a gate fee and possibly contract. Could be incorporated into future tendering process.</td>
<td></td>
</tr>
<tr>
<td>IN3</td>
<td>As above, but establishing a Class 4 (cleanfill) or Class 2 disposal site in Taumarunui</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**A disposal point is available long term, and a cleanfill disposal facility is available, to manage heavy, low value materials.**

**Social/cultural:** community would have access to new infrastructure.

**Environmental:**
- Waste would be disposed of to a fully engineered landfill with gas capture system, but would require transporting. Cleanfill material could be diverted from landfill and other less favourable management options.
- Transport and disposal costs would be an external cost, driving diversion of waste from landfill where feasible. Cleanfill material would be diverted from landfill.

**Economic:** due to reduced ETS implications and reduced waste to landfill, likely to cost less than continuing to use Taumarunui as a Class 1 landfill.

**Council would need to approach alternative disposal facilities to negotiate a gate fee and possibly contract; and establish a cleanfill facility at Taumarunui. Could be incorporated into future tendering process.**
### 9.7 Leadership and Management

<table>
<thead>
<tr>
<th>Ref</th>
<th>Option</th>
<th>Issues Addressed</th>
<th>Strategic Assessment</th>
<th>Impact on Current/Future Demand</th>
<th>Councils’ Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>LM1</td>
<td>Status quo</td>
<td>None</td>
<td>No new impacts</td>
<td>No impact</td>
<td>Maintain current management and leadership approach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Services provided in Waiouru that are comparable with the rest of the district, and allow for the closure of the NZDF landfill.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Social/cultural: ensure Waiouru community have services that are comparable with the rest of the district.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Environmental: ensure recycling and recovery is maximised in Waiouru, similarly to the rest of the district, and reduce reliance on the NZDF landfill.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Economic: possible increase in costs to fund improved collections.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LM2</td>
<td>Work with NZDF to develop a comprehensive service delivery and waste management plan for Waiouru</td>
<td>Increased diversion from landfill.</td>
<td></td>
<td></td>
<td>Council to negotiate with NZDF and consult with community.</td>
</tr>
</tbody>
</table>
9.8 Summary Table of Potential Scenarios

The above options can form an almost infinite number of combinations. To simplify consideration of the options, high level scenarios with logical combinations of the above options are laid out in the table below. The scenarios are for illustration and can be amended.

<table>
<thead>
<tr>
<th>Scenario Name</th>
<th>Collections</th>
<th>Infrastructure</th>
<th>Regulation</th>
<th>Monitoring &amp; Measuring</th>
<th>Education</th>
<th>Leadership &amp; Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status Quo</td>
<td>No change</td>
<td>No change</td>
<td>No bylaw</td>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Scenario 1:</td>
<td>No change</td>
<td>Close the Taumarunui landfill and use alternative disposal point</td>
<td>No bylaw</td>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Scenario 2:</td>
<td>Extended kerbside recycling collection, introduce food waste collection</td>
<td>Close the Taumarunui landfill and use alternative disposal point</td>
<td>Develop and implement a solid waste bylaw to ensure support of new collection services and infrastructure approach</td>
<td>Increased monitoring of waste streams</td>
<td>Increased education and engagement to support new services</td>
<td>Negotiate with NZDF regarding Waiouru</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>Extended kerbside recycling collection, introduce food waste collection, expanded resource recovery centres</td>
<td>Close the Taumarunui landfill and use alternative disposal point, while establishing a Class 4 (cleanfill) landfill at Taumarunui</td>
<td>Develop and implement a solid waste bylaw to ensure support of new collection services and infrastructure approach</td>
<td>Increased monitoring of waste streams</td>
<td>Increased education and engagement to support new services</td>
<td>Negotiate with NZDF regarding Waiouru</td>
</tr>
</tbody>
</table>
10 Statement of Council’s Intended Role

10.1 Statutory Obligations and Powers

Councils have a number of statutory obligations and powers in respect of the planning and provision of waste services. These include the following:

- Under the WMA each Council “must promote effective and efficient waste management and minimisation within its district” (s 42). The WMA requires TAs to develop and adopt a Waste Management and Minimisation Plan (WMMP).\(^{29}\)
- The WMA also requires TAs to have regard to the New Zealand Waste Strategy 2010. The Strategy has two high levels goals: ‘Reducing the harmful effects of waste’ and ‘Improving the efficiency of resource use’. These goals must be taken into consideration in the development of the Council’s waste strategy.
- Under Section 17A of the Local Government Act 2002 (LGA) local authorities must review the provision of services and must consider options for the governance, funding and delivery of infrastructure, local public services and local regulation. There is substantial cross over between the section 17A requirements and those of the WMMP process in particular in relation to local authority service provision.
- Under the Local Government Act 2002 (LGA) Councils must consult the public about their plans for managing waste.
- Under the Resource Management Act 1991 (RMA), TA responsibility includes controlling the effects of land-use activities that have the potential to create adverse effects on the natural and physical resources of their district. Facilities involved in the disposal, treatment or use of waste or recoverable materials may carry this potential. Permitted, controlled, discretionary, non-complying and prohibited activities and their controls are specified within district planning documents, thereby defining further land-use-related resource consent requirements for waste-related facilities.
- Under the Litter Act 1979 TAs have powers to make bylaws, issue infringement notices, and require the clean-up of litter from land.
- The Health Act 1956. Health Act provisions for the removal of refuse by local authorities have been repealed by local government legislation. The Public Health Bill is currently progressing through Parliament. It is a major legislative reform reviewing and updating the Health Act 1956, but it contains similar provisions for sanitary services to those currently contained in the Health Act 1956.
- The Hazardous Substances and New Organisms Act 1996 (the HSNO Act). The HSNO Act provides minimum national standards that may apply to the disposal of a hazardous

\(^{29}\) The development of a WMMP in the WMA is a requirement modified from Part 31 of the LGA 1974, but with even greater emphasis on waste minimisation.
substance. However, under the RMA a regional council or TA may set more stringent controls relating to the use of land for storing, using, disposing of or transporting hazardous substances.

- Under current legislation and the new Health and Safety at Work Act the Council has a duty to ensure that its contractors are operating in a safe manner.

The Council, in determining their role, needs to ensure that their statutory obligations, including those noted above, are met.

10.2 Overall Strategic Direction and Role

The overall strategic direction and role is presented in the Waste Management and Minimisation Plan.
11 Statement of Proposals

Based on the options identified in this Waste Assessment and the Council’s intended role in meeting forecast demand a range of proposals are put forward. Actions and timeframes for delivery of these proposals are identified in the Draft Waste Management and Minimisation Plan.

It is expected that the implementation of these proposals will meet forecast demand for services as well as support the Council’s goals and objectives for waste management and minimisation. These goals and objectives will be confirmed as part of the development and adoption of the Waste Management and Minimisation Plan.

11.1 Statement of Extent

In accordance with section 51 (f), a Waste Assessment must include a statement about the extent to which the proposals will (i) ensure that public health is adequately protected, (ii) promote effective and efficient waste management and minimisation.

11.1.1 Protection of Public Health

The Health Act 1956 requires the Council to ensure the provision of waste services adequately protects public health.

In respect of Council-provided waste and recycling services, public health issues will be able to be addressed through setting appropriate performance standards for waste service contracts and ensuring performance is monitored and reported on, and that there are appropriate structures within the contracts for addressing issues that arise.

Privately-provided services will be regulated through local bylaws.

Uncontrolled disposal of waste, for example in rural areas and in cleanfills, will be regulated through local and regional bylaws.

It is considered that, subject to any further issues identified by the Medical Officer of Health, the proposals would adequately protect public health.

11.1.2 Effective and Efficient Waste Management and Minimisation

The Waste Assessment has investigated current and future quantities of waste and diverted material, and outlines the Council’s role in meeting the forecast demand for services.

It is considered that the process of forecasting has been robust, and that the Council’s intended role in meeting these demands is appropriate in the context of the overall statutory planning framework for the Council.

Therefore, it is considered that the proposals would promote effective and efficient waste management and minimisation.
The purpose of this Growth Assumptions Summary is to inform forward planning of Council’s Assets and activities.

