

Solid Waste



Draft Activity Management Plan
2024-2034



Activity Management Plan 2024 - 2034

Asset			
	Name	Signature	Date
Prepared By			
Asset Manager	Annie Benjamin	<i>Annie Benjamin</i>	1 Nov 2023
Group Manager Review			
Peer Review			
Council Adoption			

<u>Changes to be Incorporated in Next Review</u>		
Number	Date of Change	Reason for Change
1		
2		
3		

TABLE OF CONTENTS

Executive Summary	10
The Activity 10	
Community Wellbeing	10
1. Introduction	12
1.1 Activity Overview	12
1.2 Purpose of this Plan.....	12
1.3 Council's involvement in this activity	13
2. Strategic Context	14
2.1 Our Strategic Framework	14
2.2 National Context	15
2.3 Regional Context - WasteNet Southland	16
2.4 Local Context	16
2.5 Community Wellbeing	17
2.6 Potential Effects and Mitigation.....	19
3. Levels of Service (LOS)	20
3.1 Our activity objectives.....	20
3.2 Our Customers and Stakeholders.....	20
3.3 Service Level Summary	21
3.4 Solid Waste Activity Measures for Levels of Service	21
3.5 Service Gaps.....	22
4. Assessing demand - Current and Future	22
4.1 Demand Forecast.....	22
4.2 Factors Influencing Demand	22
4.3 Projected Growth or Decline in Demand for the Service	23
4.4 Changes in Service Expectations (Future Levels of Service)	23
4.4.1 Separate Glass Collection Service	24
4.5 Potential Implications.....	24
4.6 Future Demand Issues and Challenges.....	26
4.7 Managing Expectations	29
5. Key Waste Issues and Challenges	29
6. Alternative Investment Approaches	31
7. Key operational issues	31
7.1 Operational / Maintenance Strategy.....	31
7.2 Operation / Maintenance Standards and Specifications.....	32
7.2.1 Contract 5/279 Southland Regional Landfill Services.....	32
7.2.2 Contract 550 Collection and Transfer Station services (approximately \$7 million regional value)	33

8.	Education and Behaviour Change Programmes	33
9.	Asset Lifecycle Management	35
9.1	Operations and Maintenance Options and Alternatives.....	35
9.2	Asset Renewal and Development Strategy	35
9.3	Capital Development Selection Criteria.....	36
9.4	Capital Development Options and Alternatives.....	36
9.5	Renewal Criteria/Intervention Standards.....	37
9.6	Renewal Options and Alternatives.....	37
10.	New Waste Legislation	38
11.	Key Assumptions	39
12.	Sustainability.....	46
12.1	Social and Cultural	47
12.2	Environmental.....	47
12.3	Economic and Financial	47
12.4	Potential Significant Negative Effects.....	48
12.5	Summary of Sustainability Challenges and Issues	51
13.	Risk 51	
13.1	Risk Framework/Standard	51
13.2	Critical Assets Decision-Making.....	51
13.3	Summary of Key Risk Issues.....	52
13.4	Possible Approaches to Risk Mitigation	52
13.5	Risk Related Assumptions	52
14.	Resilience.....	53
14.1	Activity Resilience Strategies	53
14.2	Business Continuity Plan (BCP) and Emergency Response Arrangements	53
14.3	Summary of Resilience Issues and Challenges	54
15.	Level of Service Management	54
15.1	Responsibility and resourcing	54
15.2	Management Structure	55
16.	Managing the Condition and Performance of our Assets	56
16.1	Asset Overview	56
16.2	Solid Waste Activity Assets List	56
16.3	Solid Waste Activity Asset Description - Closed Landfills.....	57
16.3.1	Bluff Closed Landfill.....	57
16.3.2	New River Estuary Closed Landfill	59
16.3.3	Bluff Transfer Station.....	61
16.3.4	Invercargill Transfer Station	63
16.3.5	Mobile Wheelie Bins.....	66
16.3.6	Public Place Receptacles and Event Mobile Bins.....	69

16.3.7 Mobile Bin Infrastructure	69
17. Critical Assets	70
17.1 Asset Criticality Assessment Criteria	71
17.2 Solid Waste Critical Assets and Criticality Rating.....	71
17.3 Asset Condition Rating Model.....	72
17.4 Asset Condition Assessment	73
17.5 Asset Condition Monitoring.....	73
17.6 Maintenance and Operations Plan	73
17.7 Renewals / New Works Plan	74
17.8 Disposal Plan	74
17.9 Asset Capacity and Reliability	74
17.10 Asset Performance	76
18. Funding.....	77
18.1 Solid Waste - Total Expenditure OPEX and CAPEX 30 years	77
18.2 Solid Waste - Capital Expenditure Planned to be Delivered vs Required – 10 years 78	
18.3 Solid Waste – Funding Sources	81
18.4 National Waste Disposal Levy	81
19. APPENDICES	82
Appendix A - New River Estuary Landfill Post Closure Management Plan March 2011	
82	
Appendix B - Bluff Closed Landfill Post Closure Management Plan October 2007 ...	82

List of Tables

Table 1: Community Wellbeing Goals	18
Table 2: Potential Effects and Mitigation Strategies.....	19
Table 3: Solid Waste Activity External Stakeholders	20
Table 4: Solid Waste Activity Internal Stakeholders	21
Table 5: Solid Waste Activity Measures for LOS	21
Table 6: Solid Waste Activity Measures and Targets	22
Table 7: Solid Waste activity future demand issues, challenges and responses	28
Table 8: Key Waste Issues	31
Table 9: WWMECS Delivery Framework	35
Table 10: Asset Development Strategy	36
Table 11: Solid Waste Activity Renewal Options and Alternatives.....	38
Table 12: Key assumptions of 2024-2034 LTP Solid Waste Activity	45
Table 13: Potential Effects and Mitigation Strategies	50
Table 15: Risk Related Assumptions	52
Table 16: Bluff Transfer Station Asset Information.....	63
Table 17: Invercargill Transfer Station Asset Information	66
Table 18: Mobile Wheelie Bins in Service	67
Table 19: Additional Mobile Bin Infrastructure	69
Table 20: Asset Criticality Assessment Criteria	71
Table 21: Solid Waste Critical Assets and Criticality Rating	72
Table 22: Asset Condition Rating Model	72
Table 23: Asset Condition Assessment	73
Table 24: Asset Capacity and Reliability	75
Table 25: Asset Performance	76
Table 26: Solid Waste - Total Expenditure OPEX and CAPEX 30 years.....	77
Table 27: Solid Waste - Capital Expenditure Planned to be Delivered vs Required – 10 years 78	
Table 28: Funding Sources.....	81

List of Figures

Figure 1: Council's Role	12
Figure 2: Activity Management Plan Strategic Framework.....	14
Figure 3: Criteria	35
Figure 4: Bluff Closed Landfill Site	57
Figure 5: Bluff Closed Landfill Site Plan	58
Figure 6: New River Estuary Closed Landfill.....	59
Figure 7: Bluff Transfer Station	61
Figure 8: Invercargill Transfer Station	63
Figure 9: Aerial Image of Invercargill Waste Transfer Station at 303 Bond Street	65
Figure 10: A red rubbish bin (140 litre) and yellow recycling bin (240 litre)	67
Figure 11: What happens to the contents of your yellow recycling bin	68
Figure 12: What happens to the contents of your red rubbish bin?	68
Figure 13: The 2012 International Junior World Cycling Championships.....	70
Figure 14: Solid Waste Operating Expenditure – 30 Years	79
Figure 15: Solid Waste Capital Expenditure – 30 Years.....	79
Figure 16: Solid Waste Operating Revenue – 10 Years.....	80
Figure 17: Solid Waste Operating Revenue – 30 Years.....	80
Figure 18: Solid Waste Capital Expenditure Planned to be Delivered vs Required – 10 Years	81

Executive Summary

The purpose of this document is to outline the Invercargill City Council's strategic approach for the delivery of the Solid Waste Activity.

Council's role in waste management and minimisation is to oversee, facilitate and manage a range of programmes and actions to:

- Meet legislative requirements.
- Protect human health.
- Protect the environment.

The Activity

The Solid Waste Activity is responsible for the management of solid waste services in the Invercargill District. The responsibilities include:

- Kerbside recyclables collection service delivery.
- Kerbside rubbish collection service delivery.
- Invercargill Transfer Station (resource recovery) service delivery.
- Landfill operations (open and closed).
- Enforcement activities.
- Public place and event waste management and minimisation service delivery (e.g. street litter bins, street recycling bins).
- Education, behaviour change and advocacy.

The Waste Minimisation Act 2008 requires Council to adopt a Waste Management and Minimisation Plan that includes methods for reducing waste. The Act also requires councils to spend funding received from the waste disposal levy according to the priorities set out in the Waste Management and Minimisation Plans.

Council works in collaboration with Southland District and Gore District councils to achieve its solid waste management and minimisation actions, and does so under the banner of WasteNet Southland (a shared service).

The key challenges for this activity are managing customer satisfaction while enforcing correct use of service (i.e. recycling right) and effectively encouraging waste minimisation behaviours.

Community Wellbeing

Council achieves its outcomes through the following actions:

- Its operation of the WasteNet Southland shared service.
- Maintaining a regional discarded materials rate of 650kg per person per annum (as per the Southland Waste Management and Minimisation Plan 2020-2026).

Demand for solid waste services is highly dependent on the public's perception and level of awareness of the impact solid waste has on our environment, health and economy. To a certain extent, the service expectations will remain consistent whether

there is population growth or decline. It is assumed that the customer will continue to desire regular kerbside collection services, appropriate facility hours and cost effective services.

The Solid Waste Activity assets include the following:

Closed Landfills

- Bluff Closed Landfill
- New River Estuary Closed Landfill

Bluff Transfer Station

- Compactor
- Shipping Container
- Mobile Bins
- Infrastructure – Roading, signage, drainage, fencing and other associated infrastructure

Invercargill Waste Transfer Station

- Weighbridges
- Kiosk building
- The Garage Reuse Shop buildings
- Transfer Station main building
- Hazardous waste building
- Composting area
- Infrastructure – roading, signage, drainage, fencing and other associated infrastructure

Kerbside Collection Assets

- Mobile Bins

Public Place and Event Receptacles

- Street receptacles, mobile bins

The Southland Regional Landfill is privately owned and operated, therefore there is no Council owned asset associated with this activity.

The main risks for the Solid Waste Activity are mechanical breakdown, contamination, vandalism and theft. These risks are managed through contractual obligations, enforcement, education and / or behaviour change programmes.

In December 2016, WasteNet Southland on behalf of the WasteNet councils carried out an independent service delivery review as part of achieving the Local Government Act section 17A clause. The outcomes of the review confirmed that the WasteNet Southland shared service was an effective solid waste service delivery mechanism for the WasteNet councils.

The Solid Waste Activity is funded through:

- Rates
- Fees and charges at the transfer station
- Waste disposal levy returns

The Waste Advisory Group (WAG) is the Committee made up of elected members from the WasteNet councils. The WAG Committee meets every six weeks and on a quarterly basis in a year and is the governance body for the shared service.

Every year the WAG Committee adopts an Annual Action Plan, which documents the 12 month forward work programme.

1. Introduction

1.1 Activity Overview

The Solid Waste Activity is a core infrastructure service addressed in the Invercargill City Council Long-term Plan (LTP). Council's role in waste management and minimisation is to oversee, facilitate and manage a range of programmes and actions.



Figure 1: Council's Role

This document is strongly linked to the overall strategic direction for the Invercargill District. The purpose of this document is to outline and summarise Council's strategic approach to the delivery of the Solid Waste Activity.

This activity involves all aspects of waste management and minimisation. The actions are guided by the 2020-2026 Southland Waste Management and Minimisation Plan (WMMP), which sets out the vision for the district. The WMMP sets out the goals, objectives, targets and an action plan that drive the waste activity.

Council's involvement in waste activity and assets is driven by legislation including the Health Act 1956, the Waste Minimisation Act 2008 and the Litter Act 1979. The 2020-2026 Southland WMMP identifies the full list of key legislation associated with waste activity.

1.2 Purpose of this Plan

The purpose of the Solid Waste Activity Management Plan is to outline Council's approach for delivering waste services, cost effectively achieve the district's long-

term strategic goals and deliver the Level of Service (LOS) desired by the community. It is also aligned to Council's broader strategic framework.

The Solid Waste Activity is responsible for the management of solid waste services in the Invercargill District, including:

- Collection of kerbside recycling and rubbish
- Invercargill and Bluff Transfer Station services
- Landfill operations and services (closed and open)
- Enforcement activities
- Public place and event waste management and minimisation (e.g. street litter bins, street recycling bins)
- Education, behaviour change and advocacy

Invercargill City Council collaborates with Southland District and Gore District councils in a shared service model called WasteNet Southland.

1.3 Council's involvement in this activity

The rationale for Council's involvement in the Solid Waste Activity, and ownership of the associated assets is contained in:

- The Health Act 1956, which requires Council to provide sanitary works, the definition of which includes the collection and disposal of refuse; and
- The Waste Minimisation Act 2008 (WMA), which requires Council to promote effective and efficient waste management and minimisation. The Act further requires Council to prepare and review (at no more than six-year intervals) a Waste Management and Minimisation Plan (WMMP).

The Invercargill City Council maintains a 'hands-on' approach to the Solid Waste Activity. Council believes that solid waste can be most effectively and efficiently managed by local authorities, where the long term social, cultural, economic and environmental factors can be balanced for the benefits and wellbeing of the wider community.

Given these legislative requirements, under the shared services banner of WasteNet Southland, the Invercargill City Council, Gore District Council and Southland District Council have developed a strategic Waste Management and Minimisation Plan (WMMP) to ensure:

- A holistic approach to waste management and minimisation – a common vision and direction
- Consistent policy across all the three councils
- Simplified consultation with the stakeholders and the community
- Strengthened collaboration between the WasteNet councils

The Southland Waste Management and Minimisation Plan 2020-2026 has the target - "as a result of our actions by 1 July 2026, Southland will maintain a materials discarded per capita figure of 650 kilograms comprising 40 percent diverted materials." The next review of the WMMP is due in 2025.

2. Strategic Context

2.1 Our Strategic Framework

Activity Management Plans underpin the activities in the Long-term Plan. They record the current and desired levels of service and maintenance, capital works programmes and budgets required to ensure the activity meets the desired levels of service.

Adoption of the budgets for these programmes is carried out through the Long-term Plan process. Changes to budgets for programmes may occur during the consultation process and adoption of Long-term Plan budgets.

