TIMARU DISTRICT'S WASTE MINIMISATION SERVICES

Waste Management and Minimisation Plan 2018-2028

PART A:

STRATEGIC OVERVIEW

PLAN STATUS/DOCUMENT CONTROL

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CONTRIBUTIONS

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EXECUTIVE SUMMARY

The Timaru District Waste Management and Minimisation Plan (WMMP) covers the 10 year period from 1 July 2018 - 30 June 2028. It outlines the services provided, strategic direction, levels of service as well as highlighting the big issues that need to be addressed over the 10 year period.

It is developed and written by TDC's Waste Minimisation Manager with contributions from other staff. The WMMP is organised in two parts:

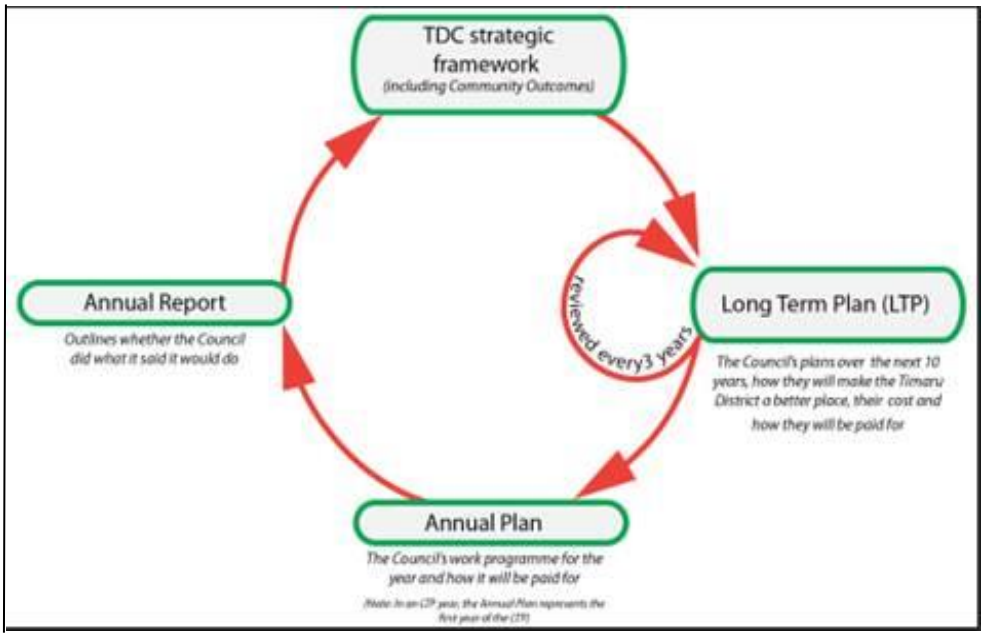
- Part A - provides the overview of the Waste Minimisation Activity and describes the general practices, issues and planned approaches that apply to the activity.
- Part B - provides the specific details on the assets, issues and completed/future works in each area of the activity.

PART A PLAN FORMAT AND LINKAGES

This plan brings together in one place the Council's strategic approach to the delivery of this activity which then forms part of the Council's Long Term Plan.

The Long Term Plan is the document and process whereby the Council reaches agreement with the community about the strategic direction and priorities for all Council activities. It demonstrates how the services contribute to achieving the community outcomes both the community and Council are working towards for our district.

The diagram below illustrates where Activity Management Plans fit in the Council's long term planning cycle. While the Activity Management Plans are formally reviewed every three years, they are working documents which are updated to reflect changes impacting on the activity as they occur.



Part A
The WMMP is circumscribed by pertinent provisions of legislation, policies and plans that govern the provision of waste services, such as the Waste Minimisation Act 2008, the Resource Management Act, the Local Government Act and the Health Act, among others.

TDC, through its Waste Minimisation Unit (WMU), collaborates with groups who have various roles relevant to the effective delivery of waste minimisation services. Internally, these are the corporate planning and finance units, transport unit, district planning, building unit, the regulatory services group, IT unit and customer services and the Community Boards of Geraldine, Pleasant Point and Temuka.
Externally, TDC collaborates with Canterbury Councils through the Canterbury Waste Joint Committee in shared waste minimisation activity, groups providing national programmes, Environment Canterbury, and TDC's work/service contractors.

TDC delivers waste minimisation services for urban and rural customers. It considers individuals and/or groups who use TDC's waste minimisation services as stakeholders in the activity due to the interests they represent as consumers, regulators or as advocates for the environment and other socio-cultural concerns. These include Timaru District residents, ratepayers and visitors, local industries and businesses, community groups, civic organisations and Te Runanga O Arowhenua.

The Service We Provide
There are a range of waste minimisation activities being managed by TDC consisting of:

- 3-bin kerbside collection
- Transfer stations
- Reduction – Waste Free Parenting & Sustainable Living Education, LFHW
- Reuse – Crow's Nest shop
- Recycling – via MRF and non MRF recycling
- Recovery – composting, oil recovery and pyrolysis
- Treatment – hazardous waste drop-offs
- Disposal – A-grade landfill
- Community – education for schools and businesses, public place recycling, zero waste events and participation in national programmes

This WMMP is guided by the strategic direction set out in the Timaru District's Long Term Plan 2018-2028 Vision, Outcomes and Priorities. The WMMP specifically contributes to the attainment of the District's Strategic Priority 4 which aims to "ensure critical infrastructure meets future needs".

TDC commits to provide the following Levels of Service:

- Waste Minimisation facilities are adequate and available to the community, including provision of regular kerbside collection services to enable separation of waste for recycling and compost
- No adverse effects on the environment or human health from the operation of waste minimisation services
- Waste is diverted from landfill
- Public information and programmes promote waste minimisation and appropriate sorting of waste.

The WMMP considered that the following key issues have an impact on the delivery of waste services and will address these to achieve levels of service commitments:

- Changes in national and regional plans/policies
- Increase in product stewardship
- Recycling & recovery opportunities

The Assets we own

Current practices in managing the Waste Minimisation Activity were assessed by the Waste Minimisation Manager using the IIMM 2011 AM Maturity Index as a guide. Issues were identified and activities to achieve the aspired level of practice are summarised in the WMMP Improvement Plan.

The team responsible to deliver the service is comprised of staff of the Waste Minimisation Unit of TDC's Infrastructure Group.

The team looks after an asset base consisting of:

- 1 operational A-grade landfill
- 7 Closed landfills
- 4 transfer stations
- 1 compost facility
- 1 material recovery facility
- 1 reuse shop

Activity Management covers the following:

<u>Asset Lifecycle Management</u>

Operational planning is largely carried out through monthly contract meetings. Formal business continuity planning has been identified as a gap in current practice and is included in the WMMP's Improvement Plan.

Maintenance planning is carried out by TDC staff in conjunction with contractors. The aim of TDC staff is to identify the preventative maintenance requirements of the assets, and organise the reactive maintenance, so that the work is carried out in a cost effective and timely manner. TDC staff aim to input more data into Hansen to enable this.

Scheduled maintenance of the assets is programmed during the year, and is actioned by the principal contractor, with Waste Management NZ reporting back to Council monthly. Reactive maintenance is initiated by the contractor with the approval of the Waste Minimisation Manager.

Renewals planning is currently informal. A more formal approach is required which should follow cyclic renewal strategies that provide for the progressive replacement of individual assets which have reached the end of their useful life. The rate of asset renewal is intended to maintain the overall condition of the asset system at a standard which ensures that the community's investment in the District's waste services infrastructure is maintained.

Planning for asset upgrading and building/acquiring new assets is usually driven by the need to address growth in demand, to maintain environmental compliance, or respond to other significant issues.

Future Growth and Demand

TDC's goal in managing demand is to deliver the agreed Levels of Service through strategies that are appropriate to the requirements of each activity. Details are in Part B on strategies for managing demand by activity.

In general, TDC considered the following as the major drivers of demand for waste minimisation services in the District: a) population and household changes b) potential product stewardship demands c) climate change d) resource consents and other policy requirements and e) increasing demand for large businesses to comply with international standards.

Risk Management

A Risk Management Framework needs to be adopted for this Activity and is in the improvement plan. Current risk assessment is informal.

For the current WMMP period, the following risks remain as priority concerns in managing our waste services: a) consent compliance b) operational risks c) financial d) waste levy compliance e) natural disasters f) climate change g) waste diversion/waste flight.

Most of the treatments for these risks are already existing business practices. Those that require significant cost to implement (e.g., closed landfill management to improve consent compliance etc) are being programmed. Specific details on risks and treatments associated with waste activities are provided in Part B.

Part B identifies the assets associated with individual waste activities and how they are managed. All major plant and assets have been rated informally for serviceability. The WMU needs to develop better information for assets and input into the Hansen Asset register in the asset renewal criteria.

Information Management

Information management for waste minimisation services covers asset data management and customer service information. Information is collected, processed, stored and maintained within various systems that make up the information network, as described below. Some component systems are interfaced to facilitate data accessibility, validation, analysis and reporting. The following are the component systems of the network: a) Asset Information Management System (AIMS) using Hansen 8 Software b) Corporate Information System using Civica Authority Software c) Geographic Information System (GIS).

Work Programme and Financial Summary

The Financial Projections in this WMMP are anchored on TDC's corporate Financial Strategy contained in the 2018-2028 Long Term Plan. The Financial Strategy states TDC must manage its finances prudently, while sustainably promoting the current and future interest of the community.

The kerbside collection services are funded by a targeted rate to the users. Operational services are funded by revenue from disposal fees and charges, general rates and any interest or dividends that may be allocated by Council. Some district-wide activity is funded from the general rate.

As indicated in Section 6 Planning Assumptions of this WMMP, cost estimates for the waste activity budget projections are based on current year dollar value and do not include inflation.

Improvement Programme

The *Improvement Programme* in Section 7, referenced throughout the document, highlights the actions required to improve the activity, allocates budget required and assigns tasks.

Part B Activity and Asset Management Practices

Part B discusses activity/asset management. It provides a detailed description of the assets in each area of waste minimisation activity, categorized into Part B.1 and B.2.

Part B.1 summarises infrastructure districtwide: 1) Kerbside Collection 2)Transfer Stations 3) Private Waste Collection and, Part B.2 describes activity by Waste Hierarchy 1) Reduction 2) Reuse 3) Recycling 4) Recovery 5) Treatment
6) Disposal 7) Community Participation, Information, Public Places and Events.

Part B outlines the issues to be addressed within the WMMP period.

Part B.1 Infrastructure District-wide

B1.1 Kerbside Collection

Council provides a three-bin kerbside collection service to all urban areas and some rural areas - mainly on collection routes between the townships. Two bins are picked up each week - the organics bin is weekly, and the rubbish and recycling bins are picked up on alternate fortnights.

The following issues are for priority attention within the next ten years:

1. Review the collection service
2. Implement RFID (radio frequency identification) tags across the District
3. Investigate separate glass collection

The estimated budget requirement for future capital works for the kerbside collection activity is $1,225,200 for new bin purchases and bin renewals for the first 3-year implementation of the WMMP.

B1.2 Transfer Stations

Four transfer stations incorporate extensive facilities for the drop-off of waste and a range of reusable, recyclable or recoverable items. Materials are transported to Redruth for processing or disposal.

The following issues are for priority attention within the next ten years:

1. Build waste sorting facility
2. Build Resource Recovery Park (RRP) – Stage 2
3. Consider RRP staffing requirements

The estimated budget requirement for future capital works for the transfer station activity is $1,318,000 for the first 3-year implementation of the WMMP, with major items being the construction of the waste sorting facility and Resource Recovery Park Stage 2, Redruth compactor replacement, and road renewals at Geraldine Transfer Station.

B1.3 Private Waste Collection

These companies provide services to customers:

- Where waste quantities exceed the capacity of the Council kerbside collection,
- In areas not serviced by the Council kerbside collection service, and
- Where a more frequent service is required compared to the Council service.

There are no significant issues identified, however, the proposed additional business resourcing has the capacity to improve diversion.

Part B.2 WMMP by Activity

B2.1 Reduction

The aim of this activity is to reduce waste through education and specific programmes. $5000 has been added to the budget for a new programme "Waste Free Living" from 2018/19. The activity is expected to remain unchanged within the WMMP period.

There is no budget requirement for future capital works for the reduction activity for the first 3-year implementation of the WMMP.

B2.2 Reuse

Council supports the retail of reusable items by contracting the Sustainable South Canterbury Trust (SSCT) to provide the collection of goods at all transfer stations, to operate the Crow's Nest and to provide an on-call kerbside collection of reusable items.

The following issues are for priority attention within the next ten years:

1. The Trust is considering the removal of their drop-off at Redruth to the shop. This would enhance their current and future activity, but would leave a gap in the provision of staffing at Redruth altering the Level of Service. Should this happen, replacement staffing for 58 hours at Redruth would cost about $70,000.

The estimated budget requirement for future capital works at the Crow's Nest is $105,000 for the first 3-year implementation of the WMMP, with the major item being the construction of the stormwater system for the Eco-Centre. Council approved $150,000 funding contribution to the SSCT Eco-Centre building to be funded out of the operational budget in 2019.

B2.3 Recycling

Household recyclables are collected through the kerbside collection, via drop-off to the transfer stations or brought in by private contractors and processed at the Materials Recovery Facility. A range of other recyclable materials are collected at the transfer stations and sent off site for recycling.

The following issues are for priority attention within the next ten years:

1. Glass collection trial
2. Soft plastics collection trial
3. Reducing non-compliance with acceptance criteria and improving processing capability.

The estimated budget requirement for future capital works is $159,500 for the first 3-year implementation of the WMMP. Waste levy money will fund the two trials.

B2.4 Recovery

Food, garden waste and soiled paper is composted at the Redruth composting facility. Drop-off facilities for domestic quantities of waste oil are provided at 3 transfer stations. Timber is treated by pyrolysis at a facility run by Waste Transformation Ltd.

The following issues are for priority attention within the next ten years:

1. Design and build (renewal) of the compost facility

2. A related priority is the need to cap the Stage 1 area and build up the site to the cap design profile.

The estimated budget requirement for future capital works for the recovery activity is $90,000 for the first 3-year implementation of the WMMP, for compost maturation pads and fans renewals.

B2.5 Treatment

Council provides a hazardous waste collection point at all transfer stations for household quantities of hazardous material.

There are no significant issues identified.

Demand has not changed and is expected to remain unchanged within the WMMP period. There is a minor budget requirement included in the Timaru Transfer Station to install a monitoring camera at the hazardous waste drop-off in the first 3-year implementation of the WMMP.

B2.6 Disposal

Council owns a landfill at Redruth for the disposal of solid waste.

The following issues are for priority attention within the next ten years:

1. Design and build of cells in the Stage 2 landfill
2. Cap completed cells
3. Landfill gas installation
4. Continuing review of landfill viability.

The estimated budget requirement for future capital works for the Disposal activity is $1,421,454 for the first 3-year implementation of the WMMP.

B2.7 Community Participation, Information, Public Places and Events

Support offered by WMU staff for businesses, talks and tours, zero waste events and public place recycling extends opportunities to the public to minimise waste in arenas outside their home.

The issue is that demand is increasing and is expected to continue to increase within the WMMP period. This activity relies on internal staffing and capacity for increased demand is limited.

The budget requirement for future capital works for the community activity for the first 3-year implementation of the WMMP is $30,000 for continuing installation of public place recycling across the district.

PAGE FOR FORMATTING

PART A – OVERVIEW AND GENERAL INFORMATION

1 INTRODUCTION

1.1 ABOUT THIS PLAN

Purpose
The purpose of this plan is to provide a framework for the delivery of waste minimisation services over the next ten years. It includes a range of information about the activity, including background information, levels of service to be provided, asset management information, operating and capital work programmes, performance information and how this plan will be improved in the future.

This plan brings together the Council's strategic approach to the delivery of this activity which then forms part of the Council's Long Term Plan.

In line with Council's Activity Management Planning (AMP) policy, preparation of the 2018 AMP commenced with an assessment against the AMP Maturity Index (based on the 2015 IIMM[1] model) to determine the current and desired level of maturity for this activity, which was then signed off by the Chief Executive.

Staff completed a detailed analysis of appropriate asset management practice, examined asset description, levels of service, managing growth, risk management, asset lifecycle decision making, financial forecasts, planning assumptions and confidence levels, improvement programmes, use of qualified persons and Council commitment to asset management planning.

The current scores and appropriate targets from the maturity index assessment for waste minimisation activity are shown on the following page. (*refer #996998*)

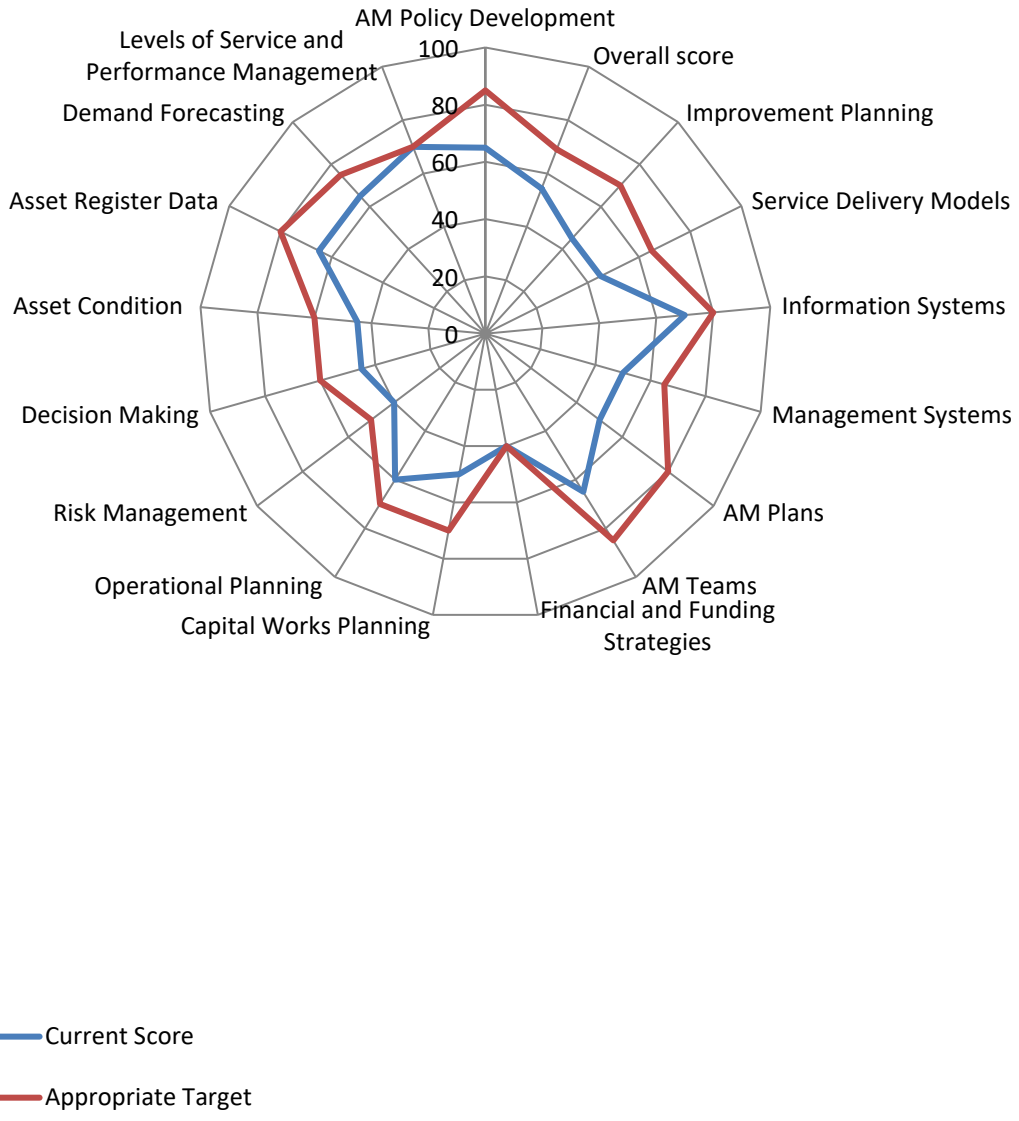
The current result is 54 and the target is Intermediate (69). Recommendations for improvement have been added into the *Improvement Plan* and are:

- Utilise case by case analysis of demand scenario modelling
- Develop use of Hansen
- Formal use of BCA (Business Case Analysis) where appropriate
- Update risk plan
- Formal prioritisation framework to rank capital projects
- Expand documentation of AM processes in AMP/WMMP
    - areas of condition and performance
    - lifecycle management
    - demand forecasts need improving
    - more formalised documentation of systems & processes for AM.

Overall results are shown in the spider diagram on the following page.

[1] International Infrastructure Management Manual

Overall results



Compliance with Waste Minimisation Act
A waste assessment is required to precede each six-yearly review (WMA s51), and a waste assessment was completed in 2017. The Executive Summary from the Waste Assessment 2017 is included in Part 1 Appendices: Appendix 1. The draft waste assessment was sent to the Medical Officer of Health for comment. While the Council may or may not make changes as a result of a review, any change to the plan will be subject to the special consultative procedure as required in s44(e).

The 2017 Waste Assessment *(#1002595)* and the 2018 WMMP review will meet the requirements under the WMA for a formal review on a 6-yearly basis.

WMMP Format and Improvements
The WMMP is organised into two main parts to make it easy for any reader to locate the information they require; and for asset managers/decision-makers/stakeholders to easily identify how specific concerns of individual waste activities relate to the broader objectives of managing the Council's entire waste minimisation activity.

- Part A is aligned with the updated corporate template and provides the overview of the Activity describing the general practices, issues and planned approaches that apply to all the waste minimisation activities.
- Part B provides the specific details on the assets, issues and completed/future works of individual waste activities.

A major improvement in this plan is the new format for the related budget. Capital projects will be grouped into cell, site, fixed assets, closure, aftercare and complementary businesses. This approach will provide more clarity in setting aside funds for closure and aftercare in particular. The *Improvement Plan* in Section 8 has been aligned with the IIMM gap analysis.

1.2 About This Activity

The TDC Waste Minimisation Unit provides safe and effective collection, recycling, recovery and disposal services for the district.

In particular, Council will provide the following services:

- Transfer Station facilities at Temuka (est. 1993), Timaru (est. 1995), Geraldine (est. 1997), and Pleasant Point (est. 2000)
- A modern A-grade landfill at Redruth (Stage 3 from 2003, Stage 2 2019-2023)
- Monitoring and management of Closed Landfills
- Household hazardous waste drop-off facilities (2003)
- A retail shop for reusable materials (2004)
- A large goods collection service for reusable materials (2005)
- A scrap metal recycling site (2003)
- A kerbside collection service to urban and some rural properties for organic waste, recycling and rubbish. (3-2-1-ZERO system from 1 July 2006)
- Zero Waste public events, resources and support (2006)
- Recycling and composting facilities (2006)
- Escrap drop-off (2011)
- Gib recovery via permit system (2011)
- Information and education resources for public and businesses
- Participation in national education programmes:

    - Enviroschools (2010)
    - Paper for Trees (2011)
    - One Planet website (2012)
    - Sustainable Living Education Trust (2014)
    - Love Food Hate Waste (2016)
- Public Place Recycling (2011)
- Tyre Recycling (2014)
- Modern Cloth Nappy Programme (2015)
- Timber recovery via liaison with Waste Transformation Ltd (2015)
- Resource Recovery Park (2017)
- Management and administration of the above services.

A more detailed description of the activities is in the following table.

WASTE ACTIVITY	HIERARCHY	DISTRICT	PURPOSE	DESCRIPTION
Kerbside Collection	Recycle, Recover, Disposal	All urban areas compulsory, some rural areas	To provide safe and regular collection of household waste	Council provides a three-bin collection service for rubbish (140-litre bin, fortnightly), recyclables (240-litre bin, fortnightly) and food/soiled paper/garden waste (240-litre bin weekly). As of 30 June 2017, there were 63,048 wheelie bins in use. Annual growth for allocation of bins is on average 1.5% per annum. On this basis, there should be sufficient capacity with the existing collection fleet before extra collection trucks are required.
Transfer Stations	Reuse, Recycle, Recover, Disposal	Timaru, Geraldine, Pleasant Point, Temuka	To provide drop-off facilities for a range of materials.	Transfer stations are facilities for the drop-off of waste and a range of recyclable and recoverable materials. About 60% of site usage is customers using the drop-off at the front of the site for a range of recycling activity, with 40% of customers paying to dispose of rubbish, organics or cleanfill. From rural transfer stations, all goods are transported to Redruth for processing.
Reduce	Reduce	Districtwide	To provide programmes which reduce waste.	Programmes include Enviroschools, Sustainable Living Education Trust, Waste Free Parenting and LoveFoodHateWaste.
Reuse	Reuse	Shop (Crow's Nest) at Redruth Eco-centre, Timaru	To enable reuse of materials.	The shop sells reusable materials collected at transfer stations and delivered by businesses as well as some new goods such as bio-bins and bags.
Recycle	Recycle	Facility at Redruth Eco-centre, Timaru	To process household recyclables.	The Materials Recovery Facility recycles cardboard, paper, steel and aluminium cans, and plastic containers for sale as recyclable commodity items.
Recover	Recover	Facility at Redruth Eco-centre, Timaru	To process food and garden waste	The Composting Facility composts food waste, soiled paper and garden waste to produce compost for sale to the domestic and agricultural sectors.
Pyrolysis	Recover	Facility at Redruth	To process waste timber	The Pyrolysis Facility processes waste timber using an anaerobic process into charcoal for a range of uses.
Treatment		Timaru, Geraldine, Pleasant Point, Temuka		A hazardous waste drop-off is offered at all transfer stations. Materials, except oil, are centralised at Redruth. Batteries are sold. Paint is reused or sent for recycling if possible with the balance treated by a chemical waste contractor.
Disposal	Disposal	Redruth Landfill, Timaru	To safely dispose of waste	Redruth Landfill is an A-grade landfill which accepts waste for disposal. Being only 3kms from the CBD, it offers a convenient and local solution.

1.3 ACTIVITY FIT

Waste Minimisation activity fits within the Waste Minimisation group as shown in the table below.

GROUP OF ACTIVITIES	ACTIVITIES	
Democracy	Democracy	
Community Support	Airport Community facilities (includes Public Toilets, Cemeteries) Community Funding (includes Community Funding, Subsidised Labour)	Economic Development and District Promotions Emergency Management Safer Communities Social Housing
District Planning and Environmental Services	Building Control District Planning	Environmental Compliance (includes Environmental Health, Animal Control, Parking Enforcement)
Recreation and Leisure	Cultural and Learning Facilities (includes Art Gallery, Halls, Theatre Royal, Libraries, Museum)	Parks (includes Parks, Fishing Huts, Motor Camps, Forestry) Recreational Facilities (includes Caroline Bay Aquatic Centre, Swimming Pools, Southern Trust Events Centre)
Roading and Footpaths	Roading and Footpaths (includes Parking Facilities, Cycleways, Walkways)	
Waste Minimisation	Waste Minimisation	
Sewer	Sewer	
Stormwater	Stormwater	
Water Supply	Water Supply	

1.4 KEY STAKEHOLDERS/CUSTOMERS

Within TDC, the Waste Minimisation Unit (WMU), as the primary unit responsible for waste activity, reports to and liaises with the Infrastructure Committee (IC) on governance and policy concerns requiring resolution or approval at the Council Committee level. The IC is composed of elected members of the Council.

Internally, WMU collaborates with other units for their various roles relevant to the effective delivery of waste services, including corporate planning and finance units, land transport unit, district planning and building units, IT unit and customer services.
TDC maintains relationships with the community boards of Geraldine, Pleasant Point and Temuka. The boards provide a venue for discussing community issues that may include waste concerns.

The Council also maintains relationships with Environment Canterbury for coordination and guidance in complying with resource consents.

Works and/or services contracting is a service delivery modality used by TDC for major waste infrastructure projects. Relationship with contractors is key to the Council, and regular liaison with these groups helps ensure effective and efficient delivery of services.

Stakeholders
The Key Stakeholders are those people or organisations who have a direct or indirect interest in the Activity due to the interests they represent as consumers, regulators or as advocates for the environment and other socio-cultural concerns. Major stakeholders for the waste minimisation activity are as follows:

Group/Organisation	Nature of Relationship –main interest	Key Contact (incl. details)
EXTERNAL		
Residents and ratepayers	Public health and safety, service reliability, environment, cost	Via Customer Services
Local industries, e.g. • Meat slaughter and processing • Food Processors • Breweries • Rendering • Hide processing	Public health and safety, service reliability, environment, cost	Contact via Waste Minimisation Unit
Local businesses, e.g. • Users of kerbside collection • Businesses requiring cleanfill, waste disposal or recycling, composting or gib	Public health and safety, service reliability, environment, cost	Available on the Landfill Access Permit Register

Group/Organisation	Nature of Relationship –main interest	Key Contact (incl. details)
Community facilities • Schools • Hospitals • Public places	Public health and safety, service reliability, environment, cost	Contact via Waste Minimisation Unit
Waste Management NZ Limited	Main contractor for waste management and minimisation services, Contract 1635	The Chief Executive Private Bag 14919 Panmure Auckland
Canterbury Waste Joint Committee (CWJC)	The Timaru District is a member of the committee which facilitates regional waste minimisation and hazardous waste initiatives	CWJC C/- CCC PO Box 237 Christchurch
Mackenzie District Council	Neighbouring local authority Member of CWJC	The Chief Executive PO Box 52 Fairlie
Waimate District Council	Neighbouring local authority Disposes of waste to Redruth Landfill Member of CWJC	The Chief Executive Officer PO Box 122, Waimate
Sustainable South Canterbury Trust	Service provider for waste reuse, large goods collection and escrap recycling, Contract 1566	The Chairman PO Box 804, Timaru
Environment Canterbury	Regulatory role in monitoring sites	The Chief Executive PO Box 345, Christchurch
Ministry for the Environment	Administration and Implementation of the Waste Minimisation Act	The Chief Executive PO Box 10362, Wellington
Waste Management Institute of NZ	Liaison role	The Executive Officer PO Box 305426, Triton Plaza Auckland 0757
Local Government NZ	Liaison role	Local Government NZ PO Box 1214, Wellington
Government agencies • Ministry of Health • Office of the Auditor General • Audit New Zealand	Public health and safety, service reliability, environment, cost	Dr Williams Medical Officer of Health South Canterbury District Health Board Private Bag 911 Timaru 7940
Te Runanga O Arowhenua	Environment, cultural, heritage	
Community groups	Includes organisers of public events NZ Council of Women	Contact via Waste Minimisation Unit

1.5 WHY IS COUNCIL INVOLVED

TDC has a four-pronged Vision for the District stated as follows:

Lifestyle - fantastic sustainable lifestyle second to none. We live in a pretty special place. We want to keep it that way. We want to make it even better for ourselves, our children, their children.

Economy - thriving and innovative economy where opportunities abound. Our economy is essential to our future. We need it to grow innovatively and sustainably.

Identity - strong and enviable reputation and identity. We want to forge and strengthen a reputation and identity that other districts may aspire to.

Leadership - inspiring, people-focused leadership. We want a district where we build on our strengths, minimise our weaknesses, challenge our threats and grasp our opportunities. This takes leadership.

There are six community outcomes that Council aims to achieve and Waste Minimisation has primary and secondary contributions through its inputs as summarised in the Table below.

Table 1: Activity Contribution to Outcomes

High Quality Infrastructure to meet community and business needs		Smart economic success supported and enabled		Communities that are safe, vibrant and growing		People enjoying a high quality of life		A strong identity forged and promoted		A valued, healthy and accessible environment	
Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary

Council has identified four priority areas it believes are essential to enable it to work towards the Vision and Community Outcomes:

1 Investing in community
2 Promote integrated, highly liveable communities
3 Support areas of economic and district strength
4 Ensure critical infrastructure meets future needs

1.6 ACTIVITY CONTRIBUTION TO OUTCOMES

The table below shows the activity contribution to outcomes, what will be done and the corresponding management measures.

Table 2: Activity Contribution to Outcomes

VISION	COMMUNITY OUTCOMES	ACTIVITY CONTRIBUTION TO OUTCOMES	PRIORITY AREA SERVICE STATEMENT (WHAT WILL BE DONE)	MANAGEMENT MEASURES (HOW IT WILL BE DONE)
Lifestyle We live in a pretty special place. We want to keep it that way. We want to make it even better for ourselves, our children, their children. **Economy** Our economy is essential to our future. We need it to grow innovatively and sustainably **Identity** We want to forge and strengthen a reputation and identity that makes us the envy of other places. **Leadership** We want a district where we build on our strengths, minimise our weaknesses, challenge our threats and grasp our opportunities. This takes leadership.	High Quality Infrastructure to meet community and business needs	Provision of quality waste infrastructure that enables -separation of waste -reuse, recycling, recovery -disposal	Provide waste services to district communities	Compliance with Waste Minimisation Act. Compliance with landfill guidelines. Compliance with resource consents through monitoring.
	Smart economic success supported and enabled	Provision of cost-effective waste services. Employment opportunities. Revenues from resource recovery		
	Communities that are safe, vibrant and growing	Protection of public health and the environment. Reduced environmental effects. Recycling extended to homes, businesses and public places. Enhanced amenities. Alternative recreation eg aeromodel club.	Ensure a high level of satisfaction with kerbside collection and other services.	Monitoring of contract delivery
	A valued, healthy and accessible environment			
	People enjoying a high quality of life	Community education about waste minimisation.	Plan for waste infrastructure to meet future community needs	Waste services infrastructure renewals and upgrades
	A strong identity forged and promoted	Develop identity of and pride in waste minimisation.		Building of landfill cells
			Ensure plans are in place for emergency situations for waste disposal	

1.7 WASTE MINIMISATION VISION, GOALS AND OBJECTIVES

1.7.1 *WASTE MINIMISATION VISION*

The Timaru District Council's vision for waste management and minimisation is:

"A sustainable community that is able to reuse, recycle and recover discarded resources and minimise residual waste to landfill, while ensuring protection of public health and the environment."

1.7.2 *ZERO WASTE*

In 1999, Council adopted an aspirational target of zero waste to landfill by 2015. The zero waste target was part of a national movement to help improve waste minimisation practices for New Zealand.

1.7.3 *WMMP GOALS AND OBJECTIVES*

In considering the Waste Minimisation Act, the NZ Waste Strategy goals and the target for Zero Waste, there will be limitations such as resources, financial and practical implementation that will restrict the ability of the Council to "reducing effects'' or "improving efficiency". Therefore, the goals and methods for the WMMP are as follows:

Goal 1: Protection of public health from waste.
Objective 1.1: Ensure health and safety risks are either eliminated, reduced, isolated or mitigated.
Goal 2: Protection of the environment from waste.
Objective 2.1: Ensure environmental risks are either eliminated, reduced, isolated or mitigated.

Objective 1.1 and 2.1

Category	Methods	1.1	2.1
Collection	Provide regular kerbside collection of waste to urban centres and nominated routes.	✓	✓
	Provide wheelie bins for waste collection.	✓	✓
	Provide four transfer stations for public to take waste to in compliance with legislative requirements.	✓	✓
	Provide public place recycling bins and collection.	✓	✓
Reduction	Provide assistance to residents, businesses and community groups on how to minimise waste.	✓	✓
Reuse	Ensure that goods and items reused are safe for use.	✓	
	Provide services for the collection, drop-off and sale of reusable items.		✓

Category	Methods	1.1	2.1
Recycling	Provide a range of facilities for recycling drop-off including • scrap metal • escrap • recycling	✓	✓
	Provide sorting facility for recyclable materials.	✓	✓
	Ensure that recycling and processing of collected commodities is undertaken in a manner not detrimental to human health.	✓	✓
Recovery	Ensure that health and safety information is provided for compost sold.	✓	
	Provide compost facility in compliance with resource consents.	✓	✓
	Provide oil and paint drop-off sites.		✓
	Provide gib recovery service via permit system.	✓	✓
Treatment	Provide hazardous waste drop-off facilities.	✓	✓
	Ensure that any treatment of waste including stabilisation of waste before landfilling is not detrimental to human health.	✓	✓
Disposal	Provide a landfill for safe disposal of waste in compliance with legislative requirements.	✓	✓
	Monitor closed landfill sites.		✓

General	Monitor all resource consents for compliance.		✓
	Make improvements where necessary to reduce environmental risks.		✓
	TDC has a health and safety management system for all activities including WMU.	✓	
	Incorporate environmental management requirements into contract documents		✓
	Utilise contractors who have a health and safety/environmental management system as a priority to reduce harm to their staff and protect the environment.	✓	✓
	The contractor providing waste services must report monthly to TDC on any exceptions.	✓	✓
	Complaints will be recorded by TDC and the contractor and acted on within 48 hours.	✓	✓
	Follow Monitoring and Management Plan for the closed landfills and transfer stations. (*Reference- HP#313329*)	✓	✓
	Utilise the Council solid waste minimisation bylaw as necessary for protection of health and environment.	✓	✓
	Provide the public with information on health, safety and environmental issues.		✓
	Have in a place an environmental management system for all waste minimisation services to ensure compliance with the Resource Management Act.		

Goal 3: Provide effective and efficient waste minimisation services in a sustainable manner.

Objective 3.1: Achieve effective services

Category	Methods
General	Minimise waste disposed of to landfill and maximise materials diverted from landfill. Consider new methods, systems, innovation and new technologies to improve waste minimisation. Establish benchmark values and measure trends. Set targets as nominated by Council from time to time. Monitor and record performance measures. Measure levels of service and community satisfaction. Provide services to meet the requirements of the community and legislative requirements. Provide the community with information and feedback on waste minimisation services. Use bylaws where appropriate to facilitate waste minimisation. Perform waste audits to assess waste composition.

Objective 3.2: Achieve efficient services

Category	Methods
General	Contract services by competitive tender where nominated by Council. Monitor and review the costs, utilisation and benefits of services. Consider innovation and new technologies for improved efficiency taking into consideration cost and benefits. Foster on-going improvement and innovation. Measure missed services for the kerbside collection. Measure contamination levels from waste minimisation activities. Inform the community on what to do and provide feedback on waste minimisation services.

Objective 3.3: Progress sustainable concepts

Category	Methods
Economic	Set budgets that are affordable for the community, taking into consideration costs over variable terms. Utilise economic tools to encourage waste minimisation. Achieve efficient waste minimisation services.
Environment	Achieve objective 2. Recover organic materials from landfill reducing greenhouse gas emissions
Social	Achieve objective 1. Provide levels of service that the majority of the community is satisfied with. Provide education about resource recovery to the community Promote use of local people and resources for waste minimisation services. Promote further opportunity for potential job creation and industry development.
Cultural	Liaise with local tangata whenua and iwi to identify concerns, issues and opportunities with regard to waste minimisation.

1.7.4 ACTIVITY CONTRIBUTION TO EFFECTIVE SERVICES

Methods for achieving effective waste minimisation are listed in the table on the previous page for Goal 3.1

Council has set targets for the LTP performance measures with the aim of increasing efficiency for existing waste minimisation activity.

To increase waste minimisation effectiveness, Council does lobby government and participate in increasing national drivers/programmes for waste minimisation.

OPTION	Lobby central government on waste issues.

Benchmark Values and Trends
Council measures and records the tonnes of waste being collected, reused, recycled, recovered, treated and disposed of from the weighbridge at the Redruth landfill to measure the overall effectiveness of waste minimisation activities. It is more difficult to determine the quantities being reduced as this information is usually retained in private premises, therefore, this parameter will not be measured.

Council is considering benchmark values measures against historic values already achieved. There is currently no formal national waste minimisation benchmarking process for the Council to compare itself against the performance of similar sized authorities. Average weights of rubbish, recycling and organic bins can be found in Part B.1.1 Kerbside Collection.

1.7.5 ACTIVITY CONTRIBUTION TO EFFICIENT SERVICES

Methods for achieving effective waste minimisation are listed in the table above for Goal 3.2.

Council has been audited for its collection and spending of the waste levy.

Data that will be recorded to measure efficiency is listed in Part B for each activity.

Issues

<u>Recycling Plastics</u>
The public put a range of plastic waste materials into their bins which have recycling logos on them, which are currently not able to be recycled. These logos were instituted by the Plastics industries to identify plastic polymers – not for public education. The logos are not synonymous with an ability to be recycled in any given Council region. Development of markets and cost-effective sorting and processing systems are required to improve the recycling rate.

The cyclic nature of recycle commodity prices and the availability of the Chinese market will impact upon revenues for recyclable materials. Recent closure of Chinese markets has opened other markets in SE Asia – Indonesia, Malaysia and India.

1.7.6 ACTIVITY CONTRIBUTION TO ENVIRONMENTAL PROTECTION

The methods for achieving environmental protection are outlined previously in Section 1.7.3.

Resource Consents
Refer to B2.6 Disposal for detailed information on consents for 7 closed landfills. Consents are monitored in accordance with the Monitoring and Management Plan for the Closed Landfills and Transfer Stations. (*Reference- HP#313329*). Monitoring records are maintained in the Hansen database and HP document management system.

There are a number of other known sites that are not monitored because of their small nature and minimal impact. These sites are recorded in a hazard register.

Environmental effects are identified in the annual monitoring report for Environment Canterbury required by the resource consents. Recommended actions to mitigate effects and improve compliance are subsequently implemented.

Landfill Gas
See B2.6 Disposal –Issues-Landfill Gas – The Landfill Gas Strategy will be taken into account.

Improvements
Investigate and implement an Environmental Management System for Waste Minimisation sites, if required, as part of the *Improvement Plan*.

1.7.7 GUIDING PRINCIPLES

It is necessary to have guiding principles to guide the development of the waste minimisation plan, in conjunction with national and global waste management requirements.

1. Commitment of the Mayor, Councillors, Community Board members and Timaru District Council staff towards excellence in Waste Minimisation.
2. That the Timaru District Council leads by example to promote environmental care through Council's influence over others.
3. That high standards are established for waste management to exceed relevant legislative requirements.
4. That the Council recognises its global responsibility through the relevant principles from the United Nations Agenda 21.
5. Utilise the integrated waste management methods of: Reduce, Reuse, Recycle, Recover, Treatment and Disposal.
6. That waste management methods are developed to ensure ecologically sustainable development.
7. To change the mindset of "rubbish" as a throwaway material, so that it will be considered a resource with further beneficial use.
8. That, where appropriate, resource materials are utilised for local benefit wherever possible.
9. That manufacturers and waste generators recognise the life cycle impacts of their waste.

10. Promote and encourage open and public discussion along with community consultation.
11. Consult with Tangata Whenua to identify values.
12. That performance indicators are developed to monitor and review the waste plan.
13. That the true costs for waste management are identified which include economic, environmental, cultural and social costs.
14. That waste generators will have to progressively pay the true costs for disposing of waste.
15. That incentives or assistance may be considered to encourage reduction of waste and separation of materials.
16. That the principle of continuous improvement be applied to attaining high environmental standards.
17. That each individual has a duty of care for the Timaru District.
18. Support regional or national approaches to Waste Minimisation and incorporate regional or national initiatives when appropriate.

1.8 TEN YEAR ISSUES

The following issues will have an impact on TDC's waste activity in this WMMP period. Their significance at an operational level has been assessed with details provided in Part B under Summary of Issues for each activity.

1	**Limited life of the landfill**
	The landfill life is estimated at 30-40 years. The biggest challenge and highest priority is to instigate waste minimisation programmes s soon as possible for maximum effect on diversion and a corresponding increase in landfill life.
2	**Increasing Resource Recovery**
	Council has a role to play in recovering materials from the waste stream and increasing demands for product stewardship.
3	**Limitations in value for recycled product**
	The Chinese market is becoming difficult to export to and this will affect types and quantities of materials they will buy, however, other markets are opening.
4	**Changes in national/regional plans and policies**
	These regulations are continually evolving with associated changes in requirements that impact on Council's operations of waste services. An example is the requirement to develop a stormwater management plan, or meet the NES for Air Quality. Council must comply with these policy and regulatory requirements to continue to operate its waste services. TDC's plans must consider the work and budget implications of these regulatory requirements.
5	**Meeting changes in demand**
	Population and household growth in the District is not expected to have a significant impact on waste services requirements over the next 10 years. Capacity should be able to be met during the term of the contract, but growth will have an impact when the waste services contract ends.
6	**Affordability of the service**
	Consumers expect waste services to be provided at a reasonable price. TDC will continue to investigate options to ensure waste services provided offer the most cost effective service. Charges will be monitored and set to provide the most cost effective service.
7	**Resilience building**
	There is a growing focus on resilience in asset management driven primarily by increased awareness of the many hazards made apparent by recent major natural disasters and events, such as the earthquakes in Christchurch (2011) and Kaikoura (2017), the flooding in the Bay of Plenty (2017), and the contamination of drinking water in Havelock North (2017). An increased understanding of the vulnerability of the Timaru District's public assets and provision of services is necessary, not only to cope with natural disasters but also other factors such as an economic crisis, decline in population, etc. TDC must invest in the right solutions towards building or strengthening the asset and organisational capacity of TDC to withstand disruption, act effectively and adapt to change.

1.9 SERVICE DELIVERY

TDC Waste Minimisation Unit uses contractors for service delivery. Long term service contract commitments listed below are reported annually to the Finance Unit.

Contract No.	Description	Contractor	Annual value	Term	End Date
1635	Solid Waste Management	Waste Management NZ Ltd	$5,784,400	15 years	30/6/2021
1566	Crow's Nest operation	Sustainable South Canterbury Trust	$50,000	15 years	15/3/2019

OPTION	Review Solid Waste Contract 1635 in 2019 for end of Contract 1635. This will require a 17A review.
OPTION	Put out RFP in 2020 for new waste services contract.

TDC owns all the fixed / in-ground assets. Asset database management is carried out in-house by staff of TDC's Waste Minimisation Unit. WMU staff perform some inspections and initiate assets maintenance. However, the operations of the majority of the assets is undertaken by the waste services contractor, Waste Management NZ Ltd (WM). WM will initiate or recommend work on assets be carried out.

OPTION	Review need for asset management planning to include condition rating, financial data etc.
OPTION	Undertake insurance revaluations six-yearly of Council - built assets and buildings.

TDC/WM uses private contractors on an as-needs basis to carry out identified tasks such as i) maintenance and repair of the pumps and compactors; ii) physical works to build or renew assets; iii) some pre-engineering/engineering designs; and iv) special studies in support of planning/policy development. In general, contracting of works/services to the private sector is permissible and justified for reasons of cost effectiveness and when a specialist skill is required.

Contract Management

TDC's civil works procurement and contract administration is governed by the provisions of NZS3910:2003 NZ Standard Conditions of Contract for Building and Civil Engineering Construction (*refer HP #264333*). Relevant provisions of NZS3910:2003 are also used to procure and administer service contracts, such as maintenance works, consulting services, etc.

All waste services incorporating kerbside collection, composting, recycling, transfer stations, landfill and grounds are contracted out in a single contract, currently Contract 1635 (*#402760*). When urgent repairs are required, the Contractor is authorised to undertake repairs as necessary to make the asset safe, or to stabilise the site/situation. Asset forms are completed to update information and passed to WMU staff for updating the database.

The planning of asset renewal and development is usually undertaken following discussions with the contract manager and the National Projects Manager from Waste Management Engineering team. This technical project team are contracted for any

landfill project design advice and Whole-of-Life plan management services. Specialist contractors for Landfill design are Tonkin & Taylor Ltd.

The maintenance of the assets is carried out by appropriate contractors as required. A liaison meeting for all TDC Approved Contractors is held annually to discuss issues.

TDC has a register of Approved Contractors *(HP#444130)* who are able to perform work for Council. The list is available online at http://www.timaru.govt.nz/services/consents-licences-and-registrations/services-consents . TDC manages all contracts issued for Waste Minimisation.

TDC also has a register of approved Health and Safety approved contractors *(HP#520691),* and only these contractors can be employed for council work.

Customer Services
All waste minimisation service requests and customer complaints are sent to the waste minimisation unit or contractor for prompt attention. However, if the complaint is the result of poor service, it will be handled by WMU staff. All complaints are investigated and the action taken is recorded and the service request is closed.

Failure of assets can be reported through the Service Request System and Call-out Service. This TDC service provides a 24/7 response for members of the public to report issues.

1.10 CONTRIBUTION TOWARDS SUSTAINABLE DEVELOPMENT

The Principles Relating to Local Authorities stated in Section 14 of the Local Government Act 2002 provides that: "in taking a sustainable development approach, a local authority should take into account –

- the social, economic, and cultural interests of people and communities;
- the need to maintain and enhance the quality of the environment; and
- the reasonably foreseeable needs of future generations."

The IIMM 2011 defines sustainability as "the capacity to endure; in the context of asset management this is about meeting the needs of the future by balancing social, economic, cultural and environmental outcomes or needs when making decisions today."

The principle of sustainability is reflected in the statement about why Council is involved (Section 1.5) which, in line with the purpose of local government, seeks to meet current and future needs of communities. Sustainability is integrated in our Activity practices through the lifecycle management of our assets, education and promotion of resource recovery to use resources more effectively, managing risks that may impact on the environment and community well-being, and setting rates/fees/charges that are consistent with use of the service.

