

**8.10 WASTE MINIMISATION**  
**HE PARAWHAKAKINO**

A photograph of three children playing on a tire swing in a park. The swing is made of a large black tire hanging from a tree branch. One child is sitting on the tire, another is leaning over them, and a third is holding the rope. The background shows green trees and a grassy area.

waste not  
want not

### ■ 8.10 WASTE MINIMISATION

In recent years, the issue of what to do with our waste has been gaining prominence. Solid waste is material that is perceived to have no further use and which is disposed of in the environment. Council aims to encourage the efficient use of resources by residents, in order to minimise the amount of waste that is produced. By reducing our resource consumption and reusing products, we can minimise the amount we need to recycle or dispose of and ultimately the waste we generate.

Landfilling is the most common method of disposing of solid waste from Hamilton, as it is elsewhere in New Zealand. Dealing with solid waste this way is problematic because of the need to find suitable land and the potential adverse environmental effects to soil, air and waterways. The best way to reduce the need for new landfill sites is to decrease the amount of waste that we need to dispose of, by reducing the volume of waste we produce, purchasing low waste products, or diverting waste for re-use, recycling or recovery.

Hamilton residents responded positively to the introduction of kerbside recycling bins in 2002, with 90% of households now regularly recycling. This is a good indication of people's desire to reduce their waste production; however there is still room for improvement. Currently around 48% of Hamilton's residential waste and 26% of business waste is made up of organic matter, which could be disposed of in a more environmentally sustainable way.

The recently introduced Waste Minimisation Act 2008 encourages a reduction in the amount of waste we generate and dispose of and aims to lessen the environmental harm of waste. The Act, which introduces a waste minimisation levy, will have significant impacts on how waste is managed and minimised in the city. The levy will apply a charge per tonne on all waste disposed of to landfill. 50% of the funds from the levy will be redistributed to local councils, whilst the remaining 50%

(less administration costs) will be held as a contestable National Waste Levy Fund. All levy monies distributed are only to be used for the purpose of encouraging and achieving waste minimisation.

Long-term strategies for managing refuse and recycling services are reflected in Council's Waste Management Plan 2004-2010. This plan was developed by an industry working committee and embraces the guidelines set out in the Ministry for the Environment's New Zealand Waste Strategy 2002. The plan sets aspirational targets to encourage and promote waste minimisation. The Waste Minimisation Act 2008 requires Council to undertake a comprehensive review of the Waste Management Plan and to update the targets by 2012.

Council intends that it be the advocator and facilitator for managing waste within its district and/or service provider in meeting current and future service demands for residential solid waste services within Hamilton.

Council's Waste Minimisation Activity Group includes the following activity:

#### Refuse and Recycling

Council provides a weekly refuse and recycling service to over 50,000 residential properties within the city. (This service is not provided to inner city apartments or the commercial and industrial sector.) Refuse is disposed of outside the city boundaries to a landfill at Hampton Downs, as there are no operating landfills within the city. Council is also responsible for ensuring that closed landfills sites at Rototuna, Cobham Drive, Willoughby and Horotiu are managed to mitigate adverse effects on the environment and public health.