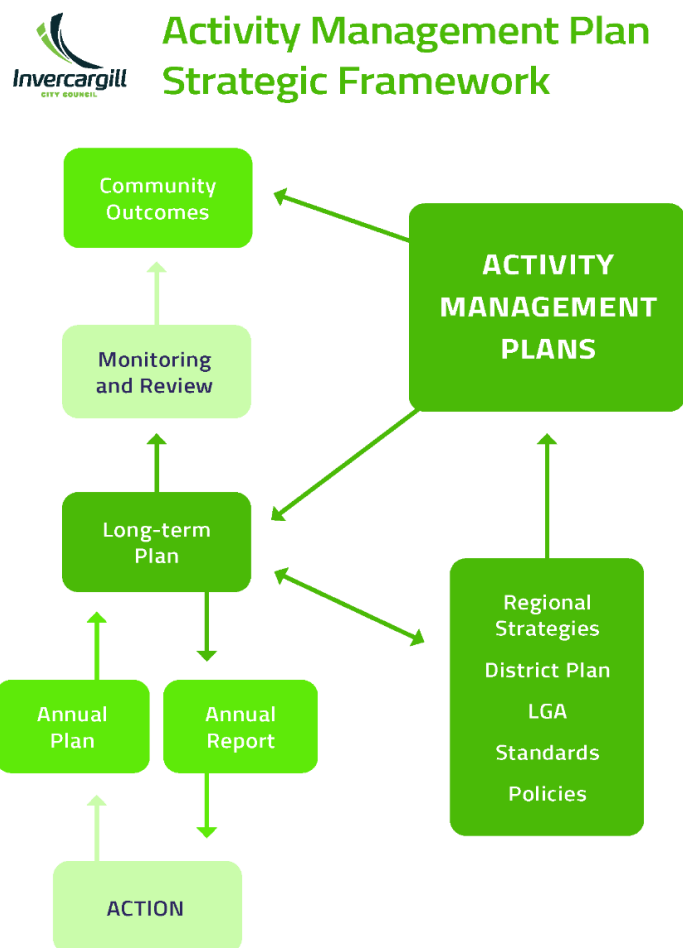


Figure 2: Activity Management Plan Strategic Framework

2.2 National Context

There has been major sector disruption that has impacted the waste activity. The significant global and national factors are:

1. Uncertainty in recycling commodity markets - early in 2018, China's National Sword Policy imposed tighter restrictions on the import of certain recyclables, primarily mixed paper and mixed plastic. This has impacted the commodity price for recyclables globally. Nationally, the consequences of China's National Sword Policy have impacted councils' recycling contracts with significant cost escalations. This has highlighted New Zealand's lack of investment in solid waste infrastructure. The Ministry for the Environment (MfE) is leading the national response to the uncertainty in recycling commodity markets. The Ministry's work programme including the review of the national waste strategy, new legislation and the development of a national infrastructure plan will help address some of the legacy issues of poor recycling systems.
2. Waste disposal levy - From 1 July 2021, the government has progressively increased and expanded the national waste disposal levy. The increase has led to levy rates for landfills that take household waste to \$60 per tonne by July 2024. The Waste Disposal Levy is being expanded to cover additional landfill types, including construction and demolition fills. The additional revenue from the Waste Disposal Levy will be invested in initiatives that support waste reduction, such as building New Zealand based recycling infrastructure.
3. Revised regulatory framework - The New Zealand Government's Waste Strategy – Te Rautaki Para, released in March 2023, sets out the government's waste objectives for the next seven years. These objectives include targets for waste reduction to landfill, and a suite of programmes to assist in achieving these targets. The new legislation changes, announced 29 March 2023, have provided councils with a timeline to improve kerbside services to minimise the waste sent to landfill. The proposed pathway:
 - Standardised acceptable recyclables by 2024
 - Residential kerbside recycling services by 2027
 - Residential food scrap collection by 2030
 - Business food scrap collection-ready by 2030

The new legislation will replace both the Litter Act 1979, and the Waste Minimisation Act 2008 (WMA). The draft Bill is expected to be introduced into the house in late 2023 or early 2024. The aim is to have the legislation enacted in 2025.

2.3 Regional Context - WasteNet Southland

The Invercargill City Council works in collaboration with the Southland District and the Gore District councils to achieve its solid waste management and minimisation actions, under the shared services banner - WasteNet Southland.

The WasteNet Southland shared service is formally established under the Joint Waste Management Agreement. The purpose of the shared service is to provide the coordinated delivery of solid waste services on behalf of and in collaboration with the WasteNet councils.

2.4 Local Context

At a local level, Council is planning a significant move towards a sustainable and circular economy. Council also continues to work with community groups, event organisers, residents and business on initiatives that drive waste minimisation.

2.5 Community Wellbeing

Community Wellbeing	Infrastructure Strategy Goals	How the Activity Contributes?
Social Wellbeing - One Community – Our youth, older people, different neighbourhoods and communities’ basic needs are met, and they feel valued and proud to live here.	The building blocks, including water, sanitation and roading, for a safe friendly city is provided for all members of the community Harness our position as a service provider to promote health	➤ The Solid Waste Activity provides solid waste facilities and services for the sorting, collection, recovery and disposal of waste. ➤ Services and infrastructure are provided in a way that fosters responsibility and stewardship of ecosystems, people and environment
Cultural Wellbeing - A vibrant, safe city centre which meets our people’s diverse cultural needs.	Strong, collaborative leadership of the City is demonstrated.	The Solid Waste Activity collaborates with other Local Territorial Authorities for the co-ordinated delivery of waste management and minimisation in Southland Social cohesion, connection and collaboration is enhanced through shared learning
Environmental wellbeing - A healthy, resilient environment where the city is well positioned to navigate climate change	Protect and regenerate the natural environment	➤ Waste is eliminated before it is even made, by being designed out of products, services and processes. ➤ Reuse resources through systems for repairing, repurposing and remanufacturing ➤ Resources are not burned or buried, and no new landfill is required. ➤ Community engagement and participation in hands-on learning for the environment. ➤ Improve and increase nutrient value of our soils using organic materials, reduce runoff, thereby minimising phosphate and nitrogen imports. ➤ Eliminate pathways of plastics entering water streams, including marine and lake environment, and microplastics in wastewater treatment.

Economic wellbeing - A future focused economy delivered through innovation and partnership and supported by appropriate infrastructure.	Provide high quality affordable services Support a stable district economy Support the social and economic recovery of the district following a natural event	➤ Businesses drive resource efficiency, innovation and productivity gains. ➤ Mechanisms are in place to develop and test new social, technical and economic solutions and services. ➤ Resources are reused, through systems for repairing, repurposing and remanufacturing of the discarded materials into other goods creating resilient, local, circular economies. ➤ Sharing economies for products and services are encouraged and facilitated. This helps create collaborative, low waste communities. ➤ Natural ecosystems are not adversely impacted by temporary storage, processing or disposal of discarded materials (in the event of natural event). ➤ Options for a rapid response to collection, transportation and temporary storage of materials for recovery, recycling or disposal are in place and well communicated ➤ Resource recovery services and facilities for household and commercial users are functioning and service disruption is minimised.
---	--	---

Table 1: Community Wellbeing Goals

2.6 Potential Effects and Mitigation

Well being	Positive	Negative	Mitigation / sustainability
Social	A waste collection service is provided to ensure community health and safety, with material collected and processed for diversion or disposed to landfill	During the collection, processing or disposal of waste, the following may occur: ➤ Water and / or land pollution (loose waste blown into private properties or waterways or illegally dumped) ➤ Odour dust and noise emissions ➤ Spread of disease through water / land contamination ➤ Vermin ➤ Obstruction on footpath	➤ Council will continue to educate residents on the collection days / times. Council will monitor the services provided by the private sector to ensure requirements are complied with. ➤ Council will continue to manage the contractor to ensure it is providing effective and reliable waste and recycling collection services through them.
Economic	Ability to provide cost effective diversion services	Private companies also provide waste services, and this can impact on Council's ability to minimise waste.	The implementation of the 2020-2026 WMMP mitigates the impact of this effect by providing cost effective alternatives to landfill disposal. Council has set out its strategies and goals in the WMMP to divert waste from landfill.
Environmental	A suite of waste minimisation education / initiatives and programmes are in place to change behaviour		Council will continue to aim to reduce the quantity of waste disposed to landfill through proven minimisation strategies and programmes for waste streams that Council can control / influence.
	Council is investing in upgrades to facilities to reduce waste to landfill	➤ Environmental impacts caused by the discharge of contaminants to land and water from landfills. ➤ Disposal of waste to landfill represents a significant adverse effect to the receiving environment.	Council will continue to ensure compliance with resource consents and undertake regular monitoring of the facilities.
	Council provides litter bins in public places to mitigate windblown waste materials	Windblown waste materials at facilities.	Litter fences are in place at the facilities. Various Contracts are in place to collect litter from public places.

Table 2: Potential Effects and Mitigation Strategies

3. Levels of Service (LOS)

3.1 Our activity objectives

The principal objectives of Solid Waste Activity are to:

- Work together to improve the efficient use of resources
- Use the waste hierarchy to guide decision-making
- Reduce the harmful effects of waste to our health and environment

3.2 Our Customers and Stakeholders

The Solid Waste Activity engages with all sectors of the community – from mining to manufacturing to a household kitchen. It aims to provide a LOS that meet the needs of many user groups including:

- Residential
- Rural residential
- Rural
- Central Business District (CBD)
- Commercial / Industrial
- Public areas

The main external and internal stakeholders are listed below:

External Stakeholders	Area of Interest	Engagement
WasteNet Southland	Governance, Operation	Shared Service
Community (individual, businesses, customers)	How to use services	Liaise, education, enforcement
Education facilities and schools	Waste management and minimisation education	Education
Contractors	Contractual obligations	Liaise, reporting, financial
Ratepayers	Rates impact	Liaise, education, enforcement
Territorial Authorities	Best practice	Networking, collaboration
Waste Management Institute of New Zealand (WasteMINZ)	Waste industry, best practice, national initiatives	Networking, collaboration
Ministry for the Environment	Governance, Policy, Legislation	Liaise, reporting, lobbying
Iwi	Governance, operation	Liaise
Environment Southland	Regional development, operation (consents and compliance)	Liaise, applications
Venture Southland	Best Practice	Collaborative

Table 3: Solid Waste Activity External Stakeholders

Internal Stakeholders	Area of Interest	Engagement
Departmental managers and staff	Leadership, operation	Report, liaise
Waste Management Group	Leadership, operation	Report
Councillors	Governance	Committee meetings
Waste Advisory Group	Governance	Committee meetings
Internal Auditors	Governance, operation	Audit, report

Table 4: Solid Waste Activity Internal Stakeholders

3.3 Service Level Summary

The Solid Waste Activity focuses on **balancing the social, cultural, environmental and economic outcomes for the benefits to the wider community** through collection of solid waste, and through providing facilities for the sorting, collection and disposal of waste. It supports the **wellbeing of our city** through the operation of WasteNet Southland as a shared service for the benefit of Southland.

The Solid Waste Activity ensures that collection and disposal services are effectively and efficiently managed to reduce the harmful effects of waste to public health and the environment. The Southland Waste Management and Minimisation Plan monitors the discarded materials rate per person per annum (kgs). The waste LOS have been developed based on:

- Statutory requirements
- Public health and safety
- Strategic goals as set out in the 2020-2026 WMMP and 2024 LTP including the Infrastructure Strategy
- User service expectations
- Solid Waste Services and Landfill Services

The recommended LOS and performance measures for the waste activity are summarised in below tables.

3.4 Solid Waste Activity Measures for Levels of Service

WasteNet Measures 2024-2034	Target
Recovery of recyclable materials (Actual Recycled - ICC and SDC)	≥ 4650 tonnes
ICC and SDC Actual recycled rate per person per annum (Kg)	≥ 54 Kg
Reduction in kerbside waste sent to landfill	≤ 16500 tonnes by FY26/27
Waste diversion from Landfill	≥ 30% by 2026
Regional discarded materials rate per person per annum (kgs)	≤ 600 Kg by FY26/27

Table 5: Solid Waste Activity Measures for LOS

Below are the measures and targets specifically required for the Solid Waste Activity and are mandatory to report:

Measure	2024/25 Target	2025/26 Target	2026/27 Target	2027-2034 Target
Recovery of recyclable materials (Actual Recycled - ICC and SDC)	≥4650 tonnes	≥4800 tonnes	≥5000 tonnes	≥5200 tonnes
ICC and SDC Actual recycled rate per person per annum (Kg)	≥54 Kg	≥56 Kg	≥58 Kg	≥60 Kg
Reduction in kerbside waste sent to landfill	≤17000 tonnes	≤17000 tonnes	≤16500 tonnes	≤16500 tonnes
Waste diversion from Landfill	30%	30%	30%	50% by 2030
Regional discarded materials rate per person per annum (kgs)	≤650 Kg	≤600 Kg	≤600 Kg	≤550 Kg

Table 6: Solid Waste Activity Measures and Targets

3.5 Service Gaps

Performance measures have been bedded in to measure waste performance and trends. Council will identify any significant service gaps and the financial implications on an annual basis.

4. Assessing demand - Current and Future

4.1 Demand Forecast

Legislation requires Council to undertake a waste assessment every six years as part of the review of the WMMP. The waste assessment must contain a forecast of future demands and how Council will meet that forecast demand. In 2020, the WasteNet councils completed the Southland waste composition assessment. The next assessment is planned for 2024.

Waste diverted from landfill was impacted by Covid-19 as collection and processing facilities were impacted due to lockdown restrictions. The high number of out of district home ownership also affects demand for services. Council and the contractor work together to ensure peak demand requirements are met. Council's waste minimisation team proactively work with local business to promote sustainable practices and ways to minimise the impact of peak demand.

4.2 Factors Influencing Demand

Demand for domestic waste services is dependent on whether the service is rates funded or user pays. The management of tonnes into the landfill, transfer stations and MRF facilities may be difficult to predict due to economic and commercial factors.

The Southland waste assessment identified the following key drivers for future demand of solid waste services:

- Demographic change, e.g. population, household changes
- Commercial and industrial activity / economic conditions
- Land use changes
- Impact of waste flows from other regions
- Consumer behaviour
- The occurrence of natural and man-made disaster events
- National policy and legislation e.g. product stewardship schemes, emission trading scheme, waste levy
- Global commodity markets e.g. China National Sword (ban on importing waste/recycling)
- Impact of waste minimisation behaviour change programmes, future initiatives
- Community expectations
- Continued pressure on existing waste management and minimisation infrastructure and services (Health and Safety, cost effectiveness).

The 2020-2026 WMMP is Council's key planning document for developing strategies to manage demand for services and increase diversion from landfill. The WMMP is based on a waste assessment and analysis of the composition of waste disposed at Council (district) facilities, including kerbside services. The key strategy from the current WMMP is to target the waste streams with the most opportunity to reduce waste to landfill. Those waste streams are glass and organics, followed by construction and demolition waste.

4.3 Projected Growth or Decline in Demand for the Service

The Southland waste assessment considered three population scenarios to forecast future growth and demand for waste services ranging from high growth and low diversion to low growth and high diversion.

Regardless of which scenario eventuates, the Southland Regional Landfill can accommodate significant capacities in the future.

4.4 Changes in Service Expectations (Future Levels of Service)

To a certain extent, the service expectations will remain consistent whether there is population growth or decline. It is assumed that the customer will continue to desire regular kerbside collection services, appropriate facility hours and cost effective services.

It is anticipated that there will be greater community environmental awareness that will increase the demand for alternative disposal methods (i.e., resource recovery park; recovery of organics, electrical and hazardous waste).

Technological innovation may allow Council to improve its ability to service the community, for example:

- Ability to weigh mobile bins and therefore charge users based on actual use of service.
- Ability to provide a regional facility for the cost-effective processing of organic waste for beneficial use.
- Ability to economically process recovered glass for beneficial use.

4.4.1 Separate Glass Collection Service

The current methodology is a commingled recycling collection process for Invercargill City Council (ICC) and Southland District Council (SDC), where households dispose of all recycling into their mixed recyclables bin, rather than collecting glass separately in its own bin. Glass is a major part of the contamination in the commingled recycle bin. Separating glass ensures that about 90% of the glass can be reused. The potential for glass separation at the kerbside starting 1 July 2025, there will be new blue glass collection bins or glass bottle banks depending on the strategy chosen by Council.

With this new level of service, glass items will no longer be permitted in yellow bins and will be considered a contaminated item.

Option 1 - Glass Bottle Banks: Bottle banks provide an alternate option for glass recycling. The scope is to set up six bottle banks in select areas around Invercargill and two around Bluff as public collection points for glass bottles and jars. The bottle banks will be placed in highly visible areas with heavy pedestrian traffic, providing an education element. The bottle banks provide an opportunity to promote glass recycling to the wider community, by way of educating them about where glass can be dropped off, providing a convenient channel. The bottle banks can be part of the total glass solution for the Invercargill district and Bluff town by providing separated glass diversion for residents prior to the next kerbside collection contract. This will result in a decrease in the level of service.

Option 2 - Blue Glass Collection Bins: The next option would be to introduce a new 140L glass (blue lid) bin that would collect only glass every fortnight. Glass items will no longer be permitted in the mixed recycling (yellow lid) bin and will be considered a contaminated item. This will result in an increase in the level of service.

4.5 Potential Implications

There will be continued pressure on existing waste management and minimisation infrastructure and services.

While there is adequate landfill disposal capacity in the medium to long term future, it is WasteNet councils' desire to see the best use made of the district's natural and physical resources.

Consideration will need to be given to ensure that infrastructure is in place to meet the communities demand for diverted materials e.g. resource recovery park; recovery of organics, electrical and hazardous waste.

Projected population growth and demand for consistent levels of service from the semi-rural / rural and CBD areas may impact on kerbside collection services. These implications can generally be met through expansion of fleet and collection routes. It is noted that extending the service to a further 500 households would trigger the capital investment of another collection vehicle and mobile bins.

Consideration will need to be given to providing an appropriate level of service (both economically and socially) for the projected ageing population, eg. bin size, frequency, door-to-door services.

