

HAMILTON CITY COUNCIL BUSINESS CASE SUMMARY

Summary

Business Case Name Rubbish and Recycling Service Change

Business Case Type (choose from list) Full

Business Case Focus (choose from list) Exploit opportunity

Risk Rating (circle from list) High

Financial Commitment \$92.7 million excluding inflation

PIF No. (from LTP)/or related SAP No. N/A

a) Capital: Nil

b) Annual Net Operating Costs: \$92.7 million from 2016/17 to 2028/29, excluding inflation

| | \$(000's) |
|---|-----------|
| 2016/29 net budget ¹ | 71,289 |
| 2016/29 proposed net expenditure ² | 92,714 |
| Unfunded | 21,425 |

Executive summary

Council has a plan to build a stronger economy and a more attractive city for families. Underpinning a successful city are sanitary services. This business case proposes to improve rubbish and recycling services, one of the most basic of sanitary services Council provides.

In 2012, Council engaged with the community to develop a Waste Management and Minimisation Plan (WMMP). This Plan holds the vision that was requested by the community “to become recognised as a national leader in the minimisation of waste and ensure that innovative and sound waste management practices underpin the city’s environment, social, economic and cultural well-being”.

In June 2019, Council’s 17-year service contract for the provision of rubbish, recycling and refuse transfer station services comes to an end. This provides Council with the opportunity to review the current service against future needs to determine the best service option.

The purpose of this business case is to determine and recommend the best rubbish and recycling solution for the city, by meeting the following outcomes:

1. To provide an efficient and effective service for the customer.
2. To obtain the best long-term value for money for the community.
3. To maximise waste diversion.

Opportunities for Council to change

Should Council choose to improve the service, there are opportunities to be gained including:

- reputational: opportunity to provide a service which is leading

¹ The budgets within the 2015 10-Year Plan have been extrapolated to 2029 to enable comparison.

² Total proposed net expenditure includes income and service delivery expenditure for the current contract, during the period of 2016/17 to 2018/19.

- environmental: opportunity to maximise waste diversion
- health and safety: opportunity to minimise risks and hazards for those who collect and manage waste
- economic: opportunity to reduce the cost of rubbish and recycling services for the community
- financial: opportunity to reduce the financial risk to Council and to provide cost-effective services to other units of Council
- infrastructure investment: opportunity to maximise the use of existing assets
- beautification: opportunity to reduce the amount of litter.

Proposed kerbside service change

The proposed kerbside service is expected to obtain a waste diversion rate of 50 per cent, by collecting:

- aluminium, cans, all plastics (excluding film and polystyrene) and paper in a 240 litre (L) wheeled bin; and glass in the existing recycling crate. This service will be collected fortnightly.
- food in a 23L food bin, with a 5L kitchen caddy, collected weekly
- rubbish in a 120L wheeled bin, collected weekly.



Figure 1: Rubbish and recycling containers for the proposed service

Additional kerbside services include:

- assisted collections to help physically impaired or elderly residents
- bespoke services for intensification areas that cannot be serviced effectively through a kerbside collection service

The cost of the proposed service for the average owner-occupied household will be the same as the existing service, as they no longer have to purchase black bags.

Proposed city wide services

In the 10-Year Plan, there is no capital funding available to make the improvements required to maximise possible waste diversion at the refuse transfer station and provide efficiencies to the organic centre. It is proposed to obtain these improvements through contractor investment in the sites.

Cost comparisons

- The modelling indicates that the continuation of the current service will cost an additional \$1 million in 2019/20 (when compared to the 10-Year Plan budget). This equates to a rate increase of 0.9 per cent to general residential properties.
- The proposed service will cost Council an additional \$2.1 million in 2019/20 (when compared to the 10-Year Plan budget). This equates to a rate increase of approximately 1.8 per cent to general residential properties.

Container costs

The proposed service requires the purchase of a 120L wheeled bin for rubbish, a 240L wheeled bin for recycling and a 23L bin and kitchen caddy for food recycling. The total cost of purchasing these containers is \$7.4 million. Council has allocated in the 10-Year Plan \$2.9 million for the purchase of containers in 2017/18, which will need to be deferred to 2018/19. The remaining \$4.5 million of funding can be provided by

- Council purchases and funds via a targeted rate of approx. \$22.50 per year for four years, or
- Council purchases and funds via the general rate, or
- the contractor purchases and recovers costs through contract rates throughout the term of the contract.

Over time the cost of the proposed service and that of the existing service become similar (it is estimated that they will be the same by 2025, after which the proposed service will become cheaper when compared to the existing service), this is due to forecasted increases in the Emissions Trading Scheme and Waste Disposal Levy.

Leading up to the commencement of the new contract there are unbudgeted costs that are required to support this service change, these costs include:

- Provision of amenity services in the university areas.
- New staff members. Two new staff members are proposed, an additional waste minimisation officer and an additional compliance officer.
- Procurement costs. These costs include consultant support to develop tender documents, legal review, probity auditor, housing review and call centre support.

Funding

The preferred option is to continue to fund the service through rates, with funding also sourced from the waste levy and lease revenue from the refuse transfer station and organic centre.

Impact on Councils debt

At the end of the contract term, the proposed service will increase Council's debt by \$28 million and create a 10 per cent change to Council's debt to revenue ratio. However it will have minimal effect (\$4 million reduction) on the forecasted surplus for that year.

Procurement

In order to ensure a contractor is available to provide the service on 1 July 2019, procurement of a contractor needs to commence now. Following the tender process, the engagement of the contractor will occur in late 2017, providing an 18-month lead time to procure the necessary containers, facilities, trucks, etc.

Conclusion

The proposed service provides the best long-term solution to the community by reducing the amount of rubbish to landfill. The proposed service will cost \$1.2 million more in 2019/20 than the forecasted cost of the existing service; however, for the average householder it is expected that there will be no change in cost, as bags no longer need to be purchased.

Council, through the introduction of the service, will become a national leader in waste minimisation.

Review / Approval Summary

Prepared By Business Owner _____ Date _____
(Name / Signature of individual)

Reviewed By PMO _____ Date _____
(Name / Signature of individual)

Reviewed By SLT _____ **Date** _____
(Name / Signature of individual)

SLT Decision (choose from list) Refer to Council

Council / Committee Meeting (circle one) Finance **Date** _____

Resolution (adopted following Council/Committee consideration)

HAMILTON CITY COUNCIL BUSINESS CASE DETAILS

1.0 Strategic Case – complete for **ALL** business cases

Ensuring an appropriate strategic fit and making a robust case for change

1.1 Position

Where are we now - what's the issue / opportunity we are trying to address? Where do we want to be? Define clear SMART objectives that can be directly linked to your proposed outcomes (benefits)

Council provides rubbish and recycling service to households (excluding the city centre) through a long-term contract, which is due to expire on 30 June 2019. The expiry of the existing contact provides an opportunity for Council to:

- review and improve the current service
- meet levels of service provided by other city councils
- removal of as much rubbish from landfill as possible (this is referred to as 'waste diversion' in this business case)
- achieve its vision of the Waste Management and Minimisation Plan by becoming a leader in waste minimisation
- address health and safety issues associated with the current services
- provide economic benefit to the community
- reduce financial risk associated with the Emissions Trading Scheme and Waste Disposal Levy
- maximise the use of current infrastructure: refuse transfer station and organic centre
- improve amenity values.

The purpose of this business case is to determine and recommend the best rubbish and recycling solution for the city, by meeting the following outcomes:

1. Provide an efficient and effective service for the customer.
2. Obtain the best long-term value for money for the community.
3. Maximise waste diversion.

Hamilton's 10-Year Plan 2015-2025 includes reference to this business case, as a pre-requisite requirement to any service change that may include the use of wheeled bins and a User-pays rubbish system.

This business case provides the necessary information in order to determine the best outcome for the city. This section summarises the review of the service which has been carried out over the last three years. The review included options for improvement and financial modelling of suite of possible services (Section 2.2). Following sections include:

- Section 1.2: Outcomes.
- Section 1.3: Strategic Alignment.
- Section 1.4: Organisational Context.
- Section 1.5: Organisational Impact.
- Section 1.6: Stakeholders.
- Section 1.7: Scope of the Work.
- Section 1.8a: Quantitative Benefits.
- Section 1.8a: KPI/Target/Frequency of reporting.
- Section 1.9: Qualitative Benefits.
- Section 1.10: Dis-benefits.
- Section 1.10a: Impact on the business.
- Section 11: Opportunities Arising.
- Section 11a: Strategies to Exploit, Enhance &/or Share Each Opportunity.
- Section 1.12: Risks.
- Section 1.12a: Gross Risk Rating.
- Section 1.12b: Risk Trigger Points.
- Section 1.12c: Risk Management Approach.

- Section 1.12d: Residual Risk.
- Section 1.13: Issues.
- Section 1.14: Constraints/Dependencies/Assumptions.
- Section 2: Economic Case.
- Section 2.1: Business Requirements.
- Section 2.2a: Available Options – Long List.
- Section 2.2b: Kerbside Collection Options – Financial Modelling.
- Section 2.3: Preferred Option.
- Section 2.4: Potential Value for Money.
- Section 2.5: Achievability.
- Section 2.6: Affordability.
- Section 3: Commercial Case.
- Section 3.1: Identify the resources required.
- Section 3.1a: Proposed procurement strategy.
- Section 4: Financial Case.
- Section 5: Management Case.
- Section 5.1: Stakeholder Engagement.

Current service and delivery mechanisms

Council currently provides waste services for the majority of the city. This service includes weekly kerbside rubbish and recycling collection, refuse transfer station and an organic centre. The services include:

- 2 x black bags (maximum 20kg weight per bag) per week, General Rate-funded.
- 1 x crate for recycling, with paper separate (customers can purchase a second crate), General Rate-funded.
- Kerbside plastic recycling for category 1 and 2 plastics, General Rate-funded.
- Refuse transfer station, recycling disposal is free of charge, rubbish disposal is User-pays.
- Organic centre, User-pays.

Whilst the service provided can be described as separate components, each component relies on the others to enable success (ie, without the refuse transfer station, the kerbside collection service would not have a bulking point; or without a kerbside recycling service, the amount of rubbish sent to landfill would increase).

The service is provided under contracts and lease agreements, details of which are included in Appendix Section 1.4. These contracts and lease agreements are due to expire 30 June 2019, with the exception of the organic centre lease, which has a right of renewal on 1 July 2018 and expires 30 June 2021.

The expiry of Council's current 10-year contract for kerbside collection services gives Council the opportunity to review and change the services provided and the terms that they are provided on.

Service review

A service review has been carried out for the kerbside collection services as well as the infrastructure services (refuse transfer station and organic centre).

The review has been carried out in two parts:

- Analysis of current services (Eunomia 12 November 2013).
- Benchmarking (February 2016).

Details of both reviews can be found in Appendix Section 23. In summary the findings were that:

- the current services meet Key Performance Indicators (KPIs) and are popular and well-managed
- the vision of becoming a 'national leader' and to be 'world class' are not however being met by current service provision
- if waste management is to progress it will require leadership and infrastructure investment
- the largest opportunity for reduction from kerbside waste is through targeting food waste
- the kerbside refuse service is efficient, reasonably popular, and effective at driving waste minimisation and

constraining the private collection market

- there may be health and safety collection issues with the kerbside bag service that require careful consideration
- kerbside recycling levels have remained static over time
- the refuse transfer station is a strategic facility, but it is at maximum capacity. It will require capital investments to obtain any increase in waste minimisation
- the organic centre provides a useful local option for green waste drop-off and processing, but is at maximum capacity. It will require capital investment to increase capacity.

Benchmarking

In February 2016, a benchmarking exercise was carried out to determine what services the 16 city councils in New Zealand (including Hamilton) are provided to their communities. The most common services are User-pays bagged rubbish and wheeled bins for recycling.

Table 1: National Benchmarking of city council-provided services

| | No. of city councils |
|--|---|
| Service | |
| Provided by council contractor | 15 (Tauranga and Upper Hutt contracted rubbish collection only) |
| Service provided in-house | 1 (Palmerston North) |
| Services <u>not</u> provided by council: | |
| • rubbish | nil |
| • recycling | 2 (Tauranga and Upper Hutt) |
| Rubbish collection containers used | |
| Bags | 13 |
| Wheeled bins | 3 |
| Recycling collection containers used | |
| Crates | 5 |
| Wheeled bins | 7 |
| Bags | 2 |
| Funding of rubbish collection service | |
| Rates | 4 |
| User-pays | 11 |
| Rates + User-pays | 1 (New Plymouth) |

The Ministry for the Environment also carries out bi-annual surveys of all territorial authorities in New Zealand to understand the different types of infrastructure and services provided. The 2013 results can be found at <http://www.mfe.govt.nz/publications/waste/territorial-authorities-waste-infrastructure-and-services-survey>.

There is no defined national or international best practice for kerbside collection; Councils nationally use a range of containers and funding mechanisms. However, Hamilton City is one of a small minority of councils still only collecting grade 1 and 2 plastics: nationally, most councils collect all plastics. Christchurch has traditionally been a leader in waste minimisation, and has provided a three-wheeled bin service (rubbish, recycling, garden and food) for many years. Auckland is rolling out a new city-wide service, which includes User-pays rubbish wheeled bins; a wheeled bin for recycling; and a bin for food collection.

City-wide infrastructure – refuse transfer station and organic centre

Other services provided by Council (through lease agreements) include the refuse transfer station and organic centre. There are no national or international best practice kerbside collection services; some councils provide this service, whilst others rely on the private sector.

City-wide infrastructure can complement kerbside collections and maximise waste diversion through the introduction of waste recovery networks, localised transfer stations, green waste and food composting facilities, and leading technologies such as nappy composting.

Both the Hamilton refuse transfer station and organic centre are operating at maximum capacity and site constraints at both sites currently restrict any potential to improve waste diversion. There is opportunity to improve these sites through a new contract, utilising funding from Council, contractor, or both.

Current waste diversion

Waste diversion is the removal of recyclable or reusable items from rubbish. National leaders in waste minimisation are currently achieving approximately 50 per cent waste diversion at the kerbside. Christchurch currently achieves 48 per cent and Auckland (with its new service of recycling, User-pays rubbish and food collections) is aiming for greater than 50 per cent. Hamilton’s diversion rate is 28 per cent.

The expiry of the existing contact provides an opportunity for Council to review and improve the current service and at least meet levels of service provided by other metro councils. More importantly, Council could achieve its vision of the Waste Management and Minimisation Plan by becoming a leader in waste minimisation by implementing leading collection methods.

Figure 2 shows the amount of rubbish and recycling collected from cities around New Zealand. The percentage of waste diverted has been calculated using information received from the respective council officers..

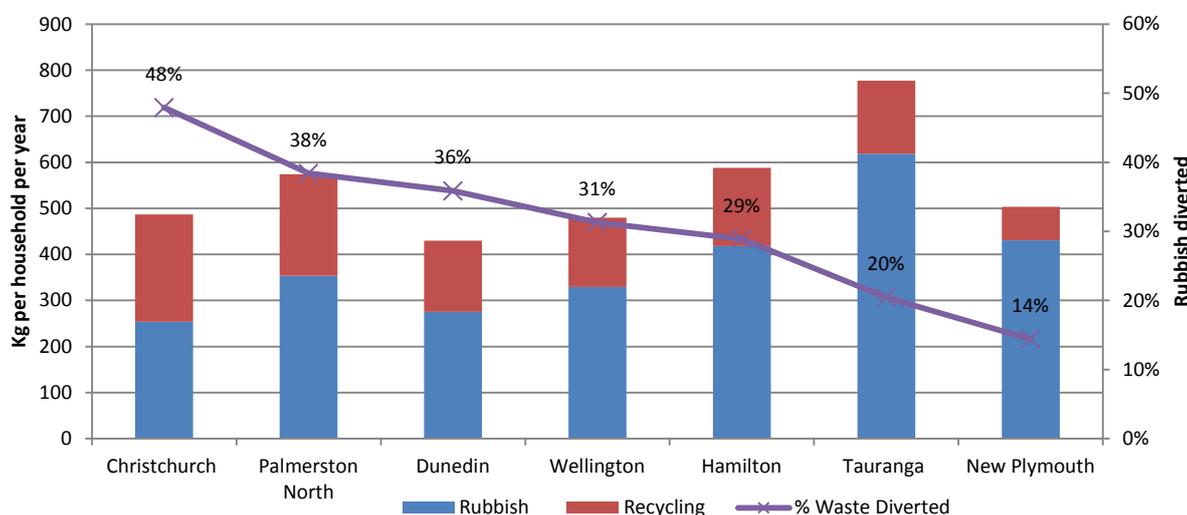


Figure 2: Kerbside rubbish and recycling comparison with other councils

Service networks

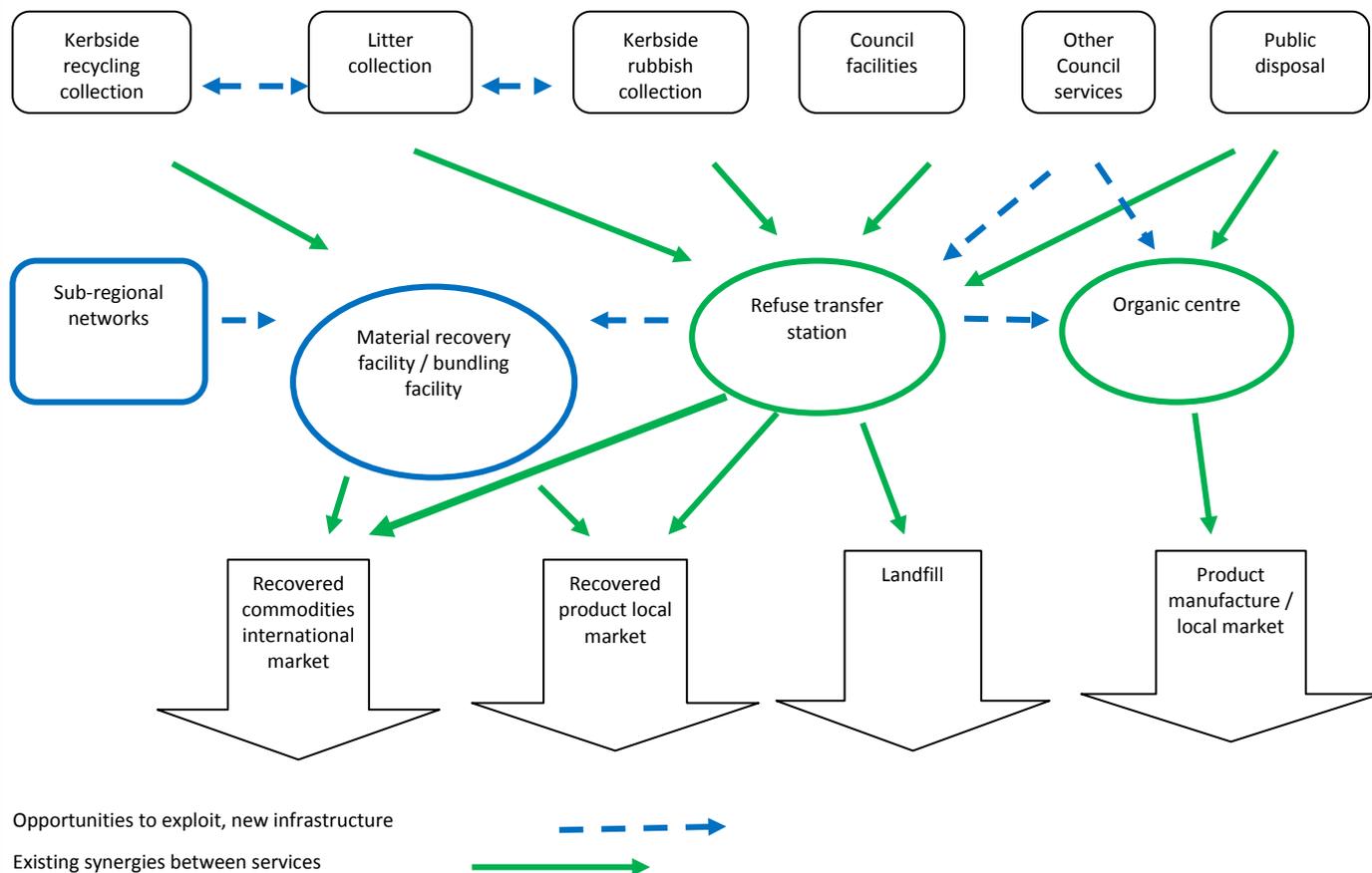
Rubbish and recycling is not just about the kerbside and city infrastructure services that are provided by City Waters. A number of other units provide services which either support or are dependent on services provided by City Waters:

- City Transportation and the Infrastructure Alliance provide litter collection services which include tidying up the streets after the kerbside collection has taken place and then disposing of this at the refuse transfer station.
- City Parks needs to dispose of organic waste and also purchase compost and mulch.
- Council facilities require rubbish and recycling services.

Figure 3 shows the current linkages between services, and opportunities to exploit. Further discussions on

opportunities to exploit are provided in sections 1.11 and 2.2.

Figure 3: Current and future service networks



1.2 Outcomes

What are the expected outcomes that will be delivered as a result of this work - Develop these with Stakeholders along with SMART objectives and defined long term value for money this BC work will deliver

Outcomes – The following outcomes were developed with the Waste Working Group³ in March 2016.

1. To provide an efficient and effective service for the customer.
2. To obtain the best long-term value for money for the community.
3. To maximise waste diversion.

| Outcome | Objectives |
|---|---|
| 1. Provide an efficient and effective service for the customer. | The new service commencing 1 July 2019 will: <ul style="list-style-type: none"> • provide the same amount or increase the amount of recyclables collected and container volume • be easy to use and understood by the community |

³ The Waste Working Group was formed, refer Finance Committee reports 22 October and 19 November 2015. Terms of reference for the group can be found in D-1970973. Members of the group included, Mayor Hardaker, councillors Gallagher, Forsyth, King and Macpherson

| | |
|--|---|
| | <ul style="list-style-type: none"> • ensure amenity values of the streets are maintained or improved by removal of litter • provide good customer service will all complaints responded to within 24 hours • ensure city-wide infrastructure services such as the refuse transfer station and organic centre are available to use by the public, to enable the disposal and recycling of larger items not appropriate for kerbside collections • be safe to use for both the householder and those who collect and handle rubbish and recycling. |
| <p>2. Obtain the best long-term value for money for the community.</p> | <p>The new service commencing 1 July 2019 will:</p> <ul style="list-style-type: none"> • maximise the use of external funding sources, including but not limited to contractor investment⁴ and waste levy⁵ • be future focused: <ul style="list-style-type: none"> - by minimising the risk of external costs associated with the National Waste Disposal Levy and Emissions Trading Scheme - enable service provision to new households, without comprising the service of the existing city for the term of the contract • for the average householder, cost no more than the existing service • be measurable, with any increase in costs linked to an increase in waste diversion • link all council activities to enable operational and financial benefits to be obtained for all units within Council. |
| <p>3. Maximise waste diversion.</p> | <p>The new service commencing 1 July 2019 will:</p> <ul style="list-style-type: none"> • be equivalent to or better than that provided by national leaders (Auckland and Christchurch) • increase diversion of kerbside waste, the amount of diversion will be balanced with the cost of the service provided • increase diversion of waste at the refuse transfer station and use of the organic centre, the amount of diversion will be balanced with the cost of the service provided • where possible, improve the amount of waste diverted or the cost of rubbish disposal for Council facilities and services. |

1.3 Strategic Alignment

Describe how the proposed work aligns to either individual or multiple HCC strategies

⁴ It is common in New Zealand for contractors to purchase the containers, with ownership reverting back to Council at the end of the contract term, refer section 2.6. Other funding can be sourced from entering into a Build, Own, Operate and Transfer contract where the contractor invests in the refuse transfer station and organic centre, refer section 2.6.

⁵ Under the Waste Minimisation Act, a Waste Disposal Levy is charged against every tonne of rubbish disposed. The Government then distributes 50 per cent of these funds back to territorial authorities to promote waste minimisation. Refer to Appendix 3.1.2 for further information. Council has the ability to use these funds in accordance with the Waste Management and Minimisation Plan.

Waste Management and Minimisation Plan

The current service, whilst it meets the basic needs of the community through the regular removal of rubbish and recycling from private property, does not meet the vision of the Waste Management and Minimisation Plan, which is:

“Hamilton City becomes recognised as a national leader in the minimisation of waste and ensures that innovative and sound waste management practices underpin the City’s environment, social, economic and cultural wellbeing.”

In order to achieve this vision, changes to the service need to be made to maximise the diversion of recyclable material from the waste stream.

| The objectives of Council’s Waste Management and Minimisation Plan are: | What Council will do in order to achieve the objective (as per the Plan) | How this project assists Council in doing what is needed in order to meet the objective |
|---|--|--|
| <p>Objective No. 1 Within the city, there are safe, effective and affordable services for the collection, processing, marketing and beneficial reuse of waste and diverted material.</p> | <p>Promote waste minimisation and ensure appropriate waste management and minimisation services are provided to residents within the city.</p> | <p>The Waste Minimisation Education and Communication Plan sets out how Council will engage with the community over the next ten years.</p> |
| | <p>Recognise the benefits of working with other parties in the provision of waste minimisation services and meeting future demand.</p> | <p>It is possible to develop a regional resource recovery network supported by a regional resource recovery park. The development of both can be achieved through partnering with Waikato Regional, Waikato District and Waipa District councils and private companies who operate within the sub-region. This proposal is out of the scope of this business case as there is no funding allocation to support it in the 2015 10-Year Plan. However the preferred options contained within this business case have been considered with this future outcome in mind.</p> |
| | <p>Actively seek to reduce operational issues associated with Council-owned waste minimisation facilities and services.</p> | <p>The key operational issues are:</p> <ul style="list-style-type: none"> • Physical site constraints at the refuse transfer station are restricting development of the site into a material recovery facility. • The organic centre is a financially marginal business. There are opportunities to exploit (Appendix Section 14.2) which may improve operations. <p>Solutions to these key issues and others are provided for within this business case on a cost-benefit basis.</p> |
| | <p>Consider waste minimisation services and waste management services as components of an integrated system.</p> | |

| | | |
|---|---|---|
| | | <p>Figure 3 above shows the current integration of the services, and the possible future integration.</p> |
| <p>Objective No. 2 Reduce the amount of waste generated.</p> | <p>Promote and encourage opportunities for avoiding or reducing waste at source, particularly in product packaging.</p> | <p>This business case includes a long-term Waste Minimisation Education and Communication Plan which sets out how Council will engage with the community over the next ten years.</p> <p>Campaigns within the Plan include opportunities for avoiding waste within a household.</p> <p>It is proposed that the delivery of education campaigns is funded through the waste levy.</p> <p>Opportunities for avoiding or reducing waste at source, particularly in product packaging, are outside the scope of this business case.</p> |
| <p>Objective No. 3 Maximise the quantity of diverted material while maintaining the quality.</p> | <p>Support activities that reduce the amount of waste going to landfill such as private sector waste minimisation activities.</p> | <p>This business case has identified improvements to services that Council provides that can reduce the amount of waste to landfill.</p> <p>This business case includes discussion on sub-regional waste networks and resource recovery parks that could be funded in partnership with the private sector. As there is no funding allocation in the 2015 10-Year Plan, this opportunity does not form part of the preferred solution.</p> <p>This objective is partially met by Council’s Contestable Waste Fund, which supports private sector activities. The management of this fund is outside the scope of this business case.</p> |
| | <p>Where cost-effective, improve collection, storage, and handling of diverted material.</p> | <p>This business case has reviewed the most common models of collection, and has taken into account the costs, quality of materials, and issues associated with the storage, handling, and sale of diverted material (refer Append Sections 10, 11 and 12).</p> <p>The preferred option has been assessed against the objectives and outcomes of this project.</p> |
| | <p>Investigate alternative recycling collection models.</p> | <p>This business case has reviewed the most common types of recycling collection models, with the preferred being assessed against the objectives and outcomes of this project (refer Appendix Sections 10, 11 and 12).</p> |

| | | |
|--|--|---|
| <p>Objective No. 4 The community and its visitors will be informed about waste minimisation and their responsibilities in improving the efficiency of resource use and reducing the harmful effects of waste.</p> | <p>Waste management and minimisation data and information will be accurate and up to date.</p> | <p>The collection of data will be obtained through a licence system supported through the Solid Waste Bylaw. The development of the licence system and Bylaw is outside the scope of this business case.</p> <p>Waste management and minimisation data associated with the kerbside collections, refuse transfer station and organic centre will be collected, through provisions contained within the contract and lease agreements.</p> |
| | <p>Promote and encourage the reduction of waste in the city through community education and awareness.</p> | <p>This business case includes a long-term Waste Minimisation Education and parks which sets out how Council will engage with the community of the next ten years.</p> <p>It is proposed that the delivery of the education campaigns is funded through the waste levy.</p> |
| <p>Objective No. 5 Any adverse public health and environmental effects resulting from the collection, treatment, storage, handling and disposal of solid waste will be avoided or mitigated.</p> | <p>Ensure the operation of solid waste facilities, including closed landfills comply with resource consent conditions.</p> | <p>To be included as a condition of contract.</p> |
| | <p>Ensure secure, safe, long-term disposal options for the waste that is collected through its service contracts by entering into appropriate contractual arrangements with private service providers.</p> | <p>To be included as a condition of contract.</p> |
| | <p>Ensure good practice health and safety guidelines for the solid waste sector as a minimum standard when selecting service providers.</p> | <p>To be included as a condition of contract. It will also form part of the evaluation criteria.</p> |
| | <p>Council will consider the use of other regulatory instructions, such as the Litter Act, District Plan and bylaws, to manage the adverse effects of diverted material and waste where these are not covered by current services.</p> | <p>The District Plan has provisions regarding the reduction of waste.</p> <p>The Solid Waste Bylaw is due for review in 2017. As part of this project, the review of the Bylaw will take place on the conclusion of key milestones to ensure consistency or to identify improvements that could be included.</p> |
| <p>Objective No. 6 Recognise cultural values and ensure they are provided for in respect to sustainable waste management issues.</p> | <p>Recognise the interest of Iwi and other cultures and encourage and support mechanisms to build capacity and participation in sustainable waste management.</p> | <p>As part of the customer market research carried out in support of this project, a focus group was held with Maaori households. Key issues raised include:</p> <ul style="list-style-type: none"> • The recycling container is insufficient. • Approximately half of the participants put out more than two bags per week. • There's a need to recycle more. |

Council's sustainability principles

Staff presented the following sustainability principles for adoption to the 19 July Strategy and Policy Committee.

Of the 11 sustainability principles to be adopted, one relates directly to rubbish and recycling:

- Council works with its communities to minimise the production of waste and maximise opportunities to recycle.

This project assists Council in meeting this principle in two key ways:

- Through education from Council aimed at encouraging businesses and industry to minimise the production of waste.
- Opportunities outlined by this business case for Council to maximise kerbside recycling and recycling at the refuse transfer station.

District Plan context

| Objective | Policy | How this project will assist in the delivery of the policy and objective |
|---|---|---|
| <p>Objective 25.12.2.1 Reduce the amount of solid waste generated and ultimately entering landfills.</p> | <p>Policy 25.12.2.1a Promote the reduction of solid waste volumes based on the following waste hierarchy.</p> <ol style="list-style-type: none"> 1. Reduction. 2. Reuse. 3. Recycle. 4. Recovery. 5. Treatment. 6. Disposal. | <p>Promotion will be achieved through engagement with the community, as per the Waste Minimisation Education and Communication.</p> <p>Reuse is achieved through the recycling shop at the refuse transfer station.</p> <p>Recycling improvements at the kerbside and refuse transfer station form part of the preferred option.</p> <p>Recovery is obtained through the production of mulch and compost at the organic centre.</p> <p>Future recovery and treatment (city wide or sub-regionally) opportunities could be obtained through a material recovery facility or sub-regional networks and resource recovery parks. As there is no funding in the 2015 10 Year Plan for this infrastructure, it has not been included as part of this business case.</p> <p>The safe disposal of rubbish will be a condition of contract.</p> |
| | <p>Policy 25.12.2.1b Promote practices that reduce the volume of solid waste generated and disposed of.</p> | <p>Promotion of practices will be achieved through engagement with the community as per the Waste Minimisation Education and Communication Plan.</p> <p>There is opportunity to increase the kerbside collection contracts to include food, which would significantly reduce the amount of waste generated.</p> <p>Similarly at the refuse transfer station, infrastructure improvements could divert more waste from landfill.</p> |

| | | |
|--|---|---|
| <p>Objective 25.12.2.2 Solid waste activities and facilities are managed in a way that addresses adverse effects from the storage and disposal of solid waste.</p> | <p>Policy 25.12.2.1a Solid waste collection, recycling, recover, storage, treatment and disposal activities shall be sited, designed and managed to reduce solid waste entering landfills and minimise adverse effects on the environment.</p> | <p>This business case has reviewed the most common models of collection, recycling, storage, treatment and disposal activities, and has taken into account the costs, quality of materials, and issues associated with the storage, handling as well as the sale of diverted material.</p> <p>The preferred option has been assessed against the objectives and outcomes of this project.</p> |
| | <p>Policy 25.12.2.1b Ensure pleasant and functional service areas are provided in new developments for waste and recycling storage.</p> | <p>Within the 2015 10-Year Plan there is no financial allocation for provision of new infrastructure. This project has identified possible solutions, which can be considered in the future.</p> |
| <p>Rules 25.12.3.1 Solid Waste Storage Areas All activities shall provide appropriate, on-site storage areas for recycling and litter bins with convenient access for waste collection.</p> | | <p>This project has identified the need to provide guidance to developers on what an ‘appropriate on-site storage area’ consists of, as well as what kerbside area is required to enable collection. Refer Appendix Section 20 for work carried out to date, and the next steps to be completed as part of this project.</p> |

Hamilton’s 10-Year Plan 2015-25

The 10-Year Plan includes reference to this business case, as a pre-requisite requirement to any service change that may include the use of wheeled bins and a User-pays rubbish system.

The key performance indicators from the Annual Plan and 10-Year Plan are the:

- number of weeks with more than 20 complaints about uncollected kerbside household rubbish and recycling
- percentage of customer complaints about uncollected kerbside rubbish and recycling resolved within 24 hours
- percentage of waste recovered for recycling through the kerbside collection is greater than 30 per cent.

The incumbent contractor has met the Key Performance Indicators (KPIs) regarding complaints for a number of years.

The percentage of waste recovered for recycling through kerbside collection is shown in the following graph. Since 2008, the diversion rate has decreased over time. The main cause of the decline is a reduction in paper being put out, as customer preferences have changed from purchasing of newspapers to reading online. Refer Appendix Section 2 for further information.