A.1.1 Method

The assumptions in this summary have been formulated using the results of two key processes. Firstly, data from the *Ruapehu Community Profile for Forward Planning, 20 March 2017*. The data for this profile was obtained from a variety of sources including:

- Statistics New Zealand,
- RDC’s Out of District Ratepayers’ Survey results,
- a variety of Tourism Indicators,
- statistics on night visitors from Ministry of Business, Innovation and Employment

Secondly, a workshop held on the 22 March 2017 with senior RDC management and consultant input during which local professional experience and “on-the-ground” knowledge (historical and current) was shared, discussed and consolidated. Examples of this are Ruapehu Alpine Lift’s Customer Surveys and Marketing Plans. The contents of these have been informally made known to RDC staff.

Accelerate25, the Regional Growth initiative, should also make an impact on these growth patterns over the next 10 years. The likely impact of this is hard to estimate and it was not explicitly included in the Community Profile for Forward Planning. The best knowledge at the time of writing (May 2017) has been included in the estimates in this paper.

A.1.1.1 Confidence in the Data

All the estimates listed below contain some inherent uncertainty. The uncertainty has been minimised by considering as many data sources and reputable opinions as possible.

A sense of this can be obtained by comparing the estimates with those used in the 2015/25 LTP. This predicted a URP of 11,360 in 2017 and a 1.3% pa reduction in the URP. It also assumed 25 building consents pa and an increase in the HH population of 1.3% pa.

The population of the district is now estimated to be 11,950 in 2018. The number of building consents issued has risen to about 60 pa and consequently holiday home populations will have increased over 2% pa. Whilst the predictions were not exactly correct the comparison provides some comfort that the prevailing wisdom amongst Council staff has been trending in the right direction.

Council staff monitor asset usage closely from month to month. Any unusual patterns of usage are reported and provide an input into immediate and long term planning. The Infrastructure Planning documents contain a number of “flags” that should cause Council to act to correct any deficiencies in the provision of infrastructure.
These assumptions are not mutually exclusive and reflect different aspects of the services we provide.

**A.1.2 Assumptions**

The agreed assumptions are:

- **Current situation (2017):** The latest Statistics NZ data (2013) says that the usual resident population (URP) of the Ruapehu District is in decline. Local professional experience indicates that this trend has slowed. Population growth is currently static.

- **To predict numbers of holiday home (HH) visitors:**
  - Calculate according to the number of new builds (plus relocates) in the area, with a split between URP builds and HH builds by using the split between occupied and unoccupied housing (Stats 2013). E.g. the Ohakune split is 60% HH and 40% URP builds.

- **New Builds/Relocates (2026) are calculated over 10 years from the previous 5 year data and split HH/URP.**

- **Overnight visitors - use official commercial accommodation monitor (CAM) numbers.** It is acknowledged that CAM is self-reporting and does not include bed and breakfasts, and non-commercial accommodation.

- **Other visitors – the same as CAM numbers.** This accounts for day visitors, campers, bed & breakfast visitors, and all other variations. Therefore, the total number of visitors - overnight and other – is twice the CAM (overnight) numbers.

- **Accelerate25 is planning for a 50% increase in visitor spending to the region by 2025.** This will be made up of shoulder season visits, the same people spending more and staying longer, and new visitors. For lack of any better knowledge it is assumed that the three factors will be equal.

- **In order to service the increased visitor numbers the URP also needs to increase by 1/3 of the increase in visitor numbers.**

More data will be available from the destination development research (Henley Hutchings) and will be used in future refinements of these assumptions.

**A.1.3 Baseline Peak Population**

The following data is to be used to inform Council’s planning, particularly the Long Term Plan 2018-28.

Since 2001 the district has seen a downward trend in the occupied dwelling count and an increase in the number of unoccupied dwellings. This trend may well be influenced by the increase in homes being used as holiday homes in the district, especially in Ohakune and National Park Village.

RDC conducts an ‘Out of District Ratepayers’ Survey’ every three years to get a clearer idea of the number of holiday homes in the district. Once the number of holiday homes has been established, one can calculate the number of occupants visiting the district staying in these holiday homes.

Ruapehu District attracts over a million visitors yearly and these tourists visit some of its biggest attractions, including Whakapapa and Turoa ski fields (operated by Ruapehu Alpine Lifts), Mardi Gras and the Tongariro Alpine Crossing (TAC).
Looking at recent visitor and tourist trends in the Ruapehu District, summer visitor numbers are performing well and surpassing winter tourist numbers.

### A.1.3.1 Base Peak Population Table

Taking into account the assumed URP, holiday home occupants from the RDC survey, other visitors (assumed), and night visitors (CAM); one arrives at an approximate *Peak Population* figure for the district which is used as a **baseline indicator** for RDC’s growth forecasts for the next 10 years.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohakune</td>
<td>7,090</td>
<td>7,317</td>
<td>7,555</td>
<td>7,800</td>
<td>8,056</td>
<td>8,321</td>
<td>8,596</td>
<td>8,883</td>
<td>9,180</td>
<td>9,489</td>
<td>9,810</td>
<td>38.35%</td>
</tr>
<tr>
<td>Taumarunui</td>
<td>6,305</td>
<td>6,358</td>
<td>6,415</td>
<td>6,474</td>
<td>6,534</td>
<td>6,597</td>
<td>6,662</td>
<td>6,730</td>
<td>6,799</td>
<td>6,873</td>
<td>6,947</td>
<td>10.19%</td>
</tr>
<tr>
<td>Waiouru</td>
<td>923</td>
<td>927</td>
<td>930</td>
<td>935</td>
<td>939</td>
<td>943</td>
<td>947</td>
<td>952</td>
<td>956</td>
<td>961</td>
<td>966</td>
<td>4.63%</td>
</tr>
<tr>
<td>Rural Waimarino (Tangiwi)</td>
<td>2,310</td>
<td>2,348</td>
<td>2,389</td>
<td>2,430</td>
<td>2,474</td>
<td>2,519</td>
<td>2,565</td>
<td>2,613</td>
<td>2,665</td>
<td>2,717</td>
<td>2,772</td>
<td>19.99%</td>
</tr>
<tr>
<td>National Park</td>
<td>1874</td>
<td>1927</td>
<td>1983</td>
<td>2040</td>
<td>2100</td>
<td>2161</td>
<td>2225</td>
<td>2291</td>
<td>2359</td>
<td>2430</td>
<td>2502</td>
<td>33.48%</td>
</tr>
<tr>
<td>Raetihi</td>
<td>1776</td>
<td>1804</td>
<td>1832</td>
<td>1863</td>
<td>1894</td>
<td>1926</td>
<td>1960</td>
<td>1995</td>
<td>2031</td>
<td>2069</td>
<td>2109</td>
<td>18.74%</td>
</tr>
<tr>
<td>Raurimu</td>
<td>840</td>
<td>850</td>
<td>860</td>
<td>872</td>
<td>883</td>
<td>895</td>
<td>907</td>
<td>921</td>
<td>934</td>
<td>948</td>
<td>963</td>
<td>14.62%</td>
</tr>
<tr>
<td>Other</td>
<td>3,370</td>
<td>3,393</td>
<td>3,416</td>
<td>3,441</td>
<td>3,467</td>
<td>3,493</td>
<td>3,520</td>
<td>3,550</td>
<td>3,579</td>
<td>3,610</td>
<td>3,642</td>
<td>8.06%</td>
</tr>
<tr>
<td>District</td>
<td>24,489</td>
<td>24,925</td>
<td>25,381</td>
<td>25,853</td>
<td>26,345</td>
<td>26,855</td>
<td>27,384</td>
<td>27,934</td>
<td>28,503</td>
<td>29,098</td>
<td>29,710</td>
<td>21.32%</td>
</tr>
</tbody>
</table>

### A.1.3.2 Town Peak Assumptions

Peak town assumptions are calculated looking at events and what pressures they may add to the peak populations. These are an added comparison to the Peak Population table above.