4.6 Future Demand Issues and Challenges

Area	Future Demand Issue and Challenges	Possible Demand related Responses
Transfer Station	Council will need to consider changes to the operation of the Transfer Station services to ensure the service is cost effective for the customers (households) and are able to provide alternative disposal options. In 2020, the Government declared six priority products for regulated product stewardship under the Waste Minimisation Act, they are: ➤ Plastic packaging ➤ Tyres ➤ Electrical and electronic products (e-waste) ➤ Refrigerants ➤ Farm plastics ➤ Agrichemicals and their containers. Council will need to consider its role in supporting these product stewardship schemes. Recycle South is running a pelletiser plant in Makarewa where farm plastics can be pelletised.	It is anticipated that the increased environmental awareness of the community will increase demand for alternative solid waste disposal options, i.e. kerbside organic waste services, construction and demolition waste recovery and electrical waste recovery services. A possible response to this would be the development of a centralised “Resource Recovery Park” (RRP). A RRP could be established to collect, separate and transfer recyclable materials and residual waste (landfill rubbish). Following are the main activities: ➤ Collection, separation and selling of dry recyclables / electrical waste ➤ Reprocessing of plastics, glass and timber ➤ Collection, separation, processing of organic waste for beneficial use ➤ Large scale materials recovery (accept commercial volumes of recoverable materials) ➤ Concrete crushing for aggregate and recovery of reinforcing steel ➤ Tyre recovery and shredding or reprocessing for beneficial user ➤ Consolidation of hazardous waste for appropriate disposal ➤ Business support activities ➤ Education ➤ Consolidation of residual waste for transfer to landfill By centralising the above activities, services can share space (including warehousing); operating equipment (e.g. forklifts, loaders, trucks, balers, shredders); preventative maintenance and repair services, pollution control equipment and services; administrative services (e.g., office space and equipment, breakrooms, shower and toilet facilities, management and technical expertise, promotions and advertising costs, communications and education services); while also allowing customers a convenient, safe, easily accessible and cost effective facility.

Kerbside collections	It is assumed that the main future demand issues for the Solid Waste Activity will be the cost effective provision of the desired service and increased level of service for semi-rural/rural areas. Expansion of collection routes will mean: ➤ increased fleet (in individual vehicle size as well as number) ➤ potential changes to collection days ➤ additional mobile bins (more assets) ➤ more education	Response to projected population growth can generally be met through expansion of fleet and collection routes. This will result in a contract variation, to cover the costs associated with providing the service to additional properties. Additional mobile bins will need to be purchased, and a review of the current bin inspection programme will be required to gauge if there is capacity for additional inspections.
	Council need to consider changes to the collection of recyclables due to the global commodity markets requiring high quality product.	This includes limiting the types of materials collected, removing glass from commingled collection services and focusing on reducing contamination. For example further separating recycling into a: ➤ Glass bottles and jar collection ➤ Fibre, metals and plastic 1, 2 and 5 collection. Removal of glass from the recycling stream via a separate kerbside collection is preferred by MRF operators and is highly likely to become the norm across the country. Implementing a kerbside glass collection service would come at the cost to ratepayers. Blue lidded bins will need to be purchased and contract established.

Enforcement	Legislation requires the Solid Waste Activity to give consideration (in order of priority) to the reduction, reuse, recycle, recovery, treatment and disposal of waste. Demand for solid waste services is highly dependent on the public's perception and level of awareness of the impact that solid waste has on our environment, our economy and our health. There will continue to be challenges for encouraging waste minimisation behaviours. However, it is hoped that these will eventually decline as it becomes more of a societal norm, and services are developed to make it more practical and affordable. The standard will be to offer bin inspection services. Although the general public may see this as invaluable at the expense of ratepayer funds, the service is important. The new Waste Strategy sets the direction for New Zealand's waste system from now to 2050 and requires Solid Waste Activity to undertake the following in the next 7 years: ➤ Standardised acceptable recyclables by 2024 ➤ Residential food scrap collection by 2030 ➤ Business food scrap collection-ready by 2030	Behaviour change, communication and education are significant components to the success of this approach. For all parties to participate fully, they need to know clearly what the services are, what the service rules are, why they should participate and what happens afterwards. Possible non-asset solutions include: ➤ Increasing the behaviour change and community engagement initiatives, e.g. numbers of workshops and campaigns ➤ Survey the community to understand the level of awareness, barriers and test possible solutions. Another change to the collection services is the kerbside standardisation that will take effect 01 Feb 2024. Household waste behaviour change communication and education campaign is a significant component to the success of this mandate. Implementing a kerbside food and organics collection service would come at a cost to the ratepayers. Additional mobile bin would need to be purchased, as well as collection trucks and establishment of infrastructure to process the food and organics. WasteNet Southland is looking into a feasibility assessment and a business case for researching regional organics service opportunities.
--------------------	--	--

Table 7: Solid Waste activity future demand issues, challenges and responses

4.7 Managing Expectations

The Waste Minimisation Act 2008 requires territorial authorities to undertake a waste assessment every six years and take into consideration the outcomes when reviewing and preparing for their Waste Management and Minimisation Plan (WMMP)

The Waste Assessment compiles and analyses information on waste and diverted materials produced in the Southland region and is used to determine a logical set of priorities to inform the future solid waste needs, including:

- Reviewing the current situation with respect to the generation of waste
- Considering the future demand for waste services
- How the WasteNet councils' can best achieve their waste objectives

WasteNet Southland completed a waste assessment in July 2020. The next waste assessment process is scheduled for 2024.

Council will continue to manage demand for solid waste management facilities and services by ensuring that:

- Services are charged on a user pay basis where appropriate and practicable
- Rates charged will be full cost recovery for the collection, transportation and disposal of waste and related services.

Council continues to work with WasteNet Southland and its partners through a shared service approach to manage and minimise waste in the Southland region.

5. Key Waste Issues and Challenges

Through the development of this Plan, Council has identified key issues that need to be at the forefront of infrastructure planning and decision-making. The following table details the implications and actions Council will take to respond to the key issues for the waste activity

Area	Issue or Challenge	Potential Responses
Levels of Service	➤ Community desire for extending the kerbside recycling and rubbish collection service, semi-rural and rural areas, district wide. ➤ Separate glass collection service ➤ Kerbside standardisation by Feb 2024 - mandated by MfE ➤ Residential food scrap collection by 2030 and business food scrap collection ready by 2030	➤ Overall solid waste customer service delivery review to gauge the community's desired level of service, expectations, awareness and support for waste minimisation initiatives. ➤ Kerbside standardisation and food scrap collection mandated by MfE as part of the new legislation changes announced 29 March 2023
Demand	Demand for solid waste services is highly dependent on the community's perception and level of awareness of the impact solid waste has on our environment, economy and health.	Review and adoption of Southland Waste Management and Minimisation Plan (as per Waste Minimisation Act 2008).

	Supply chain issues with commodity market (i.e. mixed recycling contamination rates)	Mixed recycling is extremely sensitive to contamination, so it is necessary to ensure that the district minimises the amount of contamination in the mixed recycling bins. Having a glass out system by collecting glass in its own bin ensures that the recyclables are not contaminated. Continued education is a key focus of the service going forward to ensure the materials collected can be recycled.
	How the waste services are used by the community i.e. sorting waste, recycling right, diverting materials, appropriate disposal.	Work in collaboration with WasteNet Southland to provide waste education and communication programmes.
	New River Estuary closed Landfill – potential change in regulation / monitoring following the adoption of the Regional Water and Land Plan.	➤ Work in collaboration with Environment Southland to effectively and efficiently meet the regulatory changes. ➤ Ongoing monitoring for consent compliance ➤ Future testing costs and remedial works to be established
	Transfer Station – as environmental awareness increases, the Community's desire for better access to alternative disposal options will increase.	Investigate the development of a "Resource Recovery Park" which will perform as a centralised infrastructure model for waste management and minimisation activities, i.e. dry recycling, textiles, electrical waste, construction and demolition materials and residual waste.
	Expiry of Recyclables Acceptance Contract (C1057) in 2027	Consider regional collaboration for the recyclables acceptance contract with Gore reinstating its kerbside recycling services.
	Procuring new service delivery contracts: ➤ Contract 5/279 – Landfill Services expires in 2033 ➤ Contracts 550 – Collection and Transfer Station Services expires in 2027	In collaboration with WasteNet Southland, work through the procurement process for these services.
Asset	Invercargill Transfer Station: ➤ Operating at 100% performance and at times can be oversubscribed ➤ Limited capacity for additional services ➤ Issues with ground subsidence and ongoing maintenance ➤ Ongoing building maintenance to enable continued operation ahead of their upgrade	Asset Management Plan for the Invercargill Transfer Station.

	➤ Risk of extended service outages should the existing facilities fail in the interim	
	Kerbside recycling and rubbish bin service – the mobile bins will reach the end of their useful life in 2027.	Funding reserve built in to the LTP budget to purchase new mobile bins when the contract is due for renewal in 2027
Sustainability	Community buy in that “waste is a resource”.	Implementation of the: ➤ Shared Service - WasteNet Southland ➤ Southland Waste Management and Minimisation Plan.
Resilience	The unknown “unknowns”	Keep up-to-date with current waste industry best practice, i.e. how resilience issues are being managed by other councils.

Table 8: Key Waste Issues

6. Alternative Investment Approaches

Capital works involving asset renewals are committed to and undertaken purely on their own individual merits. Funding is influenced by their individual cost with timing set up by the expiry of their nominal service life.

Council works in collaboration with WasteNet Southland for service level improvements. Proposals are put forward to the Waste Advisory Group governance committee. When the delegated authority of this committee is exceeded, the preferred recommendation is forwarded to the individual WasteNet council for approval.

With regard to the Shared Service, in December 2016, WasteNet Southland on behalf of the WasteNet councils carried out a service delivery review of the solid waste services delivered through the shared service WasteNet Southland. This review was undertaken as part of achieving the Local Government section 17A clause, which states: “A local authority must review the cost-effectiveness of current arrangements for meeting the needs of the communities within its district or region for good quality local infrastructure, local public services and performance of regulatory functions.”

The service delivery review outcome confirmed that the WasteNet Southland Shared Service was an effective solid waste service delivery mechanism for the Territorial Authority councils in Southland. The next review is scheduled for 2023/24.

7. Key operational issues

7.1 Operational / Maintenance Strategy

Invercargill City Council takes a collaborative approach to the provision of solid waste services. Council is a key stakeholder in WasteNet Southland. The Southland Waste Management and Minimisation Plan is the strategic document which records the vision, objectives, actions and funding policy.

Each financial year, WasteNet Southland adopts an Action Plan which documents the 12-month work programme based on the Southland Waste Management and Minimisation Plan. The Action Plan categorises activities into four groups – Education and Communication, Strategy and Policy, Operations and Administration.

There are activities and assets that are managed solely by the Invercargill City Council, i.e. closed landfills, mobile bins and transfer stations, and fall outside the scope of WasteNet Southland shared service. The strategy for these activities and assets management is the same as WasteNet Southland - to meet the legislative requirements of the Waste Minimisation Act 2008.

7.2 Operation / Maintenance Standards and Specifications

The Solid Waste Activity is primarily managed and operated to meet levels of service. Day-to-day operational activities are carried out to achieve the following:

- Maintain the quality of the service to protect the health of the community
- Ensure the service is accessible to the community within the serviced area
- Ensure the service is reliable with minimal service disruptions
- Ensure the activities are operated safely for public and operational staff
- Operate to maximise the sustainability of the activities
- Operate to minimise the overall cost of the activities

Other factors that directly influence the operation of the Solid Waste Activity include:

- Meeting the requirements specified in Council policies and strategies
- Compliance with resource consents
- Compliance with national legislation
- Compliance with industry standards and guidelines

The two key contracts for the services delivered through WasteNet Southland include:

7.2.1 Contract 5/279 Southland Regional Landfill Services

This contract is for the regional landfill services. The WasteNet councils have entered into a 30-year contract with the owner/operator, AB Lime Ltd. The Contract commenced in July 2003 and is entering its 20th year of operation. The contract exit dates are 15th, 25th and 30th years after the commencement date, thus potentially being in place until July 2033.

The facility is also an active lime quarry and dairy farm. Lime is mined and refined on site. The landfill cells are built where the lime mining is not active. The dairy farm surrounds the lime and landfill operations.

Under the Contract, WasteNet manages/administers the fees and charges for the Southland authorised users to the landfill. It is to be noted that waste disposed to landfill from outside the Southland region is not controlled by WasteNet. The revenue generated from the fees and charges is used to fund the services provided by

WasteNet including waste education, behaviour change, enforcement and contract administration.

7.2.2 Contract 550 Collection and Transfer Station services (approximately \$7 million regional value)

This contract is for the provision of:

- Kerbside collection and transportation of rubbish and recyclables
- Transfer station operation and management services
- Transport of collected materials to nominated facilities (e.g. Material Recovery Facility, Transfer Station and the Southland Regional Landfill).

The WasteNet councils have a 16-year contract with the operator – Bond Contracts Limited / WasteCo. The contract commenced in July 2011 and is in its 12th year of operation. This contract was extended in 2019 by a further eight years and is in place until 30 June 2027. In September 2023, the Environmental Division of Bond Contracts was acquired by WasteCo. WasteCo will provide waste services going forward until the contract expires in 2027.

Council manages the recyclables acceptance services through the Recyclables Acceptance Contract 1057 independent of the WasteNet Southland services. This contract is for the operation of the Material Recovery Facility (MRF), which receives, sorts, bales and sells dry recyclables. This contract was renewed in January 2022 and is in place until 30 June 2025 with an opportunity to extend by a further two years, thus potentially being in place until 30 June 2027. Contract 1057 was preceded by the 9-year WasteNet Southland Contract 650.

8. Education and Behaviour Change Programmes

The key strategy document that drives the Education and Behaviour Change programmes is the “WasteNet Waste Minimisation Education and Communication Strategy”.

Wastenet Waste Minimisation Education and Communication Strategy Delivery Framework				
Vision	By 2035, all residents and businesses in the Southland region to have a better understanding of waste minimisation and take voluntary actions towards minimising waste and progressively transitioning to a circular economy by 2050			
Aim	Promote waste minimisation and resource recovery through targeted and effective tools for education and communication that promote behavioural change.			
Objectives	➤ Retain and recover as much as possible through reusing, repairing, refurbishing, remanufacturing, repurposing or recycling products and materials ➤ Protection of human health ➤ Protection of the environment ➤ Improve business efficiency ➤ Minimise the costs and impacts associated with Southland region's waste generation ➤ Be an advocate for more sustainable waste management legislation, policy and practice			
Initiatives	School Waste Education	Business Programmes	Residential and Community Education and Development	Industry Associations
Targeted Objectives	Educating school children, teachers and parents to reduce, reuse, recycle and rethink. Educating teachers to incorporate waste management in their schools' daily operational activities	Educating local businesses to incorporate waste management and environmental sustainability into their everyday business practices (operational change and influencing customer behaviour)	Educating general public, raising awareness and monitoring waste production - Reduce, reuse, recycle and rethink	Influence regulation, government policy and public opinion on behalf of the collective needs and objectives of their members
Target Groups	Schools	Local Businesses	Residential	Industry and Trade Groups
Tools	➤ Koha Kai ➤ Para Kore ➤ Waste Free ➤ Wanda (Anna Van Riel) ➤ Zero waste Education ➤ Enviro Schools The Sustainability Trust (YSSN)	➤ Business Self Audit Template ➤ Information pack on waste reduction and packaging options ➤ Stands in Trade Shows ➤ Direct Engagement with local business groups through Chamber of Commerce ➤ Reusable Coffee Cup Initiative -	➤ Residential Bin Audits ➤ General Media, Advertising ➤ Website/app ➤ Love Food Hate Waste ➤ Kate Meads (3-year contract) ➤ Plastic Free July ➤ Love Southland ➤ Orange Pages - collateral ➤ Trash Talk ➤ Flytipping Flyers	Memberships

		piloting with Batch Café ➤ Battery Disposal Initiative	➤ GIS Mapping Software	
--	--	---	------------------------	--

Table 9: WWMECS Delivery Framework

9. Asset Lifecycle Management

The lifecycle management programmes cover the four key categories of work necessary to achieve Councils' waste management objectives. The four key categories are:

- Management – to support the other programmes
- Operations and maintenance - to ensure efficient operation and serviceability of the waste management and minimisation assets so that they achieve their service potential over their useful lives.
- Asset renewal - to provide for the progressive replacement of individual assets that have reached the end of their useful lives.
- Asset development - to close current and expected service gaps and provide for development to meet future demand.