Reducing New Zealand's waste is key to sustainable development, and the methods are outlined in Section 1.7.3 Objective 3.

Current Services

Economic

The main reason for diverting waste from Redruth Landfill is to extend the life of the landfill. Once the landfill is full, significant cost would be involved in the development of another landfill in the Timaru District. Alternative existing landfills are at Kate Valley in North Canterbury, in the Otago area, or at King's Bend Landfill in Winton. The cost of disposal combined with transport costs is likely to increase. The 2016/17 charges for residual waste in Ashburton and Waitaki Districts are higher than in Timaru.

Long term, there are significant economic benefits to the Timaru District in diverting waste from landfill for the above reasons. Businesses can operate in the Timaru District with lower waste costs than in other districts. Diversion saves capital by deferring the need to build landfill cells.

In addition, the introduction of the waste levy under the Waste Minimisation Act has added a further cost to disposal. It likely that the levy will be increased in time from the initial $10+GST per tonne of waste disposed of to a higher fee which will provide even more incentive to divert waste. As Council receives a subsidy from the Waste Levy, an increase in the levy may result in an increased subsidy allowing further funding of waste diversion activities.

The introduction of the three-bin collection, composting and recycling services has created additional employment for the Timaru District. Further waste minimisation activities will add employment opportunities. The Crow's Nest provides employment and offers low price reused goods.

The development of compost markets and revenues from the sale of recyclable materials helps offset the costs of diversion.

Council provides a budget for waste minimisation activity and sets rates and fees to pay for the costs for waste minimisation activity. The community have an opportunity to consider and provide input into the level of service and costs through the special consultative procedure under the s83 of the Local Government Act for this WMMP, Councils Long Term Plan and Annual Plans. Council has engaged contractor WMNZ Ltd to provide waste minimisation services for a 15-year contract term to enable lower annual costs for the services as capital costs have been amortised over the 15-year period expiring on 30/6/2021.

Council will set differential rates, charges and fees from time to time to incentivise waste minimisation and discourage disposal.

Through measuring the quantities for reuse, recycling and recovery, Council tracks trends in order to further reduce waste disposed of and improve waste minimisation.

Environment

Council provides for the environmentally safe collection and disposal of residual waste to landfill. All waste streams are recorded at the Redruth weighbridge.

Council holds resource consents for the operation of its different waste minimisation facilities. Council ensures it meets the conditions of the consents to protect the local environment. Resource consent conditions are met by completing tasks scheduled in the Hansen Resource Consent database.

The reuse, recycling and recovery of waste has many benefits for the environment.

Reuse
Reuse of materials and products is one of the major steps to establishing a circular economy. Apart from making perfectly sound products available for resale, the activity reduces the need for mining raw materials resulting in less habitat destruction and emissions.

Recycling
Recycling offers considerable scope to reduce greenhouse emissions by returning materials into the production cycle. Not only does this reduce virgin inputs, but recycled material often requires less energy to transform the raw material it is replacing.

While these actual processing benefits may not occur in the Timaru District, the savings are attributed to an overall improvement globally.

The Australian Council of Recyclers (www.acor.org.au) undertook an environmental study released in July 2008 for a typical 240 litre recycle bin. The resulting analysis showed that on average every bin placed at the kerbside for recycling resulted in a saving of 19.7kg CO2e.

For the 2016/17 financial year, there were 21,368 recycle bins in circulation. 388,631 recycling bins were collected annually equating to approximately 7,656 tonnes of CO2e saving. Furthermore, a total life cycle analysis which includes energy, water, resource conservation and other impacts/benefits could be considered.

Composting
Traditionally, farmers have needed to import synthetic fertilisers from all over the world to 'feed' the soil as communities dump compostable materials in landfills. Trials run by Lincoln University on Timaru Eco Compost show that adding compost to soil increases yield of crop, reduces water requirements, increases root depth and improves diversity of insect life. Adding compost to soil acts as a 'carbon sink', drawing carbon dioxide from the atmosphere and holding it in the soil.

Landfill Gas
During 2017, Council engaged Tonkin & Taylor to undertake a Surface Emissions Monitoring survey at the Redruth site. Overall, there is little landfill gas being discharged to the atmosphere through the cap. On Stage 2 landfill gas is now flared. However, as the landfill will have a final received tonnage of waste of greater than 1,000,000 tonnes, a landfill gas infrastructure must be implemented to comply with the NES for Air Quality which seeks to reduce greenhouse gas emissions from landfills.

Health and Safety
Council has a comprehensive Health and Safety system in place.

Community Satisfaction
It is not practical to satisfy the requirements of everybody in the community, therefore a level of acceptance by the majority is the method to measure overall social acceptance of the services. This will be measured by Council through community surveys every two years.

Local People and Resources
The following numbers of people are engaged in providing waste minimisation services for Council.

Table: Job Creation through Waste Minimisation

Description	Full Time Equivalent	Effective
Timaru District Council		
Waste Minimisation Unit	3	2016
Transfer Station Cashiers	2.5	
Waste Management NZ Ltd		
WMNZ Kerbside	11	2006
WMNZ Recycle	7	2006
WMNZ Compost	3	2006
WMNZ Landfill	2	2006
WMNZ Transfer Station	6.25	2006
WMNZ Waste sort	1	2017
Sustainable South Canterbury Trust		
The Crow's Nest	4	2005
Escrap		

In addition, staff at Oji Ltd processes paper and card from the MRF under a sub-contract, and Timaru Metal Recyclers handle scrap materials under an agreement to Council.

Cultural
Iwi, hapu and whanau want to be sure that waste is disposed of appropriately, in harmony with their values, and without damaging the environment that sustains tangata whenua. Through the special consultative procedure, Council liaises with the local iwi and tangata whenua.

Council staff consult and liaise with Maori where decisions involve and are relevant to Maori. Council's Senior Leadership Team endeavours to meet with local Maori on a regular basis to maintain working relationships.

Internally, in Council's report writing and decision making framework, the impact of a decision must be specifically assessed regarding Maori-related issues and direct consultation is undertaken with Maori if the decision is relevant to Maori.

Data
The following data will be recorded to measure overall sustainability for waste minimisation activities:

- Monthly expenditure and revenue
- Waste quantities: Reuse, recycling, composting and recovery.
- Resource consent monitoring and reports
- Staff engaged in waste minimisation activities
- Health and safety injuries

- Customer complaints and satisfaction

Information
Council has a procurement policy incorporating guidelines on sustainable procurement. Council does not have a specific sustainability policy.

Council supports membership of the Sustainable Living Programme which offers online information which tie in with Council policy, namely: waste, transport, water conservation, civil defence, etc. There are opportunities to educate the public about a number of aspects of sustainable lifestyle through Sustainable Living Programme courses.

Issues

Economic - ETS
Council must pay carbon obligations under the Emissions Trading Scheme. Council will need to consider options to reduce payment of the carbon obligations by diverting waste disposed of to landfill utilising cost/benefit analysis.

Economic - Waste Levy
Council currently pays $10 (+GST) per tonne of waste landfilled as a levy to the Ministry for the Environment (MfE). A levy review has been conducted and outlines the need for the application of the levy to be increased before the quantum is increased.

Environment
There is a greater awareness about sustainability and Council may need to further improve upon the level of information and reporting in the future, especially with the introduction of the Emissions Trading Scheme for landfills from 2013. International expectations on large corporates also require higher standards resulting in improved environmental outcomes.

Social
There is a high level of social interaction through talks and tours, business visits, zero waste events, public place recycling. Social expectations will continue to drive waste minimisation activity. The reuse activity offers social benefits for both employment and a niche market for low cost shopping.

Cultural
People in Timaru are proud of the three-bin system and other waste minimisation activity. It is what they do at home, and this flows on into business, public places and events.

1.11 SIGNIFICANT NEGATIVE EFFECTS

Effect	Response
There is the potential for the following significant adverse effects from sites: • Contamination of surface and groundwater • Odour • Dust • Vermin • Litter • Fire • Emergencies involving hazardous waste • Health effects for site operators • Creation of contaminated land with limited long term utilisation	Implementing the various site operational management plans and monitoring site activities in compliance with resource consents will mitigate these effects.
The three-bin collection service requires people to sort their waste appropriately into the respective bins.	For most people now, this is "second nature", however, for a minority, there is an ongoing requirement of information, education and enforcement from Council and the Council's Contractor to ensure that they sort and separate their waste appropriately.
The cost of waste minimisation management services has increased from 2006. The amount of increased fees and costs is unsatisfactory for some people.	Manage service effectively to reduce costs.
The waste levy ($10+GST per tonne) for waste disposed of to landfill adds further cost.	50% of the levy collected nationally is returned to Local Authorities. The use of these funds for waste minimisation activities only will mitigate costs increases by maximising landfill life and reducing capital costs.
Returns for recyclable commodities are subject to cyclic pricing and global market effects.	Along with compost markets, development of local solutions to avoid market fluctuations is an objective for Council and the Council's Contractor to help maximise revenue streams.
Landfill airspace may be consumed more quickly than anticipated due to high demand. Substantial costs would be incurred by businesses due to cost of waste disposal, especially long-term, if waste disposal is out of district.	Continue waste minimisation activity.
Costs to customers may increase as Council improves environmental compliance.	Stagger improvements over the remaining life of the landfill.

1.12 ASSET/ACTIVITY MANAGEMENT ACCOUNTABILITIES

The Waste Minimisation Manager is responsible to the Group Manager Infrastructure and is responsible for

- Staff management (3 FTE)
- Budget
- Planning
- Reporting to Council
- Contract management

The Zero Waste Advisor (1) is responsible for

- Community education
- Business work
- General administration

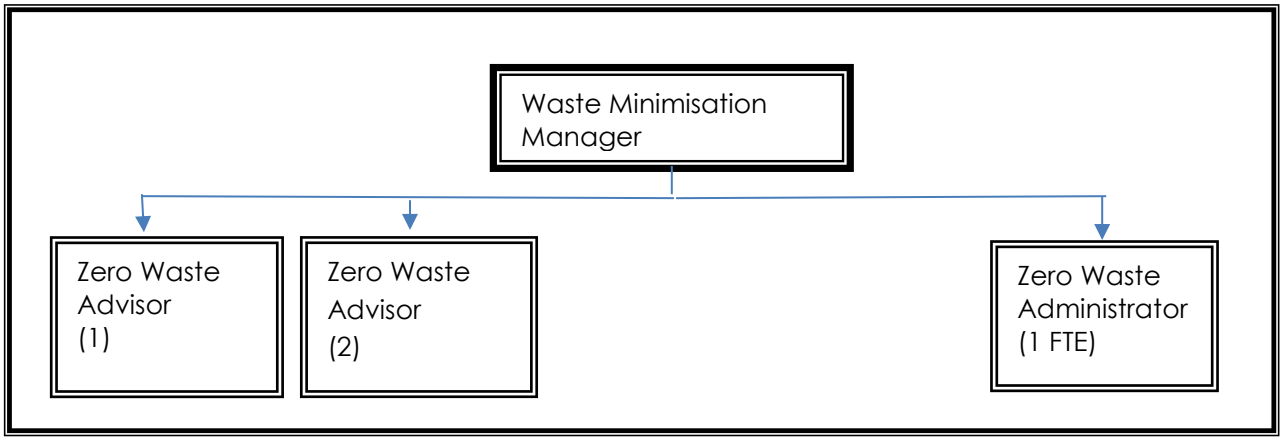
The Zero Waste Administrator is responsible for

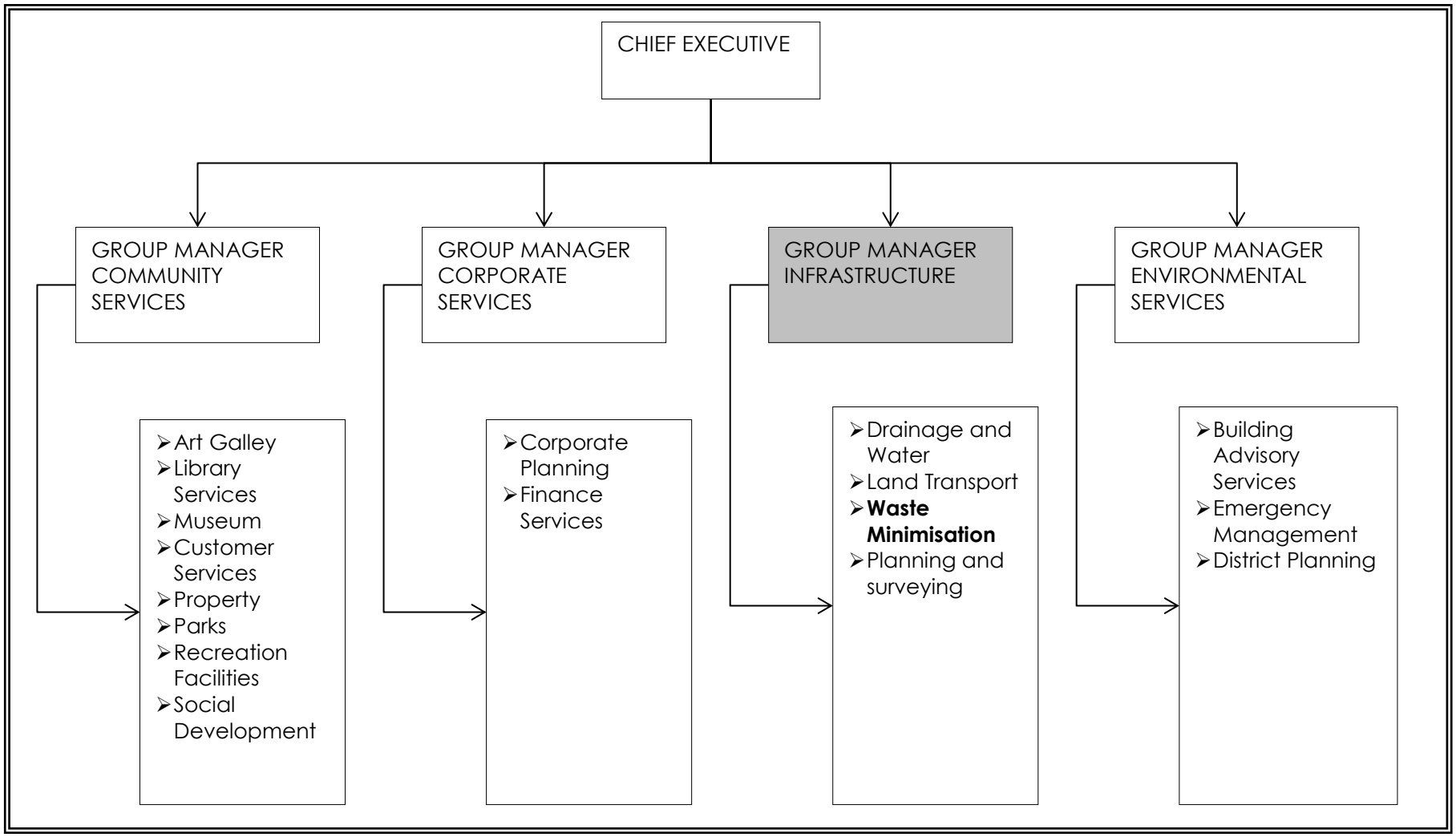
- Bin register maintenance
- Asset register maintenance
- Resource consent register maintenance
- General administration

The Zero Waste Advisor (2) is responsible for

Year 1
- RFID tag implementation

Year 2 onwards
- Kerbside bin monitoring
- Red bin audits
- On premises bin monitoring
- Public place recycling
- Zero Waste event




CHIEF EXECUTIVE
GROUP MANAGER COMMUNITY SERVICES
GROUP MANAGER CORPORATE SERVICES
GROUP MANAGER INFRASTRUCTURE
GROUP MANAGER ENVIRONMENTAL SERVICES
Art Galley
Library Services
Museum
Customer Services
Property
Parks
Recreation Facilities
Social Development
Corporate Planning
Finance Services
Drainage and Water
Land Transport
Waste Minimisation
Planning and surveying
Building Advisory Services
Emergency Management
District Planning

1.13 RELATIONSHIP WITH OTHER PLANS

Internal Plans and Strategies

The Long Term Plan (LTP) process illustrated below provides the overall direction for the waste minimisation activity. It sets out the Vision, Community Outcomes and Priority Areas to be pursued for the District in the next 10 years. It provides the general planning parameters for waste minimisation services in terms of the projected growth and development of the District, levels of service commitments, and Council's infrastructure and funding strategies.

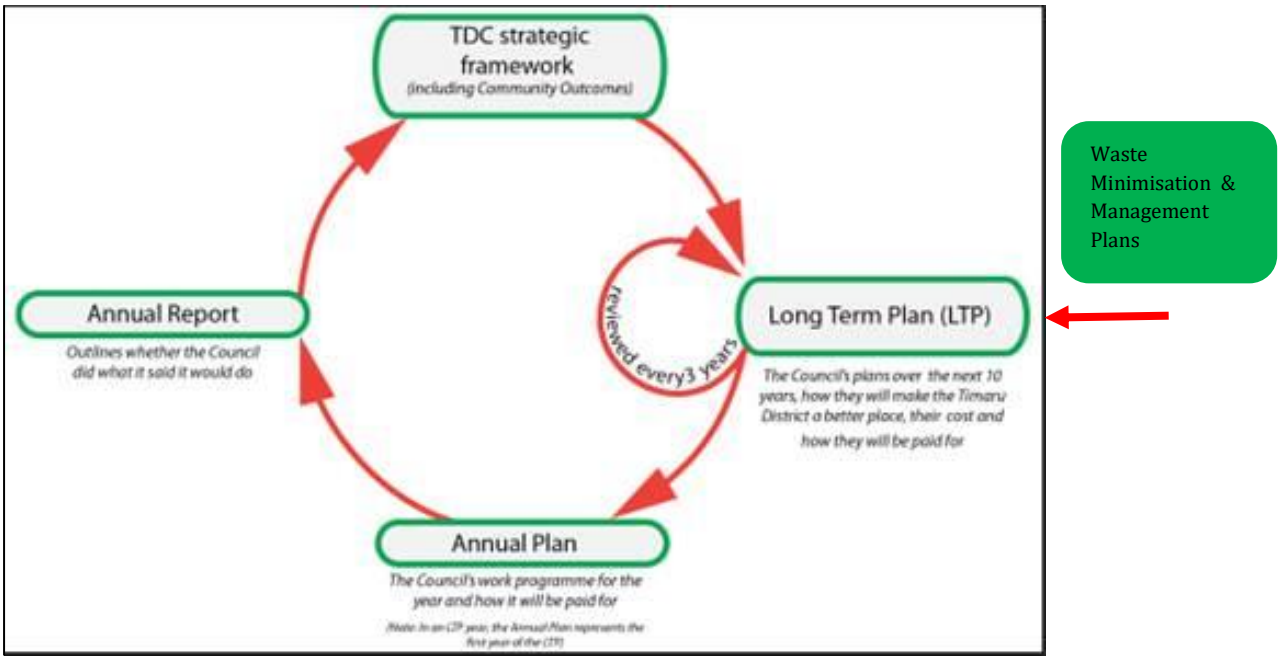


Figure 1: TDC Relationship of Plans

This WMMP provides the details of how TDC will operate and manage the District's waste minimisation activity within this period 2018 - 2028. It has the same 10-year coverage period as the LTP, with work to be carried out in the first 3 years identified in detail. The remaining 7 years are provided in outline with indicative levels of funding requirements.

The Annual Plan translates the LTP (and WMMP) into a yearly programme of action. It contains a firmed-up list of capital works/projects that address specific issues on asset condition and performance, demand and risk. Performance against the Annual Plan is reported yearly in Council's Annual Report, highlighting the Activity's contribution to the Community Outcomes set out in the LTP.

Other Internal Plans

- Timaru District Plan, to account for any possible changes in demand for waste services arising from land use changes.
- Other Council Activity Plans which have implications for waste minimisation services. (e.g. building, parks and recreation, land transport etc).
- Infrastructure Strategy, which will look at assets over a 50-year timespan.

External Plans, Policies and Strategies

The Council recognises the role of other bodies involved in the waste sector. This WMMP is guided by the policies, requirements and strategies in the following plans that impact on the operation and management of Timaru District's waste minimisation services:

1. Canterbury Regional Policy Statement (CRPS 2013)

   The CRPS sets the framework for resource management in Canterbury. It provides an overview of the significant resource management issues facing the region, and sets out objectives, policies and methods to address those issues. Its goal is the integrated management of the region's natural and physical resources.

   Territorial authorities must give effect to the CRPS through their District Plan.

2. Canterbury Land and Water Regional Plan (LWRP)

   The LWRP, which establishes rules for land and water management throughout Canterbury, has been fully operative from 1 February 2017.

   The plan is in 16 sections. Those relevant to TDC are sections 1 and 2, introducing the plan and how it operates; Sections 3-5 the Objectives, Policies and Region-Wide rules; and Section 14 – the rules within the Orari-Temuka-Opihi-Pareora (OTOP) Zone.

   A major focus of the plan is to halt deterioration of the land and waterways, until the subsection Zone rules set out how each community wishes to best manage the resources within their zones. The OTOP Zone chapter is due for release in 2017/18.

   TDC will apply for a global consent for stormwater discharges. The Redruth Eco-centre will seek permission to operate under this consent, therefore, no separate consent will be required.

3. Natural Resources Regional Plan (NRRP)

   This plan sets out the rules for the management of air quality. All other matters are addressed in the LWRP.

4. Resource Management (National Environmental Standard for Sources of Human Drinking Water) Regulations 2007 (NES)

   The NES is a regulation made under the Resource Management Act (1991) that sets requirements for protecting sources of human drinking water from becoming contaminated. It came into effect on 20 June 2008.

   The Drinking Water Standards NZ (DWSNZ) specifies the maximum acceptable value (MAV) of determinants within drinking water along with the compliance

criteria (sampling and monitoring) and reporting requirements, and remedial actions. These standards are taken into account for setting parameters for landfill monitoring sites.

1.14 RELATIONSHIP WITH LEGISLATION

1. Waste Minimisation Act 2008

s3. Waste Management and Minimisation Plans
(2) A waste management and minimisation plan must provide for the following:

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

s44. Requirements when Preparing, Amending, or Revoking Plans
In preparing, amending, or revoking a waste management and minimisation plan, a territorial authority must—

a) *consider the following methods of waste management and minimisation (which are listed in descending order of importance):*
(i) reduction.
(ii) reuse.
(iii) recycling.
(iv) recovery.
(v) treatment.
(vi) disposal; and
b) *ensure that the collection, transport, and disposal of waste does not, or is not likely to, cause a nuisance; and*
c) *have regard to the New Zealand Waste Strategy, or any government policy on waste management and minimisation that replaces the strategy.*

2. The Local Government Act 2002

This Act defines the purpose of local government as including meeting current and future needs of communities for good quality local infrastructure that is most cost effective for households and businesses, where good quality

infrastructure means efficient, effective and appropriate to present and anticipated future circumstances. Part 6 of the Act prescribes the processes and content of the Long Term Plan, Annual Plan, Annual Report and Infrastructure Strategy. Part 7 sets out specific obligations and restrictions in relation to the delivery of waste services. Schedule 10 of the Act outlines the requirements for Council's long term plans. AMPs provide key inputs to long term plans for infrastructure activities managed by local authorities such as waste services.

3. The Resource Management Act 1991

This Legislation promotes the sustainable management of natural and physical resources. It describes the functions of Regional Councils and Territorial Authorities under this Act, including the establishment, implementation and review of objectives, policies and methods to achieve integrated management of the resources. The RMA requires local authorities to recognise national environmental standards, national policy statements and regional plans, and prepare, implement and administer district plans. Compliance with the RMA is achieved through resource consents compliance.

4. The Health Act 1956

This Act places obligation on Council to improve, promote and protect public health within the District. The provision of waste services conserves public health and helps to protect land and waterways from contamination.

5. Hazardous Substances and New Organisms Act

Council must protect the environment and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms.

6. Civil Defence Emergency Management Act 2002

This Act requires a local authority to ensure it is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency; and to plan and provide for civil defence emergency management within their own district. These duties are in addition to the requirement to be part of, and carry out the functions and obligations of a member of a CDEM Group.

7. Health and Safety at Work Act 2015

The main purpose of the Act is to provide for a balanced framework to secure the health and safety of workers and workplaces.

It provides that regard must be had to the principle that workers and other persons should be given the highest level of protection against harm to their health, safety, and welfare from hazards and risks arising from work or from specified types of plant as is reasonably practicable.

8. The Building Act 2004

This Act provides a regulatory framework for building work, establishes a licensing regime and sets performance standards to ensure buildings have attributes that contribute to the health, safety, physical independence and wellbeing of people. The *NZ Building Code Clause G15 Solid Waste* requires the provision of space and facilities for solid waste arising from the intended use of the building.

9. The Ozone Layer Protection Act

The Council must protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer.

10. The Weights & Measures Act

Council must protect the customer who is paying by weight. This is achieved by maintaining certification of all weighbridges, and setting minimum charges in accordance with the Act.

11. Local Government Non-Financial Performance Measures Rules 2013

Pursuant to and in accordance with Section 261B of the Local Government Act 2002, the Secretary of Local Government issued the Non-Financial Performance Measures Rules 2013. It requires local authorities to incorporate the mandatory non-financial performance measures commencing in the development of their 2015-25 Long Term Plan, and to report on these measures in their annual reports.

1.15 OTHER INFLUENCES

New Zealand Waste Strategy
Planning must have regard to key points in this strategy. These are to:

- reduce the harmful effects of waste; and
- improve the efficiency of resource use.

National Environmental Standard for Air Quality
The Council needs to consider and mitigate the effects of landfill gas.

Timaru District Bylaws 2018
Section 146 of the Local Government Act 2002 provides that a Territorial Authority may make Bylaws in its district for purposes of regulating, managing, protecting or for preventing the use of the land, structures, or infrastructure associated with water supply services. Chapter 14 of the TDC Consolidated Bylaw 2018 applies to waste minimisation services provided by the Council.

Canterbury Hazardous Waste Management Strategy 2006
To achieve integrated management of hazardous waste in Canterbury.

Canterbury Waste Minimisation Strategy
To achieve integrated waste minimisation in Canterbury.

1.16 MONITORING AND REPORTING PROGRESS

The WMMP will be monitored and progress reported through the LTP, annual report to Council, annual report to Environment Canterbury and the contractor's monthly report and report on annual performance measures.

WMA reporting requirements
The Waste Management Act (s86) requires a territorial authority to keep, and provide to the Secretary each year, records and information about the territorial authority's—

(i) spending of levy money; and
(ii) performance in achieving waste minimisation with the services, facilities, and activities provided or funded in accordance with its waste management and minimisation plan; and
(iii) performance as measured against any performance standards set by the Minister under s49.

Records are kept by the Waste Minimisation Unit for tonnages declared and waste levy spending. Financial records are maintained by Corporate Services.

The waste sort trial is removing timber and other materials from the waste stream at the transfer station.

2 THE SERVICE WE PROVIDE

2.1 STRATEGIC DIRECTION

2.1.1 STRATEGIC DIRECTION AND LEVELS OF SERVICE

This WMMP is guided by the strategic directions set out in the Timaru District's Long Term Plan 2018-2028, and by the need to meet legislative requirements, particularly under the Waste Minimisation Act 2008, to fulfil customer expectations, and to maintain affordability of the service.

2.1.2 CUSTOMER EXPECTATIONS

Who are our customers?
The Council's waste services provide the district with kerbside collections. All customers can access the four transfer stations, and commercial customers with permits have direct access to the landfill.

Customer Expectations and Affordability
Customers' expectations can relate to the following:

- That the landfill and transfer stations are accessible during the open hours
- That collection services and the appropriate range of collection services are provided on the day, usually at a similar time
- That the cost of services are generally acceptable
- That there are no adverse effects from the provision of services
- There is scope to be more proactive in seeking customers' expectations and direction for the future

The Communitrak Survey measures customer satisfaction with Waste Minimisation Services. The percentage of customers satisfied with the service is shown below.

Year	2008	2011	2014	2016
% satisfied	90	91	90	90

Overall/general public satisfaction with our waste services over the last 4 survey periods remained constant.

How do we engage with our customers?

The decisions that Council makes affect communities. Some decisions are more significant than others, depending on the issue. Smaller operational decisions typically require little, if any, engagement with the community. More significant decisions may require a robust process and extensive consultation with the community.

As required under the Local Government Act, TDC has developed and adopted a Significance and Engagement Policy which provides a framework to identify

the level of significance of an issue, give some clarity to communities about expectations of engagement on issues, and to ensure a local authority has identified its strategic assets. (The full policy can be read on the TDC website. https://www.timaru.govt.nz/council/publications/policies/significance-and-engagement-policy

Within the Long Term Plan process, community engagement is through the LTP Consultation Document (CD). The LTP CD contains the key issues, preferred options and alternatives that Council requests the community to provide feedback on.

Other means to gather customer feedback include the following:

a. Customer service desk -– for lodging service requests and feedback on services
b. Community survey - a survey of public satisfaction with Council's services including waste services
c. Special Consultative Procedures on the LTP and Annual Plan consultations – for gathering comments, suggestions and other submissions on proposals contained in the plans
d. Notice Board – for disseminating information as well as gathering feedback on Council activities
e. TDC website – option to provide feedback online and facebook page
f. Bin inspections by Council Zero Waste Officers
g. Talks / tours
h. Business visits – waste assistance
i. Zero Waste events – a feedback form is required
j. Public Forum (during Council or Community Board meetings) – opportunity for members of the public in general to ask questions of, or put a particular case to the Council or the Community Board on policy matters or matters relating to a particular ward, including water supply concerns.
k. Specialised Customer Survey / Research – need-based survey of consumers who may be affected by particular waste issues.

TDC willl continue to rely on these mechanisms to get customer feedback on the performance of the waste minimisation services and determine any gaps in the levels of service.

2.1.3 OTHER INFLUENCES

Under the Waste Minimisation Act, there may be new product stewardship programmes that require facilitation of new reuse or recycling programmes for specific items, e.g. electronic waste or tyres, children's car safety seats and flexible plastics.

Similarly, community groups, not-for-profit organisations or companies may require Council to assist or help facilitate new waste minimisation programmes, ventures or operations.

2.2 LEVELS OF SERVICE AND PERFORMANCE MEASUREMENT

2.2.1 LEVELS OF SERVICE RESEARCH

A considerable amount of work was undertaken to determine the existing kerbside collection levels of service which were introduced from 1 July 2006.

The operations of the Council's waste minimisation services are contracted until 2021, and it is not expected that that the levels of service for the kerbside collection will change during this time.

2.2.2 PROCESS FOR ESTABLISHING LEVELS OF SERVICE

The Council's LTP, Annual Plan and WMMP are the formal methods for establishing levels of service.

More directly, customer surveys, forums and one-on-one interviews will be utilised to measure customers' requirements as needed. After feedback is received, options will be developed and costs will be established to enable the scenarios to be further considered both by the community and Council.

The Levels of Service represent a balance between the desired service standard and the cost of providing it. These were established formally with the development of Council's Long Term Council Community Plan in 2003, and have been reviewed during each of the 3-yearly updating cycles of the Long Term Plan.

TDC's Annual Reports for the past plan periods (2003-2015) showed that Council has met most of the LoS for this Activity. The Community Survey undertaken in 2016 indicated that TDC customers were generally highly satisfied with the services they received, including Waste Minimisation services.

2.2.3 LEVELS OF SERVICE

Levels of Services Changes

Minor changes to the descriptions of the Levels of Service (LoS) were made in 2012 to better reflect the processing of materials at each facility for composting and recycling and a performance measure has been added to recognise that the existing level of service also diverts materials through reuse and other activity. In this WMMP the LoS have been amalgamated for simplicity and the Performance Measures recognise the different areas of activity to provide that level of service.

(Refer #906599 for Waste Management and Minimisation Plan - Levels of Service Summary since 2006.)

It is expected that the Levels of Service for the commercial, industrial, construction, demolition and remaining industrial organic waste streams may change in the next few years. Investigation into alternative processing options has commenced and is likely to continue over the next few years.

Council will undertake investigation into the Levels of Service for waste minimisation activities every three years or as required due to changing circumstances, e.g. new regulations or product stewardship schemes.

Performance Measures and Targets

Performance measures and targets are defined for each LoS to compare actual outcomes against standard or desired outcomes. There is a mix of customer and technical performance measures, the core of which are monitored for the Annual Report. The technical measures relate to legislative compliance and asset performance while the customer performance measures relate to quality of service and value for money.

A number of the technical measures are held for internal monitoring by the Waste Minimisation Unit of contractor's performance in this Activity. These internal measures are not included in the Annual Report to the public.

Full details on LoS, performance measures and targets are in Part A Appendices: Appendix 2.

Table 1 - Levels of Service – Definition

The Waste Minimisation Levels of Service meet the following community outcomes where service makes a primary contribution.

- High Quality Infrastructure to meet community and business needs
- People enjoying a high quality of life
- A valued, healthy and accessible environment

Measures and targets relate to operational activity funded out of operational budgets. Capital projects may provide the means by which Levels of Service are provided. For example, capital funding was used to build the new Resource Recovery Park but this helps in meeting measures for provision of adequate facilities and diverting waste via resource recovery. Levels of Service are reported in quarterly and annual reporting to Council.

Code	Level of Service Statement		Council's Intended Approach
	Customer	**Performance Measure**	
LoS1	**Waste Minimisation facilities are adequate and available to the community, including provision of regular kerbside collection services to enable separation of waste for recycling and compost.**	Satisfaction with Waste Minimisation Services -resident -user	Provide kerbside collection service for recycling, organics and waste. Provide transfer stations and scrap metal facility for drop-off of materials.
LoS2	**No adverse effects on the environment or human health from the operation of solid waste facilities.**	Compliance with resource consent conditions* *(other than for minor breaches)	Monitoring of sites with sampling programme, site inspections and reporting
LoS3	**Waste is diverted from landfill**	Materials Recovery Facility (MRF) - recycling nett tonnages diverted	Provide Materials Recovery Facility
		Compost Facility - Organic nett tonnages diverted	Provide Timaru Eco Compost Facility
		Resource Recovery - Recycling nett tonnages diverted via recycling other than for MRF recyclables	Provide options for recycling a range of materials at transfer stations
		Re–use - No. of transactions at re-use shop	Provide collection points for reusable items and reuse shop through liaison with the Sustainable South Canterbury Trust

LoS4	**Public information and education promotes appropriate sorting of waste and waste minimisation.**	Kerbside collection and general information is provided across a range of media	Provide brochures, web information, newspaper articles, 3-2-1-ZERO collection booklets, etc.
		Number of zero waste event and business support, talks and tours.	The Waste Minimisation Unit provides an application form and bin collection services at no cost for zero waste events. A Zero Waste advisor responds to requests from schools and community for talks and tours, and from businesses for assistance.
		Provide a range of programmes /initiatives to encourage waste diversion	Scrap metal drop off, hazardous waste drop off, waste free parenting, Crow's Nest re-use shop, compost sales, Sustainable Living Education Trust, escrap drop-off, Paper for Trees, Enviroschools, Public Place Recycling, Zero Waste Events, business support, talks and tours, timber diversion, gib licence, commercial polystyrene drop-off, commercial flexible plastics, One Planet website, tyre recovery.

Table 2 - Levels of Service - Performance

LoS	The Service we Provide	Performance Measure	Current Performance 2016/17	Target 2018/ 2019	Target 2019/ 2020	Target 2020/ 2021	Target 2022 -28	Measured (where and how)
LoS1	**Waste Minimisation facilities are adequate and available to the community, including provision of regular kerbside collection services to enable separation of waste for recycling and compost.**	Satisfaction with Waste Minimisation Services -resident -user	95%	>90%	>90%	>90%	>90%	Council bi-annual survey of users & community
LoS2	**No adverse effects on the environment or human health from the operation of solid waste facilities.**	Compliance with resource consent conditions* *(other than for minor breaches)	Fully compliant	Fully compliant with resource consent conditions*	Fully compliant with resource consent conditions*	Fully compliant with resource consent conditions*	Fully compliant with resource consent conditions*	By Ecan reporting on consents *(other than for minor breaches)
LoS3	**Waste is diverted from landfill**	Materials Recovery Facility (MRF) - recycling nett tonnages diverted	3,195	3,600	3,600	3,600	3,600	Weighbridge records & contractor reporting
		Compost Facility - Organic nett tonnages diverted	15,208	15,000	15,000	15,000	15,000	

		Resource Recovery - Recycling nett tonnages diverted via recycling other than for MRF recyclables	372	300	300	300	300	
		Re – use - No. of transactions at re-use shop	21,410	20,000	20,000	20,000	20,000	Contractor reporting
LoS4	**Public information and education promote appropriate sorting of waste**	Kerbside collection and general information is provided across a range of media	2,500 items of Kerbside Collection information distributed	Distribution of 2,000 items of Kerbside Collection information per year				ZW Advisor records #608649
			2,000 items of general Waste Minimisation information distributed	Distribution of 2,000 items of general Waste Minimisation information per year				ZW Advisor records #608649
		Number of zero waste event and business support, talks and tours.	28 zero waste events 66 businesses supported 72 talks and tours.	25 zero waste events 52 business support 52 talks and tours.				ZW Advisor records #608649
		Provide a range of programmes /initiatives to encourage waste diversion		18	18	18	21	LoS Summary #906599

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3 ASSUMPTIONS AND DEMAND

3.1 GENERAL AND SPECIFIC ASSUMPTIONS

3.1.1 CORPORATE ASSUMPTIONS

The following general assumptions are assumed for the life of this Long Term Plan (2018-28). Assumptions relevant to waste minimisation are summarised here, but more detail is provided in #1010511.

	General Category	Assumption	Confidence level	Risk	Consequence	Source/date of base info	Effect on activity
1	Population Change	The District's Population is projected to increase to 49,400 (+8.8%) by 2028, peaking in 2038 at 50,200. This represents the Stats NZ medium projection scenario.	Medium	Low	Minor	Stats NZ Revised Timaru District projections released Dec 2016 *Refer #1010511*	Population growth leads to higher demand for waste services. The impact of the projected change in population on the demand for the collection service will be assessed through monitoring bin numbers.. Significant implications on service delivery will be addressed to meet the requirements.
2	Household Change	Growth in households leads to higher demand for waste services. The District's households are projected to grow to 21,500 in 2028 (+11.4%), rising to 22,300 households in 2038. This represents the Stats NZ medium projection scenario.	Medium	Low	Medium	Stats NZ 2017 next release Stats NZ subnational projections	Similarly, demand for collection services will increase with growth in number of households. The impact will be addressed as for population.
3	Useful Life of Significant	It is assumed that asset information is reliable and	Medium	Low	Medium	AMPs	Better understanding of assets is required. This has been noted in the

	Assets	reflects the condition and performance of the assets. It is assumed that no significant assets will fail before the end of their useful lives as determined by the depreciation rates included in the accounting policies.					Improvement Plan.
4	Demographic Changes	The District's Population is expected to continue to age into the future.	High	Low	Minor	Stats NZ/ Census/ Supporting material	Minor. This may lead to a change in demand for smaller bins/eco-carts.
6	Legislative Demands on Council	Government legislation relating to some activities that councils are involved in will change over the period of the Long Term Plan.	High	High	Medium	#1010511	Waste activity must comply with the Waste Minimisation Act. A increase in the waste levy would benefit council financially and enable more waste minimisation activity. The declaration of priority products for product stewardship could affect council need to participate or provide infrastructure. Council may submit on legislation where appropriate to encourage reduced or improved impacts on council operations and better value for money for ratepayers.
7	Climate Change	Climate change will impact on the council's operations and will require an appropriate response to adapt and prepare for potential impacts.	Medium	Medium	Minor	#1010511	The ETS is a measure to reduce effects of climate change by setting a price on carbon. Increasing costs will need to be accounted for in waste charges. Full costs apply from 1/1/2019 as 1-for-2 surrender is phased out.
8	Resource Consents	Resource consents will be obtained with reasonable conditions and expiring resource consents will be renewed with similar conditions during the period of the Long Term Plan.	High	Low	Medium	#1010511	Levels of environmental compliance are increasing. The resource consent for Redruth Landfill, due to expire in 2030, will require the site to be at a high level of environmental compliance and will have many more conditions than the current consent.

							Strategies to mitigate non-compliance and improve environmental management of the site are considered in this plan based on monitoring data of effects.
9	Service Levels	Levels of service do not significantly change		Medium	Minor	#1010511	Minor changes only to wording and targets of Waste Minimisation Levels of Service
10	Demand	Actual demand will remain within expected levels		Low	Medium	#1010511	All facilities & services have sufficient capacity until the end of the Solid Waste Services contract. Additional capacity for collection can be built into the new RFP.
11	Availability of Contractors and Materials	Contractors and materials will be available to undertake the work required to agreed standards, deadlines and cost.		Medium	Medium	#1010511	Local contractors are competitive and available for project works at Redruth.
12	Natural Hazards/ Local natural disaster	There are no significant local disasters during the term of this Long Term Plan		Medium	Major	#1010511	Damage at sites, particularly flooding at Redruth. Consent for alternative disposal site will be sought in 2019/20.
13	Strategic Assets	Council will remain involved in all activities involving strategic assets and continue to own and control all strategic assets.		Low	Medium	#1010511	Redruth Landfill is a strategic asset.
14	Council Political Structure	There will be no changes to the council political structure		Low	Medium	#1010511	

3.1.2 SPECIFIC ACTIVITY ASSUMPTIONS

	General Assumptions	Confidence level	Risk	Consequence	Source of base info	When base info available	Effect on activity
1	Industrial/ commercial development	Medium	Medium	Medium	Waste tonnes in to Redruth-weighbridge data		The Timaru urban area has experienced sustained economic growth over the past few years. This has been observed to occur mainly as industrial growth in the Washdyke area and commercial growth. Demand for waste collection services will be assessed by the increase in rated properties. An increase in waste delivered by waste contractors will be monitored by reviewing the trend of incoming waste to Redruth Landfill. Diverting waste and increasing landfill life is the best strategy to protect businesses from increased waste costs.
2	Pyrolysis facility	High	High	Major			This is a private enterprise, but success of waste diversion at Redruth is dependant on its WMU staff working actively with the business to promote its success and achieve the end of diverting timber from Redruth Landfill.

3.2 GROWTH AND DEMAND ASSUMPTIONS

Demand forecasting is important as it allows Council to understand the future demand for the service from an assessment of the demand drivers. TDC mainly uses weighbridge and kerbside collection data to assess the impact of the demand drivers on the capacity of the existing waste infrastructure. For commentary in more detail, refer to Part B. The table below summarises demand assumptions for each activity.

B1.1	Kerbside Collection	High High High	Some demand for services in rural and non-compulsory areas.. Assessed on case by case basis. Bin threshold for total number of bins OK till contract end 2021. Increasing demand for large red bins – needs action.
B1.2	Transfer Stations	High Low	Sites have capacity for increased use. Requirement for new materials to be handled may increase service demand.
B1.3	Private Waste Collection	High	Waste to landfill has increased from the commercial sector. Proactive intervention will be required to increase diversion.
B2.1	Reduction	Medium	TDC staff meet current demand by responding to business enquiries. There is, however, a lot of potential to grow demand by being more proactive in approaching the business community.
B2.2	Reuse	High	Customer patronage has increased steadily over the 10 years of operation.
B2.3	Recycling	High Low	Kerbside collection change in demand is not significant. Market pressure demand for high quality recyclables will increase.
B2.4	Recovery	High Low	New compost pads will meet demand till renewal in 2026. Demand for timber processing will increase with waste sort and public awareness.
B2.5	Treatment	High	The quantity of waste collected has remained constant over the past several years, but may grow due to promotion and public awareness.
B2.6	Disposal	High High High	Waste tonnes have increased. Demand for space will exceed consented timeframes. Requirements for environmental compliance will increase.
B2.7	Community Participation, Information, Public Places & Events	High High	Zero Waste events demand is stable. Talks and tours demand is stable on a request basis, but could be stimulated with more active promotion.

3.3 IMPACT OF CHANGES IN TECHNOLOGY

	Technology Change	Response Strategy
1	Waste to Energy	Review options. May be positive as reduces need for long-distance transport.
2	RFID tags	Pilot is running in 2017. Review success and progress throughout district. Long term may offer a variety of options to increase efficiency. Long term option to change charging mechanisms.
3	Container Deposit Systems	Adopt if required. Potentially beneficial for council and contractors.
4	Reverse Vending machines	Offers incentive for customers to return product (sits alongside Container Deposit Systems)
5	Remote weigh stations with eftpos	Offers alternative options for collection of materials/transport efficiencies.

3.4 DEMAND MANAGEMENT PLAN

	Activity	Confidence level	Demand management
B1.1	Kerbside Collection	High Low	Growth and truck capacity will be reviewed as part of contract. Proposal for 0.5FTE to address increase in large red bins.
B1.2	Transfer Stations	High	An expanded RRP is approved. Stage 1 was completed in 2017. Stage 2 will be built in 2018/19. The waste sort facility will be built, subject to trial results, in 2018/19.
B1.3	Private Waste Collection	Low	Proposal for 0.5FTE (as above) to address commercial waste via monitoring and advice.
B2.1	Reduction	Low	Programmes need to be put in place to encourage demand and a change in behaviour. Proposal for 0.5FTE (as above) to actively address business activity and encourage reduction and recycling.
B2.2	Reuse	High	Increased support for the Sustainable South Canterbury Trust proposed.
B2.3	Recycling	Medium	Operations and infrastructure need review to allow adaptations for improving quality of recycling materials.
B2.4	Recovery	High	Compost facility: 2 new pads have augmented capacity and demand will be reviewed prior to build of new pads in 2026.
B2.5	Treatment	High	Demand needs monitoring to service only domestic users. Increased budget required.
B2.6	Disposal	Low	Landfill life • Use landfill lids to reduce amount of daily cover • Additional staffing to: reduce waste from businesses monitor waste to landfill is compliant with bylaw additional programmes to reduce waste and increase resource recovery. Plan capital projects to improve storm water management and compliance with NES (for Landfill gas)
B2.7	Community Participation, Information, Public Places & Events	Low	Demand from businesses could be met with increased staffing. This activity can significantly reduce waste to landfill and assists businesses to achieve international environmental standards and gain financial benefit.

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4 THE ASSETS WE OWN

4.1 ASSET SUMMARY

Asset Database
The Waste Minimisation Unit compiled a database of assets in 2010 and most of the assets have been added into the GIS database. In 2014, Hansen was upgraded and there is a specific database for the Waste Minimisation Unit. The database does not have a performance register. Further work is to be done to date assets and assign a life to them for financial purposes. This is in the *Improvement Plan*.

Asset Ownership
The Council owns most buildings and in-ground assets to enable more cost-effective waste minimisation solutions for ratepayers.

The contractor, Waste Management NZ, owns most mobile plant such as e.g. collection trucks, transfer station "hook truck'', composting system, screen and shredder, loaders, MRF plant, and are responsible for maintaining their assets to ensure that the level of service is not reduced.

Assets are summarised in the table and are listed in Part B for each activity.

Land Assets
The waste facilities are all built on land owned by TDC, and these properties are considered assets for the Waste Minimisation Unit. Land maintenance is covered within the budget for the facility. See Part B2 Appendix A for the location of the transfer stations.