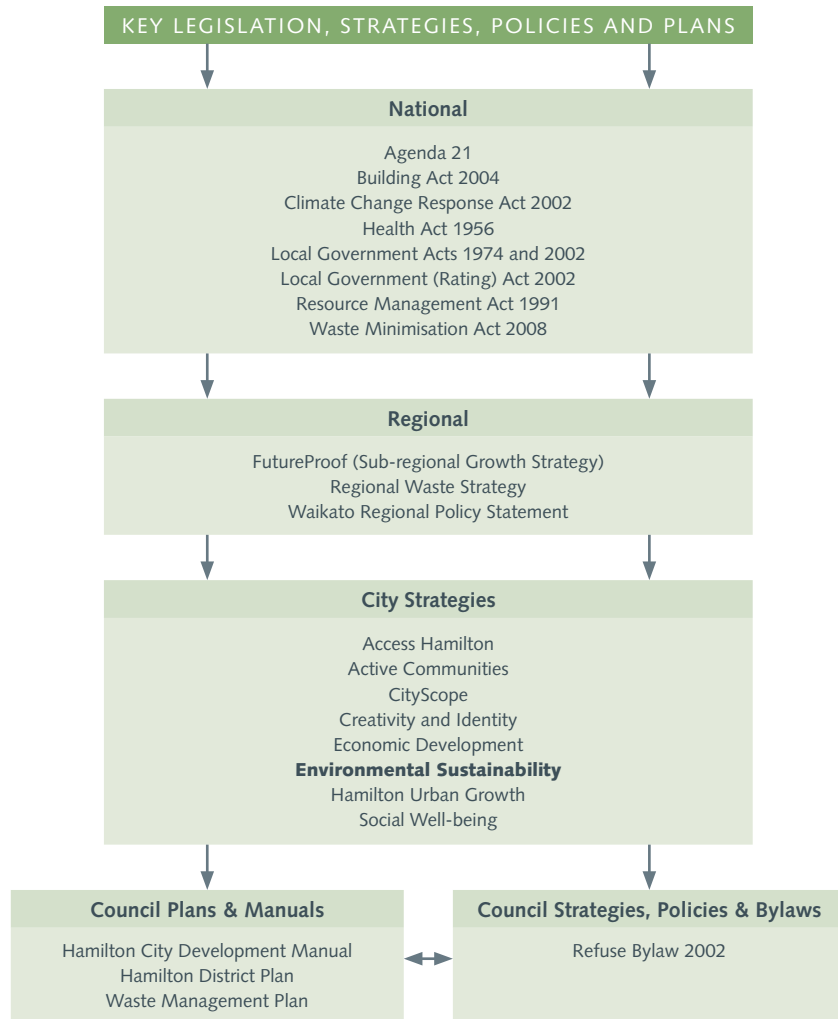
Recyclable materials collected are on sold in the world market by the Council contractor to help offset the cost of the service.

The Refuse Transfer Station and Recycling Centre and the green waste composting facilities at the Hamilton Organic Centre are owned by Council and the operations are contracted to privately-owned business.

As part of this activity information is readily available to the public about ways in which they can reduce the waste they produce, re-use, recycle, and recover solid waste.

**■ POLICY AND PLANNING CONTEXT**

Council's planning and operating environments are shaped by a wider context of national, regional and city wide priorities and objectives. The following diagram identifies the key legislation, strategies, policies and plans that link to and provide direction for the Refuse and Recycling Activity.



**■ REASON FOR PROVIDING THIS ACTIVITY GROUP**

A suitable waste collection and disposal system and recycling service is essential for maintaining public health and minimising effects on the environment. Providing refuse and recycling services helps create a healthy environment for people to live, work and visit, and contributes to keeping Hamilton's air, soil and water free from pollution. If waste is not effectively managed it can create a range of adverse environmental and human health effects, undermining our ability to live more sustainably.

The Health Act 1956 also requires Council to ensure solid waste collection is available for residents, and that closed landfills are managed in a way that reduces any potential environmental impacts.