9.1 Operations and Maintenance Options and Alternatives

In 2016 WasteNet completed a Service Delivery Review as per section 17A of the Local Government Act 2002:



Figure 3: Criteria

Key assessment criteria relating to the delivery of waste services were determined, including both financial and non-financial benefits of service delivery. The options were scored against the assessment criteria and ranked based on their score in order of effectiveness.

Furthermore, neighbouring councils were contacted to gain a high-level understanding of their current waste services, whether they were currently considering a shared services or had the potential to work with WasteNet. The next review is schedule for 2023/24.

9.2 Asset Renewal and Development Strategy

The ongoing preventative maintenance programme is largely based on the contractors' experience and manufacturers' recommendation rather than any specific analysis to determine the most cost-effective strategy of the assets associated

with the Solid Waste Activity. Council has identified a need for a higher level renewal strategy.

Reactive maintenance is carried out when preventative maintenance fails to catch the deterioration of the asset.

With regard to the mobile bins, these are allocated to participating properties and ownership is retained by Council. Council will repair or replace mobile bins that are damaged while out for collection, on collection day (typically between 6.00 am and 6.00 pm). The customer is, however, responsible for its renewal when damaged outside of collection day. Maintenance issues are recorded by both Council and Contractor operators.

Asset Area	Asset Development Strategy
Closed Landfills	Closed landfills are proactively monitored for consent compliance. Council is working in collaboration with Environment Southland to assess the environmental and public health risks associated with the New River Estuary closed landfill. The outcome of the assessment may lead to additional capital work required to manage risk from extreme weather events.
Landfill assets	The Southland Regional Landfill is the sole operational landfill. All assets and plant are owned by AB Lime. These items are critical for the operations and the assets are managed and maintained by the landfill owner and operator, AB Lime.
Transfer Stations	The outcome of the proposed level of service review will determine the asset development strategy for these assets. To look into the feasibility and viability of upgrading transfer station to a "Resource Recovery Park" to collect, separate and transfer recyclable materials and residual waste (landfill rubbish).
Mobile Bins	The strategy is to extend the kerbside collection area over time in response to customer demand. Kerbside collection bins are owned and maintained by WasteNet.
Public Place and Event Receptacles	Refer to the Roding Activity Management Plan for further information on the public place (street) receptacles. Council owns and maintains the public place receptacles. No asset development is planned at this time for the event receptacles.

Table 10: Asset Development Strategy

9.3 Capital Development Selection Criteria

Each growth or decrease to service level project is required to fill in an assessment case. The assessment case documents the problem the project is solving, the benefits, the risks, estimated capital and operational costs and how it aligns with community wellbeing.

9.4 Capital Development Options and Alternatives

Council considers each proposal on its merits. Council may decide to be supportive of development that contributes to progressing the Southland Waste Management

and Minimisation Plan vision and target, and benefits the effective and efficient management and minimisation of solid waste.

9.5 Renewal Criteria/Intervention Standards

The general renewal strategy is to maintain or replace assets based on below criteria:

- Asset performance
- Economics
- Risk / Condition
- Criticality

Planned and reactive replacement works are prioritised in accordance with the following priority ranking and then programmed for action or, in urgent cases, actioned immediately. Capital expenditure for renewal is used to renew assets where processes such as net present value calculation indicate the renewal is more appropriate than ongoing maintenance. Programmes are developed in each asset area and prioritised to establish the annual programmes which are submitted to Council for their consideration and approval.

9.6 Renewal Options and Alternatives

Asset Area	Renewal Option and Alternatives
Closed Landfill	The options available are: ➤ <i>Do Minimum</i> - Meet resource consent conditions ➤ <i>Optimum</i> - Achieve resource consent conditions, and apply further monitoring if results are undesirable. ➤ <i>Over Invest</i> - Exceed the required resource consent conditions and have an extensive monthly monitoring schedule. Given the size of the budget required for various options, the "Optimum" option has been chosen as appropriate and best asset practice.
Transfer Stations ➤ Bluff ➤ Invercargill	The options available are: ➤ <i>Do Minimum</i> - Meet resource consent conditions and level of service ➤ <i>Optimum</i> - Meet resource consent conditions and review level of service. ➤ <i>Over Invest</i> - This would involve upgrading the facility to provide full recovery options for the community. It is recommended a review of the current levels of service be undertaken for these facilities. Best asset practice approach would be to upgrade transfer station to a "Resource Recovery Park" to collect, separate and transfer recyclable materials and residual waste (landfill rubbish). Funding options are to be investigated to undertake an initial business case and the estimated planning cost is \$400,000

Mobile Bins	The only option available for this asset is based around technology, eg. RFID tags and/or GPS tracking. This approach is likely to be evaluated at the end of life for the current mobile bins. Additional mobile bins are required if we are to extend the kerbside collection area over time in response to legislative requirements and customer demand. The potential for glass separation at the kerbside starting 1 July 2025, there will be new blue glass collection bins or glass bottle banks depending on the strategy chosen by council.
Public Place and Event Receptacles	Refer to the Roading Asset Management Plan for information on the public place (street) receptacles. The options available for the Event Receptacles is being considered.

Table 11: Solid Waste Activity Renewal Options and Alternatives

10. New Waste Legislation

The Ministry for the Environment are developing a new comprehensive waste legislation to replace the current Waste Minimisation Act 2008 and the Litter Act 1979. The new legislation will support delivery of many significant initiatives including the waste strategy and waste actions of the Emissions Reduction Plan. The current legislations, the Waste Minimisation Act 2008 and the Litter Act 1979, are dated and have limited tools to address these environmental issues. The new legislation will:

- Fix the gaps in the old legislation
- Give effect to the new waste strategy
- Enable Aotearoa to catch up with the rest of the world

The draft Bill is planned to be introduced into the house in early 2024 with the legislation enacted in 2025. Project planning of the WMMP will be required to confirm alignment with the new legislation. A waste assessment will provide the basis for a WMMP, with most of the detail developed in the waste assessment summarised in the WMMP.

11. Key Assumptions

The Invercargill city council 2024-2034 LTP assumptions document covers all the assumptions used in the development of the Long-term Plan. Following are the key assumptions of 2024-2034 LTP related to Solid Waste Activity

POPULATION ¹	Likelihood	Certainty	Consequence	Council Response
Population growth As at 30 June 2023, the estimated population of Invercargill is approximately 57,900 ² . The population is projected to increase over the next ten years but growth will depend significantly on whether the Tiwai Point smelter closes or remains open, and whether or not various industries are developed as envisaged in the Beyond 2025 Regional Long-term Plan.	Likely	Medium	Moderate	Although population growth in excess of the assumptions will have a moderate to significant impact on Council finances this will have significant lead time. Council will be able to monitor the applications for resource consents and use this as guidance for the population growth into the future. A population decline would be a more significant impact but is not expected.
Population growth - Tiwai remains open If Tiwai Point remains open, it is projected that the population of Invercargill will increase by a little over 5,000 people over the course of the Long-term Plan.	Moderate/ Likely	Medium	Minor	Tiwai remaining open may result in further investment in power to support new industries. Council will continue to advocate for this to Central Government.
Population growth - Tiwai closes With the closure of Tiwai Point growth in population of just over 4,000 people is expected.	Unlikely	Medium	Moderate	Council has participated in the Just Transitions programme to support transition in the case of Tiwai closure and will continue to liaise with the Enduring Oversight Committee to support the community.

¹ Infometrics report "Southland Region forecasting scenarios for Beyond 2025 Southland", June 2023

² Stats NZ Tatauranga Aotearoa Infoshare data, retrieved 24 January 2024 (<https://infoshare.stats.govt.nz/Default.aspx>)

Diversity The population will continue to become more diverse. The Māori population will grow from 19% to 25%. The Asian population will grow from 8% to 13%.	Likely	High	Minor	Council will increase engagement opportunities for different parts of the community to help support all voices being heard. Changes to Council services are expected to be able to be accommodated from within existing operational budgets through adjustment of focus.
Ageing population Those aged 65 and older will form 24% of the population in 2034, which is higher than the current aged population in 2023 (estimated as 10,790 of 57, 900 (19%)).	Likely/ Certain	Almost High	Moderate	Demographic changes are clear and while future migration patterns may offset aging to some extent this is not expected to be of a high enough level to counter the known level of aging. Council is considering how to respond to changing housing needs for older people through provision of elderly housing, adjustment to the District Plan and potential partnership projects. Impacts on other services including public transport, libraries and pools (e.g. hydrotherapy pool) are being planned for.
Households Households will increase from 23,256 in 2022 to 26,087 in 2034. The number of households stagnated over 2020-2021, but is projected to show positive growth over the course of this LTP, with growth peaking at 1.1% in 2032. The average size of households is expected to reduce from 2.39 to 2.34 by the end of this LTP.	Moderate/ Likely	Medium	Moderate/ Major	The number of households underpins the rating base and Council revenue for activities. A decline or slower growth in households would require Council to review services and/or financial strategy.

SOCIAL	Likelihood	Certainty	Consequence	Council response
Socio-economic Inflation will continue to squeeze household budgets and impact abilities to pay rates. Inflation is expected to stay above 3% until 2025/2026. ^{3 4}	Moderate/ Likely	Medium	Major	Economic volatility remains high with economists urging caution on reliability of forecasting. Significant increases in inflation will impact not only Council's planned expenditure but the community's ability to pay. Higher than expected inflation may require review of services, capital investment and/or financial strategy. Lower inflation will improve Council's position and ability to deliver.
Community resilience Tiwai Point Aluminium Smelter is expected to continue operating for the time of the Long-term Plan. Should Tiwai close this is expected to have an impact on community resilience.	Unlikely	High	Moderate	Council has plans in place, including community support for the Just Transitions Connected Murihiku programme and support for Great South to deliver economic diversification options. Additional investment may be required on any announcement of closure.
Community resilience Although the Zero Fees scheme has been extended through 2024 for Southern Institute of Technology Te Pūkenga, it is unlikely to continue throughout the life of the Long-term Plan. This will have an uncertain level of negative impact on Invercargill's population and economy.	Likely	Low	Minor	The Zero Fees Scheme has been an important tool in lifting the skill base of the local community as well as attracting new people live in the city. Loss of Zero Fees will remove a competitive edge for the city which has potential unknown longer term impacts. Changes in this assumption are not expected to have a significant impact on financial modelling but

³ Infometrics report "Economic update for Long-term Planning for Invercargill City Council", April 2022, p11

⁴ RBNZ "Household inflation expectations (H1)", August 2023

				rather impact the environment which Council operates in.
Housing stock Urban Invercargill's housing supply rate will increase slightly from 0.5% a year to 0.7% a year based on Council's intended District Plan changes, known future developments and proposed partnership projects. ⁵	Possible/Moderate	Medium	Moderate	Housing has been identified as a potential constraint to growth. Failure of responses to increase the supply could limit future population growth. Council would need to consider alternative responses.
ECONOMIC	Likelihood	Certainty	Consequence	Council Response
Economy CPI Inflation will peak in June 2023 and stay above 3% until 2025/2026. ⁶ Employment is expected to weather any recessionary conditions fairly well but unemployment is expected to increase nationally. ⁷ A short term dip is forecast for the early years of the plan with stronger growth in professional and highly skilled occupations. ⁸	Moderate/Likely	Medium	Moderate	Inflation increases would have significant impact on budgets. Council would need to consider changes to services and/or the financial strategy. If LGCI inflation was 0.5% higher than forecast this would increase Council operational costs by \$0.5 – \$1.5 million per annum for the first 3 years of the plan. Council capital costs would increase by \$0.3 - \$1.5 million per annum for the first 3 years of the plan

⁵ Rationale report "Murihiku Southland Housing Needs Assessment", May 2023, p26

⁶ Infometrics report "Economic update for Long-term Planning for Invercargill City Council", April 2022, p11

⁷ Infometrics report "Southland Region forecasting scenarios for Beyond 2025 Southland", June 2023, p15

⁸ *Id.* p15-18

				Increases in operational costs would impact the expected rates increase in those future years.
Community funding Despite recent economic challenges, Community Trust South and the Invercargill Licensing Trust Group have managed to return their funding levels to pre Covid-19 levels. This is anticipated to take some pressure off Council's funding pool.	Likely	High	Minor	Council will continue to liaise with other funding partners, including to monitor forecast security of investment, to assist control of this risk.
Economic diversification Volatility in the global economy may affect one or more of Invercargill's key export industries. This will drive diversification but will slow growth. Employment growth in new industries such as aquaculture and green hydrogen is not expected to offset any declines in agriculture. ⁹ There may be a delayed effect through the risk of impacted industries abandoning properties. Growth in the forestry industry as a result of carbon farming has the potential to negatively impact Invercargill's economy. ¹⁰	Possible	Low	Moderate	Council will continue to work closely with the Regional Council, Great South, the Chamber of Commerce and other stakeholders to support economic diversification for the region. In the case of significant industry decline a targeted response may need to be developed. The financial impact of this assumption is on the city's rating base, infrastructure network needs and the community's rates affordability. Changes in this assumption are not expected to be sharp shocks and as a result we will be able to flex annual plans and future LTPs to take account of these changes. At this point in time we do not expect this to have a significant effect on financial modelling for Years 1-3 of this Long-term Plan.

⁹ Beyond 2025 Southland Regional Long-term Plan, p20-21

¹⁰ *Id.*, p20

Central Business District The City Block development has been successfully completed and has attracted new development, including two new hotels in the city centre. Council will continue to support initiatives to drive the success of a thriving CBD. GDP will increase by \$14m annually as a result of the investment until 2030.¹¹	Likely	High	Moderate	Council remains strongly committed to its vision "Our City with Heart – He Ngākau Aroha." Any divergence from this vision could impact the financial viability of ICL but is not expected. Further investment may be required either in the City Block or associated city streets improvements.
Tourism Tourism in the Visit Southland area is expected to increase to between 160% - 165% of pre-Covid levels by 2029.¹² Invercargill is expected to proportionally benefit from this increase and demand for accommodation to increase and to be met from within existing stock.	Moderate/Likely	Medium	Minor	Tourism, while important, is not currently a major driver of the Invercargill economy, although it has great potential to grow. Council may need to invest in further infrastructure if tourism grows faster than expected and manage any flow on impact on housing availability given housing constraints.
International education The numbers of international students studying at Southern Institute of Technology (SIT) Te Pūkenga are not expected to return to pre-Covid levels until 2028 at the earliest.¹³ The decline as a result of Covid would be compounded if there was a change in policy at Te Pūkenga with reduced focus on recruiting international students, and by reduced domestic competitiveness as a result of the likely end of the Zero Fees policy.	Moderate/Likely	Medium	Minor	International students and their families create significant demand for certain categories of housing, including city centre housing. Lower numbers of international students is likely be a factor in the trend of an increasingly aged population. Lower or higher than expected numbers of international students may require an adjustment in Council response to City centre strategy and/or other provisions/ partnerships impacting housing availability.

¹¹ NZIER report "Invercargill CBD regeneration", May 2023, p17

¹² Beyond 2025 Southland Regional Long-term Plan, p56

¹³ Infometrics report "Economic update for Long-term Planning for Invercargill City Council", April 2022, p18
A4895695

Climate change regulatory change Legislative change is expected to increase requirements, reflected in the Emissions Reduction Plan and the National Adaptation Plan, on businesses and Council with an impact on economic growth as yet unknown.¹⁴	Likely	Medium	Moderate/ Major	Council is working with the regional Climate Change Working Group to set a strategy for the region and action plan for Council. Further investment will be required in activities to reduce emissions and to better understand climate change risk to Council assets.
---	--------	--------	-----------------	--

Table 12: Key assumptions of 2024-2034 LTP Solid Waste Activity

A full list of the assumptions can be found online.

¹⁴ Ministry for the Environment “Implementing Aotearoa New Zealand’s first emissions reduction and national adaptation plans”, 2023
A4895695

45

Solid Waste Activity Management Plan 2024

12. Sustainability

Sustainability can be defined as meeting the needs of the current generation without compromising the ability of future generations to meet their own needs. Sustainability forms part of everything Council does. Council endeavours to always act in the best interest of the community and as a result sustainability is at the forefront of service delivery and asset management planning.