**OHAKUNE – Major event (peak ski or winter festival)**

<table>
<thead>
<tr>
<th>2016</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Event numbers (includes unaccounted for visitors)</td>
<td>6000</td>
</tr>
<tr>
<td>URP</td>
<td>1016</td>
</tr>
<tr>
<td>Support for event</td>
<td>500</td>
</tr>
<tr>
<td>Peak Population 2016</td>
<td>7516</td>
</tr>
<tr>
<td>Peak Population from (BPP) Table</td>
<td>7,090</td>
</tr>
</tbody>
</table>
### National Park Village

#### 2016

<table>
<thead>
<tr>
<th>Event numbers (includes unaccounted for visitors)</th>
<th>1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>URP</td>
<td>180</td>
</tr>
<tr>
<td>Support for event</td>
<td>50</td>
</tr>
<tr>
<td>Peak Population 2016</td>
<td>1730</td>
</tr>
<tr>
<td>Peak Population from (BPP) Table</td>
<td>1,874</td>
</tr>
</tbody>
</table>

#### 2026

<table>
<thead>
<tr>
<th>Number from 2016 peak rounding for design purpose</th>
<th>1730</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 Building consents over 10 years (60%HH/40%URP)</td>
<td>53</td>
</tr>
<tr>
<td>Extra beds (reasonable assumption for a new motel/Hotel)</td>
<td>300</td>
</tr>
<tr>
<td>Increase in URP to support increase in visitors = 1/3 of Visitor increase (210)</td>
<td>70</td>
</tr>
<tr>
<td>Peak Population 2026</td>
<td>1853</td>
</tr>
<tr>
<td>Peak Population from (BPP) Table</td>
<td>2,502</td>
</tr>
<tr>
<td>Rounding up for design purposes</td>
<td>3,000</td>
</tr>
</tbody>
</table>

### Raetihi - Major event (Wild Food, Gut Buster, etc.)

#### 2016

- Number from 2016 peak: 7516
- 160 Building consents over 10 years (60%HH/40%URP): 593
- Increase in URP to support increase in visitors = 1/3 of Visitor increase (210): 70
- Peak Population 2026: 8179
- Peak Population from (BPP) Table: 9,810
- Rounding up for design purposes: 10,000

**NB:** Waimarino septage is received at Ohakune wastewater treatment plant and is not included in this calculation. The wastewater treatment plant is overloaded during peak times at present.
<table>
<thead>
<tr>
<th>Event numbers (includes unaccounted for visitors)</th>
<th>666</th>
</tr>
</thead>
<tbody>
<tr>
<td>URP</td>
<td>1,048</td>
</tr>
<tr>
<td>Support for event</td>
<td>80</td>
</tr>
<tr>
<td>Peak Population 2016</td>
<td>1794</td>
</tr>
<tr>
<td>Peak Population from (BPP) Table</td>
<td>1,776</td>
</tr>
</tbody>
</table>

### 2026

| Number from 2016 peak rounding for design purpose | 1794 |
| 16 Building consents over 10 years (40% hh/60% URP) | 54 |
| Increase in URP to support increase in visitors = 1/3 of Visitor increase (12) | 4 |
| Peak Population 2026                           | 1852 |
| Peak Population from (BPP) Table               | 2109 |
| Rounding up for design purposes                | 3000 |

### TAUMARUNUI

#### 2016

<table>
<thead>
<tr>
<th>Event numbers (includes unaccounted for visitors)</th>
<th>1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>URP</td>
<td>4576</td>
</tr>
<tr>
<td>Support for event</td>
<td>100</td>
</tr>
<tr>
<td>Peak Population 2016</td>
<td>5676</td>
</tr>
<tr>
<td>Peak Population from (BPP) Table</td>
<td>6947</td>
</tr>
</tbody>
</table>

#### 2026

| Number from 2016 peak rounding for design purpose | 5676 |
| 12 Building consents over 10 years (60% hh/40% URP) | 53 |
| Increase in URP to support increase in visitors = 1/3 of Visitor increase (134) | 44 |
| Peak Population 2026                           | 5773 |
| Peak Population from (BPP) Table               | 6,947 |
| Rounding up for design purposes                | 7000 |
NB: Northern septage is received at Taumarunui wastewater treatment plant and is not included in this calculation.

It is reasonable to assume that there will be the development of a significant number of visitor beds (hotel/motel) towards the end of the 10 year planning period. This assumption has not been included in this table.

### OWHANGO – Major Event (42 Traverse, approximately 600 currently do this, but most stay in National Park Village, so 100 extra is a reasonable number of visitors in the town)

<table>
<thead>
<tr>
<th>Year</th>
<th>Event numbers (includes unaccounted for visitors)</th>
<th>URP</th>
<th>Support for event</th>
<th>Peak Population 2016</th>
<th>Peak Population from (BPP) Table (No Owhango in table)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>100</td>
<td>180</td>
<td>50</td>
<td>330</td>
<td>-</td>
</tr>
<tr>
<td>2026</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number from 2016 peak rounding for design purpose</td>
<td>330</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 Building consents over 10 years (40%HH/60%URP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase in URP to support increase in visitors = 1/3 of Visitor increase (none expected)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peak Population 2026</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peak Population from (BPP) Table (No Owhango in table)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rounding up for design purposes</td>
<td></td>
<td></td>
<td></td>
<td>500</td>
</tr>
</tbody>
</table>

NB: There is a limit to the amount of building in Owhango because there is no sewerage scheme, but current builds are approx. two a year.

### A.1.3.3 Amount of land available for growth

A final demand growth calculation made will be the total number of subdivisions possible in each township (township capacity = residential land available X the District Plan rules for subdivisions).

Growth in new builds, or relocates, beyond the projection in the planning assumptions, will trigger a review of demand.
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ohakune HH</strong></td>
<td>5,229</td>
<td>5,438</td>
<td>5,656</td>
<td>5,882</td>
<td>6,117</td>
<td>6,362</td>
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- HH: Household
- CAM: Community Accessibility Management
- URP: User Research Panel
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Note: The table shows visitor numbers for different locations and periods.
A.2.0 Medical Officer of Health Statement

Seek commentary from the medical officer of health in the later stages of the Waste Assessment. Insert here when received based on a final, or nearly final, draft.
A.3.0 Glossary of Terms

Class 1-4 Landfills  Classification system for facilities where disposal to land takes place. The classification system is provided in A.3.1 below for reference.

Cleanfill  A cleanfill (properly referred to as a Class 4 landfill) is any disposal facility that accepts only cleanfill material. This is defined as material that, when buried, will have no adverse environmental effect on people or the environment.

C&D Waste  Waste generated from the construction or demolition of a building including the preparation and/or clearance of the property or site. This excludes materials such as clay, soil and rock when those materials are associated with infrastructure such as road construction and maintenance, but includes building-related infrastructure.

Diverted Material  Anything that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be disposed of or discarded.

Domestic Waste  Waste from domestic activity in households.

ETS  Emissions Trading Scheme

ICI  Industrial, Commercial, Institutional

Landfill  A disposal facility as defined in S.7 of the Waste Minimisation Act 2008, excluding incineration. Includes, by definition in the WMA, only those facilities that accept ‘household waste’. Properly referred to as a Class 1 landfill.

LGA  Local Government Act 2002

Managed Fill  A disposal site requiring a resource consent to accept well-defined types of non-household waste, e.g. low-level contaminated soils or industrial by-products, such as sewage by-products. Properly referred to as a Class 3 landfill.

MfE  Ministry for the Environment

MRF  Materials Recovery Facility
Putrescible, garden, greenwaste: Plant based material and other bio-degradable material that can be recovered through composting, digestion or other similar processes.

Service Delivery Review: As defined by s17A of the LGA 2002. Councils are required to review the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance of regulatory functions. A review under subsection (1) must consider options for the governance, funding, and delivery of infrastructure, services, and regulatory functions.

Waste: Means, according to the WMA:

a) Anything disposed of or discarded, and
b) Includes a type of waste that is defined by its composition or source (for example, organic waste, electronic waste, or construction and demolition waste); and

c) To avoid doubt, includes any component or element of diverted material, if the component or element is disposed or or discarded.

Waste Assessment: as defined by s51 of the Waste Minimisation Act 2008. A Waste Assessment must be completed whenever a WMMP is reviewed.

Waste Minimisation Act 2008

A Waste Management and Minimisation Plan as defined by s43 of the Waste Minimisation Act 2008

Wastewater treatment plant
A.3.1 Classifications for Disposal to Land

In the ‘Technical Guidelines for Disposal to Land’ (2016) the following definitions are given:

**Class 1 - Landfill**

A Class 1 landfill is a site that accepts municipal solid waste as defined in this Guideline. A Class 1 landfill generally also accepts C&D waste, some industrial wastes and contaminated soils. Class 1 landfills often use managed fill and clean fill materials they accept, as daily cover.