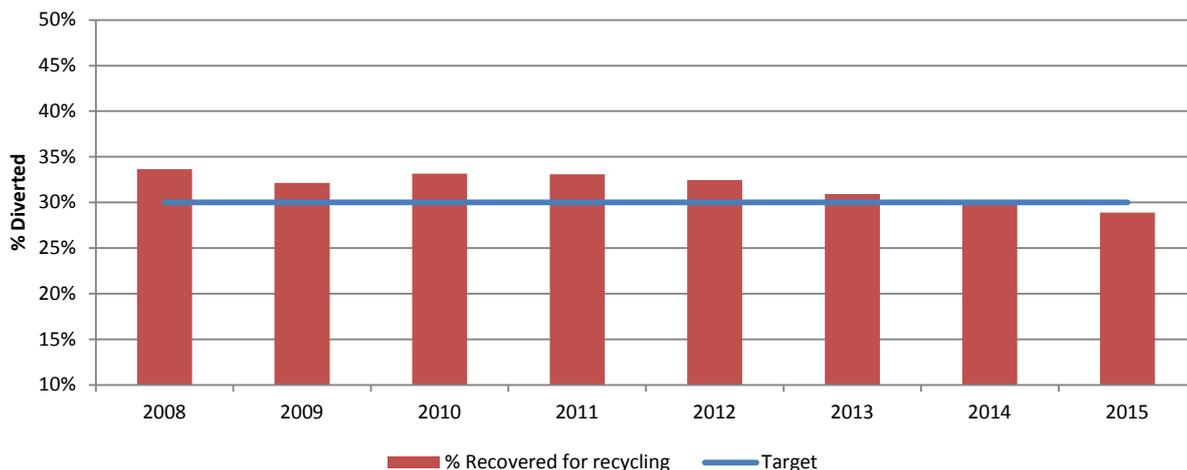


Figure 4: Kerbside recycling diversion rates

There are no diversion targets within the refuse transfer station current lease agreement. The tonnages of rubbish that pass through the transfer station are unknown to Council, however we do know the amount of rubbish that is diverted through the recycling centre (shop) and other methods. The amount of rubbish that is being diverted has increased over time, with the recycling shop (pit recycling) being responsible for the majority of this.

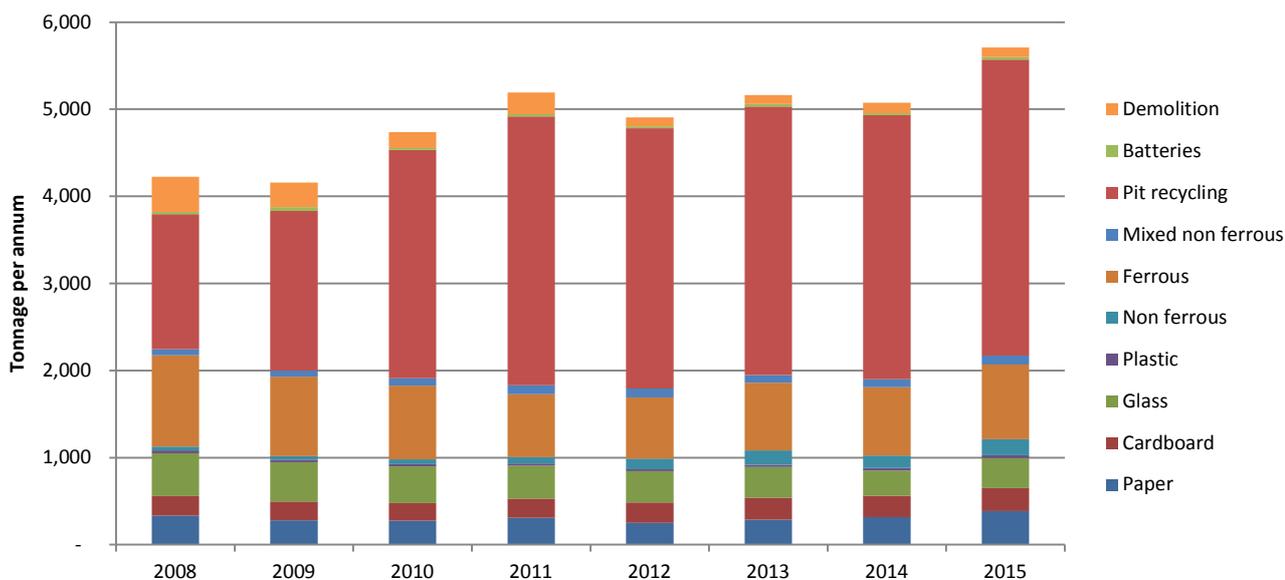


Figure 5: Refuse transfer station diversion

The diversion of rubbish from landfill is also carried out by the organic centre. The use of the organic centre by the public has remained constant over the last five years, use by commercial operators decreased significantly in 2010 due to a change in tariffs.

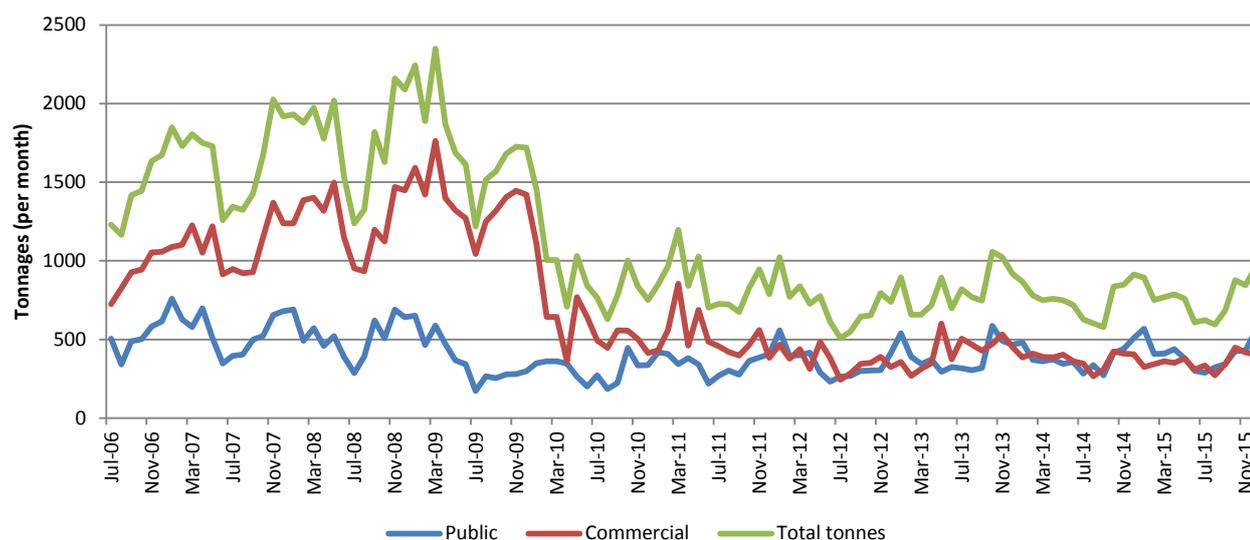


Figure 6: Diversion of green waste at the organic centre

Council's significance policy

The proposed service change has been reviewed against the Local Government Act (LGA) s 97, by Tompkins Wake, who have concluded that s 97 isn't triggered due to the following:

- The change to the rubbish collection will not be a significant alteration of the existing service level.
- The change to the recycling is a significant change to service level, but based on a Court of Appeal decision, recycling is not waste and therefore isn't a significant activity.
- Food collection will be composted/recycled, therefore it doesn't count as waste and therefore isn't a significant activity.

However, Tompkins Wake recommend that public consultation is carried out given the following:

- The proposal represents an increase in cost. Even if part of the increase is the one-off cost of supplying new bins, it is not an insignificant cost increase and is likely to attract comment.
- The consultation to date is fairly low-value in terms of the LGA, as it's not true targeted consultation with the subset of people who will be affected. This change will affect almost all residents, the vast majority of whom have not been given the opportunity to have their say.
- If the consultation to date was couched in terms of cost reductions, it may hold even less weight given that the proposal is now understood to represent an increase in cost.
- The current regime has been in place for many years, so Council simply doesn't know what people think of alternatives.
- In terms of the rubbish collection element, this is a core function of local government (s 11 LGA) and one that Council acknowledges as a significant activity in its Significance and Engagement Policy.
- The proposal in terms of recycling involves a halving of the frequency of collections.
- The proposal will mean that people go from having rubbish bags and a small recycling crate at the back door, to having two wheelie bins, one of them very large, as well as their existing recycling crate and a smaller food bin. People may be of the view that this significantly affects amenity, especially for those with smaller sections.
- The proposal will mean that at every second collection there will be two wheelie bins, a recycling crate, and a food bin at the kerb for each residence. This could create a significant amount of clutter on the street, particularly where there are right of ways (ROWs) and in areas of higher density. That clutter will remain all day until a member of the household returns and retrieves the bins and crate.

Tompkins Wake notes that public consultation need not be particularly time-consuming or expensive. A bare-minimum consultation might consist of a page on Council's website outlining the proposed changes, with an option for online feedback (open for four weeks), together with newspaper advertising directing people to the webpage.

1.4 Organisational Context

Outline how this work will assist HCC achieve its business goals (Refer HCC's Hamilton Plan)

Hamilton Plan

The Hamilton Plan is Council's plan to build a stronger economy and a more attractive city for families. This Plan was adopted by Council in 2015. The Plan presents 10 priorities for Council:

- Our books are balanced.
- The third city economy in New Zealand.
- Providing outstanding infrastructure.
- Strongly connected to the river.
- Best garden in the world.
- An active, strong commercial central city with distinctive suburban villages.
- An urban garden.
- Access to affordable housing.
- Waikato is the capital of high performance sport.
- Celebrated for our arts and culture.

This project assists Council in achieving outstanding infrastructure. To enable the inclusion of the kerbside collection service this priority has been extended to include services.

Providing outstanding infrastructure *and services*, this means:

- infrastructure development is preparing the city for growth to over 200,000 people
- Hamilton invests in a level of capital expenditure that ensures we have appropriate infrastructure to meet the city's future growth.

This project will assist by:

- meeting or exceeding levels of service provided by other metro councils in New Zealand
- providing funding through the contract to enable capital improvements at the refuse transfer station and organic centre
- enabling service provision to new households, without comprising the service of the existing city for the term of the service contract.

Hamilton's Vision

Vision: A high performance organisation; respected by all.

Our Purpose: To improve the wellbeing of Hamiltonians by advocating for Hamilton and providing quality infrastructure, public services and regulatory functions.

Mission: To build a stronger economy and a more attractive city for families through the delivery of the Hamilton Plan.

Our Strategic Imperatives: Embrace growth, Build a great river city, and Best in business.

The following table details how this project will deliver on the Vision, Mission and Strategic Imperatives

| Our Strategic Imperatives | How this project will assist Council in achieving its goals |
|---|--|
| <p>We embrace growth:</p> <ul style="list-style-type: none"> • Regulatory as an enabler. • Deliver infrastructure solutions. • Leverage the best opportunities. • Facilitate a strong economy. | <p>Every property in Hamilton requires access to a rubbish and recycling service. This business case will ensure that the future services provided can be expanded geographically (kerbside service) and volumetrically (refuse transfer station and organic centre) to support successful growth of the city.</p> |
| <p>We build great river city:</p> <ul style="list-style-type: none"> • Focus on key facilities and features. • Investing in our community. • Meaningful community connections. | <p>Behind every great city are the magic services that take place to make the city a safe and healthy place to live.</p> <p>Providing rubbish and recycling services and infrastructure supports the city and makes it a healthy place to live.</p> <p>Through infrastructure provision, the services connect with the community by providing an opportunity to reuse or repurpose what another person considers rubbish (recycling shop at the refuse transfer station) and obtain mulch and compost from the organic centre.</p> |
| <p>We are best in business:</p> <ul style="list-style-type: none"> • Right people right outcomes. • Digital first, data led. • Do the basics well. • Financial sustainability. • Wow the customer. | <p>The best in business supports the vision of the waste management and minimisation plan of being a national leader. This business case supports an improvement in services and infrastructure we provide to reach these visions.</p> <p>Right People, Right Outcomes</p> <ul style="list-style-type: none"> • Stakeholder analyses and communications planning in keeping with project management best practice will enable the success of this project and ensure the right outcomes for the city are delivered. <p>Digital first, data led</p> <ul style="list-style-type: none"> • There are options for services that are electronically controlled, both now and into the future. <p>Do the basics well</p> <ul style="list-style-type: none"> • This project delivers critical services to the community of Hamilton, to protect the health and safety of our residents and visitors. • Ensuring that robust service option analysis, community engagement and procurement methods are utilised throughout the development and implementation of this project will ensure effective delivery of the appropriate outcomes. <p>Financial sustainability</p> <ul style="list-style-type: none"> • Works will be delivered within existing 10-Year Plan budgets, in line with programmed financial timeframes, and will maximise savings through contract model opportunities. <p>Wow the customer</p> <ul style="list-style-type: none"> • A high quality service that is: <ul style="list-style-type: none"> - easy to use - reduces litter - maximises the amount of rubbish that can be diverted from landfill - a national leader is waste diversion. |

1.5 Organisational Impact

How / where does this piece of work integrate with / impact on the rest of the organisation's activities?

This project impacts on the organisation across a number of units and functions.

City Waters

City Waters unit will manage the project through all phases. This will be managed through existing internal and external resources, consultants, and procurement of a new service provider. The project phases include:

- scoping
- public engagement
- procurement of a service provider
- service transition
- new contract management.

City Transportation

City Transportation is responsible for the removal of dumped rubbish (fly tipping) and litter collection within the road corridor. To ensure amenity values of the streets are maintained, a service contractor is employed to follow the rubbish and recycling trucks and pick up any litter associated with the activity. This service can be improved to reduce the amount of complaints and eliminate the need for this additional service contract service.

City Parks

In providing services, this unit needs to dispose of green waste, as well as purchase mulch and compost. The organic centre provides these services, but is not currently utilised by the unit for a variety of reasons (refer Appendix Section 2.2.7). Opportunities to maximise synergies between the unit and the site could be obtained through a Facilities Access Agreement (refer Appendix Section 21.2.3).

Finance and Revenue Team

The Finance Group will be required to review financial elements of this project on an ongoing basis.

Procurement

This project includes the procurement of a new service contractor(s). The procurement of a new service provider will be carried out through a public tender process managed through the Council Procurement Policy.

The procurement team will be involved in the review of tender documents and appointment of a probity auditor.

Communication Unit

The successful delivery of this project will only be achieved if the community of Hamilton is engaged in the service change. A Waste Minimisation Education and Communication Plan has been drafted by the Communication Unit and funded from the Waste Levy. To implement this project, the Communications Team is likely to be involved with:

- public consultation on the preferred service in November 2016
- public messaging and updates
- assist with any complaints
- media releases and enquires
- roll out of education campaigns associated with the Waste Minimisation Education and Communication Plan including procurement and management of service / media providers
- roll out of the education campaigns associated with the new service change, which will commence in late 2018 / early 2019 and run through to December 2019.

Strategic Property and Facilities

The Strategic Property Unit manages the lease agreements on both the refuse transfer station and organic centre. In the future it is anticipated that this arrangement will continue. Both City Waters and Strategic Property will need to work together to ensure the new contract and lease agreement meets the requirements of both units.

The Facilities Unit manages maintenance and renewals at both the refuse transfer station and organic centre on

behalf of City Waters. The majority of assets on both these sites are currently maintained by the leaseholder, however there are exceptions. Both City Waters and Facilities staff will need to work together to ensure the new contract(s) and lease agreement ensure that maintenance and renewals of Council-owned property is either continued at the same level of service or enhanced in any new contract and lease agreement.

Customer Services

Prior to, during, and immediately after the new service starts, the Customer Services Team will be required to assist in customer enquiries. A condition of contract will require the contractor to provide a call centre, however it is envisaged that during this period, Council will also receive an increase in enquiries.

Additional resources and training of the Customer Services Team will be provided as part of this project.

1.6 Stakeholders

Need to be identified and their level of influence and interest in the BC needs to have been defined – use the analysis tool if helpful

The stakeholders who have high power and influence on this project are summarised below. Refer Appendix Section 6 for a full list of stakeholders.

| Internal / external | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date |
|---------------------|---|---|----------------------|---|--|
| Internal | Elected members (Mayor and councillors) | <ul style="list-style-type: none"> Hamilton Plan delivery. Compliance with strategic alignment. Compliance with 10-Year Plan budgets and timeframes. Council's reputation. Community needs. | Manage closely | <ul style="list-style-type: none"> Working with staff to develop the business case. Business case approval from Finance Committee. Regular project reporting via Key Project Reports if desired. | <ul style="list-style-type: none"> Membership in a working group which provided guidance to the development of this business case. Workshops prior to the 10-Year Plan process. Reports and debate as part of the 10-Year Plan process. |
| Internal | Chief Executive and Senior Leadership Team | <ul style="list-style-type: none"> Hamilton Plan delivery. Compliance with Strategic Alignment. Delivery of Organisational Goals. Compliance with 10-Year Plan budgets and timeframes. Council's reputation. | Manage closely | <ul style="list-style-type: none"> Review and approval of project business case ahead of submission to Finance Committee. Provide regular updates on project progress and risks through General Manager, City Infrastructure. | <ul style="list-style-type: none"> Review of business case. Approve business case. |
| Internal | General Manager (GM), City Infrastructure and City Infrastructure Programme Governance Group (PGG) for Transport and Waste. | <ul style="list-style-type: none"> Project Sponsor. Delivery of Organisational Goals. Compliance with 10-Yr Plan budgets and timeframes. Service delivery. Council's reputation. | Manage closely | <ul style="list-style-type: none"> PGG to include GM, City Infrastructure; Unit Manager (UM), City Waters; UM, City Transportation. Regular PGG updates including financial and risk information. | <ul style="list-style-type: none"> Membership in a working group which provided guidance to the development of this business case Workshops prior to the 10-Year Plan process. Reports and debate as part of the 10-Year Plan process. |
| Internal | Communication | Communications Unit will be responsible for the development of the Waste Minimisation Education and Communication Plan. | Manage closely | Are part of the project team to develop and deliver the Waste Minimisation Education and Communication Plan. | Are aware of this project since conception and are providing a resource dedicated to this project. |

| Internal / external | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date |
|---------------------|--|---|----------------------|--|--|
| Externals | Incumbent contractors and leaseholders. | Waste Management – incumbent contractor providing kerbside collection, transportation and disposal of rubbish and management of the refuse transfer station. HG Leach – incumbent leaseholder at the organic centre. Civic – contractor with the Infrastructure Alliance who carries out the physical litter collection and fly tipping removal services. This project will deliver a new contractor, the incumbent contractor may or may not be successful. | Manage closely | If the incumbent contractors are not successful a transition plan (refer Appendix Section 21) is required to ensure that there is no impact on service during the change period. | <ul style="list-style-type: none"> • Are aware that their current contracts / lease agreements are up for renewal through a public tender process. • Have provided various information on current service provision. |
| | Residents who currently receive a kerbside collection service. | All residential properties (excluding those in the city centre) receive a kerbside rubbish and recycling service and therefore will be interested in this project. Their interest will depend on their household needs and wants, including: <ul style="list-style-type: none"> • Financial – the cost of the service. • Environmental – ability to minimise amount of rubbish that goes to landfill, ie, maximise recycling services. • Social – ability to remove rubbish from their properties. | Manage closely | Waste Minimisation Education and Communication Plan | <ul style="list-style-type: none"> • Customer survey in 2013 and 2015. • Focus groups representing low income households, Maaori households, students, and general households. • Refer Appendix Section 2.28. |

1.7 Scope of the Work - What’s included in the scope of this proposal, and what is specifically excluded – ensure you define impact of change?

Items included in scope are listed below.

Works completed to date:

- Review and option assessments for kerbside rubbish and recycling services.
- Review and option assessments for city-wide infrastructure, including the refuse transfer station and organic centre.
- Reviews included:
 - Current service, Appendix Section 1.
 - Benchmarking service of other city councils, including services provided, cost and waste diverted, Appendix Section 2.3.
 - Legislative requirements, Appendix Section 3.
 - Existing infrastructure and future options, Appendix Section 14.

- Customer surveys, Appendix Section 2.28.
- Benefits mapping, Appendix Section 7.
- Options considered:
 - Alignment with project objectives, council plans, suitability principles, and targets.
 - Diversion rates, Appendix Section 11.1.
 - Financial modelling, Appendix Section 12.
 - Environmental impact.
 - Synergies with other Council services, including; rubbish and recycling services for Council-operated facilities (Hamilton Zoo, Claudelands, stadia, etc); litter collection and disposal and leaf collection from streets.
 - Health and Safety.
 - Complexity of services for customers, Appendix Section 11.2.
 - Congestion of containers on the street, Appendix Section 11.2.
 - Level of service, including:
 - Container volumes provided.
 - Frequency of collections, , Appendix Section 11.2.
 - Service delivery mechanisms, including procurement options and contract models, Appendix Section 21.
 - Services within the city centre.
 - Industrial and commercial rubbish and recycling collection.
 - Sub-regional services and infrastructure, eg, sub-regional resource recovery network and parks, Appendix Section 14.4.5.
 - Funding mechanism including rate-funded, User-pays, private funding, waste levy, Appendix Section 19.
 - Partnering with Waikato and Waipa district councils and Waikato Regional Council, Appendix Section 15.
- Identification of risks, Section 1.12.

Works to be carried out as part of this proposal are listed below:

- Procurement and management of contractor(s) to provide:
 - Kerbside rubbish and recycling services to all households excluding those within the city centre.
 - Operations of the refuse transfer station and organic centre.
- KPI reporting of new services.
- Risk management.
- Deliver of the Waste Minimisation Education and Communications Plan.
- Engagement of necessary resources, internal and external to support this project.
- Supporting services:
 - Education and communication.
 - Litter collection, limited to: litter sourced from windblown and animal strikes from bags and crates; and fly tipping.
 - Intensification development and future rubbish and recycling solutions.

Items excluded from scope are listed below.

- Private sector waste minimisation activities.
- Closed landfill activities.
- Litter collection outside that associated with the rubbish and recycling activity.
- Solid waste contracts for the wastewater treatment plant including: sludge transportation and disposal via vermicomposting (worm farms) and transport and landfill disposal of screenings.
- Product stewardship.
- Waste Bylaw review (scheduled for 2017).
- Waste Management and Minimisation Plan review (scheduled for commencement in 2017) and waste assessments.
- Management of approximately nine current hot spots for collection issues.

1.8 Quantitative Benefits

Develop this list with Stakeholders

1.8a KPI/Target/Frequency of reporting

Also Identify the Benefit owner and who will report the KPI/ Target

| (as a minimum with those most affected by the proposal) | and Frequency (ie as 3 separate items) |
|--|---|
| <p>The following benefits have been developed by the project team through a mediated workshop lead by Xelocity Ltd (Appendix Section 7).</p> <p>The benefits identified in this workshop have then been reviewed and enhanced to ensure they take into consideration the objectives set by the Waste Working Group and the Waste Management and Minimisation Plan.</p> | |
| <p>Environmental:</p> <p>The amount of rubbish disposed to landfill is reduced through an increase in recycling.</p> <p>In achieving this benefit, the cost to Council for disposal will also reduce. It is expected that the cost of disposal will increase over time due to changes in the Emissions Trading Scheme and Waste Disposal Levy (Appendix Section 8).</p> | <p>KPI – waste diversion from kerbside collection.</p> <p>Target –50% within three years of the service being implemented. Note this is based on the recommended service being implemented.</p> <p><i>Note: the percentage target for this KPI will be set upon confirmation of the service provided. Refer Appendix Section 12 for diversion rates for each service option.</i></p> <p>KPI waste diversion from refuse transfer station.</p> <p>Target – 25% within one year of the infrastructure improvements being completed.</p> <p><i>Note: the percentage diversion target for this KPI will be set once the scope of the capital improvements at the sites have been determined.</i></p> <p>Frequency – monthly.</p> <p>Benefit owner – City Waters.</p> <p>Reported by – City Waters from information provided by contractor(s).</p> |
| <p>Financial:</p> <p>In receiving the environmental benefit above, Council and the community will also receive a financial benefit of cost reduction.</p> <p>The cost of rubbish disposal is based on the amount of rubbish generated, the cost consists of transportation, landfill disposal, Emissions Trading Scheme and Waste Levy charges.</p> | <p>KPI – and targets are as per the environmental benefit detailed above.</p> |
| <p>Customer:</p> <p>The community are happy with the service provided.</p> | <p>Short-term:</p> <p>KPI – through public consultation, the community of Hamilton agrees with the proposal.</p> <p>Target – the proposal is accepted by the majority of households.</p> <p>Frequency – once, in November 2017.</p> <p>Benefit owner – City Waters.</p> <p>Reported by – City Waters.</p> <p>Long-term:</p> <p>KPI – the number of legitimate complaints received for the period AND the number of weeks where there were more than 20 complaints for the period.</p> <p>Target – zero weeks each year with more than 20 complaints.</p> <p>KPI – the number of legitimate complaints received for the period AND the number of complaints resolved within 24 hours for the period.</p> |

| | |
|---|--|
| | <p>Target – 95% each year.</p> <p>Frequency – monthly.</p> <p>Benefit owner – City Waters.</p> <p>Reported by – City Waters from information provided by contractor(s).</p> |
| <p>Economic:</p> <p>The cost of the service to the community is reduced over the long-term.</p> | <p>KPI – the cost to the average householder is not significantly greater than the current service.</p> <p>Target: – no more than \$50 per annum (\$1 per week) greater than the current service.</p> <p>Frequency – upon award of the contract.</p> <p>Benefit owners – City Waters, Community.</p> <p>Reported by – City Waters.</p> |
| <p>Financial:</p> <p>The service is delivered to budget.</p> | <p>KPI – services are provided within budget.</p> <p>Target - within +/- 0.5% of budget.</p> <p>Frequency – annual.</p> <p>Benefit owner – City Waters.</p> <p>Reported by – City Waters.</p> |
| <p>Health and Safety:</p> <p>The health and safety of the contractors, who collect, handle, transport and dispose of our rubbish and recycling can do so without getting hurt.</p> | <p>KPI - lost time injury frequency rate targeting less than three lost time injuries for every 200,000 hours worked by employees during 2015/16.</p> <p>Target – <3 (number).</p> <p>Frequency – annual.</p> <p>Benefit owner – contractor.</p> <p>Reported by – City Waters.</p> |
| <p>1.9 Qualitative Benefits</p> <p>Develop this list with Stakeholders (as a minimum with those most affected by the proposal)</p> | <p>1.9a Indicator of Success</p> <p>Identify the benefit owner and who specifically will report on the progress/realisation of the benefit</p> |
| <p>Reputational:</p> <p>Meet the vision of the Waste Management and Minimisation Plan, which is to become recognised as a leader in waste minimisation.</p> | <p>Indicator of success – the service provided meets or exceeds that provided by national leaders, who (at present) are Christchurch and Auckland.</p> <p>Benefit owner – City Waters.</p> <p>Reported by – City Waters.</p> |
| <p>Service:</p> <p>A service that is easy for the customer in terms of lifting, storage, handling, spill risk, complexity, types of waste that can be recycled.</p> | <p>Indicator of success – no significant complaints associated with the information provided to customers on the service change.</p> <p>Benefit owner – householders.</p> <p>Reported by – City Waters.</p> |
| <p>Beautification, Amenity:</p> <p>Reduction of windblown litter and animal strikes.</p> | <p>Indicator of success – a reduction in the number of complaints received about litter.</p> <p>Benefit owner – Transportation.</p> <p>Reported by – Transportation.</p> |
| <p>Financial:</p> <p>Council units using the refuse transfer station and organic centre are provided with an attractive unit rate</p> | <p>Indicator of success – other units of Council who use the refuse transfer station and organic centre are satisfied with the costs, facilities and product quality of the services provided.</p> |

| | |
|--|---|
| <p>for disposal. Council units who purchase product from these sites are satisfied with the quality.</p> | <p>Benefit owners – Transportation and City Parks. Reported by – Transportation and City Parks.</p> |
| <p>1.10 Dis-benefits</p> | <p>1.10a Impact on the business (identify who will be impacted as a result)</p> |
| <p>Cost Transparency: The cost of rubbish and recycling funded through the general rate is not visible to customers, especially those in rented accommodation. Through the General Rate, each property pays a different amount for rubbish and recycling.</p> | <p>Customers are not aware of the cost of kerbside rubbish and recycling. For those who are motivated by cost (but are unaware of the above), there is no incentive to recycle, they just think it’s easier to put it all in a rubbish bag. For Council, the cost of collecting and disposing of rubbish is more than that of recycling collection. Therefore the cost of the service is greater than it should be. Who is impacted – householders.</p> |
| <p>Use per Household: Households are different; some have one or two residents whereas others have five or more, including extended families. Each of these households put out different amounts of rubbish and recycling. A wheeled bin with a fixed volume, may not be appropriate for larger households, or it could be too big for a smaller household.</p> | <p>The provision of a service where the householder could pick and mix their container sizes would add greater complexity and cost to the service provided. Who is impacted – householders.</p> |
| <p>Cost of Service: Any improvement to the current level of service both in terms of recyclables collected from the kerb and or volume of containers provided will cost more than the current service.</p> | <p>Increased activity costs. Who is impacted – Council and property owners.</p> |
| <p>1.11 Opportunities Arising (identify who will own and report the opportunity)</p> | <p>1.11a Strategies to Exploit, Enhance &/or Share Each Opportunity</p> |
| <p>Financial: Currently the Infrastructure Alliance attends calls for uncollected rubbish and recycling. This may be from non-complying materials or windblown litter. It is proposed that the new contractor would be responsible for leaving the streets in a tidy manner, including the picking up of litter sourced from the rubbish and recycling activity. The current cost associated with litter collection within the residential areas is approximately \$66,000 per annum. It is estimated that two-thirds of that current yearly cost (\$44,000) is associated with the rubbish and recycling activity. Collection containers such as wheeled bins and or food collection bins could further reduce the risk of animal strikes and windblown litter. Opportunity owner and reporter – n Infrastructure Alliance.</p> | <p>New contractor will be responsible for leaving the streets in a tidy manner, with all litter associated with the rubbish and recycling collection removed. Facility Access Agreements will be a condition of contract to enable the Infrastructure Alliance access to the refuse transfer station services at a better rate.</p> |
| <p>Funding: Change rate funding source from General Rate to a Uniform Annual Charge (UAC) - Targeted Rate. Opportunity owner and reporter: Finance Unit.</p> | <p>Benefits of a Uniform Annual Charge for rubbish and recycling collection.</p> <ul style="list-style-type: none"> • Each allowance for standard rubbish and recycling collection is the same. A set charge for each collection may be considered fairer by ratepayers. • Properties with additional dwellings will pay the same amount for each additional collection. |

| | |
|--|---|
| | <ul style="list-style-type: none"> • The rates invoice will clearly show the amount of rubbish and recycling collections available to the property. • It is easier to implement policy changes regarding the amount of allowable collections available to different types of properties eg. <ul style="list-style-type: none"> - allowing properties with two dwellings to have only one collection; or, - allowing properties with one dwelling to add an additional collection; or, - allowing vacant land to not pay for collection. |
| <p>Funding:</p> <p>Change funding from rate-funded to User-pays.</p> <p>Opportunity owner and reporter: Finance Unit.</p> | <p>There is an opportunity to reduce overall Council spend by charging customers directly for the cost of this service. Eleven out of the 16 city councils in New Zealand use a User-pays funding model.</p> |
| <p>Ownership:</p> <p>Transfer the ownership and management of the organic centre from City Waters to City Parks.</p> <p>Opportunity owner and reporter: City Parks.</p> | <p>City Parks as part of their core business dispose of green waste and purchase mulch and compost. This operation is also performed by the organic centre. There is an opportunity for the ownership and management of the organic centre to be transferred from the Solid Waste Activity to the City Parks Unit.</p> |
| <p>Funding:</p> <p>Maximise funding for the activity through the use of contractor funding to:</p> <ul style="list-style-type: none"> • purchase containers • make improvements at the refuse transfer station and organic centre. <p>Opportunity owner and reporter: City Waters.</p> | <p>This is a common method employed by councils to improve services and infrastructure. The contractors purchase the wheeled bins, and the cost plus borrowing costs are transferred back to the respective council over the life of the contract. At the end of the contract the containers are transferred back to the respective council. Whilst this option enables the cost of the containers to be spread over a longer period of time enabling council's to distribute expenditure, it is likely to cost more.</p> <p>Similarly, to make infrastructure improvements, agreement is reached between the contractor and a council on funding improvements at the site. At the end of the contract period, the improvements are transferred back to the respective council. This method was employed by Hamilton City Council and the incumbent contractor and the organic centre at the commencement of the existing contract.</p> |
| <p>Infrastructure Investment:</p> <p>Maximise the use of current infrastructure through investment.</p> <p>Opportunity owner and reporter: City Waters.</p> | <p>The refuse transfer station and organic centre are at capacity. By using the funding opportunities outlined above, improvements can be made to the sites to maximise resource recovery.</p> <p>It is possible through investment to improve the estimated waste diversion at the refuse transfer station from 10% to 25%.</p> |
| <p>Sub-regional:</p> <p>Sub-regional services including resource recovery networks, material recovery facilities and resource recovery parks.</p> <p>Opportunity owner and reporter: City Waters.</p> | <p>City Waters is part of a regional working group lead by Waikato Regional and Bay of Plenty Regional councils to maximise knowledge across the region. Current work priorities are based around supporting bylaw development and reviews of Waste Management and Minimisation plans.</p> <p>Future opportunities arise through linked infrastructure and services. This is also supported by private industries who have expressed</p> |