Section 3(d) and 14 (h) of the LGA 2002 requires Local Authorities to take a sustainable development approach to conducting its business. In doing this, Council is required to consider the following:

- The social, economic, and cultural wellbeing of people and communities
- The need to maintain and enhance the quality of the environment
- The reasonably foreseeable needs of future generations

The Solid Waste Activity is strongly influenced by sustainability, being lead from the top with the Central Government's Waste Minimisation Act 2008 and the New Zealand Waste Strategy. Asset management is designed to improve decision making about assets to enable the better management of existing and future assets. Effective asset management ensures that agreed levels of service are met and risks, including public health, financial and environmental are minimised, while costs are optimised. Improved decision making is crucial to achieve asset management and sustainability goals. Therefore, having the good asset information is important to support the decision making and the achievement of sustainability goals. Environmental, economic, social and cultural sustainability drivers underpin asset management strategies, plans and practices.

The purpose of the Waste Minimisation Act 2008 (section 3) is to “encourage waste minimisation and decrease waste disposal in order to protect the environment from harm; and to provide environmental, social, economic and cultural benefits.” The key tools for achieving this vision include the national Waste Disposal Levy (WDL) and product stewardship schemes.

The WDL is a financial disincentive to disposing of waste to landfill. The WDL is currently set at \$50 per tonne, and will be progressively increased to \$60 per tonne by 2025.

Product stewardship describes the process through which those involved in the lifecycle of a product or service (designers, manufacturers, retailers, consumers) all take responsibility for the health, safety and environmental impacts produced by the goods or service. In 2020, the Government declared six priority products for regulated product stewardship under the Waste Minimisation Act, which are:

- Plastic packaging
- Tyres
- Electrical and electronic products (e-waste)
- Refrigerants
- Farm Plastics
- Agrichemicals and their containers

The Southland's WMMP has underpinning sustainability drivers that influence all aspects of the Solid Waste Activity. The Southland WMMP's vision "waste is a resource" and has three goals:

- Work together to improve the efficient use of resources
- Use the waste hierarchy to guide decision making
- Reduce the harmful effects of waste on our health and environment

12.1 Social and Cultural

The key social and cultural drivers for the Solid Waste Activity are to:

- Meet the obligations of the Health Act 1956 and Health & Safety at Work Act 2015.
- Provide behaviour change programmes to increase participation in waste minimisation initiatives and inform customers on how to use services.
- Promote the principle of Kaitiakitanga / Stewardship. All residents are responsible for looking after the environment, and for the impact of products and wastes they make, use and discard. Kaitiakitanga expresses an integrated view of the environment and recognises the relation between all things. It represents the obligation of current and future generations to maintain the life sustaining capability of the environment for present and future generations.

12.2 Environmental

The Southland Waste Management and Minimisation Plan identifies five key strategic objectives:

- Reduce the amount of material entering the waste stream.
- Reuse or repurpose material so it has a life before recycling or disposal.
- Reduce the amount of materials sent to final disposal by maximising recycling.
- Make the best use of recoverable waste as a renewable resource.
- Appropriate treatment and disposal of waste for the protection of our health and environment.

Under each of these objectives, actions have been developed to achieve the objective, resulting in movement towards achieving the overarching vision 'waste is a resource'.

12.3 Economic and Financial

Solid Waste is a significant infrastructural activity that looks to provide the desired level of service in the most cost-effective manner while meeting the health, safety, social, cultural and environmental interests. This is achieved by:

- Recognising the consumption of assets and appropriately funding it.

- Categorising capital versus operational expenditure and understanding how each influences the community.
- When procuring goods and services, taking into account market sustainability, best practice and smart buying processes.
- Reporting on financial performance.
- Where appropriate and practicable applying full cost pricing / user pays principle, eg., the environmental effects for disposal of goods is consistently costed and charged as closely as possible to the point they occur.
- Undertaking projects which are affordable and justified under the "better business case."
- Working collaboratively with WasteNet councils and other Territorial Authorities / Organisations to reduce cost and achieve shared objectives.

12.4 Potential Significant Negative Effects

The amount of waste we produce is directly linked to how many goods and services we consume – the greater our wealth the more we waste. By its nature, waste can be bad for our environment, health and economy.

The inappropriate disposal of waste can lead to significant environmental effects. International reports show a clear correlation between waste disposal to landfill and climate change.

Potential effects associated with the Solid Waste Activity Management Plan are listed below along with the mitigation strategies:

Well Being	Positive	Negative	Mitigation / Sustainable Solution
Social	A waste collection service is provided to ensure community health and safety, with material collected and processed for diversion or disposed to landfill	During the collection, processing or disposal of waste, the following may occur: ➤ Water and/or land pollution (loose waste blown into private properties or waterways or illegally dumped) ➤ Odour dust and noise emissions ➤ Spread of disease through water / land contamination ➤ Vermin ➤ Obstruction of footpath	Council will continue to educate residents on the collection days / times. Council will monitor the services provided by the private sector to ensure requirements are complied with. Council will continue to manage the contractor to ensure it is providing effective and reliable waste and recycling collection services through them.
Cultural	Delivering services for the diverse culture and taking an approach which values our cultural wellbeing and Maori tikanga		
Economic	Ability to provide cost-effective diversion services	Private companies also provide waste services, and this can impact on Council's ability to minimise waste.	The implementation of the WMMP mitigates the impact of this effect such as providing cost effective alternatives to landfill disposal. Through the WMMP, Council has set out its strategies and goals to divert waste from landfill.
Environmental	A suite of waste minimisation education / initiatives and programmes are in place to change behaviour		Council will continue to aim to reduce the quantity of waste going to landfill through proven minimisation strategies and programmes for waste streams that Council can control / influence.
	Council provides litter bins in public places to mitigate windblown waste materials	Windblown waste materials at facilities.	Litter fences are in place at the facilities. Contracts are in place with Contractors to collect litter from public places.

	Council provides landfill services in collaboration with AB Lime who is the landfill owner.	➤ Environmental impacts caused by the discharge of contaminants to land and water from landfills. ➤ Disposal of waste to landfill represents a significant adverse effect to the receiving environment. ➤ Emissions from landfills - As disposed waste material decomposes, particularly organic material, a variety of gases including methane, ammonia, hydrogen sulphide, and nitrogen are released into the atmosphere. ➤ Leachate and storm water discharges - The discharge of leachates from landfills can damage the receiving environment if not contained or treated.	➤ AB Lime continues to ensure compliance with resource consents and undertake regular monitoring of the facilities ➤ AB Lime has a gas collection and management system to collect gas and reduce odour issues and release of harmful greenhouse gases. AB lime has a leachate management system to treat leachate prior to discharge. ➤ Closed landfills are monitored regularly in accordance with their resource consents
--	--	--	--

Table 13: Potential Effects and Mitigation Strategies

12.5 Summary of Sustainability Challenges and Issues

The key sustainability challenge for the Solid Waste Activity is community buy-in. The vision of the Southland Waste Management and Minimisation Plan requires radical changes in our collective behaviour. This challenge is addressed through the implementation of the Southland Waste Management and Minimisation Plan.

13. Risk

Council is committed to managing risks that may impact on the delivery of its activities and services, and/or the ability to meet its legal obligations. Council is exposed to many risks on a daily and ongoing basis. Risk is inherent across all of Council's operations including, but not limited to, procurement, contract management, employment, health and safety, regulatory and enforcement, management, financial, service delivery, emergency management, and business continuity.

13.1 Risk Framework/Standard

Council is committed to keeping its risk management framework relevant and applicable to all areas of operation by using the AS/NZS ISO 31000:2009 Risk Management Standard (and the 2018 ISO update) as its basis. The framework will be updated periodically to reflect expected practice and can incorporate other frameworks, tools and practices.

13.2 Critical Assets Decision-Making

Critical assets are those which have a high consequence of failure, but not necessarily a high probability of failure. This is important as it draws attention to those assets which are the most important, irrespective of the likelihood of failure of the asset. Critical assets typically require more proactive management to minimise or eliminate this risk. The likelihood of failure of an asset is often difficult to assess, however condition and age are parameters that provide an indication. The worse the condition of the asset, the more likely it is to fail. Assets which are both extremely critical and more likely to fail should have higher priority and be replaced or rehabilitated earlier in their lifecycle than others, and at lower levels "run to failure" may be perfectly acceptable. There is a range of critical assets that support the services. These are listed below along with ownership information:

- Wheelie bins (Council owns and maintains)
- Collection vehicles (contractor owns and maintains)
- Existing Invercargill Transfer Station assets (Council owns and maintains)
- Materials Recovery Facility (MRF) processing equipment and buildings (contractor owns and maintains).
- Landfill assets (contractor owns and maintains).

The contractor has a business continuity plan covering how the services will continue to be delivered if there is an asset or equipment breakdown or other emergency event. The contractor has backup resources that are available.

13.3 Summary of Key Risk Issues

Council is committed to acting in a manner that enables it to reliably achieve objectives, address uncertainty, and act with integrity.

To support these outcomes Council is developing an approach which provides integrated governance management and assurance of performance, risk and compliance.

The approach taken by Council is set out in the Risk Management Framework – Policy and Process.

Council manages the strategic risks associated with the assumptions identified in the preparation of the Long-term Plan.

Council also manages a range of other risks, including Health and Safety. These risks are managed through its risk management register as contained in Process Manager.

The main risks for the Solid Waste Activity are circumstances where the contractor cannot meet the level of service due to mechanical issues, fire, contamination, traffic accident, theft or vandalism. These risks are managed through contractual obligations, enforcement, public awareness and education / behaviour change programmes.

13.4 Possible Approaches to Risk Mitigation

A risk management approach alone is not sufficient enough and needs to be complemented by a resilience approach to events that fall outside of the realms of predictability and where failure may be inevitable.

13.5 Risk Related Assumptions

The key solid waste risk related assumptions are listed below:

Issue	Assumptions
Funding	Adequate funding will remain available to undertake core solid waste activities
Service delivery	Council will continue to manage and deliver solid waste
Staffing	Ability to recruit and retain adequate staff
Contracting Resources	Adequate capacity will be available in the district to bid for and construct key projects
Compliance	Resource consenting compliance requirements will be met Ongoing consent requirements and increasing compliance requirements
District Growth Forecasts	Growth assumption are reliable
Recycling Demand	Continued demand for plastics recycling
Transfer station demand	Continued demand for transfer stations services
Willingness to pay for services	Ratepayer / customer willingness to pay for services

Table 14: Risk Related Assumptions

14. Resilience

The Canterbury earthquakes have highlighted the importance of resilient networks. Resilience is a guiding principle in the infrastructure plan, so that national infrastructure networks are able to cope with significant disruption from natural disasters and hazards and adapt to changing circumstances. This is reinforced by the vision for the 2024 National Infrastructure Plan as follows:

“By 2045 New Zealand's infrastructure is resilient and coordinated and contributes to a strong economy and high living standards”.

The development of resilience is an important management aspect in any organisation. Resilience within Council is built on aspects such as response and recovery planning, financial capacity, crisis leadership organisational preparedness i.e. robust risk management, emergency response plans and business continuity plans developed and understood by staff. Infrastructure resilience includes the physical robustness of assets, the level of redundancy (contingencies and backups) and the management of the consequences of interdependencies between assets and organisations.

14.1 Activity Resilience Strategies

Resilience is a component of asset management planning and strategies and of lifecycle management plans. The number of refuse transfer stations operated by WasteNet creates a level of resilience and operational flexibility.

14.2 Business Continuity Plan (BCP) and Emergency Response Arrangements

Business Continuity Plans (BCP) are developed to coordinate efforts for keeping Council business operating through high-risk events such as pandemics, natural disasters, loss of staff, etc. At a corporate level, Council has a BCP for response processes to be implemented for any major interruption to business operations and service delivery. This was tested with the global pandemic event (COVID-19) with staff working remotely (from home) except essential workers, which included waste services.

Emergency management deals with the response to severe events. The Civil Defence Emergency Management Act 2002 stipulates that Lifeline Utilities must plan for continuity of service, be capable of managing its own response to emergencies, and establish Civil Defence Emergency Management Groups regionally. Emergency Management Southland (EMS) is a shared service between Invercargill City Council, Southland District Council, Environment Southland and Gore District Council. It focuses on ensuring communities are prepared for emergencies and that they are able to respond to and recover from these when they do happen. Specific actions include public education and maintaining a pool of trained personnel. A combined service approach ensures streamlined decision-making, faster response times and cost savings.

Unusual events also impact waste assets and services, particularly the kerbside collections and facilities. Waste is identified as an essential service for maintaining

public health. Council requires its contractors to have suitable waste BCPs in place as essential service providers. The biggest aspect of BCP is communication strategy for customers and service users. Council has used the full cross section of communication tools (social media, newspaper, website) to get a clear message across, supported with education and enforcement as required.

14.3 Summary of Resilience Issues and Challenges

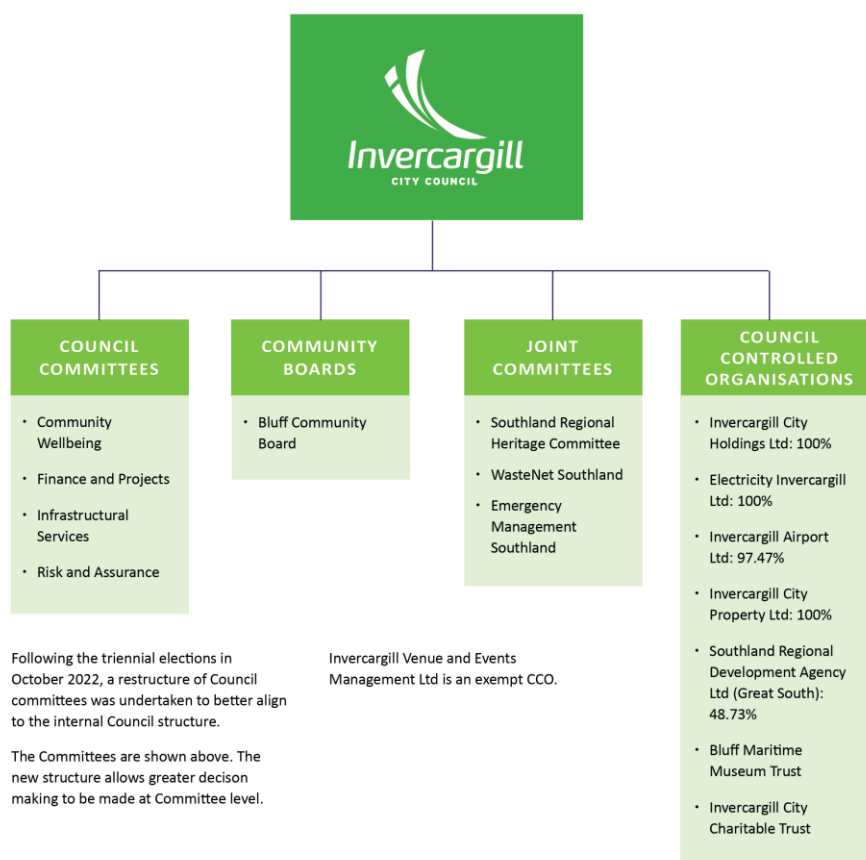
The resilience challenge for the Solid Waste Activity is how to manage / mitigate the unknown “unknowns”. The Solid Waste Activity keeps up to date with current waste industry best practice on resilience management by other counterparts.