Class 1 landfills require:

- a rigorous assessment of siting constraints, considering all factors, but with achieving a high level of containment as a key aim;
- engineered environmental protection by way of a liner and leachate collection system, and an appropriate cap, all with appropriate redundancy; and
- landfill gas management.

A rigorous monitoring and reporting regime is required, along with stringent operational controls. Monitoring of accepted waste materials is required, as is monitoring of sediment runoff, surface water and groundwater quality, leachate quality and quantity, and landfill gas.

Waste acceptance criteria (WAC) comprises:

- municipal solid waste; and
- for potentially hazardous leachable contaminants, maximum chemical contaminant leachability limits (TCLP) from Module 2 Hazardous Waste Guidelines – Class A4.

WAC for potentially hazardous wastes and treated hazardous wastes are based on leachability criteria to ensure that leachate does not differ from that expected from nonhazardous municipal solid waste.

For Class 1 landfills, leachability testing should be completed to provide assurance that waste materials meet the WAC.

**Class 2 Landfill**

A Class 2 landfill is a site that accepts non-putrescible wastes including C&D wastes, inert industrial wastes, managed fill material and clean fill material as defined in these Guidelines. C&D waste can contain biodegradable and leachable components which can result in the production of leachate – thereby necessitating an increased level of environmental protection. Although not as strong as Class 1 landfill leachate, Class 2 landfill leachate is typically characterised by mildly acidic pH, and the presence of ammoniacal nitrogen and soluble metals, including heavy metals. Similarly, industrial wastes from some activities may generate leachates with chemical characteristics that are not necessarily organic.

Class 2 landfills should be sited in areas of appropriate geology, hydrogeology and surface hydrology. A site environmental assessment is required, as are an engineered liner, a leachate collection system, and groundwater and surface water monitoring. Additional engineered features such as leachate treatment may also be required.

Depending on the types and proportions of C&D wastes accepted, Class 2 landfills may generate minor to significant volumes of landfill gas and/or hydrogen sulphide. The necessity for a landfill gas collection system should be assessed.
Operational controls are required, as are monitoring of accepted waste materials, monitoring of sediment runoff, surface water and groundwater quality, and monitoring of leachate quality and quantity.

Waste acceptance criteria comprise:

- a list of acceptable materials; and
- maximum ancillary biodegradeable materials (e.g. vegetation) to be no more than 5% by volume per load; and
- maximum chemical contaminant leachability limits (TCLP) for potentially hazardous leachable contaminants.
- For Class 2 landfills, leachability testing should be completed to provide assurance that waste materials meet the WAC.

**Class 3 Landfill – Managed/Controlled Fill**

A Class 3 landfill accepts managed fill materials as defined in these Guidelines. These comprise predominantly clean fill materials, but may also include other inert materials and soils with chemical contaminants at concentrations greater than local natural background concentrations, but with specified maximum total concentrations.

Site ownership, location and transport distance are likely to be the predominant siting criteria. However, as contaminated materials (in accordance with specified limits) may be accepted, an environmental site assessment is required in respect of geology, stability, surface hydrology and topography.

Monitoring of accepted material is required, as are operational controls, and monitoring of sediment runoff and groundwater.

Waste acceptance criteria comprises:

- a list of acceptable solid materials; and
- maximum incidental or attached biodegradable materials (e.g. vegetation) to be no more than 2% by volume per load; and
- maximum chemical contaminant limits.

A Class 3 landfill does not include any form of engineered containment. Due to the nature of material received it has the potential to receive wastes that are above soil background levels. The WAC criteria for a Class 3 landfill are therefore the main means of controlling potential adverse effects.

For Class 3 landfills, total analyte concentrations should be determined to provide assurance that waste materials meet the WAC.

**Class 4 Landfill - Cleanfill**

Class 4 landfill accepts only clean fill material as defined in these Guidelines. The principal control on contaminant discharges to the environment from Class 4 landfills is the waste acceptance criteria.
Stringent siting requirements to protect groundwater and surface water receptors are not required. Practical and commercial considerations such as site ownership, location and transport distance are likely to be the predominant siting criteria, rather than technical criteria.

Clean filling can generally take place on the existing natural or altered land without engineered environmental protection or the development of significant site infrastructure. However, surface water controls may be required to manage sediment runoff.

Extensive characterisation of local geology and hydrogeology is not usually required. Monitoring of both accepted material and sediment runoff is required, along with operational controls.

Waste acceptance criteria comprises:

- virgin excavated natural materials (VENM), including soil, clay, gravel and rock; and
- maximum incidental inert manufactured materials (e.g. concrete, brick, tiles) to be no more than 5% by volume per load; and
- maximum incidental or attached biodegradable materials (e.g. vegetation) to be no more than 2% by volume per load; and
- maximum chemical contaminant limits are local natural background soil concentrations.

Materials disposed to a Class 4 landfill should pose no significant immediate or future risk to human health or the environment.

The WAC for a Class 4 landfill should render the site suitable for unencumbered potential future land use, i.e. future residential development or agricultural land use.

The WAC for a Class 4 landfill are based on the local background concentrations for inorganic elements, and provide for trace concentrations of a limited range of organic compounds.

Note: The Guidelines should be referred to directly for the full criteria and definitions.
A.4.0 National Legislative and Policy Context

A.4.1 The New Zealand Waste Strategy 2010

The New Zealand Waste Strategy 2010 provides the Government’s strategic direction for waste management and minimisation in New Zealand. This strategy was released in 2010 and replaced the 2002 Waste Strategy.

The New Zealand Waste Strategy has two goals. These are to:
- reduce the harmful effects of waste
- improve the efficiency of resource use.

The strategy’s goals provide direction to central and local government, businesses (including the waste industry), and communities on where to focus their efforts to manage waste. The strategy’s flexible approach ensures waste management and minimisation activities are appropriate for local situations.

Under section 44 of the Waste Management Act 2008, in preparing their waste management and minimisation plan (WMMP) councils must have regard to the New Zealand Waste Strategy, or any government policy on waste management and minimisation that replaces the strategy. Guidance on how councils may achieve this is provided in section 4.4.3.


A.4.2 Waste Minimisation Act 2008

The purpose of the Waste Minimisation Act 2008 (WMA) is to encourage waste minimisation and a decrease in waste disposal to protect the environment from harm and obtain environmental, economic, social and cultural benefits.

The WMA introduced tools, including:
- waste management and minimisation plan obligations for territorial authorities
- a waste disposal levy to fund waste minimisation initiatives at local and central government levels
- product stewardship provisions.

Part 4 of the WMA is dedicated to the responsibilities of a council. Councils “must promote effective and efficient waste management and minimisation within its district” (section 42).

Part 4 requires councils to develop and adopt a WMMP. The development of a WMMP in the WMA is a requirement modified from Part 31 of the Local Government Act 1974, but with even greater emphasis on waste minimisation.

To support the implementation of a WMMP, section 56 of the WMA also provides councils the ability to:
• develop bylaws
• regulate the deposit, collection and transportation of wastes
• prescribe charges for waste facilities
• control access to waste facilities
• prohibit the removal of waste intended for recycling.

A number of specific clauses in Part 4 relate to the WMMP process. It is essential that those involved in developing a WMMP read and are familiar with the WMA and Part 4 in particular.

The Waste Minimisation Act 2008 (WMA) provides a regulatory framework for waste minimisation that had previously been based on largely voluntary initiatives and the involvement of territorial authorities under previous legislation, including Local Government Act 1974, Local Government Amendment Act (No 4) 1996, and Local Government Act 2002. The purpose of the WMA is to encourage a reduction in the amount of waste disposed of in New Zealand.

In summary, the WMA:

• Clarifies the roles and responsibilities of territorial authorities with respect to waste minimisation e.g. updating Waste Management and Minimisation Plans (WMMPs) and collecting/administering levy funding for waste minimisation projects.
• Requires that a Territorial Authority promote effective and efficient waste management and minimisation within its district (Section 42).
• Requires that when preparing a WMMP a Territorial Authority must consider the following methods of waste management and minimisation in the following order of importance:
  o Reduction
  o Reuse
  o Recycling
  o Recovery
  o Treatment
  o Disposal
  o Put a levy on all waste disposed of in a landfill.
  o Allows for mandatory and accredited voluntary product stewardship schemes.
  o Allows for regulations to be made making it mandatory for certain groups (for example, landfill operators) to report on waste to improve information on waste minimisation.
  o Establishes the Waste Advisory Board to give independent advice to the Minister for the Environment on waste minimisation issues.