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| | <p>interest in development of sub-regional material recovery facilities and resource recovery parks.</p> <p>Due to the significant nature of the sub-regional infrastructure opportunities, a separate business case will need to be developed focused on this aspect. This business case could be developed by City Waters staff, Waipa and Waikato district council staff, Waikato Regional Council staff, by private industry or a combination of these groups.</p> |
| <p>Contract Management: Bundling of service contracts. Opportunity owner and reporter: City Waters.</p> | <p>All the services currently provided by Council are managed through separate contracts, with either signed or unsigned memorandums of understanding between Council and the contractor linking the services together. The only exception is the organic centre and litter collection, which have no linkage to the other service contracts.</p> <p>Opportunity exists to let a single contract for all services, therefore maximising synergies between all services.</p> |

| 1.12 Risks Identified <u>D-1030981</u> – risk statements <u>D-722311</u> – risk register template | 1.12a Gross Risk Rating Council's risk calculator – <u>D-1030989</u> | 1.12b Risk Trigger Points | 1.12c Risk Management Approach | 1.12d Residual Risk |
|--|--|--|--|----------------------------|
| Financial Funding for this project as identified in this business case is not approved by Senior Leadership Team (SLT) and Council. | Medium | SLT and or Council does not support this business case | Prevention Early engagement with SLT and Council in the form of a working party to develop the business case. Response Review business case with feedback received from SLT and or Council and resubmit. | Low |
| Financial Council decides to sell the refuse transfer station and organic centre resulting in additional costs for the rubbish collection contract. | Low | Council decision | Prevention A working party is formed with at least two councillors and SLT representatives. Response New kerbside contracts written to incorporate the change of ownership. Operational costs for the kerbside rubbish collection contract are reviewed, increases in OPEX reported to Finance Committee. | Low |
| Financial Waste levy reduced by Ministry for the Environment resulting in a reduction in operational funding to support actions of this business case. | High | Quarterly revenue instalments reduce | Prevention Submission by Council on any proposed changes to the Ministry for the Environment. Response Annual and quarterly future forecasting of revenue and expenditure. Once the waste levy funding starts to reduce, a corresponding reduction in future expenditure will need to occur or alternative funding found. | Low |

| 1.12 Risks Identified <u>D-1030981</u> – risk statements <u>D-722311</u> – risk register template | 1.12a Gross Risk Rating Council's risk calculator – <u>D-1030989</u> | 1.12b Risk Trigger Points | 1.12c Risk Management Approach | 1.12d Residual Risk |
|--|--|---|---|--------------------------------------|
| Financial The tender price received for the new service is greater than that determined through financial modelling. | Medium | Assessment of prices contained within the tenders | Prevention A suitably qualified consultant is engaged to carry out the financial modelling, so risk is known and understood by decision-makers. Response Review and negotiation of the services to be provided, report to Finance Committee on preferred solutions. | Medium |
| Financial The Waste Disposal Levy and Emission Trading Scheme costs increase. | Medium | Disposal costs are increased | Prevention Reduce the amount of rubbish sent to landfill. Response Increase in Opex costs reported to Finance Committee. | Medium |
| Service Delivery Suitably qualified contractors / consultants and key internal staff required to deliver the project are not available within the timeframes set out in the business case, leading to a delay in project delivery. | Medium | No suitably qualified contractors tender for the works No consultants available to assist with procurement | Prevention Develop a project plan identifying critical resources against a timeline. Monitor the project plan; report any issues to the Project Steering Group and or Programme Governance Group. Response Identify alternative resources and reschedule the project. | Low |
| Service Delivery Contractors unable to secure infrastructure including | High | Implementation timelines not met | Prevention Provide a minimum of 18 months contract lead-in | Low |

| 1.12 Risks Identified <u>D-1030981</u> – risk statements <u>D-722311</u> – risk register template | 1.12a Gross Risk Rating Council's risk calculator – <u>D-1030989</u> | 1.12b Risk Trigger Points | 1.12c Risk Management Approach | 1.12d Residual Risk |
|---|--|--|---|--------------------------------------|
| trucks, land, buildings, and staff in the lead-in time provided, resulting in the service not commencing on time. | | | time to the successful contractor. Development of an implementation timeline with successful contractor. High level of communication between Council and successful contractor to ensure any risks are identified and managed before they result in timelines not being met. Response Incumbent contractor is asked to continue to provide services under an extended contract. Contracts readvertised if solution cannot be sourced. | |
| Service Delivery The incumbent contractor does not win the new contract leading to poor performance in the remaining months of the contract. | Medium | Increase in customer complaints | Prevention A transition plan is developed with the incumbent, new contractor and Council. Response Engineer to contract obtains resolution between contractor and Council. | Low |
| Service Delivery The international market for recyclable materials drops, resulting in lower prices for these commodities which leads to the contractor defaulting on agreed service provision. | Medium | International commodity price | Prevention Procurement of the service through a contractor who has greater knowledge and experience in the international commodities price market. Contact includes suitable terms to enable alternative disposal of recyclable materials. | Low |

| 1.12 Risks Identified <u>D-1030981</u> – risk statements <u>D-722311</u> – risk register template | 1.12a Gross Risk Rating Council's risk calculator – <u>D-1030989</u> | 1.12b Risk Trigger Points | 1.12c Risk Management Approach | 1.12d Residual Risk |
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| | | | Response Negotiation with contractor, reporting of negotiated solutions to Finance Committee. | |
| Service Delivery There is capacity within the Hampton Downs landfill to provide disposal for the city's rubbish needs for the duration of the contract. | Low | The owner and operator of the landfill restricts disposal | Prevention Communications between Council, contractor(s) and operator of the landfill are open and honest to enable early awareness of any capacity issues. Response The city reduces the amount of rubbish it generates by diverting more to recycling and reuse, or a new disposal site is found. | Low |
| Safety and Wellbeing Contractors unwilling to collect bagged rubbish, resulting in a reduced number or no tenders being received. | Medium | A small number or no tenders received | Prevention The contract enables contractors to price on alternative collection methods. Response New kerbside contracts written. Review of operational costs undertaken for kerbside collection, increases in Opex reported to Finance Committee. | Low |
| Social and Cultural Community does not like new service, resulting in: <ul style="list-style-type: none"> • an increased number of customer complaints and/ or • no change in recycling behaviour and/or • an increase in fly tipping. | High | Number of complaints received and no increase in waste diverted | Prevention Delivery of the Waste Minimisation Education and Communication Plan. Response Review and resetting of the Waste Minimisation | Low |

| 1.12 Risks Identified <u>D-1030981</u> – risk statements <u>D-722311</u> – risk register template | 1.12a Gross Risk Rating Council's risk calculator – <u>D-1030989</u> | 1.12b Risk Trigger Points | 1.12c Risk Management Approach | 1.12d Residual Risk |
|--|--|--|--|--------------------------------------|
| | | | Education and Communication Plan. With respect to an increase in fly tipping this will be responded to through the normal business processes of identification of person(s) responsible and enforcement of the Bylaw. Increased enforcement resources. | |
| Reputation Procurement processes carried out do not meet the requirements of the Procurement Policy and Procedures Manual resulting in significant complaints from tenderers. | High | Complaints received | Prevention Engagement of a probity auditor. Response Third party is engaged to manage procurement procedures. | Low |
| Our People The Waters Council Controlled Organisation (CCO) is formed, leaving insufficient staff and resources in City Waters to either complete the procurement or management of the new contractor. | Medium | Formation of the CCO | Prevention Resource requirements for the Solid Waste Activity are taken into account in the development and formation of the CCO. Sufficient resources are retained by Council. Response New resources are acquired. | Low |

1.13 Issues

Identify and describe

The following table lists all the existing issues with the current kerbside collection service and infrastructure services. The issues and options to address are not listed in any particular order of significance.

Kerbside collection

| Issue | Description | Options considered as part of this business case |
|--|---|--|
| Community want to recycle. | There is no driver to recycling apart from an individual's want to do good and protect the environment. | <ul style="list-style-type: none"> Greater community engagement and education to increase awareness. |
| The cost of rubbish and recycling is not transparent. | The community has no understanding of the cost associated with the rubbish that they generate. | <ul style="list-style-type: none"> Move to a Uniform Annual Charge (UAC) Targeted Rate or User-pays system. |
| Health and safety of contractors. | <p>Use of bags has led to cuts due to harmful contents and injury due to lifting and throwing heavy bags. Refer Appendix Section 2 for contractor health and safety statistics.</p> <p>Runners, harm caused by traffic clashes.</p> | <ul style="list-style-type: none"> Reduce bag weight. Current maximum weight is 20kg, other councils range from 10 to 15kgs. (For national benchmarking refer to Appendix Section 2.3); or use of vehicles with mechanical lifts to eliminate the need for the collector to throw bags into the truck; or use of left hand drive trucks which eliminate the need for runners, or contractor staff to wear Personal Protective Equipment and clothing (PPE) to reduce harm from cuts; or replace bags with wheeled bins. |
| Windblown litter. | During windy days, light plastics within open recycling crates and unsecured paper placed out for recycling can be blown around the neighbourhood during times of high wind. | <ul style="list-style-type: none"> Use a net over the crate. This method is used by Hutt Council, with limited success; or increase education for the householder to place lighter items below heavier items in the crate and secure paper properly; or use a wheeled bin (with lid); or additional contractor resource to follow collection vehicles and pick-up any windblown litter; or make litter collection part of the services provided under the contract. |
| Animal strikes. | Rubbish bags left out overnight can attract animals, which then rip open bags in search of food. The rubbish spilled from the bags is not collected, and left out, increasing litter. | <ul style="list-style-type: none"> Increase education for the householder to only put out rubbish on the day of collection; or use a wheeled bin; or introduce food collection by wheeled bin, thereby removing food from the rubbish bags; or make litter collection part of the services provided under the contract. |
| Kerbside waste diversion has been steadily decreasing over time. | <p>Target in the 2015-25 Long-term Plan (LTP) for waste diversion is 30%.</p> <p>We are currently tracking at 28%.</p> | <ul style="list-style-type: none"> Increase public awareness of their need to recycle, (Waste Minimisation Education and Communication Plan); and/or increase services provided to enable recycling of more material. |
| Set-out congestion. | Multiple bags and crates located in a single location from flats, right-of-ways. | <ul style="list-style-type: none"> Identify alternative solutions for those properties where congestion is a problem (refer Appendix Section 20). |

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| Recycling containers left out permanently. | The amenity value of the street is reduced . | <ul style="list-style-type: none"> • Increase awareness of the householder responsible, so they realise that their behaviour is not acceptable; and • use provisions within the Waste Bylaw. |
| Pizza boxes. | Pizza and food boxes contaminated with food cannot be collected under the current contract as there is no process in which to remove the food contamination safely. | <ul style="list-style-type: none"> • Provide a separate collection for pizza and other food containers. This is estimated to be approximately \$30,000 pa; or • include in the new contract requirement for collection of pizza and other food boxes. |
| Householders’ ability to put rubbish and recycling at the kerb. | The population of Hamilton is ageing: elderly or physically-impaired people may not physically be able to put out rubbish and recycling at the kerb. | <ul style="list-style-type: none"> • Collection assistance to be provided for in the new contract. Elderly or physically-impaired people can apply to Council for their rubbish and recycling to be collected from within their properties. |

City-wide - growth

| Issue | Description | Options to address |
|---|---|--|
| The city is growing. | As the city grows, more households are added to each collection route. The collection is usually undertaken over eight hours in the day of for collections, so more households in an area can result in routes being over-prescribed, resulting in uncollected rubbish and recycling. | <ul style="list-style-type: none"> • Change the recycling containers to a wheeled bin, which reduces the collection time; or • change routes, which leads to changes in collection days for some residents . |
| New higher density housing types, eg, mixed use with retail at lower level and residential above. | New housing types do not allow for storage of containers within the property boundary or do not provide sufficient space on the kerb to enable containers to be set out. | <ul style="list-style-type: none"> • Identify alternative solutions for those properties where congestion is a problem (refer Appendix Section 20). |

Refuse transfer station

| Issue | Description | Options to address |
|--------------------|---|---|
| Capacity. | The site was originally designed for the bulking of rubbish. This service has now grown to also include separation and storage of materials for recycling. Therefore there are significant capacity constraints around the recycling shop and recycling areas. These constraints restrict the amount of recyclable materials that can be collected, separated and stored. Refer Appendix Sections 2.26 and 14.1 for more information. | <ul style="list-style-type: none"> • Cease operations of the shop. This will result in more waste to landfill; or • move the shop to another location. This will require a new site and have transport costs for goods; or • reconfigure the site so that there is additional space for the shop and recycling activities. This could be funded by Council or through private partnership with the operator; or • replace the transfer station with a material recovery facility or resource recovery park. |
| Performance . | There is currently no contractual KPIs relating to recycling rate or customer satisfaction. | <ul style="list-style-type: none"> • New contract to include targets for waste recycling and diversion. |
| Health and safety. | There are a number of health and safety issues that have led to accidents at the site including: <ul style="list-style-type: none"> • High volume of traffic. • Lack of segregation between large and small vehicles. • Falling into the waste drop-off pit. | <ul style="list-style-type: none"> • Improvement at the site as and when required to address health and safety issues. |

| Organic centre | | |
|--|--|---|
| Issue | Description | Options to address |
| Viability of the commercial operation. | The current leaseholder struggles to obtain financial viability of the site. This is due to the relatively small size of the operation, the high compliance costs for the site and the difficulty in operating the site over the winter months due to its location on peat soils. | <ul style="list-style-type: none"> • Sell the site, with the closest alternative site for Hamilton residents in Cambridge; or • have the contractor increase its marketing of the site. Council cannot easily assist with this, as the brand is owned by the current contractor; or • have the site recognised by Council as having a positive impact on waste diversion for the city, allowing financial assistance to be provided in the form of subsidy funded through a waste levy; or • bundle the operation of the site with the other rubbish and recycling services to make it more attractive to prospective tenderers; or • transfer ownership and management to City Parks so that it can be optimised with other services provided by this Unit. |
| Capacity of the site. | The organic centre receives approximately 9,000 to 10,000 tonnes of garden waste per year. Approximately half of this is transported by the operator to their other site in Tirohia. Approximately 60% of the site is in use, with the remainder taken up by trees and large bunds. There is alligator weed (a noxious plant) in one part of the site, which limits how activities are carried out in this area. | <ul style="list-style-type: none"> • Maximise the use of the site by utilising those areas that are not used; or • replace the organic centre with a new purpose-built site as part of a resource recovery park; or • enter into a public/private venture with another operator to reduce transportation costs for materials that cannot be processed on site; or • enter into an agreement with a new contractor to make necessary improvements to the site to maximise capacity. |

1.14 Constraints/Dependencies/Assumptions

Define and describe the factors under each of the headings

(see specific notes section for more details)

Constraints:

- Operational and capital funding contained within the 2015-25 Long-term Plan (LTP).
- Internal resources.
- At least an 18-month lead-in time needs to be provided to the contractor to ensure success.
- Acceptance of the proposal by Council.
- Legislative requirements specifically the Waste Minimisation Act, Local Government Act and Health and Safety at Work Act.
- Council's plans including the District Plan and Waste Management and Minimisation Plan.

Dependencies:

- Sufficient resources are available to Council to support this activity if a Water CCO is formed.
- Approval of this business case is required in a timely manner to enable the procurement process to commence and be completed to enable sufficient contractor lead-in time.

Assumptions:

- There are contractors who would be prepared to tender for the services on offer.
- The forecasted medium growth projected by Statistics New Zealand will occur at the rate stated.
- The financial modelling and forecasting reflects current market conditions.
- The new services proposed will result in the identified diversion rates.
- Contractors will be interested in investing in the refuse transfer station and organic centre to make necessary improvements.

- The community of Hamilton wants an improved rubbish and recycling service.
- International commodity prices provide a financial return for recycling.

2.0 ECONOMIC CASE – complete for **ALL** business cases

Critical success factors & the preferred way forward

2.1 Business Requirements (refer more detail in the specific notes section)

Identify the requirements that must be met – Define them according to **core vs desirable vs optional**

Core

The following core business requirements have been determined by the various Acts and New Zealand Strategies pertaining to the service. These business requirements have been reviewed by the Waste Group. Further information on the Acts and Strategies can be found in Appendix Section 3.

- Promote effective and efficient waste management and minimisation within our district (Waste Minimisation Act 2008, Section 42). Promotion can be achieved through:
 - education; and/or
 - provision of services.
- Protect health by eliminating or minimising risks to our community, our staff and our contractors (Health Act 1956, Section 25 and Health and Safety at Work Act 2015, Section 30). Protection can be achieved through:
 - work methods; and/or
 - provision of protective clothing; and/or equipment; and/or
 - elimination of the hazards.
- Establish effective waste minimisation strategies to reduce waste disposal to landfill (Future Proof Growth Strategy and Implementation Plan 2009). Strategies include:
 - Waste Minimisation Education and Communication Plan; and
 - new service provision to maximise waste diversion.
- Reduce the amount of solid waste generated and ultimately entering landfills. (Hamilton City Council District Plan, Objective 25.12.2.1.) This is achieved by:
 - Waste Minimisation Education and Communication Plan; and
 - new service provision to maximise waste diversion.

Desirable

The following desirable business requirements have been assessed based on their costs and resulting benefits.

- Retain ownership of the refuse transfer station and organic centre.
- Continue to provide kerbside rubbish and recycling collections.
- Maximise waste diversion.
- Minimise environmental impact.
- Increase the recycling level of service provided both at the kerb and at the refuse transfer station Carry out improvements at the organic centre to make the business viable.
- Meet the vision of the Waste Management and Minimisation Plan, by becoming a leader in waste minimisation:
 - Christchurch currently leads the country in waste diversion; Auckland's proposed new service will either match or provide greater kerbside diversion rates.
- Ensure synergies between this activity and other Council activities including litter collections, road sweeping, disposal of green waste and the purchase of mulch and compost are maximised.

Optional

The following optional business requirements have been identified, and these requirements will only be developed if they have a low marginal cost.

- Sub-regional services and shared infrastructure.
- User-pays system for rubbish.

| 2.2a Available Options – Long List (refer more detail in the specific notes section) | | |
|---|---|---|
| Consider a wide range of realistic options for meeting the business requirements. Has a feasibility study been done? You must include a base case: chose either status quo or do nothing or do minimum for this purpose | | |
| Dimension | Description | Options |
| Scale and scope | <p>In relation to the proposal how big/small could this be?</p> <p>eg, by levels of functionality, unit / group / organisation-wide</p> | <p>Status Quo</p> <p>Continue to provide the same level of service. This would include:</p> <ul style="list-style-type: none"> • retendering kerbside collections, with the same service provision (two black bags and crate for recycling) • ownership of the refuse transfer station and organic centre would remain with Council, and the sites would be operated by contractors under a lease agreement • Council’s ability to meet the targets set in the 2015-2025 10-Year Plan would be difficult due to constraints in the type of recycling materials collected at the kerb, with the maximum diversion rate for this service is 32% with education • Council’s vision of becoming a national leader in waste minimisation (Waste Management and Minimisation Plan) could not be realised under this option. The Plan would need to be re-written. <p>Divest (no longer provide the services)</p> <p>Divest Council from the provision of services, and promote waste minimisation only. This would include:</p> <ul style="list-style-type: none"> • sale of the refuse transfer station and organic centre • communication with the community to enable them to source a new service provider(s) • Council’s requirement to promote waste minimisation (Waste Minimisation Act) will be met through education only • Council’s vision of becoming a national leader in waste minimisation (Waste Management and Minimisation Plan) could not be realised under this option. The Plan would need to be re-written. <p>Increase level of service</p> <p>This option would include:</p> <ul style="list-style-type: none"> • collecting more recyclables at the kerb • providing additional containers for kerbside collection • improvements at the refuse transfer station and organic centre to maximise waste diversion from these sites • Council’s vision of becoming a national leader in waste minimisation (Waste Management and Minimisation Plan) would be realised if services provided met or exceed those provided by Christchurch and Auckland. <p>Sub-regional services</p> <p>This option would include partnering with Waikato and Waipa district councils, Waikato Regional Council and the private sector to create a regional resource recovery network and materials recovery facility.</p> <p>Customers</p> <p>The current kerbside collection service provides for collection to residential households only, but excludes those who live in the central business district</p> |

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| | | <p>(CBD). This could be extended to include:</p> <ul style="list-style-type: none"> • commercial / industrial customers • households within the CBD • gated communities and rest homes. |
| <p>Service solution</p> <p>A full summary of the kerbside service options is provided with their potential diversion rates at the end of this section</p> | <p>How can services be provided?</p> <p>Eg, potential solutions and answers, use of technologies</p> | <p>Kerbside rubbish</p> <p>Kerbside rubbish can be collected in bags (current service) or wheeled bins (various sizes available). These options are detailed further in Appendix Section 9.</p> <p>The frequency of collection can be weekly, or if a separate food waste bin collection is provided (see below), the non-food rubbish bin could be collected fortnightly.</p> <p>Kerbside recycling</p> <p>There are a number of options for kerbside collection, in terms of what can be collected and the container that it is collected in. These options are explained in detail in Appendix Section 10 and include:</p> <ul style="list-style-type: none"> • plastics 1 and 2 – current Council service • all other plastics, excluding film and polystyrene (most common service provided by metro councils in New Zealand) – not currently a Council service • aluminium – current Council service • tin – current Council service • paper and card – current Council service (excluding cardboard food containers such as pizza boxes; however these can be included in future contracts) • food – not currently a Council service • garden (green) waste – not currently a Council service, as this service is well provided for by the private sector (refer Appendix Section 1.5 • inorganic collection – not currently a Council service. Some private collectors provide collections for certain items. (refer Appendix Section 13). <p>Containers that could be used include:</p> <ul style="list-style-type: none"> • crates, various sizes • wheeled bins, various sizes • food waste bins. <p>Collection can be weekly or fortnightly.</p> <ul style="list-style-type: none"> • The most common service provided by metro council in New Zealand is a wheeled bin collected fortnightly. • Food would need to be collected weekly to avoid odour and insect issues. <p>Refuse transfer station</p> <p>The refuse transfer station was designed and built for the purpose of collecting, compacting and transferring rubbish to landfill. Over time, the station has become a hub for recycling. It is estimated that the site diverts approximately 10% of the waste received.</p> <p>Physical infrastructure improvements at the site could increase this diversion rate to at least 25%.</p> <p>Organic centre</p> <p>The organic centre receives approximately 9,000 to 10,000 tonnes of garden</p> |

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|------------------|---|---|
| | | <p>waste per year. Approximately half of this is transported by the operator to their other site in Tirohia. Approximately 60% of the site is in use, with the remainder taken up by trees and large bunds. There is alligator weed (a noxious plant) in one part of the site, which limits how activities are carried out in this area. Improvements could be made to the site to mitigate these issues.</p> <p>Education</p> <p>A Waste Minimisation Education and Communication Plan has been developed and is due to be rolled out across the city in June 2016. The purpose of this Plan is to engage with the community to improve waste diversion with the current service, prepare the community for a new service, and maximise use of the new service into the future.</p> <p>The Plan sets out Council’s priorities for education and details education campaigns over a ten-year period.</p> |
| Service delivery | <p>Who can deliver the services?</p> <p>Eg, in-house, out-sourced, alternative procurement strategies</p> | <p>External service delivery for kerbside collection and operation of refuse transfer station and organic centre – Status Quo</p> <p>Services are provided utilising contractors, managed by City Waters staff. This could be managed using:</p> <ul style="list-style-type: none"> • a single contract, with the lead contractor potentially sub-contracting certain services; or • contracting each service as a single contract, with Facility Access Agreements in place to manage the synergies between services. Refer Appendix Section 21 for further information. <p>Internal service delivery</p> <p>Kerbside collection and operation of the refuse transfer station and organic centre are provided using in-house resources. This option would require a new business unit to be set up, staff and resources required (including collection trucks). Palmerston North is the only metro council in New Zealand to do this.</p> <p>Supporting services such as education and compliance are currently provided in house.</p> <p>Private sector delivery of kerbside services, refuse transfer station and organic centre</p> <p>Council has an obligation under the Waste Minimisation Act to promote waste minimisation, but this does not necessarily require Council to carry out the waste services.</p> <p>There are suitably-equipped contractors working within the city now, who could provide kerbside collection services. Council’s influence would be constrained to bylaw provisions and ensuring compliance.</p> <p>This option would also include the sale of the refuse transfer station and organic centre.</p> <p>Sub-regional partnership</p> <p>This option would see Council partner with the regional council and other district councils to provide a sub-regional service by creating a regional waste network and material recovery facilities.</p> <p>The regional waste network would include kerbside collection of rubbish and recycling from all properties within the sub-region. Waste and recyclables would then be transferred to a resource recovery park, where further recycling (e-waste, organic waste, clean fill, building materials, etc) could maximise waste</p> |

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|----------------|---|---|
| | | <p>diversion.</p> <p>Other options</p> <p>Options include:</p> <ul style="list-style-type: none"> • Council Controlled Organisation (CCO). • Alliance. • Public Private Partnership (PPP) (refer Appendix Sections 16 and 17). <p>Transference of assets to other units within Council</p> <p>The services provided by the organic centre align with the services provided by City Parks. The centre can provide disposal and composting of parks green waste, and the mulch and composting products can be used within the city's parks. Ownership of the organic centre could be transferred between Council activities, to maximise activity synergies.</p> <p>Transference of service responsibilities currently carried out by other Units within Council</p> <p>Litter collection is currently carried out by the Infrastructure Alliance. Part of the litter collection services provided is the cleaning up after the rubbish and recycling trucks have completed their routes.</p> <p>This service could remain as an independent service, or be amalgamated into the rubbish and recycling collection service as part of the contract(s).</p> |
| Implementation | <p>When can the services be delivered?</p> <p>eg, timing and staging, big bang, phased, modular</p> | <p>The key driver to the implementation of any new or updated waste minimisation plan is the expiry of the Council's kerbside collection contracts and refuse transfer station operation. These contracts expire on 30 June 2019. Due to the nature of these contracts, a lead-in time of 18 to 24 months is required. Therefore the procurement of a new contractor needs to commence in August 2016 and be completed by December 2017. Refer Appendix Section 21 for proposed implementation programme.</p> <p>The organic centre lease is currently not part of the suite of rubbish and recycling contracts, but to enable its inclusion, the service could be tendered with all the other services, but with a staged commencement date of either 1 July 2018 or 1 July 2021.</p> <p>It is possible to stage implementation of kerbside collections change, however this is not recommended as:</p> <ul style="list-style-type: none"> • the recycling service provided affects the amount of waste generated, therefore it is difficult to change one service without an effect on the other • it would require the community to change more than once • extended education and marketing would be required to ensure successful delivery, increasing the costs. |
| Funding | <p>How can it be funded?</p> <p>eg, capital, operating, PPP, grant</p> | <p>Capital</p> <p>There is no capital funding provision associated with this business case in the 2015-25 10-Year Plan. Options to provide capital funding to support this proposal include:</p> <ul style="list-style-type: none"> • private public partnerships • build, own, operate, transfer (BOOT) contracts (refer Appendix Section 17). <p>Operating</p> |

| | | |
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| | | <p>The implementation of this business case is operationally-funded. There is funding provision within the 2015-25 LTP to provide a service. Options to provide operating funding to support this proposal include:</p> <ul style="list-style-type: none"> • User-pays for kerbside rubbish collection • lease income from refuse transfer station and organic centre • waste levy. <p>Purchasing containers</p> <p>There are several options available for funding of any container purchases, including:</p> <ul style="list-style-type: none"> • Council purchases and funds via a targeted rate • Council purchases and funds via the general rate • Council purchases, capitalises the containers and funds through debt • Contractor purchases and recovers costs through contract rates throughout the life of the contract. |
|--|--|--|

2.2b – Kerbside Collection Options – Financial Modelling

Kerbside rubbish and recycling collection options need to be considered together as each are dependent on the other. Each option has a different cost associated with it, and will divert a different amount of rubbish from landfill.

Eunomia Research and Consulting Ltd were engaged to develop a financial model of the different options associated with kerbside collection. These options were determined by the Waste Group. The options included:

- Rubbish in 2 x 60L bags, collected weekly, plus the following:
 - Single crate for recycling, with purchase of the second by the householder: plastics grades 1 and 2, aluminium, tin cans, glass collected, paper bundled separately. Weekly collection
 - Two crates provided for recycling: all plastics collected (excluding polystyrene and film), aluminium, tin cans, glass collected, paper bundled separately. Weekly collection.
 - A 240L wheeled bin for all plastics (excluding polystyrene and film), aluminium, tin cans and paper, glass collected in crate. Fortnightly collection.
 - weekly food bin collection.
- Rubbish in a 120L wheeled bin, collected weekly, plus the following:
 - Single crate for recycling, with purchase of the second by the householder: plastics grades 1 and 2, aluminium, tin cans, glass collected, paper bundled separately. Weekly collection.
 - Two crates provided for recycling: all plastics collected (excluding polystyrene and film), aluminium, tin cans, glass collected, paper bundled separately. Weekly collection.
 - A 240L wheeled bin for all plastics (excluding polystyrene and film), aluminium, tin cans and paper, glass collected in crate. Fortnightly collection.
 - Weekly food bin collection.
- In addition to the above, rubbish funding has also been modelled using two models:
 - Rates-funded.
 - User-pays.

Eunomia used an internationally recognised financial model 'Herms', which has been used extensively in New Zealand and the United Kingdom (UK). The model was based on the current system and validated against existing data. From this, 24 scenarios were produced to cover the options listed above. Under each scenario, the model calculated the

container requirements including cost, staffing and vehicle requirements, disposal and other operating costs, as well as the expected kerbside diversion rates.

The model also calculated future costs, for the 10-year contract period, which has taken into consideration predicted growth (based on Statistics New Zealand - Medium) and future-predicted Emission Trading Scheme and Waste Disposal Levy charges.

It should be noted that the outputs are based on a financial model, using information available at the time. Staff cannot confirm the actual costs of each option, this will occur through a tender process.

The model assumptions and limitations and consultant reports can be found in Appendix Section 12.

Figure 7 and Figure 8 show the results of the financial modelling for the 24 scenarios for 2019/20. Results are ranked in waste diversion performance, with the poorest to the left, and the most effective to the right. Results for the current and preferred service over the 10-year contract period are shown in Figure 10.

The cost for the householder is presented in Figure 7. These costs include GST and:

- The proportion of rates that the householder would pay for the rubbish and recycling service. This is based on an average rates bill. Should Council chooses to change from the General Rate, this rate amount is what the Uniform Annual Charge per household is expected to be in 2019/20.
- The purchase cost of the rubbish bags, for those options that include rubbish in bags. Again this is based on the average household who put out on average 1.4 bags per week .
- The cost of the service if User-pays were to be introduced. For these scenarios, the cost is made up of a User-pays component for rubbish and a rate-funded component for recycling including:
 - The cost of the User-pays service being based on the expected amount of rubbish that an average householder would put out. For example; for the current Council service, the amount put out would be 1.4 bags per week. If the service was improved with all plastic recycling and food waste being collected using a bin for each, the amount of rubbish being put out into a bag would be likely to reduce to one bag per week.
 - Adding another layer of complexity to the User-pays financial model, taking into account that if the new system were to be introduced, Council will be competing private industry for customers. This was the 'loss of market share' factor which was included in the model.
- The cost of User-pays taking into account including all these factors in the model is as follows:
 - \$2.20 per 60L bag.
 - \$3.50 for a 120L wheeled bin.

Approximately 50 per cent of the households in Hamilton are in rented accommodation, the costs for these households are based on the purchase cost of bags or the User-pays component of the rubbish collection service.

The costs and savings to Council for each of the scenarios are provided in Figure 8. For reference, the 2019/20 budget for rubbish and recycling services is also provided. Scenarios with a User-pays component to provide rubbish collections show a saving. The results are based on Council purchasing all containers.

It is expected that all scenarios which are funded through rates will be greater than the current budgeted amount in 2019/20. The 2015-2025 10-Year Plan was based on simplistic modelling which underestimated the cost of services as it was based on the existing contract. It has since been found that the existing contract provides very competitive market rates due to it being 17 years old.

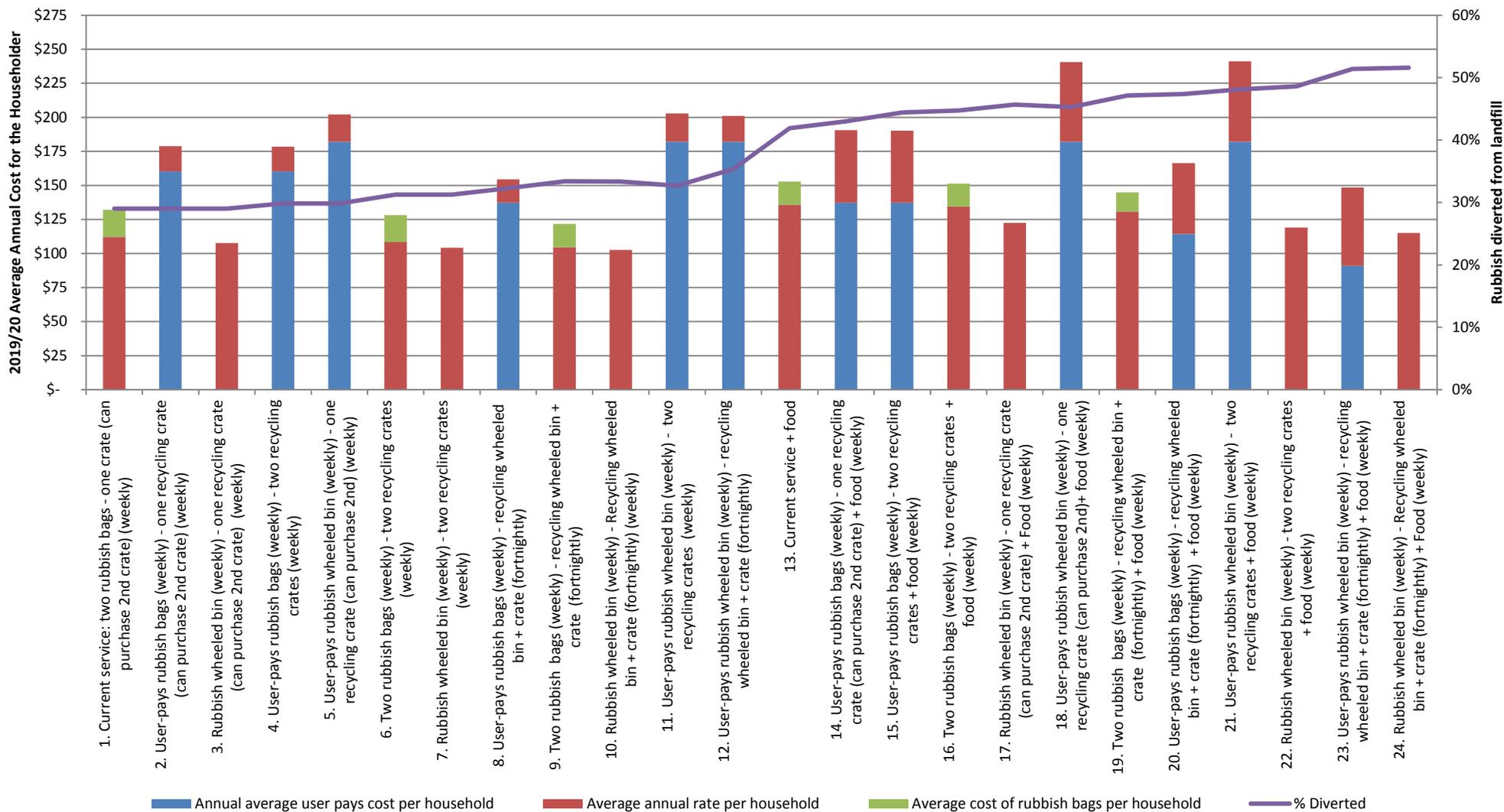


Figure 7: Annual costs to households for each modelled kerbside service option (including GST and excluding interest and overheads)

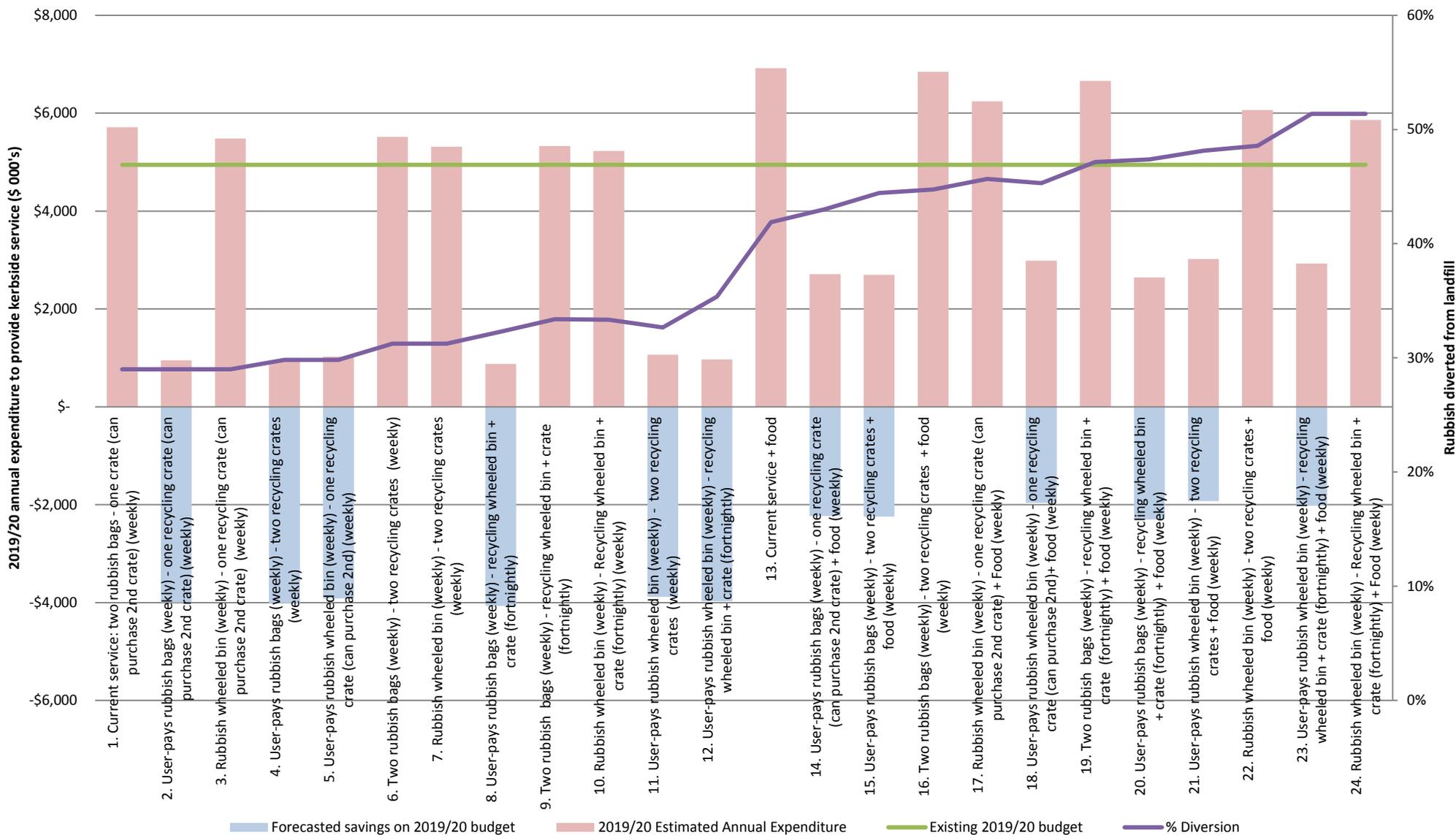


Figure 8: Annual cost to Council for each modelled service (excluding GST, interest and overheads)

2.3 Preferred Option – engage with stakeholders to develop this and identify whole of life cost of the proposal

Identify the preferred option, describing strategic fit, how well it meets the business requirements and its advantages and disadvantages

The delivery of the preferred option is to hold a single contract for all services, the lead contractor may choose to utilise sub-contractors for certain items. The kerbside collection service will remain for residential properties only, and will exclude the city centre and private communities such as rest homes. Private communities (such as rest homes) who wish to have the council provided service could do this under a special agreement to mitigate any liabilities such as driveway damage by collection trucks.