Table: Plant Assets

B1.1	Crit.	Kerbside Collection					
Asset	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
140 l wheelie bins (22,479)	B	Good	varies	15 years	2021		
240 l wheelie bins (39,466)	B	Good	varies	15 years	2021		
Eco carts (196)	B	Excellent	varies	15 years	2021		
B1.2	**Crit.**	**Transfer Stations**					
Timaru Transfer Station	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
Pit and drop-off area	A	Good	1995	Varies by component, 10-100 years			
Compactor	A	Good	1995	Unknown – currently 24 years old (engineering life is 10 years)			
Roads	B	Good	1995	50 years			

Weighbridge in Weighbridge out	B A	Very good Very good	1995 2010	50 years 50 years			
Kiosk	B	Very good	1995	50 years			
Bin storage 3-bay shed (open)	C	Very good	2010	50 years			
Bin storage block shed (gated)	C	Very good	1995	50 years			
Hazardous waste drop-off shed	C	Very good	2003?	50 years			
Compost sales shed	C	Very good	2009?	50 years			
Geraldine Transfer Station	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
Pit and drop-off area	B	Good	1997	Varies by component, 10-100 years			
Compactor	B	Good	1997	10-20 years			
Roads	B	Poor	1997	0-5 years			
Weighbridge	C	Very good	2008	50 years			
Kiosk	C	Very good	1997	50 years			
Hazardous waste shed	C	Good	1997	50 years			
Pump shed	C	Very good	1997	50 years			

Pleasant Point Transfer Station	Rate	Current Condition	Installed	Life	Replacement due	Current Book value 30 June 2017	Date of last valuation and Valuer
Pit and drop-off area	B	Good	2000	Varies by component, 10-100 years			
Roads	B	Good	2000	50 years			
Kiosk	C	Very good	2000	50 years			
Hazardous waste shed	C	Good	2000	50 years			
Escrap shed	C	Good	2014?	50 years			
Temuka Transfer Station	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
Pit and drop-off area	B	Good	1993	Varies by component, 10-100 years			
Compactor	B	Good	1993	20 years			
Roads	B	Good	1993	50 years			
Kiosk	C	Very good	1993	50 years			
Weighbridge	B	Very good	2008	50 years			
Pump shed	B	Good	1993	50 years			
Hazardous waste shed	C	Good	1993	50 years			
Escrap/reuse container	C	Good	2012?	50 years			

Exchangeable Assets Transfer Stations	Rate	Current Condition	Installed	Life	Replacement due	Current Book value 30 June 2017	Date of last valuation and Valuer
Compactor bins (16)	B	Poor-good		1-8 years			
Cardboard cages	C	Poor		3-10 years			
Recycling hooker bin (3)	C	Very good	2005	10-20 years			
PP scrap metal bin	C	Good		10-20 years			
PP open top bin	C	Very good		10-20 years			
B2.2	**Crit.**	**Reuse**					
Assets	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
Crow's Nest shop building	B	Good	2003	50 years	2053		
Road Carpark	B B	Poor Good	1960s? 2003	50 years 50 years	Renewal is required		
B2.3	**Crit.**	**Recycling**					
Assets	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
Materials Recovery Facility building	A	Good	2005	50 years	2055		

B2.4	Crit.	Recovery					
Assets	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
Compost pads	A	Poor-good	2005		20 years		
Compost Drainage systems	A	Poor-good	2005		20 years		
Compost Processing area	B	Good	2011?		20 years		
Pyrolysis site – shingled area	B	Good	2014		20 years		
B2.6	**Crit.**	**Disposal**					
Landfill Assets	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
Redruth new landfill (cells 3.1-3.4)	A	Very good	2003-2016	Up to 40 years	N/A		
Redruth new landfill (Stage 2)	A	Good	2018-2022	Closed to 2017. Filling to recommence 2018. Up to 2-4 years filling.	N/A		
Stage 1 Closed Landfill	C	Good	1985	Closed	N/A		
Geraldine Closed Landfill	C	Very Good	1997	Closed	N/A		
Temuka Closed Landfill	C	Very Good	1993	Closed	N/A		

Pleasant Point Closed Landfill	C	Good	2000	Closed	N/A		
Pareora Closed Landfill	C	Good	1995?	Closed	N/A		
Peel Forest Closed Landfill	C	Good	1995?	Closed	N/A		
Ellis Rd Closed landfill	C	Good	1970?	Closed	N/A		
Pump Assets	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
Stage 2 subsoil pump	B						
Stage 2 leachate pump	B						
Stg 2 leachate tanks(2)	B						
3.1 Subsoil pump	B						
3.1 Leachate pump	B						
3.4 Subsoil pump	B						
3.4 Leachate pump	B						
Gas Assets	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
Stage 2 east flare	B	Very good					
Stage 2 west flare	B	Very good					

Monitoring Assets	Rate	Current Condition	Installed	Life	Replacement due	Current Book value 30 June 2017	Date of last valuation and Valuer
Boreholes-all sites	B	Good					
B2.7	**Crit.**	**Community Participation**					
Event Assets	**Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
240 l bins	C	Poor-good	2005	15 years			
WasteWorks lids	C	Poor-good	2005	15 years			
Signwriting for ZW Event lids	C	Excellent	2016	10 years			
Public Place Recycling Assets	**Public Place Recycling Rate**	**Current Condition**	**Installed**	**Life**	**Replacement due**	**Current Book value 30 June 2017**	**Date of last valuation and Valuer**
Caroline Bay – 30 sets	B	Good	2014	15 years	2029		
Geraldine 5 sets	B	Good	2015 2016	15 years	2030 2031		

Temuka- 3 sets	B	Good	2017	15 years	2032		
Pleasant Point- 1 set	B	Good	2018		2033		

Life=Estimated Useful Life (incl underlying assumptions)

All assets unless stated otherwise are owned by TDC. This table needs work as data is incomplete. A total review of Hansen data, contracts and financial data needs to be undertaken as part of the *Improvement Plan*.

4.2 ASSET DESCRIPTION AND PERFORMANCE

4.2.1 ASSET CONDITION

The condition of the plant assets is usually dependent on age. The expected life of plant assets are shown in the Table below.

Table 1: Plant Asset Expected Life

ASSET	EFFECTIVE LIFE (yrs)
Buildings	50
Leachate Tanks	30
Pumps	15
Switchboards	30
Pipework - Site	50
Landfill Gas systems	25
Compost pads	20
Transfer stations - built infrastructure	50
Paved areas	50
Fences	20
Landfill cells	100
Landfill caps	100

The condition is also determined by the ability of the plant to perform an output. Pump assets are monitored on a monthly basis which can alert to a change in performance.

With the exception of landfill cells, leachate pipes, monitoring bores and submersible pumps, most assets are situated above the ground and are readily accessible for inspection. Transfer stations and landfill sites are visited regularly, often at least weekly, and a checksheet completed. This gives an indication of the condition of these assets along with the carrying out of maintenance activities. This inspection procedure is currently being carried out by the operators as part of their routine activities in operating the sites and reported to Council.

It is proposed as part of the *Improvement Plan* to further develop the monitoring of the assets for condition and performance through the use of Hansen and refine the processes that will identify and prioritise the timeliness of asset renewal.

4.2.2 ASSET CAPACITY/PERFORMANCE

Plant performance is measured in a number of ways. These include:

- Operational Records. Contract staff visit most facilities regularly and conduct operational checks. Quarterly site inspections with WMU staff and contract staff take place, and these visits may detect issues.
- Maintenance records. Monthly maintenance checks can identify maintenance issues resulting in further investigation.
- Maintenance by specialised contractors.
- Age of the asset.

4.2.3 CRITICAL ASSETS

Critical assets are the most important assets for delivering the required level of service and have the highest consequence of failure.

A full assessment report on criticality of waste assets should be conducted in the future. This has been identified in the *Improvement Plan*. In the meantime, criticality rating will be based on the estimated level of the consequences if the asset failed, as described below.

Table: Criticality of Assets

Criticality Rating	Level	Description
A	High	Asset components considered so important that contingency plans in the event of their failure must be in place to avoid unacceptable loss of service.
B	Medium	Asset components that is important to the effective day to day operation of the system where redundancy or contingency should be available for restoration of service within a reasonable time.
C	Low	Asset components which can fail without affecting the operation and service and where repairs or renewal can be realistically deferred.

4.2.3 DATA CONFIDENCE

Data confidence in the condition of above ground assets is high as these assets are accessible and able to be checked routinely.

There is lower confidence in condition data for below-ground assets/pipes.

4.3 ASSET VALUATIONS

Asset valuation is key in TDC's financial planning. The responsibility to carry out asset valuation lies primarily with TDC's Finance and Property Units.

WMU is not required to carry out an asset valuation for insurance purposes.

Asset Valuations
The schedule of fixed assets for internal purposes as at 30 June 2014 is as follows:

Table 2: Asset Valuations

Valuation Category	2011(Authority)	2014(CV)
Acquisitions & Improvements	$15,381,549	$15,999.945
Revaluation	-$880,916	-$880,916
Total Cost	$14,500,633	$15,119,029
Provisional Depreciation	$1,783,267	$3,038.97
Current Book Value	$12,717,366	12,080.059

The Waste Minimisation Unit is to review the asset valuations and collate into a more user friendly schedule as part of the *Improvement Plan*.

Council has allowed for a gradual increase in bin replacements from 2015.

4.4 MAINTENANCE PLAN

Operational Planning
The Council's waste services are largely operated by Contractor's staff.

- Operational responses are understood by key staff, but plans are not well-documented and mainly reactive in nature. Asset utilisation is not routinely analysed.
- Emergency response plan needs to be developed.

These items will be addressed in the *Improvement Plan*.

Maintenance Planning
Operational
There is no all-inclusive maintenance plan for waste minimisation activities. However, roading has a separate budget and maintenance is managed by the LTU. A 10-year maintenance plan for buildings is to be scheduled into Hansen. The weighbridges and compactors have scheduled maintenance contracts established with specialist contractors.

All known asset data has been collated into Hansen, including routine maintenance. The next objective is use the asset database for planning maintenance works, predicting asset failure and prioritising renewals. This item is to be addressed in the *Improvement Plan*.

Over the long term, we will have in place a comprehensive database on the maintenance history of all major assets. This will enable better fault tracking processes, help us better understand asset failure modes, integrate asset criticality considerations in works planning, and optimise maintenance and renewals.

Summary of Nominated Maintenance Costs

Asset	Responsible	Budget	Comment
Minor Roading	Operational Contract	$15,000	Previously, no nominated amount. Undertaken as extra day works in the operational contract. Budget set/managed by LTU from 2013. *An increase to $20,000 has been approved from 2018/19*
Landscaping	Operational Contract	$90,000	Managed by sub-contract. New contract documents agreed in January 2015 to enable better contract management and flexibility in pricing as work requirement change. *A new contract will be put out to tender in July 2018*
Drainage	Operational Contract		Undertaken as extra day works in the operational contract.
Bins	Operational Contract		Undertaken as service requests in the operational contract, approximately $15,000-$18,000 pa.
Buildings	Waste Minimisation Unit	$12,000	Undertaken by WMU staff as required.
Transfer Containers	Waste Minimisation Unit	$15,000	Maintenance contract let by WMU
Weighbridges	Waste Minimisation Unit		Maintenance contract let by WMU. No set budget – paid for out of operational contract.

4.5 RENEWAL AND REPLACEMENT PLAN

Capital Works Planning

Renewals

While there is no all-inclusive renewal and replacement plan for all waste minimisation activities, the WMU's basic approach in planning the renewal of waste activity assets follows a cyclic renewal strategy that provides for the progressive replacement of individual assets which have reached the end of their useful life. The rate of asset renewal is intended to maintain the overall condition of the asset system at a standard, which reflects its age profile and ensures that the community's investment in the District's waste infrastructure is maintained.

The level of expenditure on cyclic asset replacement varies from year to year reflecting:

- The age profile of the system (asset life)
- The condition profile of the system
- Criticality of the asset
- The ongoing maintenance demand
- Customer service issues
- Performance monitoring
- The differing economic lives of individual assets comprising the overall asset system

A plan needs to be developed which will make greater use of Hansen to predict renewals. This item is to be addressed in the *Improvement Plan*.

Renewal Standards
To date, any renewals have been installed to maintain existing levels of service.
Historically, minor renewals e.g. wear and tear on pumps have been replaced from existing operational budgets. Allowances for planned renewals have been included in forward budgets.

As identified in section B1.1, Council purchases kerbside bins annually.

There is no requirement to renew or replace any major components of the existing fixed assets, other than bins and roading resurfacing, during the term of this plan. Renewals are summarised in Section 5, Financial Summary.

4.6 New Capital- Creation/Acquisition/Augmentation Plan

Creation / Acquisition / Augmentation Plan
Selection Criteria
The creation of new assets will be driven by the need to provide additional infrastructure to ensure more waste is diverted from landfill.

The criteria that should be used may include, but is not limited to the following:

- Costs, (Capital & Operating)
- Savings
- Tonnes Diverted from Landfill
- Revenue
- Compliance with Regulations & Legislation
- Achievement of Council & National targets
- Satisfying Customer Values & Community Outcomes
- Satisfying the 4 Well-Beings
- Council Policy

The tables in section 5 identify the capital expenditure that was approved as part of the LTP and 2018-28 Budget.

Standards and Specifications
The standards and specifications required for new acquisitions will be dependant upon the final asset solution that is chosen.

For example, industrial organic waste can be composted and produced to a low standard and be used as landfill cover, however, this would accrue the ETS tax. Alternatively, depending upon testing, it may be suitable for resale and be compliant with the NZ compost standard. If not compliant, it may be suitable for forestry or landscaping applications.

The economics of solutions will also determine the standards and specifications. For recycling of the commercial waste stream, it may be more economic to group all plastics into one category of "mixed plastic" compared to separating plastic into the different plastic grades.

Further investigation is required for the specific solutions to determine standards and specifications for further assets.

4.7 DISPOSAL PLAN

Asset Disposal Strategy
Council's strategy is to develop asset management systems and asset condition / performance data to allow better planning for the disposal of assets through rationalisation of assets or when assets become uneconomic to own and operate.

Assets may become surplus to requirements for any of the following reasons:

- Under utilisation
- Obsolescence
- Provision exceeds required LoS
- Uneconomic to upgrade or operate
- Policy change
- Service provided by other means, for example private sector involvement
- Potential risk of ownership (financial, environmental, legal, social, vandalism).

When considering disposal options all relevant costs of disposal are considered, including:

- Evaluation of options
- Consultation / advertising
- Obtaining Resource Consents
- Professional services, including engineering, planning, legal survey
- Demolition / making safe
- Site clearing, decontamination and beautification.

Decommissioned assets, whether surplus or superseded by improved systems, are disposed of through sale of surplus land, decommissioned pipes, mechanical and electrical equipment, and the demolition of structures.

Hansen documentation will ensure that all asset renewals have a corresponding disposal if assets are being removed or the asset is replaced in a new location. A work order report records each disposal and the details are put in the Hansen database. Assets will be disposed of in an appropriate manner e.g. pumps and metal components sold for scrap metal.

In all cases asset disposal processes must comply with Council's obligations which include public notification procedures prior to sale, and use of revenue received from asset disposal.

Forecast of Asset Disposal

The following assets may be disposed during the term of this plan:

Asset	Installed	Life	End of Useful life
Geraldine Compactor (Sited now at Redruth)	1997	20 years	2017

Cashflow From Asset Disposal

Cashflow may be received from the following assets disposed of during the term of this plan.

Asset	Book Value
Geraldine Compactor (Sited now at Redruth)	

Managing Critical Assets

TDC's waste assets with highest criticality are the weighbridge and the compactor. These are considered to have the greatest consequence of failure. They are managed through routine maintenance to mitigate risk. Critical assets with poor condition rating are prioritized for planned maintenance or renewal.

5 Work Programme and Financial Summary

5.1 Operating Work Programme /Projects 2018-28

5.1.1 Delivery

Service delivery is outlined in Section 1.8.

5.1.2 Issues

The Waste Minimisation Unit is adding a number of projects to minimise waste and demand for services is increasing, but ability to deliver projects may be impacted by resourcing.

5.1.3 Summary of Operating Work Programme Major Items / Projects

Programme/Project Name	Description/Explanation (useful summary of what the project involves)	Timing (annual or specify year if applicable)	Budget Expenditure (total or per annum*)
SeatSmart	Child safety seat recycling	Starts 18/19	Up to $2,000 per annum
Sustainability classes	3-year pilot of subsidised classes offered by Sustainable Living Education Trust	18/19 19/20 20/21	$6,000
Secret Squirrel Satchel	An A3 envelope is available for people to collect a range of objects and place in their recycling bin.	Starts 18/19	Existing
Glass recovery	Dedicated glass collection skips available at rural transfer stations as at Timaru.	Starts 18/19	Existing
Escrap dismantling	ECycle will dismantle escrap on site through a liaison with SSCT.	Starts 17/18	Existing costs will be reduced.
Polystyrene recycling	Collection points will be added at the transfer stations.	19/20	Existing

*For this section refer to budget pages as appropriate

Table 3: Summary of Operating Expenditure

Service	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Recycling Costs	416,200	232,100	234,500	233,500	233,500	233,500	233,500	233,500	233,500	233,500
Hazardous Waste Programmes	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Community Awareness	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000
Total disposal	3,689,600	3,698,600	3,705,600	3,713,600	3,721,600	3,729,600	3,737,600	3,745,600	3,753,600	3,761,600
Fee collection	116,800	116,800	116,800	116,800	116,800	116,800	116,800	116,800	116,800	116,800
Management costs	318,400	266,400	266,400	266,400	266,400	266,400	266,400	266,400	266,400	266,400
Collection costs	2,725,000	2,746,000	2,786,000	2,757,000	2,768,000	2,778,000	2,789,000	2,800,000	2,811,000	2,822,000
Emissions Trading Scheme	536,500	584,400	599,400	599,400	599,400	599,400	599,400	599,400	599,400	599,400
Corporate	464,500	454,500	436,300	437,600	436,500	437,400	437,600	438,100	437,800	438,000

5.2 CAPITAL WORK PROGRAMME /PROJECTS 2018-28

5.2.1 DELIVERY

5.2.2 ISSUES

The timeline for the capital development of the landfill is affected by annual tonnes of waste. If these reduce, then the landfill life is extended and the capital expenditure is extended to suit. There is scope to complete filling in Stage 2 to fill to a cap design approved by Ecan in 2017. This will add approximately 5 years of life to the landfill.

The closure and aftercare costs have not been reviewed since 2008. This plan provides an updated budget to review these costs.

Environmental compliance requires a number of capital projects for compliance with stormwater management and landfill gas.

5.2.3 Summary of Capital Work Programme Major Items/Projects

Hierarchy	WMMP Category	Budget Group	Budget category	Description
B1.1	Kerbside Collection	Complementary Business	Kerbside Collection	New bins and bin renewals
B1.2	Transfer Stations	Complementary Business	Timaru Transfer Station	Weighbridge kiosks, sheds, compactors, roads, other assets renewals and replacement
		Other Sites	Geraldine Transfer Station Temuka Transfer Station Pleasant Point Transfer Station	Weighbridge kiosks, sheds, compactors, roads, other assets renewals and replacement
B2.2	Reuse	Complementary Business	Crow's Nest	Building and roads and assets renewals and replacement
B2.3	Recycling	Complementary Business	Materials Recovery facility	Building renewals and replacement
B2.4	Recovery	Complementary Business	Compost Facility	Compost pads and maturation areas
B2.5	Treatment	Complementary Business	Hazardous Waste	Receival of waste (processing is off-site)
B2.6	Disposal	Landfill	Cell	Building of landfill space
			Site	Projects to upgrade site facilities for landfill operations including stormwater and leachate management.
			Fixed assets	Roads, pumps, lights, fences etc.
			Closure	Includes capping & landfill gas
			Aftercare	Aftercare of fully closed landfill

See the tables below. Complementary Business relates to any non-landfill related projects including transfer station, reuse, recycling and recovery on the Redruth Resource Recovery Park site. *(Source: WOL Cost model #1135293 WMMP Projects tab)*

Table 4: Future Proposed Renewals and New Capital Works 2018-28 – Financial Summary

The three main budget groups for capital expenditure are summarised on page RF2 of the Waste Minimisation budget. These are Complementary Business, Other Sites and Landfill. The detail for the budget categories within each group are shown on page RF2c and the three tables below summarise the expenditure.

Complementary Business	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Kerbside Collection-new	50,300	50,800	50,800	51,300	51,300	51,800	51,800	52,300	52,300	52,800
Kerbside Collection - renewals	616,000	203,300	254,000	257,000	257,000	259,100	259,300	261,700	261,900	264,400
Transfer Station - new	1,013,000	-	-	15,000	-	-	-	-	-	-
Transfer Station - renewals	305,000	-	-	-	-	-	-	-	-	-
Compost Facility - new	40,000	20,000	20,000	30,000	20,000	20,000	20,000	20,000	20,000	20,000
Compost Facility - renewals	-	10,000	-	-	-	-	100,000	1,204,000	-	-
MRF -new	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
MRF - renewals	-	-	-	-	-	-	-	-	-	-
Crows Nest - new	150,000	105,000	-	-	-	-	-	-	-	-
Crows Nest -renewals	-	-	-	-	-	-	-	-	-	-
Landlord - new	-	-	-	50,000	-	-	-	-	-	-
Landlord - renewals	-	-	-	-	-	-	-	-	-	-
Closed Landfill (Stage 1) - new	222,918	100,481	-	73,244	104,042	-	98,987	-	136,998	-

(Source: WOL Cost model #1135293 WMMP tables tab 5.2.3)

Other Sites	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Geraldine TS - new	-	-	-	10,000	-	-	-	-	-	-
Geraldine TS - renewals	105,000	-	-	197,000	-	-	-	-	-	-
Pleasant Point TS - new	10,000	-	-	-	-	-	-	-	-	-
Pleasant Point TS - renewals	-	-	-	50,000	-	-	-	-	-	-
Temuka TS - new	10,000	-	-	-	-	-	-	-	-	-
Temuka TS -renewals	-	-	-	-	197,000	-	-	-	-	-
Closed Landfills - new	10,000	-	-	-	-	-	-	-	-	-
Post Redruth Landfill - new	-	-	-	20,000	50,000	-	-	-	-	100,000
Waste Levy - new	17,000	12,500	130,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Waste Levy - renewals	-	-	-	-	-	-	-	6,750	-	-

Redruth Landfill	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Cell	10,000	49,830	72,730	80,800	2,150,000	-	50,000	59,125	70,000	2,673,000
Site - new items	226,000	157,402	220,392	429,258	10,000	118,232	97,000	138,080	5,000	5,000
Fixed assets -new items	-	25,000	-	-	-	-	-	-	-	-
Fixed assets - renewals	87,000	5,000	25,000	13,000	15,000	-	16,000	-	-	25,000
Closure	20,000	261,550	261,550	251,550	10,000	251,550	69,000	290,550	-	-
Aftercare	0	0	0	0	0	0	0	0	0	0

(Source: WOL Cost model #1135293 WMMP tables tab 5.2.3)

The narrative summaries for each budget category are listed in the tables below.

Table 5: Kerbside Collection

COMPLEMENTARY BUSINESS	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028
B1.1 KERBSIDE COLLECTION	**Activity**		**Source**		**Category**		**Priority**		**Project Probability**	
	BINS- NEW CAPITAL		**LOS4**		**ILS**		**HIGH**		**CERTAIN**	
	$50,300	$50,800	$50,800	$51,300	$51,300	$51,800	$51,800	$52,300	$52,300	$52,800
	Activity		**Source**		**Category**		**Priority**		**Project Probability**	
	BINS - RENEWALS		**LOS4**		**RCA**		**HIGH**		**CERTAIN**	
	$616,000	$203,300	$254,000	$257,000	$257,000	$259,100	$259,300	$261,700	$261,900	$264,400

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 6: Complementary Sites – Timaru Transfer Station

COMPLEMENTARY BUSINESS	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028
B1.2 TIMARU TRANSFER STATION	**Activity**		**Source**		**Category**		**Priority**		**Project Probability**	
	NEW CAPITAL		**LOS4**		**ILS**		**HIGH**		**CERTAIN**	
	$1,013,000			$15,000						
	RRP Stg 2,bins,haz cameras			relocate haz waste drop off						
	Activity		**Source**		**Category**		**Priority**		**Project Probability**	
	RENEWALS		**LOS4**		**RCA**		**HIGH**		**CERTAIN**	
	$305,000									
	Redruth compactor replacement									

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 7: Other Sites – Geraldine Transfer Station

OTHER SITES	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
B1.2 GERALDINE TRANSFER STATION	**Activity**		**Source**		**Category**		**Priority**		**Project Probability**	
	NEW CAPITAL		**LOS4**		**ILS**		**HIGH**		**CERTAIN**	
			$10,000 stormwater consent application							
	Activity		**Source**		**Category**		**Priority**		**Project Probability**	
	RENEWALS		**LOS4**		**RCA**		**HIGH**		**CERTAIN**	
	$105,000	$0	$0	$197,000	$0	$0	$0	$0	$0	$0
	Asphalt resurface			Replace compactor						

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 8: Other Sites – Pleasant Point Transfer Station

OTHER SITES	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
B1.2 PLEASANT POINT TRANSFER STATION	**Activity**		**Source**		**Category**		**Priority**		**Project Probability**	
	NEW CAPITAL		**LOS4**		**ILS**		**HIGH**		**CERTAIN**	
	$10,000									
	Stormwater and emergency consent									
	Activity		**Source**		**Category**		**Priority**		**Project Probability**	
	RENEWALS		**LOS4**		**RCA**		**HIGH**		**CERTAIN**	
				$50,000						
				Replace bins and safety lid						

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 9: Other Sites – Temuka Transfer Station

OTHER SITES	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
B1.2 TEMUKA TRANSFER STATION	**Activity**		**Source**		**Category**		**Priority**		**Project Probability**	
	NEW CAPITAL		**LOS4**		**ILS**		**HIGH**		**CERTAIN**	
	$10,000									
	Cleanfill consent									
	Activity		**Source**		**Category**		**Priority**		**Project Probability**	
	RENEWALS		**LOS4**		**RCA**		**HIGH**		**CERTAIN**	
					$197,000					
					replace compactor					

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 10: Complementary Business-Crow's Nest

COMPLEMENTARY BUSINESS	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028
B2.2 CROW'S NEST	**Activity**		**Source**		**Category**		**Priority**		**Project Probability**	
	NEW CAPITAL		**LOS4**		**ILS**		**HIGH**		**CERTAIN**	
		$105,000								
		Eco-Centre stormwater & gas protection								
			Source		**Category**		**Priority**		**Project Probability**	
	RENEWALS		**LOS4**		**RCA**		**HIGH**		**CERTAIN**	

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 11: Complementary Business-Materials Recovery Facility

COMPLEMENTARY BUSINESS	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
B2.3 MATERIALS RECOVERY FACILITY	Activity		Source		Category		Priority		Project Probability	
	NEW CAPITAL		LOS4		ILS		HIGH		CERTAIN	
	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000
	Replace brake motors on MRF doors									
	Activity		Source		Category		Priority		Project Probability	
	RENEWALS		LOS4		RCA		HIGH		CERTAIN	

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 12: Complementary Business-Compost Facility

COMPLEMENTARY BUSINESS	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
B2.4 COMPOST FACILITY	Activity		Source		Category		Priority		Project Probability	
	NEW CAPITAL		LOS4		ILS		HIGH		CERTAIN	
	$40,000	$20,000	$20,000	$30,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
	Development of maturation pads									
	Activity		Source		Category		Priority		Project Probability	
	RENEWALS		LOS4		RCA		HIGH		CERTAIN	
		$10,000					$100,000	$1,204,000		
		Replace blowers and fans					design	And build compost facility		

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 13: Redruth Landfill Cell Development

B2.6 REDRUTH LANDFILL	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Activity		Source		Category		Priority		Project Probability	
	CELL DEVELOP		LOS4		ILS		HIGH		CERTAIN	
Cell 2.2 Design	$10,000									
Cell 2.2 Build		$34,830								
Cell 2.3 Design		$15,000								
Cell 2.3 Build			$47,730							
Cell 2.4 Design			$25,000							
Cell 2.4 Build				$25,800						
Cell 3.5 Design				$55,000						
Cell 3.5 Build					$2,150,000					
Cell 3.6 Early Works Design							$5,000			
Cell 3.6 Early Works Build								$59,125		
Cell 3.6 Design									$70,000	
Cell 3.6 Build										$2,623,000
Cell 3.7 Early Works Design										$50,000

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 14: Redruth Landfill New Site Assets

B2.6 REDRUTH LANDFILL	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Activity		Source		Category		Priority		Project Probability	
	SITE- NEW CAPITAL		LOS4		ILS		HIGH		CERTAIN	
Cell 3.4 LFG Retic Design	$5,000									
Cell 3.4 LFG Retic Build		$87,402								
Cell 2.1 LFG Retic Design		$5,000								
Cell 2.1 LFG Retic Build			$145,392							
Cell 2.2 LFG Retic Design			$5,000							
Cell 2.2 LFG Retic Build				$69,258						
Cell 2.3 LFG Retic Design					$5,000					
Cell 2.3 LFG Retic Build						$113,232				
Cell 2.4 LFG Retic Design							$5,000			
Cell 2.4 LFG Retic Build								$94,080		

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 15: Redruth Landfill New Fixed Assets

B2.6 REDRUTH LANDFILL	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028
	Activity		Source		Category		Priority		Project Probability	
	FIXED ASSETS -NEW CAPITAL		LOS4		ILS		HIGH		CERTAIN	
Asset Condition Assessment		25,000								

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 16: Redruth Landfill Fixed Assets Renewals

B2.6 REDRUTH LANDFILL	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028
	Activity		Source		Category		Priority		Project Probability	
	FIXED ASSETS - RENEW		LOS4		RCA		HIGH		CERTAIN	
Pump Systems										
Stage 2 Leachate										
Cell 3.1 Subsoil	$5,000									
Cell 3.1 Leachate		$5,000								
Cell 3.6 Subsoil										$5,000
Cell 3.6 Leachate										$5,000
Monitoring										
Cell 3.1 Lch Meter					$5,000					

Cell 3.6 Lch Meter										$5,000
Cell 3.9 Lch Meter										
Roads										
Entrance Rd Reseal	$24,000									
North Road Reseal	$22,000									
Hairpin Road Reseal	$36,000									
Carpark Reseal							$11,000			
Cell 3.1 Ramp Rd reseal							$5,000			
Cell 2.4 Ramp Rd Reseal				$13,000						
Service Rd Nth Reseal			$25,000							
Replace Cameras RR site					$10,000					$10,000

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 17: Redruth Landfill Closure

B2.6 REDRUTH LANDFILL	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Activity		Source		Category		Priority		Project Probability	
	CLOSURE -NEW CAPITAL		LOS4		ILS		HIGH		CERTAIN	
Cap 3.4 Design	$20,000									
Cap 3.4 Build		$251,550								
Cap 2.1 Design		$10,000								
Cap 2.1 Build			$251,550							
Cap 2.2 Design			$10,000							
Cap 2.2 Build				$251,550						
Cap 2.3 Design					$10,000					
Cap 2.3 Build						$251,550				
Cap 2.4 Design							$10,000			
Cap 2.4 Build								251,550		

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 18: Other sites – Post-Redruth Landfill

OTHER SITES	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
B2.6 POST-REDRUTH LANDFILL	**Activity**		**Source**		**Category**		**Priority**		**Project Probability**	
	NEW CAPITAL		**LOS4**		**ILS**		**HIGH**		**CERTAIN**	
				$20,000	$50,000					$100,000
				options report	land survey					

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 19: Redruth Landfill – Closed Landfill Stage 1

COMPLEMENTARY BUSINESS	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
B2.6 CLOSED LANDFILL STAGE 1	**Activity**		**Source**		**Category**		**Priority**		**Project Probability**	
	NEW CAPITAL		**LOS4**		**ILS**		**HIGH**		**CERTAIN**	
	$222,918	$100,481	$0	$73,244	$104,042	$0	$98,987	$0	$136,998	$0
	Reshaping and capping Stage 1 site									

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 20: Other sites – waste levy

OTHER SITES	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
B2.7 WASTE LEVY	**Activity**		**Source**		**Category**		**Priority**		**Project Probability**	
	NEW CAPITAL		**LOS4**		**ILS**		**HIGH**		**CERTAIN**	
	$17,000	$12,500	$130,000	$130,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
	Public Place Recycling $10,000 annually glass trial, soft plastics trial, glass bund									
	RENEWALS		**LOS4**		**RCA**		**HIGH**		**CERTAIN**	
								$6,750		
								Replace bins - Caroline Bay PPR		

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

Table 21: Other sites - Closed landfills (not Redruth site)

OTHER SITES	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
RURAL CLOSED LANDFILLS	Activity		Source		Category		Priority		Project Probability	
	NEW CAPITAL		LOS4		ILS		HIGH		CERTAIN	
	$10,000									
	reshape PP landfill									

Table 22: Complementary sites - Landlord sites

COMPLEMENTARY BUSINESS	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
LANDLORD SITES	Activity		Source		Category		Priority		Project Probability	
	NEW CAPITAL		LOS4		ILS		HIGH		CERTAIN	
				$50,000						
				Asphalt at front of timber site						
	Activity		Source		Category		Priority		Project Probability	
	RENEWALS		LOS4		RCA		HIGH		CERTAIN	

Category: ILS = Improve Level of Service, MAD = Meet Additional Demand, RCA = Replace Current Assets. *(Source: WOL Cost Model #1135293 WMMP narrative tab)*

5.3 FINANCIAL STATEMENTS AND PROJECTIONS

The information in the WMMP forms the basis for the 10-year operating and capital budgets for this activity.

The 2018–28 Budget, once finalised will be available in a separate budget document. The key Waste Minimisation Unit working documents are:

- #1186481 Long Term Plan 2018-2028 Budget - Waste Minimisation Manager - updated 21/11/17 5.54pm
- #1135293 - Redruth WOL (Whole of Life) Plan Cost Model WIP - Tim Johnson - used for 2018-28 Long Term Plan budget – 29 May 2018
- #1123044 Long Term Plan 2018-28 Infrastructure Strategy - Base Information - Waste Minimisation Unit - spreadsheet
- #1086841 TRACKING - Redruth Capital Expenditure - Financial Year 2018

The methodology in developing the Waste Minimisation Budget followed TDC Finance Unit's convention of categorising costs into two general budget headings, namely: capital expenditures and operating expenditures.

The Waste Minimisation Manager is primarily responsible for developing the expenditure projections from the identified capital and operational works, with advice from Waste Management NZ Ltd. A whole-of-life plan has been developed to enable appropriate planning.

Unit costs are based on current year dollar prices.

The inflation factor will be applied at corporate stage processing of the whole TDC budget. TDC Finance Unit is responsible to finalise the budget.

Refer to Part B for details on the planned capital work and budget by activity.

Summary
The majority of capital works relate to provision of services for enhancing the key waste activity asset, Redruth landfill. Some of the waste levy money is allocated to projects to ensure continuing progress with waste minimisation.

5.4 FUNDING STRATEGY

The Financial Projections in this WMMP are anchored on TDC's corporate Financial Strategy contained in the 2018-2028 Long Term Plan, which balances:

- The need to maintain, replace and renew core infrastructure
- Community needs and aspirations for new and improved community infrastructure
- The obligation under law to build new infrastructure of a higher standard.

The Financial Strategy states TDC must manage its finances prudently, while sustainably promoting the current and future interest of the community.

Inflation factor
TDC recognizes that inflation is faced by Council and inevitably means the cost of providing services will increase over the next 10 years and these increases will affect the level of rates.
TDC's approach is to include inflation based on the Local Government Cost Index (LGCI) prepared by Berl Economics. Annually, budgets are reviewed to more accurately reflect price movements.

Asset development and renewal expenditure
Asset development expenditure is for purchasing, building, replacing or developing the District's assets. For each asset category, the AMPs are considered the key planning tool for the maintenance, future renewal and additional assets required to meet increased levels of services or growth in the District.

Renewals of assets are generally funded from reserves which have been previously funded from rates. If there are insufficient funds in the appropriate reserve for the renewal expenditure, Council has elected to borrow to pay for some of the renewals.

Level of service improvements and growth assets are generally funded from capital contributions in the form of contributions (financial contributions and cash in lieu of reserves). This is to ensure that the costs are spread across the generations that will utilise the assets.

Depreciation fund
TDC calculates depreciation fund requirements based on the long term projected renewals of the assets. Depreciation is funded from rates.

Waste Minimisation funding
Waste minimisation activity is funded as follows in accordance with Council's funding policy:

- 0 - 10%, via a differentiated general rate for activity which is non-disposal related.
- 90 - 100%, via a targeted rate for the kerbside service and user fees and charges for disposal activity.
- The kerbside collection services are funded by a targeted rate for the actual users of the collection service, which is compulsory in urban areas. In the rural area, if a resident does not opt to receive the collection service, they do not pay the targeted rate.
- Operational services are funded by revenue from tipping fees and charges, general rates and any interest or dividends that may be allocated by Council.
- Details of Waste Rates and Charges are in HP document #907158.
- Users will pay 100% for waste disposal through targeted rates and tipping fees and charges. The portion of waste minimisation activity that contributes to the public good will be funded through a contribution from the general rate.

Considerations for Setting Charges

- All vehicles pay by weight with a minimum charge of $10 for waste.
- Redruth, Temuka and Geraldine transfer station charges are weight based.
- Pleasant Point has no weighbridge and charges are volume based.
- Differential charges encourage waste to be separated for reuse, recycling and composting.
- It is expected that increases in fees and charges for waste disposal to landfill will be limited during the period.

Variations to Cashflow

It is not envisaged that any smoothing is required for the activity cashflow.

Waste Minimisation Act Provisions

Council has the ability under the WMA (s47) to make grants to any person, organisation or group for the purposes of promoting waste management and minimisation, as long as this is authorised by the WMMP. If Council intends to provide any such grants, the terms and conditions for this must be explained in the WMMP (s43). The frame of reference for grants should also be noted in Part B, the Action Plan. There is no intention to provide for grants in the term of the 2018 - 28 LTP.

Waste Minimisation Levy Funding Expenditure

The WMA requires that all waste levy funding received by a Territorial Authority (TA) be spent on waste minimisation activities in accordance with Council's WMMP. The plan must, therefore, state how these funds are to be spent. Waste levy funds can be spent on existing waste minimisation services, new services or a combination of both. The funding can be used to provide grants, to support contract costs or as infrastructure capital.

Council has flexibility in the timing and manner in which waste levy funds are utilised. Funds can be pooled with other TAs, or pooled for several years to use for infrastructure development, as long as this use is provided for and explained in the WMMP.

Funding can be withheld by the Minister for the Environment if a Council cannot demonstrate that funding is being used for waste minimisation activities in accordance with its WMMP, or the Council has not adopted a WMMP, or if the plan is not reviewed in accordance with the WMA requirements.

Use of Levy for Operational Expenditure

The following definitions are used to denote the activity:

New	an activity started after the implementation of the waste levy (from 1 July 2009)
Expansion	a significant increase in levels of service
Existing	a service that was in place before the levy was implemented

TDC Use of Waste Levy

Some of the levy will be used to fund operating activity which is new or expanded activity since the implementation of the waste levy.

A portion of the levy will be used to fund new capital projects.

The remainder of the waste levy revenue will be used to offset costs associated with the collection and processing of materials for recycling and composting from the three-bin collection service.

The tables on the following pages outline the waste levy spending programme for the next 10 years as programmed in the LTP budget.

*However, blank lines (labelled “other”) have been inserted in the tables to allow some flexibility as there is potential for projects and priorities to change. Should this happen, then the Ministry for the Environment will be consulted, and a change in spending discussed.

Waste levy operational costs are included in the overall operational expenditure outlined.

Table 21: Waste Levy Operational Spending – New and Expanded Activity- previous periods

Activity	Type	Category	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Escrap	New	Recycle	10,000	10,000	10,000	10,000	10,000	10,000
Large goods pick up	New	Reuse	10,000	10,000	10,000	10,000	10,000	10,000
Enviroschools	Expansion	Education	5,000	5,000	5,000	5,000	5,000	5,000
Bin monitoring (salary)	Expansion	Recycle	10,000	10,000	10,000	10,000	10,000	10,000
PPR opex						4,200		
Other*	Future		0	0	0	0	0	0
Total			**35,000**	**35,000**	**35,000**	**39,200**	**35,000**	**35,000**

Table 22: Waste Levy Operational Spending – New and Expanded Activity- LTP period 2018-2028

Activity	Type	Category	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
Escrap Handling 3430.621.598.RF2a	New	Recycle	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,600
L goods p/ up 3430.621.401.RF2a	New	Reuse	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Enviroschools 3430.460.410.RF1	Expansion	Education	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Bin monitoring (salary) 3430.300.300.RF2b	Expansion	Recycle	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Public Place Recycling 3430.621.506.RF2a	New	Recycle	9,900	9,900	9,900	9,900	9,900	9,900	9,900	9,900	9,900	9,900
Other	Future		0	0	0	0	0	0	0	0	0	0
Total			**47,500**	**47,500**	**47,500**	**47,500**	**47,500**	**47,500**	**47,500**	**47,500**	**47,500**	**47,500**

Table 23: Waste Levy Capital Expenditure – previous periods

Activity	Type	Category	2012/13	2013/14	2014/15	Comments
Timber Report	New	Recycle	~~5,000~~			$5,000 budgeted in 2012/13 was not spent on timber as Environment Canterbury lead a project funded by the Ministry for the Environment ($180,000) on treated timber. Council used this data instead to inform decisions on timber diversion. The budget was transferred to fund the Public Place Recycling.
Special Composting	New	Recover	~~5,000~~		14,000	$5,000 budgeted for 2012/13 was used to fund Public Place Recycling. The report was deferred to 2014/15.
Public Place Recycling	New	Recycle	15,000	~~7,000~~	~~7,000~~	Caroline Bay Public Place recycling completed with 28 sets installed with 2012/13 budget. The 2013/14 budget was carried forward to fund the Special Composting Report. The 2014/15 budget was also used for the Special Composting Report.
RRP	New	Recycle			30,000	The Resource Recovery Park concept design work was completed in 2014/15.
Total Capital			**15,000**	**0**	**44,000**	

Activity	Type	Category	2015/16	2016/17	2017/18	Comments
Public Place Recycling 7430.702.551	New	Recycle	4,573	4,381	2,000	2015/16 – 5 sets were installed in Geraldine 2016/17 – 3 sets were installed in Temuka 2017/18 – 1 set will be installed in Pleasant Point
Waste Sort Facility	New	Recycle		~~889,000~~		This has been deferred to 2018/19 pending extended sort trial along with Stage 2 of the RRP. Budget has been amalgamated in 2018/19.
Resource Recovery Park	New	Recycle		65,296 Design	~~527,000~~ ~~359,600~~ ~~carry forward~~	The RRP development was split into 2 stages to allow the waste sort extended trial to proceed. Stage 2 will proceed in 2018/19. The design was completed in 2015/16. The contract started in 2016/17 and was completed August 2017.
Total Capital			**4,573**	**69,677**	**2,000**	

Waste Levy Capital Expenditure – New Activity for LTP period 2018-28

Activity	Type	Category	2018/19	2019/20	2020/21	2021-24	2024-2027
Public Place Recycling	New	Recycle	10,000	10,000	10,000	30,000	30,000
Waste Sort Facility/RRP	New	Recycle	889,000 (incl CF)	0	0	0	0
Glass Trial	New	Recycle		15,000	0	0	0
Soft Plastics Trial	New	Recycle			15,000		
Future – build glass bund	New	Recycle				120,000	
Total Capital			**10,000**	**25,000**	**25,000**	**150,000**	**30,000**

See the financial summary and narrative tables for future renewals and future new works in section 7.4
Table 6 summarises how the waste levy spending will be reported against estimated income

Table 24: Waste Levy Reporting Summary – previous periods

Activity	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Income (actual) 1430.115.172	129,993	139,279	152,311.84	173,171.84	176874.90	175,000
accrue			11,599.79		125,213.29	258,888.19
Total levy income	**129,993**	**139,279**	**163,911.63**	**168,413.29**	**302,88.19**	**433,888.19**
Operational – new and expanded	35,000	35,000	35,000	35,000	35,000	35,000
Operational – existing	80,000	88,000	80,411.63	4,200	4,200	4,200
Capital	15,000	0	48,500	4,000	4,000	450,000
Carry forward				125,213.29	258,888.19	
Total Levy Spend	**130,000**	**123,000**	**163,911.63**	**168,413.29**	**302,88.19**	**433,888.19**
Spend report	**# 835993**	**#895764**	**#955219**	**#1019033**	**#1104835**	

Total income for the 4 quarterly payments is derived from the general ledger.

Table 25: Waste Levy Reporting Summary- New Activity for LTP period 2018-28

Activity	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
Income (estimated)	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000
Accrued	0	0	0	0	0	0	0	0	0	0
Total levy income	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**
Operational – new and expanded	47,500	47,500	47,500	47,500	47,500	47,500	47,500	47,500	47,500	47,500
Capital	127,500	127,500	127,500	127,500	127,500	127,500	127,500	127,500	127,500	127,500
Total WL Spend	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**	**175,000**

Funding is spread across years for projects identified in the table above for Waste Levy Capital Expenditure.

5.5 VALUATION FORECASTS

Council currently has an accounting policy that Council owned assets of land, buildings and infrastructure assets are not revalued. At the time of adoption of International Financial Reporting Standards (IFRS) in 2005, Council approved this policy where the assets are recorded at their deemed cost as at 1 July 2005 with any subsequent additions recorded at cost.

Infrastructure assets include waste minimisation assets, and all assets were revalued in 2006. This valuation will be recorded for all assets in the *Improvement Plan (Section 7)*.

5.6 KEY ASSUMPTIONS MADE IN FINANCIAL FORECASTS

See table on following page.

Key Assumptions made in Financial Forecasts for 2018-2028

	Financial Category	Assumption	Confidence level	Risk	Consequence	Source/date of base info	Effect on activity
1	Inflation	The LTP is prepared on the inflation rates assumed in the table below for periods beyond 2018/19 which is based on Local Government Cost Index (LGCI) prepared by BERL: 2018/19 2.0% 2019/20 2.2% 2020/21 2.2% 2021/22 2.2% 2022/23 2.3% 2023/24 2.3% 2024/25 2.4% 2025/26 2.5% 2026/27 2.6% 2027/28 2.7%	Low	Medium	High	#1010511	
2	Interest Rates on Borrowing	Interest on borrowing is assumed to be between 5 – 7.5%	Medium	Medium	Medium	#1010511	
3	Return on Investment	N/A					
4	Funding Sources	Funding sources (including external funding sources) do not change over the three year life of this plan.	Medium	Medium	Medium	#1010511	
5	Credit Availability	Credit can be obtained from financial markets on competitive terms and conditions.	High	Medium	Medium	#1010511	
7	Costs	Costs will remain stable over the period of the Long Term Plan (refer also to inflation assumption).	Low	Medium	Medium	#1010511	

8	Currency and oil price fluctuations	• Currency fluctuations are not forecast to cause significant variability in Council costs. • Exchange rates are forecast to remain unchanged from current rates. • Oil prices will continue to fluctuate due to international influences and exchange rate movement.	Medium	Low	Low	#1010511	Oil prices could affect price of wheelie bins and service delivery.
9	Emissions Trading Scheme	Emissions Trading Scheme is retained in its present form.	Medium	Medium	Medium	#1010511	It will cost $23.80 per tonne of waste based on a price of $20 per NZU and using the default emissions factor for landfill emissions. Landfill costs and waste volumes are monitored continuously. Carbon credits (NZUs) are held for a portion of future obligations to mitigate NZU price changes.
10	Asset depreciation rates	Asset depreciation rates will not change as shown in the Accounting Policies.	High	Low	Low	#1010511	
11	Revaluation of significant assets	The Council have adopted deemed cost as its approach to revaluation.	High	Low	Low	#1010511	Revaluation should be considered for waste minimisation assets
12	Rating base	The number of rating units will not change significantly over the 10 years of the LTP.	High	Low	Low	#1010511	Targeted income for kerbside collection will remain stable.

6 MANAGING THE ACTIVITY

6.1 OVERALL MANAGEMENT

The Waste Minimisation Unit (WMU) of TDC's Infrastructure Group is responsible for operating and managing the waste services and facilities. Skills required of staff are reflected in the position titles, shown in the Organisational Chart in Section 1.12. Position descriptions provide the scope of staff responsibility in the activity.

All business practices are carried out to Council's standard of service quality, polices and approved procedures; and in accordance with Council's adopted industry-recognised / accepted technical standards of practice, as contained in the following key documents:

- TDC Corporate Management Policies
- TDC Health and Safety Manual
- TDC Landfills and transfer station monitoring document (HP#313329)
- NZ Engineering Standards
- Local and International Best Practice
- Other industry-recognised standards

The Timaru District Council Waste Minimisation Unit is currently staffed at 3 FTE. The greater emphasis being placed on the responsible management, operation and maintenance of assets will add to the tasks and responsibilities of the Waste Minimisation Services team. Therefore, the aim of this WMMP is to set realistic and achievable goals.

This WMMP is a repository of information that will assist staff gain knowledge of the history of the activity including awareness of how business practices have evolved and an insight into the improvements which have been carried out. Having a WMMP mitigates the risk associated with staff leaving the organisation as it provides institutional knowledge to be passed on for continuity of organisational culture.

6.2 ACCOUNTING/FINANCIAL/CUSTOMER SERVICE/REQUEST SYSTEMS

TDC currently uses Civica's Authority as its Corporate Information System. This holds all the financial, rating and situation data. All customer requests relating to kerbside collection or other waste services are held in this information system. This system also features a 24/7 Call-out Service where all complaints from the public can be reported.

Registers are held for:

i) Waste Minimisation Permits
ii) Bins
iii) Bin IDs

A component of TDC's corporate information system is an electronic document management system using the RM8 software. RM8 holds electronic records of documents pertaining to waste services. Documents not saved in RM8 are stored in a dedicated drive within the Council network.

TDC's website also hosts information on Timaru District's waste services, such as transfer station hours, waste fees and charges, kerbside collection information, etc.

6.3 Activity/Asset Management Systems

Asset Information Management System (AIMS)
Asset data management is primarily carried out using Hansen 8, an asset management application for maintaining a register of assets and recording of information on assets.

Hansen records:

- Asset information such as criticality, condition, size, type and age which is able to be linked to the GIS spatial database
- History of maintenance of each component of an infrastructure including time, cost, condition and performance indicators
- Work Order Data
- Condition Data
- Criticality & Risk of Failure data to be held in the future
- Resource Consent Conditions monitoring data
- Valuation Data

Data build-up is ongoing. The assets data is currently being checked to enable full use of the Hansen System.