Various aspects of the Waste Minimisation Act are discussed in more detail below.

A.4.3 Waste Levy

From 1st July 2009 the Waste Levy came into effect, adding $10 per tonne to the cost of landfill disposal at sites which accept household solid waste. The levy has two purposes, which are set out in the Act:
• to raise revenue for promoting and achieving waste minimisation
• to increase the cost of waste disposal to recognise that disposal imposes costs on the environment, society and the economy.

This levy is collected and managed by the Ministry for the Environment (MfE) who distribute half of the revenue collected to territorial authorities (TA) on a population basis to be spent on promoting or achieving waste minimisation as set out in their WMMPs. The other half is retained by the MfE and managed by them as a central contestable fund for waste minimisation initiatives.

Currently the levy is set at $10/tonne and applies to wastes deposited in landfills accepting household waste. The MfE published a waste disposal levy review in 2014. The review indicates that the levy may be extended in the future:

“The levy was never intended to apply exclusively to household waste, but was applied to landfills that accept household waste as a starting point. Information gathered through the review supports consideration being given to extending levy obligations to additional waste disposal sites, to reduce opportunities for levy avoidance and provide greater incentives for waste minimisation.”

A.4.4 Product Stewardship

Under the Waste Minimisation Act 2008, if the Minister for the Environment declares a product to be a priority product, a product stewardship scheme must be developed and accredited to ensure effective reduction, reuse, recycling or recovery of the product and to manage any environmental harm arising from the product when it becomes waste. No priority products have been declared as of January 2018.

The following voluntary product stewardship schemes have been accredited by the Minister for the Environment:

- Agrecovery rural recycling programme
- Envirocon product stewardship
- Fonterra Milk for Schools Recycling Programme
- Fuji Xerox Zero Landfill Scheme
- Holcim Geocycle Used Oil Recovery Programme (no longer operating)
- Interface ReEntry Programme
- Kimberley Clark NZ’s Envirocomp Product Stewardship Scheme for Sanitary Hygiene Products
- Plasback
- Public Place Recycling Scheme
- Recovering of Oil Saves the Environment (R.O.S.E. NZ)
- Refrigerant recovery scheme
- RE:MOBILE

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31 Waste Management Act 2008 2(8)
Further details on each of the above schemes are available on:

A.4.5 Waste Minimisation Fund

The Waste Minimisation Fund has been set up by the Ministry for the Environment to help fund waste minimisation projects and to improve New Zealand’s waste minimisation performance through:

- Investment in infrastructure;
- Investment in waste minimisation systems and
- Increasing educational and promotional capacity.

Criteria for the Waste Minimisation Fund have been published:

1. Only waste minimisation projects are eligible for funding. Projects must promote or achieve waste minimisation. Waste minimisation covers the reduction of waste and the reuse, recycling and recovery of waste and diverted material. The scope of the fund includes educational projects that promote waste minimisation activity.

2. Projects must result in new waste minimisation activity, either by implementing new initiatives or a significant expansion in the scope or coverage of existing activities.

3. Funding is not for the ongoing financial support of existing activities, nor is it for the running costs of the existing activities of organisations, individuals, councils or firms.

4. Projects should be for a discrete timeframe of up to three years, after which the project objectives will have been achieved and, where appropriate, the initiative will become self-funding.

5. Funding can be for operational or capital expenditure required to undertake a project.

6. For projects where alternative, more suitable, Government funding streams are available (such as the Sustainable Management Fund, the Contaminated Sites Remediation Fund, or research funding from the Foundation for Research, Science and Technology), applicants should apply to these funding sources before applying to the Waste Minimisation Fund.

7. The applicant must be a legal entity.

8. The fund will not cover the entire cost of the project. Applicants will need part funding from other sources.

9. The minimum grant for feasibility studies will be $10,000.00. The minimum grant for other projects will be $50,000.00.

Application assessment criteria have also been published by the Ministry.

A.4.6 Local Government Act 2002

The Local Government Act 2002 (LGA) provides the general framework and powers under which New Zealand’s democratically elected and accountable local authorities operate.
The LGA contains various provisions that may apply to councils when preparing their WMMPs, including consultation and bylaw provisions. For example, Part 6 of the LGA refers to planning and decision-making requirements to promote accountability between local authorities and their communities, and a long-term focus for the decisions and activities of the local authority. This part includes requirements for information to be included in the long-term plan (LTP), including summary information about the WMMP.

More information on the LGA can be found at www.dia.govt.nz/better-local-government.

A.4.6.1 Section 17A Review

Local authorities are now under an obligation to review the cost-effectiveness of current arrangements for meeting community needs for good quality infrastructure, local public services and local regulation. Where a review is undertaken local authorities must consider options for the governance, funding and delivery of infrastructure, local public services and local regulation that include, but are not limited to:

a) in-house delivery
b) delivery by a CCO, whether wholly owned by the local authority, or a CCO where the local authority is a part owner
c) another local authority
d) another person or agency (for example central government, a private sector organisation or a community group).

Local Authorities have three years from 8 August 2014 to complete the first review of each service i.e. they must have completed a first review of all their services by 7 August 2017 (unless something happens to trigger a review before then).

Other than completion by the above deadline, there are two statutory triggers for a section 17A review:

- The first occurs when a local authority is considering a significant change to a level of service
- The second occurs where a contract or other binding agreement is within two years of expiration.

Once conducted, a section 17A review has a statutory life of up to six years. Each service must be reviewed at least once every six years unless one of the other events that trigger a review comes into effect.

While the WMMP process is wider in scope – considering all waste service provision in the local authority area – and generally taking a longer term, more strategic approach, there is substantial crossover between the section 17A requirements and those of the WMMP process, in particular in relation to local authority service provision. The S17A review may however take a deeper approach go into more detail in consideration of how services are to be delivered, looking particularly at financial aspects to a level that are not required under the WMMP process.

Because of the level of crossover however it makes sense to undertake the S17A review and the WMMP process in an iterative manner. The WMMP process should set the strategic direction and gather detailed information that can inform both processes. Conversely the consideration of
options under the s17A process can inform the content of the WMMP – in particular what is contained in the action plans.

A.4.7 Resource Management Act 1991

The Resource Management Act 1991 (RMA) promotes sustainable management of natural and physical resources. Although it does not specifically define ‘waste’, the RMA addresses waste management and minimisation activity through controls on the environmental effects of waste management and minimisation activities and facilities through national, regional and local policy, standards, plans and consent procedures. In this role, the RMA exercises considerable influence over facilities for waste disposal and recycling, recovery, treatment and others in terms of the potential impacts of these facilities on the environment.

Under section 30 of the RMA, regional councils are responsible for controlling the discharge of contaminants into or on to land, air or water. These responsibilities are addressed through regional planning and discharge consent requirements. Other regional council responsibilities that may be relevant to waste and recoverable materials facilities include:

- managing the adverse effects of storing, using, disposing of and transporting hazardous wastes
- the dumping of wastes from ships, aircraft and offshore installations into the coastal marine area
- the allocation and use of water.

Under section 31 of the RMA, council responsibility includes controlling the effects of land-use activities that have the potential to create adverse effects on the natural and physical resources of their district. Facilities involved in the disposal, treatment or use of waste or recoverable materials may carry this potential. Permitted, controlled, discretionary, noncomplying and prohibited activities, and their controls, are specified in district planning documents, thereby defining further land-use-related resource consent requirements for waste-related facilities.

In addition, the RMA provides for the development of national policy statements and for the setting of national environmental standards (NES). There 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.

A.4.8 New Zealand Emissions Trading Scheme

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 are required to acquire and surrender emission units to account for their direct greenhouse gas emissions or the emissions associated with their products. Landfills that are subject to the waste disposal levy are required to surrender emission units to cover methane emissions generated from landfill. These disposal facilities are required to report the tonnages landfilled annually to calculate emissions.