Kerbside collections

The preferred option for kerbside rubbish and recycling is to provide a service, which consists of:

- 120L wheeled bin for rubbish collected weekly
- 240L wheeled bin (paper, card, including food containers, plastics 1-7 (excluding film and polystyrene), aluminium and tin and crate for recycling (glass) collected fortnightly
- 23L food kerbside bin with a 5 L kitchen caddy collected fortnightly.

This service would be rate-funded.

This service:

- enables Council to become one of the national leaders in waste minimisation alongside Christchurch and Auckland who also provide a similar service
- increases the amount of diversion possible from the current 29 per cent to over 50 per cent
- for the average householder, the service can be provided for a lesser cost than the existing, when the householder's purchase of bags is also included in the analysis
- increases the volume of the kerbside collection containers by 73 per cent
- increases the types of recyclable materials that can be collected from the kerbside
- provides the best long-term value for money
- no longer relies on the householder purchasing black bags, therefore reducing the disposal costs to Council
- reduces Council's financial risk associated with the government raising the Waste Disposal Levy and Emission Trading Scheme charges.

This service addresses the following issues. It:

- reduces the risk of windblown litter, as all rubbish and recyclables are within a container with a lid
- reduces animal strikes as rubbish is contained within a solid container and not bags
- addresses the health and safety risk to the collectors, by minimising their exposure to lifting and cut injuries.

This service creates the following issues, which can all be managed:

- Alternative weekly collection for recyclables could be confusing for the customer. To mitigate this, Council will provide key information to the householder. Auckland, Christchurch, Wellington, Dunedin, Palmerston North, New Plymouth and Invercargill all provide successful recycling fortnightly collection services.
- Congestion at the kerbside. Every second week there could be up to four containers per household, for those who live in a right-of-way property, or units, congestion at the kerb will be an issue. This can be managed through education and advice on how to set out the containers so everyone can put theirs out. Alternative solutions will be found those areas where there is insufficient kerb space. Refer Appendix Section 20 for further information.
- Larger households could find it difficult to restrict their rubbish to the 120L container provided. This volume is the same as the current service; however it does not allow households the option to put a bag outside the neighbours. This is unlikely to be a wide spread issue as only seven per cent of the households in the city have greater than four residents. The proposal includes an improved recycling service, which will provide these households with 73 per cent more container space at the kerb to dispose of waste. For those who still find it difficult, households will be able to apply to Council for a larger wheeled bin, subject to certain criteria being met.
- Elderly or physically impaired persons may not be able to manoeuvre large wheeled bins. It is proposed to include

provision for an assisted collections service, where customers can apply to Council for collection within their properties, subject to certain criteria being met.

Refuse transfer station and organic centre

The preferred option is to manage the lease of these sites under the same suite of contracts as the kerbside collection.

Though negotiations with the preferred contractor it is envisioned that some improvements to the sites can be made without funding support from Council. The extent and benefits of any works will be determined as part of the contractor procurement process.

To maximise financial opportunities for other units of Council, the contract will include Facility Access Agreements for all Council units who currently (or could) use the transfer station for disposal of waste.

2.4 Potential Value for Money

Describe how the preferred option maximises value for money

Value for money has been determined by:

- the cost to the householder
- the level of service provided through
 - container volumes
 - recycling collected
- comparing of costs for rubbish bag purchase by the householder and provision of a wheeled bin
- the reduction of waste associated with the removal of the black bag
- the reduction in Council's financial risk.

Householder average annual cost

For the average household, who pay the average General Rate, and who put out the average amount of rubbish, this service will be cheaper than the current service. This has been determined as:

- current service = Average general rate \$112 + purchase of 1.4 rubbish bags per week @ 0.27 per bag= \$132
- proposed service = average rate per property= \$115.

Householder level of service (based on container volume)

The currently level of service provides for two black bags and a recycling crate, which equates to 165L of container volume per week (or 8,580L per year).

The proposed service consisting of a wheeled bin for rubbish (120L) weekly + recycling wheeled bin (240L) and crate (45L) collected fortnightly + food waste (35L) collected weekly, provides an annual volume of 14,846, a 73 per cent increase on the current service.

Householder level of service (based on recycling collected)

The current recycling level of service provided includes collection of plastics (types 1 and 2), glass, aluminium, tin, paper and card. The new service will include those materials currently collected and be expanded to accept all plastics (excluding film and polystyrene), cardboard food containers (ie, pizza boxes) and food waste.

The cost of bags versus wheeled bins

The proposed service includes a 120L wheeled bin for rubbish. This is the equivalent of two black bags per week. If the householder were to purchase two bags a week, it would cost approximately \$28 per year. A wheeled bin, purchased for a one-off cost of approximately \$52, is expected to last 10 years.

Net present value of a wheeled bin is calculated as \$84. This is favourable when compared to the net present value of two rubbish bags per week per household over the ten-year period, ie, \$211. Wheeled bins provide a net present value saving of \$127 per household.

Over the ten year period, the community of Hamilton will spend approximately \$12.6 million on black bags (based on

growth, cost of the bag at 0.27 cents each and inflation at 0.5 per cent). The cost of the wheeled bins in 2019 is \$2.9 million, with new bins being purchased as the city grows). Therefore the overall savings to the community is approximately \$9.7 million.

Reduction of waste associated with the black bag

Bags end up being part of the rubbish that a householder puts out every week.

Based on an average use per household of 1.4 bags per week, the total weight of these bags for the city is expected to be 206 tonnes in 2019/20. Taking into account growth, over the ten-year period, the city will dispose of 2,400 tonnes of black bags.

The disposal costs associated with just the (empty) bags is \$20,000 in 2019/20 and \$286,000 over the ten-year period.

Reduction in Council’s financial risk

The cost of the Emissions Trading Scheme and Waste Disposal Levy using today’s charges and the current service in 2019/20 would cost Council \$293,000. However, forecasted increases to these charges which take into consideration the outcomes of the New Zealand Budget 2016 indicate that this figure would be \$355,000, an increase of \$62,000.

The forecasted Emissions Trading Scheme and Waste Disposal Levy charges are conservative. The current capped value of the Emissions Trading Scheme is \$25 per tonne. Financial modelling has used a maximum charge of \$16.60 in 2029. However, there is potential that the capped value could be reached, or the capped value could be removed and charges are in excess of \$25 per tonne.

The Waste Disposal Levy is currently at \$10 per tonne, by 2019/20 this is forecasted to increase to \$11.50 and up to a maximum of \$57.50 by 2029. However, there is a potential that the Waste Disposal Levy could increase to match that of Australia, where there are similar schemes in place. New South Wales has a charge of \$133 per tonne.

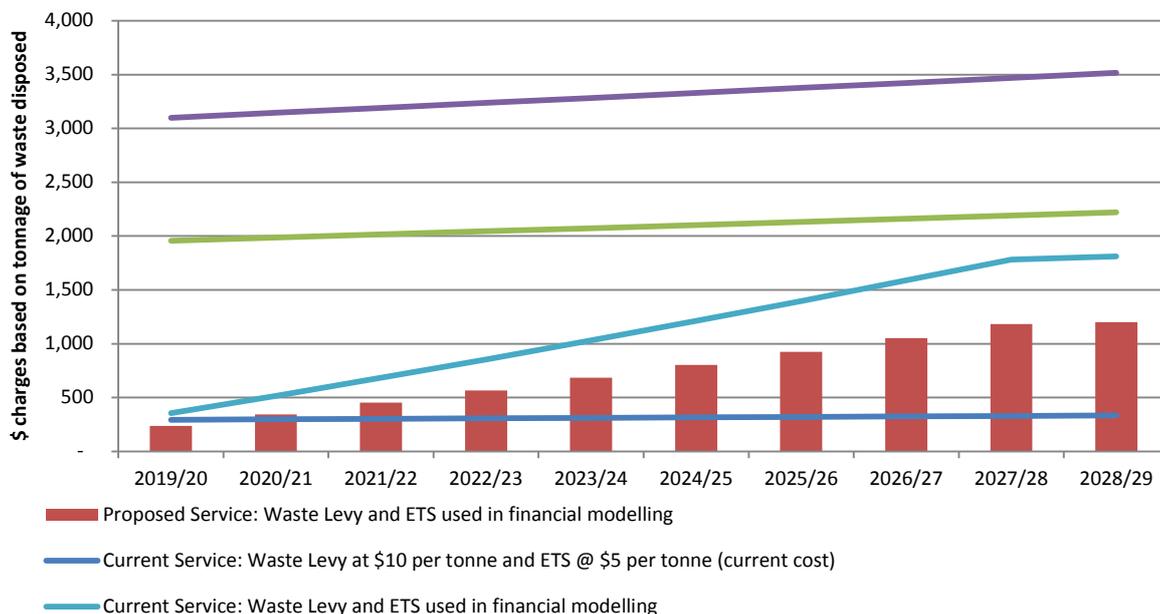


Figure 9: Forecasted Emissions Trading Scheme and Waste Disposal Levy costs

- The proposed service, with the reduction in waste disposed to landfill, is estimated to reduce the Emissions Trading Scheme and Waste Disposal Levy charges in 2019/20 to \$235,000 (providing a saving of \$120,000). Over the ten-year period it is estimated that Council will save \$3.8 million.

2.5 Achievability

Outline how the preferred option will be successfully delivered

It is achievable to provide this change, however there some key timelines that need to be met to ensure success.

- The contractor will require a minimum of 18 months’ lead-in time to purchase the necessary containers and obtain the required infrastructure to support this contract including trucks and recycling sorting facilities.
- It is proposed to procure the contractor using a two stage procurement process, ensuring there is sufficient time to report to Council within the minimum time required for procurement (12 months).

This service change can be successfully delivered using Council’s standard project management and procurement procedures. However it is expected to have a significant impact on Council operations in the short term, especially during the lead up to and the commencement of the new service (January 2019 to November 2019)

A full breakdown of the tasks associated with this project, how they will be carried out, and the costs is provided in Appendix Section 22.

Additional staff resources are required as part of this proposal, and include:

- An additional Waste Minimisation Advisor in the City Waters Team, commencing in 2016/17.
- Additional compliance team member, commencing in 2016/17.
- Temporary additional resources in the call centre. Financial allocation has been provided for up to three full time equivalent (FTE) resources over six months, commencing approximately six weeks prior to the roll out of the service, and for the six weeks following the roll out.

2.6 Affordability

Outline how the preferred option will be funded

Service provision

Figure 10 shows the forecasted costs associated with proposed service per annum for the 10-year period of the contract. This is compared to the provision of the existing service and the current budgets to provide the service.

The forecasted net expenditure of the current service in 2019/20 will be \$1.1 million greater per annum when compared to the 10-Year Plan budget. This is due to increased market cost (current contract rates are competitive and 17 years old), increased Emission Trading Scheme and Waste Disposal Levy charges, and increased compliance costs for both the contractor and Council. For the average householder this equates to an annual expenditure of \$132.

The forecasted net expenditure of the proposed service in 2019/20 will be \$1.2 million greater per annum when compared to the 10-Year Plan budget. This takes into consideration the increased market cost (current contract rates are competitive and 17 years old), increased Emission Trading Scheme and Waste Disposal Levy charges, increased compliance costs for both the contractor and Council, the food service and containers.

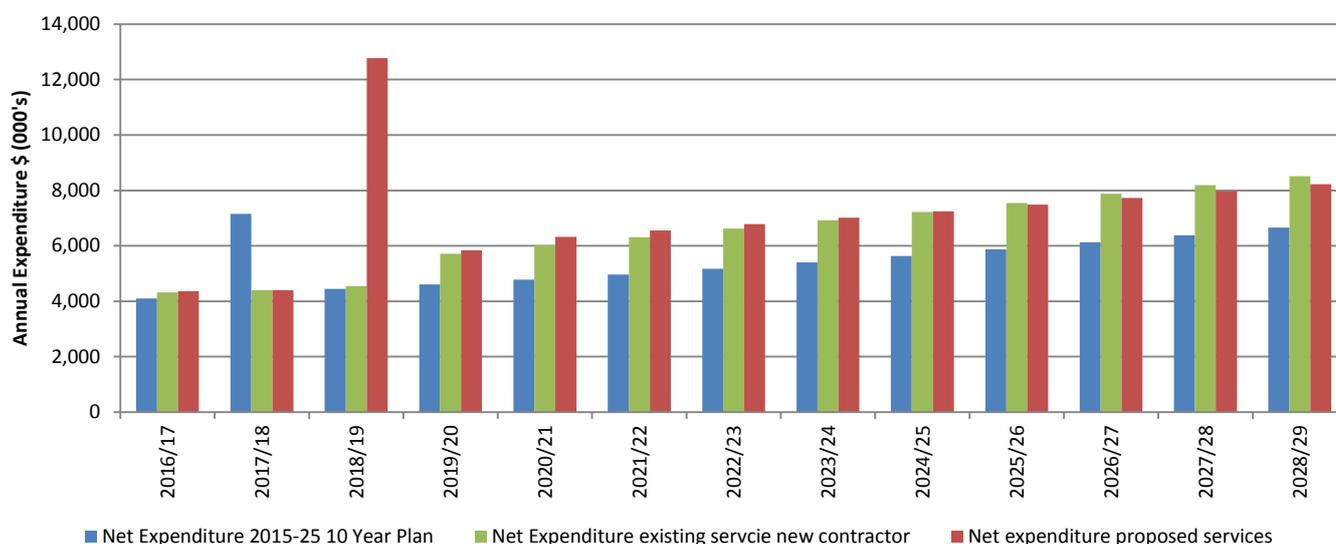


Figure 10: Annual forecasted costs to Council (excluding inflation, GST, interest and overheads)

Other costs accounted for in the forecasted expenditure (Figure 10) include:

- procurement of containers in 2018/19
- procurement of new contractor commencing in 2016/17
- additional staff resources commencing in 2016/17
- housing review in 2016/17
- support for Council's Call Centre prior to, during and immediately after the roll out of the new service proposed service
- reduction in costs for litter collection

As Figure 10 shows, the cost of the new service will be the same as the existing by 2024/25. This is due to the cost of rubbish disposal increasing over time, by 2024/25 it is forecasted to be cheaper to recycle than it is to dispose as rubbish at the landfill.

Containers

The 2015-25 10-Year Plan has funding provision of \$2.934M in 2017/18. This allocation was based on the estimated cost of a recycling 240L wheeled bin to be purchased in 2016/17, with a new service commencement date of 1 July 2017. Since the 10-Year Plan was approved, the required purchase date has moved to 2018/19, and commencement to 1 July 2019. Whilst inflation has been included, allowance for new households over the two-year period has not been accounted for, so a funding shortfall has arisen.

The preferred option also includes a 120L rubbish wheeled bin and a 23L food bin with a 5L kitchen caddy. The purchase of these containers was not included in the 2015-25 10-Year Plan funding allocations. The total cost of the containers is as follows.

Two options are presented, with Council purchasing the containers or the contractor. If the contractor purchases the containers, the purchase cost and the contractors borrowing costs will be recovered throughout the term of the contract. Contractor funding the containers will add an additional \$3.4 million to the service.

Table 2: Purchase cost of containers with 10% contingency

| Container type | Purchase price, plus delivery and electronic tags (per unit) | Total cost based on 58,600 households in 2019/20 and 10% contingency (\$ 000's) | Estimated cost if purchased by the contractor over the ten year contract period |
|--------------------------------|--|---|---|
| 120L rubbish wheeled bin | \$50.15 | \$2,938 | \$4,737 |
| 240L recycling wheeled bin | \$53.90 | \$3,157 | \$5,104 |
| 23L food bin + 5L food caddy | \$23.00 | \$1,347 | \$1,468 |
| 10 % contingency | | \$744 | |
| Total | | \$8,186 | \$11,309 |
| 2016/17 budget | | \$2,935 | |
| Unbudgeted funding requirement | | \$5,251 | |

Funding the service and containers

The cost of the service and containers can be funded in several ways:

1. Use debt funding, this will result in no increase to rates but debt will increase over the next 10 years
2. Use debt funding and a targeted rate to fund the container purchase.
3. Increase rates to fund. This will result in a 1% rates increase in 2018/19 over and above the annual 3.8 per cent per Council's Financial Plan. This option has not been considered further as it is conflict with the Financial Plan.
4. Introduce user pays for rubbish collection, with the remainder of the services funded through rates.
5. Contractor fund s the containers, with cost recovery throughout the term of the contract.

Effect on Council's debt

Options one and two above, look towards utilising council debt to fund the new service. This can be carried out in a number of ways, as presented in the table below. These options have been analysed against the status quo (option 5) of retaining the current service. Full graphical analysis is provided in Appendix Section 22.

Table 3: Effect on Council's debt

| | Overall debt in 2028/29 | Debt to revenue ratio in 2028/29 | Balancing the books in 2028/29 |
|--|-------------------------|----------------------------------|--------------------------------|
| Option 1 Council funds the containers through a four year targeted rate of about \$22.50 per year | \$28 million | 10% | -\$4 million |
| Option 2 Council funds the containers through operating expenditure with no increase to rates | \$37 million | 13% | -\$4 million |
| Option 3 Council funds the containers through capital expenditure, service funded through operational expenditure with no increase to rates | \$37 million | 13% | -\$5 Million |
| Option 4 Contractor funds the containers, with the contractor recovering the cost throughout the term of the contract | \$38 million | 13% | -\$5 million |
| Option 5 Current service is continued under a new contract | \$28 million | 6% | -\$3 million |

Option 1, Council funds containers through a four year targeted rate provides the best long term financial outcome for Council. This option, whilst increasing Council's over debt by \$28 million will have a minimal effect on the forecasted budget surplus in 2029.

Lease revenue from refuse transfer station and organic centre

The current lease revenues from these sites are:

- Refuse transfer station \$339,000 plus GST and all outgoings.
- Organic centre \$90,000 plus GST and all outgoings.

The preferred option includes provision for the contractor to make improvements to the sites to maximise resource recovery and optimise operational efficiencies. The ownership of any infrastructure improvements will be passed back to Council at the end of the 10-year contract period. This can be procured through a build, own, operate, transfer (BOOT) contract.

Waste levy

The waste levy is obtained from central Government on a quarterly basis to assist Council in the promotion of waste minimisation. Refer Appendix Section 3.1.2 for further explanation.

The following table shows the annual income received and expected expenditure in support of this business case. The remainder is used for projects which do not form part of this business case. Full disclosure of the Waste Levy funding and management of the Waste Levy Reserve is provided in Appendix Section 22.

The amount of waste levy received is dependent on the population, therefore it is expected to increase over time.

Table 4: Waste levy funding and expenditure (\$ 000's)

| Financial Year | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Waste levy funding | 551 | 559 | 567 | 574 | 581 | 588 | 595 | 602 | 610 | 617 | 624 | 631 | 638 |
| New Waste Minimisation Advisor | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Temporary assistance to Project Manager to support new service roll out | | | 35 | 35 | | | | | | | | | |
| Customer surveys | | | | | 25 | | | 37 | | | 37 | | |
| Waste Minimisation education and communication plan campaigns | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| New service roll out – education and communication campaigns | | | 75 | 75 | | | | | | | | | |
| Total | 200 | 200 | 310 | 310 | 225 | 200 | 200 | 237 | 200 | 200 | 237 | 200 | 200 |
| Waste levy funding available for other commitments and projects. These projects do not form part of this business case. | 351 | 359 | 311 | 311 | 226 | 201 | 201 | 238 | 201 | 201 | 238 | 201 | 201 |

Mitigation of financial implications

Council can mitigate the financial effects of the new service by introducing User -Pays for rubbish collection. In 2019/20 if User-Pays was introduced, the service could be delivered for \$516,000 less than current budget, over the ten year period the savings will be \$8.8 million.

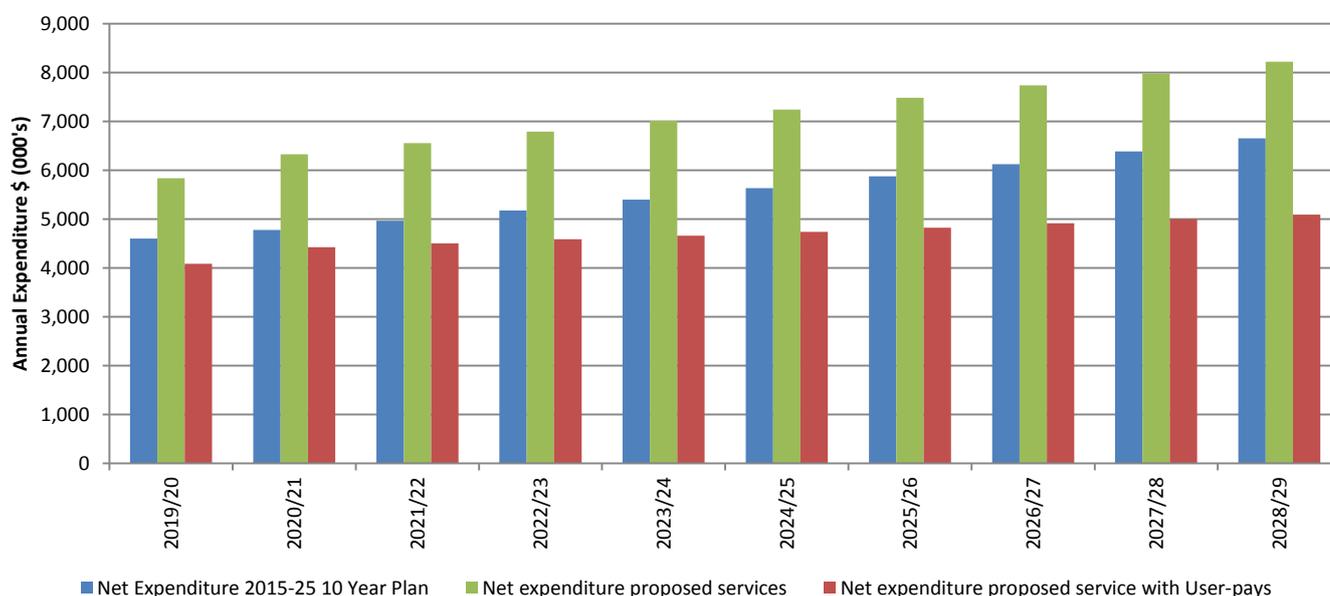


Figure 11: Annual forecasted costs with user-pays (excluding inflation and GST)

Incorporating a User-pays service will increase the cost for the community. Under a rate funded system the proposed service will cost the average householder \$115 per year. Introducing user pays the same service will cost the householder \$241 per year, an increase of \$126, or up to \$7.4 million for the city.

This option is not recommended as part of this business case due to the financial impact on householders.

| 3.0 COMMERCIAL CASE – Complete for FULL business cases only | |
|--|--|
| Resource requirements | |
| 3.1 Identify the resource requirements – define internal and external? | 3.1a Proposed procurement strategy – the how not the what <u>Council’s Procurement Policy & Procedures Manual</u> |
| <p>(see specific notes section for more details)</p> <p>Internal</p> <ul style="list-style-type: none"> • City Waters: Project Manager. • City Waters, Operations Team: contract management (existing and new) and project team members. • Waste Minimisation Advisor (existing and new resource): technical support and team members. • City Waters, Compliance Team: technical support and project team members. • Finance Team: financial management. • Strategic Property: development of lease agreements. • Procurement Team: procurement, advice. • Risk and Emergency management: risk management, advice. • Communication Team: delivery of the Waste Minimisation Education and Communication Plan. • Transportation Team/Infrastructure Alliance: litter management. • City Environments: team members in the development of Housing Review (refer Appendix Section 20). • Customer Services: call centre support with the contractor for the roll out of the new service. Funding for additional staff has been included in the financial forecasts. • City Infrastructure Unit Managers/General Manager: Programme steering and governance. • Senior Leadership Team (SLT) and Council: approvals. <p>External</p> <ul style="list-style-type: none"> • Consultants to prepare tender documentation including registration of interest, request for tender, tender evaluation frameworks and provide technical advice to the Project Manager. • Marketing providers to prepare educational material etc, to support the Waste Minimisation Education and Communication Plan. | <p>The following items will be procured through internal resources:</p> <ul style="list-style-type: none"> • Project management. • Finance management. • Contract management. • Communication/public relations. <p>Professional services will be procured in accordance with the existing Professional Services Framework PSP framework agreement or Procurement Policy and Procedures Manual (for those consultants/ service providers outside the PSP framework) following the relevant procurement policies and delegations for engagements.</p> <p>New contractor will be procured through a two stage tender process consisting of registration of interest and followed by a request for tender.</p> |

| | |
|--|--|
| <ul style="list-style-type: none"> • Legal review provided by Council's external service provider Tompkins Wake. • Probity Auditor. • Contractors: to tender for and to provide services. | |
|--|--|

4.0 FINANCIAL CASE – Complete for **ALL** business cases

Affordability and funding requirements

The following table summarises the cost of this project over the next 13 years, with years 1 to 3 (2016/17 to 2018/19) being the lead- in time and years 4 to 13 being the contract term (2019/20 to 2028/29).

All income and expenditure excludes inflation.

| 4.1 Description | 4.2 Amount (000's) | 4.3 Timing | 4.4 Funding | 4.5 Budget Notes |
|--|-----------------------|---------------------------------------|-------------|---|
| Income | | | | |
| Lease income from refuse transfer station | 3,390 | Yrs 4-13 2019/20- 2028/29 | Income | |
| Lease income from organic centre | 900 | Yrs 4-13 2019/20- 2028/29 | Income | |
| Litter collection funding from Transportation Activity (non-NZTA funded) | 186 | Yrs 4-13 2019/20- 2028/29 | Income | The proposed service provides a savings to the Transportation activity of \$478,000 over the 10-year period. |
| Waste levy funding | 2,209 | Yrs 1-13 2016/17- 2028/29 | Waste levy | This is the allocation of funding for this project. The total waste levy funding for the activity is \$7.735 million. |
| Total income | 6,685 | | | |
| Expenditure | | | | |
| External assistance for contract documentation, legal, probity, housing review | 140 | Yr 1 2016/17 | Operational | There is no funding allocation in the activity budgets for this work. |
| Call centre support | 60 | Yrs 3 and 4 2018/19 and 2019/20 | Operational | Additional staff in the Call Centre, assumed 3 months prior to new contract roll out and 3 months after roll out. |
| Litter collection | 380 | Yrs 4-13 2019/20- 2028/29 | Operational | Funded by the Transportation activity, includes removal of fly tipping. |
| Compliance Officer | 910 | Yrs 1-13 2016/17- 2028/29 | Operational | Additional staff member in the City Waters Compliance Team. Starting in 2016/17 this role will support existing staff in ensuring compliance with the Litter Act, Bylaw and housing review. |
| Drop-off points for University | 130 | Yrs 1-13 2016/17- 2028/29 | Operational | Trialled in 2015/16, this service dramatically reduced the number of complaints of furniture and rubbish put out by students at the end and start of the academic year. It is planned to provide this service on an annual basis. |
| Site maintenance | 281 | Yrs 1-13 2016/17- 2028/29 | Operational | As per existing maintenance plans for the refuse transfer station and organic centre. This will need to be reviewed once site improvements are known. |
| Purchase of containers | 7,442 | Yr 3 2018/19 | Operational | Current 10 Year Plan allocation is \$2,865 in 2017/18. |

| | | | | |
|--|-----------------|---------------------------------|-------------|--|
| On-going purchase of containers for growth and breakages | 2,994 | | | Includes new containers for growth and replacement of broken containers, have assumed a 2.5% replacement rate. |
| New contract | 64,327 | Yrs 4-13 2019/20- 2028/29 | Operational | Includes purchase and borrowings for remaining containers. |
| Waste levy supported expenditure | 2,919 | Yrs 1-13 2016/17- 2028/29 | Waste Levy | Works include additional waste minimisation officer, external assistance to Project Manager during roll out, customer surveys, waste minimisation education campaigns, education of new service. |
| Contingency | 7,958 | | | 10% contingency added |
| Total expenditure | 87,541 | | | |
| Net position | (80,856) | Yrs 1-13 2016/17- 2028/29 | | |

4.6 Comments – describe any contracting mechanisms that may apply and identify costs associated with risk. Provide any additional details on the above as appropriate

Funding estimates for the refuse and recycling collection services have been developed for this business case to take into consideration the dependencies of one option versus another, ie, an increase recycling service will reduce rubbish volume. The forecasted costs for the rubbish and recycling collections include:

- Growth, based on Statistic New Zealand’s medium growth projections.
- Collection costs.
- Disposal costs, including Waste Disposal Levy and Emission Trading Scheme charge (Figure 9).
- Revenue received by contractor for recyclables.
- Containers, including purchase cost and contractor borrowings.

Funding allocation for rubbish and recycling for the 2015-25 10-Year Plan was based on modelled services in 2014, which did not include the full range of options presented in this business case.

Lease incomes are based on the existing, as they reflect current market rates.

The final cost of the services to be provided will not be known until the request for tender evaluation has been completed; market, commercial constraints and opportunities will be different for each tenderer.

Inflation is excluded from the financial forecast.

5.0 MANAGEMENT CASE – Complete for **ALL** business cases

Ensuring successful delivery

5.1 Stakeholder Engagement

Refer Appendix Section 6 for the list of stakeholders, their involvement in the development to this business case and further engagement if this business case is successful.

5.2 Proposed Implementation Plan

This project will be delivered in keeping with Council best practice project management principles. A draft project

implementation plan is provided in Appendix Section 21.

1. Governance and project management structure

The governance for this project is provided by the City Infrastructure Programme Governance Group (PGG) for Transport and Waste.

High level roles and responsibilities are as follows.

Purpose of programme framework and PGG structure - All City Infrastructure-related projects for Growth/Waters/Transport/Waste sub-projects and programmed activities are managed in a coordinated way to obtain benefits not available from managing them individually.

Programme Sponsor - Provides the Senior Leadership Team (SLT) with direction and organisational vision to the City Infrastructure Programme. A person who has the appropriate Council-delegated authority is able to provide resources and support for the programme. The Programme Sponsor is accountable for enabling success. This person provides prioritisation and a mandate for the City Infrastructure programme of work and associated benefits.

Project Sponsor – Provides high level direction and vision to a project. A person who provides resources and support for the project and is accountable for enabling success. Provides mandate for project work to proceed as delegated by Programme Sponsor.

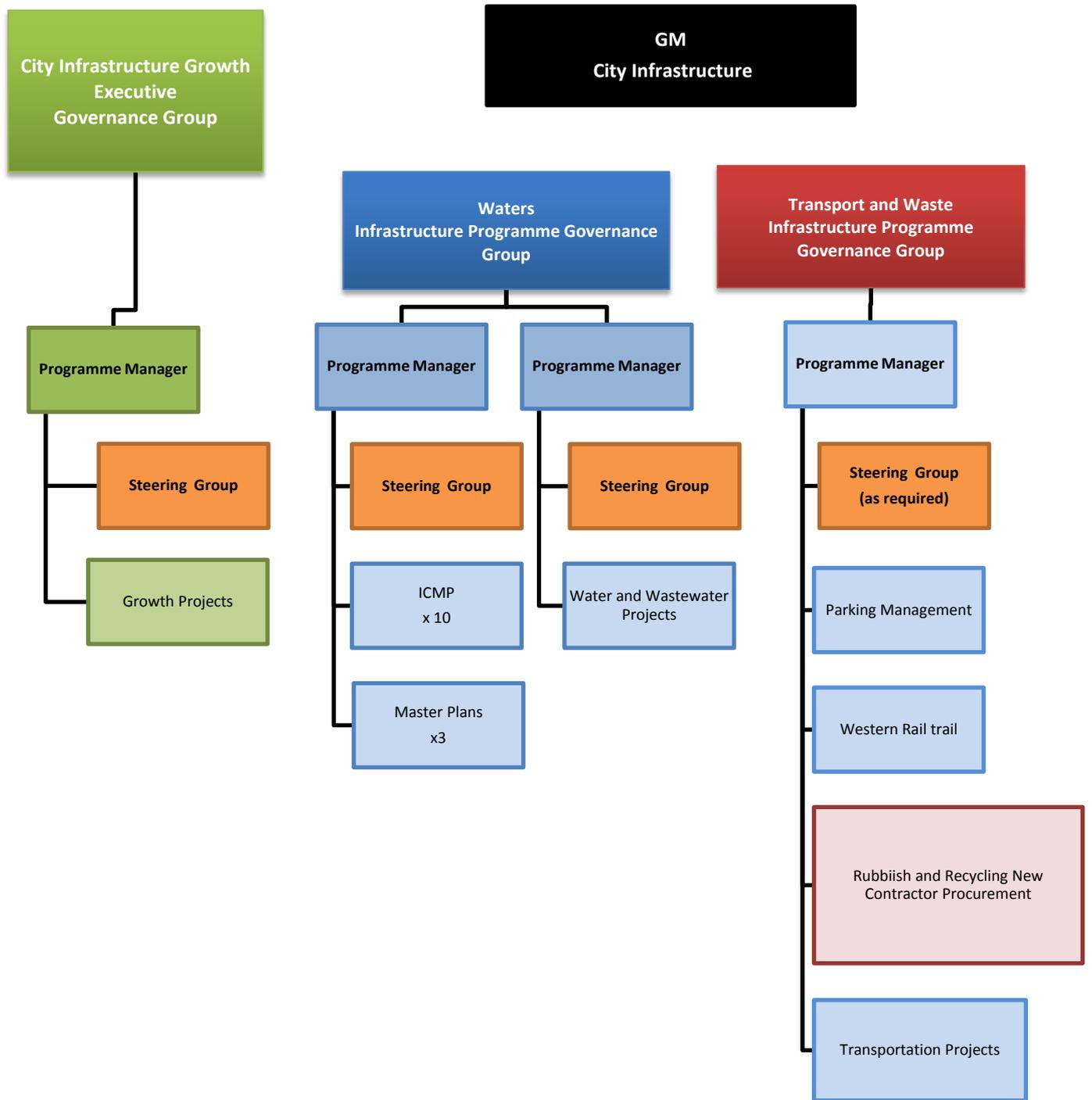
Programme Manager – Oversees the dedicated governance group programme of works. Provides detail, direction and support to the Project Manager. Ensures project scopes and plans meet the customers' needs. Provides direct support to Infrastructure Governance Group.