Geographic Information System (GIS)
Spatial data and network attributes are imported from the GIS system into Geomap to provide the waste services mapping layers.

6.4 Information Flow and Processes

Information management for waste minimisation services covers asset data management and customer service information. Information is collected, processed, stored and maintained within various systems that make up the information network. Some component systems are enabled for interfacing to facilitate data accessibility, validation, analysis and reporting.

6.5 STANDARDS AND GUIDELINES/QUALITY ASSURANCE

Activity management practices are carried out to TDC's standard of service quality, policies and approved procedures; and in accordance with Council's adopted industry-recognised or accepted technical standards of practice, as contained in the following key documents:

- Contractor's Facilities Management Plan
- TDC Waste Minimisation Unit Health and Safety Manual
- TDC Corporate Management Policies
- TDC Contract Management Practices
- NZ Engineering Standards
- Local and international best practices (e.g. International Infrastructure Management Manual 2015)
- Other industry-recognised standards
- In compliance with resource consents
- TDC Waste Minimisation Unit Landfill and Transfer Station Monitoring and Environmental Management Programme (#313329)

6.6 Risk Management

Recording of risks

Risks will be recorded in

- Corporate level Health and Safety hazards and risks (#984102)
- Waste Management and Minimisation Plan (this section)
- Waste Minimisation Unit Health and Safety Plan
- Contractor's own documentation (For Waste Management NZ this is comprehensive.)

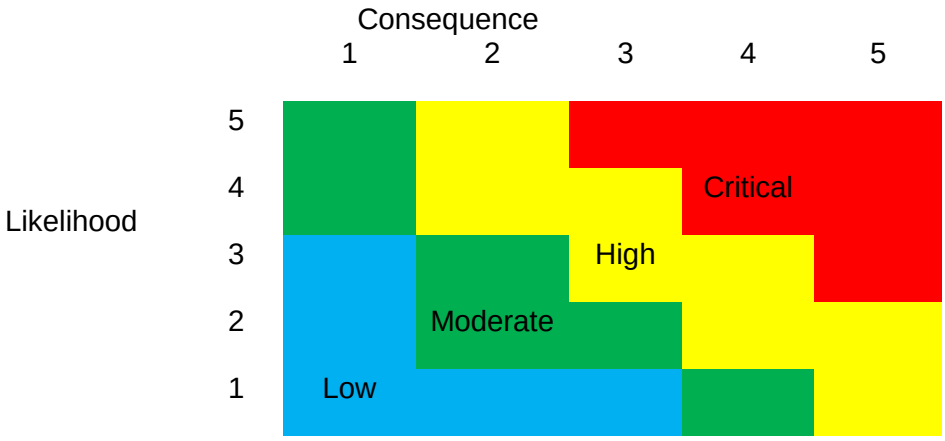
Risk assessment

KEY **(As per Risk Management Policy #832395)**

Likelihood	Consequences
1 – Rare	1 - Less than minor
2 – Unlikely	2 – Minor
3 – Possible	3 – Moderate
4 – Likely	4 – Major
5 - Almost certain	5 – Extreme

Refer to Appendix 1 for definitions Of Likelihood and Consequences

Risk Matrix



Risk Response

Overall risk rating	Action	Reporting
Critical /Extreme	Urgent and active management required. Risk treatment plan must be implemented immediately to reduce the risk exposure to an acceptable level. Regular reporting required.	Immediate notification to relevant Group Manager. Advise Group Manager Corporate Services to allow tracking of risk.
High	Management attention is required. Risk treatment plan required. Regular reporting required.	Notification to relevant Group Manager. Advise Group Manager Corporate Services to allow tracking of risk.
Moderate	Management responsibility to monitor. Focus on ensuring internal controls are effective and monitoring the ongoing risk.	Included on management-level risk registers. Group Manager Corporate Services to review risk registers periodically.
Low	Can be monitored using routine practices. Focus on ensuring internal controls are effective.	Included on management-level risk register. Group Manager Corporate Services to review risk registers periodically.

Risk Table

Specific Risk Identified	Possible Effects	Mitigation measures currently in place	Likelihood	Consequence	Risk
e.g. Failure to comply with Legislation	Prosecution, financial LoSs, LoSs of reputation, modified audit opinions, requirement for rectifying legislation	Legal and other specialist advice sought as required, use of SOLGM Legislative Compliance programme, Tax Policies and procedures, qualified staff, staff and elected member training, external reviews	3	3	High
Consent compliance	Inability to renew consents Requirement to cLoSe landfill with airspace remaining	Maintain and improve environmental compliance	4	4	Critical
Natural disasters	Damage to waste assets, especially landfill	Landfill is protected with bunds. Stormwater system is being improved to manage flow. An alternative disposal site will be investigated.	1	5	High
Waste flight	Reduced income due to loss of waste to other sites	Consultation with major stakeholders	3	3	High
Climate change	Flooding at Redruth site Coastal erosion due to sea level rise Effect of landfill gas as cause of climate change	Landfill is protected with bunds. Stormwater system is being improved to manage flow. Implementation of landfill gas measures	4	2	High
Increased waste	Reduced landfill life	Additional staffing to -reduce waste from businesses -monitor waste to landfill is compliant with bylaw	3	3	High

		-additional programmes to reduce waste and increase recycling			
Reduced value of resources	Lower income for recycling, less diversion if markets not available	TDC recycling is high quality and Waste Management manage markets.	5	3	Moderate
Asset failure	Inability to provide service	Infrastructure development and renewals programmes	3	2	Moderate
Operational risks	Loss of service	Contract with well resourced contractor Contract monitoring	3	1	Low

The most significant resource consents due for renewal in the period are the following:

Table 1: Resource Consent Expiry Dates

Consent	Expiry Date
Landfill	2030
Transfer stations	2032, 2034, 2041

OPTION	Apply for extension of consent for Redruth Landfill in 2027/28.

7 IMPROVING THE PLAN

7.1 IMPROVEMENT PROGRAMME

Previous and future actions are summarised in the following section.
Categories align with the IIMM assessment categories (*refer Asset Management Maturity worksheet - spider diagram - Waste Minimisation Unit - adapted from Treasury Department's template - 20/5/2016 HP#996998)*

Table: Improvement Plan (Section 7), 2018-2028

No	Year By when	Action	Linkage (WMMP or IIMM)	Cost	Resources (responsibility)	Priority	Status
2.1	AM POLICY DEVELOPMENT						
	Corporate score						
2.2	LEVELS OF SERVICE and PERFORMANCE MANAGEMENT						
	2008	Service levels already established.	-			-	Complete
	2011	Consult with the community to assess satisfaction with services levels and any possible changes.	-		Communitrak Survey	1	Complete (2011)
	2012	Special Consultative Procedure for WMMP.	4.1		With LTP	1	Completed
	2014/15	Consult with the community to assess satisfaction with services levels and any possible changes.	12.9		Communitrak Survey	1	Completed
	2014/15	New Levels of Service added for new activity, minor changes to existing.					Completed
	2014/15	Link to strategic and community outcomes.	12.9				
	2015 – 2018	Minor amendments to LoS with WMMP 2015.					Completed
		Levels of consultation identified and agreed.					
	2017	Waste Assessment.	4.4		Internal	1	Completed
	2017	Conduct SWAP.	4.4		External	1	Completed
	2018	Review WMMP.	4.4		Internal	1	Underway
	2020	Review WMMP.					
	2022	Conduct Waste Assessment (6-yearly).		10,000	Internal/external		
	2022	Conduct SWAP.		30,000	Internal/external		
	2022	Public Consultation (end Contract 1635 – change in levels of service).	IIMM 2.2	10,000	Internal/external		

No	Year By when	Action	Linkage (WMMP or IIMM)	Cost	Resources (responsibility)	Priority	Status
2.3	DEMAND FORECASTING						
		Basic optimisation for capital investments.			Spreadsheet developed		Completed
		Modelling of demand scenarios in the WMMP is basic. Case-by-case analysis to be carried out for significant projects eg compost facility expansion.	IIMM 2.3		Internal		Case-by-case
2.4	ASSET REGISTER DATA – Hansen						
	2008	No formal documentation.	-			-	Identify issue
	2009/10	Assets database created in Hansen-adequate description of assets.	-			-	Completed
	2014/15	Complete ID of missing assets.	5				Completed
	2015/16	~~Produce Asset Management Plan~~ Create Hansen Asset Management Guidance for WMU.	5		Internal/external	1	Future
	~~2016/17~~ 2018/19	Renew asset valuations (not done in 16/17but proposed in 2018 plan).	5		Internal/External	2	Future
	~~2015/16~~ 2018/19	Assess criticality of assets.	4				Future
	2017/18	Add maintenance planning into Hansen by scheduling.			Internal	2	Future
	2019/20	Asset replacement cost (using Optimised Replacement Cost) needs to be in Hansen.	IIMM 2.4				
		Build up asset meta data.	IIMM 2.4				
		Develop Hansen's use of reporting capability.	IIMM 2.4				
2.5	ASSET CONDITION						

No	Year By when	Action	Linkage (WMMP or IIMM)	Cost	Resources (responsibility)	Priority	Status
	~~2015/16~~ 2017/18	Date assets and assign useful life (ability to override when condition has been assessed) Improve financial information.	4	$25,000	Internal	1	Status included in 2018-2028 budget.
		Adopt a condition assessment programme and all sample assessment needs to be validated by competent staff or organisation. All sample assessments shall be well documented in RM8 and linked to Hansen database and the Model.	IIMM 2.4*				
3.1	LIFECYCLE PLANNING – DECISION MAKING						
3.2	LIFECYCLE PLANNING - RISK MANAGEMENT						
	2008	No Documented Risk Assessment.				-	Identify issue

No	Year By when	Action	Linkage (WMMP or IIMM)	Cost	Resources (responsibility)	Priority	Status
	2016/17 2019/20	Develop risk register and methods to eliminate or reduce risk profile. -Identify critical assets -Identify significant negative affects -Ensure legislative requirements for risk are met -Identify associated risks and risk management strategies for critical assets Update risk assessment and management plan. Risk Register to be developed, monitored and reported. Asset criticality assessment needs updating, previously only informal. Consider resilience.	29.5 IIMM 3.2		External Hold risk workshop with stakeholders	3	Completed Future
	2018/19	Develop an Emergency Response Plan			Internal/through CWJC	1	Future
3.3	LIFECYCLE PLANNING – OPERATIONAL PLANNING						
	2008	No formal documentation	-			-	Identify issue
	2010	Produce Maintenance Programme for stormwater pumps.	-			-	Completed
	2013/14	Produce Maintenance Programme for weighbridges and compactors	27.4				Completed

No	Year By when	Action	Linkage (WMMP or IIMM)	Cost	Resources (responsibility)	Priority	Status
	2015/16	Produce Maintenance Programme for contract.	27.4		Internal Need to incorporate maintenance from existing contract services and plan for infrastructure	2	Completed – pumps spreadsheet is expanded as required.
3.4	LIFECYCLE PLANNING – CAPITAL WORKS PLANNING (renewal and replacement)						
	2008	No formal documentation.	-			-	Identify issue
	~~2017/18~~ 2018/19	Produce Renewal & Replacement Plan.	27.6		Internal Staff need more training.	3	Future
		Undertake formal use of BCA/MCA, sensitivity test of assumptions and estimates.	IIMM 3.1				
3.5	LIFECYCLE PLANNING – FINANCIAL AND FUNDING STRATEGIES						
*	2012/13	Check asset depreciation schedules. Compost pads schedule needs amending.	31.4				Completed
*	2014/15	Investigate splitting out new bins expenditure into: MAD = Meet Additional Demand; RCA = Replace Current Assets.	28.6				Completed
		Asset revaluation to be completed, more robust AMP data. Improve valuation process towards enabling automation based from Hansen info. Improvement within Hansen on asset replacement cost.	IIMM 3.5				
		Develop formal prioritisation framework to rank capital projects; Scope 1-3 year budgets prior to budget planning.	IIMM 3.4				

No	Year By when	Action	Linkage (WMMP or IIMM)	Cost	Resources (responsibility)	Priority	Status
		Longer term financial forecasts required. Complete as part of IS					
4.1	ASSET MANAGEMENT ENABLERS – AM TEAMS						
		Need consistent approach to AM across the organisation.					
4.2	ASSET MANAGEMENT ENABLERS – AM PLANS						
		Areas of condition and performance, lifecycle management, demand forecasts need improving.					
4.3	ASSET MANAGEMENT ENABLERS – MANAGEMENT SYSTEMS						
		Asset management is too "isolated"; improve interunit coordination and communication; workflows; internal audit, resource lacking for system data input					
4.4	ASSET MANAGEMENT ENABLERS – INFORMATION SYSTEMS						
	SEE 2.4	Asset register					
	2008	Old plans in storage with some services not located.	-			-	Identify issue
	2010	Identify all services and locate for digital input.	-			-	Completed
	2011/12	Overlay services on new air photos and have available electronically on GIS.	-		Internal	-	Completed
	2012/13	Create working database for Solid Waste Unit.	27.2	-	Internal (GIS Unit) Most services identified in GIS.	-	Completed

No	Year By when	Action	Linkage (WMMP or IIMM)	Cost	Resources (responsibility)	Priority	Status
	2014/15	Conduct a Gap Analysis and add to data.	18.6	$10,000 WOL plan	Internal/External Contract underground locators to locate missing services. Surveyors to follow up	-	Completed
	2016/17	Add assets functionality to Geomap to aid in searching by asset code.			Internal (GIS team)	-	Completed
	2017/18	Add rates and bin IDs layer to Geomap,			Internal (GIS Unit)	-	Completed
4.5	ASSET MANAGEMENT ENABLERS – SERVICE DELIVERY MODELS						
	2018/19	Adopt Zerowaste Action Planning system or similar to predict effects of diversion scenarios.		$10,000	Internal/external	2	Future
		Where we are: The waste services are contracted to Waste Management over a 15-year term. WM has comprehensive operating procedures for all activities in the contract. Gaps: Risk planning (emergency, contingency, business continuity plans) and other operating protocols (cost and budget management, security, operational risk management, environmental and sustainability management, reactive maintenance, preventive maintenance)	IIMM 3.3				
4.6	ASSET MANAGEMENT ENABLERS – IMPROVEMENT PLANNING						
	2012 WMMP	Improvement programme developed					Completed

No	Year By when	Action	Linkage (WMMP or IIMM)	Cost	Resources (responsibility)	Priority	Status
	2014/15	Align improvement programme to IIMM categories. Updated 2017					Completed
	2017/18	Improvement programme updated, some financial resources proposed.					

**IIMM references – refer HP#996998 – Asset Planning assessment(spider diagram) gaps and recommendations.*
Scheduling of work is updated as work progresses. (Refer HP#608649 workplan.)

7.2 PERFORMANCE, MONITORING AND REVIEW PROGRAMME

The key performance measures for this plan are:

- Progress towards zero waste
- Customer satisfaction with kerbside collection services
- Customer satisfaction with access to facilities
- Compliance with relevant legislation

Periodic reporting will measure progress and the overall effectiveness of meeting the levels of service, as well as achieving the main goals of the Waste Management and Minimisation Plan.

Significant infrastructure has been established and changes proposed to infrastructure will improve levels of service. A measure of customer satisfaction will be undertaken every two years (2014, 2016, 2018).

Monthly reporting will be utilised to collate data on:

- LoS 1 Missed bins
- LoS 3 Organic tonnages
- LoS 3 Recycling tonnages
- LoS 3 Reuse and other recycling tonnages
- LoS 3 Contamination levels for MRF/composting

The above reports will be collated into Quarterly Reports which will also include:

- LoS 1 User satisfaction (2-yearly survey)
- LoS 2 Resource Consents
- LoS 4 Public information and education

7.3 MONITORING AND REVIEW PROGRAMME

This plan is to be reviewed every three years. If required by the Group Manager Infrastructure, an external audit of this activity plan may be undertaken.

Procedures and timeline for performance reporting are monthly, quarterly and annually. Key points for improvement include:

- Collate asset data and improve financial projections management
- Provide updated site plans with services
- Develop a maintenance programme
- Confirm a renewal and replacement plan
- Undertake risk management analysis
- Develop environmental management system
- Consult to establish customer values

7.4 ASSET MANAGEMENT PLAN REVIEW

Review of this WMMP will be a standard procedure in developing the succeeding two Annual Plans for years 2 and 3 of the LTP cycle to account for improvements and other changes in the Activity.

Item	Date	Output	Remarks
WMMP 2018-2021 Peer Review	February 2018		
Annual Report to Council		Annual Report 2018/19	
1st WMMP Review	30 May 2019	Annual Plan 2019/20	
		WMMP changes documented; appended to the WMMP	
		Group Manager Infrastructure, Corporate Planning formally notified of WMMP changes	
Annual Report to Council		Annual Plan 2019/20	
2nd WMMP Review	30 May 2020	Annual Plan 2020/21	
		WMMP changes documented; appended to the WMMP	
		Group Manager Infrastructure Corporate Planning formally notified of WMMP changes.	

8 REFERENCES

Levels of Service Data:

- LoS 3 operational issues are recorded in HP folder F3104
- Bin data from WMNZ is located in HP folder F3106
- KPI Data from WMNZ is located in HP folder F3104
- LoS 3 Monthly Missed Bins are in the CRM system
- LoS 1 Non-compliance Notices *(HP #553207)*
- LoS 3 Monthly tonnes disposed of to landfill *(HP#771501 with annual amounts in doc#31696)*
- Kerbside Audit 2008 *(HP#512534)*
- Redruth Annual Monitoring Report to Ecan 2016/17 *(HP#1086156)*
- Redruth WOL (Whole of Life) Plan Cost Model WIP - Tim Johnson - used for 2018-28 Long Term Plan budget - 17/12/2017 *(HP#1135293)*

Key printed material and websites:

- Waste Minimisation Act 2008
- Timaru District Council Waste Assessment 2017
- WMMP 2015 *(HP#893128)*
- NZ Waste Strategy 2010 - Ministry for the Environment
- WMMP 2018 tables and graphs *(HP#1002596)*
- Waste Minimisation Levels of Service Summary *(HP#906599)*

9 APPENDICES

APPENDIX 1 WASTE ASSESSMENT 2017 EXECUTIVE SUMMARY

1.1 Introduction

The following sections summarise each chapter of the document. Refer to the table numbering for more detail. Options are flagged at each relevant section and a ranked summary is given in section 1.15.

1.2 Summary of Chapter 2 Background

2.1	Councils must adopt a WMMP by 1 July 2018. This is Council's guiding document to achieving effective and efficient waste management and minimisation. Targets must be measurable and achievable as they need to be reported against. Prior to this a Waste Assessment must be completed.
2.2	Timaru's Waste Assessment describes current services, forecasts future demand and puts forward options for the WMMP.
2.3	The NZWS underpins the Government's core policy and TAs must have regard to it. The two key goals are: - Reducing the harmful effects of waste. - Improving the Efficiency of Resource Use.
2.4	A number of Acts of Parliament provide the legislative framework and attention must be given to these in the Waste Assessment.
2.5	The purpose of the WMA is to "encourage waste minimisation and a decrease in waste disposal to protect the environment from harm; and to provide environmental, social and cultural benefits." A key provision is the waste levy of $10/tonne of waste to landfill. The cost of the levy plus ETS will incentivise diversion from landfill. Part 4 is fully dedicated to Council's responsibilities to "promote effective and efficient waste management and minimisation within their Districts".
OPTION	Lobby central government on waste issues.
2.6	Councils must consider the following methods in descending order of importance; reduction, reuse, recycling, recovery, treatment and disposal.
2.7	The WMA s51 outlines the requirements of the Waste Assessment.
2.8	The Climate Change Response Act (2002) set up the NZ ETS under which Emissions Units need to be surrendered. The transitional measure for one-for-two surrender is being phased out with increases in costs over the next three years.
2.9	The cost of the NZ ETS for New Zealand units is approximately $18 per tonne of waste disposed of to the Redruth landfill to meet greenhouse gas liabilities from methane generation if the default value is paid. Fuel costs (collection) will also be impacted by the NZ ETS.
2.10	Installing a landfill gas system and diverting organic waste will reduce the quantity of gas compared to the default and help to mitigate the cost if Council applies for a UEF. A UEF will reduce costs, but a cost benefit analysis would need to be completed. The Final Report – LFG Strategy 2016 concludes that a UEF based on composition is not applicable. Review of benefit will be ongoing.
2.11	The LGA must have regard to the provision of core services, including solid waste collection and disposal and outlines legislative requirements for decision making.

2.12	As part of the Waste Assessment, the local Medical Officer of Health must be consulted. The protection of public health will be considered in the provision of all services. The 2011 recommendations are noted with responses.
2.13	For the purposes of this assessment, readily available information has been compiled and there is less information regarding the private waste industry. This has not materially impacted on the completeness of this Waste Assessment, as the priority is on the solid waste and services that Councils are directly responsible for.
2.14	Definitions for this Waste Assessment will follow the MfE Waste Assessment check list with the exception that all collection services will be grouped under the collection heading and a new heading for public information will be included.
2.15	Council's intended role is to provide a range of solid waste minimisation services in compliance with legislative and regulatory requirements.
2.16	This document addresses district wide infrastructure first, followed by each of the areas of Council activity in order of the waste hierarchy.
OPTION	Review Solid Waste Contract 1635 in 2019 for end of Contract 1635. This will require a 17A review.
OPTION	Put out RFP in 2020 for new waste services contract.
2.17	Asset management plays a key role in providing effective and efficient services. Also, an asset register tracks waste minimisation assets including the transfer stations, MRF Building and other infrastructure.
OPTION	Review need for asset management planning to include condition rating, financial data etc.
OPTION	Undertake insurance revaluations six-yearly of Council built assets and buildings.

1.3 Summary of Chapter 3 Private Services

3.1.1	Council has achieved the objectives from the 2003 SWP, except for ensuring waste is separated into rubbish, organics and recyclables which is partially achieved.
3.1.2	There were no actions in the WMMP for this sector.
3.2	A number of commercial operators provide a range of waste collection services where quantities exceed the capacity, type or extent of service of the Council kerbside collection. Economic competition between operators ensures customers have a choice of service or cost.
3.3	Increasing landfill fees and monitoring of the bylaw have encouraged diversion of a wider range of goods. Conversely, for waste disposal the option of taking waste to other landfills becomes more viable. See 11.19 for the impact of waste flight.
3.4	Local waste management contractors offer dry waste collection services. This may include services for recyclable products including cardboard, polystyrene and flexible plastics.
3.5	Agricultural recycling is now established with two companies providing for baleage wrap and chemical containers. Chemical recovery for treatment and disposal is also available.

3.6	Currently, Council does not have a full understanding of waste quantities that are collected and not handled through Council facilities. Licensing of operators collecting waste will enable data to be collected. The reason Council could collect this information is to enable an overall mass balance of waste to be quantified, however, the significance in some cases is questionable, e.g. second hand clothing. This will help show data for benchmarking and measuring the effectiveness and efficiency of waste management and minimisation in the District, as well as providing data to support the calculation of the UEF for the ETS obligations.
3.7	All users accessing non-public areas of the site are permitted. There are currently 70 permits in place for commercial waste haulers, large companies disposing of their own waste to landfill and earth moving contractors as well as green waste.
OPTION	Refer to Timaru Reduction Options - add 0.5 FTE for business assistance to improve sorting and compliance through education and with a goal of introducing waste reduction at source initiatives.
3.8	Demand for commercial services is price driven, or due to lack of availability of Council services. Alternative waste minimisation and disposal options will likely become viable as price mechanisms allow in the future.

1.4 Summary of Chapter 4 Kerbside Collection

4.1	Kerbside Collection Services.
4.1.1.1	Council has achieved all the objectives from the 2003 SWP.
4.1.1.2	WMMP outlines options for kerbside collection. The actions for the 2012-15 period have been achieved. The actions for the 2015-2018 period are actioned, in progress or deferred.
4.1.2	The Council has contracted Waste Management NZ until 2021 to provide the three-bin kerbside collection service. Residents who are not provided the service, may take waste to a transfer station or engage a private waste collector.
4.1.3	Kerbside collections are undertaken Monday to Friday from 6 a.m.
4.1.4	The kerbside service collects organics, recyclables and rubbish.
4.1.5	The service area is compulsory in main urban areas. Other residents may use the service if they live on or near a collection route.
4.1.6	Residents who receive the service pay a targeted differential annual waste management charge. This is funded 100% as a private good by those who receive the service. A summary of the options and fees is shown in Appendix B. Costs compare favourably with private services.
4.1.7	As at 30 June 2016 there were 61,945 bins and 196 Eco-carts in service.
4.1.8	There has been about a 1.5% increase in bins issued each year. The existing collection fleet should be able to service this growth until the end of the contract. It is important to monitor the net quantity of bins in service not only for contract payment, but also to track the threshold number of bins to see if collection resources need to be re-assessed. The on-going demand for 240 litre rubbish bins needs to be monitored to assess if people are opting for an easier disposal option in residential and commercial situations. There is currently no price difference for the weekly CBD service compared to the residential standard services. Increasing the cost of the 240 litre rubbish bin and the weekly service for the CBD may be an option.

REFER	Increase business education staff resourcing by 0.5 FTE to assist businesses with recycling and recovery of waste with a goal of introducing waste reduction at source initiatives. (Refer Chapter 6 - Reduce)
4.1.9	Over 10 years, kerbside rubbish has increased 32% from 6,192 to 8,230 tonnes in 2015/16. The proportion of rubbish in the kerbside collection has also increased.
4.1.10	Increase in bins does not correlate directly to an increase in tonnes. Presentation rates and weight of waste affect average weight per bin and overall tonnes.
4.1.11	The presentation rate is the percentage of bins placed out for emptying against the total number of bins issued.
4.1.12	99.64% of bins are collected with the first pass of the collection trucks. As the kerbside collection is a service that is used on a regular basis, residents will be asked if they are satisfied as part of on-going surveys every three years.
4.1.13	The bins were ten years old in 2016 and have a guaranteed life expectancy of 12 to 15 years. It is expected that bins will still be in good condition past this date. With the termination of the collection contract in 2021, Council will need to review the collection methodology in 2019. Council will continue replacing bins as required and an increase in the budget for replacement bins has been allocated. Adding RFID tags to bins has a number of benefits.
OPTION	Schedule staggered implementation of RFID tags from 2018 on.
4.1.14	Collection audits (sort and weigh) were undertaken in 2007 & 2008. 41% of material in rubbish bins was identified as being compostable or recyclable.
4.1.15	A visual collection audit was undertaken in 2009 and again in May 2017. Major contamination in organic and recycling bins was less than 1%.
4.1.16	Council has a variety of information to support the bin collection. The collection services need ongoing monitoring to assess compliance by residents and to undertake any necessary enforcement. From May 2009 a staff member has undertaken physical bin monitoring, educating residents about contamination issues. Regular surveys of bins should be undertaken one year prior to WMMP reviews to assist in planning.
OPTION	Add 0.5 FTE for kerbside visual auditing.
OPTION	Every five years, prior to review of WMMP, undertake random visual sample of bins to determine composition and help with any planning for WMMP. The next visual audit will be undertaken in 2023.
OPTION	Undertake a sort-and-weigh audit of bins prior to the RFP in 2019. This is critical to determine composition of waste from kerbside collection.
4.1.17	Infrastructure determines range of recyclables able to be collected and any additional materials may require modifications in infrastructure.
4.1.18	While it will be easy to include the collection of soft plastics from residential properties for no extra cost, the MRF will require significant modification and staff resources to sort the soft plastics. Refer 5.5.3
4.1.19	The viability of another bin and possible separate collection of soft plastic for retail shops could be considered.
REFER	Investigate soft plastics collection via wheelie bins. (listed in Chapter 8:Recycling)
4.1.20	While some locations have introduced separate glass collections Council will need to review if it is viable to collect and sort glass. Refer 8.6
REFER	Review glass collection and processing. (listed in Chapter 8:Recycling)

OPTION	Consider support of Container Deposit Systems.
4.1.21	Promoting use of food containers for the kitchen will ensure a higher recovery of food waste. Currently, residents can provide their own container or purchase alternative containers and compostable bags from Council.
4.1.22	Annual Plan Performance measures are recorded.
4.2	Other collection services.
4.2.1	The Crow's Nest collect large second hand goods under contract. The scope of this contract has been extended to include picking up large goods and escrap from rural transfer stations.
4.2.2	Public Place Recycling is largely serviced by the kerbside collection.
4.3	Council provides Zero Waste Event infrastructure and assistance.

1.5 Summary of Chapter 5 Transfer Stations

5.1.1	Council has achieved all the objectives from the 2003 Solid Waste Plan except for ensuring people separate their waste into respective categories, which is partially achieved.
5.1.2	The WMMP outlines options for transfer stations. For the 2012-2015 period, the option to recycle polystyrene is still to be addressed. For the 2015-2018 period, waste sorting and the construction of the resource recovery park are still underway.
5.2	Transfer station operations at Redruth-Timaru, Geraldine, Pleasant Point and Temuka are contracted to Waste Management NZ until 2021.
5.3	100% of the public are happy with the current opening hours. Utilisation of the sites does not warrant any extension of hours especially with paying customer numbers going down.
5.4	Council provides a range of options for waste disposal and diversion of waste at transfer stations. It is likely that there will be an increased demand for a greater range of materials to be diverted from landfill in the future as product stewardship schemes are implemented. Recycling use of the sites is high, so free drop-off for recyclables, waste oil, hazardous waste (note increased costs), most escrap and the Crow's Nest should continue.
OPTION	Investigate options for receipt of smaller quantities of polystyrene with or without payment.
OPTION	Determine methodology for tyre collection, storage and end-use in consultation with stakeholders.
OPTION	Investigate options for separated glass recovery at rural transfer stations.
OPTION	Investigate and trial a collection point for confidential papers.
5.5	Waste comprised 51% of Redruth Transfer Station tonnes in 2010/11, and 48% in 2015/16.
5.6	Redruth transfer station waste is audited.
5.6.1	In 2009 a visual audit of Redruth Transfer Station waste showed the highest volume categories were timber – 37% and putrescible organics – 11%.
5.6.2	The waste sort trial diverted timber – 46%, scrap metal – 26% and putrescible organics – 16%.
5.7	Potential diversion of the materials is as follows: 46% can be directed for pyrolysis. 32% could be recycled. 16% could be composted. 1% of materials could be recycled as escrap.
5.8	There is scope for improved separation of materials and items before and at the transfer pit. The waste sort trial may largely overcome the fact that many mixed materials are dumped at the transfer station.
5.9	The waste sort trial observations are summarised and commented on to address the wide range of materials which could be recycled, composted or re-used.
5.10	Transfer station fees are set by Council to recover the costs of operating the transfer stations.
OPTION	Implement vehicle recognition software at Timaru Transfer Station
5.11	The Waste Minimisation Unit has some discretion to waive tipping fees for community groups.
5.12	Satisfaction with levels of service is measured via the two-yearly community survey. The latest survey shows 100% satisfaction amongst transfer station users.

5.13	A transfer station brochure listing hours, fees and recommendations for sorting is available along with website listings, newspapers and radio.
5.14	There is currently no auditing of the bylaw at transfer stations.
REFER	Refer to Timaru Reduction Options - add 0.5 FTE for business assistance to improve sorting and compliance through education and with a goal of introducing waste reduction at source initiatives.
5.15	The waste sort trial and the new Resource Recovery Park at Redruth should enable greater separation of materials. Crow's Nest staff can be incorporated into the new Resource Recovery area to educate the public and manage the flow of goods. Crow's Nest staff play a greater role in the receipt of goods than previously.
OPTION	Increase Crow's Nest contract funding to recognise increased role in drop-off area.
OPTION	Consider impact of relocating the Crow's Nest drop-off to the Crow's Nest retail area. Staffing at the transfer station would need to be put in place to handle customer enquiries/receive goods.
5.16	There may be demand for the collection of other items or materials. Any product stewardship programmes will need to be carefully worked through to see if kerbside collections are appropriate or whether residents take items and materials to transfer stations. While a container deposit is not imminent, the introduction would affect quantities of glass collected. Council should lobby for the placing of a levy on a range of products to pay for the collection and utilisation, e.g. waste oil, tyres, escrap, etc.
5.17	Seat Smart is a product stewardship programme that can be subsidised by Council.
OPTION	Subsidise Seat Smart by $5 to a maximum of $2,000 per annum.
5.18	The Redruth Resource Recovery Park design is complete and the south end is being built in 2017.
OPTION	Create service lane for emergency access to site and contractor use.

1.6 Summary of Chapter 6 Reduce

6.1.1	Council has achieved its objective from the 2003 SWP.
6.1.2	The WMMP outlines options for waste reduction. The 2012-2015 objectives have been achieved.
6.2	The Target Sustainability programme is offered to Timaru District businesses.
6.3	Zero Waste Advisors give talks and advise community groups and businesses on waste minimisation.
OPTION	Increase business education staff resourcing by 0.5 FTE to assist businesses with recycling and recovery of waste with a goal of introducing waste reduction at source initiatives.
6.4	The Sustainable Living Programme offers adults opportunities to participate in educational programmes related to waste minimisation and a range of other topics relevant to Council activity.
OPTION	Trial a funded pilot for Sustainable Living Programme for participants. Subsidise some participants each year for three years and follow changes in habits as a result of the programme.
6.5	Council supports the national Love Food Hate Waste programme.

6.6	Wheelie Bins specification requires manufacture to include 35% recycled content and Councillors use iPads to reduce paper. Council should consider a sustainability procurement policy which incorporates the concept of waste reduction and use of recycled materials.
6.7	Council has a role to advocate to central government on reduction as a first step for businesses.

1.7 Summary of Chapter 7 Reuse

7.1.1	Council has achieved its objective from the 2003 SWP.
7.1.2	The WMMP outlines options for reuse. For the 2015-2018 period, options are yet to be addressed.
7.2	Operation of the Crow's Nest Reuse Shop is contracted to Sustainable South Canterbury Trust until 2019. The Trust are also contracted to run the Large Goods Kerbside Collection Contract and the Escrap contract.
7.3	The Sustainable South Canterbury Trust is developing the Eco-Centre vision at their leased site and will build an Environmental Centre. This will help Council achieve their objective from the 2003 SWP of developing an Environmental Facility. Strategic direction needs to be confirmed to enable future activities and investment to be planned.
OPTION	Cover insurance costs for any buildings owned by the Trust.
OPTION	Add grounds maintenance costs into the overall contract for Redruth.
REFER	Refer – Transfer Stations - Consider impact of relocating the Crow's Nest drop-off to the Crow's Nest retail area. Staffing at the transfer station would need to be put in place to handle customer enquiries/receive goods.
7.4	There is a wide range of private activities reusing materials.
7.5	Due to lack of funding, there is currently no Council-supported waste exchange in Canterbury.

1.8 Summary of Chapter 8 Recycling

8.1.1	Council has achieved its objectives from the 2003 Solid Waste Plan.
8.1.2	The WMMP outlines options for recycling. For the 2012-15 period, the proposed option was achieved. For the 2015-2018 period, options are underway.
8.2	The existing MRF operation is contracted to Waste Management NZ until 2021. The MRF is close to 100% of operating capacity.
8.3	The MRF processes the following materials from kerbside collections: Glass jars and bottles. Steel and aluminium cans. Rigid plastic bottles and containers. Paper and cardboard. Other materials processed from commercial collections include polystyrene and shrinkwrap.
8.4	The collection methodology and the range of recyclables that a Council decides to collect will determine infrastructure and resources required at a MRF.
8.5	Initially, it was decided not to collect plastic bags. Infrastructure modifications and extra staff would be required to do so, however, the Soft Plastics Recycling Programme may offer an alternative. Further investigation required.
OPTION	Investigate soft plastics collection and processing.
8.6	Glass could be sent to O-I for recycling into bottles and jars. This could be achieved at a cost by hand sorting at the MRF, adding a separate glass collection or sending glass to a beneficiation plant.
OPTION	Investigate alternative glass collection and processing.
8.7	The 240-litre bin has higher contamination than an open crate, but results in a higher nett yield.
8.8	Newspaper, cardboard and plastic are processed by a local business.

8.9	Council offers a 24/7 scrap metal facility in Redruth Street. Scrap metal can also be dropped off at the transfer stations. Alternatively scrap metal dealers will receive materials directly or pick it up.
8.10	Recyclable facilities (local or domestic) enable onshore processing of product. There are two plastic processing facilities in Christchurch and others nationwide.
8.11	A special collection satchel for miscellaneous items may be able to be established via the kerbside collection
OPTION	Investigate collection of alternative items via a satchel in kerbside bins.
8.12	Escrap is currently sent away for dismantling, however, it may be more economic to establish a dismantling facility in Timaru.
OPTION	Investigate options for escrap dismantling to improve recycling activity.

1.9 Summary of Chapter 9 Recovery

9.1.1	Council has achieved its objectives from the 2003 Solid Waste Plan, except for maximising the amount of organic waste to be diverted which is partially achieved.
9.1.2	The WMMP outlines options for recovery. All the 2012-2015 plan objectives have been achieved. There is more scope for compliance. For the 2015-2018 period one option is achieved and the options for special waste composting have been assessed but are not to proceed.
9.2	Waste Management NZ are contracted until 2021 to operate the Gore Cover composting facility. Current quantities being processed are approximately 14,000 tonnes per annum.
9.3	Council and WMNZ in conjunction with other parties, have resourced compost trials to stimulate the growth of the compost market. Waste Management NZ manages the compost sales, and while good progress is being made, more marketing is needed.
9.4	Compost tonnages have grown at 4% per annum.
9.5	Two new pads at the compost facility will be built in July/August 2017 extending capacity.
9.6	New pads will cope with 4% growth until 2025/26.
OPTION	Review Functional Description Report in 2021/2022.
9.7	Existing pads are being monitored for subsidence, but will be managed operationally till end of life.
OPTION	Design 10+ new pads in 2024/2025.
OPTION	Build 10+ new pads in 2025/2026.
9.8	A special organics report was completed but the risk of odour is high and it was decided not to proceed with special wastes at Redruth.
9.9	Waste Oil is recovered by Oil Recovery South Island.
9.10	The pyrolysis facility is established and processes timber. There may be scope to reduce ETS costs by removing timber from landfill.

1.10 Summary of Chapter 10 Treatment

10.1.1	Council has achieved (3 of 4) or partially achieved (1 of 4) its objectives from the 2003 Solid Waste Plan.
10.1.2	The WMMP outlines options for treatment. The option proposed in 2012-2015 has been considered.

10.2	Council provides a free drop-off for small quantities of hazardous waste at transfer stations. This service costs $20,000 per annum. Introduction of a small charge for this service was considered. Signage is provided at all transfer stations to advertise the drop off facilities for hazardous waste. Media coverage is ongoing.
OPTION	Investigate the implementation of a system for discouraging commercial drop-off of hazardous waste.
a	Install a camera at the hazardous waste drop-off.
b	Staff hazardous waste drop-off, or change location of drop-off to RRP.
10.3	Council has conducted a district wide collection of agrichemicals. Farmers can take small domestic quantities (<20litres) to transfer stations or back to their supplier if this service is available. For larger amounts, waste companies can collect and dispose of the chemicals.
10.4	Medical waste is collected by Interwaste for incineration in Dunedin.
10.5	Hazardous waste requiring disposal at Redruth is permitted through a Waste Manifest system. Waste Acceptance Criteria guidelines were prepared in 2011, and are being reviewed in 2017.

1.11 Summary of Chapter 11 Disposal

11.1.1	Council has achieved 7 of 8 objectives and partially achieved one objective from the 2003 SWP.
11.1.2	The WMMP outlines options for disposal. For the 2012-2015 period the options have been achieved. For the 2015-2018 period options for emergency waste disposal are underway.
11.2	Council has contracted WMNZ until 2021 to operate the Council owned Redruth landfill.
11.3	A review of the 2013 bylaw is underway. Changes are expected to be minor.
11.3.1	The bylaw lists items banned from landfill.
11.3.2	The bylaw lists items prohibited from landfill.
REFER	Increase business education staff resourcing by 0.5 FTE to assist businesses with recycling and recovery of waste with a goal of introducing waste reduction at source initiatives. Refer to Chapter 6- Reduce
11.4	Waste to landfill has increased to 27,000 tonnes per annum.
11.5	The three main waste streams are kerbside waste (28%), transfer station waste (13%), and commercial waste (59%).
11.6	The landfill is consented until 2030 but landfill life projections will range from 25-35 years subject to variance in annual tonnages.
11.7	There may be some increase in waste tonnages due to proposed hydro electricity projects in South Canterbury.
11.8	In November 2009, a visual audit of the landfill waste, excluding sewage, was conducted. By weight, timber is the highest component at 19.6%; plastics ranks second at 21.4%; putrescibles is third at 18.8%; with paper and cardboard together being 17.5%.
11.9	Materials were diverted from the following waste streams as follows: Gantry / mini skip: 22.32% Public / builders: 8.35% Consolidated waste streams: 10.09%.

11.10	Of the waste disposed of at the landfill the following diversion of materials was achieved in the Waste Sort trial: Timber 46% Metal 26% Green waste and Gib board 16%.
11.11	There is scope for improved separation of materials and items before waste is disposed of to landfill. This will need improved public education, on-going monitoring and enforcement of the bylaw, improved resources (skips, bins and staff) and the addition of unloading areas for respective materials.
11.12	Limitations on diversion include receipt of mixed loads, lack of infrastructure, policy and incentives and people's choice to dump.
11.13	A solid waste analysis was conducted at the Redruth landfill in June 2011. The purpose of the analysis was to determine the composition of the waste being deposited at the Redruth landfill tipping area to calculate a UEF.
11.14	For this Waste Assessment a desktop audit has been used.
OPTION	Conduct a physical SWAP audit in 2022 required for next six-yearly review of the WMMP.
11.15	Council faces ETS obligations. A New Zealand Carbon Unit is estimated to cost $18.00 from 2017-2018, but a phase in of full costs will increase costs for Council.
11.16	The default UEF is 1.19 which will result in a carbon obligation of $589,000 for 27,500 tonnes at $18.00 per tonne of carbon. Benefits of diverting timber to reduce costs need to be reviewed.
11.17	Loads transported from one source have waste minimisation potential. Loads from mixed sources include the following wastes which have been identified as having waste minimisation potential. These include: Timber Green and putrescible waste Mixed loads
11.18	A range of fees are set by Council acting as either an incentive or disincentive. Differential charges act as an incentive for waste minimisation initiatives and as a disincentive for landfilling waste, so need to be maintained. Fees need to be flexible to take commercial conditions into account.
11.19	As disposal fees increase, waste will migrate to other disposal options and /or new waste minimisation initiatives that may become viable. Risk lies with commercial quantities which may be disposed of out of district.
11.20	Future landfill operations:
11.20.1	There are a range of fixed costs attributed to the landfill and if waste tonnes decrease the ability to recover fixed costs is reduced.
11.20.2	Options to reduce landfill operating costs include; reduce fixed operating costs, increased disposal fees, adjust funding policy and consider alternative daily cover to increase air space.
11.20.3	The use of landfill lids as alternative daily cover is being considered.
OPTION	Run an alternative daily cover trial.
11.20.4	Resource consent for Redruth landfill expires in 13 years. The expected life of the landfill exceeds the life of the consent, so the landfill will need to be re-consented.
OPTION	Apply for extension of consent in 2027/28.
11.21	Closed landfills.

11.21.1	The Council monitors seven Closed landfill sites for compliance with resource consent conditions.
11.21.2	Monitoring shows compliance with most consent conditions.
11.21.3	The old landfills were closed with less than optimal profiling and capping. Council is working to improve these sites to reduce impacts and create usable spaces.
OPTION	Complete capping of Pleasant Point Closed landfill
11.22	As part of the resource consent conditions, Council is required to monitor the Redruth landfill and other Closed landfills for a range of conditions, and write an annual report.
11.23	This section contains the summary of analysis of results of the 2015-2016 Annual Report to Ecan.
11.24	Management Plans:
11.24.1	The WOL Plan provides a framework for overall site planning including cell development, capping, landfill gas, leachate, stormwater and long term use.
OPTION	Build Stage Two & Three landfill cells as per WOL programme (25 years life).
OPTION	Cap Stage Two & Three landfill cells as per WOL programme.
11.24.2	The SMP will enable the site to comply with the stormwater consent for the catchment to be applied for.
OPTION	Implement stormwater management projects as per SMP.
11.24.3	The Landfill Gas strategy outlines calculations, concept plans, implementation programme and cost estimates.
OPTION	Implement landfill gas strategy as per WOL programme.
11.24.4	The Redruth Landfill Stage One capping – preliminary design report provides a design framework for the capping of Stage One.
OPTION	Cap Stage One of landfill as per WOL programme over 25-35 years.
11.25	Council accepts cleanfill at transfer stations. Some private contractors own and operate cleanfill sites.
11.26	Illegal dumping may increase with if fees are increased. Enforcement and follow-up should be monitored.
11.27	Natural disasters generate significant amounts of waste and Council will need to ensure waste disposal is incorporated into emergency plans as part of being prepared for natural events so a reactive response is not necessary which may have follow on consequences.
OPTION	Ensure waste disposal options are included in emergency plans.
OPTION	Obtain consent for Pleasant Point pit as an alternative dumping site for emergency waste.
11.28	In the case of a significant spill or event, special waste may be disposed of at Redruth Landfill. Waste Acceptance Criteria and protocols will apply.

1.12 Summary of Chapter 12 Public Information

12.1.1	Council has achieved the objectives from the Council SWP except the development of facilities for environmental education.
12.1.2	The WMMP outlines actions for Public Information. The 2012-2015 actions were achieved. The 2015-2018 actions are achieved (lot 3) or future (lot 3)
12.2	Council employs 3 FTE staff in the Waste Minimisation Unit.
12.3	There is a steady demand for talks and tours on waste minimisation and assistance with zero waste events.
12.4	Council provides a range of information to the community.

12.5	Staff provide a school education programme, conducting talks, waste audits and advice on waste minimisation. There is scope to increase the coverage to a wider audience through a dedicated programme.
OPTION	Evaluate cost of community education at SSCT Education Centre or internally.
12.6	Council works with businesses to minimise waste. A trophy can be awarded to businesses who work towards Zero Waste.
OPTION	Refer to Timaru Reduction Options - add 0.5 FTE for business assistance to improve sorting and compliance through education and with a goal of introducing waste reduction at source initiatives.
12.7	The SSCT is planning to develop an Eco Centre. Council should assist where possible.
OPTION	Subsidise building cost of Eco-Centre including any specific costs associated with protection against landfill gas.
REFER	Cap Stage One of landfill as per WOL programme over 25-35 years.

1.13 Summary of Chapter 13 Other Information

13.1	The Australian experience offers some insights into waste minimisation options.
13.2	The Waste Assessment will be sent to the local Medical Officer of Health and will be available online. Feedback will be sought via the Special Consultative Procedure for the WMMP.
13.3	A summary of contracts for Council and when they terminate.

1.14 Summary of Chapter 14 WMMP

14.1	Council must strive to achieve the outcomes of the WMA and the goals of the NZWS. While there are a number of options identified in this assessment, actual proposals or actions to be completed for the next 10 year period of Council's WMMP will be given strategic direction by the goals/targets and objectives to be set in the WMMP for the 2018-2028 period.
14.2	"Effective and efficient waste management and minimisation is achieved when less waste is going to landfill, when resources are used wisely, when the economic cost of managing waste is reduced and when societal costs and risks are minimised."
14.3	The following sections set out Council's preliminary vision, goals, objectives and targets for achieving waste reduction.
14.4	A sustainable community that is able to reuse, recycle and recover discarded resources and minimise residual waste to landfill, while ensuring protection of human health and the environment. The Ministry for the Environment definition of sustainability is ''about meeting the needs of today, without adversely impacting on the needs of tomorrow''.[2]
14.5	A goal of Zero Waste to landfill by 2015 was adopted by Timaru District Council in 1999.
14.6	The Zero Waste to landfill goal is aspirational but initiatives to further minimise waste and specifically achieve diversion of waste from landfill must be strongly considered. The costs of doing this needs to be set against the long term costs of failing to do so with a limited landfill life in sight.

[2] http://www.mfe.govt.nz/issues/sustainable-industry/tools-services/definition.php

14.7	A variety of considerations are important including planning, economic feasibility, diversion of waste, waste levy initiatives and collaboration.
14.8	The goals of the Timaru WMMP are to : Protect public health. Protect the environment. Provide effective and efficient services in a sustainable manner.
14.9	Targets and performance measures will be set in the 2018 WMMP.
14.10	Council could lobby government to implement waste minimisation initiatives.

1.15 Summary of Waste Assessment Options

Options are categorised into one of five categories. Planning for change should include a balance across the five categories of Direct Action, Change the Rules, New Ideas, Communicate and Educate, Monitor and Feedback.

The options presented in the following table are identified as actions that are required in order to comply with legislative, environmental, contractual or asset management requirements, or to improve existing operation and maintain existing levels of service. The table shows the action, category and reason.