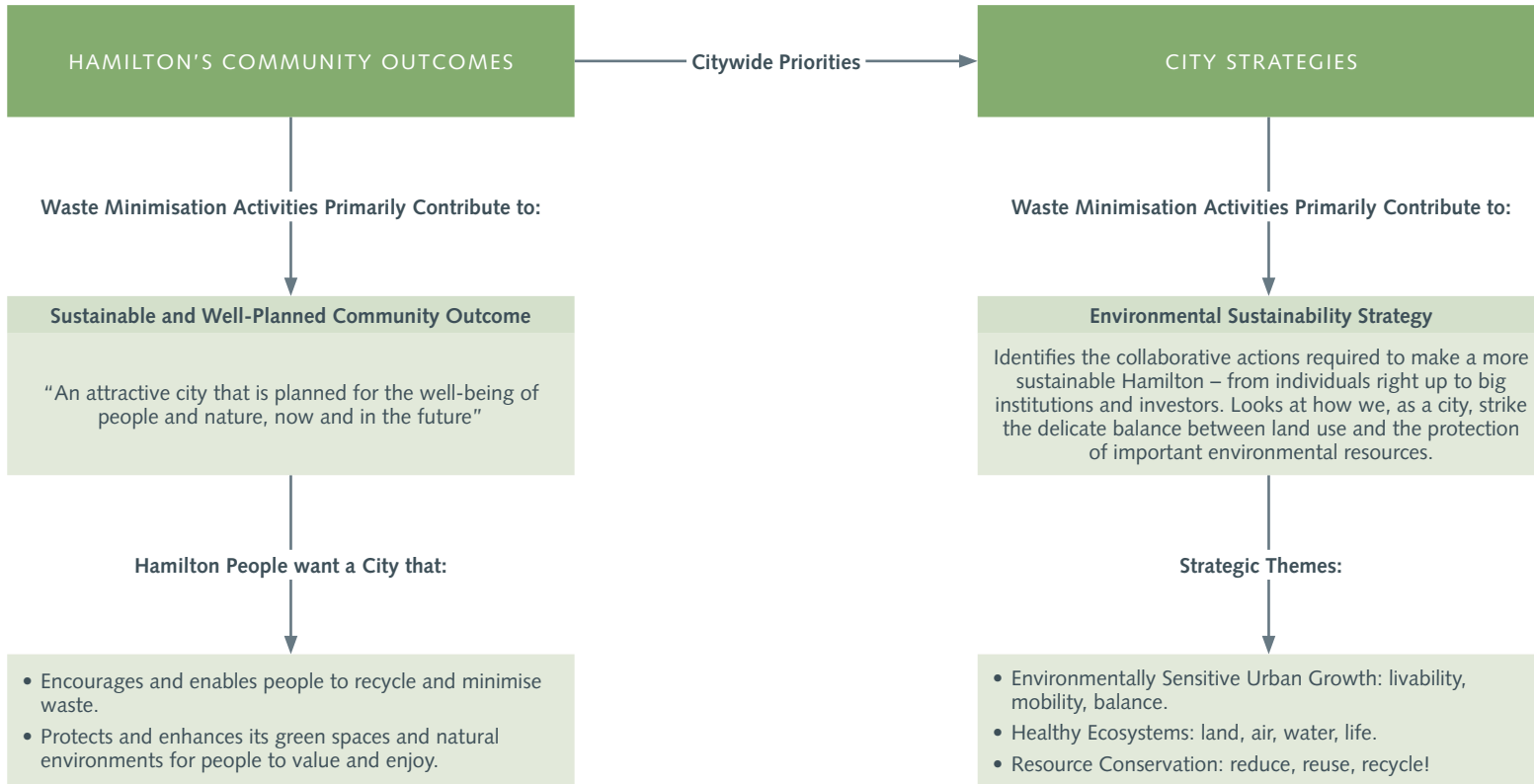
The Waste Minimisation Act 2008 will further shape the solid waste industry within New Zealand. The Act introduced a waste levy payable on all waste disposed of to landfill. The funds collected are redistributed to local councils and a National Waste Levy Fund for use in encouraging and achieving waste minimisation.

The targets for waste reduction for the city and the ways in which solid waste will be managed are outlined in Council's Waste Management Plan 2004-2010, which is required under the Waste Minimisation Act 2008.

Council's Waste Minimisation Activity Group primarily contributes to the 'Sustainable and Well-Planned' Community Outcome and the Environmental Sustainability Strategy. This Community Outcome and Strategy recognise waste generation and management as an important issue to be considered as our city continues to grow and develop.