Project Manager – The person responsible for leading and facilitating the delivery of a project. Ensures that the project meets customers' requirements and is completed on time and within limits, compliance and constraints as per charter/scope/project plan, with clear measurable objectives. Liaises with sponsor, business owner to capture scope information.

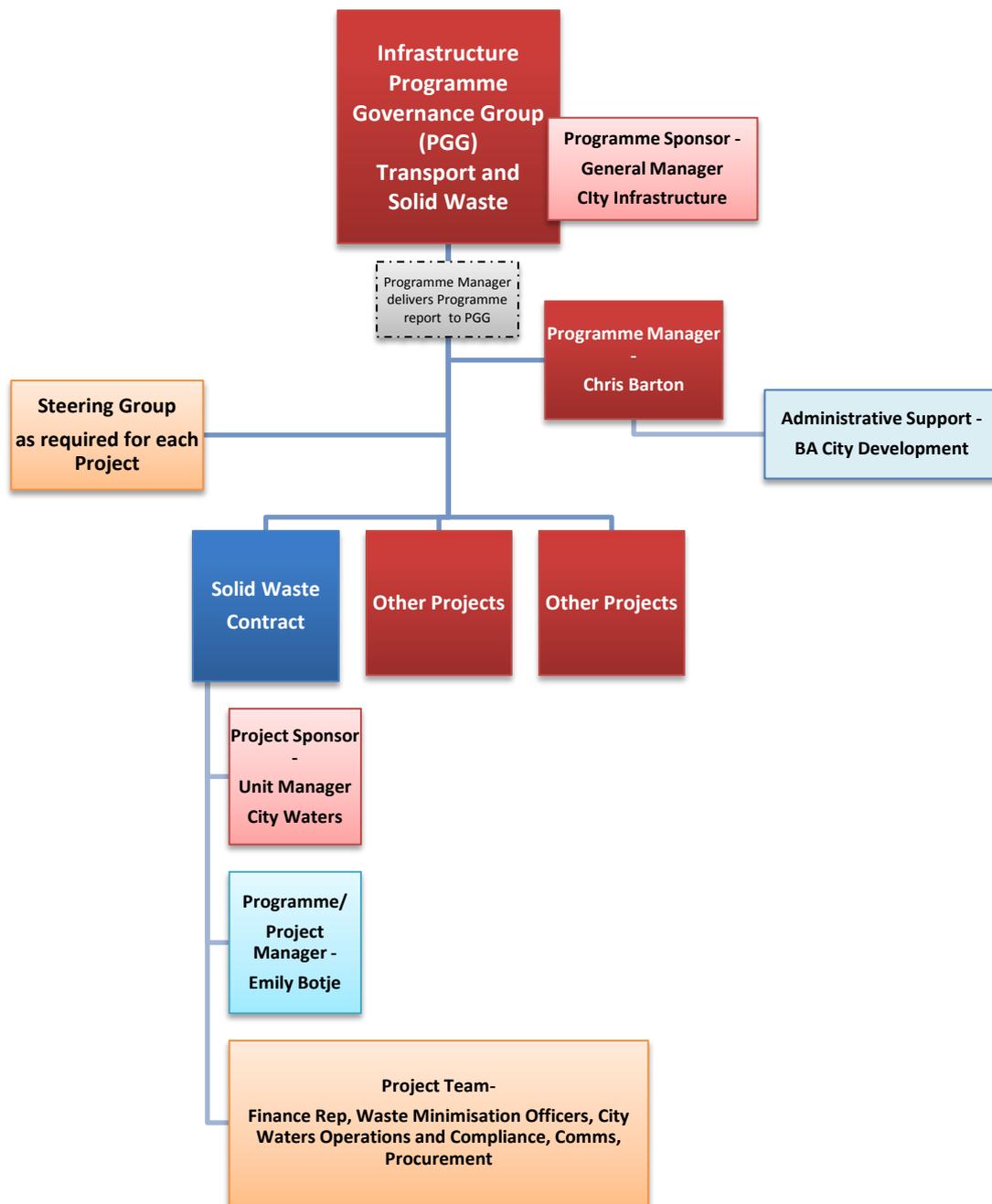
Steering Group – An operational steering group of subject matter experts/project advisors that provide the Project/Programme Manager and Infrastructure Governance Group (IGG) with specialist technical expertise/input and expert advice on content and/or process. Chair – Programme Manager.

Administrative Support – Provides administrative support to IGG/Steering Group/Programme and Project managers. Ensures document management processes are followed. Provides specialist administrative support, coordinates timely agendas and records minutes of all meetings as required.

Governance structure



Project management structure



2. Reporting arrangements

This project will use the existing City Infrastructure Programme Governance Group structure. This group meets on a regular basis to monitor, discuss and make key strategic decisions on all City Infrastructure projects.

Touch-points to SLT and Council are provided in the project plan, (refer Appendix Section 21).

3. Proposed project management plan

The proposed project management plan to successfully delivery the preferred option is provided in (refer Appendix Section 21).

4. Project deliverables

A suitably qualified contractor(s) is engaged by 1 July 2017 for a period of 10 years, commencing 1 July 2019, to deliver the following services for Hamilton:

- Kerbside rubbish and recycling collection.
- Refuse transfer station operations.

Organic centre operations. The key performance indicators of success are:

- The percentage of waste diverted from landfill from the kerb is no less than 50 per cent.
- There are no more than 20 complaints per month from the kerbside collection services.
- That all complaints are responded to within 24 hours and addressed within 24 hours.

5. Budget allocation

Refer Appendix Section 22 for budgets and proposed expenditure.

6. Contract management arrangements

The contracts identified for this project area combination of:

- LASS PSP (Local Authority Shared Services, Professional Services Panel) for engagement of consultants.
- Direct engagements of consultants outside the LASS PSP in accordance with Council Procurement Policy.
- Publicly advertised tenders in accordance with Council Procurement Policy.

7. Engagement of external specialists

Specialists will be engaged via the existing LASS PSP and through direct appointments outside the LASS PSP for components such as:

- Technical support for the Project Manager.
- Tender documentation including registration of interest, request for tender and tender evaluation frameworks.
- Evaluation/Price Model.
- Probity auditor.
- Legal review of the documentation prior to advertisement.
- Education and information materials to support the service change.

The above specialists will assist the Project Manager in engaging a suitably qualified contractor to deliver the services contained within this business case.

8. Communications

There are three communication plans required for this project, these include:

- Engagement with the customers to promote waste minimisation and to support the service change. This strategy forms part of the long-term Waste Minimisation Education and Communication Plan.
- Engagement with external stakeholders who are interested in what we are doing.
- Engagement with internal stakeholders through various stages through the project, internal stakeholders includes staff, SLT and Council.

Refer Appendix Section 19 for descriptions of the required communications plans for this project.

9. Change management planning requirements

Internal:

The new service is not expected to lead to any significant changes in how the organisation functions or manages the Rubbish and Recycling Activity. The terms and conditions of any new contract or lease may be different to that of the existing; however this is not expected to lead to any issues.

Council staff may be challenged however if the incumbent contractor does not win the new service contract(s). This is considered a risk; refer to the risk section for further information.

Additional resources, both short-term and long-term will be required to ensure successful delivery. These are summarised here, with costs and budget requirements included in Appendix Section 22.

- Leading up to and immediately after the roll out of the new service, it is expected that Council will receive a significant increase in enquiries. Additional staff will be required in the call centre, supported by the Contractors own call centre. A communications plan is provided in Appendix Section 19, which identified the tasks that will be required to be completed prior to the roll out, such as FAQ's, media information etc.
- Supporting this project is a long-term Waste Minimisation Education and Communication Plan.
- To ensure success of this strategy, an additional City Waters Waste Minimisation resource is required to:
 - ensure the strategy is implemented, delivered and monitored. There are a number of discrete marketing projects identified within the strategy and these will need to be designed and rolled out
 - work with Communications Team, manage the production of marketing and promotional material associated with the discrete projects
 - project manage the Communications Plan for the service change
 - liaise and negotiate with prospective industry partners in order to secure ongoing financial sponsorship support for Council campaigns.

External:

The new service will require significant change in the behaviour of the community of Hamilton. This is addressed in the Waste Minimisation Education and Communication Plan. This is considered a risk; refer to the risk section for further information.

10. Benefits mapping

A benefits mapping exercise has been carried out, refer Appendix Section 7.

11. Risk management

The Project Manager will be responsible for identifying and managing the risks associated with the procurement of new contractor(s) and successful roll out of a new service to the community. The Programme Manager will hold a risk register of these risks and report by exception to the City Infrastructure Programme Governance Group.

12. Contingency planning arrangements

The current service could be continued, with an extension of the current contract for a suitable period to enable the resolution of any issues or risks associated with this project.

13. Post project evaluation

After 12 months of the new service being delivered, the Programme Manager will complete a project closure report.

The Project Sponsor will be responsible for signing off the completed project.

Rubbish and Recycling Services Business Case Appendices

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1. Current service

1.1. Council provided services

Kerbside collection services

- Rubbish: 2 x 60L rubbish bags, collected weekly, maximum weight of each bag is 20kg.
- Recycling: collected weekly in a 45L crate. Aluminium, tins, glass, plastics 1-2. Paper and card is also collected, but needs to be bundled separately.



City-wide services

- Refuse transfer station – The Lincoln Street transfer station is located in Frankton and includes tipping and compaction areas, fee kiosk, weighbridge, recycling area and hazardous good storage. The transfer station is available for the disposal of refuse, recyclables and small quantities of potentially hazardous materials.
- Organic centre – the organic centre is mainly used by households and commercial landscaping companies to deposit their garden waste. The site is also an outlet for buying compost and landscaping materials such as stone.
- University drop-off points – at the end and start of the academic year, drop-off points are provided at strategic locations within the university area to enable disposal of unwanted furniture and rubbish. Additional kerbside collections are also provided during this time to ensure the amenity value of the area is kept.
- Litter collection – the pick up of litter associated with the kerbside rubbish and recycling collection service, removal of dumped rubbish (fly tipping).
- Education and marketing of waste minimisation.

1.2. Refuse transfer station

Hamilton City Refuse Transfer Station is the main waste disposal and bulking facility in Hamilton and is located at 60 Lincoln Street, Frankton. The refuse transfer station is situated in an industrial area between the railway lines on the northeast and the Lincoln Street section of State Highway 1 on the southwest, from which access to the site is gained.

The site is relatively long and narrow and covers an area of approximately 2.3506 hectares (ha). The site topography is raised above the surrounding area with a relatively gentle slope

up from the access point from Lincoln Street on the south and a steep gradient down to the railway lines.

The facility was constructed in 1985 and was designed to consolidate waste materials for transport to disposal. At this point in time, recycling and diversion of materials was not a significant design consideration.



The site provides for recycling of the following materials at no charge.

- Non-hardened glass.
- Steel.
- Whiteware.
- Aluminium.
- Paper.
- Plastic - type 1 and 2.
- Cardboard.
- Other metals.
- Waste oil - household volumes.

1.2.1. Consents

A land use consent for the refuse transfer station is not required for continued activities being carried out at the site as it has (unofficially) 'Existing Use Rights' under the Resource Management Act 1991 (RMA).

The refuse transfer activity was originally legally established under the Hamilton City Council (HCC) District Scheme First Review Operative as a Permitted Predominant Use (section 6.5.1(a)) in the Industrial 4 Zone. This means there are no resource consents for the refuse transfer activity on the site. Subsequent resource consents have been obtained for specific activities.

No official assessment for existing use rights is required for the refuse transfer station to continue current activities. However, if any changes were to be made to the site, then a reassessment of the land use in accordance with the parameters set out in section 10 of the RMA will be required.

Building consents issued in 1994 (recycling shop) and 2006 (new weighbridge and new construction garage) triggered reassessment of the site's land use activities. The site was assessed at these times to be in accordance with section 10 of the RMA as evidence of issued building consents.

1.2.2. Regional Plan

The refuse transfer station is fully non-consented and considered a Permitted Activity under the Regional Plan. The site was considered to be a lawfully-accepted activity when the Regional Plan became operative in 1998.

1.2.3. Capital Value

The refuse transfer station has a current Capital Value (Rating Value as at 1 Sept 15) for rating purposes of \$4.860 million, being made up of:

- Land Value \$2,790,000
- Improvement Value \$2,070,000

A current market valuation has not been obtained for this business case.

1.2.4. Expenditure

Under the lease agreement, Council is responsible for maintenance of all civil assets, the 2015-25 10-Year Plan has a total 10-year budget allocation of \$177,000 over the 10-year period. All other operating expenses associated with the refuse transfer station are met by the contractor.

1.2.5. Income

The rental of the site currently provides an annual return \$339,000 plus GST plus all outgoings.

1.3. Organic centre

The Hamilton Organic Centre (HOC) is located at 18 Wickham Street, on the southern outskirts of Hamilton. The site is situated in Waipa District, although it is immediately adjacent to the Hamilton urban area. This is shown in the map below with the black line representing the city boundary.

The organic centre consists of a 3.88ha open site, which is predominantly flat but with a slight gradient towards the stormwater ponds at the northeast corner of the site. Water collected in the ponds is recirculated in the composting process to help maintain moisture levels. Surface and groundwater discharge from the site to the drain to the northeast of the site.

There are a number of buildings on site, including an administrative building and a storage shed. The majority of the site is used for the composting process and consists of active windrows and matured material awaiting sale.

The site includes a weighbridge and office/garage building (20 metres by 25 metres). There is a 50 metre (m) wide area for users to tip their green waste.

The area currently used for operating the site is approximately 160m by 140m (2.2ha). The remainder of the site (1.7ha) is taken up by trees and large bunds to the south and east of the site. Due to the presence of alligator weed (*Alternanthera philoxeroides*), the area to the east has been declared a Restricted Place under section 130 of the Biosecurity Act, which limits how activities can be carried out.



The site is located on peat soils and the depth of peat is between six to four metres. This can create issues with water retention and ponding onsite, and can make the operation of heavy machinery problematic during winter.



Windrow



Shredder



Trommel and bays



Shed and bays

1.3.1. Consents

The site holds consents issued by Waikato Regional Council for discharge of water from a composting facility and for discharge of contaminants to air from a composting plant. The current consents were issued in September 2012 and transferred to the incumbent leaseholder. The consents are due to expire in September 2027.

The water discharge consent requires that all stormwater goes through the site settling ponds prior to discharge and that a number of water quality parameters be met. The quality of discharge must be monitored and reported to Waikato Regional Council on a monthly basis. The effects of any discharges on the receiving water must also be monitored and reported on a three-monthly basis. The consent holder is also required to provide an annual monitoring report analysing the monitoring information.

The air discharge consent contains the following requirements:

- All material received on site must be incorporated in windrows within 24 hours.
- Only vegetation can be composted on site.
- The composting process must be aerobic at all times.
- An annual monitoring report is to be provided.

The operation of the site has resulted in odour issues in the past, however changes made to the composting operations since 2010/11 have resulted in a decrease in issues. There have been no complaints since 9 December 2011, and the site operator has been formally commended by Waikato Regional Council for their efforts in achieving this improvement.

The site also holds land use consents from Waipa District Council and consents for the buildings on site.

1.3.2. Capital Value

The Hamilton Organic Centre has a current Capital Value for rating purposes of \$432,000

A current market evaluation has not been obtained for this report.

1.3.3. Expenditure

Under the lease agreement, Council is responsible for maintenance of all civil assets, the 2015-25 10-Year Plan has a total 10-year budget allocation of \$20,000 over the 10-year period. All other operating expenses associated with the refuse transfer station are met by the contractor.

1.3.4. Income

The annual rental set by the lease agreement is \$90,000 plus all outgoings plus GST.

This rental is currently subsidised by the Waste Disposal Levy to a maximum of \$18,000 per annum till 2018.

1.4. Current contracts and lease Agreements

Table 1: Current service contracts

| Contract | Contract no. | Other relevant documentation | Services | Commencement date | Expiry date | Incumbent contractor |
|--|--------------|--|---|-------------------|---------------------------------------|----------------------|
| Kerbside refuse collection and disposal | 0201 | Heads of Agreement D-29591 MOU | <ul style="list-style-type: none"> Up to 2 black bags per residential property per week. Excludes city centre. Contractor allowed to collect other private containers on route. | 1 July 2002 | 30 June 2017 extended to 30 June 2019 | Transpacific |
| Kerbside recycling collection and disposal | 0202 | Heads of Agreement D-29591 | <ul style="list-style-type: none"> Contractor to supply one recycling crate to each residential property at commencement of contract. Creates remain the property of the contractor until contracts ends, ownership then reverts to Council. Collection of up to 2 recycling crates per residential property per week. Excludes city centre. The recyclable materials collected by the contractor become the property of the contractor, once they are placed for collection and the contractor assumes responsibility for recycling all materials collected. All proceeds from such recycling are the Contractor's to keep. | 1 July 2002 | 30 June 2017 extended to 30 June 2019 | Transpacific |
| Refuse transfer station operations and lease | 0203 | Heads of Agreement D-29586 Lease agreement Licence for recycling activities | <p>The leaseholder is bound to provide the following services, specifically:</p> <ul style="list-style-type: none"> Acceptance of refuse from private and commercial customers. Acceptance of recyclables for recycling. Separation of recyclable materials from waste materials in the refuse pit (at leaseholders discretion). Sale of recyclables from the site. Acceptance and temporary storage of small quantities of hazardous materials from householders. Operation of weighbridge kiosk. Compaction and haulage to disposal site. <p>Council is responsible for all renewals and capital investment of the site, and the leaseholder is responsible for maintenance.</p> | 1 January 2007 | 30 June 2017 extended to 30 June 2019 | Transpacific |
| Organic centre operations and | 08053 | Deed of Lease: D-326665 | The leaseholder is bound to provide organic waste receipt and recovery services at the Hamilton Organic Centre, specifically: | 1 July 2009 | Two rights of renewal | HJ Leach |

| Contract | Contract no. | Other relevant documentation | Services | Commencement date | Expiry date | Incumbent contractor |
|-------------------|--------------|------------------------------|--|-------------------|--|----------------------|
| lease | | | <ul style="list-style-type: none"> Operate a stand-alone business entity capable of fulfilling HCC requirements for an organic waste receipt and recovery service. Provide, as a service to the public and commercial sectors, a drop-off facility for green waste. Actively market the service to the public and commercial sectors with the purpose of improving the uptake of the service and increasing diversion of green waste from landfill. Provide any equipment, consents, or permits required to provide the service. All green waste deposited at the Wickham Street site shall be recovered for beneficial use unless contaminated and ordered otherwise by Waikato Regional Council, eg, alligator weed. Resource Consents held by operator, note these are to be transferred back to HCC at end of contract: <ul style="list-style-type: none"> 102202. 102203. <p>Gates fees need to be approved by HCC and are not allowed to exceed 90% of the fees for disposal of waste at the refuse transfer station (RTS).</p> | | <ul style="list-style-type: none"> 1 July 2015 1 July 2018 <p>Expires 30 June 2021</p> | |
| Litter collection | | | <p>Undertaken by the Infrastructure Alliance, litter collection forms part of a range of services provided including:</p> <ul style="list-style-type: none"> Litter collection officers within the central business district (CBD), Hamilton East and Frankton. Footpath hot washing within the CBD, Hamilton East and Frankton. Management of 700+ rubbish bins, collection frequency ranges from one to three times daily. Road, cycleway and underpass sweeping. Stormwater catch pit, envoi-pods and storm filter cleaning Emergency call outs for dangerous substances, eg, broken glass, human excrement, flooding etc. Bus shelter cleaning. <p>Undertaken by City Parks, litter collection forms part of a range of services provided including:</p> | | | |

| Contract | Contract no. | Other relevant documentation | Services | Commencement date | Expiry date | Incumbent contractor |
|-----------------|---------------------|-------------------------------------|--|--------------------------|--|-----------------------------|
| | | | <ul style="list-style-type: none"> • Management of 700+ rubbish bins, collection frequency ranges from once to three times daily. • Litter collection at each park, frequency varies between parks. | | | |
| Facility refuse | | | <ul style="list-style-type: none"> • Collection of waste materials from municipal building, and other facilities such as Hamilton Zoo. • Contract is unsigned. • Managed by Property, but financially administered by City Waters with costs allotted to contract 0201. | | Still in draft, but operational under 0201 | |

1.5. Private service providers

1.5.1. Private rubbish collections

Private residential rubbish collections are provided by a number of companies in Hamilton.

Table 2: Private rubbish collection in Hamilton

| Company | Area Covered | Services |
|------------------|-----------------------------------|--|
| Better Bins | Hamilton | Skip bins, wheeled bins. |
| City Wide | Cambridge / Hamilton / Te Awamutu | Wheeled bins. |
| EnviroWaste | Waikato-wide | Skip bins, 4 wheeled bin, wheeled bin. |
| EZY Bins | Cambridge / Hamilton / Te Awamutu | Skip bins, wheeled bins. |
| Waste Management | Waikato-wide | Skip bins, wheeled bins. |

Source: MWH (2011) Waste Assessment, prepared for Hamilton City Council

The two companies with the largest market share are Waste Management and EnviroWaste who offer a range of services. The following table shows their pricing for rubbish collection.

Table 3: Private refuse collection charges in Hamilton (prices as at 2016)

| | Waste Management | EnviroWaste |
|--------------------|-------------------|-------------------|
| 80ltr weekly | \$172 (\$3.30 pw) | |
| 120ltr weekly | | \$309 (\$5.94 pw) |
| 140ltr weekly | \$291 (\$5.60 pw) | |
| 240ltr weekly | \$473 (\$9.09 pw) | \$470 (\$9.03 pw) |
| 240ltr fortnightly | | \$309 (\$5.94 pw) |

1.5.2. Green waste collection market

It is estimated that approximately half of Hamilton households are being served either by a commercial green waste collection service or by landscaping contractors who remove green waste from properties.¹ The green waste collection market is dominated by two private companies: Green Fingers and Hamilton Garden Bags (Red Lid Bins). Other collectors include: Waikato Garden Bags and Bins, Frasers, Daisy Garden Bags & Bins, EZY Bins and Sunshine Bags (Waste Management).

Table 4: Green waste collection charges in Hamilton

| | Red Lid Bins | Green Fingers |
|-----------------|--------------|---------------|
| 240ltr weekly | \$7 | |
| 240ltr 4 weekly | \$14 | \$13.50 |
| 600ltr 4 weekly | \$18 | \$18 |

Red Lid Bins take their green waste to Landcycle in Cambridge, whilst Green Fingers' green waste is taken to Envirofert in Tuakau. A number of the smaller operators take their green waste to the Hamilton Organic Centre.

¹ Estimate made by Steve Wilson of Red Lid Bins 2013

1.5.3. Organic waste processing

The Hamilton Organic Centre is located within the Waipa District. City Parks do not use the Hamilton Organic Centre; rather green waste is taken to Daltons in the Matamata-Piako District.

Table 5: Organic waste processing facilities near Hamilton

| Territorial authority | Provider | Description | Detail |
|-------------------------|-------------------------------------|---|---|
| Waikato region | | | |
| Hauraki District | Tirohia Composting Solutions Paeroa | VCU – Green waste and putrescibles. | Consented for putrescibles. Negative pressure aerated windrows. |
| Matamata-Piako District | Daltons | Bark and putrescible waste composting. | |
| | Wallace Corporation | Rendering - high-protein putrescible wastes to produce stock feed and fertiliser. | Currently taking catering food waste from Hamilton for small scale composting. |
| South Waikato District | Noke Kinleith | Recycled paper/fibre, vermicomposting. | Wood processing wastes and a wide range of other organic wastes processed through vermicomposting – up to 140,000 t/yr. |
| | Fonterra Tirau | Converting whey to ethanol, AD of organic wastes. | |
| | Materials Processing Ltd Composting | Green waste composting facility, Kinleith. | |
| | Materials Processing Ltd Kinleith | Converts pulp and paper mill waste into fuel. | |
| Taupo District | Laminex/Noke | Vermicomposting (industrial process waste). | |
| Waikato District | Lowe Corp | Rendering - high-protein putrescible wastes from throughout Auckland and Waikato to produce stock feed and fertiliser. | Capacity available. |
| | Envirofert Tuakau | Composting facility with some vermicomposting. | Process green waste, food waste, some plasterboard from Auckland and Waikato regions. |
| Waipa District | Hamilton Organic Recycling Centre | Green waste composting. | Consented to 2025; limited capacity of approximately 5,000 tonnes/yr. |
| | Land Cycle Quarry Group Cambridge | Green waste processing. Open to public - \$20 + GST green waste per m ³ , also take large tree trunks and wood pallets/timber packaging. | 8000m ³ of cleanfill 11,200 t/yr. |

1.5.4. Private refuse transfer stations

There is a second refuse transfer station in Hamilton located in Sunshine Ave, the facility is owned and operated by EnviroWaste Services Ltd.

The site comprises of a recycling drop-off area, which is available for use at no charge, and a transfer shed, which includes separate drop-off areas for residual refuse and green waste.

Rubbish is transferred to Hampton Downs landfill; the transfer station staff do recover some metals and cardboard from the residual waste prior to disposal.

This refuse transfer station primarily receives commercial waste delivered by commercial waste operators. A relatively small number of residents and small business also use the facility.

The facility also receives the kerbside refuse collections from Waipa District and the residual waste from EnviroWaste's Cambridge transfer station.

1.6. Service integration

The following diagram shows how the current services are integrated and future possible integration between services.

Opportunities to exploit as part of this business case include:

- Providing quality service to other parts of the Council business.
- Ensuring all green waste disposed at the refuse transfer station ends up at the organic centre for composting.
- Improving the amenity value of the streets, by ensuring they are left in a tidy manner after the kerbside collection service has taken place. This will also reduce the cost of litter collection.
- Potential to maximise resource recovery and sub-regional networks.

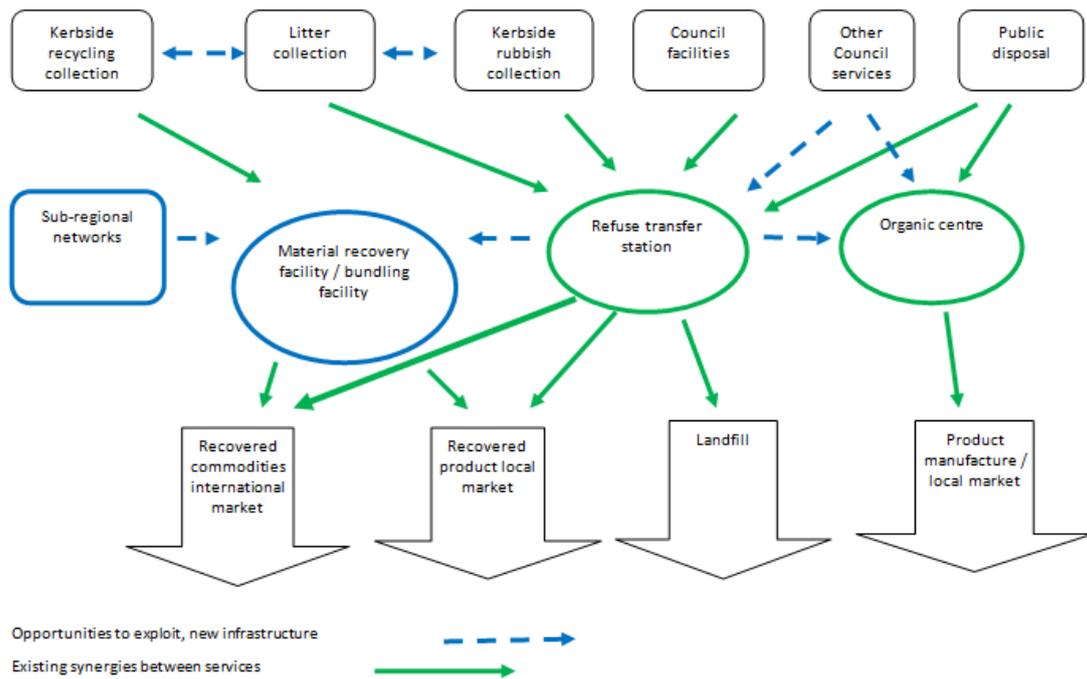


Figure 1: Service integration and product creation

2. Hamilton’s rubbish and recycling statistics

The amount of rubbish and recycling put out by households in Hamilton is showing an increase in the amount of rubbish set out and a decrease in the amount of recycling set out. The amount of rubbish put out has increased by 17kg per household per year since 2010, recycling has decreased by almost 30kg per household per year over the same period.

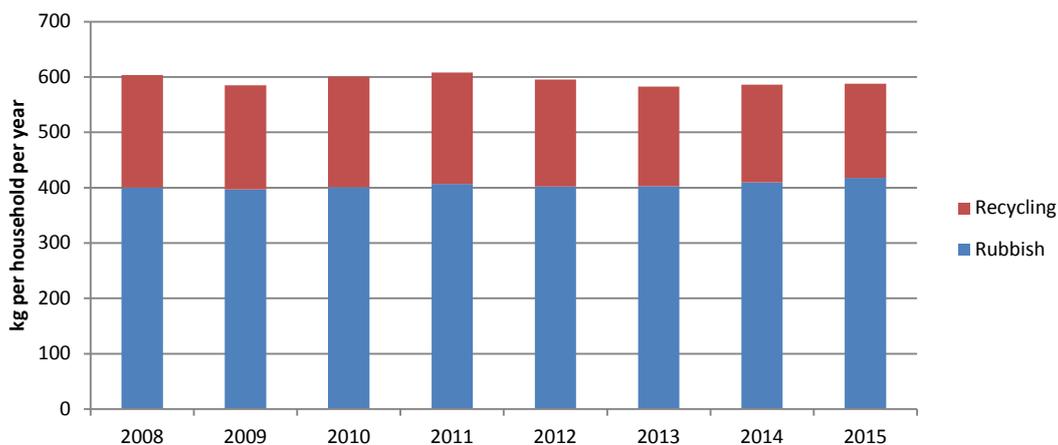


Figure 2: Hamilton kerbside collection service (kg per household per year)

On average the amount of rubbish put out per week now is approximately 418kgs per household per year or eight kilograms per household per week, compared to 400kgs per

household per year or 7.7kgs per household per week in 2008. This equates to a four per cent increase over the last eight years.

The recycling trend shows an opposite behaviour with 203kgs per household per year or 3.9kgs per household per week in 2008, compared to 170kgs per household per year or 2.3kgs per household per week in 2015. This equates to a decrease in recycling tonnage of 16 per cent.

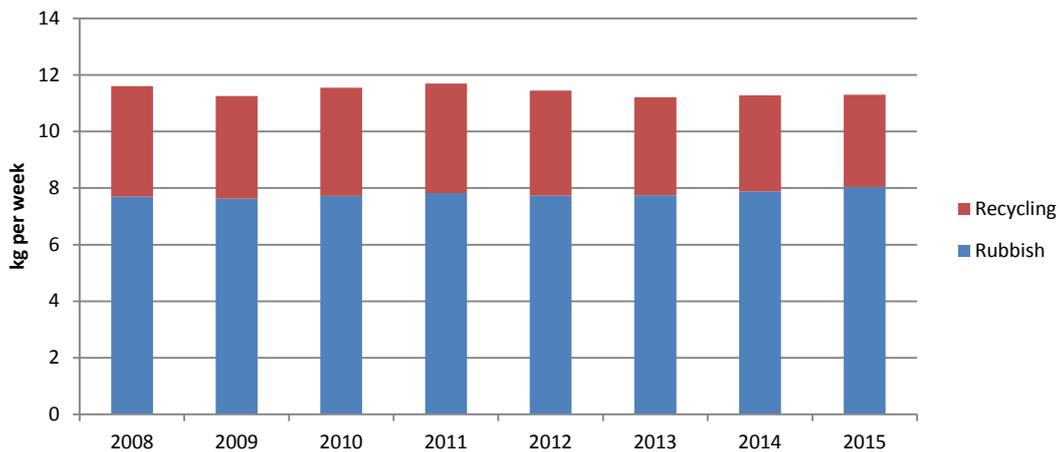


Figure 3: Hamilton kerbside collection service (kg per household per week)

The decrease in recycling tonnage can be attributed to less paper being put out, as households swap newspapers with web based news. Glass is also steadily declining, but at a much slower rate. The majority of glass comes from alcoholic beverages.

The Ministry of Health carries out regular health surveys – details at: <http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/current-recent-surveys/new-zealand-health-survey#2015-16>.

In summary, the survey indicates that:

- the majority of consumption happens within the home
- consumption on a per capita basis remains steady.

Therefore the decline in glass could be attributed to the container used, eg, aluminium cans versus glass bottles.