Option	Category	Reason
Create service lane for emergency access to site and contractor use.	Action	H&S
Review Solid Waste Contract 1635 in 2019 for end of Contract 1635. A 17A review will be required.	Ideas	Contract/ Legislative
Undertake a sort-and-weigh audit of wheelie bins prior to the RFP in 2019. This is critical to determine composition of waste from kerbside collection.	Monitor	Legislative
Put out RFP in 2020 for new waste services contract.	Action	Contract
Review need for asset management planning to include condition rating, financial data etc.	Monitor	Assets
Undertake insurance revaluations six-yearly of Council built assets and buildings.	Action	Assets
Schedule staggered implementation of RFID tags from 2018 on.	Monitor	Assets
Conduct a physical SWAP audit in 2022 required for the next six-yearly review of the WMMP.		Legislative
Every five years, prior to review of WMMP, undertake random visual sample of bins to determine composition and help with any planning for WMMP. The next visual audit will be undertaken in 2023.	Monitor	Planning
Review Functional Description Report in 2021/2022.	Monitor	LoS
Design 10+ new compost pads in 2024/2025.	Action	Assets
Build 10+ new compost pads in 2025/2026.	Action	Assets
Apply for extension of landfill consent in 2027/28.	Action	Environment
Cap Stage One & Three landfill cells as per WOL programme.	Action	Environment
Cap Stage One of landfill as per WOL programme over 25-35 years.	Action	Environment
Complete capping of Pleasant Point Closed landfill.	Action	Environment
Implement stormwater management projects as per SMP.	Action	Environment
Implement landfill gas strategy as per WOL programme.	Action	NES
Ensure waste disposal options are included in emergency plans.		Planning
Obtain consent for Pleasant Point pit as an alternative dumping site for emergency waste.	Rules	Environment
Install a camera at the hazardous waste drop-off.	Monitor	Operational
Staff hazardous waste drop-off, or change location of drop-off to RRP.	Monitor	Operational

Lobby central government on waste issues.	Rules	Operational
Add vehicle recognition software at Timaru Transfer Station.	New Ideas	Operational

The options in the following table might be taken to reduce waste to landfill. Rankings are derived from document #1077296 where options have been assessed against a range of factors including environmental, social, economic and other.

Option	**Category**	**Ranking**
Increase Crow's Nest contract funding to recognise increased role in drop-off area.	Direct Action	86
Increase business education staff resourcing by 0.5 FTE to assist businesses with recycling and recovery of waste with a goal of introducing waste reduction at source initiatives.	Communicate	83
Add 0.5 FTE for kerbside visual auditing.	Communicate	82
Investigate soft plastics collection and processing.	New Ideas	82
Run an alternative daily cover trial.	Direct Action	81
Investigate options for separated glass recovery at rural transfer stations.	New Ideas	81
Consider support of Container Deposit Systems.	New Ideas	81
Add grounds maintenance costs into the overall contract for Redruth.	Direct Action	78
Determine methodology for tyre collection, storage and end-use in consultation with stakeholders.	New Ideas	75
Cover insurance costs for any buildings owned by the Trust.	Direct Action	74
Investigate options for escrap dismantling to improve recycling activity.	New Ideas	74
Investigate alternative glass (collection and) processing.	New Ideas	74
Investigate options for receipt of smaller quantities of polystyrene with or without payment.	New Ideas	70
Investigate alternative items for collection and processing.	New Ideas	69
Consider impact of relocating the Crow's Nest drop-off to the Crow's Nest retail area. Staffing at the transfer station would need to be put in place to handle customer enquiries/receive goods.	New Ideas	66
Subsidise Seat Smart by $5 to a maximum of $2,000 per annum.	Direct Action	65
Trial a funded pilot for Sustainable Living Programme for participants. Subsidise some participants each year for three years and follow changes in habits as a result of the programme.	Communicate	60
Subsidise building cost of Eco-Centre including any specific costs associated with protection against landfill gas.	Direct Action	59

Evaluate cost of community education at SSCT Education Centre or internally.	New Ideas	59
Investigate and trial a collection point for confidential papers.	New Ideas	43

APPENDIX 2 RISK CATEGORY DEFINITIONS

Categories of Likelihood

Almost certain	5	90% or greater chance of occurring in next 12 months Expected to occur in next 9 or 10 years Certain to occur at least once in next 5 years It would be unusual if this didn't happen
Likely	4	60% to 90% chance of occurring in next 12 months Expected to occur at least once in next 5 years Will occur more often than not
Possible	3	25% to 60% chance of occurring in next 12 months Expected to occur in 4 or next 10 years Likely will occur at least one in next five years (>80% chance) Not likely, but don't be surprised
Unlikely	2	2% to 25% chance of occurring in next 12 months Expected to occur a maximum of once every 5 to 20 years 50% chance of occurring in next 5 years A surprise, but not beyond the bounds of imagination
Rare	1	Up to 2% chance of occurring in next 12 months Could occur once every 50 or more years Less than 10% chance of occurring in next 5 years Will only occur in exceptional circumstances

Categories and Descriptors of <u>Consequence</u>

	1 Less than minor	2 Minor	3 Moderate	4 Major	5 Extreme
Achievement of the Vision and Community Outcomes	No impact on the Vision and Community Outcomes	Inconvenience or delay in achieving the Vision and Community Outcomes	Significant difficulty introduced to achievement of the Vision and Community Outcomes LoSt opportunity to contribute positively to one or more of the Vision and Community Outcomes	Failure to achieve a specific Community Outcome LoSt opportunity to significantly advance a specific Community Outcome	Failure to achieve multiple Community Outcomes LoSt opportunity to significantly advance multiple Community Outcomes
Financial	Financial impact of less than $50,000	Financial impact of between $50,000 and $250,000 Financial impact of between 1% and 2% of the Council's total opex	Financial impact of between $250,000 and $1 million Financial impact of between 2% and 5% of the Council's total opex	Financial impact of between $1 million and $5 million Financial impact of between 5% and 10% of the Council's total opex	Financial impact of more than $5 million Financial impact of more than 10% of the Council's total opex
Health and Safety (customers, staff, contractors)	Minor injury, first aid not required	First aid or minor treatment	Medical treatment required	Serious harm, for example broken bones, hospitalisation	LoSs of life; multiple serious harms; permanent severe disability

Service delivery to community	Short-term reduction in service delivery which is easily restored and does not compromise the community's health and wellbeing	Reduced service delivery that does not compromise the community's health and wellbeing	Key service not available to some of the community for ten hours or more Continued service degradation for two days or more	Key service not available to a significant portion of the community for two days or more Continued severe service degradation for one week or more	Key service not available to a large proportion of the community for one week or more Continued severe service degradation for one month or more

	1	2	3	4	5
	Less than minor	Minor	Moderate	Major	Extreme
Organisational capability and capacity	Temporary problem with organisational capability resulting in no impact on external service delivery	Loss of organisational capability in some areas resulting in sub-optimal support to external delivery activities	Organisation unable to function for less than 10 hours Serious reduction in organisational capability for one week or more	Organisation unable to function for more than 10 hours Serious reduction in organisational capability for two weeks or more	Organisation unable to function for more than two days Serious reduction in organisational capability for one month or more
Reputational	Negative feedback from individuals Short-term 'letters to the editor' (or online equivalent) commentary	Short-term Loss of confidence among small sections of the community Regional adverse political or media comment for one or two days Sustained 'letters to the editor' (or online equivalent) commentary in usual	Short-term and manageable Loss of community confidence Regional adverse political or media comment for more than two days Significant social media commentary or campaign from new sources	Loss of community confidence requiring significant time to remedy National adverse political or media comment for more than two days Regional adverse political or media comment for more than one week	Insurmountable Loss of community confidence National adverse political or media comment for more than one week Requirement for (televised) public apology or defence Adverse comments or

		sources		Requirement for (televised) public explanation	questions in Parliament
Legislative / regulatory compliance	One-off minor regulatory or legislative non-compliance with no direct impact on the community's health or wellbeing	One-off minor regulatory or legislative non-compliance with potential impact on the community's health or wellbeing	Complaint to the Ombudsman, Auditor-General or other statutory office Multiple related minor non-compliances due to an underlying systemic issue Significant breach or non-compliance resulting in regulatory scrutiny	Significant breach or non-compliance, or multiple breaches or non-compliances, resulting in regulatory action and/or restrictions on Council activities	Court proceeding or criminal action for breach or non-compliance; potential for imprisonment of elected member or staff Judicial review on a matter of rates or other funding, or on a matter with significant financial impact

APPENDIX 3 EFFECTS ON WELLBEING

Positive Effects on Community Wellbeing	Cultural	Social	Economic	Environmental	Negative Effects on Community Wellbeing	Cultural	Social	Economic	Environmental	Mitigation of Negative Effects
Systems ensure safe, collection, processing, treatment and disposal of waste ensuring quality of life	□	□	□	□	Higher waste volumes will consume more airspace. Leachate generated at the landfill has the potential to negatively affect some waterways in the district.	□	□	□	□	TDC will continue to carefully investigate options for waste minimisation and diversion. Water quality will be monitored through routine sampling and actions identified to mitigate effects.
Reliable waste collection is essential for operating businesses and critical public services (e.g. hospitals)	□	□	□	□	A sustained breakdown in service would be critical for major industrial and commercial users in the district and would result in substantial costs being incurred.		□	□		TDC's waste contractors, Waste Management NZ Ltd, have extensive resources to supply back-up. Alternative landfilling options should be investigated.

PART B – WMMP BY ACTIVITY

B1. Infrastructure - districtwide
- B1.1 Kerbside Collection
- B1.2 Transfer Stations
- B1.3 Private Waste Collection

B2. Activity by Waste Hierarchy
- B2.1 Reduction
- B2.2 Reuse
- B2.3 Recycling
- B2.4 Recovery
- B2.5 Treatment
- B2.6 Disposal
- B2.7 Community Participation, Information, Public Places and Events

B1 – INFRASTRUCTURE - DISTRICTWIDE

This section summarises 3 activities which reach across the district.

Description of assets for each activity, their condition and performance, associated risks, demand, and priority issues are covered in the succeeding sections.

B1.1 KERBSIDE COLLECTION

A standard set of three bins used in the kerbside collection service.

ACTIVITY OVERVIEW

History

In the mid-90s, the Geraldine township started kerbside collection of recyclable materials – collected in 60-litre bins fortnightly. This collection showed that crates were insufficient for the amount of materials generated by a household, supporting the move to large recycling bins in 2006.

During the consultative phase for the Solid Waste Plan 2003, there was a strong desire from the community for recycling, and Council undertook significant consultation on possible collection services. To achieve maximum diversion of waste from landfill, Council considered a three-bin kerbside collection service utilising a standard set of three bins comprised of a 240-litre green-lid bin for organics collected weekly, a 140-litre red-lid bin for rubbish, collected on alternating fortnights with the 240-litre yellow-lid bin for recycling. During 2005, a trial using the three-bin system was undertaken, and 87% of residents participating were satisfied. As a result, Council introduced the three-bin system kerbside collection services from July 2006 with the 3-2-1-ZERO branding.

The quantity of waste disposed of to landfill from the kerbside collection reduced from 18,080 tonnes in 2005/06 to 6,725 tonnes in 2006/07, a reduction of 63% due to the implementation of the three-bin system.

Current
Council provides a three-bin kerbside collection service to all urban areas and some rural areas - mainly on collection routes between the townships. Two bins are picked up each week - the organics bin is weekly, and the rubbish and recycling bins are picked up on alternate fortnights.

The CBD areas of Timaru, Temuka, Geraldine and Pleasant Point receive a weekly service for rubbish, recycling and organics with all 3 bins picked up each week. There is a reduced need for an organic collection for the CBD areas and customers may choose to replace the organics bin with a recycling bin.

Council provides a range of bin sizes to suit customers' requirements including the option of a crate service, "Eco-Cart", to customers who cannot manage a set of three bins.

Council provides management services for the kerbside collection, including information, education, monitoring and enforcement.

Private waste contractors may provide service in areas where Council does not.

METHODS

- Provide a regular kerbside collection of rubbish, recycling and organic waste to urban centres and nominated rural routes
- Provide wheelie bins and Eco-carts for collection services
- Provide information on use of bins
- Monitoring of bins (assets)
- Monitor use of kerbside system
- Enforcement, where use of service is non-compliant

REQUIREMENTS

- Collections may commence at 6.00am
- Collections are undertaken Monday to Friday
- No collections on Good Friday, Christmas Day, and New Year's Day
- Compulsory for all properties in urban zones of Timaru, Temuka, Geraldine, Pleasant Point, Pareora, Winchester and Cave *(refer policy #832413)*
- Discretionary participation in areas outside the urban zones
- Weekly collection for CBD areas in Timaru, Temuka, Geraldine and Pleasant Point *(refer policy #832413)*
- CBD customers pay the same rate as other customers
- Set district wide 100% user pays targeted rate for the kerbside services, with differential pricing for incentives/disincentives for waste minimisation and disposal
- Provide bylaw for kerbside collection services
  In rural areas, additional properties will only be serviced at the gate (i.e. no collection at rural corners from 2014)

DATA AND RECORDS

The following data is to be recorded for the kerbside collection:

- Bins delivered, retrieved and in service *(monthly bins data report –Folder F3106)*
- Stolen bins, repairs and maintenance of bins *(Folder F3106)*
- Bins emptied *(Folder F3106)*
- Missed services *(via TDC CRM)*
- Gross weights per collection waste stream *(#771501)*
- Average weight of waste (kg) per bin for recycling, organics and waste *(Folder F3094)*
- Contamination of recycling and organics collections *(driver reports and audit data)*
- Household contamination rates for the recycling and organic collections *(audit)*

Table 2: Number of Bins in Service-update

Bins in Service at 30/6/2017	140 litre	240 litre	Total
Rubbish	18,829 89%	2,354 11%	21,183 34%
Recyclables	2,176 10%	19,192 90%	21,368 34%
Food and Garden	1,601 8%	18,678 92%	20,279 32%
	22,606	**40,224**	**62,830**
Eco-Carts			218
Eco-Carts			0.30%
			63,048

Data source HP#1002596 Data Tables & graphs - bins in service tab

Table 3: Bins Data–Presentation, weight, number of empties and missed bins

	Recycling Bins			Organic Bins			Rubbish		
	Gate Rate*	kg/bin	Number emptied per annum	Gate Rate*	kg/bin	Number emptied per annum	Gate Rate*	kg/bin	Number emptied per annum
2006/07	73%	12.70	357,267	61%	22.09	570,240	82%	13.28	395,192
2007/08	76%	12.30	382,083	63%	19.04	594,278	85%	10.85	420,026
2008/09	77%	11.75	388,711	62%	19.37	596,603	83%	11.13	415,301
2009/10	75%	11.43	386,858	61%	19.45	595,012	82%	10.89	417,110
2010/11	75%	11.73	389,661	61%	20.32	597,678	83%	11.56	430,643
2011/12	75%	11.90		63%	20.00		81%	15.3	

			399,201			625,342			426,311
2012/13	77%	12.20	389,361	63%	19.20	610,452	87%	12.6	434,002
2013/14	77%	11.20	382,271	63%	19.70	605,037	87%	13.2	436,602
2014/15	73%	12.53	392,067	57%	18.35	584,178	83%	11.6	443,620
2015/16	71%	12.56	391,561	58%	18.79	602,951	87%	11.44	475,750
2016/17	70	12.53	388,631	60%	19.85	615,549	77%	11.39	427,718

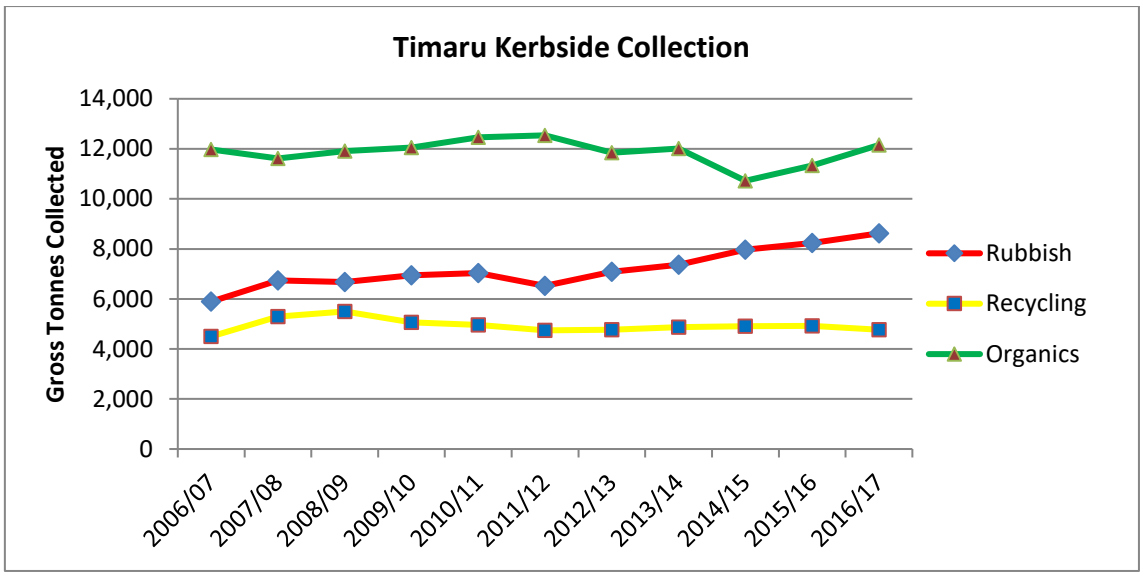
Gate rate * = presentation rate i.e. percentage put out to the gate for collection
Kg/bin = kg/per bin/per empty

Data source HP#1002596 Data Tables & graphs - WM kerbside data tab

Missed bins

670 bins is less than 2 bins per collection day or 0.05% of the 1,579,410 bins emptied, which means that 99.95% of bins were collected in 2015/16. The contractor returns to collect a missed bin, unless the bin was not out for collection on time.

Gross collected for the recycling, organics and rubbish collections



Data source: HP#1002596-kerbside quantities tab

The gross allocation of waste collected for the kerbside service since 2006/07 is shown in the graph above. Recycling tonnes are increasing gradually, organic tonnes fluctuate, perhaps due to seasonal variations, however, the continuing strong trend in the rubbish tonnes needs to be considered.

Gross and Nett Tonnes

Figures of nett and gross tonnes are recorded for the Composting Facility and Materials Recovery Facility, rather than specifically for kerbside. Each facility receives materials from kerbside, which comprises the bulk of the incoming material, but also receives materials from transfer stations and commercial sources.

INFORMATION AND AUDITS

Council's website provides information on collection days and materials accepted along with information on specific bin issues. Brochures, bin guides, posters and stickers have been produced to support the monitoring programme. Regular media in local newspapers and radio is also used to inform residents about collection matters. Contamination issues are also addressed through talks and tours.

Table 4: Kerbside Collection Services 2016/17

Service	Container -std size first	Collection Frequency	Percent of total bins
Rubbish	140-litre or 240-litre	Fortnightly	34%
Recyclables	240-litre or 140-litre	Fortnightly - alternates with rubbish	34%
Food and Garden	240-litre or 140-litre	Weekly	32%

Data source: HP#1002596 - Bins in Service tab

A weekly collection is also offered in the "eco-carts", a stacked set of three 40-litre bins.

Household Contamination Rates

From 2009-2014, Council conducted a kerbside bin monitoring programme with a staff member inspecting yellow and green bins for contamination in areas determined in liaison with the collection contractor. The kerbside monitoring was re-established in 2016/17 with temporary staffing to assess the time component of the work and it's effectiveness. Monitoring can be conducted 5 days a week with 0.5FTE.

The process is that initial letters (Type 1) are issued to residents to congratulate them on placing correct items in the bin, or a letter, along with other resources (guide, sticker and poster), informing them of the contamination and instructions on what to do correctly. A second visit to the same properties follows the same procedure (Type 2 Letter) and also captures bins missed on the previous inspection. A third inspection is carried out and Council staff may visit residents to discuss what they are doing wrong and offer assistance to improve their sorting.

Table 5: Kerbside Enforcement Notices

Letters	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15-2015/16	2016/17
Type 1	51%	46%	42%	46%	17%	NO AUDITS	96%
Type 2	24%	17%	21%	23%	3%		3%
Type 3	4%	4%	12%	10%	0%		0%

Data source: HP#895921-Enforcement letter tab

From 2009/10 - 2013/14, approximately half the bins had minor contamination. Note that the 4% who received type 3 letters in this period is a similar percentage to the 3.9% of bins that had major contamination in the 2009 visual audit. In 2016/17, major contamination was zero showing the reduction in contamination over the 3 weeks of monitoring. However, the main items of contamination are plastic bags, meat trays, plastic wrap, pizza boxes, fish n chip paper and chip & sweet wrappers.

Kerbside data conclusion

Data shows a significant increasing trend in 240-litre red bins, a marked increase in the average weight of red bins, and a marked increase in the fraction of red-bin waste in the kerbside collection. These three data trends indicate a need for monitoring and education for the kerbside collection.

Monitoring options

OPTION APPROVED	Add 0.5 FTE for kerbside visual auditing.
OPTION APPROVED	Every five years, prior to review of WMMP, undertake random visual sample of bins to determine composition and help with any planning for WMMP. The next visual audit will be undertaken in 2023.
OPTION APPROVED	Undertake a sort-and-weigh audit of bins prior to the RFP in 2019. This is critical to determine composition of waste from kerbside collection.

Education Options

OPTION APPROVED	Refer to Reduction Options - add 0.5 FTE for business assistance to improve sorting and compliance through education and with a goal of introducing waste reduction at source initiatives.

As there is no limit to the number of bins a customer may have, there is potential for unlimited numbers of red bins to be used in preference to separating correctly as the bylaw requires. A policy change to allow any number of red bins subject to compliance with the bylaw presents an opportunity for waste minimisation education and potential cost savings for the business.

Policy Option

OPTION	Review Bins Policy adding a proviso that unlimited bins are allowed subject to compliance with bylaw. The alternative is to make this a focus of the extra business assistance proposed above. Policy can not be monitored without extra staff resourcing.

Sustainability

Bin bodies contain a percentage of recycled material ranging from 10-35%.

ASSET SUMMARY

Asset Data
Council owns the kerbside collection bins. There were 62,830 bins in service at 30/6/2016. *(#1002596 Data – bins in service tab)*

Asset Condition
The expected life of a bin is 15 years. The majority of bins are in good condition for 11 years service and are largely expected to last the 15 years of the contract until 2021 with superficial deterioration and minor maintenance required. Bins repairs and replacement are routinely carried out by the contractor, WMNZ, at the request of Council. Records are kept in Council CRM system and in monthly service reports from the contractor. *(F3106)*

Asset Capacity
There is an annual capital expenditure budget for the purchase of new bins for replacement and growth. An increasing cost for replacement of bins has been predicted. The number of bins purchased to date is shown in the table under risk.

Asset Monitoring
The addition of Radio Frequency Identification tags (RFID) to track bins is being trialled in the CBD from September 2017. The benefits of adding tags to bins are:

- Improved stocktake data – tracking bins, retrieving stolen/surplus bins, maintaining bins at the assigned property
- Improved customer service – tracking bin empties in real time
- Reduced costs on collection and processing – eliminating bins and pick ups except those charged on rates
- Reduced costs on call backs – 5% due to customer error
- Route optimisation based on vehicle data.
- Reduced staff time in inputting bin data
- Reduced landfill disposal costs

Refer also to section on Risk.

LEVELS OF SERVICE (LOS) - KERBSIDE

Level of Service Statement				
LoS1 – Waste Minimisation facilities are adequate and available to the community, including provision of regular kerbside collection services to enable separation of waste for recycling and compost.				
Year	**Measure**	**Target**	**Result**	
2015-2018	Satisfaction with Waste Minimisation Services -resident -user *(measured by Communitrak 2-yearly survey)*	›90% ›90%	2015/16	Kerbside users -95% satisfied. Refer #1007892
			2016/17	No survey
			2017/18	
2018-2021			2018/19	
			2019/20	
			2020/21	
Technical measure				
2018-2021	The number of missed bins will be retained as a *technical measure* only to monitor contractor performance and be reported as part of the Waste Management Annual Report.			

Level of Service Statement				
LoS4 - Public Information and education promotes appropriate sorting of waste and waste minimisation				
Year	**Measure**	**Target**	**Result**	
2015-2018	Kerbside collection and general information is provided across a range of media.	Kerbside collection information 2,000 items per annum	15/16	2,100
			16/17	2,500
			17/18	
2018-2021		Kerbside collection information 2,500 items per annum	18/19	
			19/20	
			20/21	

General information is reported in B2.7 Community Participation, Information, Public Places and Events

This measure has previously been noted in the Recycling and Recovery chapters, but will now be reported for the kerbside and public information activities. Data source: HP #908038.

RISKS

Risks to the provision of the kerbside collection are low as the contractor is well resourced.

The management of bins has a risk that assets are "lost", possibly remaining in service and not being accounted for. Every lost bin not physically retrieved costs Council $180-$230 per year, including loss of income from rates. In 2012, in one 6-month period, a comprehensive bin audit recovered 105 bins saving $15,000 in costs. *(Data source: HP#727909)*

Radio Frequency ID (RFID) tags would reduce this risk and significantly increase management efficiency.

- An RFID tag trial tested the retrofitting of RFID tags to bins without tags in September 2017 with hardware fitted to the CBD side-loader truck.
- New bins are to be purchased with tags from 2017/18.
- It is recommended that the bins district-wide are tagged in 2018/19.

OPTION APPROVED	RFID tags and hardware on trucks in 1 year (preferred option).

Critical Assets

The bins are key assets for delivering this activity. Overall, they are still in very good condition. However, there are more than 60,000 bins in service and some bins will need replacement, so while replacement bins must always be kept in stock, the overall risk of asset/activity failure and loss of LoS is considered low.

An increase in repair and replacement costs from year 13-15 of the contract should be expected. The financial risk is that large numbers of bins will need replacing before the end of the contract, however, this is looking less likely. In fact, bin costs may reduce as bin life is likely to be longer than expected and depreciation could be adjusted.

Bin purchases and future replacement costs have been projected and budgeted on the Bin IDs tab of #1002596 and the RFID tag project costs have been factored in. Actual costs can be trended and the projections amended for future years. Each bin issued also incurs a service cost of approximately $20. This cost will be factored in to the kerbside collection operations budget.

Bins will be issued on a needs basis responding to customer requests in the first instance. As bin replacements escalate, or at the end of the contract, a different mechanism may be given consideration to reduce operational costs.

DEMAND

Some rural areas are currently serviced, mainly on collection routes between urban areas. Council receives occasional requests for extensions and these are applied against a template to analyse costs vs. benefits. There is some potential for growth in rural areas where pockets of housing development meet the criteria for extensions. This growth will show in overall bin growth, but is also monitored within the contract so any trends and impacts will be observable.

There has been about a 1.5% increase in bins issued each year. The total increase to date is 9% since 1 July 2006. The existing collection fleet should be able to service this growth until the end of the contract.

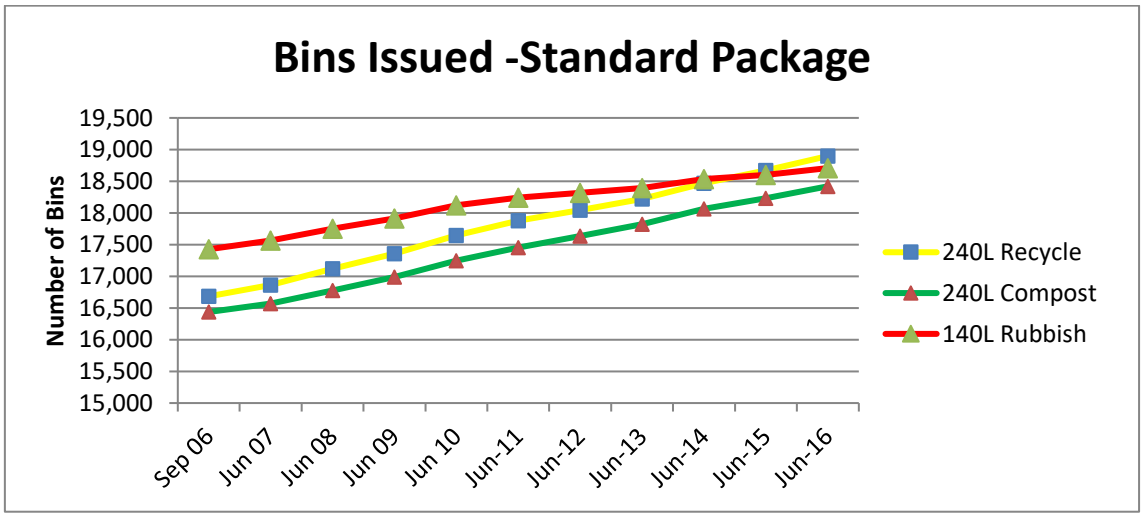
Table 6: Bin Number Threshold for Extra Collection Truck

Demand for bins 2015/16	Existing Bins June 2016	8% Growth until July 2021	Threshold before extra truck required
Rubbish	20,855	22,523	21-24,000
Recycle	21,084	22,771	24-27,000
Compost	20,006	21,606	24-27,000

(Data source- Waste assessment table & graphs –bin number/extra truck tab – #1002596)

8% growth is calculated as 1.5% per annum x 5 remaining years of contract from June 2016.

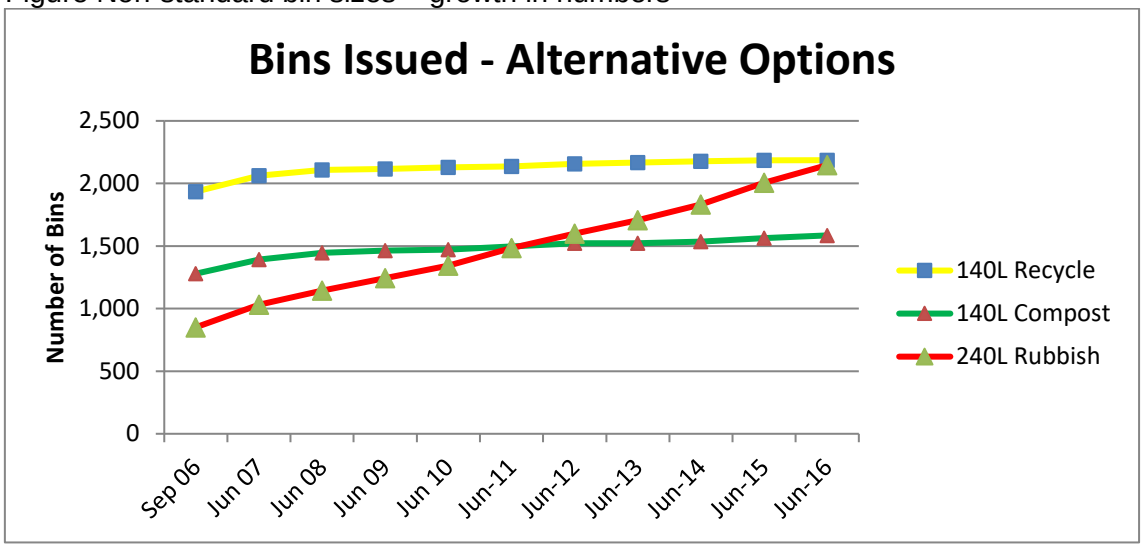
Demand for Bins



(Data source: WMMP graphs –growth-demand-empties tab –#1002596)

The decrease in 140-litre rubbish bins also supports the conclusion demonstrated by the graph on the following page which shows a significant increase in the number of large red bins.

Figure Non-standard bin sizes – growth in numbers



(Data source WMMP graphs –growth-demand-empties tab –#1002596)

Higher demand for the larger 240-litre rubbish bin has continued. Some of the increase may be attributed to businesses moving from skips to the Council service. It has been observed that households are also upgrading to the large bin. Demand for recycle and compost bins remains constant.

Changes in Demand
No significant increase or decrease based on population and household projections is noted. Actual demand is assumed to keep within projected levels.

Managing Demand
It is important to monitor the net quantity of bins in circulation not only for contract payment, but also to track the threshold number of bins to see if collection resources need to be re-assessed. The ongoing demand for 240-litre rubbish bins needs to be monitored to assess if people are opting for an easier disposal option, rather than correctly separating materials.

ISSUES

Bin Audits
In 2007 & 2008, collection audits (sort and weigh) were undertaken of all three bins. Forty-one percent of material in the rubbish bins was identified as being compostable or recyclable. The most significant item placed in both the red and yellow bins was food waste, which could be easily diverted to the green bin.

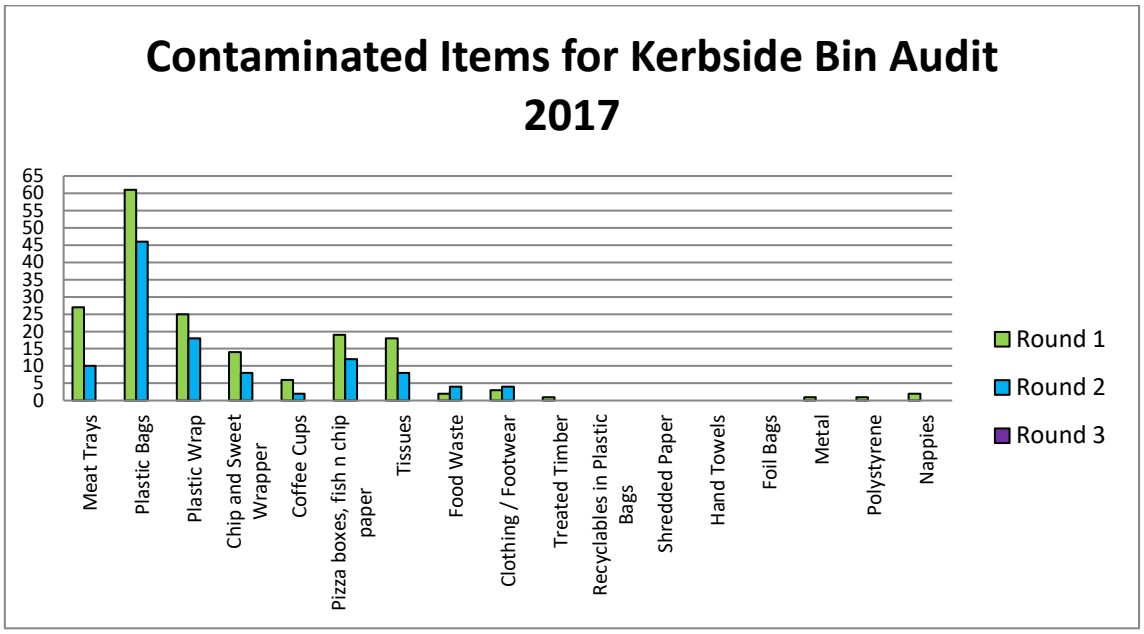
In 2009, a visual audit was undertaken of the recycling and organic bins. Major contamination in organic and recycling bins was less than 1%.

Table 7: Visual Audit of Kerbside Recycling and Organics Bins 2009

Recycle bin contamination		Organics bin contamination	
CATEGORY	**%**	**CATEGORY**	**%**
Recycling in plastic bags	30%	Plastic bags	4%
Plastic bags	27%	Food in plastic bags	2%
Plastic packets	22%	Plastic containers	1%
Cling film	18%		
Polystyrene trays	11%		
Tissues , hand towels	9%		
TOTALS			

(Data source: HP#595657)

The most significant items placed in the yellow bin are tissues and handtowels, which could be easily diverted to the green bin.



The 2017 Kerbside Bin Audit shows a high incidence of plastic bags, plastic wrap and plastic packets, with pizza boxes and tissues also occurring. However, on the second round of monitoring, the incidence of each item reduces with none identified in the third round.

Improvements to Collection

The practicality of collecting an expanded range of materials for recycling is currently not worthwhile, because of cost, commodity markets and low quantities of materials, (e.g. styrofoam trays, biscuit packets). Solutions need to be developed for ensuring packaging is easily recyclable, along with methods for collecting and processing these materials. Similarly, improvements to glass and food collection as well as flexible plastics come at additional cost.

On-going information, education and enforcement is required for improved waste minimisation.

OPTION	Consider support of Container Deposit Systems.

SUMMARY OF ISSUES/OPTIONS

The following issues are considered as areas for priority attention within the next ten years:

Item	Description	Explanation	Budget	Time	Status	Project ID	Priority
1	Review collection service in 2019, or 2022	The WMMP has to be reviewed every 6 years. Undertake the review prior to 2022 and before the collection contract expires in 2021.	Use existing budget	2019, or 2022	**Recommended (part of 17A review)**	KS1	**100**
2	Add 0.5 FTE for kerbside auditing	Required to support contractual obligations and maintain customer compliance with acceptance criteria.	NEW	2018/19	**Approved LTP 2018 – 2028 Year 2 on**	KS2	**82**
3	Implement RFID tags	Reduces call backs, monitoring costs, bin replacement, contract costs and improves Rate income.	Use existing capex budget	2018/19	**Pilot underway 2017 1 year approach included in 2018-28 budget**	KS3	**WIP**
4	Establish a separate glass collection	May improve processing and value of recyclables	To be determined	Future	**Future Option**	KS4	**F**
5	Visual audit of bins	Every 5 years, prior to the statutory review of the WMMP, undertake random visual sample of bins to determine composition to help with planning for WMMP. Will provide useful information for monitoring and strategic planning.	Use existing budget	2023	**Required (WM Act)**	KS5	**100**
6	Review policy	Place restrictions on increase in red bins (subject to staffing 7 below)	Use existing budget	2018/19	**Recommended**	KS6	**(83)**
7	Add staffing 0.5 FTE for business liaison	For 6 above and refer other sections	NEW $26,000	2018/19 on	**Approved LTP 2018 – 2028 Year 2 on**	KS7	**83**

8	Container Deposit Systems	Consider support in conjunction with contractor	Use existing budget	**Future**	**Recommended**	**KS8**	**81**
9	Weigh audit	Undertake a sort and weigh audit of bins prior to RFP to determine composition of waste from kerbside collection.	$30,000	2020/21	**Included in 2018-28 budget**	KS9	
10	Kerbside Collection Satchel	Refer Recycle Option 3					

Project ID – refer to #1093640 WMU white pages Priority refers to the ranking given in the Waste Assessment #1002595. High number shows high priority. 1st=86, 2nd=83, 3rd=82
Options that are based on legislative or consent compliance or asset will be fully depreciated have been given a priority of 100.

FUTURE WORKS (50-YEAR INFRASTRUCTURE STRATEGY)

Year	Description	Explanation
Future	Convert collection service to electric vehicles	Reduces carbon footprint, more efficient.

COMPLETED WORKS

The following options have been implemented for kerbside collection.

Table : Completed works for Kerbside Collection

Year	Description	Explanation
1991	Wheelie bins replaced bags	Health and safety improvement
2006	3-2-1-ZERO kerbside collection system established	Need to divert approximately 75% of material from going to landfill.
2012	Zero Waste Events	The kerbside collection service has been used to facilitate the service delivery of Zero Waste events since 2012.
2013	Install 3-2-1-ZERO public place recycling facilities in highly used areas.	The kerbside collection service has been used to implement the Public Place Recycling collection by replacing existing litter bins with 3-2-1-ZERO sets. See chapter B2.7 Community Participation, Information, Public Places and Events for more details.
2014	Reviewed the services and charges for CBD service	CBD receives a weekly service, but pays the same rate as householders who receive a fortnightly service. Increased rate would establish parity across all bin users in relation to services received. Decision via Council workshop to maintain status quo.
2017	17a review	This reviewed the waste minimisation services. No change was required, but another 17a review will take place prior to the end of the contract.
2017	Review collection service	Data was reviewed as part of the waste assessment. Options have been proposed for monitoring and business staffing to improve use of service and check increasing rubbish trends.
2017	Visual audit	A visual audit was undertaken via the kerbside auditing to assess compliance with materials sorting.

B1.2 TRANSFER STATIONS

A view of the Redruth Transfer Station including Stage 1 of the Resource Recovery Park.

ACTIVITY OVERVIEW

History

To improve environmental compliance and resource recovery, Council progressively closed old landfills, and established transfer stations as shown below:

Site	Address	Year
Temuka Transfer Station	45 Wilmshurst Rd, Temuka	(1993)
Timaru Transfer Station	23 Shaw St, Timaru	(1995)
Geraldine Transfer Station	128 Te Moana Rd, Geraldine	(1997)
Pleasant Point Transfer Station	23 Beck Rd, Pleasant Point	(2000)

Drop-off facilities for the recovery of glass, rigid plastics, newspaper, card, aluminium and steel cans have been provided at the transfer stations since they were established. A public drop-off was established in the Northtown Mall / Pak n Save car park in 1998 for glass, newspaper, aluminium and steel cans, and this was used until the 3-2-1-ZERO system was established in 2006.

Current

These four transfer stations incorporate extensive facilities for the drop-off of waste and a range of reusable, recyclable or recoverable items. Materials are transported to Redruth for processing or disposal. Refer to Appendix A for the location and opening hours of transfer stations. Refer to Appendix B for the full range of services at the transfer stations.

METHODS

- Provide four transfer stations, in compliance with legislative requirements, for public to take rubbish, greenwaste, cleanfill, recycling and reusable goods to.
- Provide household hazardous waste drop-off facilities at transfer stations

REQUIREMENTS

- Sites Closed on Good Friday, Christmas Day, and New Year's Day
- No compost sales on Anzac Day morning
- 100% user-pays for rubbish disposal, although Council may amend or waive this policy from time to time
- All vehicles will pay by weight with the minimum charge set at $10, except at Pleasant Point which is assessed by volume as it has no weighbridge
- Enable differential charging to encourage waste minimisation
- Provide bylaw for improved waste minimisation.

DATA AND RECORDS

The following data is to be recorded for the transfer stations:

- Gross tonnes for the range of materials delivered to the transfer stations Note contamination is recorded at each facility for organics and recycling *(Refer weighbridge data HP#771501 & hazardous wastes inventory HP#728082)*
- Compliance with the relevant legislation and resource consent conditions *(Monthly reporting from contractor – Folder F3094)*
- Compliance with the operational requirements for site management of each transfer station *(Monthly reporting from contractor – Saved annually to Consents Folder F1406)*

Transfer Stations Data (tonnes)

	Rubbish	Organic	Recycl-ables	other recycling	card-board	Crows Nest	Scrap Metal	Clean-fill
2009/10	4891	1,144	212	100	10	207	51	417
2010/11	3,451	1,344	182	114	87	174	111	1,404
2011/12	4,141	1,455	180	183	94	149	99	1,593
2012/13	3,305	1,422	186	189	106	162	86	1,247
2013/14	3,938	1,530	192	275	115	161	110	1,591
2014/15	4,036	1,265	215	308	124	153	162	1,353
2015/16	4,223	1,600	236	328	155	181	201	1,729
2016/17	4,102	1,747	410	372	144	170	241	1,729

Data Source: 1002596 Tables and graphs – TS Composition tab

The Recyclables column is the quantities of household recyclables collected from the transfer stations in the hooker bins, excluding Pleasant Point. The Other Recycling column is the quantities of other recyclable materials collected separately from transfer stations such as escrap, batteries, paint, oil and separated glass.

INFORMATION AND AUDITS

The Council website provides information on the public hours, applicable fees and the materials that may be taken to a transfer station. Brochures, information and media in local newspapers and radio are also used to inform residents about transfer station matters.

Table 8: Services Provided at the Transfer Stations

	Timaru	Geraldine	Pleasant Pt.	Temuka
Rubbish	Yes	Yes	Yes	Yes
Garden	Yes	Yes	Yes	Yes
Gib (permit)	Yes	Yes	Yes	Yes
Recyclables	Yes	Yes	Yes	Yes
Cardboard	Yes	Yes	Yes	Yes
2nd hand items	Yes	Yes	Yes	Yes
Clothing*	Yes	No	No	No
Scrap Metal	Yes	Yes	Yes	Yes
Waste Oil	Yes	Yes	No	Yes
Paint	Yes	Yes	Yes	Yes
Batteries	Yes	Yes	Yes	Yes
LPG cylinders	Yes	Yes	Yes	Yes
E-scrap	Yes	Yes	Yes	Yes
Paint	Yes	Yes	Yes	Yes
Polystyrene	Yes	No	No	No
Hazardous	Yes	Yes	Yes	Yes

*Clothing provided by charity organisations.

Table 9: Transfer Station Hours and Paying Customers (all waste streams)

	Paying customers per hour open			
Year	Timaru	Temuka	Geraldine	Pleasant Point
2006/07	6.1			
2007/08	5.0			
2008/09	5.4			
2009/10	4.1	2.8	2.3	1.5
2010/11	4.3	2.6	2.6	1.3
2001/12	5.1	2.8	3.2	0.0
2012/13	5.7	2.9	3.6	1.2
2013/14	6.2	3.2	4.0	1.6
2014/15	6.2	3.3	4.3	1.9
2015/16	6.9	3.4	4.1	2.1
2016/17	8	4	5	2

Data Source: HP#1002596 DATA- TS Cust Tab (D,N,X,AH row16)

Table 10: Transfer Stations – average load per customer

	Average waste load per customer (kg)			
	Timaru	Temuka	Geraldine	Pleasant Point
2010/11	797	411	432	
2011/12	504	288	244	
2012/13	311	222	227	261
2013/14	329	256	229	373
2014/15	328	212	179	297
2015/16	305	238	154	218
2016/17	288	224	170	221

Data Source: HP#1002596 DATA- TS Cust tab

The following data recorded by informal tally by office staff at the rural transfer stations shows that approximately 40% of customers use the transfer stations for paying transactions, while 60% drop off recyclables at no cost. Also see Appendix B.

Table 11: Transfer Station Utilisation for Recycling

Year	Percentage recycling of total transactions		
	Temuka	Geraldine	Pleasant Point
2011/12	54	56	0
2012/13	58	59	51
2013/14	55	58	
2014/15	58	59	47
2015/16	54	60	39
2016/17	56	57	40

Data Source: HP#1002596 DATA- TS Cust tab Col AB

ASSET SUMMARY

The transfer station sites include built infrastructure, mechanical assets, collection bins, roads and landscaping, weighbridges (except Pleasant Point) and a kiosk, to facilitate the collection, compaction and transportation of various waste streams. Council owns all the transfer station assets except for the loaders, which are contractor owned.

Asset Capacity/Performance

The transfer stations infrastructure is in good condition. The only renewals required in the immediate future are:

- Roading, which needs resealing – Geraldine, Crows Nest Road (RR), Entrance Road (RR) and Hairpin Road (RR).
- Redruth compactor which is fully depreciated

Asset Condition

Timaru Transfer Station Assets	Condition	Start date	Estimated Useful Life	End date useful life
Pit and drop-off area	Good	1995	Varies by component, 10-100 years	
Compactor	Good		Unknown - currently 24 years old (engineering life is 10 years)	
Roads	Varies		0 - 50 years	
Entrance	Varies		0 - 50 years	
South	Varies		0 - 50 years	
Central	Varies		0 - 50 years	
North	Varies		0 - 50 years	
Hairpin	Varies			
Weighbridge	Very good		50 years	
Kiosk	Very good		50 years	
Bin storage shed	Very good		50 years	
Escrap dismantling shed	Very good		50 years	

Geraldine Transfer Station Assets	Condition	Start date	Estimated Useful Life	End date useful life
Pit and drop-off area	Good	1997	Varies by component, 10-100 years	
Compactor	Good		10-20 years	
Roads	Poor		0-5 years	
Weighbridge	Very good		50 years	
Kiosk	Very good		50 years	
Hazardous waste shed	Good		50 years	
Pump shed	Very good		50 years	

Pleasant Point Transfer Station Assets	Condition	Start date	Estimated Useful Life	End date useful life
Pit and drop-off area	Good	2000	Varies by component, 10-100 years	
Roads	Good		50 years	
Kiosk	Very good		50 years	
Hazardous waste shed	Good		50 years	
Escrap shed	Good		50 years	

Temuka Transfer Station Assets	Condition	Start date	Estimated Useful Life	End date useful life
Pit and drop-off area	Good	1993	Varies by component, 10-100 years	
Compactor	Good		10-20 years	
Roads	Good		50 years	
Kiosk	Very good		50 years	
Pump shed	Good		50 years	
Hazardous waste shed	Good		50 years	

Escrap shed	Good		50 years	

Exchangeable Assets	Condition	Start date	Estimated Useful Life	End date useful life
Compactor bins (16)	Poor-good		1-8 years	
Cardboard cages	Poor		3-10 years	
Recycling hooker bin (3)	Very good		10-20 years	
PP scrap metal bin	Good		10-20 years	
PP open top bin	Very good		10-20 years	

Transfer station containers and compactors are monitored and maintained through scheduled maintenance by the manufacturer, BJ Scarlett Engineering, and Scarlett Hydraulics. The transfer station weighbridges are serviced and certified annually.

New software at the weighbridges has enhanced capability, but cashiers at the Timaru Transfer Station handle huge volumes of traffic. Vehicle recognition software would speed up transaction time and improve accuracy.

OPTION APPROVED	Implement vehicle recognition software at Timaru Transfer Station pending software updates

LEVELS OF SERVICE (LOS)

The transfer stations provide services for all customers to use.