“90% of Hamilton households regularly recycle”

■ CONTRIBUTION TO HAMILTON'S COMMUNITY OUTCOMES AND THE CITY STRATEGIES



## HOW THE REFUSE AND RECYCLING ACTIVITY CONTRIBUTES TO HAMILTON'S COMMUNITY OUTCOMES

The recycling and refuse systems are designed and managed for long-term sustainability. Council aims to reduce long-term costs and enhance environmental quality through providing this service to residents within the city.

Council provides refuse and recycling services that are well managed and utilised to assist in the protection of public health, as required under the Health Act 1956.

Council contributes to the management of solid waste from its source through to disposal. In doing this Council recognises solid waste as a resource which can be reduced, reused, recycled and recovered, and works to promote and encourage minimisation of solid waste, including provision of services for solid waste to be disposed of appropriately. By providing these services Council helps to minimise the amount of waste that is inappropriately disposed of throughout and beyond the city.

The Refuse Transfer Station and Recycling Centre and closed landfills are managed so that they do not significantly contribute to air pollution, including odours, ground water pollution, and do not cause excessive noise from machinery or other operations.

“Council provides a weekly refuse and recycling service to over 50,000 residential properties”

## CITY STRATEGY FLAGSHIP PROJECTS

The City Strategies contain what are known as ‘flagship projects’. These projects have been agreed to by and are in alignment with the work programmes of a number of stakeholder agencies across the city. Flagship projects from the Environmental Sustainability Strategy that Council has a role in are:

### Back to Earth – Organic Waste Reduction:

Approximately 48% of all household refuse and 26% of commercial waste going to landfill is organic and could otherwise be composted. Back to Earth will investigate new ways to significantly reduce organic waste going to landfill. Commercially viable organic recycling and composting ventures will be vital to diverting organic waste. In this industry volume is key – so Council will consider opportunities to work with other councils in the region. Environment Waikato will work closely with the waste industry and major waste suppliers to ensure their support. This regional approach will be used to submit a collaborative bid to the National Waste Levy Fund.

### Hamilton East Eco-Suburb:

The Eco-suburb concept emphasises working collaboratively with neighbourhoods to improve environmental well-being at a suburban level. Enviro-schools will play a central role in facilitating a number of schemes. They will be assisted by Environment Waikato, Council's Walking School Bus programme, and Waimarie Hamilton East Community House and Garden. Schemes will include trialling a fruit tree planting programme along school routes; developing community produce gardens; and active coaching by students in areas such as composting, worm farming, organised planting and resource savings.

### MEASURING PROGRESS TOWARDS HAMILTON'S COMMUNITY OUTCOMES

Progress towards Hamilton's Community Outcomes is monitored through a selection of indicators. Indicators provide ways in which we can measure, directly or indirectly, changes to social, environmental, economic and cultural well-being over time. They provide a picture of what is going on around us that we can use to guide our future planning. Indicators can assist in identifying areas where progress is being made towards the Community Outcomes and alert us to areas that require action.

Council is one of numerous organisations whose actions and direction assist in progressing the outcomes and overall community well-being. The following Community Outcomes Progress Indicators (drawn from the full outcome set – refer Section 3.4) will assist in demonstrating the effect that the Refuse and Recycling Activity Group has on progressing Hamilton's Community Outcomes. The monitoring undertaken for these indicators will be reported each year in Council's Annual Report.

**Key:**

- M** = Moderate Contribution
- S** = Significant Contribution
- O** = Council is the only Provider

**Community Outcomes Progress Indicators:**

- S** Waste per person from the household kerbside collection.
- S** Recyclables per person from the household kerbside collection.
- M** Materials collected for re-use/recycling at Hamilton's Refuse Transfer Station.
- M** Waste diverted from landfill via the Hamilton Organic Centre.

### MEASURING SERVICE DELIVERY PERFORMANCE

This section includes the intended levels of service for the Refuse and Recycling Activity and the performance measures and targets that Council will use to monitor service delivery performance. The levels of service, performance measures and targets represent Council's service commitments to the community and outline what the community can expect to receive from this Activity Group over the 10 year period of the LTCCP.