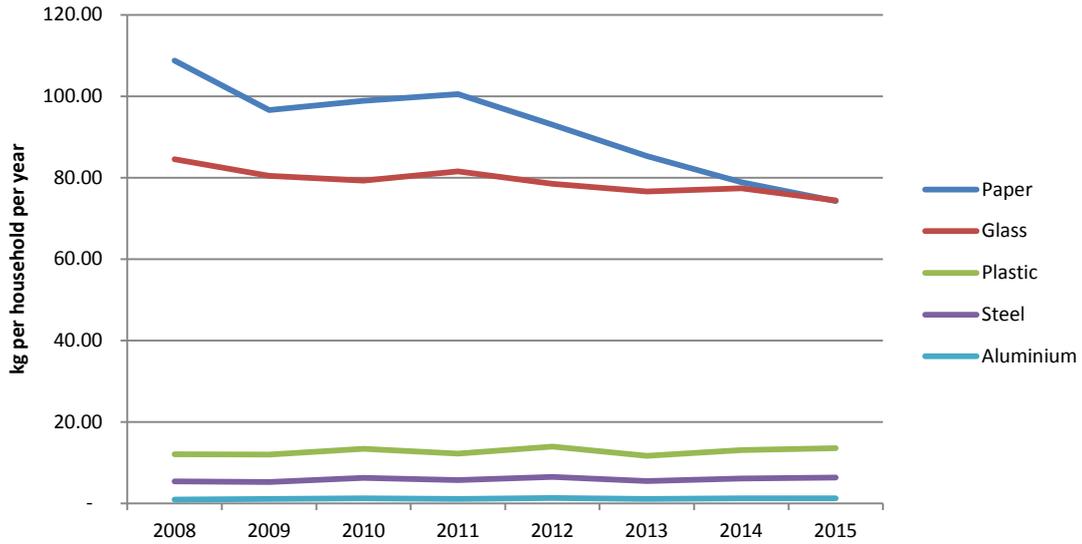


Figure 4: Hamilton composition of kerbside recycling (kg per year)

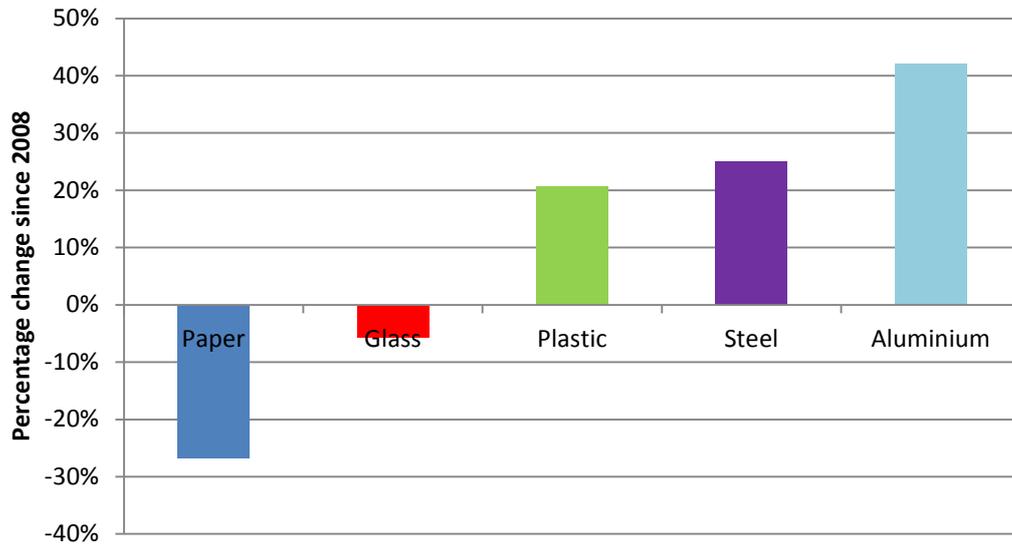


Figure 5: Hamilton change in kerbside recycling composition since 2008

2.1. What is in the bag

In 2013 Waste Not Consulting was engaged to carry out an analysis of the composition of the rubbish bags in Hamilton. Sort and weigh audits were carried out on a total of 525 kerbside rubbish bags from residential properties over three days in August and over two days in November.

Full details of the analysis can be found in *Composition of Solid Waste in Hamilton; Waste Not Consulting, November 2013*.

Figure 6: Composition of rubbish and recycling contained within the black bag

| Plastic | | | | |
|-----------------------|------|------------------|---|--|
| Type | % | Tonnage per week | Diversion options | Issues/considerations |
| 1-2's | 1.6% | 7 | Current kerbside collection. | Increase education and awareness. |
| 3-7's | 1.5% | 7 | Potential Kerbside collection. | Will need increase in container size. Lighter plastics more prone to wind. |
| Plastic bags and film | 7.4% | 34 | City-wide drop-off points at supermarkets (national initiative, commencing 21 March 2016). | Sorting of these plastics from other plastics makes kerbside collection difficult. |
| Other | 3.1% | 14 | Non-recyclable - remains in rubbish bag. eg, polystyrene meat trays, paint, chemical containers, toys, CDs, housewares. | Increase education and awareness around correct disposal of hazardous materials and existing recovery initiatives. |

| Other recyclables | | | | |
|-------------------|------|------------------|------------------------------|-----------------------------------|
| Type | % | Tonnage per week | Diversion Options | Issues/considerations |
| Steel cans | 1.2% | 6 | Current kerbside collection. | Increase education and awareness. |
| Aluminium cans | 0.3% | 1 | Current kerbside collection. | Increase education and awareness. |

| Glass | | | | |
|----------------|------|------------------|--|-----------------------------------|
| Type | % | Tonnage per week | Diversion options | Type |
| Bottles/Jars | 1.8% | 8 | Current kerbside collection. | Increase education and awareness. |
| Non-recyclable | 0.6% | 3 | Light bulbs, drinking glasses, cookware, window glass. | Re-use, landfill. |

| Paper | | | |
|----------------|------|------------------|---|
| Type | % | Tonnage per week | Diversion options |
| Recyclable | 9.7% | 45 | Current kerbside collection. |
| Non-recyclable | 2.9% | 13 | Non-recyclable - remains in rubbish bag, eg, Tetra-Pak, photographic paper, playing cards, laminated paper. |



| Organics | | | | |
|--------------|-------|------------------|--|--|
| Type | % | Tonnage per week | Diversion options | Issues/considerations |
| Food waste | 36.8% | 171 | Potential kerbside food collection. | Current cost of collection and composting is greater than rubbish collection and disposal. This is likely to shift in the future as the cost of rubbish increases. |
| Garden waste | 8.8% | 41 | Existing private collections, Potential Council provided kerbside collection. Home composting. | Existing private market. Some rentals do not allow home composting. |
| Other | 3.6% | 17 | Non-recyclable - remains in rubbish bag Incl. vacuum cleaner dust, animal faeces etc. | |

| Non -krbside recyclables | | | | |
|--------------------------|-------|------------------|---|--|
| Type | % | Tonnage per week | Description | Disposal options |
| Potentially Hazardous | 1.1% | 5 | Batteries, aerosol cans, medicines, cosmetics, cleaning agents, used oil, garden chemicals. | Some product stewardship available. Landfill. |
| Non-ferrous metals | 0.5% | 2 | Non-steel items mixed with other materials. | Re-use, landfill. |
| Sanitary paper | 12.3% | 57 | Includes disposable nappies, paper towels, tissues. | Composting technology available in New Zealand. |
| Rubble | 1.3% | 6 | All concrete, rubble, soil. | Clean fill. |
| Timber | 0.5% | 2 | Wood. | Non-treated timber: re-use, biofuel, mulching. Treated timber: landfill. |
| Rubber | 0.1% | 1 | Rubber gloves. | Landfill. |
| Ferrous metals | 0.5% | 2 | Steel items mixed with other materials. | Re-use, landfill. |
| Clothing/textiles | 4.5% | 13 | Clothes, curtains, shoes, backpacks, handbags, rugs, carpet. | Re-use, landfill. |

2.2. Service review

2.2.1. Current service performance

The key performance indicators from the Annual Plan and the 2015-25 10-Year Plan are:

- The number of weeks with more than 20 complaints about uncollected kerbside household rubbish and recycling.
- The percentage of customer complaints about uncollected kerbside rubbish and recycling resolved within 24 hours.
- The percentage of waste recovered for recycling through the kerbside collection is greater than 30 per cent.

2.2.2. Complaints summary from incumbent contractor

The following complaints summary is sources from complaints received from the customer, council staff and recorded by the contractor.

Table 6: Complaints 2015/16 (June - May)

| | No. of complaints | | No. of complaints |
|-----------------------------|-------------------|------------------------------|-------------------|
| Rubbish | | Recycling | |
| Streets missed | 15 | Streets missed | 18 |
| Streets untidy | 18 | Streets untidy | 1 |
| Bags out late | 781 | Overloaded | 69 |
| More than 2 bags | 1848 | Missed services | 18 |
| Bags exceed 20kg in weight | 793 | Put out late | 89 |
| Bags exceed 60L | 263 | Unsuitable for recycling | 346 |
| Dangerous/unacceptable bags | 529 | Broken or sheet glass | 166 |
| Not collected | 346 | Wrong type of plastic or bin | 442 |
| Dumped bags | 23 | Containers not rinsed | 7 |
| Other | 30 | Other customer issue | 73 |
| Outside collection hours | 4 | Not collected | 242 |
| Total rubbish | 4650 | Other | 16 |
| | | Outside collection hours | 4 |
| | | Total recycling | 1491 |
| Paper | | | |
| Missed services | 0 | | |
| Put out late | 71 | | |
| Not collected | 91 | | |
| Contaminated | 647 | | |
| Excess/Commercial | 293 | | |
| Other | 20 | | |
| Outside collection hours | 0 | | |
| Total paper | 505 | | |

2.2.3. Fly Tipping/Illegal Dumping

The majority of illegal dumping complaints are about the illegal dumping of rubbish bags in front of residential properties. The remainder of illegal dumping is mostly household furniture including beds, couches, televisions, fridges etc.

The current system for recording illegal dumping does not differentiate based on type of material, therefore quantifying the number of larger dumped materials is difficult. For the 2015/16 year June to May the number of recorded illegal dumping complaints was 573.

2.2.4. Waste diversion

The kerbside diversion target is 30 per cent. This is calculated by

$$\text{Diversion Rate} = \text{Recycling} \frac{\text{Recycling}}{(\text{Recycling} + \text{Rubbish})}$$

Where:

- Rubbish is the total tonnage of rubbish collected from the kerb in the period.
- Recycling is the total tonnage of recycling material collected from the kerb in the period.

The diversion rates in Hamilton are declining, in 2008 the rate was 34 per cent, this has now declined to 29 per cent at the end of 2015.

There are a number of reasons for this including:

- The measurement is based on weight, the use of heavy recycling materials (paper and glass) is on the decline - see Figure 5.
- The amount of rubbish that is put out is increasing - see Figure 2
- Council has done minimal education and marketing in the past few years, households may not know what they can and cannot recycle.

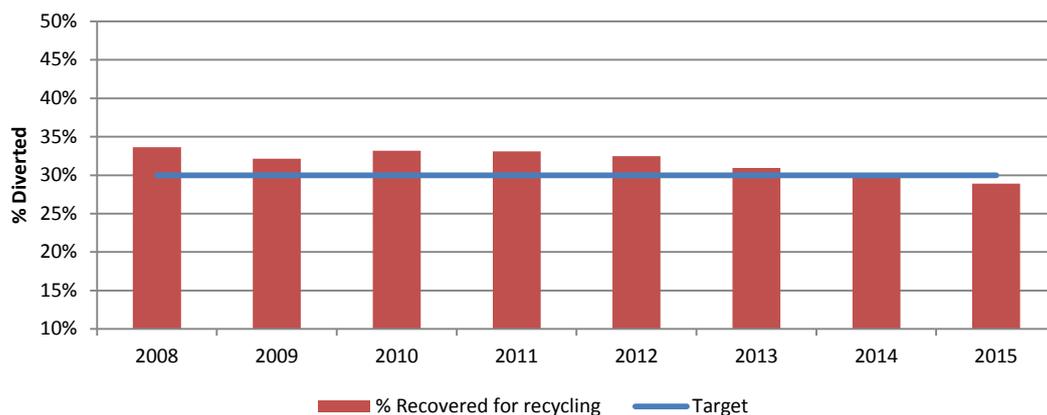


Figure 7: Hamilton kerbside waste diversion target (by weight)

Of those items that can be recycled at the kerb, the city recycles 70 per cent, this means that 30 per cent of glass, paper, aluminium, tin, and plastics (types 1-2) remain in the black bag. This compares well to international countries who achieve up to 80 per cent recovery of recyclable materials (see Figure 8).

The diversion rate for Hamilton can be increased through the provision of education and new services. Approximately 50 per cent diversion can be achieved by expanding the current service to include collection of plastics types 1 – 7 (excluding film and polystyrene) and food. How this can be achieved is dependent on the services provided, including containers and funding mechanisms. Further information on the options and the diversion rates that each option can provide is provided in sections 9, 10, 11 and 12.

The extent of diversion is dependent on the engagement of the community. Achieving absolute diversion is probably unachievable.

Figure 9 shows the diversion possible, with the best case based on international best practice, and probable based on new service provision with a high level of community engagement obtained through education.

PACKAGING RECYCLING RATES NZ COMPARED TO EUROPE – ALL MATERIALS

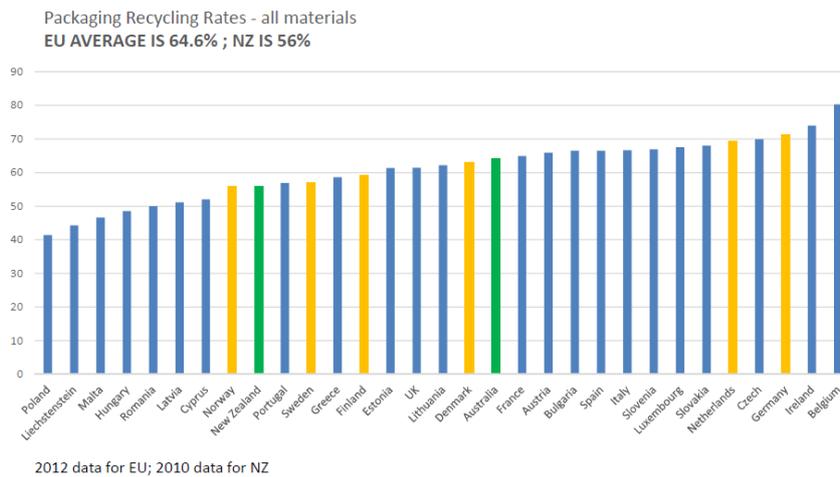
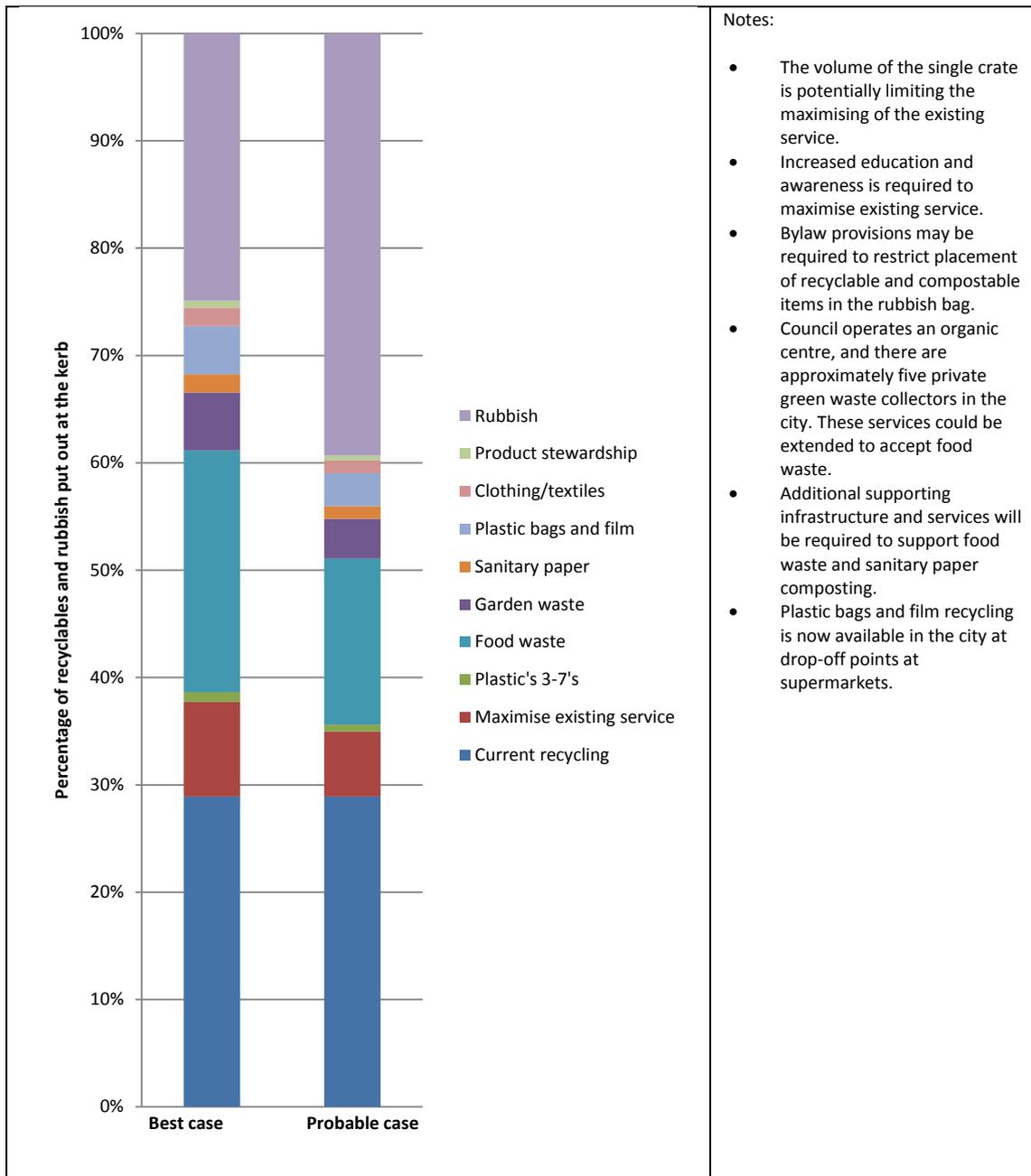


Figure 8: International waste diversion benchmarking

The above graph was taken from <http://www.wasteminz.org.nz/wp-content/uploads/WasteMINZ-2014-What-packaging-product-stewardship-means-in-New-Zealand1.pdf>.

Figure 9: Future possible and probable waste diversion



- Notes:
- The volume of the single crate is potentially limiting the maximising of the existing service.
 - Increased education and awareness is required to maximise existing service.
 - Bylaw provisions may be required to restrict placement of recyclable and compostable items in the rubbish bag.
 - Council operates an organic centre, and there are approximately five private green waste collectors in the city. These services could be extended to accept food waste.
 - Additional supporting infrastructure and services will be required to support food waste and sanitary paper composting.
 - Plastic bags and film recycling is now available in the city at drop-off points at supermarkets.

2.2.5. Residents' satisfaction from annual survey

Up till 2013, Council's residents survey included satisfaction of the refuse transfer station and organic centre. The available historical results are presented below.

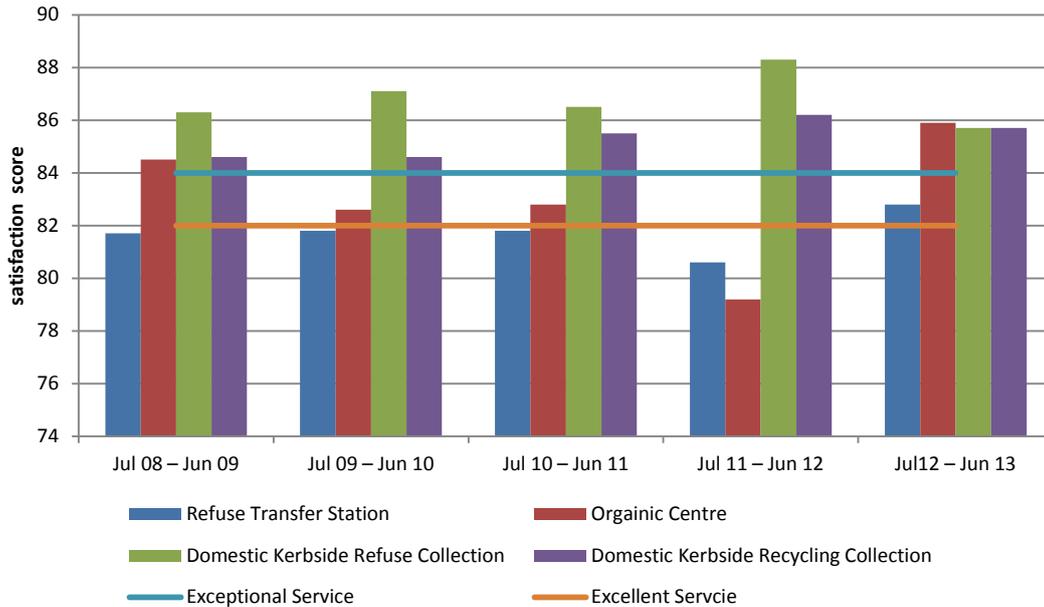


Figure 10: Refuse transfer station and organic centre satisfaction

A detailed customer survey was carried out at both sites in May 2013. The summarised results are provided below, refer to *Service Review: Analysis of Current Services, Eunomia, November 2013*.

Refuse transfer station

The May 2013 survey found that the majority (73 per cent) of the people asked were using the facility to deposit rubbish, whilst 24 per cent were recycling and 21 per cent were shopping at the ‘Dump Shop’. Eighty-seven per cent of respondents used the facility a few times a year or more frequently and 80 per cent of those asked were from Hamilton.

The most important factors for choosing to use the facility were convenience and the ability to recycle. The users were also asked about their experience of the site; high levels of satisfaction were recorded as detailed in Table 7 below.

Table 7: Customer satisfaction at the refuse transfer station

| Rating | Please rate your experience of the site using the scale where 1 is very dissatisfied to 5 being very happy: "How satisfied are you with...." | | | | |
|-----------------------------|--|----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 |
| How easy to deposit rubbish | 1% | 6% | 13% | 46% | 33% |
| Cost | 1% | 9% | 33% | 39% | 19% |
| How easy to recycle | 0% | 6% | 17% | 48% | 30% |
| Site appearance | 0% | 3% | 13% | 63% | 21% |
| Staff helpfulness | 0% | 3% | 12% | 50% | 36% |
| Reuse shop | 0% | 2% | 17% | 53% | 28% |

Organic centre

The May 2013 survey found that the majority of the users were very positive about their experience of the site. Over 90 per cent used the site a few times a year or more often. Based on survey responses, one third of users are commercial. In terms of tonnage, there is an even split between commercial and residential sources. Approximately 15 per cent of users surveyed come from outside Hamilton City.

Table 8: Customer satisfaction at the organic centre

| | Please rate your experience of the site using the scale where 1 is very dissatisfied to 5 being very happy "How satisfied are you with..." | | | | |
|---------------------------------|---|----|-----|-----|-----|
| Rating | 1 | 3 | 3 | 4 | 5 |
| How easy to deposit green waste | 0% | 2% | 4% | 24% | 69% |
| Cost | 1% | 4% | 32% | 35% | 29% |
| Site appearance | 0% | 0% | 11% | 37% | 52% |
| Staff helpfulness | 0% | 1% | 4% | 24% | 70% |
| Purchasing garden supplies | 3% | 3% | 16% | 30% | 48% |

2.2.6. Performance of the refuse transfer station

The refuse transfer station receives waste from:

- kerbside collection
- lease operators own services
- domestic, commercial and industrial waste.

The monthly/annual composition of waste that is managed through the refuse transfer station is not known as this data is not required to be collected as part of the current lease agreement. However, in 2013 the refuse transfer station was surveyed (*Composition of Solid Waste in Hamilton, Waste Not Consulting November 2013 D-1746373*). The composition of waste during the survey period is described in the following table.

Table 9: Waste disposed at refuse transfer station per week

| Waste type | % of weight to landfill | Tonnes per week |
|--|-------------------------|-----------------|
| Construction and demolition Waste materials from the construction or demolition of a building. | 15% | 213 |
| Industrial/commercial/institutional Waste from industrial, commercial, and institutional sources. Institutional sources include waste from hospitals, schools, prisons, and some municipal waste such as litter and illegal dumping. | 38% | 533 |
| Kerbside collections All rubbish collected as part of the kerbside collection service. | 33% | 465 |
| Landscaping Waste from landscaping activity, garden maintenance, and site works from residential, commercial and local government sources. | 4% | 60 |
| Residential All waste originating from residential premises that are dropped off by the householder. | 6% | 85 |
| Specials Includes road sweepings, infrastructural clean fill, industrial wastes that require special handling. | 3% | 39 |
| Total | 100% | 1,395 |

General waste includes that from construction, demolition, industrial, commercial, institutional, landscaping and residential waste. General waste does not include waste from kerbside collections or special wastes. The composition of this waste is shown in Table 10.

Timber (including furniture and wood from construction and demolition) was the largest primary category of general waste disposed of at the refuse transfer station, comprising of 25 per cent of the total. Organics was the second largest, comprising of 17 per cent of the total weight. Paper, plastics, rubble and concrete each comprised of 10 to 15 per cent of the total.

Table 10: Primary composition of the general waste at the refuse transfer station (excludes kerbside and special wastes)

| Primary category | % of total | Tonnes per week |
|-----------------------------|------------|-----------------|
| Paper | 10.6 | 94 |
| Plastics | 14.7 | 131 |
| Organics | 16.9 | 150 |
| Ferrous metals ² | 2.8 | 25 |
| Non-ferrous metals | 0.5 | 4 |
| Glass | 4.4 | 40 |
| Textiles | 6.6 | 59 |
| Sanitary Paper | 3.8 | 34 |
| Rubble and Concrete | 12.6 | 113 |
| Timber | 25.4 | 226 |
| Rubber | 1.1 | 10 |
| Potentially hazardous | 0.5 | 5 |
| Total | | 890 |

If the survey carried out in 2013 represents an average week at the refuse transfer station, the total tonnage of waste processed is approximately 72,500 tonnes per annum, or 46,300 tonnes excluding the kerbside collection. In the same year (2013) approximately 5,000 tonnes was recycled, giving the transfer station a diversion rate of 11 per cent.

The amount of recyclable materials recycled through the transfer station has increased over time. In 2015 the amount recycled (by weight) is 34 per cent greater than that in 2008. This is due to a significant increase in the recovered material from the pit, which is on-sold at the shop, and increases in non-ferrous materials (Figure 12).

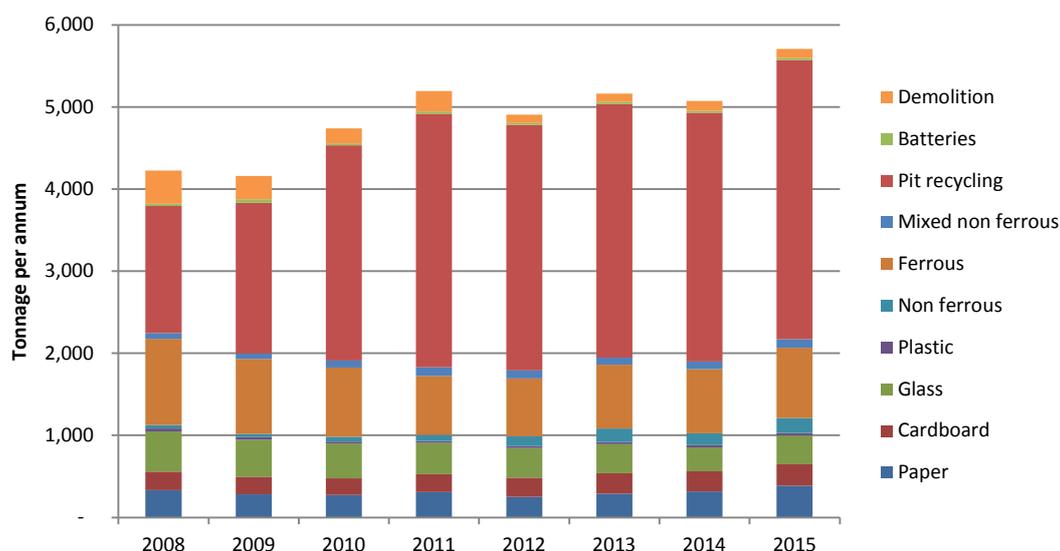


Figure 11: Materials recycled at refuse transfer station

² Ferrous metals include steel and iron. Non-ferrous metals include aluminium, copper, brass, silver and lead.

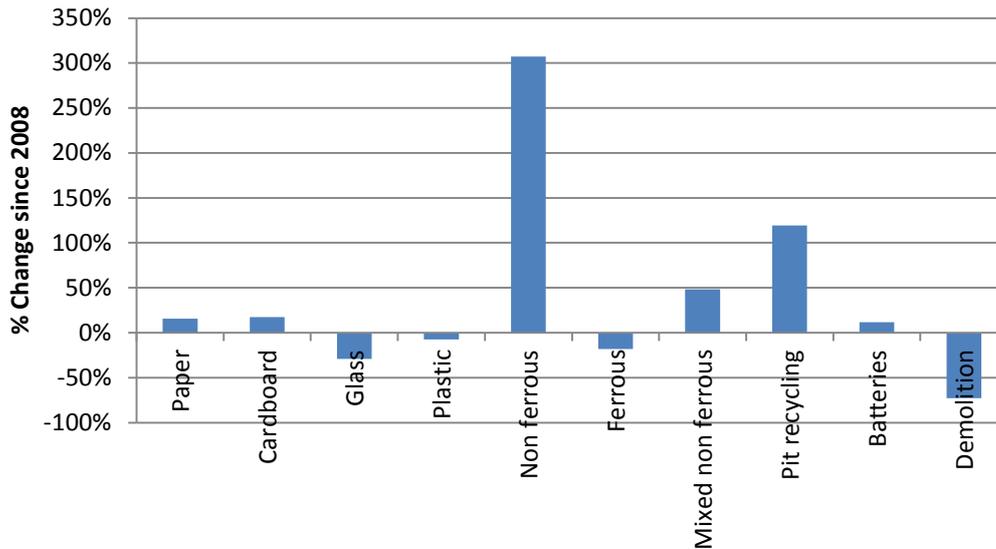


Figure 12: Change in recyclable materials by type since 2008

2.2.7. Performance of the organic centre

The organic centre receives between 9,000 and 10,000 tonnes of garden waste per annum; this is subject to seasonal variations. In 2010 the site introduced disposal by weight, which resulted in a reduction in tonnages received from commercial customers.

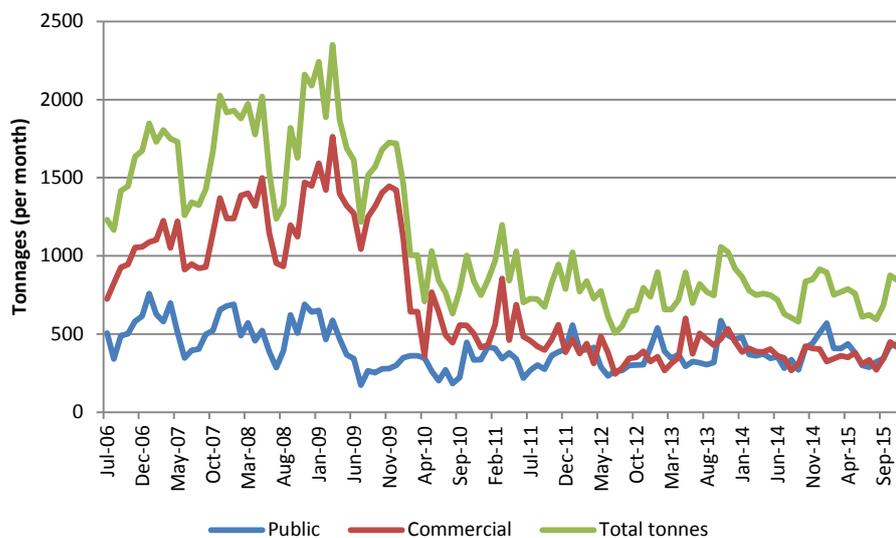


Figure 13: Tonnes disposed at the organic centre

2.2.8. Customer survey

Customer surveys were completed in 2013 and 2015 in support of this business case.

- 2013 telephone and site (refuse transfer station and organic centre) customer survey *Service Review: Analysis of Current Services, Eunomia, November 2013.*
- 2015/16 door to door and focus group surveys *Waste and Recycling – Customer Market Research, Eunomia, March 2016.*

The community survey undertaken in late 2015 / early 2016 was used to explore:

1. Residents' knowledge, understanding and use of current services and how best to communicate with residents about waste and recycling (*behaviour change survey*).
2. Residents' expectations in terms of future service delivery, in particular their willingness to pay extra for improved levels of service (*service change survey*).

Two door-to-door surveys were undertaken in December 2015. Also four focus groups targeting students, low income household, Maaori and a general community group were undertaken in February 2016.

Just under 400 survey responses, (396 for the service change survey and 398 for the behaviour change survey) were achieved for each of the two door to door surveys, giving results that are considered statistically significant at a 95 per cent confidence level with a 5 per cent margin of error for a city the size of Hamilton.

In other words, 95 times out of 100 the value will be no more than five per cent higher or lower than the figure found by the study. To achieve higher levels of confidence or smaller margins of error requires exponentially larger sample sizes. A 95 per cent confidence level with a five per cent margin of error gives a good compromise between accuracy of results and time and cost to carry out the research.

In addition to this, staff members have also engaged the Waikato Property Investors Association, representatives of property managers in Hamilton and the Youth Council in Hamilton to gain their thoughts on the current services, potential options for future levels of service and any key property issues with respect to the current and future kerbside services.