There are no LoS issues with transfer station services. Performance status is summarised below:

Level of Service Statement				
LoS1 – Waste Minimisation facilities are adequate and available to the community, including provision of regular kerbside collection services to enable separation of waste for recycling and compost.				
Year	**Measure**	**Target**	**Result**	**Year**
2015-2018	Overall and user satisfaction with waste minimisation services	User satisfaction->90% Overall satisfaction->90%	2015/16	T/S users - 100%
			2016/17	No survey
			2017/18	
2018-2021			2018/19	No survey
			2019/20	
			2020/21	

Data Source- customer satisfaction measured through the Communitrak Survey (2 yearly), Waste Minimisation Levels of Service Summary HP#1007892

RISK MANAGEMENT

Refer to Part A for details of Council's risk assessment process and outcomes for waste minimisation services of the Timaru District.

Critical Assets
As there are four transfer stations, the consequence of failure of one of these assets is relatively low, although functionality is reliant on the roading network and viability of Redruth Landfill. The transfer stations are in good condition.

The risk of the Timaru compactor failing is high, and Timaru Transfer Station can not function without one for the 3 months needed for order and delivery. The old compactor will be stored as a spare.

DEMAND

The rural transfer stations are only open between 9 and 12.5 hours per week and have plenty of capacity to meet demand. The Redruth site is open 58 hours a week and this is sufficient to meet demand.

After a drop in vehicle numbers and tonnes of waste disposed of at the transfer stations for several years, all waste streams and vehicle numbers have increased slightly.

At Pleasant Point, Geraldine and Temuka, the number of customers using the site for recycling has been tallied informally. There is a slowly increasing trend of customers taking advantage of the range of recycling services. See Appendix B for graphs of waste, paying customers and recycling customers.

Changes in Demand
No significant increase or decrease in demand based on population and household projections is expected. Actual demand is assumed to stay within projected levels. Changes in demand may arise from the requirement for new materials to be sorted from the waste stream.

Managing Demand
Geraldine has space to accommodate new materials, as does Pleasant Point. At the Temuka Transfer station, there is more land available at the front of the site, which is currently leased. It is an option that Council makes use of this land at the expiry of the lease. In the future, it is possible that some materials may be required to be delivered to Timaru.

At the Timaru transfer station, a greater range of activity could be implemented to divert materials from landfill. New infrastructure may be required to meet this demand.

The Crow's Nest staff receive escrap. They also check receipt of tyres and paint.

OPTION	Increase Crow's Nest contract funding to recognise increased role in drop-off area.
OPTION	Consider impact of relocating the Crow's Nest drop-off to the Crow's Nest retail area. Staffing at the transfer station would need to be put in place to handle customer enquiries/receive goods.

ISSUES

Health and safety
A number of recent events requiring fire service assistance have highlighted the need for a separate access way to the landfill. The weighbridge can be quite busy and if traffic is queuing there is no access to the back of site for contractors and emergency services in an emergency situation.

OPTION	Create service lane for emergency access to site and contractor use. Not approved.

Tipping arrangements at the rural sites were changed to have customers drop materials off in the flat floor areas, which is the preferred modern method to avoid fall-from-height injuries. Timaru Transfer Station is the only transfer station site with a bar over or under which customers must handle their waste, and there is a risk of injury from this. There is a residual risk that the fall from height is minimised, but not eliminated.

A mechanical tipper was installed in 2013 in collaboration with BJ Scarletts Ltd at their cost as a pilot for them to demonstrate the machine, and this has simultaneously benefitted Scarletts Ltd and TDC customers. TDC pays only for servicing. After 4 years of use and with the waste sort requiring changes to transfer station practices, it is timely to review its effectiveness. The tipper is the preferred tipping zone for builders as the design allows them to deposit waste onto the flat floor of the tipper, and the tipper is then closed off with a gate before it tips waste into the transfer station.

OPTION	Purchase 1 mechanical tipper for public drop-off at Redruth Not approved

A visual waste audit was conducted at the Redruth transfer station in 2009 of materials ***by volume***. From the audit it was identified that:

- 14.1% of disposed materials could be recycled
- 10.4% of disposed materials could be reused
- 2.7% of disposed materials could be used as cleanfill
- 15.5% of disposed materials could be composted
- 4.1% of disposed materials are electrical goods, which could be recycled

A further 31.6% of waste timber could be diverted providing a suitable alternative technology is developed for the timber waste. Approximately 3% of this is treated timber with the balance being a composition of MDF and other off-cuts. Overall, there is potential for up to 78% of the waste to be diverted.

The current limitations in being able to achieve further waste diversion of wood and other materials at the transfer stations include:

- Mixed loads, e.g. rubble in trailer load or garden waste mixed in with other waste
- Recyclables being dropped off as mixed waste

- Limited infrastructure for unloading and sorting, which may be before the kiosk or adjacent to the pit area
- Incentives/disincentives for sorting
- Limited supervision and instruction during unloading
- People's choice to pay full price and dump what they want with no sorting
- No enforcement of bylaw for dumping banned and prohibited materials

OPTION	Investigate options for receipt of smaller quantities of polystyrene with or without payment.
OPTION APPROVED	Investigate and trial a collection point for confidential papers.

Waste Transformations Ltd (WTL)
On 29 July 2014, Council agreed that more materials, particularly timber, should be diverted from landfill. Council entered into a liaison with Waste Transformations Ltd, who will set up a slow-pyrolysis plant at the Timaru transfer station to process treated and untreated timber. Council's role is to facilitate the diversion of timber from the landfill, primarily by encouraging transfer station users to deliver sorted timber directly to the WTL processing facility.

However, Council may also implement waste sorting at the transfer station as a secondary means of diverting timber and other materials from the waste stream. A concept plan for this is has been approved by Council, and construction will proceed in 2016/17 subject to more detailed investigations..

Resource Recovery Park (RRP)
The drop-off at Timaru transfer station is small and the expansion of the escrap activity requires ongoing storage which cramps the available space. There is limited traffic flow management, and a high level of public and site operator traffic interaction poses health and safety risks. Improved RRP infrastructure will provide the public with facilities to safely drop-off a range of existing and future waste streams. The RRP concept design was completed in 2014/15, Stage 1 was constructed in 2017/18, and Stage 2 will be constructed in 2018/19.

Bylaw
The Solid Waste Bylaw 2013 bans a number of materials from landfill including scrap metal, recyclables and organics, escrap and tyres. There is currently no monitoring for compliance with the bylaw due to insufficient staff resourcing. Waste auditing could be considered along with the introduction of fines for non-compliant items.

Escrap
The cost of processing escrap, particularly TVs, is an issue with the price rising in 2013 and again in 2014. Our recycler, E-Cycle, has set a Recommended Retail Price for a TV of $40. Council considers this both unaffordable and likely to act as a disincentive to recycling. Therefore, the price for 2014/15 was set at $15 for all TVs and $10 for all screens. All other electronic/electrical waste can currently be recycled at no charge.

Tyres
Historically, tyres were permitted at Redruth Landfill. However, in 2013 they were listed as a banned item in the bylaw, and from 2013/14 they were extracted from the

waste and stockpiled. From 2014/15, a fee was set per tyre and tyres are being stockpiled for recycling. At the transfer stations, some tyres are being dumped, but non-compliance auditing will start at Redruth in early 2018. There may be an increase in illegal dumping, which will require monitoring. Waste auditing and education will discourage this behaviour.

OPTION	Determine methodology for tyre collection, storage and end-use in consultation with stakeholders.

Product Stewardship Programmes

There may be a requirement for the collection of other items or materials in the future as part of product stewardship programmes. In July 2014, the Ministry for the Environment consulted widely on naming some products as priority products as allowed for in the Waste Minimisation Act 2008. The products recommended for consideration are escrap, tyres, agricultural chemicals and refrigerants.

SeatSmart is a new programme for recycled children's car safety seats. This programme is now being expanded through the country after a successful pilot.

OPTION APPROVED	Subsidise Seat Smart by $5 .Year 1-$1,200,Year 2-$1,600,Year 3 on-$2,000

Transfer Station Opening Hours & Fees

Council will need to monitor the usage and revenue of the transfer stations to assess their viability in providing an effective and efficient service to the community.
Numbers of weekday customers at Pleasant Point Transfer Station are low and an amalgamation of weekday hours has been approved. Monday openings cease effective 1 April 2015 and Wednesday openings will be extended by 30 minutes.

Glass

Glass may be separated at rural transfer stations through the provision of a gantry bin as at Redruth. This will enable glass to be transported straight to the stockpile. This reduces the need for handling at the MRF and wear and tear on the machinery.

In the first instance, a mixed glass bin will be provided, but the establishment of this service means that in the long term, a colour-separated system may be able to be established to tie with the development of a colour-separated glass kerbside collection.

OPTION	Investigate options for separated glass recovery at rural transfer stations.

SUMMARY OF ISSUES/OPTIONS

Item	Description	Explanation	Budget	Time	Status	Project ID	Priority
1	Implement waste sorting at Redruth transfer station. Build Stage 2 Resource Recovery Park (RRP) at Redruth transfer station.	Will enable improved waste minimisation, diverting materials from residual waste and supporting the timber processing activity.	Existing **Included in 2018-28 budget.**	2018/19	**Approved 2015 WMMP** **Subject to extended waste sort trial underway 2017/18** **Approved 2015 WMMP** **Stage 1 built 2017/18. Stage 2 with waste sort.**	**TS1**	**WIP**
2	Polystyrene: investigate options for receipt of smaller quantities with payment.	Some customers may wish to dispose of polystyrene appropriately in small quantities. Currently, only commercial quantities are received. Due to its high volume and high handling and processing cost a charge must be made.	$1,700	2019/20 To be actioned after RRP completed	**Approved 2012 WMMP** **Included in 2018-28 budget**	**TS2**	**70**
3	Install tipper	Tipper improves safety for customer handling bulky and awkward loads.	$65,000	2018/19	**Not approved. Tipper may be removed.**	**TS3**	**H&S**
4	New compactor hopper and bins	Redruth compactor and hopper fully depreciated, and due for replacement. Order to completion 3 months. $180,000 & $17,000.	$200,000	2018/19	**Included in 2018-28 budget**	**TS4**	**100**
5	Tyre recycling	Determine methodology for tyre collection, storage and end-use in consultation with stakeholders.	Existing - $32,500 to be carried	2018/19	**Included in 2017/18 budget** This is subject to actions	**TS5**	**75**

		First year of programme will address recycling of tyre stockpile at Redruth. Thereafter, operational costs will be reduced.	forward from 2017/18.		of external parties- due to happen in 2017/18 but may be delayed.		
6	Glass recovery	Investigate options for separated glass recovery at rural transfer stations	Existing operational costs		**Development of operational model underway with contractors.**	**TS6**	**81**
7	Paper recovery	Investigate options for confidential paper recovery at transfer stations	$7,500	2018/19	**Included in 2018-28 budget**	**TS7**	**43**
8	Child safety seat recycling	Subsidise SeatSmart by $5 to a maximum of $2,000 per annum.	$2,000	2018/19	**Included in 2018-28 budget**	**TS8**	**65**
9	Service lane	Create a service lane for emergency access to site and contractor use. Shaw Street exit gate to be modified for emergency access.	$25,000	2018/19	**Future**	**TS9**	**H&S**
10	Increase Crow's Nest funding	The staff role at Timaru Transfer Station has increased significantly. H & S requirements for lifting large TVs may also require extra staffing.	$2,600	2018/19	**Included in 2018-28 budget**	**TS10**	**86**
11	Staff RRP	Staffing required to assist with drop-off, if/when the SSCT relocate Crows Nest drop-off, staffing requirement would increase.	$70,000	**Future**	**Future**	**TS11**	**F**

Project ID – refer to #1093640 WMU white pages Priority refers to the ranking given in the Waste Assessment #1002595 High number shows high priority. 1st=86, 2nd=83,3rd=82
Options that are based on legislative or consent compliance or asset will be fully depreciated have been given a priority of 100.

FUTURE WORKS (50-YEAR INFRASTRUCTURE STRATEGY)

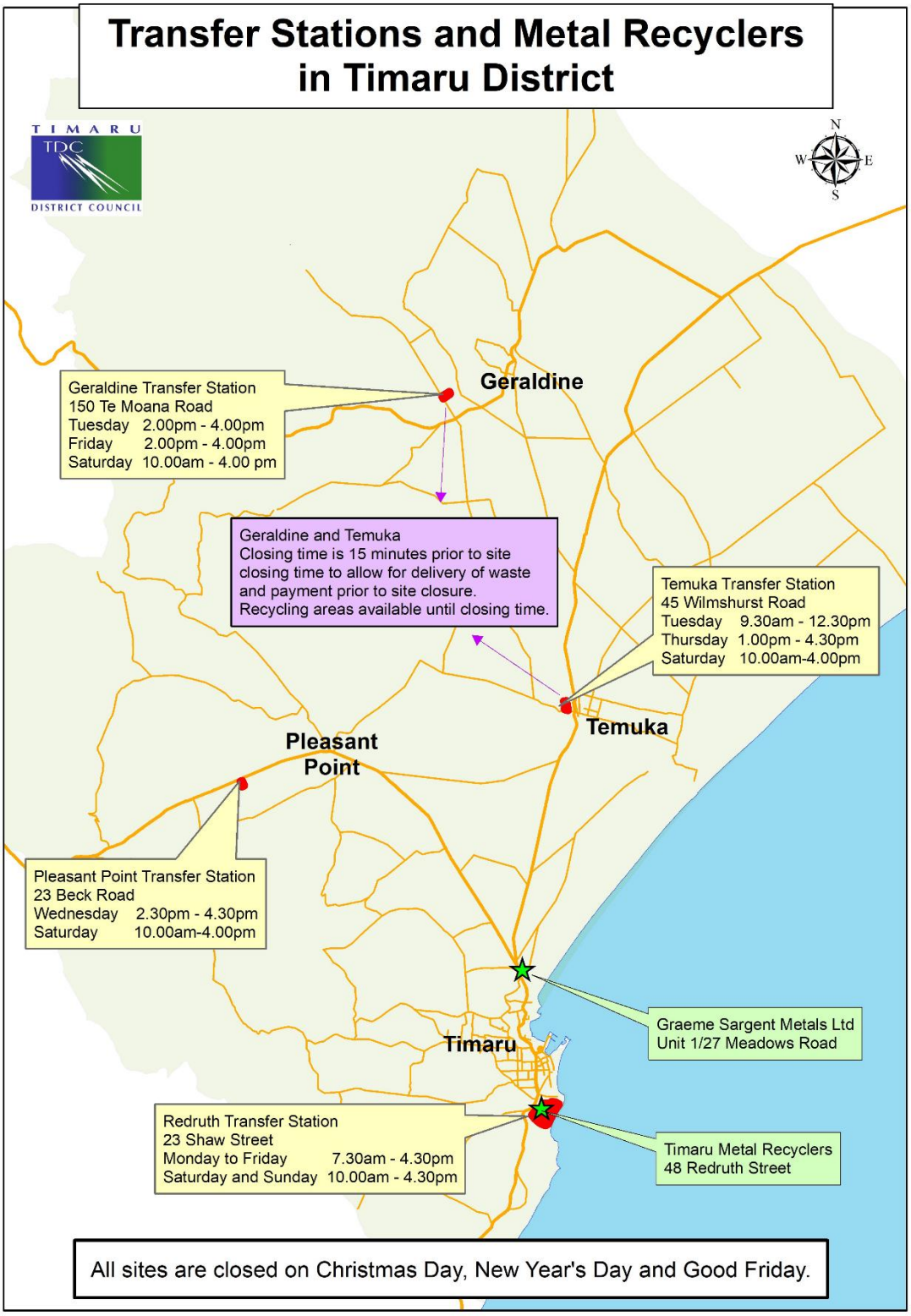
Year	Description	Explanation
2026 -2036	New compactor bins	Compactor bins were fully depreciated in 2009, and will need replacement. $36,000 each. Order to completion 3 months.
2026-2036	New compactor and hopper for Geraldine and Temuka sites.	Geraldine and Temuka compactors and hoppers will be fully depreciated, and will need replacement. $360,000 & $34,000.

Refer email HP#904163

COMPLETED WORKS

Year	Description	Explanation
2011/12	Escrap recycling implemented	Electronic waste contains many heavy metals and recycling recovers precious resources and minimises environmental impact of leachate in landfills.
1/7/2014	Tyres: Determine methodology for collection, storage and end use.	Tyres need to be eliminated from tyre dumps and the landfill as they cause a range of issues. Tyres must be recycled in an environmentally responsible manner. From 1/7/2014, charges are set for tyre recovery (per tyre and a tonne rate) and tyres are collected for recycling.
March 2015	Design Resource Recovery Park at Redruth transfer station.	Will enable improved drop-off facility for public, improving resource recovery, reducing waste to landfill, and improving H&S.
February 2015	Investigate waste sorting at Redruth transfer station.	Will enable improved waste minimisation diverting materials from residual waste. This project was brought forward and incorporated into RRP design project.
April 2015	Reduction in hours at Pleasant Point transfer station.	Monday (1.5 hrs) average use low. Closed site on Mondays for efficiency. Extended Wednesday openings.
2015/16	Change weighbridge software.	Recommended by MfE waste levy audit and TDC IT manager. Current software out-of-date and difficult to amend and support.
2016/17	Build Stage 1 of Resource Recovery Park.	This is enabling the waste sort trial to proceed.

APPENDIX A LOCATIONS AND HOURS OF TRANSFER STATIONS



APPENDIX B TRANSFER STATION RECYCLING

Year Initiated	Site	Item	Description	Recycling
1998	RR, GD, TKA, PP	Cardboard	Flattened, placed in cages	Processed by Southern Recycle, Washdyke
1998	RR, GD, TKA, PP, Pak'n'save	Glass, newspaper, al. cans		Processed by Southern Recycle, Washdyke
1998	RR, GD, TKA	Oil	Vehicle oil-domestic quantities	Waste Management Technical Services
1999	RR	Clothing	Used clothing	Stones Textile Recovery
2004	RR, GD, TKA, PP	Batteries	All car and truck batteries	Picked up by Dominion
2004	RR, GD, TKA, PP	Paint	All paint	Usable paint picked by 3r and Enviropaints. Unusable disposed of via Chemwaste.
2004	RR, GD, TKA, PP	Haz waste	All chemicals – domestic quantities	Picked up by Waste Management Technical Services.
2005	RR, GD, TKA, PP	All household recyclables	Bottles, jars, tin & steel cans, rigid plastics, paper, cardboard	Processed at the MRF.
2005	RR, GD, TKA, PP	Scrap metal	All metals	Timaru Metal Recyclers
2010	RR, GD, TKA, PP	Escrap	TVs/screens/laptops-charged All electrical items	Escrap Recycling TV Takeback RCN E-Cycle
2014	RR, GD, TKA, PP	Tyres	All tyres, excluding bike tyres	Tyre Recyclers
2014	RR,	Timber	Treated and untreated timber, excluding MDF & furniture.	Waste Transformation Ltd.
2018	GD, TKA, PP			
2018	RR, GD, TKA, PP	Seat Smart	Child safety seats	Seat Smart (3R)

B1.3 PRIVATE WASTE COLLECTION

A business bales its shrinkwrap for sale. This reduces waste to landfill and saves on waste disposal costs.

OVERVIEW

Collection Operators
These companies provide services to customers:

- Where waste quantities exceed the capacity of the Council kerbside collection
- In areas not serviced by the Council kerbside collection service
- Where a more frequent service is required compared to the Council service
- Where a product is not accepted by Council

The services offered include collections for rubbish, recyclables and organic waste utilising wheelie bins, cages, skips and trucks.

Agricultural recycling collection is now established with provision for the private collection of baleage wrap, chemical containers and other agricultural plastic wastes.

A soft plastics collection programme has been put in place by the Packaging Forum and residents can take clean flexible plastics to supermarkets.

Businesses
Some businesses and organisations provide their own waste services to landfill which may range from light vehicles through to trucks.

METHOD

- Ensure that waste will be separated into rubbish, organics and recyclables.
- License private waste operators disposing of waste to Redruth Landfill.
- Issue waste permits for commercial users of various facilities.

REQUIREMENTS

- Customers pay full disposal fees.
- Council offers no discounts on set fees for regular customers or large quantities of waste unless special circumstances arise for Council to reconsider this approach.
- Private waste collection operators, who dispose of waste to the landfill and the compost facility i.e. non-public areas, must be permitted.

DATA AND RECORDS

The following data is to be recorded:

- Quantities taken to Council facilities by private operators
- Number of private operators with Landfill Access Permits
- Number and type of other waste permits in place

Table: Commercial quantities

Year	Landfill Access (tonnes)	Compost Facility (tonnes)	Recycling Facility (tonnes)
2006/07	22,942	302	0
2007/08	22,834	388	203
2008/09	16,663	594	143
2009/10	16,058	851	147
2010/11	20,912	648	187
2011/12	7,770	884	144
2012/13	8,131	858	149
2013/14	9,087	1,124	139
2014/15	15,983	1,133	143
2015/16	14,879	1,103	210
2016/17	15,390	963	518

Data Source HP#1002596 – Source of waste tab (Cell Z,9)

Operational Performance Measures
Council will monitor tonnes being disposed of by the commercial sector.

Permits
Operators going to non-public areas of the sites, including Redruth Landfill and Redruth Composting Facility must have permits. Permits require health and safety documentation, and allow for commercial charges to be applied.

Permits

Permits	2012/13	2013/14	2014/15	2016/17
Landfill	46	50	59	70
Cleanfill	27	31	37	40
Organic (includes gib)	12	14	12	14

RISK MANAGEMENT

If a business can offer alternative solutions which are cheaper than disposal to the Redruth landfill, customers will most likely select the cheaper option. Alternatives may be diversion from landfill such as gib recovery or timber processing, or alternative disposal sites cheaper than Redruth landfill. *(Refer to the chapter on landfill.)*

There is a risk that Redruth landfill charges are cheaper than the neighbouring regions and waste from other districts is being disposed of at Redruth.

REFER REDUCE	Increase business education staff resourcing by 0.5 FTE – part of role would be waste auditing, particularly of commercial waste.

DEMAND

The demand for private services will primarily be price driven, or lack of availability where Council does not provide a service. Businesses may opt for the Council kerbside collection as it is cheaper than commercial services and allows for the diversion of organic waste and recycling. The Timaru District Council Bylaw 2018 does not restrict the issue of kerbside wheelie bins.

ISSUES

Waste Diversion and Waste Flight
Increases in landfill disposal fees have encouraged greater waste diversion by the private sector, e.g. cardboard collections, gib-board and organic materials to composting, polystyrene and soft plastics/shrink wrap.

For residual waste disposal, waste collectors also look for the cheapest option. As landfill fees increase, the option of taking waste to other landfills will become more viable. Some waste is taken from the Timaru and Mackenzie districts to the AB Lime landfill in Winton, Southland.

With private collections there is some cross-boundary movement of waste. Waste is brought in from the neighbouring districts either directly from other Council transfer stations (Waimate) or from private collections within the adjoining Districts.

Recyclables collected privately can be sorted and transported out of the district and are not recorded as part of the overall waste diversion for the district, for example, cardboard and plastic quantities collected by Southern Recycling and scrap metal collected by local scrap dealers or dealers passing through the district picking up scrap. Wool waste is also being taken to Christchurch for composting, and many textiles from local clothing bins are sent to Christchurch for reuse.

Licensing All Collection Operators
Currently, Council licenses commercial operators using the Redruth site, including waste, greenwaste, gib and cleanfill customers, for health and safety reasons. Council does not collect and aggregate data directly from these operators, although any loads crossing the weighbridge are recorded by product and aggregated monthly for records. If Council wanted to collect this information for benchmarking and measuring the effectiveness and efficiency of waste management and minimisation in the District and to enable an overall mass balance of waste to be quantified, the licensing system could be used.

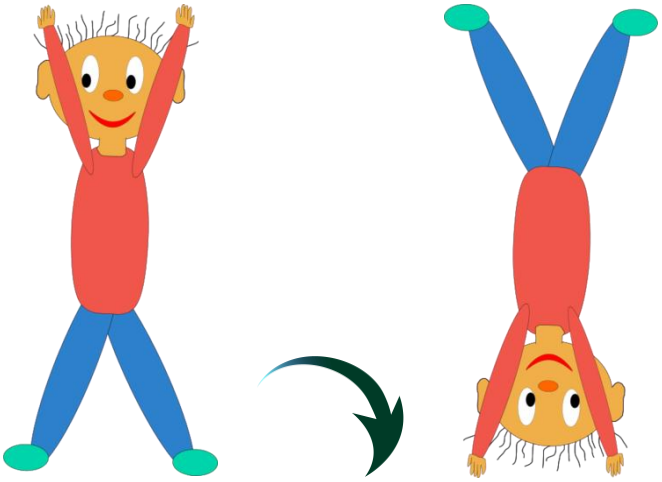
However, a lot of data lies outside Council control and Council does not have a full understanding of waste quantities that are collected and not handled through Council facilities, e.g. scrap metal quantities. Furthermore, the significance in some cases is questionable, e.g. second-hand clothing.

The issue with collecting data from private operators is the commercial sensitivity of the data. It will also be difficult to monitor operators from outside the Timaru District collecting waste and taking it to other locations, e.g. scrap metal dealers collecting from farms. Unless issues arise with private contractors dumping waste illegally or Council has a need to obtain data from various waste streams, the private operators not taking waste to a Council facility should remain unlicensed.

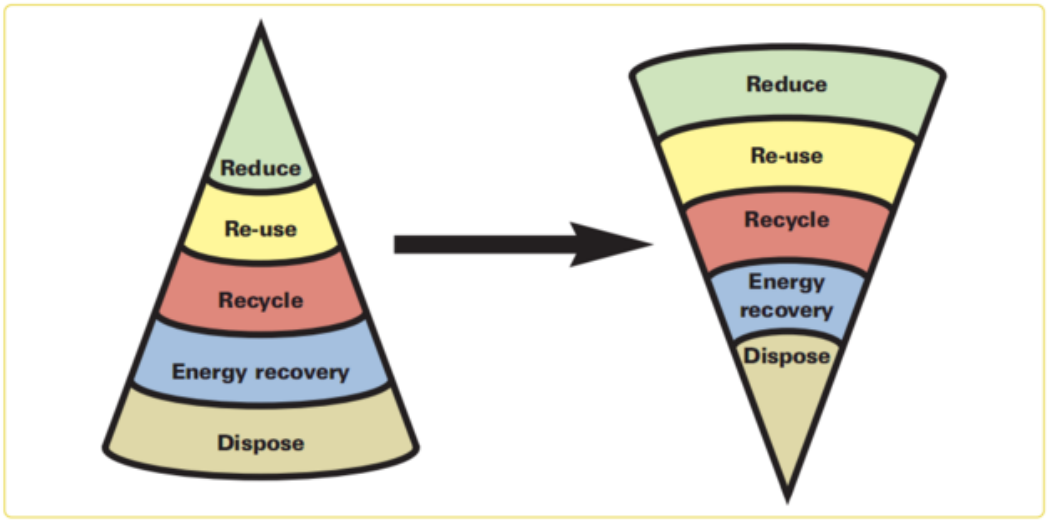
SUMMARY OF ISSUES

An increase or decrease in waste tonnes remains the main issue as it affects large capital projects, and income and expenditure.

B2 ACTIVITY BY WASTE HIERARCHY



turning our thinking upside down



B2.1 REDUCTION

Zero Waste advisor conducting a business waste audit.

ACTIVITY OVERVIEW

The aim of this activity is to reduce waste through education or specific programmes. Council employs a person whose role, in part, involves informing and educating the community on waste minimisation including reduction.

This role includes business assistance whereby Council Zero Waste Advisors visit businesses to audit waste management systems and explain about waste reduction and diversion. Council offers a subsidy for the provision of internal infrastructure, such as bins, to assist with internal waste management systems.

METHODS

- Promote the Target Sustainability programme
- Offer the Sustainable Living Programme and courses
- Offer a Waste free programmes
- Encourage waste reduction through information and Council staff resourcing, including zero waste schools
- Support Enviroschools and Paper 4 Trees

REQUIREMENTS

- Council will provide staff to assist businesses and community groups with information on waste reduction, including waste audits when required
- Council will participate in national programmes where possible
- Council will advocate to central government when and where required to encourage and facilitate waste reduction

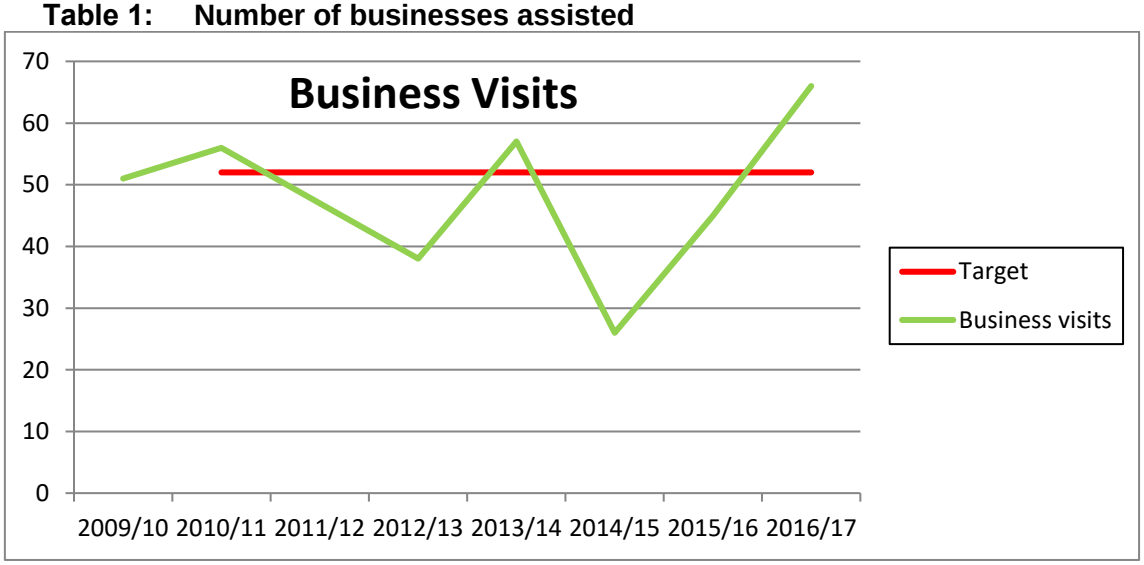
DATA AND RECORDS

The following data will be recorded for reduction:

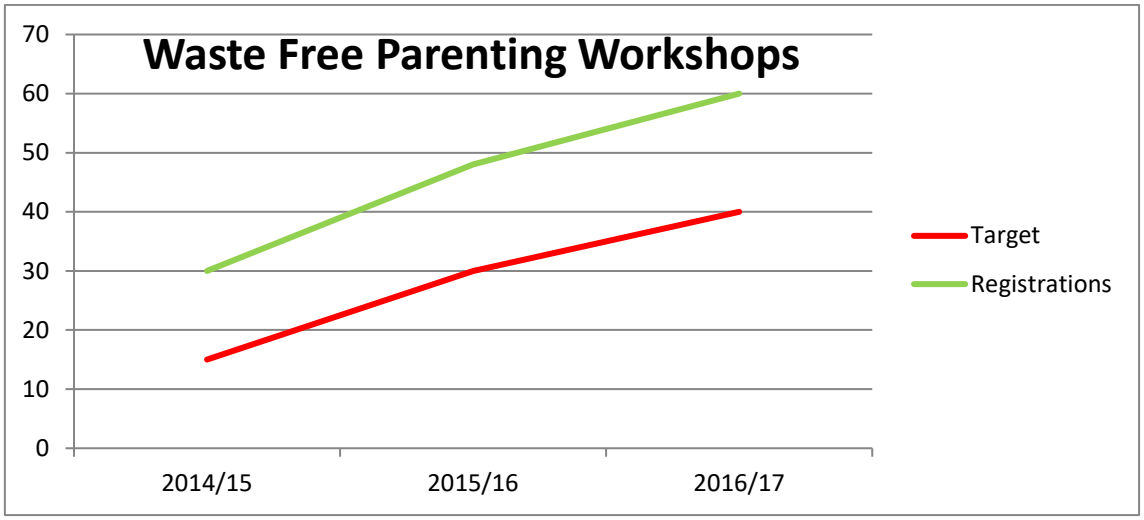
- The businesses and organisations assisted by Council *(Numbers-HP #589716)*
- Information on waste reduction provided to the community *(Publicity-HP#908038)*
- Modern Cloth Nappy Programme courses and participants renamed Waste Free Parenting workshops. *(Data source: Publicity-HP#908038, numbers-HP#589716)*
- Sustainable Living Education Programme *(Data source: Info-HP#904267, numbers-HP#589716)*
- Number of Enviroschools *(Data source: HP#589716)*
- Waste Free living courses

Business work
Businesses receive advice and assistance from Council as shown in the table below. The LTP target is 52 visits per year. This will increase in years 2 & 3 to 75.

Table 1: Number of businesses assisted



Data Source HP#1002596 – Public Info tab



Data source HP#1002596 Public information tab. www.thenappylady.co.nz Data and reports in HP F4550

INFORMATION AND AUDITS

Business work

While business assistance is reducing waste and waste costs for the business, it is not reducing waste in the truest sense of actually assisting the business to *create less waste*. The assistance provided is focussed on setting up infrastructure such as recycling bins, so that businesses reduce their waste through diverting materials for composting and recycling. A much higher level of assistance and training would be required to analyse business processes to reduce waste at source.

However, every tonne of waste diverted has value for council in 2 ways

- the life of the landfill is extended incrementally, deferring capital expenditure
- the space saved by the diversion can be "sold" and has value as income.

OPTION APPROVED	Increase business education staff resourcing by 0.5 FTE to assist businesses with recycling and recovery of waste with a goal of introducing waste reduction at source initiatives.

Budget for 0.5FTE was approved in the waste sort facility budget. This budget was deferred in the budget process to reduce costs, so it is recommended that this budget be added from 2018. A number of options throughout the waste assessment and the WMMP identify areas of work for the business advisor, and they are:

- Work with staff at the waste sort facility to ensure work practices maximise diversion
- Work with businesses to reduce waste at source through recycling and recovery
- Work with businesses to identify waste reduction initiatives
- Audit landfill loads and follow up with businesses i.e monitoring and education around banned and prohibited materials to landfill as per the bylaw
- Visit and liaise with businesses with large numbers of red bins to ensure they have correct sorting infrastructure in place.
- On demand work

Briony Woodnorth, Zero Waste Advisor, has collated examples of current business work into case studies to highlight the benefits of this resourcing. For every business which reduces waste, the impact of that annual diversion can be multiplied by the

number of remaining years of life. Generally, there is an economic benefit to the business by reducing waste.

The current level of service is 52 business visits per year. With increased resource, the adjusted target would be set at 75 business visits per year for years 2 & 3, with an aim to increase to 100 visits per year from year 4 on.

Sustainable Living Education programme

Council funds membership of the Sustainable Living Education Trust (SLET) programme. The SLET website offers a range of information on topics relating to council: Gardens and backyards, Food choices, Minimising Waste, Community resilience and emergency management, Building improvements for warm and dry homes, Water use and impacts, and Getting around the District. Members of the public in the Timaru District can get free access to a range of materials by registering online. A Timaru-specific page on the site offers a guide to local resources and information.

Table 2: Sustainable Living Education Programme

	SLET data		
	talks	**no of attendees**	**website users**
2014/15	3	37	
2015/16	2	10	22

Data Source HP#1002596 – Public Info tab **For the Timaru-specific page of the site: www.sustainableliving.org.nz*

Members of the public can be encouraged to take up the tutored classes and these people become the early adopters and promoters of behaviour change for sustainability. A trial is proposed to assess how effective and long lasting this behaviour change might be.

OPTION APPROVED	Trial a funded pilot for Sustainable Living Programme for participants. Subsidise some participants each year for three years and follow changes in habits as a result of the programme.

Waste Free Parenting

Following on from the success of the waste free parenting course, feedback was noted that a generalised waste free living course would be well received. In response to submissions to the LTP 2018 – 2028, $5000 was allocated in the budget to provide a waste free living course twice yearly.

ASSETS SUMMARY

There are no infrastructure assets in this activity, but staffing is vital to achieve reductions in waste to landfill.

LEVELS OF SERVICE

Level of Service Statement				
LoS4 - Public information and education promotes appropriate sorting of waste and waste minimisation.				
Year	**Measure**	**Target**	**Result**	
2015-2018	Provide a range of programmes /initiatives to encourage waste diversion	40 participants per annum	2015/16	56
			2016/17	55
			2017/18	
2018-2021		18 programmes provided (for reduce include Sustainable Living Education Trust, Enviroschools, talks and tours, waste free parenting, One Planet website.)	2018/19	
			2019/20	
			2020/21	

Data Source – Modern Cloth Nappy programme records, and Waste Minimisation Levels of Service Summary(HP#906599)

RISK

This activity is mainly run by subsidising third parties, so there is little risk. Council maintains relationships with the parties to ensure each activity is progressed.

DEMAND

Environmental management and waste minimisation awareness continues to grow. In time, this will lead to smarter and greener procurement not only for Council, but for the community.

Information and case studies could be shared through local business networks, and Council may facilitate this.

TDC staff meet current demand by responding to business enquiries. There is, however, a lot of potential to grow demand by being more proactive in approaching the business community. These 6 areas of demand are identified in the previous section on business assistance. This has potential to divert waste from landfill supporting business sustainability in the Timaru District.

ISSUES

Supply Chain
The concept of waste reduction often involves changing processes or supplier materials, and generally this is outside the control of the end user or receiver of the goods. Similarly, this is also outside the scope of Council involvement. Council can lobby for improvements to packaging and the supply chain, but is limited in being able to make change, other than providing advice.

Landfill Ban
Council has banned some materials from being landfilled to encourage reduction of waste and resource recovery. The monitoring and enforcement of this ban requires further resourcing. Refer Risk section under private services.

SUMMARY OF ISSUES/OPTIONS

Item	Description	Explanation	Budget	Time	Status	Project ID	Priority
1	Add 0.5FTE for business assistance.	This option reduces waste at source.	$26,000	2018 on	**Approved. Included in 2018 – 2028 budget from year 2.**	RED1	**83** **Rank=2nd**
2	Subsidise Sustainable Living programmes	More people will be incentivised to take part if subsidised. Behaviour change has potential to reduce waste.	$2,000 per annum	2018/19-2020/2021 3 year pilot	**Included in 2018-28 budget**	RED2	**60**
3	Subsidise waste free living	General education courses for reducing waste	$5,000 per annum	2018/19 onwards			

Project ID – refer to #1093640 WMU white pages Priority refers to the ranking given in the Waste Assessment #1002595 High number shows high priority. 1st=86, 2nd=83, 3rd=82
Options that are based on legislative or consent compliance or asset will be fully depreciated have been given a priority of 100.

COMPLETED OPTIONS

Item	Description	Explanation
2014	Fund Sustainable Living Programme online membership	Council joined this programme in 2014 and Timaru District information is listed on the Sustainable Living website. See www.sustainableliving.org.nz
2015	Modern Cloth Nappy Programme (now renamed as Waste Free Parenting)	Programme established with 2 workshops to be run per year – 20 registrations with up to 40 participants per workshop.

B2.2 REUSE

The Crow's Nest shop sells reusable goods dropped off at transfer stations.

OVERVIEW

Council has provided a building located at the Redruth landfill site called The Crow's Nest for the retail of reusable items.

Items for reuse may be dropped off at the Redruth, Temuka, Geraldine and Pleasant Point transfer stations.

Council has contracted the Sustainable South Canterbury Trust until 2019 to provide the collection of goods at the Redruth site, to operate the Crow's Nest and to provide an on-call kerbside collection of reusable items and pick-up of reusable items from the rural transfer stations.

The sale of reusable goods diverts waste from landfill and caters to a niche market for people looking for lower-priced goods.

Private Reuse

There is a wide range of private activity involving reuse from clothing stores, 2nd hand goods retail shops, salvage companies, earthmoving contractors, garage sales and online trading. Out-of-town contractors may also undertake work and remove materials from the District.

METHODS

- Provide services for the drop-off, collection, and sale of reusable items

REQUIREMENTS

- Council supports the concept of reuse and the operations for the drop-off of goods and retail at the Crow's Nest run by the Sustainable South Canterbury Trust (SSCT)
- SSCT offers a large goods collection service under contract to the council.

DATA AND RECORDS

The following information will be recorded for reuse:

- Paying customers using the Crow's Nest
- Nett tonnes diverted for reuse

Table 3: Diverted Tonnes for Reuse

Year	Crow's Nest drop-off nett	Crow's Nest large goods	Crow's Nest Scrap metal	Other materials received	Total tonnage diverted	Customer Transactions
2006/07	201	0	0		201	14,174
2007/08	188	0	0		188	14,633
2008/09	198	0	3		201	15,233
2009/10	207	0	17		224	15,782
2010/11	174	16	21		211	16,719
2011/12	149	16	34		199	17,000
2012/13	162	9	23		194	17,500
2013/14	161	6	25		192	18,000
2014/15	153	4	23		180	16,841
2015/16	181	4	16		201	19,159
2016/17	181	13	8	1	170	21,410

Data Source –HP#1002596 – Crow's Nest tab

Customer numbers are on the increase and the Level of Service target for customer transactions will be increased from 17,500 to 20,000 customers per annum from 2018/19.

INFORMATION

The Crow's Nest shop has a facebook page:
https://www.facebook.com/pages/Crows-Nest/241215099249466

The Crow's Nest shop advertises regularly and is occasionally featured in the local newspaper promoting their services.

ASSET SUMMARY

At the Crow's Nest site at Redruth, Council owns the main building and the roads. The Trust owns the 3-bay sheds and the proposed Eco-Centre.

Asset Capacity/Performance
The selling floor space of the reuse shop has been expanded by the Sustainable South Canterbury Trust with the building of two three-bay sheds, each with a lock-up garage. The main use for this space is for furniture storage. The site has sufficient capacity for the current retail activity.

Asset Condition

Assets	Condition	Start date	Estimated Useful Life	End date useful life
Crow's Nest shop building	Good	2003	50 years	2053
Access road	Poor	1960s	50 years	Renewal is required
Car park and internal roads	Good	2003	50 years	
3-bay shed 1		Not council-owned. Built and owned by the lessees, Sustainable South Canterbury Trust.		
3-bay shed 2				

TDC could also vary the contract to undertake all the grounds maintenance at their costs reducing operational costs for the Trust, and indirectly supporting the building of the Eco-centre.

OPTION APPROVED	Add grounds maintenance costs into the overall contract for Redruth.

LEVELS OF SERVICE

Table: Levels of Service

Level of Service Statement				
LOS3 - Waste is diverted from landfill				
Year	**Measure**	**Target**	**Result**	
2015-2018	RE-USE No of customer transactions at the reuse shop	17,500	15/16	17,399
			16/17	21,410
			17/18	
2018-		20,000	18/19	
			19/20	

2021			20/21	

Data Source - Sustainable South Canterbury Trust

Technical measures
Technical measures for this activity include gross and nett tonnes per annum and number of items sold. The target for nett tonnes is 180 tonnes per annum, and the target for the number of items sold is 60,000 items.

RISK

A risk to this activity is the building condition as it is built on old landfill. There is subsidence occurring on the north side of the building, which is being monitored. The building base was designed to be a floating platform, so has a degree of resilience built into the design.

DEMAND

Customer patronage has increased steadily over the 10 years, but the shop has capacity to attract more customers.

The Sustainable South Canterbury Trust is planning for a "Futures Park" to be developed around the Crow's Nest shop. Their lease has been extended to incorporate the area to the north of the Crow's Nest. See Appendix A. There is plenty of space and potential for the development of a range of sustainable activities in conjunction with other community groups, organisations and businesses. The New Zealand Raptor Trust has taken up a lease (2017) in a corner of the site for developing a raptor rehabilitation facility.

ISSUES

Transport of goods / location of activities
The separation of the drop-off from the shop is inefficient and expensive. With the "Futures Park" development, the Trust is considering moving the drop-off to the Crow's Nest shop area saving on transport costs, improving staff efficiency, increasing customer base and potentially enabling the shop to have longer opening hours.

This would enhance their current and future activity, but would leave a gap in the provision of staffing at Redruth altering the Level of Service. Should this happen, replacement staffing for 58 hours at Redruth would cost about $70,000.

Provision of the escrap services need consideration as the Trust currently collect and package escrap for transport, however, an escrap dismantling trial is being facilitated with a recycler, and this may change the dynamics of the escrap services.

SUMMARY OF ISSUES/OPTIONS

Item	Description	Explanation	Budget	Time	Status	Project ID	Priority
1	Grounds maintenance	Add SSCT grounds maintenance costs into the overall contract for Waste Minimisation	Existing	2018/19 on	**Included in 2018-28 budget**	REUSE1	**78**
2	Crow's Nest Road	Make the Crow's Nest road a public road.	Existing	2018/19	**Not required**	REUSE2	
3	North Rd (Crow's Nest Road) reseal	The access road requires maintenance.	$22,000	2018/19	**Included in 2018-28 budget**	REUSE3	**100**
4	Crow's Nest Road upgrade	Upgrade road to meet demands of heavy traffic to allow for Stage 1 development.		Future	**Future**	REUSE4	**F**
REFER	Transfer Station options	Costs of staffing if Crow's Nest drop-off moves.		Future	**Future**	REFER TS11	**F**

Project ID – refer to #1093640 WMU white pages *Priority refers to the ranking given in the Waste Assessment #1002595 High number shows high priority. 1st=86, 2nd=83,3rd=82*
Options that are based on legislative or consent compliance or asset will be fully depreciated have been given a priority of 100.

FUTURE WORKS (50-YEAR INFRASTRUCTURE STRATEGY)

Year	Description	Explanation
2053	Renewal of Crow's Nest building.	Failure of building platform due to landfill subsidence. Building will be fully depreciated

COMPLETED OPTIONS

Item	Description	Explanation
2004	Crow's Nest shop established.	Provides reuse opportunities.
2014	Stabilise Crow's Nest funding at $60,000 per annum (flat).	Establishes platform for initiating other ventures. A scaled reduction has been budgeted for with $60,000 stabilised from 2015/16.

APPENDIX A

Sustainable South Canterbury Trust lease area

Location of Crow's Nest with current lease areas shown
Note: lease area has been varied as a new lease has been drawn up with the NZ Raptor Trust.

NZ Raptor Trust lease area

B2.3 RECYCLING

Staff at the MRF sort the recyclable materials from kerbside collection, transfer stations and commercial sources.

SCHEME OVERVIEW

History
Some glass was colour sorted and sent to Auckland for glass manufacturing, but this proved to be impractical and costly. Cardboard, paper and small quantities of plastic bottles were collected and processed by Southern Recycle Ltd.

Current
Household recyclables are collected though the kerbside collection, or via drop-off to the transfer stations, and processed at the Materials Recovery Facility (MRF). A range of other recyclable materials are collected at the transfer stations and sent off site for recycling. See B1.2 Appendix B.

Timaru Materials Recovery Facility (MRF)
The MRF at Redruth was constructed in 2006 to process recyclables from the 3-2-1-ZERO kerbside collection, transfer stations and from commercial sources.

Materials processed include:

- Glass bottles and jars
- Newspaper and cardboard
- Aluminium and steel cans
- Rigid plastic containers and plastic bottles (Types 1,2,3,4,5&7)

The MRF is currently operated by Waste Management (WMNZ) under contract until 2021 with a sub-lease arrangement with Oji Ltd to bale newspaper and cardboard in an annex of the MRF. WMNZ are responsible for the sale of the recyclables.

Oji also accepts recyclables from private waste collectors and businesses for processing.

Recycling Markets
All recyclables processed at the MRF are handled as follows:

- Cardboard-processed at Oji Ltd
- Paper-processed at Oji Ltd
- Steel and aluminium cans-processed in MRF and sold internationally
- Glass bottles and jars-processed in MRF and used on site
- HDPE plastic type 2-processed in MRF and sold domestically
- PET plastic type 1-processed in MRF and sold internationally
- Mixed plastics-processed in MRF and sold internationally

Recycling Standards
During the term of the contract, the value of recyclables may vary, affecting revenue from sales. This is market driven and beyond the control of the parties. Should the markets crash, then Council and WMNZ will need to discuss the implications. Concerns have been raised in the media in the past about the health and working standards of people engaged in secondary processing of recyclables, often in third world countries, once they have been transported from the Timaru MRF. WMNZ has demonstrated that all recyclables are delivered to markets with reputable environmental, health and safety conditions.

Other Materials Recycled (i.e. not through the MRF)

Scrap Metal
Timaru Metal Recyclers offers a 24/7 scrap metal facility in Redruth Street near the Redruth Transfer Station for free drop-off of car bodies, all scrap metal and whiteware. The site is provided by Council, while Timaru Metal Recyclers are responsible for the management and operation. Scrap metal is also collected from each transfer station and processed by Timaru Metal Recyclers. There are several other scrap metal businesses operating in the District.

Tyres
Tyres are being collected on site pending options. Tyres may be pyrolysed on site by Waste Transformation Ltd or processed by Waste Management. $32,500 for addressing the stockpile has been allocated in the 2018/19 budget, but may need to be deferred subject to contractor's readiness.