The levels of service focus on the key service delivery attributes of this Activity Group. They draw on a number of factors including the aspirations and goals of Hamilton's Community Outcomes and the City Strategies, legislative requirements and national objectives, national and industry standards and community expectations.

This Activity Group primarily contributes to the 'Sustainable and Well-Planned' Community Outcome. The levels of service that specifically contribute towards progressing the goals of these outcomes are identified by the following key.

<p><b>Sustainable and Well-Planned Community Outcome</b></p> <p><b>"An attractive city the is planned for the well-being of people and nature, now and in the future"</b></p>	
<b>1</b>	Encourages and enables people to recycle and minimise waste.
<b>2</b>	Protects and enhances its green spaces and natural environments for people to value and enjoy.

Performance information is provided in detail for the first three years of the LTCCP and in outline for the remaining seven, through a projected target for year 10 (2018/19). Unless otherwise stated, all performance measures will be completed on or before 30 June for each financial year.

A number of performance measures and targets are from Council's Residents Survey and Customer Surveys. The Introduction to the Activity Groups (Section 8.1) provides information on these surveys, including explanations of the performance scores and categories.

KEY SERVICE ATTRIBUTES	LEVELS OF SERVICE	PERFORMANCE MEASURES	TARGETS					ADDITIONAL INFORMATION
			BASELINE	YEAR 1 2009/10	YEAR 2 2010/11	YEAR 3 2011/12	PROJECTED YEAR 10 2018/19	
Quality	Household refuse and recycling collections are reliable. <b>1</b>	Residents' satisfaction with:	2007/08 result:					Measured through Council's Residents Survey. A score of 79 or above indicates Exceptional Performance for a 'no customer choice' service.
		• Household recycling collection	Exceptional performance (score of 84.5)	79 or above	79 or above	79 or above	79 or above	
		• Household refuse collection	Exceptional performance (score of 84.4)	79 or above	79 or above	79 or above	79 or above	
Responsiveness	Requests for service are responded to promptly. <b>2</b>	Percentage of requests relating to non-collection of household refuse resolved within 24 hours.	2007/08 result: 94.3%	95%	95%	95%	95%	These measures are important as the non-collection of refuse and recyclables may pose a health risk and be unsightly.
		Percentage of requests relating to non-collection of household recyclables resolved within 24 hours.	2007/08 result: 89.2%	90%	90%	90%	90%	
Sustainability	Adverse effects of waste on the environment are managed. <b>2</b>	High level of compliance with resource consent conditions.	2007/08 result: High level of compliance	High level of compliance	High level of compliance	High level of compliance	High level of compliance	The level of compliance is measured by Environment Waikato. A high level of compliance means that there has only been a low priority non-compliance; and/or there have been several minor technical non-compliances.

### ■ SIGNIFICANT NEGATIVE EFFECTS

Effects on the current and future well-being of the community are an important consideration for Council when planning and carrying out its activities. As well as having positive effects, some activities can have either existing or potential negative effects on social, economic, environmental or cultural well-being that need to be managed or mitigated.

Negative effects often occur when there are competing priorities or objectives and high demand for resources. For example, disposing of waste in landfills provides a useful service to residents in the city, but will inevitably have environmental consequences. Council aims to find a balance that is acceptable to the community and provides for the well-being of current and future generations and the city's ongoing sustainable development.

The following table identifies the *significant* existing or potential negative effects for the Refuse and Recycling Activity. The significance of an effect is determined through its likely impact on and consequences for:

- a) The current and future social, economic, environmental, or cultural well-being of the city.
- b) The extent to which communities are likely to be affected.
- c) The capacity of Council to perform its role, including financial and other costs.