15. Level of Service Management

15.1 Responsibility and resourcing

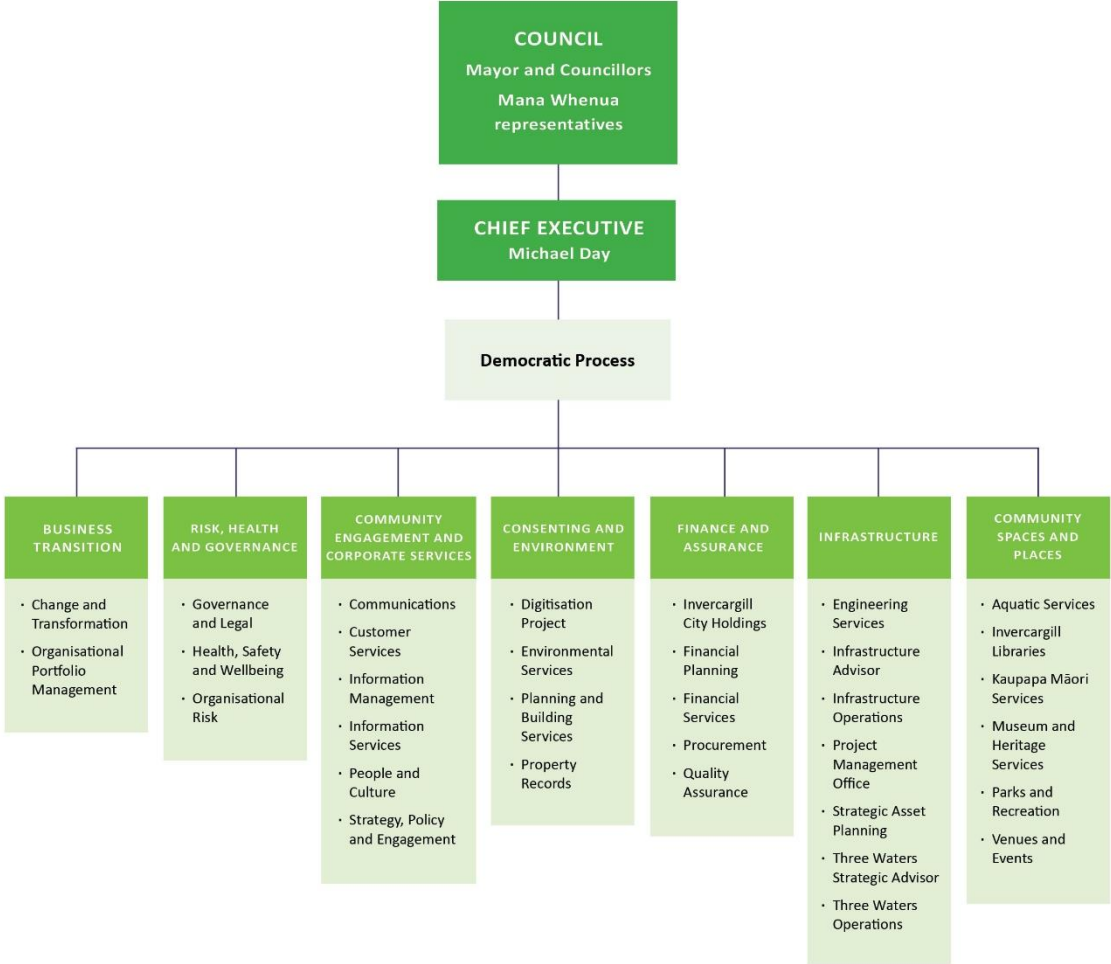
Council Structure

Te hanganga kaunihera



Management Structure

Te hanganga whakahaere



16. Managing the Condition and Performance of our Assets

16.1 Asset Overview

This section provides the detail of the key asset components of the Solid Waste Activity including description of the assets, their condition, performance and capacity, together with individual asset management strategies for the maintenance, renewal and development of these assets.

16.2 Solid Waste Activity Assets List

- Closed Landfills
 - Bluff Closed Landfill
 - New River Estuary Closed Landfill
- Bluff Transfer Station
 - Compactor
 - Shipping Container
 - Mobile Wheelie Bins
 - Infrastructure – roading, signage, drainage, fencing and other associated infrastructure
- Invercargill Waste Transfer Station and related assets – The asset/building is covered by the Property AMP/ Property Services Activity
 - Weighbridges
 - Kiosk building
 - The Garage Reuse Shop buildings
 - Transfer Station main building
 - Hazardous waste building
 - Composting area
 - Infrastructure – roading, signage, drainage, fencing and other associated infrastructure
- Kerbside Collection Assets
 - Mobile Wheelie Bins – Red rubbish bins and yellow recycling bins
 - The potential for glass separation at the kerbside starting 1 July 2025, there will be new blue glass collection bins depending on the strategy chosen by council.
- Public Place and Event Receptacles
 - Street receptacles, mobile bins
 - The potential for glass separation at the kerbside starting 1 July 2025, there will be new glass bottle banks depending on the strategy chosen by Council.

The Southland Regional Landfill is privately owned and operated by AB Lime. Therefore, there are no Council assets associated with this activity.

16.3 Solid Waste Activity Asset Description - Closed Landfills

Council owns two closed landfills:

- Bluff Closed Landfill
- New River Estuary Closed Landfill

16.3.1 Bluff Closed Landfill



Figure 4: Bluff Closed Landfill Site

Address: 75 Suir Street, Invercargill

Ownership: Invercargill City Council

Description: The site is located on the corner of Foyle Street and Suir Street in Bluff, on the western edge of the Bluff Township. The site is bounded by pasture on the northern, eastern and southern sides. A wetland is present along the western boundary off the site. Only a portion of the site was used for landfill. The closed landfill is located in an old quarry in the southeastern corner of the site. The southern half of the site is situated on a moderately sloping hill. The northern half of the site is generally flat and at the same level as the road. This portion of the site was used for clean fill deposition and was accessed by a vehicle access track.

Refer to Appendix B - Bluff Closed Landfill Post Closure Management Plan October 2007 (A2024696)



Figure 5: Bluff Closed Landfill Site Plan

Resource Consents: Discharge permit No 20169950 – Allows for discharge of leachate to landfill, where it may enter groundwater from a closed landfill. Expiry date is 19 May 2027.

Monitoring: Consent compliance is measured by Council staff. The site is operating in compliance with resources consents.

Capacity: The facility closed to receiving solid waste in 1998

Performance: The key landfill management issue is compliance with the after-care consent requirements post landfill closure and management of the refuse transfer station that now occupies a portion of the site.

Utilisation: The Bluff Transfer Station operates out of the northern corner of the site. The remainder of the site is not in use.

16.3.2 New River Estuary Closed Landfill



Figure 6: New River Estuary Closed Landfill

Address: 303, 351, 383 Bond Street Invercargill

Ownership: Invercargill City Council

Description: The New River Estuary Closed Landfill is located in the area originally known as Pleasure Bay and is bordered on the North by Bond Street, on the East by A4895695

the New Zealand Railways Bluff Line, and on the West by an estuary embankment. A lagoon is located along the southern boundary of the site. There are two vehicle access roads to the site off Bond Street. The landfill was closed in June 2004, following the opening of the Southland Regional Landfill located at Kings Bend, Winton. In 2007, the Invercargill City Council was awarded a Ministry for the Environment Green Ribbon Award for the restoration of the former New River Estuary landfill into a serene recreation area. The majority of the post-closure works are complete, with only minor works (replanting) expected to continue over the course of the years.

Refer to Appendix A New River Estuary Landfill Post Closure Management Plan March 2011 for more information (A2024704).

Resource Consents:

1. Discharge Permit (No. 94457) allows for discharging solid wastes and leachate from a landfill onto and into the land. The expiry date is 29 April 2033.
2. Coastal Permit (No 204270) allows to occupy a coastal marine area with a structure in the form of a wooden boardwalk, and to deposit rock, rip rap, and crystal sand. Expiry date is 26 March 2042.

Monitoring: Consent compliance is measured by Council staff. The site is operating in compliance with resource consents.

Capacity: The facility was closed to receiving solid waste in June 2004.

Performance: The key landfill management issue is compliance with the aftercare consent requirements post landfill closure and management of the waste transfer station that now occupies a portion of the site.

Utilisation: The site now comprises of two activities:

3. Recreation area; and
4. Invercargill Waste Transfer Station.

The recreation area covers approximately 80% of the site. This part of the site has been transformed into an attractive wildlife and recreational area, which includes the Roger Sutton Walkway, and is used by pedestrians and cyclists. The recreation area is managed by Parks. Refer to the Parks Asset Management Plan for more information. The Invercargill Waste Transfer Station is located in the north-western part of the site. This facility is currently managed by Council contractor as per Contract 550 Collection and Transfer Station Services. More information on the Transfer Station asset is included in this document.

16.3.3 Bluff Transfer Station



Figure 7: Bluff Transfer Station

Address: 75 Suir Street, Bluff

Ownership: Invercargill City Council

Description: This facility is a remote/satellite station to allow for the Bluff Community to have a bulk disposal point for their solid waste. It is designed for household and residential waste volumes only. The facility is open 5 days a week:

- Monday, Wednesday and Friday from 2 pm to 4 pm,
- Saturday from 11am to 2 pm and
- Sunday from 10 am to 12:30 pm.

This facility is closed on all public holidays.

Customers are met by the attendant who accepts payment (where applicable) and directs them where to dispose of their materials. Payment is via EFTPOS or token. Tokens can be purchased from Council's Bluff Service Centre. The facility accepts

household quantities of garden waste, landfill rubbish and has limited capacity for dry recyclables. The facility does not accept commercial volumes of waste, liquid waste or hazardous waste. The facility has a compactor with a loading chute into which solid waste is directly loaded from vehicles. The current contract is for manning the site and removal of containers when full to the Invercargill Transfer Station for weighing and maximisation of load. The containers are closed hook type containers. Solid Waste collaborates with the Property team for consultation and support as needed. Refer to Property Asset Management Plan / Property Services Activity for further information.

Condition: No formal condition rating has been undertaken. It is noted that the facility has the following assets:

- Compactor
- One 40-foot shipping container
- Building
- Boundary fencing
- Gates (entrance / exit)
- Signage
- Rooding

The compactor was replaced in 2020 with a second hand unit. This unit was previously at the Invercargill Transfer Station. The 40-foot shipping container was supplied by the Ministry for the Environment as part of the TV Take Back Programme. The intent is to use the container as dry storage for any electrical waste collected.

Monitoring: Council contractor as per Contract 550 Collection and Transfer Station Services.

Capacity: No recent capacity studies have been undertaken, however contractor and staff estimate the facility is underutilised. This assessment is based on the lower than expected revenue received.

Performance: No recent performance monitoring has been undertaken

Utilisation: The facility is currently managed by Councils Contractor as per Contract 550 Collection and Transfer Station Services.

Description of Asset	Ownership	Maintenance / Repairs	Renewal
Fences/Barriers			
Boundary	ICC	Contractor	ICC
Gate	ICC	Contractor	ICC
Litter	ICC	Contractor	ICC
Safety	ICC	Contractor	ICC
Barriers	ICC	Contractor	ICC
Pavement			
Seal	ICC	Contractor	ICC
Gravel	ICC	Contractor	ICC
Landscape			

Mown grass areas	ICC	Contractor	Contractor
Other Grass areas (and Compactor)	ICC	Contractor	Contractor
Compactor/Containers			
Compactor ancillaries (chute cover etc.)	ICC	Contractor	ICC
Compactor	ICC	Contractor	Contractor
Containers for Waste	ICC	Contractor	Contractor
Signage			
Health and Safety Information	ICC	Contractor	ICC
Fees and hours	ICC	Contractor	ICC

Table 15: Bluff Transfer Station Asset Information

16.3.4 Invercargill Transfer Station



Figure 8: Invercargill Transfer Station

Address: 303 Bond Street, Invercargill

Land Area: 480,471 sqm

Ownership: Invercargill City Council

Description: This facility is designed to “bulk-up” solid waste from residential kerbside collection, public waste drop off and commercial account holders in preparation to transport the bulk waste to the Southland Regional Landfill. The Invercargill Transfer Station is open:

Summer Hours (October 1 to March 31)

- Monday – Saturday 8am to 6pm
- Sunday – 9am to 6pm

Winter Hours (April 1 to September 30)

- Monday – Saturday 8am to 5pm
- Sunday – 9am to 5:30pm

The facility is closed on Christmas Day, New Year's Day and Good Friday (3 days) every year.

Customers drive onto the inward weighbridge where they are welcomed by a kiosk attendant who weighs their vehicle and instructs them where to dispose their rubbish. When the customer is ready to leave, they drive onto the outward weighbridge where payment is determined by the weight difference between in and out and the type of waste disposed of. Payment options include EFTPOS, cash and account (for account holders). The facility accepts:

- Household quantities of garden waste, tyres, used oil, clean fill and landfill rubbish.
- Commercial quantities of garden waste and landfill rubbish.

The Garage Reuse Shop (a reuse and recovery facility) is located at the entrance to the facility. The property, carpark and associated buildings are leased to a private commercial operator. The Solid Waste Transfer Station was constructed in 1997. The site is part of the old Invercargill Landfill that was developed utilising a tipping and dosing methodology without modern compaction equipment or machinery. Royds Consulting designed the structure and Naylor Love Construction constructed the building. Since the transfer station is constructed on landfill waste material, there is a substantial amount of piling beneath the pit and the building foundations. Additionally, the design of the collection pit and compactor pit includes extensive drainage and tanking due to the area's proximity to high tide. Over time, the paved areas surrounding the Transfer Station has experienced significant settling, and the pavement was raised to allow level access to the dump face of the pit. The pit floor received a fresh coat of concrete over the 2014 Labour Day holiday weekend. The pit floor was entirely replaced after it failed in May 2020. Additionally, the compactor was also replaced in March 2020. According to clause 8.1 of Contract 550, it is the contractor's responsibility to develop an asset management plan for the facility. The individual assets that make up this facility are owned either by Council or the Contractor. Solid Waste collaborates with the Property team for consultation and support as needed. Refer to Property Asset Management Plan / Property Services Activity for further information.

Contractors Site

The Contractors site excludes "The Garage" reuse centre. The site is completely fenced by two metre mesh fencing and lockable gates. An area of the adjacent compost site may be available for the storage of metals and whiteware. All roads within the site are sealed or asphalted. The Transfer Station building contains an office and operators facilities.

General Description of Activity

The transfer station is a fully enclosed building with integral pit and compactor facility at the north-east end. It has adjoining toilets, showers and kitchenette facilities with separate office over. The Transfer Station is fitted with individually controlled roller doors. The site has a reception kiosk with separate in and out weighbridges with all vehicles making payment by weight of load (minimum charges apply). A greenwaste tipping area is situated separate to the transfer station building. It has a tipping wall to a lower handling and storage area. There are storage areas for transfer containers and a ramp down to the container filling and compaction area. "The Garage" recovery and recycling centre does not form part of the facility for operation within the contract however every assistance is to be given to the operator to obtain recoverable materials from the transfer station operation to prevent such materials of recoverable value from going to the regional landfill. The site has extensive landscaping which shall be maintained to a high standard to enhance the visual appeal of the facility.



Figure 9: Aerial Image of Invercargill Waste Transfer Station at 303 Bond Street

Resource consents: Air Discharge Permit (AUTH-20211366) allows for discharging contaminants to air from a composting operation. The expiry date is 15 September 2041

Capacity: 3 days storage

Performance: 100%

Utilisation: Contractor as per Contract 550 – Collection and Transfer Station Services

Materials:

- Walls - Corrugated colour steel
- Joinery - Aluminium
- Roof - Corrugated colour steel
- Structure - Steel

Energy Supply: Electricity

Asset Type	Description	Ownership	Maintenance / Repairs	Renewals
Fences/Barriers	Boundary Fence	ICC	Contractor	ICC
	Gates	ICC	Contractor	ICC
	Wheel Stops	ICC	Contractor	ICC
	Green waste Wall	ICC	Contractor	ICC
Pavements	Seal Asphalt	ICC	Contractor	ICC
	Chip seal	ICC	Contractor	ICC
Landscaping	Plantings	ICC	Contractor	Contractor
	Grassed areas	ICC	Contractor	Contractor
	Trees	ICC	Contractor	Contractor
Buildings	Transfer Station	ICC	Contractor	ICC
	Kiosk	ICC	Contractor	ICC
	Hazardous Waste	ICC	Contractor	ICC
Containers	Refuse Haulage Containers	Contractor	Contractor	Contractor
Plant and Equipment	Compactor	Contractor	Contractor	Contractor
	Loaders	Contractor	Contractor	Contractor
	Transfer Vehicles	Contractor	Contractor	Contractor
	Transfer Trailers	Contractor	Contractor	Contractor
Signage	Site Charges	ICC	Contractor	ICC
	Health and Safety	ICC	Contractor	ICC
	Additional Signage	Contractor	Contractor	Contractor

Table 16: Invercargill Transfer Station Asset Information

16.3.5 Mobile Wheelie Bins

Mobile wheelie bins are supplied to properties receiving kerbside recycling and rubbish collection services so they can separate their waste into dry recyclables and general waste. Council purchased the mobile wheelie bins in June 2011, with an estimated useful life of 16 years.



Figure 10: A red rubbish bin (140 litre) and yellow recycling bin (240 litre)

The standard two-bin service that Council provides to its community consists of the following:

- One yellow lidded recycling bin, the capacity of which is 240 litres
- One red lidded rubbish bin, the capacity of which is 140 litres

The 360 litre mobile bins are available (upon request) for servicing commercial properties such as motels, hotels and student accommodation.

Tactile symbols are moulded into the bin lids to allow customers with visual impairments to identify the two types - recycling (yellow) and general waste (red).