The NZ ETS was introduced in 2010 and, from 2013, landfills have been required to surrender New Zealand Emissions Units for each tonne of CO₂ (equivalent) that they produce. Until recently however the impact of the NZETS on disposal prices has been limited. There are a number of reasons for this:

- The global price of carbon crashed during the GFC in 2007-8 and has been slow to recover. Prior to the crash it was trading at around $20 per tonne. The price has been as low as $2, although since, in June 2015, the Government moved to no longer accept international units in NZETS the NZU price has increased markedly (currently sitting at around $20 per tonne33).
- The transitional provisions of the Climate Change Response Act, which were extended in 2013 (but have now been reviewed), mean that landfills have only had to surrender half the number of units they would be required to otherwise. These transitional provisions were removed in January 2017 which has effectively doubled the price per tonne impact of the ETS.
- Landfills are allowed to apply for ‘a methane capture and destruction Unique Emissions Factor (UEF). This means that if landfills have a gas collection system in place and flare or otherwise use the gas (and turn it from Methane into CO₂) they can reduce their liabilities in proportion to how much gas they capture. Up to 90% capture and destruction is allowed to be claimed under the regulations, with large facilities applying for UEF’s at the upper end of the range.

Taken together (a low price of carbon, two for one surrender only required, and methane destruction of 80-90%) these mean that the actual cost of compliance with the NZETS has been small for most landfills – particularly those that are able to claim high rates of gas capture. Disposal facilities have typically imposed charges (in the order of $5 per tonne) to their customers, but these charges have mostly reflected the costs of scheme administration, compliance, and hedging against risk rather than the actual cost of carbon.

The way the scheme has been structured has also resulted in some inconsistencies in the way it is applied – for example class 2-4 landfills and closed landfills do not have any liabilities under the scheme. Further, the default waste composition (rather than a SWAP) can be used to calculate the theoretical gas production, which means landfill owners have an incentive to import biodegradable waste, which then increases gas production and which can then be captured and offset against ETS liabilities.

33 https://carbonmatch.co.nz/ accessed 5 December 2017
Recently, however the scheme has had a greater impact on the cost of landfilling, and this is expected to continue in the medium term. Reasons for this include:

- In June 2015, the Government moved to no longer accept international units in NZETS. This has had a significant impact, as cheap international units which drove the price down cannot be used. Many of these were also of dubious merit as GHG offsets. This has resulted in a significant rise in the NZU price.
- The transitional provisions relating to two-for-one surrender of NZUs were progressively removed from 1 January 2017, meaning that landfills now need to surrender twice the number of NZUs they had previously – effectively doubling the cost of compliance.

These changes to the scheme mean that many small landfills which do not capture and destroy methane are now beginning to pay a more substantial cost of compliance. The ability of landfills with high rates of gas capture and destruction to buffer the impact of the ETS will mean a widening cost advantage for them relative to those without such ability. This could put further pressure on small (predominantly Council-owned) facilities and drive further tonnage towards the large regional facilities (predominantly privately owned).

If, for example, the price of carbon were to rise to $50 per tonne, the liability for a landfill without gas capture will be $65.50 (based on a default emissions factor of 1.31 tonnes of CO$_2$e per tonne of waste), whereas for a landfill claiming 90% gas capture (the maximum allowed under the scheme), the liability will be only $6.55. This type of price differential will mean it will become increasingly cost competitive to transport waste larger distances to the large regional landfills.


### A.4.9 Litter Act 1979

Under the Litter Act it is an offence for any person or body corporate to deposit or leave litter:

- In or on any public place; or
- In or on any private land without the consent of its occupier.

The Act enables Council to appoint Litter Officers with powers to enforce the provisions of the legislation.

The legislative definition of the term "Litter" is wide and includes refuse, rubbish, animal remains, glass, metal, garbage, debris, dirt, filth, rubble, ballast, stones, earth, waste matter or other thing of a like nature.

Any person who commits an offence under the Act is liable to:

- An instant fine of $400 imposed by the issue of an infringement notice; or a fine not exceeding $5,000 in the case of an individual or $20,000 for a body corporate upon conviction in a District Court.

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A term of imprisonment where the litter is of a nature that it may endanger, cause physical injury, disease or infection to any person coming into contact with it.

Under the Litter Act 1979 it is an offence for any person to deposit litter of any kind in a public place, or onto private land without the approval of the owner.

The Litter Act is enforced by territorial authorities, who have the responsibility to monitor litter dumping, act on complaints, and deal with those responsible for litter dumping. Councils reserve the right to prosecute offenders via fines and infringement notices administered by a litter control warden or officer. The maximum fines for littering are $5,000 for a person and $20,000 for a corporation.

Council powers under the Litter Act could be used to address illegal dumping issues that may be included in the scope of a council’s waste management and minimisation plan.

A.4.10 Health Act 1956

The Health Act 1956 places obligations on TAs (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). It specifically identifies certain waste management practices as nuisances (S 29) and offensive trades (Third Schedule). Section 54 places restrictions on carrying out an offensive trade and requires that the local authority and medical officer of health must give written consent and can impose conditions on the operation. Section 54 only applies where resource consent has not been granted under the RMA. The Health Act enables TAs to raise loans for certain sanitary works and/or to receive government grants and subsidies, where available.  

Health Act provisions to remove refuse by local authorities have been repealed.

A.4.11 Hazardous Substances and New Organisms Act 1996 (HSNO Act)

The HSNO Act addresses the management of substances (including their disposal) that pose a significant risk to the environment and/or human health. The Act relates to waste management primarily through controls on the import or manufacture of new hazardous materials and the handling and disposal of hazardous substances.

Depending on the amount of a hazardous substance on site, the HSNO Act sets out requirements for material storage, staff training and certification. These requirements would need to be addressed within operational and health and safety plans for waste facilities. Hazardous substances commonly managed by TAs include used oil, household chemicals, asbestos, agrichemicals, LPG and batteries.

The HSNO Act provides minimum national standards that may apply to the disposal of a hazardous substance. However, under the RMA a regional council or TA may set more stringent controls relating to the use of land for storing, using, disposing of or transporting hazardous substances.36

A.4.12 Health and Safety at Work Act 201537


The Health and Safety at Work Act introduces the concept of a Person Conducting a Business or Undertaking, known as a PCBU. The Council will have a role to play as a PCBU for waste services and facilities.

The primary duty of care requires all PCBUs to ensure, so far as is reasonably practicable:

1. the health and safety of workers employed or engaged or caused to be employed or engaged, by the PCBU or those workers who are influenced or directed by the PCBU (for example workers and contractors)
2. That the health and safety of other people is not put at risk from work carried out as part of the conduct of the business or undertaking (for example visitors and customers).

The PCBU’s specific obligations, so far as is reasonably practicable:

- providing and maintaining a work environment, plant and systems of work that are without risks to health and safety
- ensuring the safe use, handling and storage of plant, structures and substances
- providing adequate facilities at work for the welfare of workers, including ensuring access to those facilities
- providing information, training, instruction or supervision necessary to protect workers and others from risks to their health and safety
- monitoring the health of workers and the conditions at the workplace for the purpose of preventing illness or injury.

A key feature of the new legislation is that cost should no longer be a major consideration in determining the safest course of action that must be taken.

WorkSafe NZ is New Zealand’s workplace health and safety regulator. WorkSafe NZ will provide further guidance on the new Act after it is passed.

A.4.13 Other legislation

Other legislation that relates to waste management and/or reduction of harm, or improved resource efficiency from waste products includes:

- Hazardous Substances and New Organisms Act 1996
- Biosecurity Act 1993
- Radiation Protection Act 1965
- Ozone Layer Protection Act 1996
- Agricultural Chemicals and Veterinary Medicines Act 1997.

For full text copies of the legislation listed above see www.legislation.govt.nz.

**A.4.14 International commitments**

New Zealand is party to international agreements that have an influence on the requirements of our domestic legislation for waste minimisation and disposal. Some key agreements are the:

- Montreal Protocol
- Basel Convention
- Stockholm Convention
- Waigani Convention
- Minamata Convention.

More information on these international agreements can be found on the Ministry’s website at www.mfe.govt.nz/more/international-environmental-agreements.
A.5.0 Waste Management and Minimisation
Infrastructure Detail

A transfer station is defined as a controlled refuse and recycling storage facility for the public. Council currently owns and operate transfer stations throughout the district.