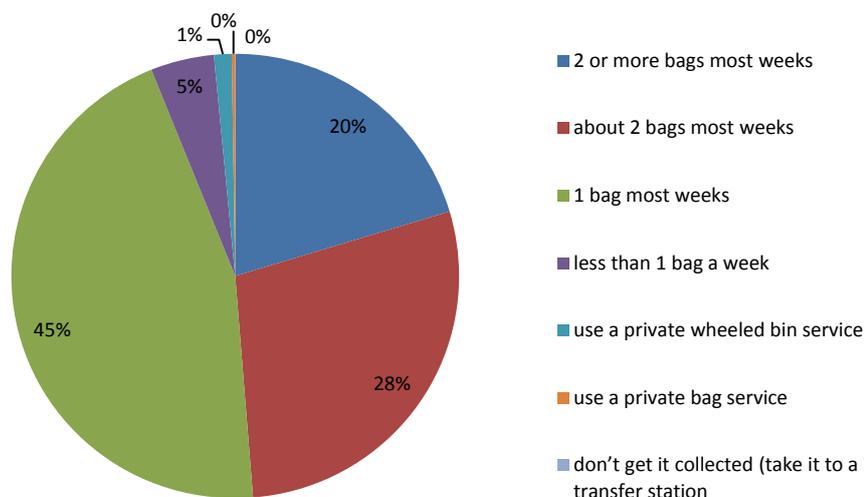


Figure 14: Number of bags put out per week

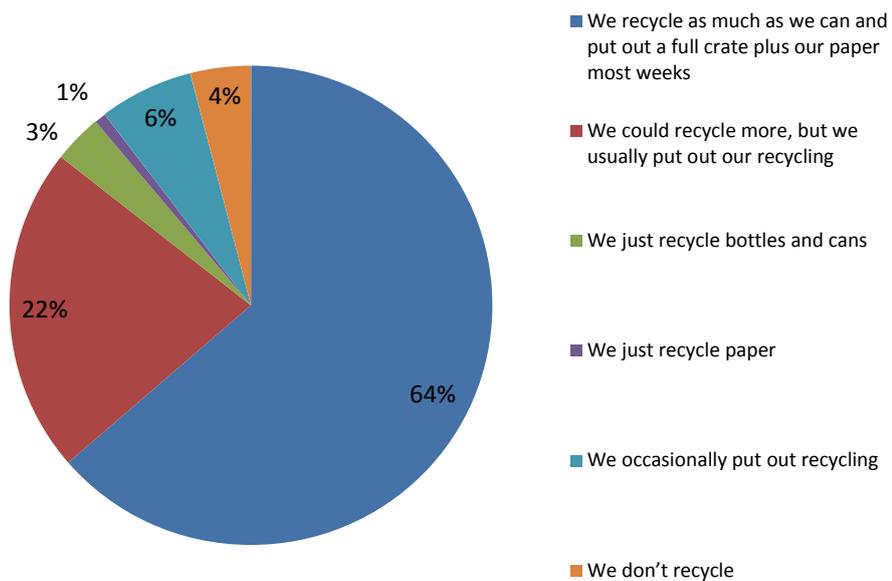


Figure 15: Use of the recycling service

Containers

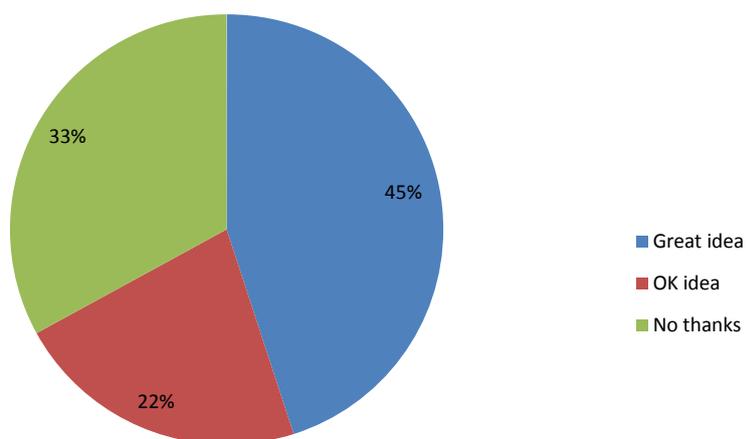


Figure 16: Preference of a wheeled bin for rubbish

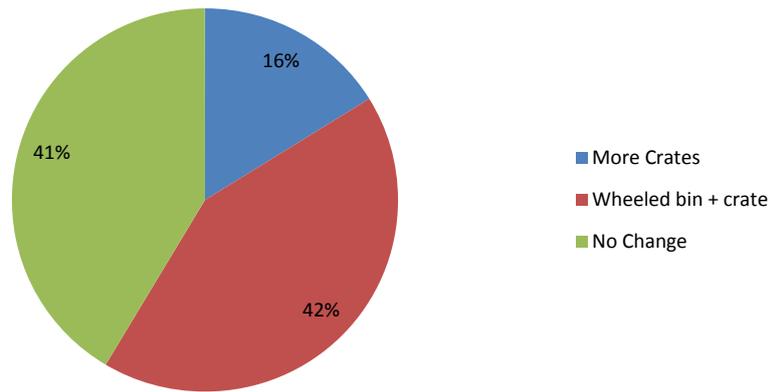


Figure 17: Preference of recycling container

Willingness to pay

The following is based on a rates increase, with:

- Forty-nine per cent of survey respondents owning their own home (2013 statistics 57 per cent).
- Fifty-one per cent of survey respondents renting their home (2013 statistics 43 per cent).

Key results:

- People are more willing to pay more for a rubbish collection service in a wheeled bin than a bag.
- More people are willing to pay more for a recycling wheeled bin + crate service than they are for additional crates.

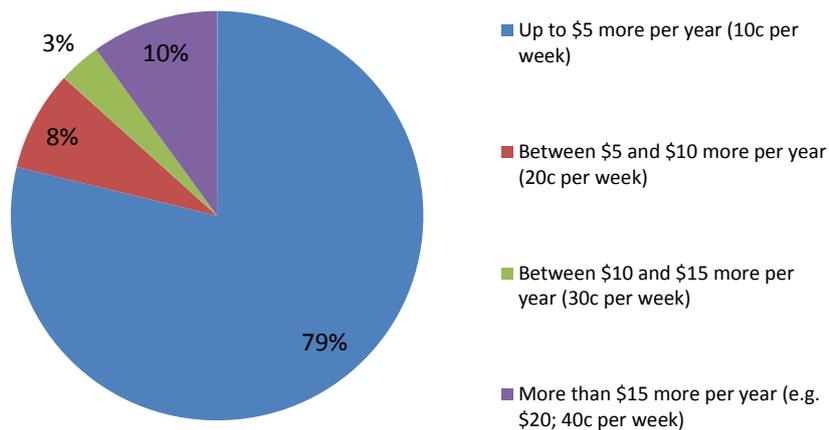


Figure 18: Willingness to pay for rubbish bags

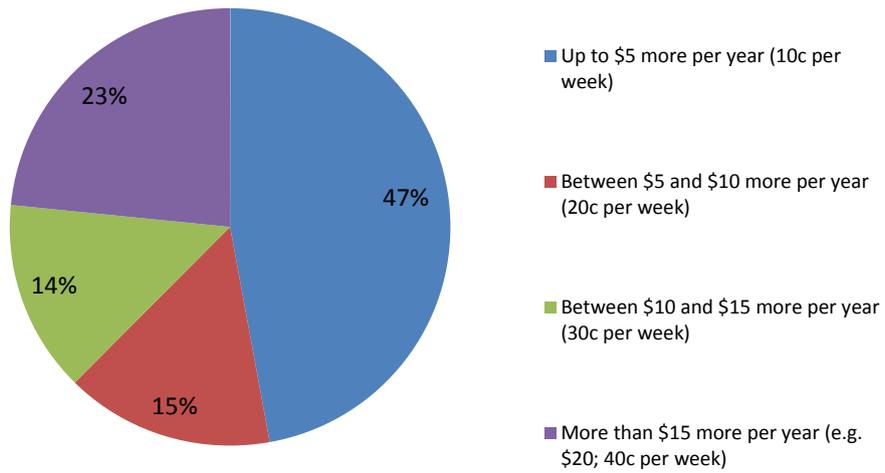


Figure 19: Willingness to pay for rubbish in a wheeled bin

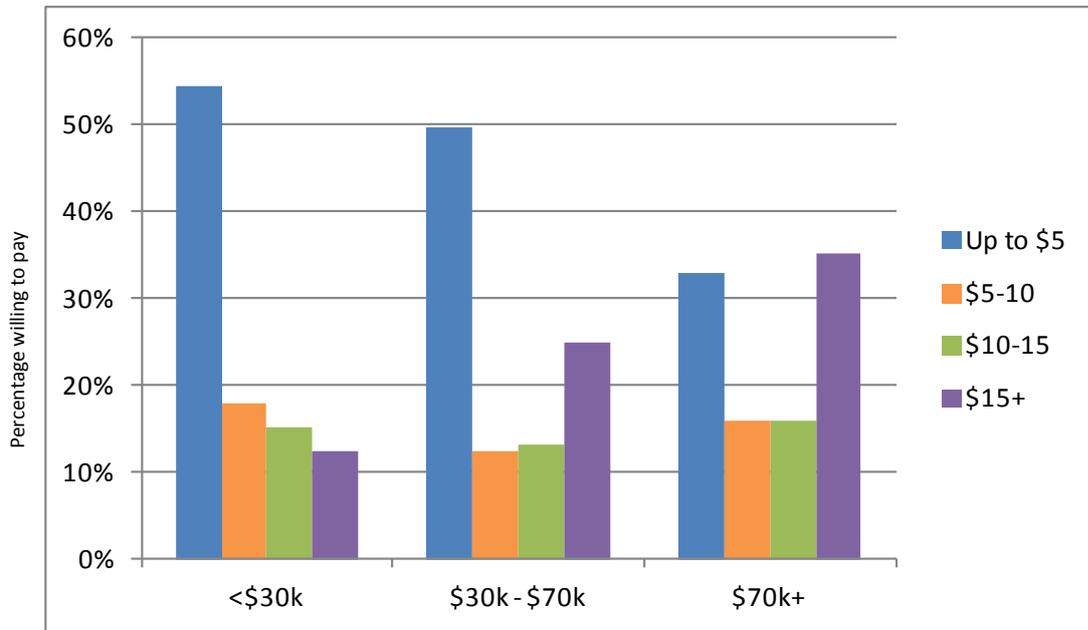


Figure 20: Willingness to pay for rubbish in a wheeled bin by income

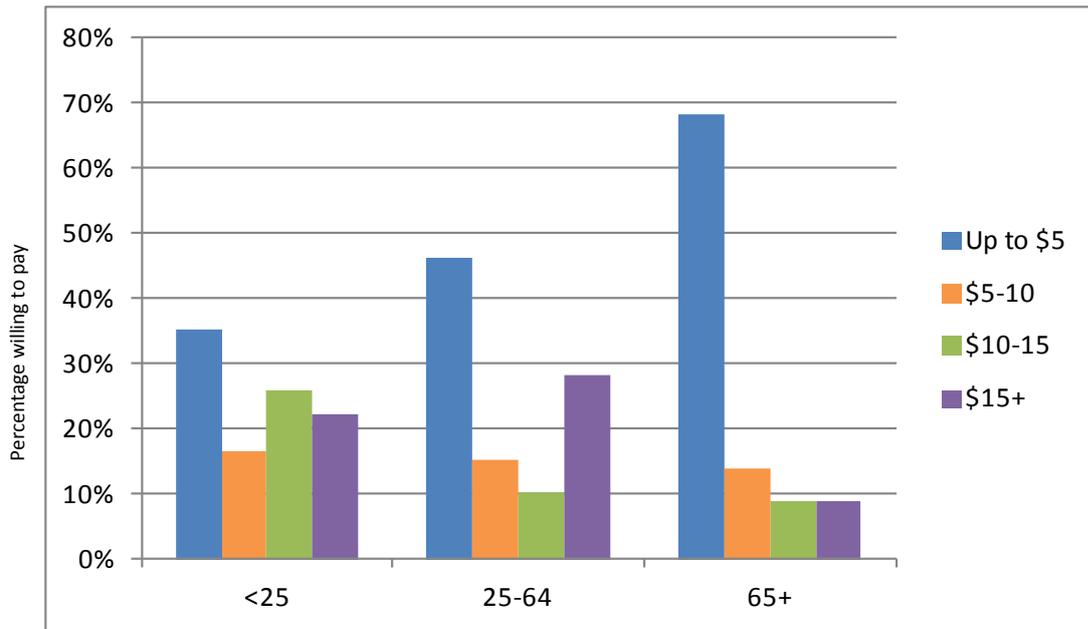


Figure 21: Willingness to pay for rubbish in a wheeled bin by age bracket

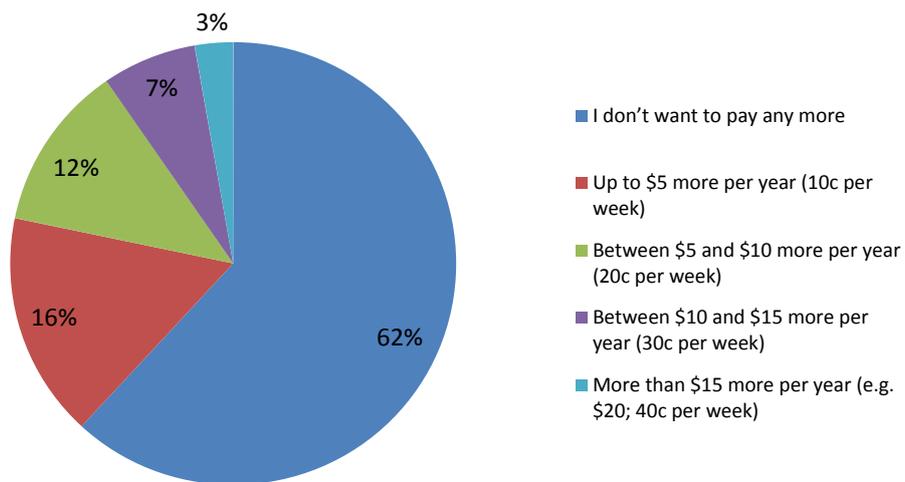


Figure 22: Willingness to pay for an improved recycling service in a crate

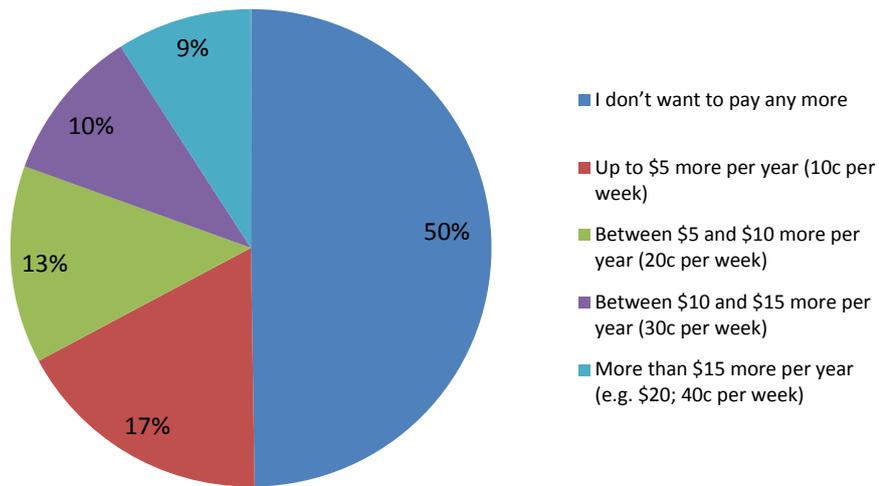


Figure 23: Willingness to pay for an improved recycling service in a wheeled bin + crate

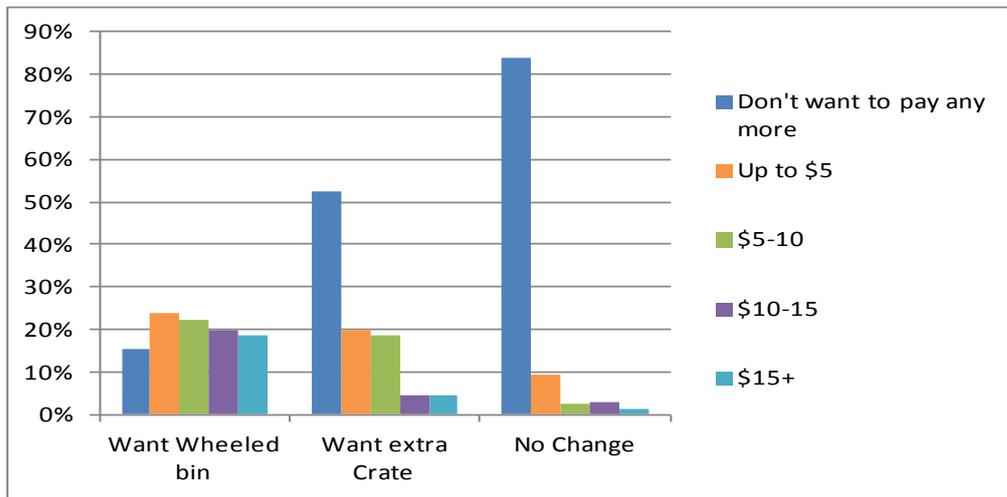


Figure 24: Willingness to pay more by service change

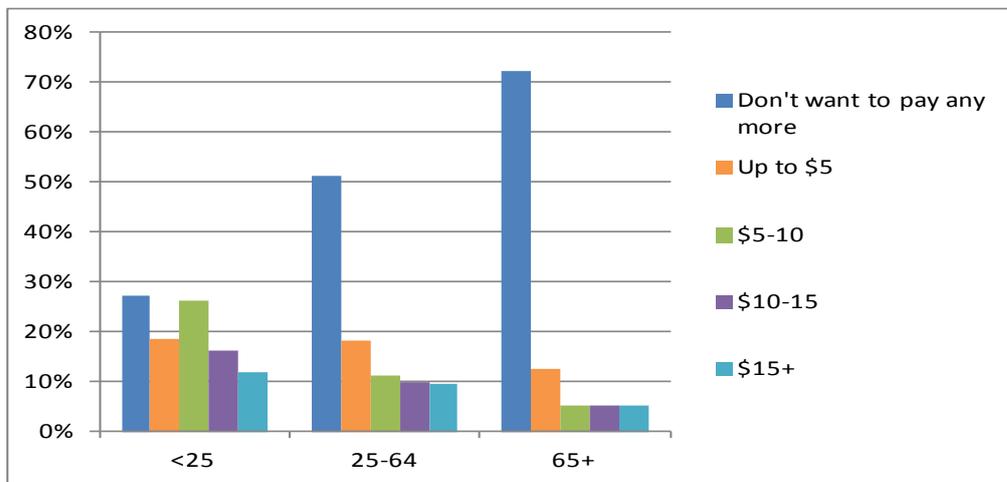


Figure 25: Willingness to pay more for recycling by age bracket

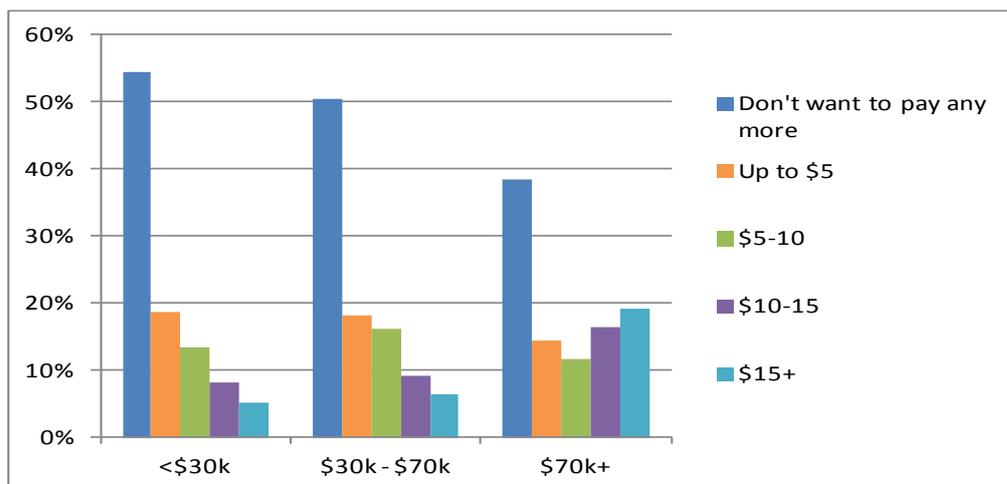


Figure 26: Willingness to pay more for recycling by income bracket

Focus groups

The following is a summary of the four focus groups; students, low-income household, Maaori households and a general group. Staff also approached the Property Investors Association, property managers and the Youth Council directly for their feedback.

| Area | Key points | Focus groups | Options to mitigate/improve |
|-----------|---|--|---|
| Recycling | Recycling and waste minimisation generally considered important and there is a desire to want do more. | All | <ul style="list-style-type: none"> Provide additional capacity to enable residents to recycle more. Increase education and awareness. |
| | Uncertainty around what the service is and inconsistency of collection. | All | <ul style="list-style-type: none"> Clear, simple instructions on how to use the service. Process for obtaining replacement or additional crates to be improved and better publicised. Contractor needs to maintain consistency in collections across the city. |
| | Current recycling service insufficient for amount of recycling. | Maaori, Students, General, Property Investors Association, Property Managers | <ul style="list-style-type: none"> Provide additional capacity to enable residents to recycle more. |
| | General preference for wheeled bin and crate for recycling. | Maaori, Students, General, Property Managers | <ul style="list-style-type: none"> Service change. |
| Rubbish | Two bag limit considered too restrictive: eg, for those with large families, nappies, multiple families in one household. | Low Income, Maaori and Students | <ul style="list-style-type: none"> Increase education to raise awareness on waste minimisation. Improve level of service for recycling to support recycling efforts. Consider temporary additional capacity for those with nappies. |
| | Wheeled bins for rubbish considered better in preventing animal strike, litter and keeping areas tidy. | Low Income, Maaori, General, Property Managers, Youth Council | <ul style="list-style-type: none"> Service change. |
| | Concern over negative impact on large | All | <ul style="list-style-type: none"> Consider financial discounts/support for low income families. |

| Area | Key points | Focus groups | Options to mitigate/improve |
|------------------|---|---|--|
| | households and low socio-economic families if User-pays is adopted. | | |
| | Benefit of User-pays acknowledged. | All Property Investors Association strongly supported User-pays | <ul style="list-style-type: none"> Increase education and awareness. |
| Organics | Landlords do not allow composting on properties, no means to transport to organic centre. | Low Income, Maaori, Students | <ul style="list-style-type: none"> Consider initiatives to support further diversion to benefit all sectors of the city. |
| Inorganic | Preference for a bulky waste collection. | Low Income, Students, General | <ul style="list-style-type: none"> Consider ways to support diversion of bulky materials. |
| Property | Space constraints considered issue for wheeled bins at multi-unit properties. | Property Investors Association, Property Managers Youth Council | <ul style="list-style-type: none"> Guidance for developers to ensure sufficient space is provided for properties, individual solutions sort for existing properties |

2.3. Benchmarking

2.3.1. Territorial Authorities Waste Infrastructure and Services Survey 2013

In December 2013, the Ministry for the Environment (Ministry) conducted a voluntary survey of all territorial authorities (TAs) in New Zealand. The purpose of the survey was to collect data from TAs on the types of waste infrastructure and services managed by or known to TAs within their district.

WasteMINZ undertook a similar survey in 2011 as an initiative of the WasteMINZ TA Forum. This survey supported their objective of increasing the level of knowledge sharing by TAs to help inform local decision-making.

The purpose of the 2013 survey was to:

- provide comparable data to the WasteMINZ report completed in 2011
- inform the 2014 statutory review of the effectiveness of the Waste Disposal Levy
- improve the Ministry's understanding of TA waste management and minimisation infrastructure and services across the country, including; how they are funded, coverage to communities and variations in their capacities.

The survey was also designed to continue to support knowledge sharing by TAs and provide information for any potential TA shared services or collaboration.

The survey can be found at:

<http://www.mfe.govt.nz/sites/default/files/media/Waste/ta-waste-infrastructure-survey-final.pdf>.

Key results of the survey are:

- All 53 territorial authority (TA) respondents provided information on whether or not they offered each of the collection services targeted in the survey (refuse, recycling, organic and inorganic). TAs were considered to have offered the service if it was either council-operated or council-contracted.

- Most TAs offered a combination of refuse and recycling services (66 per cent), followed by the provision of the combination of refuse, recycle and organic services (nine per cent). No TA offered all four services, and four TAs (eight per cent) did not offer any waste service.
- Thirty-six of the 52 (70 per cent) TAs indicated that they also provided non-kerbside services, including organic and refuse transfer stations, community drop-off facilities or stores.
- Few TAs offered organic and inorganic kerbside services, 11 per cent and eight per cent respectively. The private sector services provide the majority of the organic waste collection market, with 47 per cent of TAs indicating this option. Sixty-eight per cent of TAs indicated the availability of other non-kerbside services for inorganic waste.
- The survey data from 2011, in comparison to data collected in 2013 shows:
 - A decrease in TAs offering refuse-only services, ie, they have expanded their services to include recycling.
 - A decrease in the number of TAs providing an inorganic kerbside collection service.
 - An increase in TAs offering rubbish collection in wheeled bins.

2.3.2. Service benchmarking

In early 2016 staff undertook a service benchmarking exercise across all metro (city) councils. The following table summarises the 16 metros surveyed.

| | Number of metro councils |
|--|---|
| Service | |
| Provided by contractor | 15 (Tauranga and Upper Hutt contracted rubbish collection only) |
| Service provided in house | 1 (Palmerston North) |
| Service not provided by Council | |
| • Rubbish | nil |
| • Recycling | 2 (Tauranga and Upper Hutt) |
| Rubbish collection container | |
| Bags | 13 |
| Wheeled Bins | 3 |
| Recycling collection container | |
| Crate | 5 |
| Wheeled Bins | 7 |
| Bags | 2 |
| Funding of rubbish collection service | |
| Rates | 4 |
| User-pays | 11 |
| Rates + User-pays | 1 (New Plymouth) |

| City | Population | Service withdrawn in house contracted service | Kerbside rubbish bags/heel bins | Kerbside recycling crate wheeled bin | Plastics collected | Funding rubbish | Funding recycling | Ownership of refuse transfer stations/resource recovery centres, landfills and organic centres | Other services |
|------------------|-------------|--|--|--|--------------------|---|-----------------------------|--|---|
| Auckland | 1.4 million | Contracted service | Pre-paid bin Choice of sizes from 60 to 240L Fortnightly | Bin, choice of sizes from 140 to 360L. Comingled, all materials collected together. Fortnightly. | 1-7's | \$2.50 for a 80L bin. | Rates | Council owned and contracted transfer stations, resource recovery centres | Kerbside food collection and inorganic collections. |
| Christchurch | 342,000 | Contracted service | 140 L bin Fortnightly | 240L bin. Comingled, all materials including glass collected together. Fortnightly. 80L bin for organics – green and food waste etc. Weekly. | 1-7's | Rates. | Rates | Council owned and contracted transfer stations and organic composting facility Composting facility operated by Living Earth, under a BOOT (build, own, operate, transfer) contract. The site processes approximately 50,000 tonnes of mixed food and garden waste per annum | Additional annual fees for: • smaller bins • larger organics bin or an extra recycling bin. User-pays collection for rubbish and recycling in the inner city. Service is provided by pre-paid bags, rubbish collected nightly, recycling weekly (at night). Assisted service provided for rubbish. Gated communities and properties in private lanes can apply to have a collection service within the lane. |
| Wellington | 204,000 | Contracted service | Pre-paid bag 15 kg Weekly | 240L bin + crate. Wheeled bin and crate for glass. Alternative weeks, ie, week one bin, week two crate etc. City centre recycling in official bags. | 1-7's | \$2.50 per bag. | Rates | Council owned and contracted transfer stations, resource recovery centres and landfills Council owned composting facility that processes approximately 5,000 tonnes of food and garden waste per annum. | City centre rubbish and recycling is provided. Rubbish is daily between 5:30 and 10pm and recycling is weekly after 10pm. Backdoor service available at extra cost. Will collect from private streets, if there is sufficient space for safe operation of the trucks. Requires an assessment. |
| Hamilton | 156,000 | Contracted service. | Bag x 2. 20kg max. Weekly. | Crate + paper. | 1-2's | Rates. | Rates | Council owned and contracted transfer station and organic centre | |
| Dunedin | 120,000 | Contracted service. | Pre-paid bag. 15kg max. Weekly. | 24 L bin + crate. Wheeled bin and crate for glass Alternative weeks, ie, week one bin, week two crate etc. | 1-7's | \$2.30 60L bag. \$2.00 40L bag. | Rates | Council owned and contracted refuse transfer stations and landfill | Free commercial cardboard collection service in central business district (CBD), collection twice a week in evenings. CBD rubbish collection daily in evenings. |
| Tauranga | 117,000 | Contracted kerbside rubbish service No kerbside recycling rubbish service | Pre-paid bag. 15kg max. Weekly. | No council-provided service. | N/A | Pre-stickered bags: \$2.39 or \$2.17 per bag (cost dependent on bag type, ie, handle or tie). | No council-provided service | Council owned and contracted refuse transfer stations | Tauranga moved to a User-Pays system in 1994. Since this time some of the licensed private service providers have introduced kerbside recycling services. Rubbish collection market share is approximately 10%. City centre streets such as Cameron Road have council rubbish collections twice a week. Can get licensed private contractor to collect both rubbish in a wheeled bin and recycling. |
| Hutt City | 98,000 | Contracted service. | Pre-paid bag. Weekly. | Crate + paper. Plastics, aluminium and tins must be separated, placed into supermarket bags and then placed in crate. | 1-7's | \$2.50 bag. | Rates | Council owned and contracted refuse transfer stations and landfills | Offer flexi-nets at \$13 each, which help keep all the recycling in the crate. |
| Palmerston North | 84,000 | In house service, with own trucks. | Pre-paid bag. 10kg max. Weekly. | 240L bin + crate. Wheeled bin and crate for glass. | 1-7's | \$2.60. | Rates | Council owned and managed refuse transfer, recovery and recycling centres including organic composting Council managed a composting facility that | Rubbish collection market share is between 30-40%. Other 60-70% of residents use private wheeled bin contractors. |

| City | Population | Service withdrawn in house contracted service | Kerbside rubbish bags/heel bins | Kerbside recycling crate wheeled bin | Plastics collected | Funding rubbish | Funding recycling | Ownership of refuse transfer stations/resource recovery centres, landfills and organic centres | Other services |
|-----------------|------------|--|---|--|--------------------|--|-----------------------------------|--|--|
| | | | | | | | | processes garden waste, wood waste and bio solids. The site manages approximately 16,000 tonnes per annum. | In house council service also provides User-pays commercial rubbish and recycling services, organic and food waste collections. |
| Whangarei | 77,000 | Contracted service | Bag. Weekly. | Crate + paper. | 1-2's | Stickers: \$1.80 - 35L. \$2.70 - 65L. | Rates | Council-owned and contracted refuse transfer stations and landfill. | Council also provides commercial collection service. |
| New Plymouth | 74,000 | Contracted service. | Pre-paid bag. 15kg max. Weekly. | 240L bin + crate. Wheeled bin and crate for glass. Fortnightly. | 1-7's | Rates funded 52 bags per property per year. Additional bags brought by resident at \$3.30 each. | Rates | Council-owned and contracted refuse transfer stations and landfill. | User-pays back door collection service. |
| Hastings | 66,000 | Contracted service. | Pre-paid bag. 10kg max. Weekly. | No container provided, householder sorts into a bag or box. | 1-7's | \$1.60 - 40L \$2.40 - 60L | Rates | Council-owned and contracted refuse transfer stations and landfill. | |
| Napier | 58,000 | Contracted service. | Bag x 2. 10kg max. Weekly. | No container provided, householder sorts into a bag or box. | 1-7's | Rates. | Rates | Council-owned and contracted refuse transfer stations and landfill. | |
| Invercargill | 52,000 | Contracted service. | 140L wheeled bin. Weekly. | 240L bin. Comingled including glass, all materials collected together. Fortnightly. | 1-7's | Rates. | Rates | Council-owned and contracted refuse transfer stations and landfill. | CBD has '3 times weekly' rubbish collection service. Average weight of the rubbish in the wheeled bin ranges from 11kg to 19kg per property per week. |
| Porirua | 52,000 | Contracted service. | Pre-paid bag. 15kg max. Weekly. | Crate + paper. | 1-7's | \$2.50 per 60L bag. | Rates | Council-owned and contracted landfill. | |
| Nelson | 46,000 | Contracted service. | Pre-paid bag. 14kg max or wheeled bin to be purchased direct from contractor. | Crate + paper. Introducing either 140L or 120L wheeled bin + crate for glass in 2016. | 1-7's | \$2.20 60L bag Wheeled bin dependent on size, customer to purchase wheeled bin directly from contractor | Funded from User-Pays for rubbish | Council-owned and contracted refuse transfer stations and landfill. | |
| Upper Hutt City | 41,000 | Contracted kerbside rubbish service. No kerbside recycling rubbish service. | Pre-paid bag. Weekly. | No council-provided service. | N/A | Council approves the wholesale bag price that the contractor can on sell to retail outlets, it has no control over the prices set by retail outlets, these can vary from store to store. | No Council-provided service | Council-owned and contracted landfill. | |
| Waikato | 65,000 | Contracted service. 3 separate contracts. | Bag x 2. 20kg max. Weekly. Wheeled bin in Tuakau, weekly. Pre-paid bag in Raglan and ex-Franklin (except Tuakau). | Two 45L crate plus paper collected weekly. Food waste collection provided in Raglan | 1-7's | Rates and User-Pays Raglan \$2.80 60L bag \$1.50 35L bag. Tuakau \$3.00 for 120 L wheeled bin All other areas \$1.50 60L bag | Rates | Council-owned and contracted refuse transfer stations. | |
| Waipa | 46,000 | Rubbish collection – not provided. Recycling collection – contracted service. | Not provided. | Crate + paper. | 1-7's | Not provided. | Rates | No council-owned facilities. | |

2.3.3. Waste diversion benchmarking

The following information has been obtained from either Council’s websites and/or directly from Council staff.

The amount of rubbish put out per property differs significantly between metros. Christchurch put out the least at 253kg per property per year, compared to Tauranga who put out 600kg per property per year. The average is 380kg per property per year, with Hamilton putting out 418kg per property per year.

The amount of recycling put out per property also differs. Christchurch put out the most at 233kg per property per year, and New Plymouth the least at 72kg per property per year. The average is 166kg per property per year, with Hamilton putting out 169 per property per year.

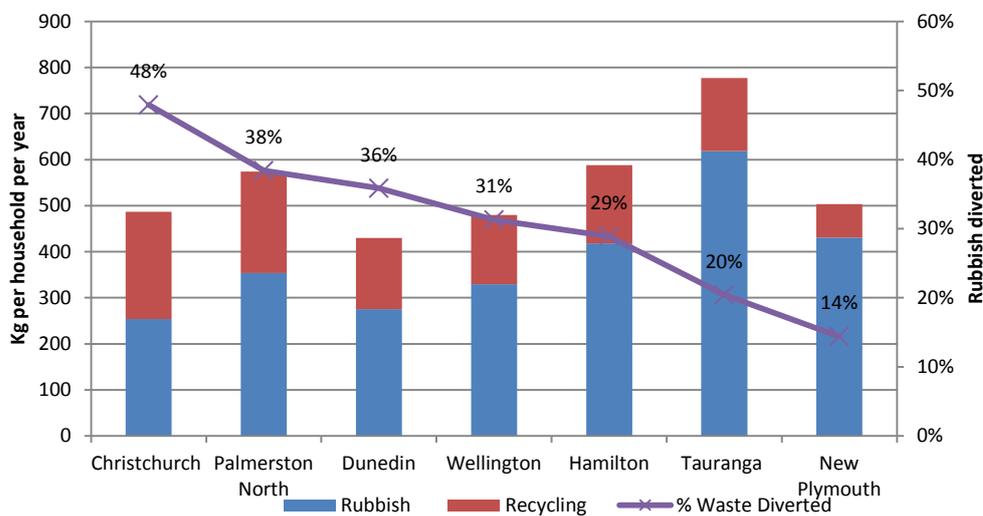


Figure 27: Kerbside rubbish and recycling comparison with other metros (kg per household per year)

Notes:

- Christchurch has achieved 48 per cent diversion by providing a kerbside organic (green waste and food) kerbside collection service.
- Palmerston North, Dunedin, Wellington, New Plymouth and Tauranga have a User-pays rubbish service.
- Christchurch, Palmerston North, Dunedin, Wellington and New Plymouth have a wheeled bin for recycling and collected plastics 1-7.
- Tauranga City Council (TCC) does not provide a kerb recycling service. The amount of rubbish put out by residents is higher than all other metros. These figures have been checked by TCC staff and are correct.

3. Legislation and legal tools

3.1. Legislation

3.1.1. Local Government Act 2002

The purpose of this Act is to provide for democratic and effect local government that recognises the diversity of New Zealand communities. In relation to rubbish and recycling the Act:

- Requires Council to provide efficient and effective services that are appropriate to present and future circumstances – section 10.
- Requires Council to ensure the provision of solid waste collection and disposal services are available to the community - section 11A.
- Requires Council to make assessments of sanitary services, which includes the collection and disposal of rubbish - section 124.
- Enables Council to make a Bylaw in regard to solid waste - section 146.