The mobile wheelie bins in service as of September 2023:

Mobile Bins and Sizes	140 litres	240 litres	360 litres	Total Count of Bins
Yellow Recycling Bin Spec: black body, yellow lid, two wheels and an axle	2875	21963	58	22021
Red Rubbish Bin Spec: Black body, red lid, 2 wheels and an axle	21960	263	29	22252

Table 17: Mobile Wheelie Bins in Service

Recycling Collection Process:



Figure 11: What happens to the contents of your yellow recycling bin

Rubbish Collection Process



Figure 12: What happens to the contents of your red rubbish bin?

16.3.6 Public Place Receptacles and Event Mobile Bins

Council has installed public place receptacles for the disposal of rubbish (litter) at public places. The majority of these receptacles are located in the central business district of Invercargill, popular locations like Windsor and Bluff. Public place receptacles may also be installed in the smaller shopping centres and dairies in the residential areas.

Five recycling receptacles were installed in Esk Street and Dee Street after Council received national funding to trial public place recycling during the Rugby World Cup in 2011. In 2016, the City Center underwent upgrades, and new recycling receptacles were installed.

Refer to the Roding Asset Management Plan for further information on this asset.

The Parks Department of Council installs and manages public place receptacles in the Parks and Reserves. Refer to Parks Asset Management Plan for information on these assets.

WasteNet Southland has a small supply of equipment available to assist events to manage their solid waste.

16.3.7 Mobile Bin Infrastructure

Infrastructure type	Count
Yellow Mobile Bin Hood - Plastic Bin hood that can be placed over an open 140/240 litre mobile bin.	12
Red Mobile Bin Hood - Plastic Bin hood that can be placed over an open 140/240 litre mobile bin.	12
Green Mobile Wheelie Bins – 80 litre mobile bins with black body, green lid, two wheels and an axle.	6

Table 18: Additional Mobile Bin Infrastructure

The 2012 International Junior World Cycling Championships held at the ILT Velodrome used the event bin hoods to assist participants in sorting their waste.



Figure 13: The 2012 International Junior World Cycling Championships

17. Critical Assets

Knowing which assets are crucial for effectively managing risk helps Council to invest in what is most needed and make investment decisions at the appropriate level. Those assets that have a higher consequence of failure can potentially have a more significant impact on Council's objectives. Critical assets are those assets that are deemed essential to providing critical services in times of emergency (albeit at a reduced level of service), or assets that have an unacceptable consequence of failure.

17.1 Asset Criticality Assessment Criteria

Criticality Rating	Asset Importance	Consequence of Failure
5	Extremely important - The asset serves the most important city wide function for the solid waste network or portfolio and is essential for the ongoing operation (e.g. Invercargill Transfer Station, Council building, etc).	Catastrophic - Failure would have severe and long-lasting adverse impacts on many if not all of ICC's customers and stakeholders, affecting outcomes such as public health and safety, economic wellbeing, and environmental sustainability. Limited availability of suitable alternatives.
4	Very important - The asset serves a major function within the network (e.g. an arterial road, large trunk main, one of a small number of water reservoirs in the city, Museum, etc).	Extreme - Failure would have major adverse impacts on many customers and stakeholders; and / or significant adverse impacts on the economy and/or the environment.
3	Important - The asset serves an important suburban function (e.g. a Collector road, minor pumping station, distribution main, suburban pool, park, housing or community building).	Major - Failure would have some adverse impacts on significant numbers of customers, and / or some adverse impacts on the local economy or the environment.
2	Minor importance - The asset primarily serves a local function (e.g. a local road, pipe serving several streets, small community facility).	High - Failure would have minor adverse impacts on some customers; and / or minor adverse effects on the local economy or the environment.
1	Not important - The asset serves a minor local function (e.g. a water pipe serving a single street, small local reserve, etc).	Moderate - Failure would have minimal to no adverse impacts on customers and no impact on the local economy or environment.

Table 19: Asset Criticality Assessment Criteria

17.2 Solid Waste Critical Assets and Criticality Rating

The solid waste assets that are deemed to be critical are listed below:

Asset	Criticality	Comment
Closed Landfills: 1. Bluff 2. New River Estuary	4	Closed landfills should preferably be observed for more than 30 years for negative environmental impacts, such as erosion and the ensuing environmental repercussions. If harmful environmental effects are found, the cost of mitigation may be high both financially and environmentally
Bluff Transfer Station	2	Failure of the Bluff Transfer Station might put strain on the kerbside services and cause discomfort to the customers. Bluff residents would have to travel to Invercargill to dispose of bulky items. It might tempt customers to improperly burn or bury their solid waste
Invercargill Transfer Station	4	Failure of the Invercargill Station might have severe negative effects on the environment, human health, society and the economy. For instance, solid waste could not be collected or transported to the landfill.

Mobile Wheelie Bins	2	Given that wheelie bins are given to the service users for sorting waste into recyclable and rubbish, the failure of the mobile bins could have substantial negative environmental, health and social implications. It would put pressure on the Transfer Station's infrastructure and might tempt consumers to improperly burn or bury their solid waste.
Public Place Receptacles and Event mobile bins	1	The failure of public place receptacles and event mobile bins is not considered significant as other facilities available can manage this waste.

Table 20: Solid Waste Critical Assets and Criticality Rating

17.3 Asset Condition Rating Model

Grade	Condition	Consumed Life	Description of Condition
1	Very good	0%- 45%	Sound physical condition. Asset likely to perform adequately without major work for 25 years or more
2	Good	45 - 60%	Acceptable physical condition; minimal short-term failure risk but potential for deterioration in the long-term (15 years plus). Minor work required
3	Fair	60 - 75%	Significant deterioration evident; failure likely within the next 5 years but further deterioration and major replacement likely within the next 15 years, Minor components or isolated sections of the asset need replacement or repair now but asset still functions safely at adequate level of service.
4	Poor	75 – 90%	Failure likely in short term. Likely need to replace most or all of assets within 5 years. No immediate risk to health or safety but works required within 3 years ensuring asset remains safe. Substantial work required in short term, asset barely serviceable.
5	Very poor	90-100%	Failed or failure imminent. Immediate need to replace most or all of asset. Health and safety hazards exist which present a possible risk to public safety or asset cannot be serviced / operated without risk to personnel. Major work or replacement required urgently

Table 21: Asset Condition Rating Model

17.4 Asset Condition Assessment

Asset	Condition	Description
Closed Landfills ➤ Bluff ➤ New River Estuary	2	Both closed landfills are fully capped and ongoing monitoring systems are in place. Aftercare will continue until such time as the leachate and gas monitoring shows the volume and strength of leachate to be reduced sufficiently for active management of leachate and gas to cease and no other significant problems are evident.
Bluff Transfer Station	2	A basic facility for the bulk disposal of certain types of solid waste.
Invercargill Transfer Station	3	The Transfer Station was constructed in 1997 and is currently 26 years into its assumed 50-year useful lifespan. Over time, the paved areas surrounding the Transfer Station have experienced significant settling. Maintenance works have been carried out on both weighbridges and road surfaces. The pit floor was replaced in May 2020. Continual building up of road surface is needed to reduce any trip hazards. The compactor was also replaced in March 2020. A large cavity was identified beneath the building pit floor when repairing a water leak. The contractor has identified capacity issues during peak times.
Mobile Wheelie Bins	3	The mobile bins are 13 years into their expected 16-year life. No formal condition surveys have been undertaken however they are believed to be in good condition for this stage of their lifecycle. Council Contractors are required to monitor and maintain the mobile bins as per the specifications set out in Contract 550. Customers contact Council with repair requests that Council attends to.
Public Place Receptacles and Event Mobile Bins	1	Refer to the Roading Asset Management Plan for condition rating of the Public Place Receptacles. The event mobile bins are notably in good condition. The event mobile bins are accessible to event planners on the condition that they cover the cost of replacement or repair in the event of damage or loss.

Table 22: Asset Condition Assessment

17.5 Asset Condition Monitoring

It is critical that Council has a clear knowledge of the condition of assets and how they are performing. An asset register including condition will need to be compiled to enable Council to understand future expenditure patterns and management decisions regarding maintenance, replacement and renewals. A formal condition assessment has not been carried out for these assets. However, one will need to be undertaken in future.

17.6 Maintenance and Operations Plan

Council is mainly responsible for the Transfer Station facilities. However, under Contract 550 – Collection and Transfer Station Services, it is the Contractor's responsibility to undertake maintenance of a small number of these.

The Contracts Manager does the administration of Contract 550 and periodically inspects the operations. Other aspects of maintenance and operations include:

- Maintenance of mobile wheelie bins
- Facility site maintenance - general condition of facility site; signage; buildings; internal pavements; fencing; volume of spilt rubbish and or litter; and vermin and pest control.
- The weighbridge and associated electronics are maintained by the contractor, which includes an annual calibration of the equipment.

17.7 Renewals / New Works Plan

The condition of assets is informally monitored routinely during the day-to-day operation of the facilities and inspection of the facility is undertaken by Council staff. Renewal needs are recorded and remedial works prioritised and programmed as required. The access way to the windrow composting area of the Invercargill Transfer Station is not sealed and is in a state of deterioration. Sealing the entrance way for passing vehicles calls for major capital renovation work.

Significant health and safety risks are posed by the blue gum trees inside the transfer station. A recent wind throw had caused several trees to fall or become broken and lodged on other trees, and the site was deemed unsafe for public access. ICC Parks arborists inspected the site, and gum trees that could be potentially hazardous if a similar incident occurred were removed as part of the site clearance process. In addition, the remaining blue gums have been scoped to be removed as part of the preventive maintenance programme.

There are no new works planned in the short term.

17.8 Disposal Plan

Council has no plans to dispose of any Transfer Station assets at this time with the exception of assets that reach the end of their useful life within the 20-year period and are replaced as part of the renewal program.

17.9 Asset Capacity and Reliability

The Invercargill and Bluff Transfer Stations provide reliable services and are capable of meeting demands from kerbside collections and public drop offs. All council owned landfills are closed and therefore considered as having reached their capacity. The windrow area green waste composting facility is capable of meeting demand for the foreseeable future. Maintenance impacts can be restricted by preventative maintenance regimes, regular inspections and testing. Effective consultations with users of assets can also ensure they are meeting operational requirements.

Asset	Capacity and Reliability
Closed Landfill ➤ Bluff ➤ New River Estuary	The Bluff Closed Landfill site is not fully utilised. Activities currently take place at the Bluff Transfer Station. The New River Estuary is fully utilised as it has been developed into a recreational area (Estuary Walkway - Roger Sutton Broadwalk) and Invercargill Transfer Station. Refer to the Parks Asset Management Plan for more information on the recreational area.
Bluff Transfer Station	There are times when this facility is open but not entirely utilised by customers.
Invercargill Transfer Station	3 days' storage capacity
Mobile Wheelie Bins	The current mobile bins were designed to provide the service for the full 16-year term of Contract 550. The three different bins sizes available give customers some flexibility, eg., elderly wanting smaller more manageable bins, and lodging establishments with limited storage room. Mobile bins are provided to new properties when residents are permanently living at the address (and are within the refuse collection area).
Public Place Receptacles and Event mobile bins	Refer to the Roading Asset Management Plan for condition rating of the Public Place Receptacles. The event planners are given the event mobile bins to utilise as needed for events. The event bins are frequently requested by Venture Southland for the yearly ILT Kidzone Festival.

Table 23: Asset Capacity and Reliability

17.10 Asset Performance

Asset	Performance	Measure	Comment
Closed Landfill ➤ Bluff ➤ New River Estuary	100%	Compliance with resource consents.	Both closed landfills are operating in accordance to their resource consent conditions. Refer to the Parks Asset Management Plan for more information on the recreational area of the New River Estuary Closed Landfill.
Bluff Transfer Station	70%	Hours / year	This facility is open five days a week and remains closed on public holidays. This facility is able to provide the designated services to customers. The facility is not well used as it could be open and having no customers. The design of this facility (open chute-fed trash compactor) is no longer considered to be best-practice. Modern facilities are making advantage of "same-level" offloading areas.
Invercargill Transfer Station	100%	Code of compliance Warrant of fitness Fire Alarm Potable Water Security = all achieved	This facility is open every day except three public holidays and is able to safely provide the designated services to its customers. The design of this facility (drop onto a pit floor) is no longer considered to be best-practice. Modern facilities are making advantage of "same-level" offloading areas. On occasion, the facility's capacity is insufficient to safely handle customer demand, which can cause vehicles to back up into Bond Street.
Mobile Wheelie Bins	100%	Collections/ year	When used appropriately, the performance of the mobile bins is highly efficient. Performance worsens when users use the bins inappropriately, such as putting hot ashes inside or leaving the bins in the way of moving vehicles. The yellow recycling bins are typically presented for collection 60–70% of the time, whereas the red bins are typically presented for collection 70–80% of the time.
Public Place Receptacles and Event Mobile Bins	-	Usage	Refer to the Roding Asset Management Plan for more information. The event mobile bins can perform their functions in a safe manner.

Table 24: Asset Performance

18. Funding

18.1 Solid Waste - Total Expenditure OPEX and CAPEX 30 years

	2023/24 Annual Plan (\$000)	2023/24 Forecast (\$000)	2024/25 LTP (\$000)	2025/26 LTP (\$000)	2026/27 LTP (\$000)	2027/28 LTP (\$000)	2028/29 LTP (\$000)	2029/30 LTP (\$000)	2030/31 LTP (\$000)	2031/32 LTP (\$000)	2032/33 LTP (\$000)	2033/34 LTP (\$000)
OPERATING												
Rates revenue	5,369	5,382	6,392	7,030	7,732	7,884	8,591	9,275	9,359	9,821	10,256	10,348
Subsidies and grants (Capital)	-	-	-	-	-	-	1,127	-	-	-	-	-
Subsidies and grants (Operational)	-	-	-	-	-	-	-	-	-	-	-	-
Direct charges revenue	6,733	7,460	7,681	7,987	8,429	8,838	9,262	9,718	10,184	10,693	11,228	11,789
Rental revenue	-	-	-	-	-	-	-	-	-	-	-	-
Finance revenue	30	63	55	59	57	69	77	83	87	93	97	101
Dividends	-	-	-	-	-	-	-	-	-	-	-	-
Fines	-	-	-	-	-	-	-	-	-	-	-	-
Other revenue	-	-	1,009	1,031	1,055	1,079	1,103	1,126	1,149	1,172	1,194	1,217
Internal charges and overheads recovered	2,535	2,535	2,441	2,672	2,897	3,014	3,137	3,264	3,397	3,533	3,675	3,825
Total revenue	14,667	15,440	17,578	18,779	20,170	20,884	23,297	23,466	24,176	25,312	26,450	27,280
Employee expenses	-	-	-	-	-	-	-	-	-	-	-	-
Administration expenses	104	91	94	96	98	100	102	105	107	109	111	113
Grants & subsidies expenses	-	-	-	-	-	-	-	-	-	-	-	-
Operational expenses	11,934	12,634	14,703	15,639	16,451	17,105	17,534	18,251	18,600	18,992	19,565	20,037
Utilities expenses	9	22	24	26	27	29	31	33	36	38	41	44
Repairs & maintenance expenses	-	-	-	-	-	-	-	-	-	-	-	-
Depreciation and amortisation	492	116	115	511	419	349	1,013	1,864	1,455	1,148	907	724
Finance expenses	80	104	115	169	173	167	264	355	313	260	181	83
Internal charges and overheads applied	2,521	2,521	2,419	2,646	2,874	2,990	3,111	3,236	3,367	3,503	3,645	3,794
Total expenses	15,140	15,488	17,470	19,087	20,042	20,740	22,055	23,844	23,878	24,050	24,450	24,795
OPERATING SURPLUS / (DEFICIT)	(473)	(48)	108	(308)	128	144	1,242	(378)	298	1,262	2,000	2,485
CAPITAL EXPENDITURE - Funded												
• to meet additional demand	-	-	-	-	-	-	-	-	-	-	-	-
• to improve the level of service	-	-	1,653	-	-	354	4,508	-	-	-	-	-
• to replace existing assets	82	135	82	89	97	2,775	101	104	106	108	110	112
TOTAL CAPITAL EXPENDITURE	82	135	1,735	89	97	3,129	4,609	104	106	108	110	112
Gross proceeds from sale of assets	-	-	-	-	-	-	-	-	-	-	-	-