SIGNIFICANT NEGATIVE EFFECTS		HOW COUNCIL MITIGATES OR MANAGES THE EFFECTS
Potential for Pollution	Gas or leachate from landfills or trade waste from the Refuse Transfer Station polluting the natural environment and entering natural watercourses.	The landfill has gas and leachate collection and treatment systems. Trade waste is collected at the Refuse Transfer Station and disposed of via the wastewater network. Landfill gas is captured and converted to energy.
Cultural Implications for Maaori	Recycling and refuse activity practices may contradict Maaori cultural beliefs or practices.	Council consults with local tangata whenua regarding recycling and refuse activity management as part of the resource consent processes.
Potential Annoyance	Noise of machinery collecting refuse and recycling or at the Refuse Transfer Station.  Problems at the Refuse Transfer Station and Hamilton Organic Centre associated with odour, dust or pests.  Odour from closed landfill sites.	Contract conditions address operations timeframes to minimise effects of noise. Contactors have management plans and maintenance procedures in place to control nuisance problems. Council complies with resource consent conditions in order to mitigate adverse effects and annoyance.
Potential Economic Costs	Illegal dumping of refuse, public bins overflowing, or litter inadequately controlled.	The Refuse Bylaw 2002 and collection contracts include provisions to minimise the risk of occurrence.

**■ CURRENT AND FUTURE ASSET CAPACITY**

EXISTING KEY ASSETS (AS AT DECEMBER 2008)	
KEY ASSETS	DEPRECIATED REPLACEMENT COST (\$'000)
Refuse and Recycling	
Land	4,434
Refuse Transfer Station	3,186
Landfill Management System	46,678
<b>Total Depreciated Replacement Cost</b>	<b>54,298</b>

**MAINTENANCE AND REPLACEMENT OF ASSETS**

Council's objective when maintaining existing assets is to achieve the lowest whole of life cost, while still delivering the required levels of service. Annual programmes for the maintenance, renewal and replacement of assets are prepared by staff using a combination of asset age and condition information, customer feedback and maintenance records. Councils Water Unit determines the programme of work and contacts out design and physical works to ensure that Council obtains the best value for money.

Horotiu closed landfill has an existing maintenance and renewal programme in place. A review of this programme is underway to ensure the lowest whole of life cost for assets is achieved.

Capital works to establish gas and leachate control systems at the Willoughby closed landfill are scheduled to be implemented in 2009/10 in accordance with resource consent conditions obtained in 2008. A renewal programme will be developed to maintain the system once designed and installed.

Rototuna closed landfill requires additional capital works to mitigate actual and potential environmental effects.

Cobham Drive landfill does not have significant assets that require maintenance or renewal.

Maintenance and asset renewals at the Refuse Transfer Station and the Hamilton Organic Centre are the responsibility of the current lease holders.

**ADDITIONAL ASSET CAPACITY REQUIREMENTS**

The Waste Minimisation Act 2008 requires Council to conduct an assessment of existing waste management facilities and services and to plan for future demand requirements. As an outcome of the review, Council will identify further asset requirements to support waste minimisation. Where additional assets are required Council's Water Unit will determine the programme of work and contract out design and physical works to ensure that Council obtains the best value for money.

Council has identified that further assets are required for the Willoughby closed landfill and the Rototuna closed landfill to ensure potential and actual adverse environmental effects are mitigated. Acquisition of these assets will be funded through general rates.

As part of the Back to Earth project a review will be undertaken to assess the need for an organic waste recovery site in addition to the Hamilton Organic Centre. If further assets are identified as being needed under this review, funding will be sought via the National Waste Levy Fund.

**■ COST OF SERVICE FOR THE YEARS ENDED 30 JUNE 2010 – 2019**

The following table identifies the forecast expenditure and the revenue sources associated with providing the Refuse and Recycling Activity for the 10 year period of the LTCCP.

The table also includes:

- 1 Capital expenditure by type i.e. growth, renewal and increased level of service.
- 2 Funding source (i.e. loans, subsidies, reserves or rates) for significant assets associated with the Refuse and Recycling Activity.