These form part of the collection facilities and include a number of functions. These facilities offer those without kerbside refuse and recycling collections the opportunity to manage these wastes. Residual waste is received for a fee and deposited at the tip face within the landfill. Recycling is received at no fee for residential quantities, stored, and transported to Taumarunui to be bulked for eventual sale. At the two largest locations, a reuse store is available and items for recovery are received and stored for resale or reuse. Residential quantities of hazardous waste are received at two locations.

All transfer stations are staffed, with the exception of Pipiriki. Individual layouts vary, but all have buildings and containers for separating recyclable material, and storage for recoverable materials and waste for disposal.

The purpose of transfer stations is “to allow the public to submit materials to the waste management process in a safe and efficient manner, and participate in sustainable waste management”.

Transfer stations may comprise:

(a) Land.
(b) Access track and turning circle.
(c) Ramps (if applicable).
(d) Perimeter fencing.
(e) Landscaping.
(f) Concrete slab for bins (if applicable).
(h) Weighbridge (installed at Taumarunui).
(i) Refuse collection bins (Huka or Skip bins).
(j) Bottle banks.
(k) Recycling collection (including separation of waste streams).
(l) Storage for:
   (i) Refuse.
   (ii) Greenwaste.
   (iii) Recycling and Recoverable items.
   (iv) Hazardous waste collection and storage.
   (v) Reuse shop.

The following table indicates key elements of each of the transfer stations:

<table>
<thead>
<tr>
<th>Staffed</th>
<th>Ohura</th>
<th>Ongarue</th>
<th>Taumarunui</th>
<th>Owhango</th>
<th>National Park</th>
<th>Waimarino</th>
<th>Pipiriki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffed</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Refuse Collection</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
The recycling facilities at each transfer station vary, but generally contain slots which feed into fadges and which are then used to bundle the material for transport. These containers are designed to accept the following products:

(a) Aluminium and metal cans.
(b) Plastics.
(c) Paper.
(d) Cardboard.

In addition, bottle banks in the form of wheelie or skip bins are provided to collect glass for recycling.

The location and status of the sites on which the Transfer Stations are located are detailed in the table below.

<table>
<thead>
<tr>
<th>Transfer Station</th>
<th>Location</th>
<th>Legal Description</th>
<th>Valuation No</th>
<th>Area (Ha)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongarue</td>
<td>Intersection of Ongarue/Waimihia and Ongarue Village Roads</td>
<td>N/A</td>
<td>N/A</td>
<td>.500</td>
<td>This land is road reserve and land leased from (LINZ) Railway land.</td>
</tr>
<tr>
<td>Ohura</td>
<td>Taranui Street</td>
<td>Sec 9 &amp; 18 Blk XB111 Town of Ohura</td>
<td>06200/ 074.00</td>
<td>.720</td>
<td>This land is a rubbish dump reserve.</td>
</tr>
<tr>
<td>Taumarunui</td>
<td>Golf Road</td>
<td>See Landfill</td>
<td>See District Landfill</td>
<td>See Landfill</td>
<td>This is Council owned land and forms part of the Landfill site.</td>
</tr>
<tr>
<td>Owhango</td>
<td>State Highway 4, Owhango</td>
<td>Pt Sec 22 Blk IV, Kaitieke</td>
<td>N/A</td>
<td>0.6ha leased 0.1ha old Landfill</td>
<td>This land is leased from J&amp;J Chaplin until 31 October 2031 with a right of renewal for a further 15 years</td>
</tr>
<tr>
<td>National Park</td>
<td>Private Access Road, National Park</td>
<td>N/A</td>
<td>N/A</td>
<td>.05</td>
<td>This land is land leased from (LINZ) Railway land.</td>
</tr>
</tbody>
</table>
Bins at all locations are emptied at least once every two weeks. Odours are considered to be of low risk, with all transfer stations being some distance from residential dwellings. Rat bait stations are placed on site and are checked and re-laid regularly. The operational contract requires the site to be kept as tidy as possible to reduce vermin vector attraction. Other risks associated with the environmental standards that are experienced from the operation of a Transfer Station have been reduced through public education and staffing of sites.

The table below summarises various aspects of the stations and sites contributing to their “quality”.

<table>
<thead>
<tr>
<th>Station Location</th>
<th>Access Track</th>
<th>Turning Circle</th>
<th>Ground Condition</th>
<th>Fences, Screens</th>
<th>Landscaping</th>
<th>Drainage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongarue</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Yes</td>
<td>Average</td>
</tr>
<tr>
<td>Ohura</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Yes</td>
<td>Average</td>
</tr>
<tr>
<td>Owhango</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Small amount</td>
<td>Average</td>
</tr>
<tr>
<td>National Park</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Commenced</td>
<td>Average</td>
</tr>
<tr>
<td>Pipiriki</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>No</td>
<td>Average</td>
</tr>
<tr>
<td>Taumarunui</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Average</td>
<td>Yes</td>
<td>Excellent</td>
</tr>
<tr>
<td>Waimarino</td>
<td>Excellent</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Yes</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

The grading used to assess the condition of asset components is set out below:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Condition</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Non existent</td>
<td>Asset absent or no longer exists.</td>
</tr>
<tr>
<td>1</td>
<td>Excellent</td>
<td>Sound physical condition and made to standard – no works required.</td>
</tr>
<tr>
<td>2</td>
<td>Good</td>
<td>Acceptable physical condition minimal short-term failure risk but potential for deterioration. Only minor work required (if any).</td>
</tr>
<tr>
<td>3</td>
<td>Average</td>
<td>Some deterioration evident; failure unlikely in near future but further deterioration likely. Work required but asset is still serviceable.</td>
</tr>
<tr>
<td>4</td>
<td>Poor</td>
<td>Failure likely in short term. Substantial work required in the short term, asset barely serviceable.</td>
</tr>
<tr>
<td>5</td>
<td>Very Poor</td>
<td>Failed or failure imminent. Major work required or replacement required urgently.</td>
</tr>
</tbody>
</table>

All sites are being maintained in good condition, with each site having a maintenance programme to reduce any potential risk of failure. Any specific remedial action is taken as required.
The efficiencies of the site are dependent on public behaviour in separating their waste into the designated areas. More efficiency is gained in disposal of items such as steel and greenwaste that can be stockpiled on site for up to six months until it is either removed or processed.
## A.6.0 Progress Report on Last WMMP

The actions from the WMMAMP are set out below.

### A.6.1 WMMP Actions (from 2015 WMM AMP)

<table>
<thead>
<tr>
<th>Goal/Aim</th>
<th>Action Detail (timeframe, funding)</th>
<th>Progress</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal 1: Towards Waste Minimisation and Sustainable Environment</strong>&lt;br&gt;Aim: To reduce the amount of waste generated in the District</td>
<td><strong>Home composting</strong>&lt;br&gt;Promote the benefits of home composting – run demonstrations in conjunction with community garden groups and schools (1 – 5+ years, levy funds/rates).</td>
<td>No progress has been made</td>
<td>Lack of human resourcing. Taumarunui Mitre 10 and Ohakune Placemakers will be approached early 2018 to see if composting demonstrations can be facilitated</td>
</tr>
<tr>
<td><strong>Food waste collection and composting</strong>&lt;br&gt;Monitor experiences elsewhere and initiate organic waste collection and composting options (1 – 5+ years, levy funds/rates).</td>
<td>No progress has been made</td>
<td>Will need to have consultant with expertise in this area to investigate options for disposal of organic waste and cost to ratepayers</td>
<td></td>
</tr>
</tbody>
</table>
### Adjust charges in line with costs

Balance charges that both encourage waste management and minimisation and discourage illegal dumping. Higher costs for waste and free recycling provide incentives for waste to be sorted prior to disposal, whilst the higher cost might also lead to fly tipping (1 – 5+ years; rates, user fees and charges).

User fees and charges have been adjusted for general rubbish disposal. Ongoing education relating to the benefits of recycling glass, cardboard and paper and Number 1 and 2 plastics. Volumes of recycling have not risen in recent years and rubbish audits indicate glass and plastics are still being put in with bags of general rubbish. More campaigns on the benefits of recycling are being undertaken and will be ongoing.

### Aftercare of closed landfills

Council will continue to monitor and manage closed landfill to ensure relevant environmental safety standards and in accordance with compliance requirements (1 – 5+ years, rates).

Closed landfills are monitored and reported on annually to Horizons Regional Council. Maintenance has been undertaken on several landfill caps.