Escrap
The current provider is E-Cycle Ltd. TVs are freighted to Amberley for processing in compliance with legislation and international conventions. Other miscellaneous escrap items are processed on site in a dismantling trial run by ECycle since March 2018. This will improve transport and recycling efficiencies. Miscellaneous electronic items are collected by Timaru Metal Recyclers as shredder feed.

OPTION APPROVED	Investigate options for escrap dismantling trial to improve recycling activity.

Hazardous waste drop-offs
Some materials collected via the drop-offs are recycled

- Resene and Dulux paints are collected by 3R.
- Lead-acid batteries from vehicles
- LPG cylinders

- Fluorescent lights by Interwaste

Clothing

Timaru Transfer Station has some clothing containers and these are emptied by a collector. There are other clothing bins around the district.

METHODS

- Ensure that recycling of collected commodities is undertaken in a manner not detrimental to human health
- Provide scrap metal drop-off facility
- Provide sorting facility for recyclable materials
- Provide for recycling of materials other than those collected at kerbside

REQUIREMENTS

- Ensure that recycling services are available for the district
- Ensure that recycling processing is undertaken with regard to reputable environmental, health and safety conditions

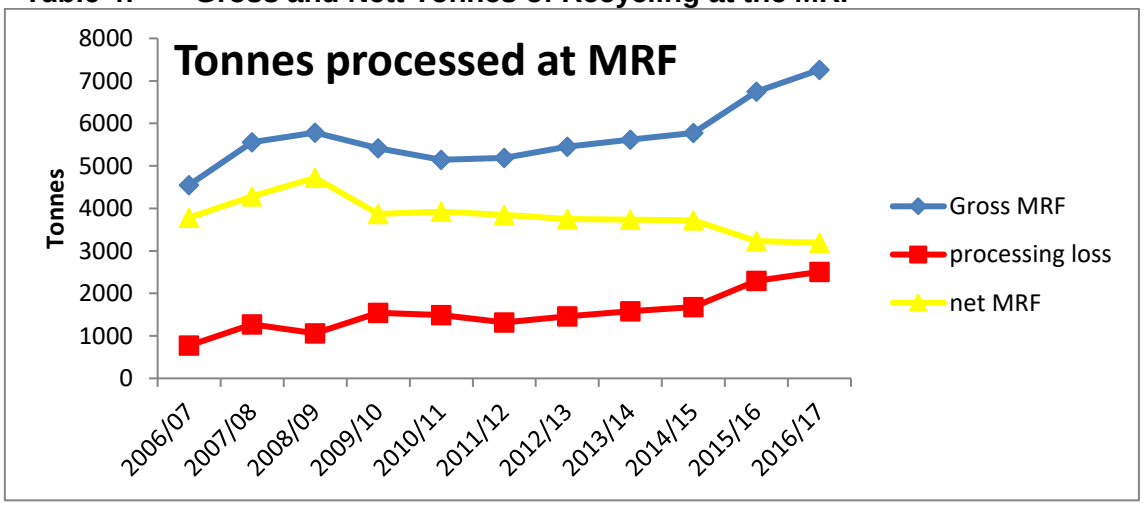
DATA AND RECORDS

- The net tonnes of materials recycled at the MRF will be recorded.
- Contamination and processing loss will be recorded.
- While the location and quantity of materials sent to markets may be commercially sensitive, Council will ask WMNZ to verify that recyclables are sent to markets that have reputable environmental, health and safety conditions.
- The net tonnes of other recycled materials will be recorded.

Contamination and Process Loss

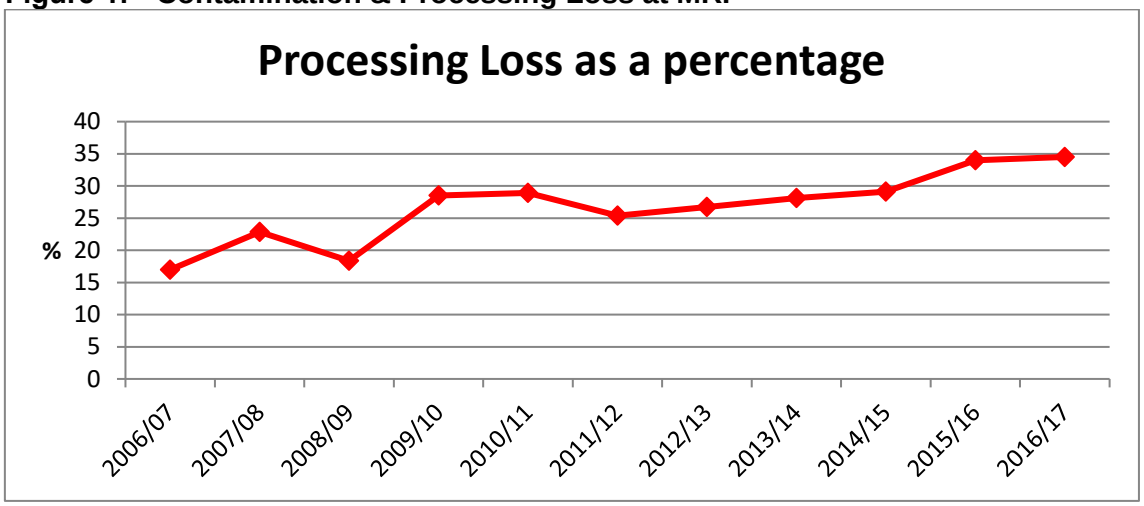
The following reject material is disposed of to landfill from the recycling operations. This material includes waste that is disposed of with recyclables, and process loss of materials from the Materials Recovery Facility.

Table 4: Gross and Nett Tonnes of Recycling at the MRF



Data source: HP#1002596 - Recycling tab

Figure 1: Contamination & Processing Loss at MRF



Data source: HP#1002596 - Recycling tab

Quantities

Data is recorded for all recyclables by category

- Incoming
  - TDC Kerbside
  - TDC transfer stations
  - Commercial recycling - general
  - Commercial recycling -negotiated
- Outgoing
  - Processing loss to landfill
  - Sold recyclables by category

INFORMATION

The composition of the MRF waste was measured during the landfill audit process in 2011 to determine a Unique Emissions Factor (UEF). The main waste being rejected is small broken glass; plastics, which comprise a significant proportion of the "other" category; and paper, which is the most significant biodegradable material.

Table 5: Composition of MRF Reject Materials

Category	%
Garden	0.0
Nappy/Sanitary	8.1
Putrescibles/Food	5.2
Paper	17.5
Sewage sludge	0.0
Timber	2.0
Textile	4.3
Other: includes plastics, metals and other inert materials	43.1
Glass	19.6
Total	**100.0**

Data showed a correlation between bulk out-of-district recycling materials and an increase in processing loss. TDC has discontinued accepting this waste stream from September 2017.

ASSET SUMMARY

The Council owns the MRF building, while the sorting plant and equipment are owned by the respective operators, Waste Management NZ Ltd and Oji Ltd.

Asset Capacity/Performance
The part of the MRF that sorts and processes the kerbside recyclables would be better utilised with extra quantities being processed from other locations. The nominal capacity of the plant is 9 -10,000 tonnes per annum.

Recyclables from Mackenzie District have been processed at the MRF, but from 1 July 2012 are processed at Twizel. Some out-of-district recyclables may be processed in Timaru subject to approval by TDC.

Asset Condition

Assets	Condition	Built	Useful Life	End useful life
Materials Recovery Facility building	Good	2005	50 years	2055

LEVELS OF SERVICE

Table 6: Long Term Plan Performance Measures

Level of Service Statement				
LoS3 Waste is diverted from landfill				
Year	**Measure**	**Target**	**Result**	
2015-2018	RECYCLING-MRF Recycling tonnages diverted. Nett tonnes processed at the MRF.	3,750 tonnes	15/16	3230
			16/17	3,195
			17/18	
2018-2021		3,600 tonnes	18/19	
			19/20	
			20/21	

Data Source -weighbridge records HP#771501, Waste Minimisation Levels of Service Summary (HP#906599)

Long Term Plan Performance Measures				
LoS3 Waste is diverted from landfill				
Year	**Measure**	**Target**	**Result**	
2015-2018	RECYCLING-OTHER Recycling tonnages diverted via recycling other than MRF recyclables.	200 tonnes	15/16	328
			16/17	372
			17/18	
2018-2021		300 tonnes	18/19	
			19/20	
			20/21	

Data Source -weighbridge records HP#771501, Waste Minimisation Levels of Service Summary (HP#906599)

Level of Service Statement			
Technical measure			
Year	**Measure**	**Target**	**Result**
2015-2018	Contamination levels are recorded for the MRF.	This will be retained as a technical measure to be reported in the WMNZ annual report.	
Public Information and education promote appropriate sorting of waste and waste minimisation – reported under kerbside and public information			

Data Source -weighbridge records HP#771501, Waste Minimisation Levels of Service Summary (HP#906599)

Operational Performance Measures

- Compliance with operational requirements for site management
- Record net tonnes
- Record processing loss

RISK

Revenues

The cyclic nature of recycle commodity prices will impact upon revenues for recyclable materials.

Costs

A high processing loss means there is a risk that the activity does not meet KPI and costs are high vs the diversion of the activity.

Critical Assets

The building is in good condition, and the plant is well maintained by the contractor, so the risk of failure is low.

DEMAND

No significant increase or decrease in demand based on population and household projections in the medium term. Actual demand is expected to stay within projected levels. Changes in demand may arise from the requirement for new materials to be sorted from the waste stream. Long-term quantities may decline as the population ages and households become smaller, and possibly less affluent, or as changes in behaviour result in people purchasing less packaging and product design improves.

ISSUES

Quantities and MRF Capacity
The quantity of recyclables has increased with commercial quantities increasing slightly and some recycling being accepted from the Ashburton District rural recycling schemes. Ongoing promotion, education and enforcement are required to maintain quantities of materials being recycled. Council, in conjunction with WMNZ, should be proactive in encouraging recyclables for processing at the MRF.

Quality
Council needs to continue with information, education and enforcement to help reduce waste being included with recyclables for collection. The efficiency of the MRF and materials being disposed of as processing loss needs to be monitored with a goal to reducing this waste.

REFER	Add 0.5 FTE for kerbside visual auditing. (refer kerbside collecton)

Soft Plastics
A significant volume of the residual waste being disposed of as waste into the landfill is soft plastics, e.g. plastic bags, film, food packets and styrofoam trays, etc. This quantity of plastic materials is a national issue for all councils wishing to improve waste minimisation. Council needs to facilitate and lobby solutions for these waste streams at a national level. The Packaging Forum, an industry organisation, has established a soft plastics recycling programme. Householders can deliver flexible plastics to participating supermarkets. Options for collection of commercial quantities of soft plastics should be investigated.

OPTION APPROVED	Investigate soft plastics collection and processing.

Glass
70% of the glass is sorted by hand directly into containers which are transported to the back of the site for use in aggregate to form compost maturation areas. This is a low value use with no return. Circumstances and technologies may change, making it worthwhile to collect the glass separately and/or colour sort it if a higher monetary return is guaranteed. Council will need to review the glass situation in the future.

OPTION APPROVED	Investigate alternative glass collection and processing.

Other items

Lismore Council in Australia uses a kerbside collection satchel to collect a range of small items, which can then be reused or recycled. For example, spectacles may be sent overseas to people in need.

OPTION APPROVED	Investigate collection of alternative items via a satchel in kerbside bins.

SUMMARY OF ISSUES /OPTIONS

Item	Description	Explanation	Budget	Time	Status	Project ID	Priority
1	Soft Plastics	Investigate soft plastics collection and processing.	$12,500	2020/21	**Included in 2018-28 budget as waste levy project**	RE1	**82**
2	Glass	Investigate glass collection and processing.	$17,000 $120,000	2019/20 2021/22	**Included in 2018-28 budget as waste levy project**	RE2	**81**
3	Kerbside Collection Satchel	Investigate collection of alternative items via a satchel in kerbside bins.	Existing with support from SSCT	2019/20	**The pilot will run in 2017/18.**	RE3	**69**
4	Escrap	Investigate dismantling of escrap on site (Endorsed by Medical Officer of Health)	Existing	2018/19	**Underway. An MOU is effective from February 2018**	RE4	**74**

Project ID – refer to #1093640 WMU white pages #1002595 *Priority refers to the ranking given in the Waste Assessment High number shows high priority. 1st=86, 2nd=83, 3rd=82 Options that are based on legislative or consent compliance or asset will be fully depreciated have been given a priority of 100.*

FUTURE WORKS (50-YEAR INFRASTRUCTURE STRATEGY)

Year	Description	Explanation
2055	Replace MRF	MRF will be fully depreciated.

COMPLETED OPTIONS

Year	Description	Explanation
2005	Materials Recovery Facility built.	To process recyclables from the three-bin system.
2015	Fees and charges	A drive-off fee added to disincentivise dumping.

2015/16	Install a camera at Geraldine and Temuka to monitor recycling for compliance	Will reduce contamination in the recyclables stream, and enable charging for items such as TVs.
Ongoing	Encourage recyclables from other locations to be processed at the MRF.	Will help the MRF run at capacity and reduce costs. ESL bringing in out-of-district recyclables.
Ongoing	Be proactive in trying to facilitate initiatives for improved recycling of plastics that are currently landfilled.	Will stimulate market development and waste minimisation.

B2.4 RECOVERY

The pyrolysis facility at Redruth Resource Recovery Park.

SCHEME OVERVIEW

History
Garden waste was accepted at transfer stations and by direct delivery from landscapers and garden maintenance businesses. It was then composted in a windrow facility at Redruth. The product was mainly used in landfill remediation and elsewhere on site, with a small amount being used in Parks and Reserves.

Current activity

Composting
Food and garden waste is composted at the Redruth composting facility. WMNZ is contracted until 2021 to run the operation. There are no foreseen changes in the level of service or operations, except that new organic waste streams will be evaluated on a case-by-case basis. WMNZ is responsible for the overall marketing and sale of compost. A strong local market has been developed, and promotion of the product in the agricultural sector is ongoing.

Waste Oil
Drop-off facilities for domestic quantities of waste oil are provided at all transfer stations except Pleasant Point. The oil is collected by Waste Management Technical Services Ltd. Private collections for commercial businesses are also carried out by other private oil collection companies.

Timber Recovery
A significant portion of the waste stream being landfilled is timber in various forms including a fraction of treated timber. Timber contributes to the creation of landfill gas. Under the Emission Trading Scheme (ETS) Council pays for each tonne of carbon created from landfill emissions. By removing timber from the landfill, there is scope to reduce the payments as timber is a high-value component used in calculating a unique emission factor (UEF) for the landfill.

Pyrolysis Facility
The visual waste audits in November 2009 estimated by volume that 36.6% of the waste was timber, with an estimated 5% being treated timber.

In October November 2015, a waste sort trial was conducted and 43% of the waste extracted was timber. This was sent for processing at the pyrolysis facility.

Through a Memorandum of Understanding with Waste Transformation Ltd, Council will continue to investigate the actual type and quantity of timber being disposed of to facilitate recovery through the pyrolysis process.

METHODS

- Provide compost facility
- Ensure that health and safety information is provided for compost sold
- Provide oil drop-off sites
- Provide drop-off site for timber in liaison with Waste Transformation Ltd

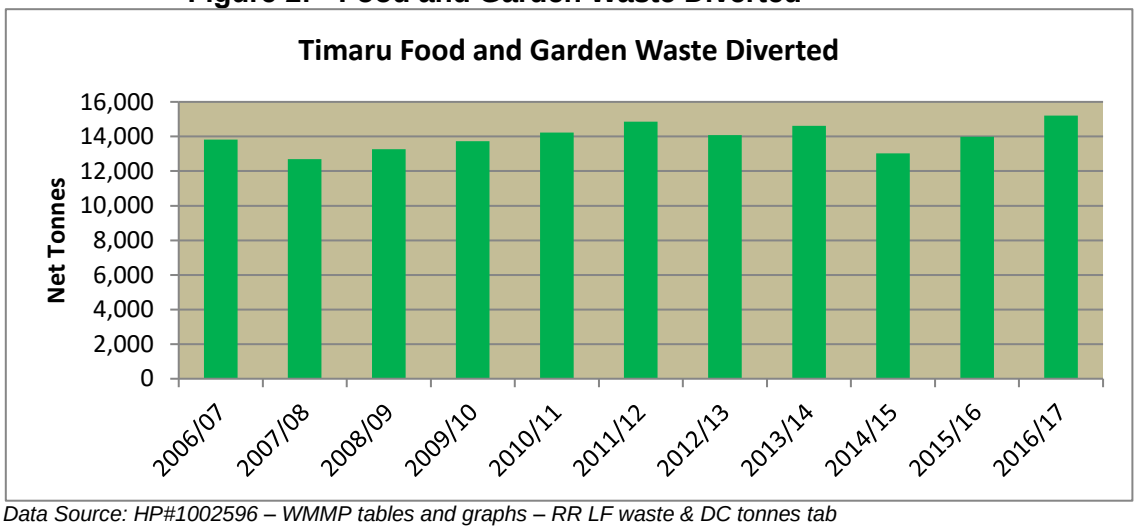
REQUIREMENTS

- Council has contracted WMNZ until 2021, so the current compost methodology shall continue
- Council will provide drop-off facilities for household quantities of waste oil
- Council supports diversion of timber from the landfill

DATA AND RECORDS

- The net tonnes of food, gib and garden waste composted, less contamination, will be recorded *(Data source: weighbridge records HP#771501)*
- The volume of waste oil collected will be recorded *(Data source: HP#728082)*

Figure 2: Food and Garden Waste Diverted



Data Source: HP#1002596 – WMMP tables and graphs – RR LF waste & DC tonnes tab

Contamination and Process Loss

Reject material disposed of to landfill from the composting operations primarily includes waste that is incorrectly disposed of in the wheelie bins, and materials such as flax and cabbage tree leaves which are organic but are not acceptable materials due to difficulty in processing. Physical contamination, which is extremely low, is consistently less than 0.5%. (*Data Source: HP#1002596 - WMMP tables and graphs – net compost)*

Improved follow-up on driver monitoring and kerbside bin auditing has significantly reduced the level of contamination. Ongoing auditing is required to maintain compliance.

Table 7: Waste oil collected

Year	Tonnes	Litres
2009/10	19	23,700
2010/11	12	15,307
2011/12	10	12,567
2012/13	8	9,900
2013/14	9	11,600
2014/15	11.6	14,600
2015/16	11	13,900
2016/17	7.9	9,900

Data source: HP#728082 - Conversion from litres to tonnes is 0.8 tonnes per 1,000 litres.

INFORMATION

Complaints

Table 8: Compost Related Complaints

Year	Complaints Received		Comment
	TDC	WMNZ	
2007/08	0	0	
2008/09	2	0	
2009/10	2	3	
2010/11	0	2	
2011/12	0	0	
2012/13	0	0	
2013/14	0	0	
2014/15	0	0	
2015/16	0	4	-1 meaty smell, likely not compost site, -wind direction not consistent with complaint -compost like, but non-specific to event -odour confirmed and resolved
2016/17	0	5	-smell from transfer station -smell from transfer station -compost smell* -compost smell* all same customer -compost smell*

Data source: F4591 #1086156 – Ecan Annual Report 2016/17

ASSETS SUMMARY

Council owns the in-ground infrastructure i.e. compost pads, drainage systems and roading/working areas, however, all mechanical equipment, including the covers, cover winder and screening plant is owned by Waste Management NZ Ltd.

Asset Capacity/Performance
Two low-tech pads were built at the compost facility in 2017 to augment capacity (see Demand below)

A renewal of the 8 compost pads will be required, however, the proposed area for the compost site needs to be capped to final design levels prior to this work taking place.

Asset Condition

Assets	Critical Asset	Condition	Build	Estimated Useful Life	End useful life
Compost pads		Poor-good	2005	20 years	2025
Drainage systems		Poor-good	2005	20 years	2025
Processing area		Good	2010 *Contract 1976*	20 years	2031

APPROVED	Design 10+ new pads in 2024/2025.
APPROVED	Build 10+ new pads in 2025/2026.

LEVELS OF SERVICE

Table 9: Long Term Plan Performance Measures

Level of Service Statement				
LOS3 Waste to be diverted from landfill				
Year	**Measure**	**Target**	**Result**	
2015-2018	COMPOSTING Organic tonnages diverted. Nett tonnes processed at the composting facility.	14,500 tonnes per annum	15/16	13,995
			16/17	15,208
			17/18	
2018-2021		15,000 tonnes per annum	18/19	
			19/20	
			20/21	

Nett tonnes is calculated as gross tonnes less any waste to landfill.
Data source – TDC weighbridge Records HP#771501, Waste Minimisation Levels of Service Summary (HP#906599)
Compliance with resource consent conditions is an LTP measure in B2.6 Disposal.

Technical Measure			
Year	**Measure**	**Target**	**Result**
2015-2018	Contamination levels are recorded for the composting facility.	This will be retained as a technical measure to be reported in the WMNZ annual report. Less than 0.5%	Averaging less than 0.5%
2018-2021			
Public Information and education promotes appropriate sorting of waste and waste minimisation – reported under kerbside and public information.			

Waste Minimisation Levels of Service Summary (HP#906599)

Operational Performance Measures

- Compliance with operational requirements for site management
- Record net tonnes at compost facility
- Record processing loss at compost facility
- Record volume of waste oil

RISK

Operational

There is always a risk of odour arising from anaerobic conditions, incoming materials or slumping of the pads with build-up of material. Site operations have effectively managed this risk and impact on the public is negligible. However, increased slumping will incur additional operational costs from 2018 on as ponding organic leachate needs to be better managed to reduce odour.

Critical Assets

Without the pads and covers, Council could not accept and process food waste. Renewals and additional pads have been planned for.

DEMAND

10 pads give the site a 22,750 tonne capacity. Even with maximum of 4% growth in organic waste tonnes, it is likely the system will handle processing until the original 8 in-ground concrete pads are replaced in 2026.

Table 10: Compost Facility Capacity

Compost Site Capacity for 10 pads (22,760 tonnes)					
Year	**Tonnes**	**4%**	**Year**	**Tonnes**	**2%**
2015/16	14250		**2015/16**	14250	
2016/17	15224	609	**2016/17**	15224	304
2017/18	15833	633	**2017/18**	15528	311
2018/19	16466	659	**2018/19**	15839	317
2019/20	17125	685	**2019/20**	16156	323
2020/21	17810	712	**2020/21**	16479	330
2021/22	18522	741	**2021/22**	16809	336

2022/23	19263	771	**2022/23**	17145	343
2023/24	20034	801	**2023/24**	17488	350
2024/25	20835	833	**2024/25**	17837	357
2025/26	21668	867	**2025/26**	18194	364
2026/27	22535	901	**2026/27**	18558	371

black figures=actuals, red figures = estimated

This data is taken from the Functional Description report 2016 (*#1022536),* and volumes and processing capacity should be reviewed prior to the renewals.

OPTION APPROVED	Review Functional Description Report in 2021/2022.

ISSUES

Compost Site
Some settlement of the compost site has occurred as it has been built on old landfill. This is being monitored and mitigated with good site management, however, renewals for the pads have been planned for in 2026.

Compost Quality
In the past, there have been concerns with the compost quality meeting the New Zealand standard for compost NZS 5545 with regard to arsenic levels and chemical residue from clopyralid. Through a strong public information campaign, the arsenic issue has been addressed, however, clopyralid residue is still being detected during summer months in some grass clippings.

Further public information and education will be required to lessen the impact from clopyralid. With clopyralid no longer available for sale in domestic quantities, the issue should reduce in the future as spray quantities are used up by customers. Compost with elevated clopyralid levels can still be used for turf, pasture and some cropping scenarios, and sales may be approved on a case-by-case basis.

The timeframes for maturation and storage of the compost product are affected by clopyralid levels and the inability to adequately continue to process the materials to degrade the clopyralid. This is due to a lack of a hardstand maturation area. Some of the existing area is low-lying and waterlogged in winter making access difficult. Maturation areas have been budgeted for and are being developed each year from 2012/13.

Wet conditions may also encourage the growth of legionella bacteria creating a potential health risk. As long as the operational protocols and instructions to the public are issued and followed, the risk of legionella bacteria is reduced.

Only compost that complies with the NZ compost standard is sold. Any compost not meeting the quality standard is not available for sale to the general public purchasing compost at the transfer stations.

Public information is available to warn the public of the health and safety risks with compost, which is available for purchase in bulk or bags from transfer stations. A brochure is supplied with each bag or handed out to people buying trailer loads.

Special Waste

As the cost of landfilling increases, there is greater opportunity to develop composting infrastructure either by Council or the private sector for putrescible waste that is currently landfilled. This is called special waste as it is odorous, wet, difficult to handle and requires special management in the landfill. There is approximately 1,200 tonnes of special waste landfilled per annum, with potentially a further 600-2,600 tonnes of other materials that could be composted. To be able to compost this material, suitable bulking materials with good levels of carbon will be required. Bulking materials can be sourced from waste currently used as cover at the landfill. Investigation was undertaken in 2014/15 to consider the costs and benefits, but while the system is able to process a range of materials, the difficulties in mitigating odour are a significant constraint with the facility so close to residential areas. New organics waste streams will be assessed on a case-by-case basis.

Future Wastes

Council and WMNZ will review new technologies and market situations during the term of the contract for consideration of more efficient and new systems and markets particularly for special waste and timber.

SUMMARY OF ISSUES/OPTIONS

Table 11: Recovery: Further Options

Item	Description	Explanation	Budget	Time	Status	Project ID	Priority
1	Report update	Review Functional Description	$10,000	2021/22	**Included in 2018-28 budget**		**100**
2	Design 10 pads	Old composting pads will be fully depreciated	$100,00	2024/25	**Included in 2018-28 budget**		**100**
3	Build 10 pads and replace processing area	Old composting pads will be fully depreciated	$1,204,000	2025/26	**Included in 2018-28 budget**		**100**

Project ID – refer to #1093640 WMU white pages Priority refers to the ranking given in the Waste Assessment #1002595. High number shows high priority. 1st=86, 2nd=83, 3rd=82
Options that are based on legislative or consent compliance or asset will be fully depreciated have been given a priority of 100.

FUTURE WORKS (50-YEAR INFRASTRUCTURE STRATEGY)

Table 12: Future Works

Year	Description	Explanation

COMPLETED OPTIONS

Year	Description	Explanation
2012/13	Develop an extended maturation area for compost.	Compost maturation areas have been developed. In 2012/13, a 60 x 60 m pad was established, followed by a 20 x 60 m pad in 2013/14. This work has enabled more turning and efficient stockpiling of compost. Development will be ongoing.
2014/15	Liaison with WTL established for timber recovery.	Potential 4,000 tonnes may be diverted from landfill, reducing ETS obligations. A method/facility for sorting of timber and waste is described in the chapter on transfer stations.
2014/15	Investigate options for special waste composting.	Potential 2,000 tonnes may be diverted from landfill. Report completed in 2015.
2016/17	Design composting facility	A 20-year strategy was developed for the Stage 1 area, and low-tech pads designed.
2017/18	Develop new pads when organic tonnes exceed 16,000 tonnes per annum.	2 low-tech pads were constructed in September 2017 increasing site capacity to 22,760 tonnes per annum.

Compost is turned from one windrow to another three times in the eight week processing cycle, providing aeration and mixing the materials.

PAGE FOR FORMATTING

B2.5 TREATMENT

Timaru District Council offers free drop-off points for domestic quantities of hazardous waste at all four transfer stations.

ACTIVITY OVERVIEW

Hazardous Waste

Timaru District Council provides a hazardous waste drop off point at all transfer stations for household quantities of hazardous material. Council also advises businesses on disposal of larger quantities. Some materials are recycled as described in Section B1.2. Any hazardous waste, which is not recoverable, is picked up by hazardous waste collection company, Waste Management Technical Services, for treatment and disposal. The disposal of the chemicals costs about $20,000 per annum. Waimate District Council (WDC) has no designated hazardous waste drop-off, so customers are referred to Timaru. WDC pays an annual contribution towards the disposal costs.

Agrichemicals

Prior to 2008, Council provided a free collection of agrichemicals across the whole District in conjunction with Environment Canterbury. Collection of the redundant chemicals was completed with the last collection in February 2009. There is no need for Council to provide another district-wide collection, even though some farmers may still have unwanted chemicals. Farmers with small quantities of less than 20 litres may drop these amounts at transfer stations or to their supplier, if this service is available, otherwise they must either contact a commercial hazardous waste collector or return the amount in liaison with their supplier.

AgRecovery still run user-pays chemical collections with the most recent collection in July 2017. Council may contribute to a subsidy for the removal of farm chemicals if budget allows.

Council refers people with chemicals to specific chemical recovery companies, and chemical containers and other agricultural plastic wastes to Plasback or Agrecovery.

Medical Waste
Hazardous waste services, such as medical waste collection and disposal are provided to hospitals and doctors' surgeries by private companies and this material is taken by Interwaste to Dunedin where it is incinerated. Minor quantities of medical waste, excluding bodily fluids or parts and sharps, are accepted via the red bin.

Stabilisation of Waste
Some waste may be accepted for disposal at Redruth landfill with pre-treatment or stabilisation. This may include adding bulking agents to solidify wastes containing liquids, e.g. adding sawdust to wet sludges.

Hazardous wastes requiring disposal at Redruth are all considered for disposal through a waste manifest system. Each manifest is assessed by the Waste Minimisation Manager (WMM). Where applicable, e.g. asbestos, waste disposal locations are surveyed.

Waste Acceptance Criteria guidelines were drafted in 2012 for Redruth Landfill based on A-grade landfill status, resource consents, Council bylaws and Ministry for the Environment guidelines. WAC were reviewed in 2018.

METHODS

- Ensure that any treatment of waste, including stabilisation of waste before landfilling, is not detrimental to human health

REQUIREMENTS

- Council will accept hazardous or special solid waste for treatment which may be disposed of to Redruth landfill in accordance with operational and resource consent requirements
- Small household quantities of hazardous waste will be accepted at all transfer stations free of charge

DATA AND RECORDS

The following data will be recorded:

- A summary of waste manifests for materials disposed of as hazardous waste
- Quantities and details of the hazardous waste materials collected at the transfer stations

Waste Manifest Application
The WMM approved a slightly increasing number of applications:
Data source: HP#1002596–haz waste tab

Table 13: Household Hazardous Waste from Transfer Stations

Year	Batteries (tonnes)	Paint (tonnes)	Gas bottles (no.)	Chemicals (tonnes)	Oil (tonnes)
2009/10				Mixed uom*	19
2010/11	9	2	311	Mixed uom	12
2011/12	8	2	234	Mixed uom	10
2012/13	10	4	432	Mixed uom	8
2013/14	7	3	411	0.3	9
2014/15	11	3	345	mixed uom	12
2015/16	14	6	577	2	11
2016/17	8	8	752	0.3	8

Refer HP#771501 weighbridge records, azardous waste inventoryHP#728082, chemicals disposal recorded in #740974
**uom – unit of measure*

INFORMATION
Council provides information on the website as well as brochures at service centres.

ASSET SUMMARY
Assets for this activity are listed in Transfer Stations and Disposal sections.

LEVELS OF SERVICE

Operational Performance Measures

- Measure tonnages of hazardous waste retrieved and managed
- Compliance with operational requirements for site management

RISK

Hazardous goods are handled and stored by the contractor in compliance with all regulations. Tipping operators are qualified to handle goods, and are trained in emergency procedures for spills. Quantities are low and the risk is low.

DEMAND

The quantity of waste collected has remained consistent over the past several years, but may grow due to promotion and public awareness. Materials are expensive to process and budget may need adjusting.

ISSUES

Cost
There are no disposal fees for household hazardous waste disposal. The annual budget is $20,000. A small portion of the cost is recovered from Waimate District Council. Council may review the quantities being disposed of and consider the introduction of a specific disposal fee, or include the disposal cost in conjunction with other waste being disposed of.

The disposal of hazardous waste by commercial users is an issue, and the drop-off needs monitoring.

OPTION APPROVED	Install a camera at the hazardous waste drop-off.

SUMMARY OF ISSUES/OPTIONS

Item	Description	Explanation	Budget	Time	Status	Project ID	Priority
1	Install a camera at the hazardous waste drop-off.	To monitor drop-off and reduce commercial dumping.	$4,000	2019/20	**Included in 2018-28 budget**		
2	Change location of drop-off to RRP.	RRP is staffed most of the time, and can receive waste.	$10,000	2019/20	**Recommended Long term option**		

Project ID – refer to #1093640 WMU white pages Priority refers to the ranking given in the Waste Assessment #1002595. High number shows high priority. 1st=86, 2nd=83, 3rd=82
Options that are based on legislative or consent compliance or asset will be fully depreciated have been given a priority of 100.

FUTURE WORKS (50-YEAR INFRASTRUCTURE STRATEGY)

Table 14: Future Works

Year	Description	Explanation

COMPLETED OPTIONS

Year	Description	Explanation
2004	Domestic Hazardous Waste facilities were established.	To provide free drop-off of hazardous waste to incentivise correct disposal.
2014/15	Investigate options to implement a small charge for hazardous waste drop off.	Staff assessed that the risk of disincentivising customers is too great. Some cost recovery for this service is funded by Waimate District Council from 2014/15.

B2.6 DISPOSAL

ACTIVITY OVERVIEW

History
Stage 1 of Redruth Landfill started in about the 1940s along the coastal strip from the cemetery to the weir at the east extent of Saltwater Creek. This old landfill is lined with marine silt, and filling was completed in 1996.

From 1995, other smaller landfills were gradually closed with waste being transported to Redruth for disposal. Pareora and Peel Forest landfills were closed in 1997.

Stage 2 was built with a clay liner and a leachate collection system, which was modified in 2014 to collect and flare landfill gas. It was in use from 1996 -2003.

Stage 3 was designed as an A-grade landfill with capacity to build 10 cells. Filling started in 2003.

Resource Consents
The Redruth Landfill site holds consents for the landfilling activity as follows:

	REDRUTH CLOSED LANDFILL	Expiry
CRC001171	Discharge contaminants to land	19/12/2041
	REDRUTH NEW LANDFILL	
CRC950945.1	Discharge contaminants to land (leachate)	11/5/2030
CRC950946	Discharge contaminants to air	11/5/2030

Data source: #313329 - Landfill and Transfer Station Monitoring and Environmental Management Programme

Cell development

Cells have been developed as shown in the following table:

Table 15: Stage 3 Cell Development

	04	05	06	07	08	09	10	11	12	13	14	15	16	17
3.1	√	√									√	√		
3.2		√	√	√	√	√	√							
3.3							√	√	√	√	√	√		
3.4												√	√	√
Tonnes				34,054	35,397	25,569	23,975	22,430	17,184	18,247	19,849	26,890	26,638	28,114
m^3/day							126	154	99.5	92	98	111	93	
Density(t/m^3)							0.52	0.39	0.47	0.52	0.58	0.66	0.78	

Table 16: Stage 2 & 3 Cell Development

	18	19	20	21	22	23	24	25	26	27	28	29	30	31
3.4	√													
Stage 2	√	√	√	√	√									
3.5						√	√	√						
3.6									√	√	√			
3.7												√	√	√
Tonnes														
m³/day														
Density (t/m³)														

	32	33	34	35	36	37	38	39	40	41	42	43	44	45
3.8	√	√	√							**Length of landfill life may be extended if diversion is encouraged.**				
3.9				√	√	√								
3.10							√	√	√					
Tonnes														
m³/day														
Density (t/m³)														

Data source: #1002596 - WMMP data and tables, Annual Monitoring Report for Ecan- 2015/16 HP#1006490 & 2016/17 HP#1086156

REFER	Increase business education staff resourcing by 0.5 FTE to assist businesses with recycling and recovery of waste with a goal of introducing waste reduction at source initiatives. Refer to Chapter 6- Reduce

Current Level of Service
Redruth Landfill
Council owns a landfill at Redruth for the disposal of solid waste. The landfill is operated by Waste Management NZ Ltd under contract until 2021. Council sets the fees and charges at the landfill and retains the revenue. Waste is also accepted from the Waimate District.

The landfill is open to accept waste from commercial users, kerbside collection trucks and transport of bulk waste from transfer stations Monday to Friday. Waste can be disposed of at the Redruth transfer station on other days by commercial users if required.

Cleanfill Sites
The Council accepts cleanfill at the following locations:

Table 17: Locations Cleanfill Accepted

Location Cleanfill Accepted	Quantity Accepted	Destination
Redruth Landfill	Truck loads	Cover for tipping face and civil construction
Redruth transfer station	Trailer loads	Cover for tipping face and civil construction
Temuka transfer station	Trailer loads	Old Temuka landfill-cover
Geraldine transfer station	Trailer loads	Old Geraldine cleanfill-cover
Pleasant Point transfer station	Trailer loads	Old Pleasant Point landfill-cover

Closed Landfills
Council has a closed landfill management plan and monitors seven closed landfill sites in accordance with resource consent conditions.
The sites are as follows:
1. Old landfill areas (Stage 1) at Redruth
2. Pareora
3. Temuka
4. Pleasant Point
5. Geraldine
6. Peel Forest
7. Ellis Rd

Many other small, closed landfills are listed on the Council and Ecan registers. Some are on private land and some are on Council land. Information on the use and closure of most of these is limited.

OPTION APPROVED	Complete capping of Pleasant Point Closed landfill

METHODS

- Provide a landfill for safe disposal of waste in compliance with legislative requirements
- Provide a disposal option for cleanfill

- Monitor closed landfill sites

APPROVED	Build Stage Two & Three landfill cells as per WOL programme (25 years life).
APPROVED	Cap Stage Two & Three landfill cells as per WOL programme.

REQUIREMENTS

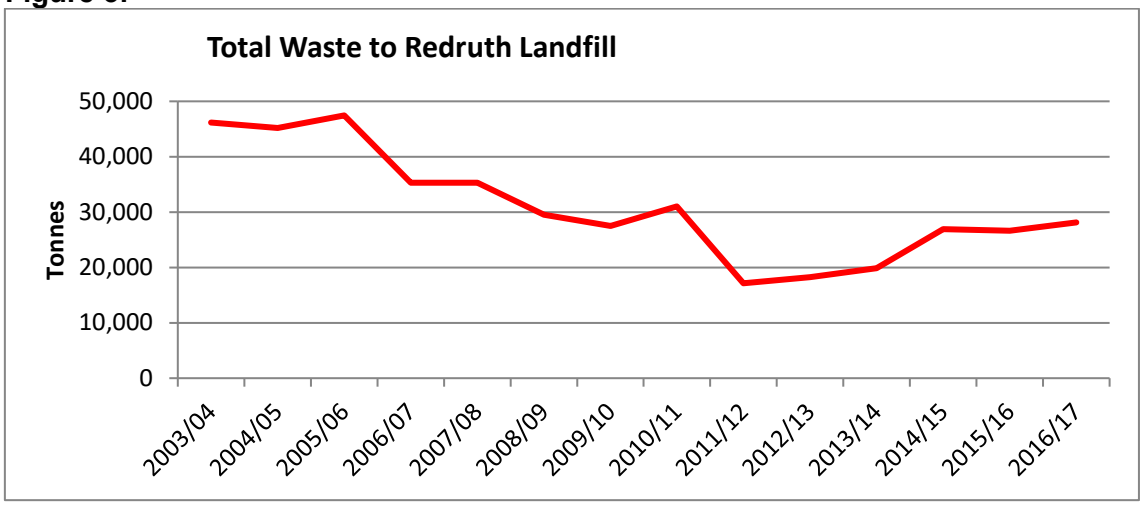
- Council policy is to recover 100% of waste disposal costs from fees.
- Council will set differential fees from time to time to provide economic disincentives and incentives.
- Council will accept solid waste from the MacKenzie and Waimate districts for disposal into Redruth landfill.
- Council will operate according to the requirements of resource consents.
- Council may vary the opening days of the landfill to suit waste quantities.
- Waste can be disposed of at Redruth transfer station on days the landfill is closed.
- The landfill and transfer stations are closed on Christmas Day, New Year's Day and Good Friday.
- Commercial waste operators disposing of waste directly to the landfill will be issued with permits.
- Bylaws will list relevant provisions, including lists of banned and prohibited materials.

DATA AND RECORDS

The following data is recorded:

- Quantities and source of waste
- Quantities of cleanfill
- Groundwater and surface water quality parameters
- Resource consents activity in the Hansen database
- Number of commercial users with permits *(see B1.3 Private Collection)*

Figure 3:

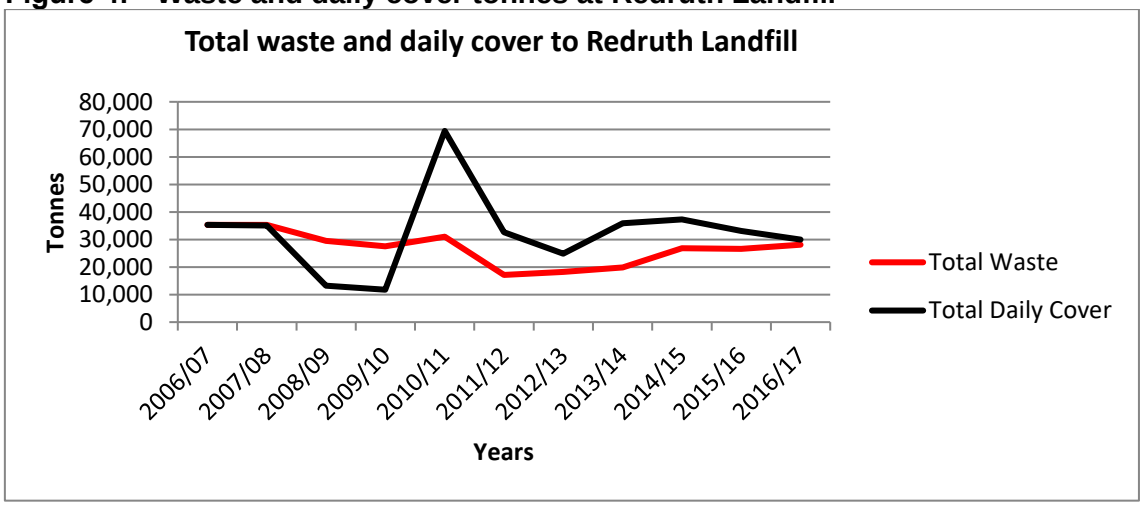


Data source: HP#1002596 – WMMP tables and graphs – RR LF waste & DC tonnes tab

The introduction of the three-bin kerbside collection in 2006 resulted in a significant reduction of waste being landfilled, primarily due to the reduction in quantities of garden waste, which is now composted. Waste tonnes dropped over a 3-year period from 2010/11 due to commercial waste being transported out of district. That waste is now being disposed of to Redruth Landfill, so tonnes have increased recently.

Under the site consents, waste is required to be covered on a daily basis. This amounts to significant quantities of soily material in the landfill as shown in the graph below. A report on the benefits of landfill lids for reducing daily cover has been completed and operational implementation is being reviewed.

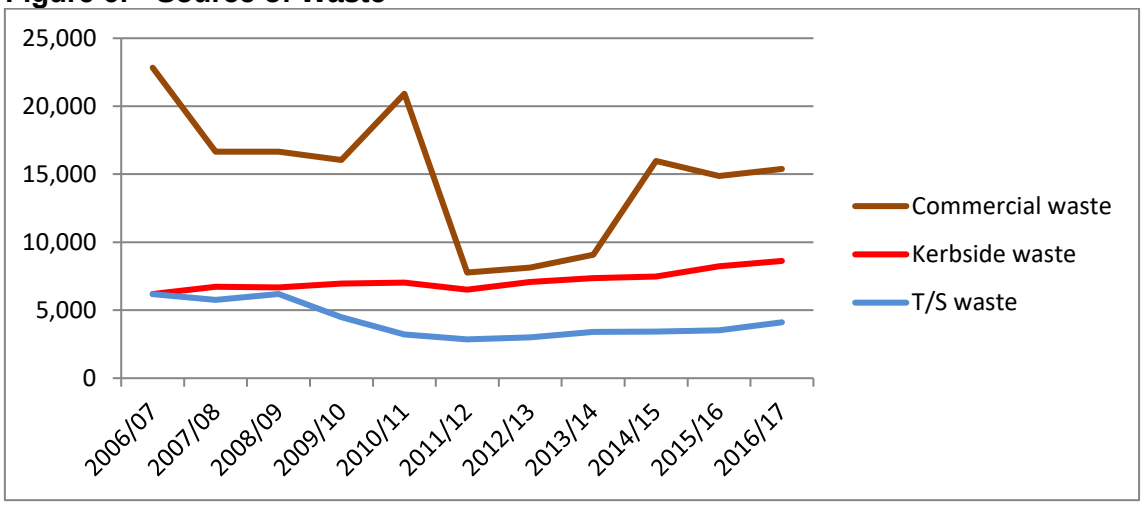
Figure 4: Waste and daily cover tonnes at Redruth Landfill



Data Source: HP#1002596 – WMMP tables and graphs – RR LF waste & DC tonnes tab

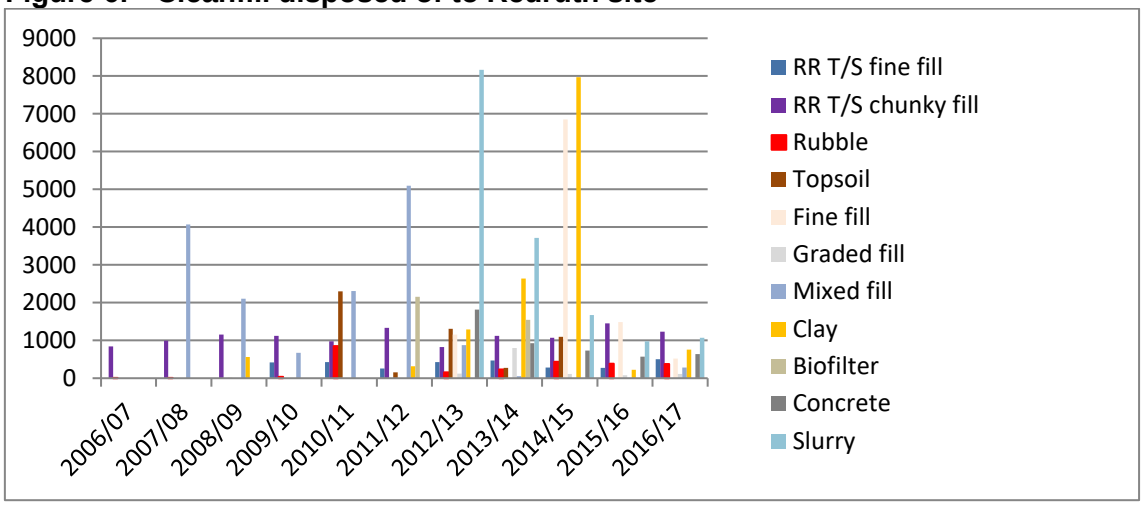
OPTION	Run an alternative daily cover trial.

Figure 5: Source of Waste



Data Source: HP#1002596 – WMMP tables and graphs – Source of waste tab

Figure 6: Cleanfill disposed of to Redruth site



Data Source: HP#1002596 – WMMP tables and graphs – cleanfill tab

Groundwater and surface water quality parameters

Groundwater and surface water quality parameters are noted in the Landfill and Transfer Station Monitoring and Environmental Management Programme (#313329). Parameters are updated as required to meet changing standards. Sampling is conducted regularly and compliance is reported to Ecan after each round. Full analysis of the results is given in the annual report submitted to Ecan in October each year.

INFORMATION

Information is provided on the Council website on the public hours, applicable fees and the materials that may be taken to landfill. Brochures, information and media in local newspapers and radio are also used to inform residents about landfill matters.

Waste Composition & Potential Minimisation

Of the waste disposed of at the landfill, 38.5% potential diversion was identified in the visual audit (2009) and 10.91% actual diversion was achieved in the waste sort trial (2015). Results from both trials are compared in the table below where diversion is shown as a percentage.