## FORECAST COST OF SERVICE FOR THE TEN YEARS ENDING 30 JUNE 2010 – 2019

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
<b>GROUP OF ACTIVITY – OPERATING STATEMENT</b>										
<b>OPERATING REVENUE</b>										
Activity revenue – User charges and fees	919	933	959	985	1,011	1,038	1,065	1,095	1,127	1,157
General rates	4,443	4,908	5,181	5,592	5,950	6,223	6,763	7,090	7,560	8,079
Other general sources	501	535	548	562	575	582	593	607	620	637
<b>Total operating revenue</b>	<b>5,863</b>	<b>6,376</b>	<b>6,688</b>	<b>7,139</b>	<b>7,536</b>	<b>7,843</b>	<b>8,421</b>	<b>8,792</b>	<b>9,307</b>	<b>9,873</b>
<b>OPERATING EXPENDITURE</b>										
Refuse and Recycling	5,937	6,122	6,420	6,725	6,988	7,333	7,648	7,880	8,257	8,595
<b>Total operating expenditure</b>	<b>5,937</b>	<b>6,122</b>	<b>6,420</b>	<b>6,725</b>	<b>6,988</b>	<b>7,333</b>	<b>7,648</b>	<b>7,880</b>	<b>8,257</b>	<b>8,595</b>
<b>Operating surplus/(deficit)</b>	<b>(74)</b>	<b>254</b>	<b>268</b>	<b>414</b>	<b>548</b>	<b>510</b>	<b>773</b>	<b>912</b>	<b>1,050</b>	<b>1,278</b>

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
<b>GROUP OF ACTIVITY – CAPITAL AND RESERVES FUNDING STATEMENT</b>										
<b>CAPITAL EXPENDITURE</b>										
Growth	0	0	0	0	0	0	0	0	0	0
Increased level of service	279	503	167	148	77	39	140	29	16	26
Renewal	515	270	271	276	314	322	409	391	406	442
<b>Total capital expenditure</b>	<b>794</b>	<b>773</b>	<b>438</b>	<b>424</b>	<b>391</b>	<b>361</b>	<b>549</b>	<b>420</b>	<b>422</b>	<b>468</b>
Loan repayments	176	391	409	452	422	439	412	456	521	583
Transfers to reserves	569	588	603	696	739	779	832	882	1,001	1,097
Operating deficit	74	0	0	0	0	0	0	0	0	0
<b>Total funding required</b>	<b>1,613</b>	<b>1,752</b>	<b>1,450</b>	<b>1,572</b>	<b>1,552</b>	<b>1,579</b>	<b>1,793</b>	<b>1,758</b>	<b>1,944</b>	<b>2,148</b>
<b>Funded by:</b>										
Operating surplus	0	254	268	414	548	510	773	912	1,050	1,278
Funding from non-cash expenses	180	258	268	282	297	298	315	332	343	362
Loans raised	201	419	80	69	39	20	61	12	6	10
Transfers from reserves	480	452	444	476	412	479	516	447	521	560
<b>Total funding applied</b>	<b>861</b>	<b>1,383</b>	<b>1,060</b>	<b>1,241</b>	<b>1,296</b>	<b>1,307</b>	<b>1,665</b>	<b>1,703</b>	<b>1,920</b>	<b>2,210</b>
<b>Funding surplus/(deficit)</b>	<b>(752)</b>	<b>(369)</b>	<b>(390)</b>	<b>(331)</b>	<b>(256)</b>	<b>(272)</b>	<b>(128)</b>	<b>(55)</b>	<b>(24)</b>	<b>62</b>
Included in the group of activity expenditure above are these costs of maintaining assets	167	170	174	179	184	189	194	199	205	210

Group of activity expenditure is not fully funded. See section 2.2 of the Revenue and Financing Policy in Volume Two of this LTCCP for an explanation of the funding shortfall. 'General rates' funding above includes rates from all sources excluding Access Hamilton and water rates which are shown separately where applicable.