### Kerbside collection

Further promote presentation of the correct materials in kerbside recycling bins within the collection routes (1 – 5+ years; rates, user fees and charges).

Council does regular promotion for the use of the recycling kerbside bins.

### Public recycling

Expand the network of recycling bins in regularly frequented public places (1 – 5+ years, user fees and charges).

Additional recycling bins alongside street litter bins have been purchased and installed every year. This will continue until there is a recycling facility close to all street litter bins.
<table>
<thead>
<tr>
<th>Category</th>
<th>Action</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>E-waste recycling</strong></td>
<td>Develop and promote e-waste recycling within the district. Identify an alternative e-waste recycler (1 – 5+ years; levy funding, user pays charges)</td>
<td>All transfer stations accept e-waste and e-waste contractor engaged for regular collection. A modest fee is charged to encourage correct disposal</td>
</tr>
<tr>
<td><strong>Waste audits</strong></td>
<td>Undertake a solid waste audit to measure waste composition (3 – 5+ years, levy funding)</td>
<td>Annual audits of household rubbish undertaken. No audits of commercial rubbish undertaken. It is proposed to undertake much more comprehensive waste audits but on a 3 yearly cycle due to increased cost of comprehensive audits.</td>
</tr>
<tr>
<td><strong>Reuse shops</strong></td>
<td>Develop partnerships to enhance shop operations (1 – 5+ years; user fees and charges)</td>
<td>No resource available within Council to develop partnerships. No community group has shown any interest. Intent to explore whether any iwi Trust may be interested in shop operations</td>
</tr>
<tr>
<td><strong>Transfer station – collection of whiteware and metal</strong></td>
<td>Ensure that whiteware and metal can be deposited for easy collection for recycling from transfer stations (1 – 5+ years, capital)</td>
<td>All transfer stations accept whiteware and metal</td>
</tr>
<tr>
<td><strong>Construction materials</strong></td>
<td>Investigate recovery facilities for construction, demolition and commercial waste materials. Encourage separation to reduce quantity for waste disposal (3 – 5+ years; rates, user fees and charges)</td>
<td>No resource to investigate this to date. Investigation will be undertaken to establish whether Taumarunui Landfill site could become a satellite recovery site for a large facility operator</td>
</tr>
</tbody>
</table>
### Cloth nappies

Regularly promote the use of cloth nappies. Provision of subsidised starter packs to encourage adoption (1 – 5+ years; levy funding, user pays charges)

Minimum annual promotion of cloth nappies. Council does provide subsidised start packs

Uptake may increase with concerted campaigns around the need to reduce the volume of household waste to keep costs down post landfill closure

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### Goal 2: That the impact of waste on our environment is minimised

**Aim:** Reduce, reuse, recycle, recover and refuse

<table>
<thead>
<tr>
<th>Hazardous waste collection</th>
<th>Provide facilities for collection and storage of household quantities of hazardous wastes. Arrange for removal and disposal (1 – 5+ years; rates, user fees and charges)</th>
<th>Small quantities of hazardous chemical waste are accepted by arrangement with transfer station staff</th>
<th>Removal of hazardous waste from transfer station sites is undertaken as required by volume by Envirowaste Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry stewardship schemes</td>
<td>Promote and support industry stewardship and recycling schemes such as Agrecovery and Plasback (1 – 5+ years; rates, user fees and charges)</td>
<td>Farming industry is undertaking Agrecovery and Plasback schemes</td>
<td></td>
</tr>
<tr>
<td>Re-usable shopping bags</td>
<td>Promote the use of re-usable shopping bags at local retail outlets (1 – 5+ years, levy funding and rates)</td>
<td>At least one annual promotion is being undertaken in conjunction with New World supermarkets where biggest impact is made. Engagement with local 4 square superettes to be undertaken.</td>
<td>Grocery industry now stepping up toward reduction and eventual removal of plastic bags. Alternative recyclable wrap for ‘wet meats’ chicken or red meats to avoid fabric bag contamination will be needed</td>
</tr>
</tbody>
</table>
| Goal 3: To provide and maintain an appropriate level of infrastructure and people are informed about, and participate in, waste minimisation.  
Aim: Education and promotion |
<p>| Community Education | Provide householders with information on waste minimisation and relevant services through brochures, website, newspaper, radio, etc. Promote aspects of waste minimisation at community events, eg, Dinner in the Domain (1 – 5+ years, rates). | Information to be increased with target outcome of reduced waste per household in context of landfill closure and new additional cost of disposal |
| Waste education in schools | Continue to provide district schools with waste education programmes (1 – 5+ years; levy funding, rates) | Paper for Trees, Enviro-Schools and Zero Waste programmes funded through levy funding |
| Communication for holiday homes | Produce and distribute flyers specifically aimed at holiday home owners/lodges to explain the waste management system and encourages waste minimisation. | Flyers distributed through Book A Bach, i-Sites, Transfer Stations, Council website |
| Recycling at marae | Promote and support Para Kore (zero waste at marae) (1 – 5+ years; levy funding, rates) | Funding provided to Para Kore from waste levy for local educator |</p>
<table>
<thead>
<tr>
<th><strong>Private recycling systems</strong></th>
<th>Promote recycling facilities in new multi-unit residential and commercial buildings (3 – 5+ years, rates)</th>
<th>No progress there is a lack of staff resources to be able to undertake this task</th>
<th>Virtually no</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy engagement</strong></td>
<td>Actively participate in waste management and minimisation workshops and conferences (1 – 5+ years, rates)</td>
<td>Part of internal staff development</td>
<td>Completed as necessary</td>
</tr>
<tr>
<td><strong>Signage improvements</strong></td>
<td>Expand the number of signs dealing with safe disposal and recycling around the district (1 – 5+ years, capital)</td>
<td>Not progressed. Having recycling street bins only change</td>
<td>Staff unsure what this means and how it might be implemented other than through media campaigning</td>
</tr>
<tr>
<td><strong>Support community projects</strong></td>
<td>Support community projects that encourage the principals of waste minimisation, eg, composting, worm farms at community gardens (1 – 5+ years; levy funding, rates)</td>
<td>Not progressed. There is one community garden in Taumarunui and one in Raetihi. Could potentially fund ‘hungry bins’ at each site. Unsure exactly what such support means</td>
<td></td>
</tr>
<tr>
<td><strong>Transfer station layouts</strong></td>
<td>Upgrade and modernise as appropriate improve service and operation (1 – 5+ years, capital)</td>
<td>Modest improvements have been undertaken at all sites as need for improvement identified</td>
<td></td>
</tr>
<tr>
<td>National Park transfer station improvements</td>
<td>Connect power and water once consents have been approved (1st year, capital)</td>
<td>Project has stalled as was to be tied in with proposed large school holiday camp upgrade at property close to Transfer Station</td>
<td>Resource consent stalled for the school project. Doubt cost benefit of doing as a stand alone project</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Transfer station roadways</td>
<td>Maintain all-weather surfaces. Seal roadways at Taumarunui transfer station to facilitate waste removal after landfill close (1 – 5+ years, capital)</td>
<td>Some sealing will be undertaken over the next two years</td>
<td></td>
</tr>
<tr>
<td>Waimarino transfer station development</td>
<td>With the growth of tourists to the Waimarino area the site requires development to keep up with operational requirements (1st and 5th year, capital)</td>
<td>Careful management of the transfer station site has resulted in minimum changes to the site. Some drainage works have been undertaken to improve truck movements at site.</td>
<td></td>
</tr>
<tr>
<td>Waimarino weighbridge</td>
<td>A decision on whether to proceed with the installation of a weighbridge at the Waimarino transfer station requires careful consideration (1st year, capital)</td>
<td>Decision made not to install weighbridge due to cost and higher need for Council owned digger at Waimarino transfer station to save cost (previously a contracted dry hire cost)</td>
<td></td>
</tr>
<tr>
<td>Public campaigns</td>
<td>Identify opportunities for integrated or co-ordinated campaign with neighbouring Councils. This will assist in ensuring that communities receive consistent messaging (rates)</td>
<td>Have entered into Memorandum of Understanding with Horizons Regional Council and messaging around illegal dumping and illegal burning of waste now joint between both Councils</td>
<td>MoU signed 2017</td>
</tr>
</tbody>
</table>