Material	Visual Audit - 2009	Potential Diversion By volume	Waste Sort Trial - 2015 Gantry and mini skips Potential Diversion By weight
Putrescibles **Garden and Food Waste**	The mix of putrescibles is split evenly as garden waste (5.2%), industrial screenings of offal, etc from the Smithfield freezing works and Freshpork Baycity Ltd (8.8%) and other organic waste such as NZ Light Leathers shavings, fullers earth for fat soakage (4.8%). The garden waste is part of mixed loads. The offal etc. would best be processed in an enclosed composting system.	18.8%	16%
Metal	A significant proportion of the metal is recyclable. Waste Management NZ staff retrieves some metal, mainly bulky items, however a lot of light gauge material is not retrieved, including whiteware as this is time consuming.	5.9%	26%
Cardboard	There is a significant amount of cardboard as part of mixed loads. Like paper, some boxes are disintegrating, wet or contaminated and are not suitable for recycling but can be composted.	9%	6%
Plastics	There is a significant amount of soft plastic bags and wrapping. The majority of this plastic is dirty or contaminated from primary processing industries.	21.4%	
Paper	A lot of paper is within plastic bags as part of a ‘’tidy up” or as domestic household waste dropped off in bags or boxes. Some of this paper is confidential and people may not want to recycle this as compared to destruction or burial. Some paper is also wet and not suitable for recycling, in which case it may be composted.	8.5%	
Glass	Minor amounts of glass are disposed of, again as part of the main load in bags, etc.	1.3%	
Textiles	There is a broad range of textiles disposed of, with the quality being on the low side. Cross-contamination from other waste is an issue.	3.3%	
Rubble	There are small amounts of rubble and cleanfill present, especially in mixed	1.4%	

	skips from building sites.		
Timber	Some of the timber could be shredded, however, it would require de-nailing. Careful separation would be required to ensure treated and painted timber was not included. As timber comprises the largest portion, it will be necessary to find a suitable alternative technology before engaging in any separation.	19.6%	46%
Gib-board	Gib-board is mixed up with the loads, primarily as off-cuts. Some of the demolition material will not be suitable for composting as it has paint that may be contaminated with lead and other materials encasing the wall lining. A separate gib-board collection for organic processing has been introduced since the audit was conducted and 10 tonnes was composted in 2010/11.	1.7%	Incl in organics
Electrical	A small number of electrical items were disposed of.	0.3%	1%
Tyres	There were some tyres disposed of as part of the mixed loads during the survey week.		
Other Items	The remaining categories presented minor quantities. Rubber Potentially hazardous Miscellaneous Sanitary	 1.3% 1.1% 4.2% 2.3%	 3%
Re-use			1%

At 46% by weight, the diversion of timber to the pyrolysis facility is a critical factor in the operation. Scrap metal (26%) comprised a surprising proportion of the potential diversion. Organics (16%) included garden waste and gib which is a heavy material.

OPTION APPROVED	Conduct a physical SWAP audit in 2022 required for next six-yearly review of the WMMP.

ASSET SUMMARY

Redruth Landfill is Council owned, and Stage 3 of Redruth Landfill meets the MfE Class A definition. A number of closed landfills are managed by Council.

Asset Capacity and Performance
Stage 3 cells are currently receiving waste, but both Stages 2 & 3 are consented to 2030. Stage 2 filling will resume in 2019, after a period of closure of 14 years, extending the landfill life to between 25-30 years.

There have been issues with the performance of drainage pumps in recent years. The problem pumps were replaced in 2007/08 and modifications made in 2013/14 to reduce the infiltration of debris into the leachate system. A maintenance schedule requires monthly inspections to monitor performance.

Asset Condition

Landfill Assets	**Critical Asset**	**Condition**	**Build**	**Estimated Useful Life**	**End useful life**
Redruth new landfill (cells 3.1-3.3)	Y	Very good	2005	Closed.	2015
Redruth new landfill (Stage 2)	N	Good	1996	Closed to 2017. Filling to recommence 2018. About 5 years filling.	2023
Stage 1 closed landfill	N	Good	1940 - 1986	Closed	1986
Geraldine closed landfill	N	Very Good		Closed	1997
Temuka closed landfill	N	Very Good		Closed	1993
Pleasant Point closed landfill	N	Good		Closed	2000
Pareora closed landfill	N	Good		Closed	1997
Peel Forest closed landfill	N	Good		Closed	1997
Ellis Rd Closed landfill	N	Good		Closed	
Pump Assets	**Critical Asset**	**Condition**	**Build**	**Estimated Useful Life**	**End useful life**
Stage 2 subsoil pump	N	Good			
Stage 2 leachate	N	Good			

pump					
Stg 2 leachate tanks(2)	N	Good			
3.1 subsoil pump	N	Good			
3.1 leachate pump	N	Good			
3.4 subsoil pump	N	Good			
3.4 leachate pump	N	Good			
Gas Assets	**Critical Asset**	**Condition**	**Build**	**Estimated Useful Life**	**End useful life**
Stage 2 east flare	N	Good	2016 *Con.1964*	10 years?	2026?
Stage 2 west flare	N	Good	2016 *Con.1964*	10 years?	2026?
Monitoring Assets	**Critical Asset**	**Condition**	**Build**	**Estimated Useful Life**	**End useful life**
Boreholes-all sites	No				

LEVELS OF SERVICE

LTP Performance Measures

For the closed and operating landfills, compliance with resource consents is important.

Table 18: Long Term Plan Performance Measures

Level of Service Statement				
LoS2 No adverse effects on the environment or human health from the operation of solid waste facilities.				
Year	**Measure**	**Target**	**Result**	
2015-2018	Compliance with resource consent conditions* *(other than for minor breaches)	Full compliance with resource consent conditions*	15/16	Fully compliant
			16/17	Fully compliant
			17/18	
2018-2021			18/19	
			19/20	
			20/21	

Data Source: Hansen Asset Database, resource consent records, Waste Minimisation Summary of Levels of Service (HP#906599)

Operational Performance Measures

- Annual tonnages of waste and cleanfill disposed of to landfill.
- Measure the composition of material disposed of to landfill every 5 years.
- Compliance with operational requirements for site management.

RISK

Critical Assets

Redruth landfill is a critical asset as it is imperative to have a waste disposal facility to protect public health.

Asset Risk

The site has been identified as having a risk of liquefaction due to earthquakes. Refer-Ecan report www.ecan.govt.nz/liquefaction. This will be mitigated by site design with maximum strength. Given its location next to Saltwater Creek and on the coast, the site is at risk of inundation from a tsunami or flooding. High bunds around the site mitigate this risk and would direct floodwaters down the swale on the west side of Stage 2. An emergency waste management plan must be developed for all sites.

OPTION APPROVED	Ensure waste disposal options are included in emergency plans.

OPTION APPROVED	Obtain consent for Pleasant Point pit as an alternative dumping site for emergency waste.

Environmental Compliance Risk

The resource consents for the new Redruth Landfill will expire in 2030 before the landfill is full. An application will need to be made for an extension to the consent. Continued best practice and management will ensure community buy-in to an extension. The timeframe for applying and indicative costs are noted in the long-term planning.

APPROVED	Implement landfill gas strategy as per WOL programme to comply with NES for Air Quality.

APPROVED	Cap Stage One of landfill as per WOL programme over 25-35 years to reduce leachate and improve stormwater quality.

As part of the LTP submission process, 2 stages of the capping have been amalgamated in 2018/19 to address a significant ponding issue.

APPROVED	Implement stormwater management projects as per Stormwater Management Plan.

Waste Flight Risk

Council only has direct control over 41% of the waste being landfilled, which is waste collected from the kerbside collections and from the transfer stations. The balance of 59% may be subject to alternative disposal options. Significant risk lies with the following sources and quantities.

Source	Tonnes per annum	2016/17 Fee (excl gst)	Revenue
Private operators	8,700	$149	$1,300,000

Waimate	1,200	$149	$78,800
Other	5,000	$149	$745,600

DEMAND

For the 2009/10 and 2010/11 years nearly 24,000 tonnes of waste was landfilled. In the 2011/12 year, waste dropped to 17,184 tonnes due to waste flight with commercial waste from Timaru and Mackenzie District waste being transported to an out-of-district landfill. However, commercial waste has again increased and tonnes are averaging 27,000 tonnes per annum.

Timaru District Council's Redruth Landfill is consented until 2030. The estimated remaining capacity of the landfill cells in Stage 3 from 1 July 2018 based on the Whole of Life Remaining Life Model 13/10/2017 is 946,666 tonnes. The table below shows different landfill life expectancies for annual tonnages received at 30,000, 27,500 tonnes, 25,000 tonnes and 20,000 tonnes. Of course, annual tonnages will vary, but the model does show the effect of changing waste tonnages on landfill life.

Table 19: Estimated Landfill Life

Remaining Capacity Redruth Landfill Stage 3 (as of 1 July 2018)	946,666 tonnes		
Estimated Landfill Life	**Tonnes per annum**	**Life (Yrs)**	**Closure**
Tonnes landfilled per annum	30,000	31.5	2046
Tonnes landfilled per annum	27,500	34.4	2046
Tonnes landfilled per annum	25,000	37.7	2046
Tonnes landfilled per annum	20,000	47.3	2055

Data Source: Landfill life estimate-HP#1137606, weighbridge records HP#771501

Complaints
There are usually no complaints about the landfill operation. Refer to Waste Management Complaints record or TDC CRM reporting system for details.

ISSUES

Landfill Gas Strategy
A Landfill Gas Strategy was completed in May 2017 *(Final Report refer #1069126)*

The strategy highlighted the need for a gas system to comply with the requirements of the National Environmental Standard (NES) for air quality for landfills as Stages 2 & 3 combined will have a total capacity of over 1 million tonnes of refuse. The system will need to collect and destroy or utilise landfill gas.

As surface methane emissions must be less than 5,000 ppm, a monitoring regime was recommended to check for compliance.

Stage 2
In 1998, Council commissioned a report to determine the viability of landfill gas utilisation. The consultants' conclusion was that, given the shallow depth of the landfill, it was not economically viable to collect and use landfill gas.
In 2008, a grid surface survey indicated no landfill gas across the surface, but gas was detected at uncapped leachate/gas vents at the northern end of the landfill with recordings of 250ppm to 650ppm.
In 2014, a gas collection system connected all the Stage 2 leachate vents and two gas flares were installed, one on the east line and one on the west line, to capture and destroy any gas that accumulates in the leachate drainage system. These flares are flaring and destroying gas intermittently.
A horizontal gas system will be installed as each area of Stage 2 is capped after filling recommences in 2018.

Stage 3
In 2017/18 cell 3.3 will be capped and horizontal gas infrastructure installed. Subsequently, a horizontal gas system will be installed as each cell of Stage 3 is capped. Cells 3.1, 3.2 and 3.4 will have gas lines put in when 3.4 is capped.

Redruth Landfill Leachate
The progressive capping of Stage 2 and 3 will reduce leachate as stormwater will be shed and infiltration reduced. The progressive capping and shaping of Stage 1 should achieve the same end.

Storm Water
A Stormwater Management Plan has been drafted for the site, and proposes a number of projects to improve stormwater quality. Refer to the WOL plan for more detail.

Emissions Trading Scheme (ETS)
Council must pay for ETS obligations using New Zealand carbon units. The default payment is a factor of 1.19 x carbon unit per tonne of waste landfilled. A New Zealand carbon unit is estimated to cost $18 from 2017/18, but because of the phase-in of full costs, Council will pay a reduced cost for each tonne of waste landfilled for the 17/18 year. Full costs will be imposed on Council from 1 January 2019.
Data Source: Refer #740974 Budget notes -ETS tab

Council may be able to reduce the amount of the obligation by applying for a reduced rate using a Unique Emission Factor (UEF). The UEF is calculated based on:

- an analysis of waste being landfilled
- landfill gas capture and recovery.

The opportunity to reduce costs is assessed as follows:

- Change waste composition - even with timber removed from the waste stream, the financial benefit has been assessed to be low.
- Landfill gas flaring - The UEF for Redruth may reduce depending on the amount of gas able to be flared. A landfill gas system is to be put in place progressively from 2017/18 to comply with the NES.

Although Council has removed significant quantities of materials that create landfill gas, the landfill waste analysis completed in June 2011 indicated that Council exceeds the default composition for waste. This is due to the large amount of timber (18%) and

paper (10%) so, at this stage, a UEF for composition is not applicable. Reducing timber and paper waste may make it worthwhile for Council to apply for a UEF.

Data has been estimated for potential ETS costs for a UEF based on diverting timber. The assumptions are that Council pays for full obligations based on a rate of $18 required per unit.

Table 20: ETS Costs

Factor	Description	Tonnes Landfilled	Rate	ETS Obligation
Default (1.19)	No diversion	27,500	$18.00	$589,000
UEF (1.1)	Divert 360 tonnes timber	27,640	$18.00	$514,000

Data Source: Refer #1002596 – ETS tab

(a) The default UEF calculated for Redruth landfill excluding cleanfill is 1.19 which will result in a carbon obligation of $589,000 for 27,500 tonnes at $18 per tonne of carbon.
(b) Timber has a higher weighting in the UEF formula, so if 360 tonnes of timber was diverted from landfill, the UEF may reduce to 1.1.

The financial benefit of diverting this timber using the UEF could be $75,000 per annum, however, costs for applying for the UEF probably outweigh the benefits. Data and benefits can be reviewed after the waste sort extended trial has been completed.

At the very least, if timber is diverted from landfill there is an avoided cost of $18/tonne.

ETS Conclusions

- There is currently no benefit in Council applying for a UEF.
- Schedule 3 of the Climate Change (Unique Emissions Factors) Regulations 2010 was reviewed with the default composition being modified and effective from 1/1/2016.
    a. Food component is being increased from 0% to 12.3%.
    b. Garden component reduces from 23.3% to 9.2%
    c. Sewage sludge increases from 0% to 5%
- Timber has a higher weighting in the UEF formula, so if 45% timber was diverted from landfill resulting in an overall reduction of waste to landfill by 8.2%, the UEF will reduce by 13.9% to 0.93.
- The next SWAP audit in 2022 after the Waste Sort Trial will help determine TDC's eligibility to apply for a Unique Emissions Factor (UEF).

Disposal Fees

As the disposal cost of waste increases, the cost effectiveness of waste minimisation initiatives become more viable compared to landfilling. Alternatively, the possibility of alternative disposal options may arise, including transporting waste out of the district and illegal dumping. Council will have to consider its pricing structure and acceptance of waste to ensure that revenue budgets are achieved for the landfill and transfer stations.

Timber processing
The gate fee for processing timber is set by Waste Transformation Limited. As volumes increase, the gate fee is guaranteed to reduce creating a greater incentive for diversion.

Economic Viability of Redruth Landfill
As waste tonnes being landfilled decrease, the ability to recover the landfill's fixed operational costs through disposal fees is reduced. Council then needs to consider options for recovering the shortfall from the fees to cover the fixed costs. Savings in variable costs for operating the landfill need to be achieved. Council will need to monitor the impacts of further reductions in waste quantities being landfilled and consider alternative options for waste disposal and funding if deemed necessary.

Bylaw
The full Solid Waste Bylaw was implemented in 2010 for licensed permit holders disposing of waste direct to the landfill.
From 1 October 2010, clean packaging polystyrene has been banned from landfill for landfill access permit holders under the conditions of their permits.
In 2011, landfill auditing was introduced to monitor compliance with the bylaw. This involved random visits to the landfill by Council staff, photographs taken of waste disposed of with follow–up visits to waste generators to help improve sorting of waste and diversion. Council staff were undertaking an educational approach rather than a strict enforcement approach, however, auditing is currently limited by staff time available.

In 2013, the list in the First Schedule of the bylaw was amended to include a generic statement "and any other material(s) or item(s) notified by Council'' to allow for further bans on other materials.
The bylaw is currently not being enforced at the landfill, transfer stations or for the kerbside rubbish collection. The whole Bylaw was reviewed in 2018.

Cleanfill Sites
Council has a number of old gravel pits that could be used as cleanfill sites, e.g. sites located at Divan Road, Coach Road and Beck Rd. Paul Smith Earthmoving is consented to use the site at Divan Rd. Council should consider identifying these sites and any others for future sites as part of an emergency management plan. It is prudent to obtain appropriate approvals or consents so that the sites can be officially nominated as sites for emergency use. It would be expected that certain conditions will apply for emergency sites and these will determine what materials can be accepted, any pre-sorting that may be required, storage time and any other condition that may pertain to the site. This pre-empts any possible delays during the event or issues with planning and consents after the event.

Long Term Use of the Landfill Site
The Council has a ''whole-of-life (WOL) plan'' for Redruth landfill. The WOL plan is designed to provide a framework for the overall site planning and links to the asset management plan for the landfill, as well as to the LTP and Annual Plans. The plan is highly dependant on the likely long-term use of the site. A long-term use has not yet been confirmed, and it would be prudent to consider this to enable planning and design for future utilisation to be incorporated into the WOL plan. The plan has been created using all known asset data. Underground services were surveyed in February 2012 and WMNZ has provided Council with a summary of indicative missing data. This gap will be addressed to complete the asset data and minimise the risk of inadequate data.

Stage 2 & 3 will be maintained as passive recreation area due to its high visibility. Public feedback from southend residents is 2017 overlooking the landfill indicate a preference for a mix of grass and shrubs with options for walkways, cycleways, sculpture park, lavender farm, grazing area or solar farm.

Illegal Dumping and Burning Waste

Illegal dumping is when people choose to dispose of their waste usually in public locations, however, some dumping may occur on private property in non-approved pits, etc. There is always an element of the community who will dump waste in river beds, on road sides and at other locations. Even when Council had free dumping at the old tip sites, people still chose to dump waste in river beds, etc.

As tipping fees increase, people may seek alternative disposal options and illegal dumping may increase. Burning of waste is one option, however, this is prohibited under a Council bylaw in urban areas. It is difficult to monitor situations where approved burn off and fires may include general waste.

It is important to record and monitor incidents of illegal dumping along with enforcement and follow-up measures. Illegal dumping is monitored by the Council's Pollution Prevention Officer, and also by Environment Canterbury for river bed and foreshore areas.

Natural Disasters

Based on historic events, there is a need for Council to plan for the cleanup of debris and waste after a major natural disaster. Council needs to prepare for and recover more quickly from the increased solid waste generated by a natural disaster. The most severe natural disasters generate debris in quantities that can overwhelm existing facilities or force communities to use disposal options that would not normally be acceptable. Recent events include the floods of 1986 and the snow of 2006 which both generated significant quantities of debris. Earthquakes in Christchurch have demonstrated the significant amount of debris that can be generated.

Waste Spills and Events

In the case of a significant spill or event, there may be a requirement to dispose of waste to Redruth landfill. The type of waste and the quantity of chemical will determine if it is acceptable to dispose of it to landfill. Pre-treatment may be required to enable the waste to be accepted. Advice from Council's contractor and / or specialist advisors will be required. Application via the waste manifest system will be required.

SUMMARY OF ISSUES/OPTIONS

Table 1: Disposal Further Options

Item	Description	Explanation	Budget	Time	Status	Project ID	Priority
1	Alternative Daily Cover	Use landfill lids to reduce soil in landfill	By RFP to existing contract	2018/19	**Recommended subject to report**	LF1	**81**
2	Review of landfill viability.	Undertake regular reviews and explore options	Existing $10,000 (WOL)	Annual	**Recommended**	LF2	**BAU**
3	Ensure waste disposal options are included in emergency plans.	Emergency planning for solid waste will enhance ability to respond while maintaining a high level of compliance	Existing (regional)	2019/20	**Recommended**	LF3	**100**
4	Conduct a SWAP audit	Required under Waste Minimisation Act prior to 6-yearly review of WMMP	$30,000	2022	**Recommended**	LF4	**100**
5	Complete capping of Pleasant Point Closed landfill.	Surface of Closed landfills need complete caps to reduce storm water infiltration and leachate generation	Existing (Closed landfills)	2018/19	**Included in 2018-28 budget**	LF5	**100**
6	Build landfill cells	Design, pre-drainage and build landfill cells 2.1,2.2,2.3,2.4,3.5,3.6	New *Refer #1135293*	2018/19 - 2027/28	**Included in 2018-28 budget**	LF6	**100**
7	Cap landfill cells	2.1,2.2,2.3,2.4,	New *Refer #1135293*	2018/19 - 2027/28	**Included in 2018-28 budget**	LF7	**100**
8	Stormwater	Implement stormwater projects as per the SMP	New *Refer #1135293*	2018/19 - 2027/28	**Included in 2018-28 budget**	LF8	**100**
9	LFG	Implement landfill gas infrastructure as per the LFG Strategy	New *Refer #1135293*	2018/19 - 2027/28	**Included in 2018-28 budget**	LF9	**100**

10	Apply for extension to resource consents for Redruth Landfill	Estimated landfill life exceeds resource consenting period (expires in 2030)	$20,000	2024/25	**Included in 2018-28 budget**	LF10	**100**
11	Cap Stage 1	Capping must be completed during period of landfilling	$80-100,000 per year till 2045	2018/19 on	**Included in 2018-28 budget**	LF11	**100**
12	Other consents	Obtain stormwater consent for Pleasant Point and consent for pit as an alternative dumping site for emergency waste. Stormwater consent for Geraldine	$10,000 $10,000	2019/20 2021/22	**Included in 2018-28 budget** **Included in 2018-28 budget**	LF12	

Project ID – refer to #1093640 WMU white pages Priority refers to the ranking given in the Waste Assessment #1002595. High number shows high priority. 1st=86, 2nd=83, 3rd=82
Options that are based on legislative or consent compliance or asset will be fully depreciated have been given a priority of 100.

FUTURE WORKS (50-YEAR INFRASTRUCTURE STRATEGY)

Year	Description	Explanation
2029 -2052	Cell 3.7- 3.10	Landfill design allows for 10 cells
2029-2052	Cap Stage 1	Capping must be completed during period of landfilling, before closure.

COMPLETED OPTIONS

Table 2: Disposal Completed Options

Year	Description	Explanation
2013 on	Allocate funding for after-care costs.	Money needs to be set aside for the maintenance of the landfill during its post-closure period. $100,000pa. $5/tonne waste
2013 on	Completed capping of Temuka Closed landfill.	Surface of closed landfills need complete caps to reduce storm water infiltration and leachate generation. This work has been carried out by Temuka Transport, who is developing the closed landfill for commercial activity.
2013 on	Complete capping of Geraldine Closed landfills.	Surface of closed landfills need complete caps to reduce storm water infiltration and leachate generation. This work is being carried out by Earthworks Aoraki Ltd, who is developing the Closed landfill for commercial activity.
2017	Complete remedial works of Ellis Rd Closed landfill.	A resource consent was applied for to build a rock wall at the site for erosion protection, and the site was shaped. It will be replanted in the future by DOC and TDC.

B2.7 COMMUNITY PARTICIPATION, INFORMATION, PUBLIC PLACES AND EVENTS

Bins shown at a public place event, Rangitata Island, with 3,000 attendees.

ACTIVITY OVERVIEW

History

Council's involvement with waste management for resource recovery at events began in 1999. Since then, Council has significantly increased the infrastructure and resources available to assist event organisers in planning for Zero Waste Events.

Access to public place resource recovery is a recent development throughout the country. Systems vary considerably, but in Timaru we have linked our public place recycling to the three-bin system so our community is familiar with what is required.

Current Level of Service

Council assists with information and infrastructure for Zero Waste Events including free delivery and pick-up of bin sets. Assistance is appreciated by event organisers. Council also provides assistance with voluntary Clean Up events in the district throughout the year.

Staff work with businesses conducting waste audits and advising on recycling options and waste minimisation.

Public place recycling is being implemented throughout the District using the 3 bin system.

Council is a member of the Sustainable Living Education Trust, and funds Enviroschools, Paper for Trees programmes in schools and twice yearly Waste Free Parenting workshops. From 2018/19 a Waste Free Living course will be offered.

METHODS

- Provide public place recycling bins and collection.
- Support zero waste events.
- Offer talks and tours on waste minimisation.
- Fund education programmes.

REQUIREMENTS

- Council will continue supporting public events with advice and resources for the minimisation of waste.
- Council will continue to implement public place recycling.
- Council will fund education programmes.

DATA AND RECORDS

The following data is recorded:

a) Incidents of illegal dumping at transfer stations *(#771501)*
b) Number of talks and tours *(#589716)*
c) Number of businesses assisted *(#589716)*
d) Number of Zero Waste Events *(#589716)*
d) Number of Public Place Recycling sets *(#589716)*
e) Number of programmes and attendance at programmes *(#589716)*

Table 3: **Number of talks and tours**

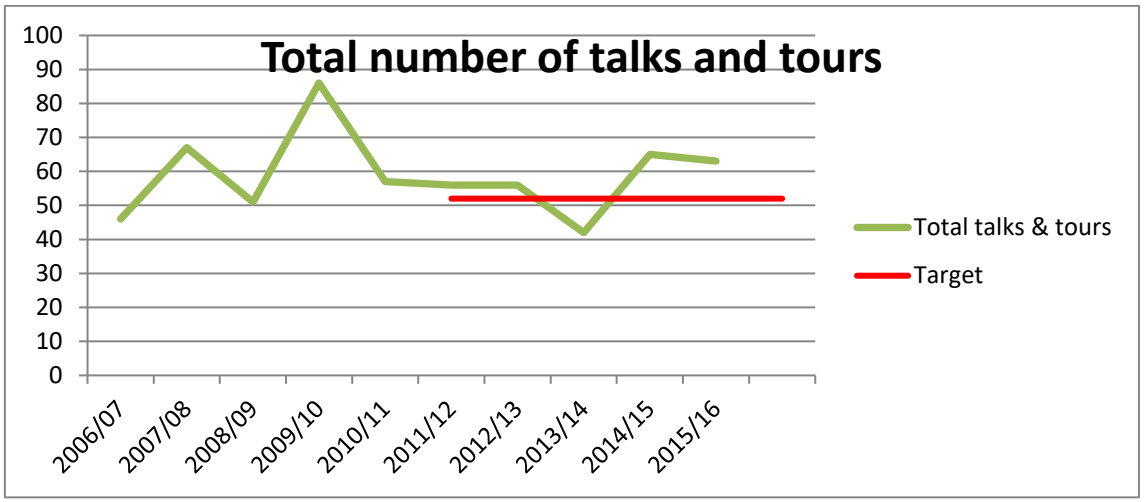


Table 4: **Number of people attending talks and tours**

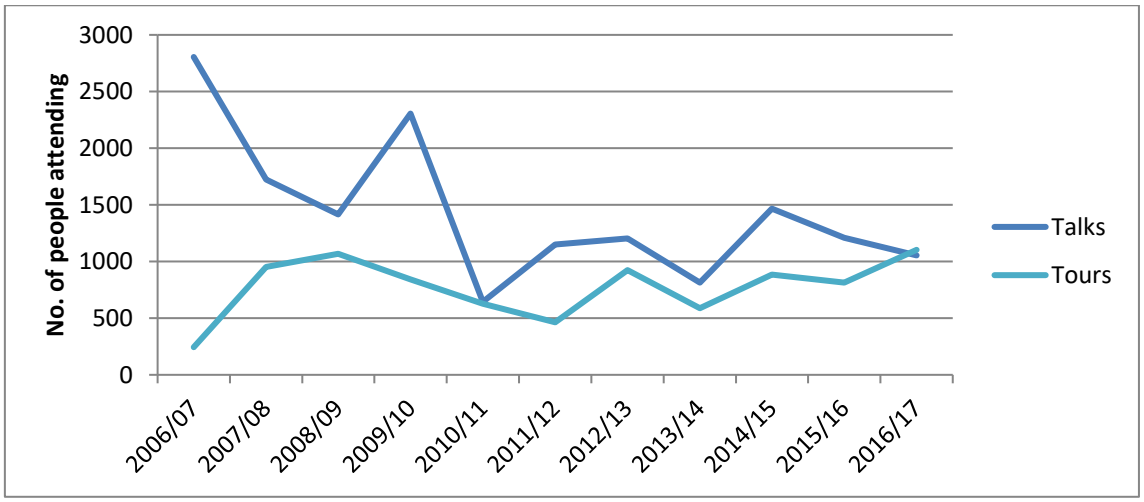


Table 5: **Waste Free Parenting (Modern cloth nappy workshops)**

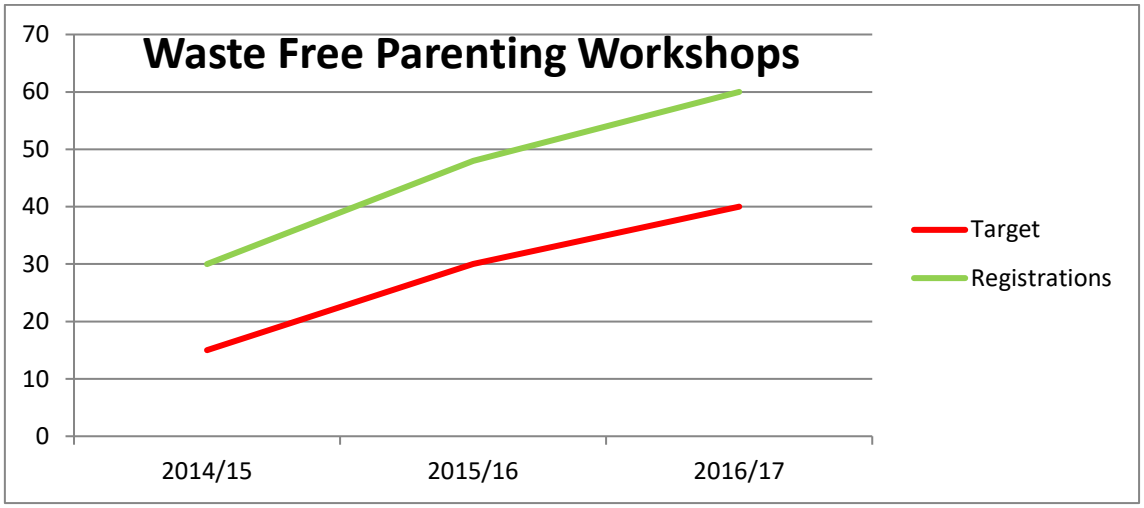


Table 6: **Zero Waste Events and LTP target**

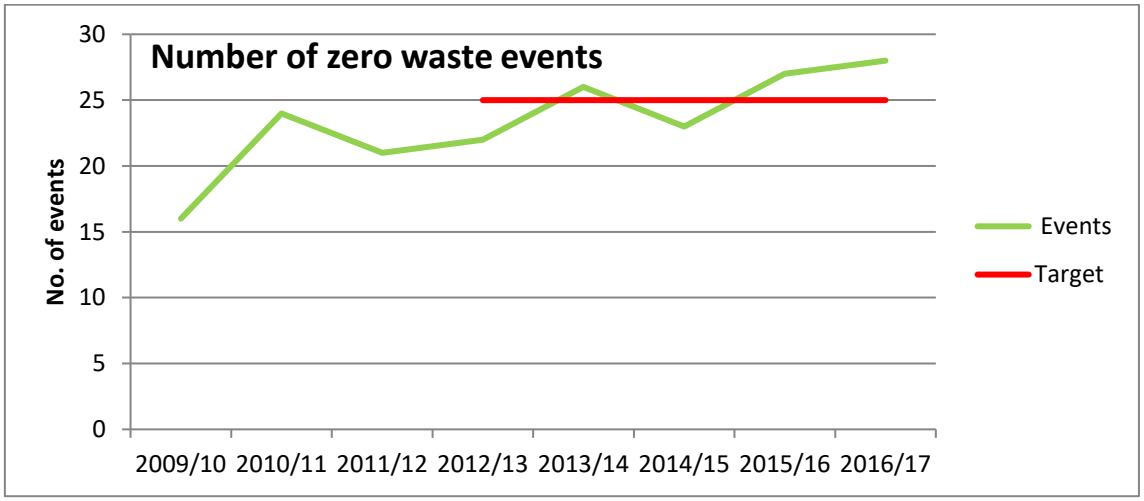


Table 7: **Zero Waste Event Bins**

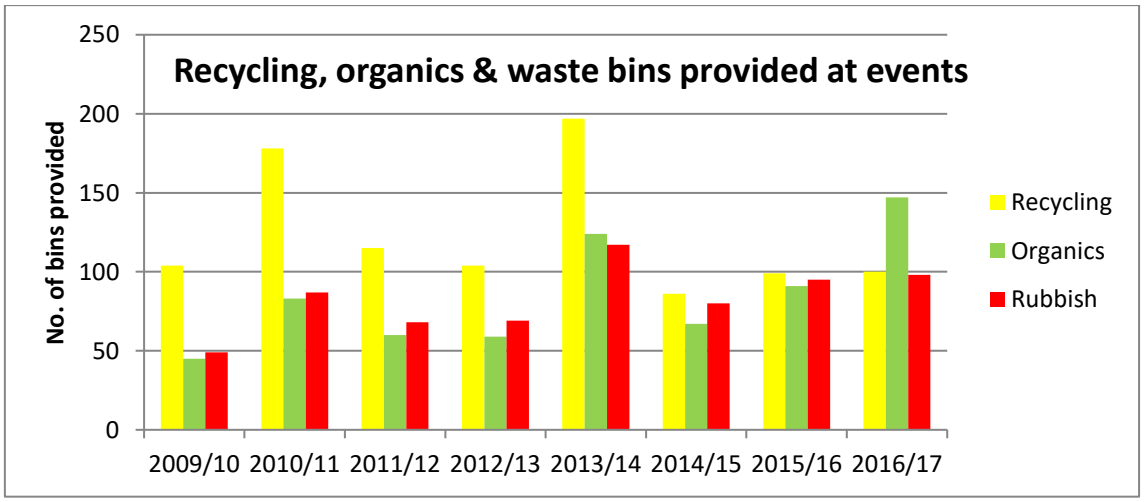


Table 8: Zero Waste Event Diversion

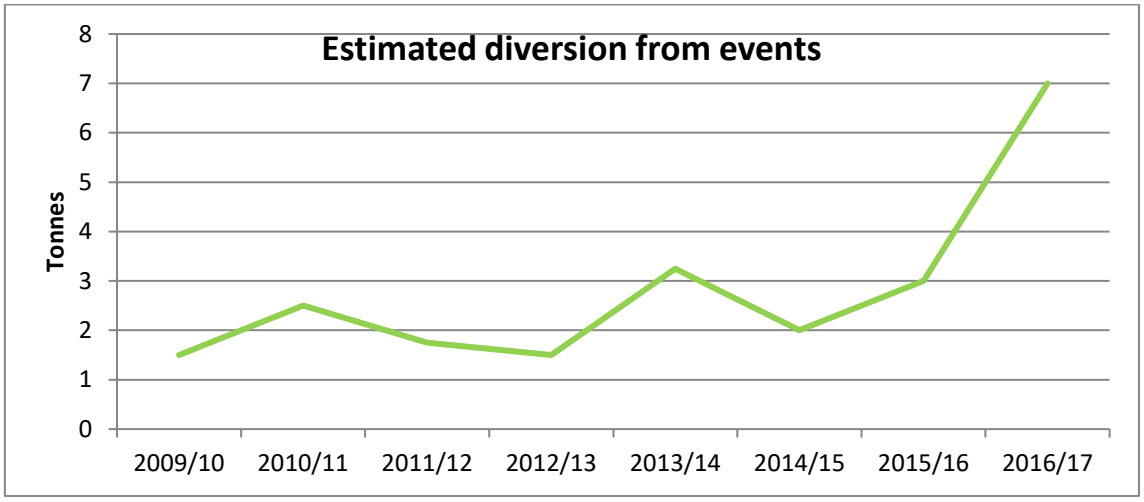


Table 9: Business Visits

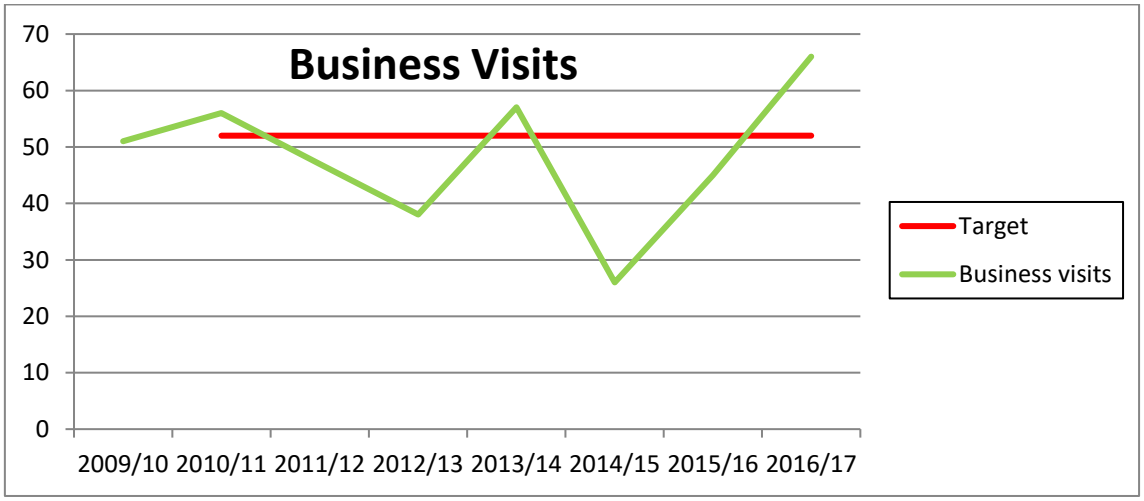


Table 10: Public Place Recycling

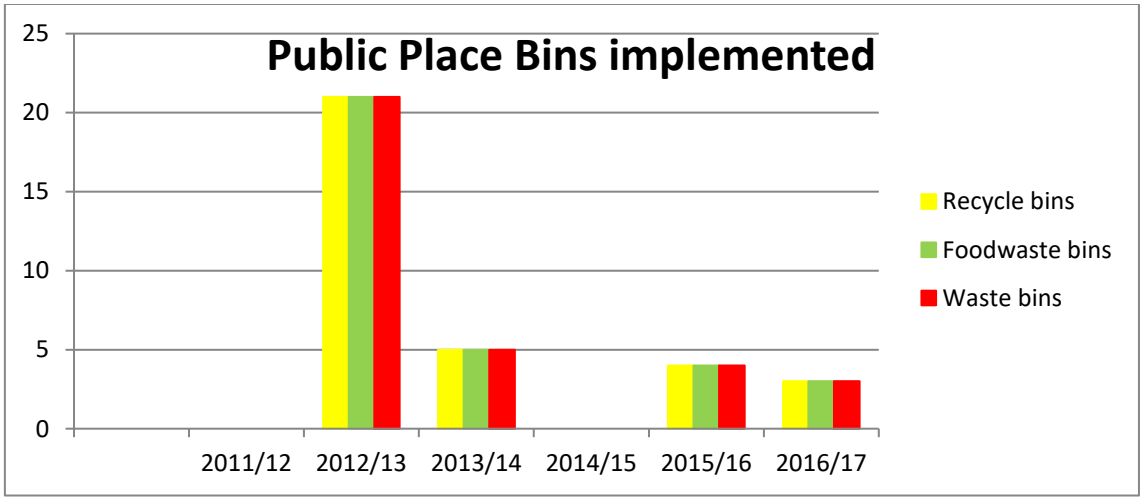
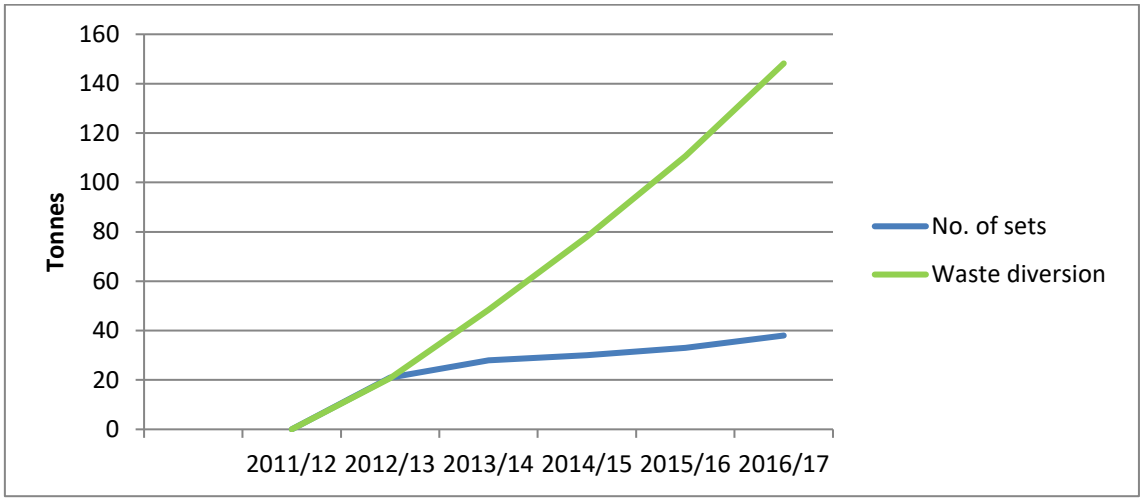


Table 11: Public Place Recycling Cumulative Data



**Although weights are amalgamated and difficult to obtain, some weights based on known information can be estimated to show the diversion generated by these programmes. Data source: HP#589716*

INFORMATION

Public Place Recycling

A 3-bin recycling system was implemented at Caroline Bay during 2012/13 with the installation of 21 sets of bins, resulting in the removal of all 45 litter bins. Contamination in public place bins continues to be lower than the kerbside collection. Feedback from locals and international visitors alike has been overwhelmingly positive. Public place recycling has also been implemented in Geraldine and Temuka.

3-2-1-ZERO waste bins at Caroline Bay. 1 of 28 sets installed.

Public Litter Collection

Where Public Place Recycling is not in place, Council provides public litter collection in Central Business Districts, shopping areas, Council facilities, parks and reserves. In most areas, only rubbish/litter bins are provided. The litter bins are emptied at a frequency to ensure that the bins do not overflow so that spillage of litter is kept to a minimum. The management of the litter bins is undertaken by the Land Transport Unit and Parks Units of the Council with all work contracted out.

Table 1: Litter Bin Summary

Service	2011	2014	2016	Contract
Street litter bins	200	187	177	30 Sept 2014
Parks litter bins	269	229	220	Varied
Public Place bins	0	63	69	varied

Illegal Dumping and Litter

Council employs a litter enforcement officer to monitor and enforce illegal dumping of solid waste. The management of litter enforcement is undertaken by the Environmental Services Group of the Council.

Event Management

Council provides a “Zero Waste Event Guide” and infrastructure and assistance through the Waste Minimisation Unit to help ensure that waste minimisation is provided at public events in the District.

The assistance sought for “Zero Waste Events” increased from 1-2 events in 2005 to 16 events in 2009/10 and 28 events in 2016/17. Council has purchased a range of resources including posters, bins and collection containers to enable participants to sort their waste.

Many sporting, cultural and business events with up to 60,000 people attending have received assistance from Council staff.

Education Programmes

Council has funded the Enviroschools programme offered through Environment Canterbury since 2008. 7 schools have been involved over recent years, but the South Canterbury Kindergarten Association joined as a group from 2017. This will increase

the number of learning environments where the programme is offered. The annual contribution from TDC is $5,000 per annum.

Council funds the Paper for Trees programme, where schools are rewarded with native trees for recycling paper and cardboard. Most of our District's schools are registered, with an increasing number of early childhood centres participating. This programme is very popular with schools, with 300 – 500 trees being planted locally every year. The annual contribution from TDC is up to $2,000 per annum.

Timaru District Council has joined the Sustainable Living Education Trust, a behaviour change education group that encourages individuals to learn how to reduce their negative environmental impacts. Full of practical ideas and solutions, the courses are very popular nationally and courses are now offered to our community. The annual contribution from TDC is less than $2,000 per annum. From 2018/19 – 2020/21 two subsidised courses will be run each year.

ASSET SUMMARY

Council owns the bins used for public place recycling and zero waste events.

Asset Capacity and Performance

These assets are meeting current needs, and more can be purchased to meet growth.

Asset Condition

Event Assets	**Critical Asset**	**Condition**	**Build**	**Estimated Useful Life**	**End useful life**
240 l bins	No	Poor-good	2005	15 years	2020
WasteWorks lids	No	Poor-good	2005	15 years	2020
Signwriting for ZW Event lids	No	Excellent	2016	10 years	2026
PPR Assets*	**Critical Asset**	**Condition**	**Build**	**Estimated Useful Life**	**End useful life**
Caroline Bay – 30 sets	No	Good			
Geraldine - 5 sets	No	Good	2015	15 years	2030
			2016		2031
Temuka - 3 sets	No	Good	2017	15 years	2032
Pleasant Point- 1 set	No	Good	2018	15 years	2033

*Public Place Recycling

LEVELS OF SERVICE

Table 2: Long Term Plan Performance Measures

Level of Service Statement				
Public information and education promotes appropriate sorting of waste and waste minimisation.				
Year	**Measure**	**Target**	**Result**	
2015-2018	Number of zero waste event and business support, talks and tours.	52 businesses assisted	15/16	45
			16/17	66
			17/18	
		25 events supported	15/16	27
			16/17	28
			17/18	
		52 talks and tours	15/16	71
			16/17	72
			17/18	
2018-2021	Number of zero waste event and business support, talks and tours.	52 businesses assisted	18/19	
		75 businesses assisted	19/20	
			20/21	
		25 events supported	18/19	
			19/20	
			20/21	
		52 talks and tours	18/19	
			19/20	

			20/21	
Year	**Measure**	**Target**	**Result**	
2015-2018	Kerbside collection and general information is provided across a range of media.	General information 1,000 items per annum	15/16	1,950
			16/17	2,000
			17/18	
2018-2021		General information 2,000 items per annum	18/19	
			19/20	
			20/21	
Year	**Measure**	**Target**	Result	
2018-21	Provide a range of programmes /initiatives to encourage waste diversion	18 programmes	18/19	
			19/20	
			20/21	

Kerbside collection information reported in B1.1 Kerbside

Operational Performance Measures

Illegal dumping at transfer stations is recorded.

Data source: HP#771501 weighbridge records and monthly contract auditing reports for transfer stations.

RISK

There is little asset risk associated with this activity as it is largely educational.

DEMAND

Public Place Recycling and Zero Waste Events Demand

Public Place recycling will be extended throughout the district as $10,000 per annum has been included in the 2018-28 budget. Numbers of zero waste events are increasing and more staff resource will be required to meet this demand.

Information Demand

There is a steady demand from the community for talks and tours. Since 1997, nearly 30,000 people have attended talks with over 9,000 people going on tours of the Redruth facilities since 2006/2007. Staff has been proactive in promoting waste minimisation to about 50 businesses per year. Requests by businesses for assistance is increasing and much more could be done if Council also initiated business engagement.

Table 3: Summary of Public Information

Year	Talks	People at Talks	Facility Tours	People on Tours	Business Visits	Events	Events Attendees
2006/07	27	2,805	23	244	-	3	No data
2007/08	49	1,725	18	952	-	3	No data
2008/09	25	1,415	26	1,069	-	3	No data
2009/10	54	2,306	32	842	46	16	21,900
20010/11	31	644	26	628	52	24	48,975
2011/12	35	1149	21	465	47	21	32,265
2012/13	33	1205	23	925	38	22	37,020
2013/14	25	814	17	589	57	26	43,920
2014/15	41	1467	24	885	26	23	26400
2015/16	40	1209	23	813	45	27	57975
2016/17	38	1053	39	1103	66	23	99399

Data source- HP#589716 DATA-talks and tours

The Sustainable South Canterbury Trust is building an Eco-Centre. This will help Council achieve the last goal for Community and Participation from the 2003 Solid Waste Plan. The Waste Minimisation Unit needs to evaluate its potential use of the building for educational purposes and develop a budget.

OPTION	Evaluate cost of community education at SSCT Education Centre or internally.

The Eco-Centre will be sited on closed landfill next to the existing Crow's Nest shop. Monitoring and evaluation of gas is underway to assess risk and specify any protection required as part of the construction.

OPTION APPROVED	Subsidise building cost of Eco-Centre including any specific costs associated with protection against landfill gas.

ISSUES

Illegal Dumping

If Council did not provide a kerbside collection service, it is likely that illegal dumping would escalate and incur costs for Council. There will always be incidents of illegal dumping and if disposal fees continue to rise, the number of incidents may increase.

Demand

Demand for community engagement is increasing and targets are being exceeded. This area of activity is not outsourced to contractors, but provided by Council staff. To continue to meet demand more staffing is desirable.

SUMMARY OF ISSUES/OPTIONS

Table 1: Public Information Further Options

Item	Description	Explanation	Budget	Time	Status	Project ID	Priority
1	Community education	The Waste Minimisation Unit could conduct some talks at the Sustainable South Canterbury Trust Eco-Centre	To be assessed	Future	**Recommended**	PI1	**59**
2	Eco-Centre support	Subsidise building costs of Eco-Centre for protection against landfill gas	$5,000	2018/19	**Included in 2018-28 budget**	PI2	**59 H&S**
3	Public Place Recycling	The Geraldine Community Board recommended that more public place recycling stations be put in across the Timaru District. Investigate options	$10,000 per annum (funded from waste levy)	2020-2028	**Included in 2018-28 budget**		**CB**

Project ID – refer to #1093640 WMU white pages *Priority refers to the ranking given in the Waste Assessment #1002595. High number shows high priority. 1st=86, 2nd=83, 3rd=82*
Options that are based on legislative or consent compliance or asset will be fully depreciated have been given a priority of 100. CB= Community Board referral.

FUTURE WORKS (50-YEAR INFRASTRUCTURE STRATEGY)

Year	Description	Explanation

COMPLETED OPTIONS

Table 2: Community Participation Implemented Options

Item	Description	Explanation
2011/12	Installed public place recycling facilities in highly used areas. 21 sets installed in Caroline Bay	Improves public profile and waste minimisation. Enables public to sort in public as they would at home.
2012/13	Additional sets installed at Caroline Bay to meet demand	
2014/15 & 2015/16	Installed 5 public place recycling facilities in Geraldine over 2 years.	
2016/17	Installed 3 public place recycling facilities in Temuka.	