Table 25: Solid Waste - Total Expenditure OPEX and CAPEX 30 years

18.2 Solid Waste - Capital Expenditure Planned to be Delivered vs Required – 10 years

	2025 - 2029 LTP (\$000)	2030 - 2034 LTP (\$000)	2035 - 2039 LTP (\$000)	2040 - 2044 LTP (\$000)	2045 - 2049 LTP (\$000)	2050 - 2054 LTP (\$000)
OPERATING						
Rates revenue	37,629	49,059	58,290	70,919	86,283	104,977
Subsidies and grants (Capital)	1,127	-	-	-	-	-
Subsidies and grants (Operational)	-	-	-	-	-	-
Direct charges revenue	42,197	53,612	68,402	87,299	111,418	142,202
Rental revenue	-	-	-	-	-	-
Finance revenue	317	461	545	595	654	725
Dividends	-	-	-	-	-	-
Fines	-	-	-	-	-	-
Other revenue	5,277	5,858	6,458	7,129	7,872	8,690
Internal charges and overheads recovered	14,161	17,694	20,304	22,418	24,750	27,326
Total revenue	100,708	126,684	153,999	188,360	230,977	283,920
Employee expenses	-	-	-	-	-	-
Administration expenses	490	545	599	662	730	806
Grants & subsidies expenses	-	-	-	-	-	-
Operational expenses	81,432	95,445	106,471	117,335	129,481	142,723
Utilities expenses	137	192	230	255	282	312
Repairs & maintenance expenses	-	-	-	-	-	-
Depreciation and amortisation	2,407	6,098	2,082	1,869	994	250
Finance expenses	888	1,192	445	445	445	445
Internal charges and overheads applied	14,040	17,545	20,139	22,234	24,549	27,103
Total expenses	99,394	121,017	129,966	142,800	156,481	171,639
OPERATING SURPLUS / (DEFICIT)	1,314	5,667	24,033	45,560	74,496	112,281

Table 26: Solid Waste - Capital Expenditure Planned to be Delivered vs Required – 10 years

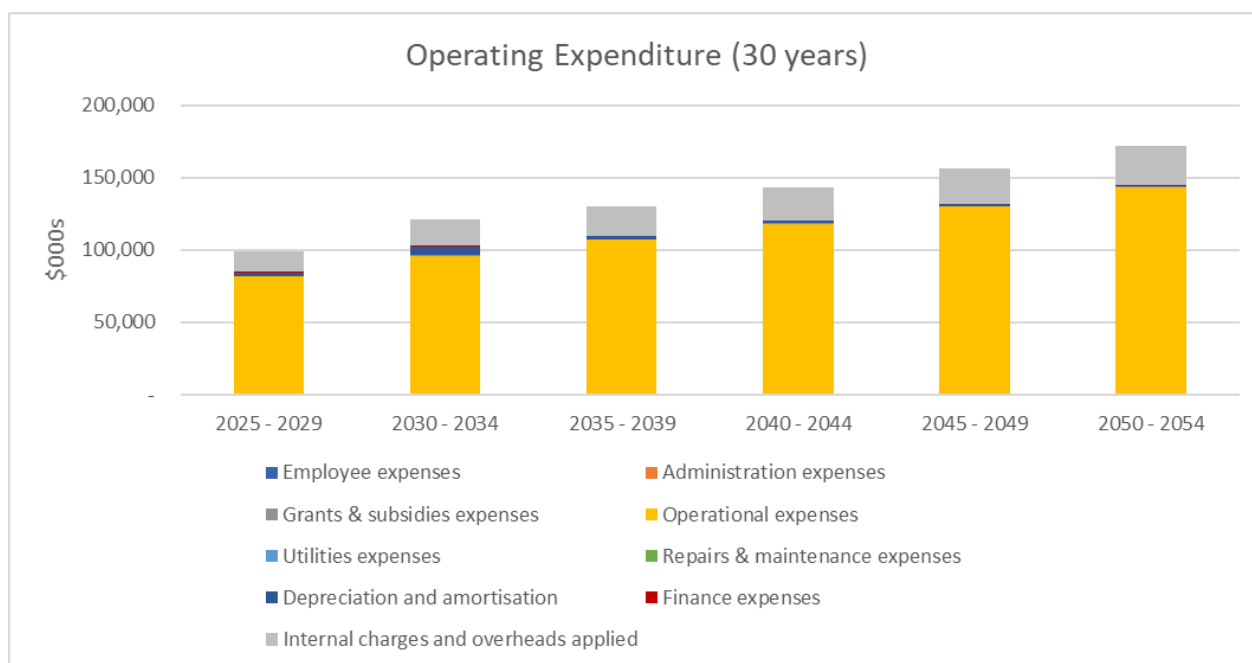


Figure 14: Solid Waste Operating Expenditure – 30 Years

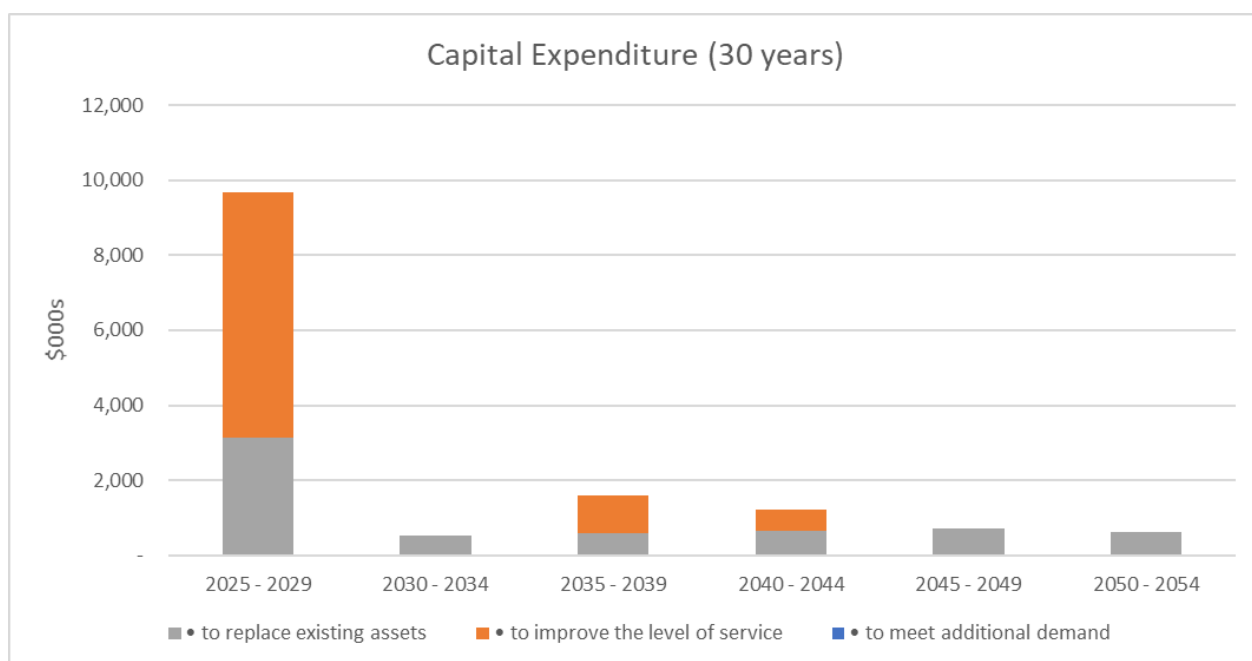


Figure 15: Solid Waste Capital Expenditure – 30 Years

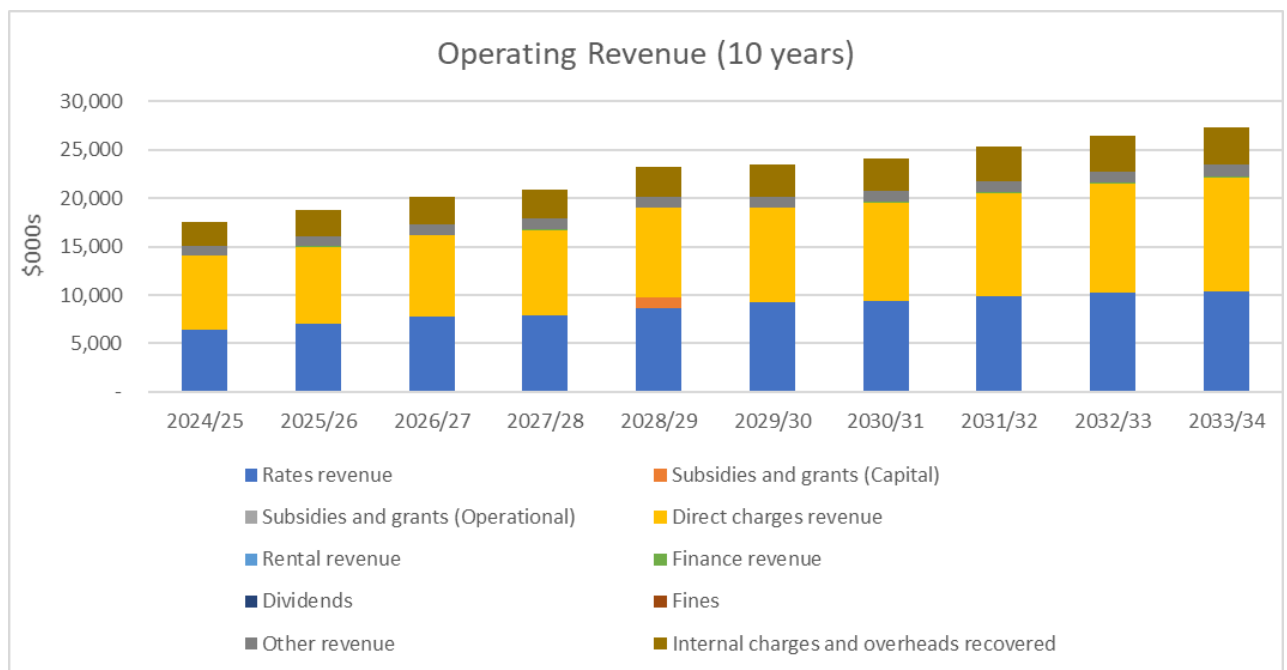


Figure 16: Solid Waste Operating Revenue – 10 Years

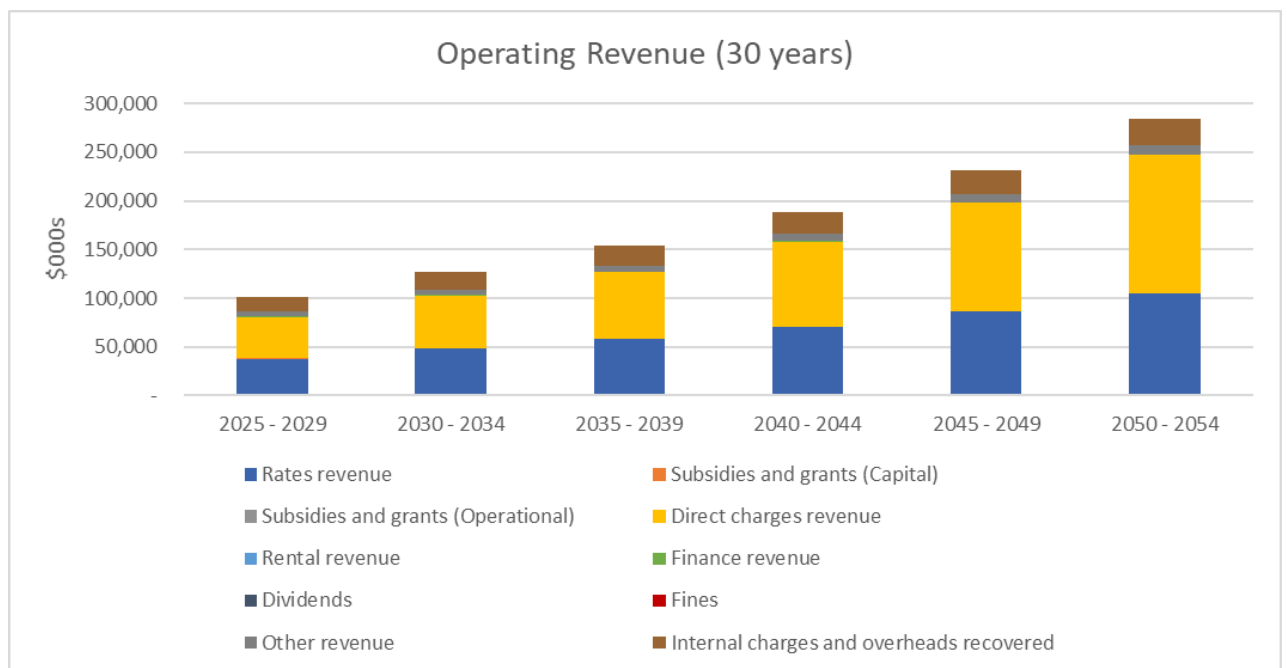


Figure 17: Solid Waste Operating Revenue – 30 Years

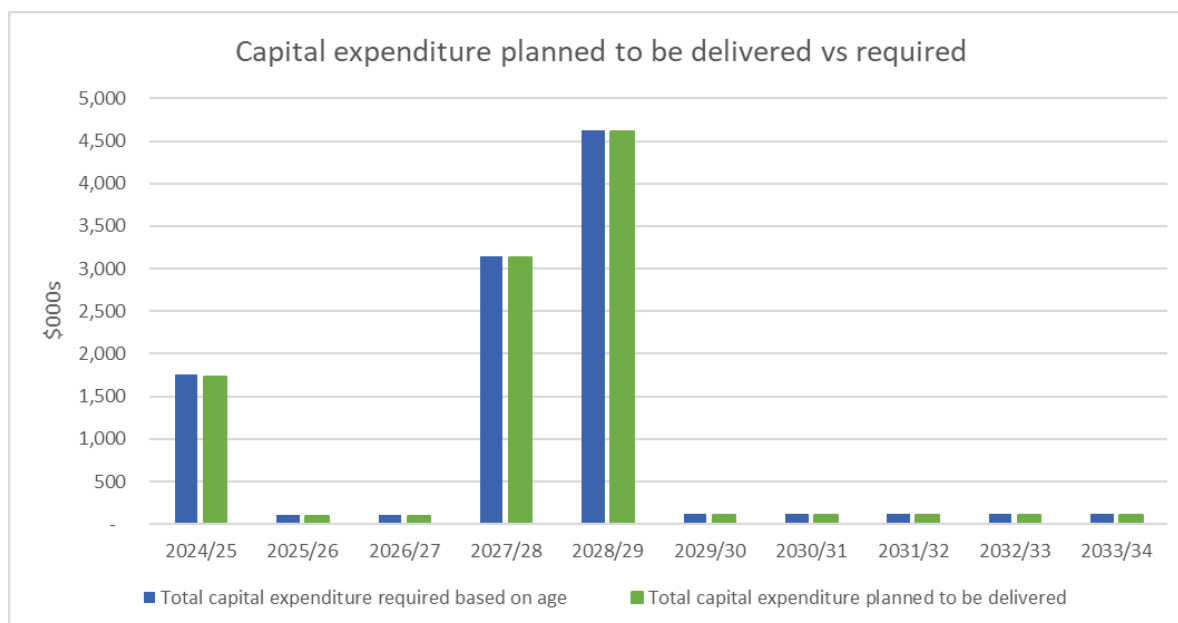


Figure 18: Solid Waste Capital Expenditure Planned to be Delivered vs Required – 10 Years

18.3 Solid Waste – Funding Sources

Activity	SOURCE OF FUNDING				
	User Charges / Fees	Subsidy	General Rate	Targeted Rate	Loans
Operational	✓		✓	✓	
Capital			✓	✓	✓

Table 27: Funding Sources

18.4 National Waste Disposal Levy

A key tool of the Waste Minimisation Act 2008 is the creation of the national Waste Disposal Levy. The WDL is currently set at \$50 per tonne, and will be progressively increased to \$60 per tonne by 2025. Disposal operators must pay the levy based on the weight of the material disposed of at their facility. However, they pass the cost onto the waste producers such as Councils' and businesses.

Half of the levy money goes to Territorial Authorities to spend on waste minimisation activities as per their Waste Management and Minimisation Plan. The remaining levy money (minus administration costs) is put into the contestable Waste Minimisation Fund.

The Ministry for the Environment administers the Levy in accordance with section 30 of the Waste Minimisation Act 2008. Council receives quarterly payments from the

Ministry. The funding is used to subsidise the ratepayer costs associated with the Kerbside Recycling Collection Service.

19. APPENDICES

Appendix A - New River Estuary Landfill Post Closure Management Plan March 2011 (A2024704)

Appendix B - Bluff Closed Landfill Post Closure Management Plan October 2007 (A2024696)