3.1.2. Waste Minimisation Act 2008

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

The Act introduced several new tools for managing and minimising waste. The Act provides:

- clearer responsibilities for territorial authorities in managing and minimising waste, including requirements for reviewing and implementing waste management and minimisation plans (WMMPs)
- a levy of \$10 per tonne (plus GST) on waste disposed of at disposal facilities, to be used for funding waste minimisation activities undertaken by territorial authorities, businesses and community groups
- central government recognition of product stewardship schemes (through accreditation) and the ability to impose mandatory product stewardship schemes for priority products
- the power to make regulations to collect information and to impose standards for various aspects of waste minimisation.

Responsibilities of territorial authorities (TAs)

All territorial authorities must adopt WMMPs that include methods for reducing waste. Waste management plans prepared under the Local Government Act 2002 are deemed to be WMMPs under the Waste Minimisation Act.

Territorial authorities must review their WMMPs by 1 July 2012 and then at intervals of no more than six years thereafter.

Before reviewing their WMMPs territorial authorities must conduct a waste assessment to establish background information for their WMMPs. The assessments must include a set of options to meet the forecasted waste-related demands of the district.

The Waste Minimisation Act requires territorial authorities to spend funding received from the Waste Disposal Levy (described below) according to the priorities set out in their WMMPs, which in turn must have regard to the New Zealand Waste Strategy.

The WMMPs should also identify how territorial authorities will measure progress on their goals and targets for waste management and minimisation in their district and in relation to their expenditure of funds from the Waste Disposal Levy.

Waste Disposal Levy and Waste Minimisation Fund

From 1 July 2009, the Waste Minimisation Act introduced a Waste Disposal Levy of \$10 per tonne (plus GST) on all waste disposed of at disposal facilities. The purpose of this levy is to:

- raise revenue to promote and achieve waste minimisation
- recognise the cost of waste disposal on the environment, society and the economy by increasing the cost of waste disposal.

Fifty per cent of the funds raised by the levy go directly to territorial authorities. This allocation is calculated on a population basis. Payments are made quarterly and must be spent only to promote or achieve waste minimisation and in accordance with each territorial authority's WMMP.

The other 50 per cent of the funds raised by the levy money (minus administration costs) forms the Waste Minimisation Fund, which was set up to boost New Zealand's performance in waste minimisation through:

- investment in infrastructure and systems for waste minimisation
- building educational and promotional capacity.

The Fund will help fund waste minimisation projects that increase resource efficiency, increase reuse, recovery and recycling, and decrease waste disposed of at disposal facilities. The Minister for the Environment sets the criteria for the Fund and makes the final decisions about which projects receive funding.

Product stewardship

The purpose of product stewardship as set out in the Waste Minimisation Act is to encourage people and organisations involved in the life of a product to share responsibility for:

- ensuring effective reduction, reuse, recycling or recovery of products
- managing environmental harm arising from the product when it becomes waste.

Product stewardship schemes are initiatives that help reduce the environmental impact of manufactured products. When a product stewardship scheme is introduced, anyone involved in the product's lifecycle, such as producers, brand owners, importers, retailers and consumers, accepts responsibility for the environmental effects of that product.

The Act provides a regulatory framework for establishing and accrediting product stewardship schemes. At this time, product stewardship schemes are voluntary, but priority products may be regulated to ensure producers and others in the supply chain share responsibility for end-of-life products.

3.1.3. Litter Act 1979

This Act relates to the casting, placing, throwing or dropping of litter in both public and private property. It enables territorial authorities to appoint litter wardens who can issue infringement notices.

3.1.4. The New Zealand Waste Strategy 2010

The revised waste strategy contains two main goals;

- reducing the harmful effects of waste and
- improving the efficiency of resource use.

It provides direction to local government, businesses and communities and its intent for councils is for them to take a flexible approach to waste management, encourage development of targets and solutions that are appropriate to local needs and efficiently allocate waste management and minimisation effort and resources.

3.1.5. Hazardous Substances and New Organisms Act 1996 (HSNO)

The HSNO Act addresses the management of substances that pose a significant risk to the environment and/or humans from their manufacture to their disposal.

The Act requires councils to handle and dispose of hazardous substances such as used oil, asbestos, agrichemicals, liquid petroleum gas and batteries in a safe manner.

3.1.6. Resource Management Act 1991 (RMA) as amended

The RMA provides guidelines and regulations for the sustainable management and protection of the natural and cultural environment; and addresses waste management through controls on the environmental effects of waste management and minimisation facilities through regional and local policies, plans and consent procedures.

Under s31 of the RMA, councils are responsible for controlling the effects of land use activities that have potential adverse effects on the natural and physical resources of the district. These include facilities used for collection, recovery, treatment and disposal of waste.

3.1.7. Health Act 1956

The Health Act 1956 places an obligation on councils (if required by the Minister of Health) to provide sanitary works for the collection and disposal of refuse, for the purpose of public health protection. It specifically identifies certain waste management practices as nuisances and offensive trades. The Health Act enables councils to raise loans for certain sanitary works and/or to receive government grants and subsidies, where available.

3.1.8. Health and Safety at Work Act 2015

The Health and Safety Reform Bill was passed in parliament in August 2015. The new Health and Safety at Work Act 2015 will become effective from 4 April 2016. Primary changes to the new Act include: additional contractor/volunteer management requirements. There is current court action by the police Commercial Vehicle Investigation Unit against Auckland Council in relation to a death of a rubbish truck worker in 2015.

3.1.9. Climate Change Response Act 2002

The New Zealand Emissions Trading Scheme (NZ ETS), under the Climate Change Response Act 2002, will help New Zealand meet its international climate change obligations and

reduce emissions. The NZ ETS will result in a carbon price that will encourage people to carefully assess behaviours and investment decisions.

Under the legislation, operators of waste disposal facilities have mandatory obligations from 2012. By the end of March 2013, operators of disposal facilities will be required to report total emissions for the 2012 calendar year.

From 2014, disposal facility operators are required to report emissions by 31 March and surrender a matching number of emission units by 31 May for the preceding calendar year. As such, full NZ ETS obligations begin in 2013.

3.1.10. Waste to Resource: Waikato Regional Waste and Resources Strategy

The Waikato Regional Council has adopted a waste and resource efficiency strategy – *Waste to Resource: Waikato Waste and Resource Efficiency Strategy 2015-2018*. The strategy sets out a broad action plan across six focus areas:

- Improve waste data and information management.
- Review regulatory environment governing waste.
- Reduce the harmful impacts of waste.
- Increase resource efficiency and beneficial reuse.
- Stimulate research and innovation.
- Foster partnerships collaboration and funding.

There is no statutory obligation for Hamilton City Council to support and deliver on this strategy, however the majority of the action points are directly from or a close derivative of other legislation, where we do have an obligation to meet.

3.1.11. Future Proof Strategy

Future Proof is the Waikato region’s growth strategy and implementation plan relating to growth in the region to 2050. The strategy recognises that local authorities in the Waikato region have limited control over the solid waste stream, and also have limited ability to obtain the information required to enable informed decision making. The strategy outlines several approaches to addressing waste management issues:

- Promoting waste reduction.
- Liaising more closely with communities.
- Providing incentives to encourage good practice and to discourage inappropriate practices.

The strategy requires “all partner councils to establish effective waste minimisation strategies to reduce waste disposal to landfill”.

3.2. Bylaws, policies and plans

3.2.1. Solid Waste Bylaw 2012

The purpose of the Bylaw is to:

1. Prohibit or regulate the deposit of waste.
2. Regulate the collection and transportation of waste.
3. Regulate the manner of disposal of dead animals, including their short-term storage pending disposal,

4. Prescribe charges to be paid for use of waste management and minimisation facilities provided, owned, or operated by the territorial authority.
5. Prohibit, restrict, or control access to waste management and minimisation facilities provided, owned, or operated by the territorial authority.
6. Prohibit the removal of waste intended for recycling from receptacles provided by the territorial authority by anyone other than—
 - a. the occupier of the property from which the waste in the receptacle has come; or
 - b. a person authorised by the territorial authority to remove the waste.

The Bylaw is due for review in 2017. The review will consider improvements such as:

- a requirement to remove recycling containers within 24 hours of the collection being undertaken
- a maximum wheeled bin size for rubbish. This is to ensure any privately provided wheeled bin service also encourages recycling.

The current Bylaw may or may not require review depending on the future service provided by Council.

3.2.2. District Plan

The Proposed District Plan includes:

Objective 25.12.2.1

Reduce the amount of solid waste generated and ultimately entering landfills.

Policy 25.12.2.1a

Promote the reduction of solid waste volumes based on the following waste hierarchy.

- Reduction
- Reuse
- Recycle
- Recovery
- Treatment
- Disposal

Policy 25.12.2.1b

Promote practices that reduce the volume of solid waste generated and disposed of.

Objective 25.12.2.2

Solid waste activities and facilities are managed in a way that addresses adverse effects from the storage and disposal of solid waste.

Policy 25.12.2.1a

Solid waste collection, recycling, recover, storage, treatment and disposal activities shall be sited, designed and managed to reduce solid waste entering landfills, and minimise adverse effects on the environment.

Policy 25.12.2.1b

Ensure pleasant and functional service areas are provided in new developments for waste and recycling storage.

Rules 25.12.3.1 Solid Waste Storage Areas

All activities shall provide appropriate, on-site storage areas for recycling and litter bins with convenient access for waste collection.

3.2.3. Sustainability principles

The following principles were in draft in May 2016, and are currently under review.

Sustainability has two key concepts - the concept of needs and the concept of limitations.

How we provide for our needs today can affect the environment in a way that reduces our ability to support our needs in the future.

Hamilton City Council has a significant role in the *kaitiakitanga* of Hamilton city and the wider Waikato region. Sustainability for Hamilton City Council is about making decisions and delivering services in a way that considers the impacts of our actions across the social, cultural, economic and environmental well-beings so that in meeting the current needs of our communities we do not adversely impact on the needs of future generations.

The following principles underpin Council's approach to achieving sustainability through our operations.

1. Prevention

- Council anticipates, prevents or mitigates significant adverse economic, environmental, human health and social effects of decisions and actions.
- Today's decisions are balanced with tomorrow's effects.

2. Precaution

- Council acts to adopt effective measures to prevent environmental degradation when there are threats of serious or irreversible damage even in cases where there is a lack of full scientific certainty.

3. Responsible consumption

In undertaking its own business Council acts to:

- Minimise the production of waste.
- Maximise opportunities to recycle.
- Encourage conservation of water.
- Encourage conservation of energy and uses renewable energy where practical.

In its role as provider of local infrastructure and public services, Council influences the community to:

- Encourage the minimisation of waste.
- Maximise opportunities to recycle.
- Encourage conservation of water.
- Encourage conservation of energy and uses renewable energy where practical.

4. Education

- Council raises awareness, encourages participation and trains employees in sustainable issues.
- Council encourages residents to behave in an environmentally responsible manner.

- Council encourages less reliance on private motor vehicles by promoting alternatives such as walking, cycling and the use of public transport.

4. Where does recycling go?

Figure 28: Where does the recycling go



Table 11: Potential revenue from kerbside collections

| | Tonnage collected 2015 | Approximate market rate per tonne (\$) | Total potential revenue for contractor (\$ per year) |
|-------------------------------------|------------------------|--|--|
| Paper | 3,995 | 80 | 320,000 |
| Plastic | 729 | 45 | 33,000 |
| Steel | 342 | 10 | 3,000 |
| Aluminium | 68 | 850 | 58,000 |
| Glass | 4,002 | 75 | 300,000 |
| Total potential market value | | | 714,000 |

5. Population and demographics

The following population and demographic information has been sourced from Statistics New Zealand, unless otherwise stated.

The current service provides collection from 53,800 households (January 2016). The projected number of households for which a kerbside rubbish collection and recycling service is provided is expected to increase from 57,700 in 2019 to 66,300 in 2029, a 15 per cent increase over the 10-year period.

The projected number of households has been based on Statistics New Zealand’s projections with a five per cent removal for households that fall within non-collected areas, ie, city centre.

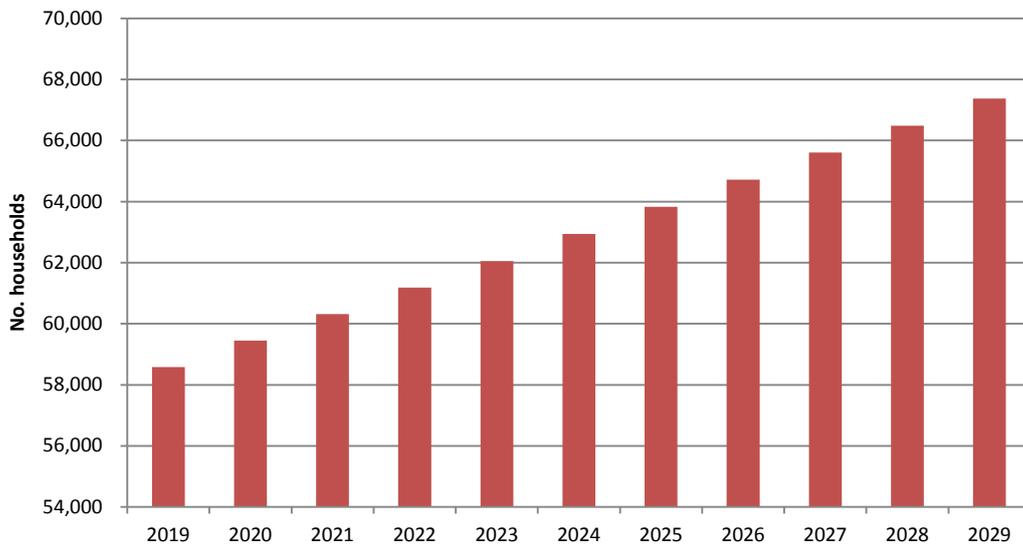


Figure 29: Projected number households

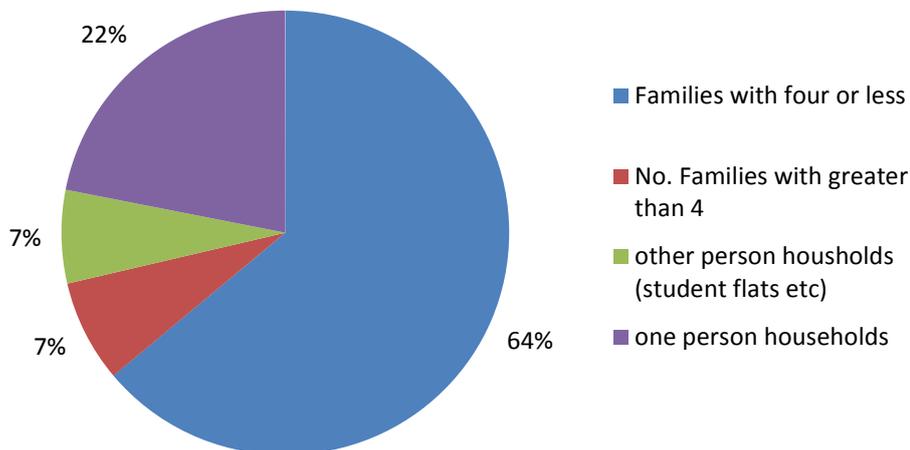


Figure 30: Household sizes

6. Stakeholders

Rubbish and recycling stakeholders have been identified, classified and described as:

- being internal or external to the organisation. Note, internal includes Councillors and the Mayor
- their interest is this project
- their assessment of impact (refer Figure 31)
- potential strategies for gaining support or reducing resistance have been identified
- their engagement with this project to date
- their involvement in the preparation of this business case
- any further engagement if this business case is approved.

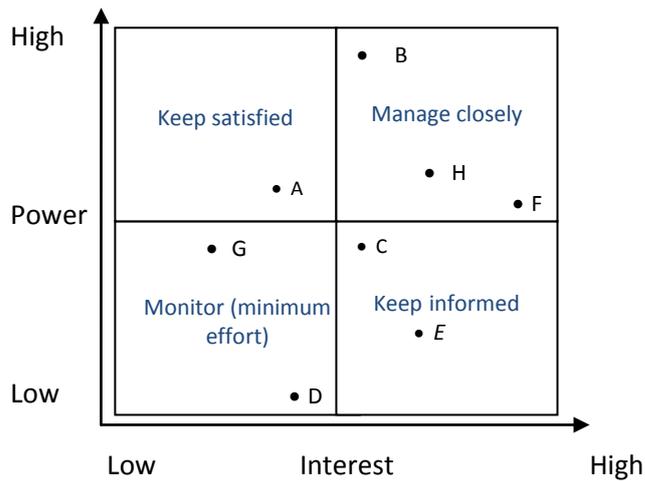


Figure 31: Assessment of stakeholder impact

Table 12: Stakeholder identification and management

| Internal / External | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date | Involvement in preparation of this Business Case | Further engagement if the business case is approved |
|---------------------|--|---|----------------------|---|---|--|--|
| Internal | Elected members (Mayor and Councillors). | <ul style="list-style-type: none"> Hamilton Plan delivery. Compliance with strategic alignment. Compliance with 10-Year Plan budgets and timeframes. Council's reputation. Community needs. | Manage closely | <ul style="list-style-type: none"> Working with staff to develop the business case. Business case approval from Finance Committee. Regular project reporting via Key Project Reports if desired. | <ul style="list-style-type: none"> Membership in a working group which provided governance to the development of this business case. Workshops prior to the 10-Year Plan process Reports and debate as part of the 10-Year Plan process. | Yes | Yes |
| Internal | Chief Executive and Senior Leadership Team. | <ul style="list-style-type: none"> Hamilton Plan delivery. Compliance with strategic alignment. Delivery of organisational goals. Compliance with 10-Year Plan budgets and timeframes. Council's reputation. | Manage closely | <ul style="list-style-type: none"> Review and approval of project Business Case ahead of submission to Finance Committee. Provide regular updates on project progress and risks through General Manager (GM) City Infrastructure. | <ul style="list-style-type: none"> Review of business case. | Yes, review | Yes, provision of information on procurement process, exception based reporting. |
| Internal | General Manager City Infrastructure and City Infrastructure Programme Governance | <ul style="list-style-type: none"> Project Sponsor. Delivery of organisational goals Compliance with 10-Year Plan budgets and timeframes. Service delivery. | Manage Closely | <ul style="list-style-type: none"> PGG to include GM City Infrastructure, Unit Manager (UM) City Waters, UM City Transportation. Regular PGG updates including financial and risk information. | <ul style="list-style-type: none"> Membership in a working group which provided governance to the development of this business case. Workshops prior to the 10-Year Plan process. | Yes | |

| Internal / External | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date | Involvement in preparation of this Business Case | Further engagement if the business case is approved |
|---------------------|--|--|----------------------|---|---|--|---|
| | Group (PGG) | <ul style="list-style-type: none"> Council's reputation. | | | <ul style="list-style-type: none"> Reports and debate as part of the 10-Year Plan process. | | |
| Internal | City Waters. | <p>City waters are responsible for the solid waste activity. These responsibilities include:</p> <ul style="list-style-type: none"> Contract management for kerbside collections, refuse transfer station and organic centre operations. Activity management planning (Solid Waste AMP D-2047498). Waste Management and Minimisation Plan http://www.hamilton.govt.nz/our-council/policies-bylaws/policies/Documents/Waste%20Management%20and%20Minimisation%20Plan%202012.pdf. Waste minimisation advice to the community and Council. | Keep informed | High level of communication required, both formal and informal. | <ul style="list-style-type: none"> Presentation of information at City Waters Team Talk. Attendance at benefit mapping workshops. Development of risk register. Communications with incumbent contractor. | Yes | Yes |
| Internal | City Transportation and the Infrastructure Alliance. | City Transportation and the Infrastructure Alliance carry out litter collection, rubbish bin emptying and fly tipping removal through their | Keep informed | Are part of the project team regarding litter. | Discussions regarding litter and opportunity for improvement through a new service contract. | Yes | Yes |

| Internal / External | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date | Involvement in preparation of this Business Case | Further engagement if the business case is approved |
|---------------------|---------------------------|---|----------------------|---|---|--|---|
| | | operational programmes of: <ul style="list-style-type: none"> • Landscape maintenance. • Vegetation control. • Litter control. | | | | | |
| Internal | Parks and Gardens. | Parks and Gardens are responsible for litter collection within the City Parks. | Keep informed | Are part of the project team regarding litter. | Discussions regarding litter and opportunity for improvement through a new service contract. | Yes | Yes |
| Internal | Communication . | Communications Unit will be responsible for the development of the engagement, marketing and communications plan. | Manage closely | Are part of the project team to develop and deliver the engagement, marketing and communications plan. | Are aware of this project since conception and are providing a resource dedicated to this project . | Yes | Yes |
| Internal | Finance (rates). | This business case looks at User-pays for rubbish collection. If implemented this will affect the General Rate allocation for each property and appropriate adjustments will need to be made. | Keep informed | As and when required the Finance Team will be involved to provide rate information. Future engagement will be dependent on the outcome of this business case. | Have provided information regarding General Rates and potential options for rate funding in the future. | Yes | Yes |
| Internal | Finance (unit reporting). | The Finance Team provide financial monitoring of the project through AX and any financial modelling that is required to develop this business case and future reports . | Keep informed | As and when required the Finance Team will be involved to provide financial information regarding this project. | Are aware of this project since its conception and have assisted in the financial planning works to date through the Asset Management Plans and 10-Year Plan. | Yes | Yes |
| Internal | Procurement. | The Procurement Team is | Keep informed | As and when required the | Are aware of this project | Yes | Yes |

| Internal / External | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date | Involvement in preparation of this Business Case | Further engagement if the business case is approved |
|---------------------|--|---|----------------------|---|--|--|---|
| | | responsible for overseeing procurement practices within Council. This business case covers a suite of contracts which are significant in terms of value and time. | | Procurement Team will be involved in the project, to provide advice on procurement matters and to provide information such as contract numbers etc. | since its conception and have assisted in the development of the draft procurement plan. | | |
| Internal | Risk Management. | <p>The contract is likely to be over a 10-year period, and will therefore have significant contractual and financial risks that need to be managed accordingly through the corporate risk register.</p> <p>There are also service risks associated with any new contract, given the scale of the service and that this will affect the majority of households in the city, risk to service is significant and will also require management through the Corporate Risk Register.</p> | Keep informed | Discussion and agreement on risks and risk management. Regular updates of these risks as and when required. | Development of risks. | Yes | Yes |
| Internal | City. Environments including City Growth, Building | The District Plan contains provisions for services to multi-story properties, gated communities etc. These properties are required to | Keep informed | Are part of the project team to ensure that all future new properties have sufficient area to manage rubbish and recycling. | Membership of a working group commencing May 2016. | Yes | Yes |

| Internal / External | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date | Involvement in preparation of this Business Case | Further engagement if the business case is approved |
|---------------------|--|--|----------------------|---|---|--|---|
| | Control, Planning Guidance, City Planning. | provide sufficient storage for rubbish; however there are no guidelines on what this storage looks like. Section 20 includes the first draft of the housing review plan which will develop these guidelines. The development of the plan is included in the project plan in Section 21. | | | | | |
| Internal | Strategic Property. | Strategic property look after the lease agreements for the refuse transfer station and organic centre. | | Are part of the project team to ensure new appropriate lease agreements with new contractors are entered into and part of the strategic decision making to either retain ownership or sell the refuse transfer station and organic centre. | Presented reports to Council on the potential sale of the refuse transfer station and organic centre. | None | Yes, will be required to assist in the procurement process, expiry of current lease and development of new lease agreements |
| Internal | Customer Services. | If a customer is dissatisfied, it is likely to result in a call to the Customer Services Unit. This project is to deliver a significant service change what will affect all residential properties in the city. | Keep informed | The communications strategy for internal stakeholders Section 19.3 will need to ensure that the Customer Services Team receive all the information that is necessary in order to manage the service change. The details of which are to be developed over | None. | No | Yes |

| Internal / External | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date | Involvement in preparation of this Business Case | Further engagement if the business case is approved |
|---------------------|---|---|----------------------|--|--|--|---|
| | | | | time, and be ready prior to 1 July 2017. | | | |
| Internal | Facilities, ie, Hamilton Zoo, Stadia, H3. | The incumbent contractor under the kerbside collection contract collects waste from a number of Council facilities. Facility managers would like to see this service being retained in its current state or where appropriate improved. | | The engagement, marketing and communications plan will need to ensure that the appropriate facilities managers are aware of a contractor change and be involved in any changes to levels of services that may occur as part of the new contract. | Are aware that the current contract is due for renewal. | No | Yes |
| External | Incumbent contractors and leaseholders. | Waste Management – incumbent contractor providing kerbside collection, transportation and disposal of rubbish and management of the refuse transfer station. HG Leach – incumbent leaseholder at the organic centre. Civic - Contractor with the Infrastructure Alliance who carries out the physical litter collection and fly tipping removal services. This project will deliver a new contractor, the incumbent contractor may or may not be successful. | Manage closely | If the incumbent contractors are not successful a transition plan (Table 33) is required to ensure that there is no impact on service during the change period. | <ul style="list-style-type: none"> • Are aware that their current contracts/lease agreements are up for renewal through a public tender process. • Have provided various information on current service provision. | Yes | Yes |

| Internal / External | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date | Involvement in preparation of this Business Case | Further engagement if the business case is approved |
|---------------------|---|--|----------------------|--|--|--|---|
| External | Residents who currently receive a kerbside collection service. | All residential properties (excluding those in the city centre) receive a kerbside rubbish and recycling service and therefore will be interested in this project. Their interest will depend on their household needs and wants including <ul style="list-style-type: none"> • Financial – the cost of the service • Environmental – ability to minimise amount of rubbish that goes to landfill, ie, maximise recycling services. • Social – ability to remove rubbish from their properties. Refer Sections 5 and 6. | Manage closely | Waste Minimisation Education and Communications Plan Section 24. | Customer survey in 2013 and 2015. Focus groups representing low income households, Maaori households, students, and general households Section 2.2.8. | Yes | Yes |
| External | Residents who currently do not receive a kerbside collection service. | Residents inside the CBD do not currently receive a kerbside collection service, however they may wish to. | Keep informed | Communications if the current service level is to change. | None | No | Yes |
| External | Users of the refuse transfer station. | The refuse transfer station is used by residents, commercial and industrial businesses. This is a key service to the city, the users will be interested if there | Keep informed | Communications if the current service level is to change. | Customer survey Section 2.2.5. | No | Yes |

| Internal / External | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date | Involvement in preparation of this Business Case | Further engagement if the business case is approved |
|---------------------|---|--|--------------------------|---|--|--|---|
| | | is any change to the current level of service provided by this facility. | | | | | |
| External | Users of the organic centre. | The organic centre is used by residents, and commercial and industrial businesses. This is a key service to the city, the users will be interested if there is any change to the current level of service provided by this facility. | Keep informed | Communications if the current service level is to change. | Customer survey Section 2.2.5. | No | Yes |
| External | Neighbouring councils – Waipa and Waikato District Council. | Waikato and Waipa councils will be interested in what we are doing, especially if the level of service changes which then may have impacts on their services. | Monitor (minimum effort) | Not required. | Waipa and Waikato District councils are aware of works completed to date, including the waste service review and the up and coming expiry date of the existing suite of contracts. | No | No |
| External | Other metro councils in New Zealand. | Interested in what we are doing. | Monitor (minimum effort) | Not required. | None. | Provided information for national benchmarking | No |
| External | Waikato Regional Council. | Interested in what we are doing, and how it supports the Waikato Regional Council: Waikato Waste and Resource Efficiency Strategy 2015-18. | Keep informed | Not required. | Waikato Regional Council are aware of works completed to date, including the waste service review and the up and coming expiry date of the existing suite of contracts. | None | No |
| External | Waste MINZ. | Interested in what we are doing. | Monitor (minimum effort) | Not required. | None | None | No |

| Internal / External | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date | Involvement in preparation of this Business Case | Further engagement if the business case is approved |
|---------------------|---|--|----------------------|--|---|--|---|
| | | | effort) | | | | |
| External | Consultants. | Consultants have been engaged throughout the various stages of this project from conception which started as a service review, through to the development of this business case and into the future providing assistance with procurement. | | | Completed a service review of the current services provided and options for improvements. Prepared technical reports on various subjects refer Section 23. | Yes | Yes |
| External | Media service providers. | Provide design, graphics, media to support the Waste Minimisation Education and Communications Plan. | Keep informed | Provision of sufficient scope information to ensure successful delivery of engagements required as part of this project. | Development of waste brand. | No | Yes |
| External | Property Investors Association and property managers/landlords. | Approximately half of the essential properties in Hamilton are rented, this is a key service for the managers/owners of these properties. | Keep informed | Communications if the current service level is to change. | Direct contact has been made to understand what their needs and wants are. Comments received are presented in Table 13. | No | Yes |
| External | Youth Council. | The Hamilton City Youth Council Advisory Panel is a voice for young people in Hamilton. The council comprises a group of Hamilton young people between the ages of 15-25. They aim to represent the views and | Keep informed | Communications if the current service level is to change. | Direct contact has been made to understand what their needs and wants are. Comments received are presented in Table 13. | No | Yes |

| Internal / External | Stakeholder | Interest in this project | Assessment of impact | Potential strategies for gaining support or reducing resistance | Engagement with this project to date | Involvement in preparation of this Business Case | Further engagement if the business case is approved |
|---------------------|------------------|---|----------------------|--|--------------------------------------|--|---|
| | | interests of young people in the city, to engage youth in local government and democracy and to make Hamilton a better place for young people to live in. | | | | | |
| External | Tompkins Wake. | Council's legal representatives. | Manage closely | Early engagement once tender process starts, review of tender documentation. | None | No | Yes |
| External | Probity Auditor. | To be appointed the probity auditor will review the procurement plan and all processes and documentation. | Manage closely | Early engagement once business case is approved. | None | No | Yes |

6.1. Direct Stakeholder Engagement Received to Date

Table 13: Direct Stakeholder Engagement Received to Date

| Association /Business | Comments Received |
|--|---|
| <p>Business Partner/Manager – Property Management</p> <p>Ray White Real Estate</p> <p>18/02/2016</p> | <p>Managers are finding that plastic bags sometimes break (due to a number of reasons including animals) and the refuse service don't collect them. They are also finding that plastics in the green recycling bins can often blow out of the bins and the excess is not picked up. This is more of a problem with university high density areas where there are large concentrations of rubbish as opposed to stand alone houses.</p> <p>Unfortunately a number of individuals during the mass university vacate and change of tenancies every January have been dumping their rubbish and unwanted household items outside properties in which they didn't reside in. I guess there is no preventing such activities by certain individuals but I feel it is worth the council being aware that this does happen and the waste outside a property in a high density area is not always necessarily from the residents.</p> <p>The team are of the consensus that wheeled bins would be preferred over the current system. A wheeled bin with a lid would prevent any recycling blowing away. The larger sized bins would allow for residents to place bagged rubbish in them as well as recycling. Alternatively smaller bins for each purpose could be provided.</p> <p>One issue the team wanted considered was that a number of university located high density properties are 5 & 6 bedroom complexes. The level of refuse they produce compared to a standard dwelling or smaller three bedroom townhouse is considerable. Should these types of properties (Hogan Street, Greensboro Street) have more than one bin or an alternative solution?</p> |
| <p>President Waikato Property Investors Association</p> <p>19/02/2016</p> | <p>In general WPIA and most property investors would support recycling measures</p> <p>As submitted on previous to HCC, we believe refuse collection should be user pays scenario. So tenant residents pay for the service and waste they produce (like other cities do with allocated Council rubbish bags, then have to buy extra) This would enable the general refuse \$ charge to be removed from all property owners rates accounts.</p> <p>As you're likely aware, any multi-tenanted and/or level building causes some issues. Usually about space for wheelie bins or other bins, within the complex and on kerbside for collection. Plus if there isn't a building/complex manager, or allocated person, refuse and/or recycling bins often remain out as a pedestrian (and sometime traffic) hazard.</p> <p>Agree the current small recycling bins are often inadequate for larger households or multi-tenanted dwellings. Existing bag refuse collection OK, as don't take up so much space.</p> |
| <p>General Manager of Lodge Realty</p> <p>18/2/16</p> | <p>Wheelie bins with flats could be problematic in terms of the room they take off on the premises. By and large we feel the current system works pretty well</p> <p>Student accommodation sometimes a more practical stance with the contractors could be engaged around the busy times of the year – end of semester for example. Students often will dump un wanted furniture etc. but usually outside someone</p> |

| Association /Business | Comments Received |
|-----------------------------------|---|
| | <p>else's flat. At this time of the year maybe the contractors could have resources/funding to take a little extra loads around the university.</p> <p>Single dwellings split into multiple sub-let rooms with communal kitchen we do not have many issues around rubbish collections at these dwellings , the tenants are well schooled in using just two bags per apartment</p> <p>Over all I think the [current service] work well, it is important landlords/property managers advise tenants of rubbish times /days and make tenants aware of their responsibilities.</p> <p>[the main issues are] Rubbish bags left on the kerbside – often the bags may be oversized but only half full so technical non-compliant but in practice no more rubbish than a regulation bag.</p> <p>Here's a suggestion – Have the university area collection day changed from Mondays Often property managers will drive around and see bags in the wrong spot, or non-compliant. If noticed on a Monday afternoon it will stay all week, making the problem worse. If collection day was say, Tuesday or Wednesday property managers may well be able to mitigate issues prior to collection. Property managers not too keen doing this on a Sunday!</p> <p>[in relation to a new wheeled bin service] I feel it could make the problems worse as there is not a lot of room for example on the kerb outside a block of 5 apartments for 5 wheelie bins and 5 recycle crates</p> |
| <p>Youth Council 24/02/16</p> | <p>Generally in support of a move to wheelie bins – will look tidier than rubbish bags and animals won't break into bags and cause a mess. Youth Council was supportive of continued recycling bins.</p> <p>A move to wheelie bins could have unintended consequences – such as bins being stolen, or people messing around, getting in them and pushing each other around in them. How have other councils dealt with these kinds of issues?</p> <p>Would a move to bins result in less waste? Would people still use black bin liners inside of wheelie bins? Has council got any indication of how much waste reduction could occur from a move to bins?</p> <p>Current service is useful for apartments/higher density housing, where having multiple bins outside one building could be chaotic. Other countries use larger dumpsters for apartment blocks, rather than everyone having their own bins. Or perhaps some areas don't need large bins, so having options for sizes as outlined in the pictures might be a good idea.</p> <p>Wheelie bins need to be user-friendly for those who have mobility concerns (however, the right kind of bins could make moving heavy rubbish easier).</p> |

7. Benefits mapping

The following benefits map sets out the logic of change, by:

- connecting initiatives to outcomes

- explaining what each initiative contributes to the change
- helping to ensure the conditions required for change are identified and set up
- flushing out any assumptions or risks.

The mapping exercise identified the following outcomes:

1. Waste diversion is maximised. This leads to the next outcome.
2. The financial impact from any increase in the Emissions Trading Scheme and Waste Disposal Levy is reduced.
3. The best long-term value for the community is obtained.
4. An efficient and effective service for customers is provided. This leads to the next outcome.

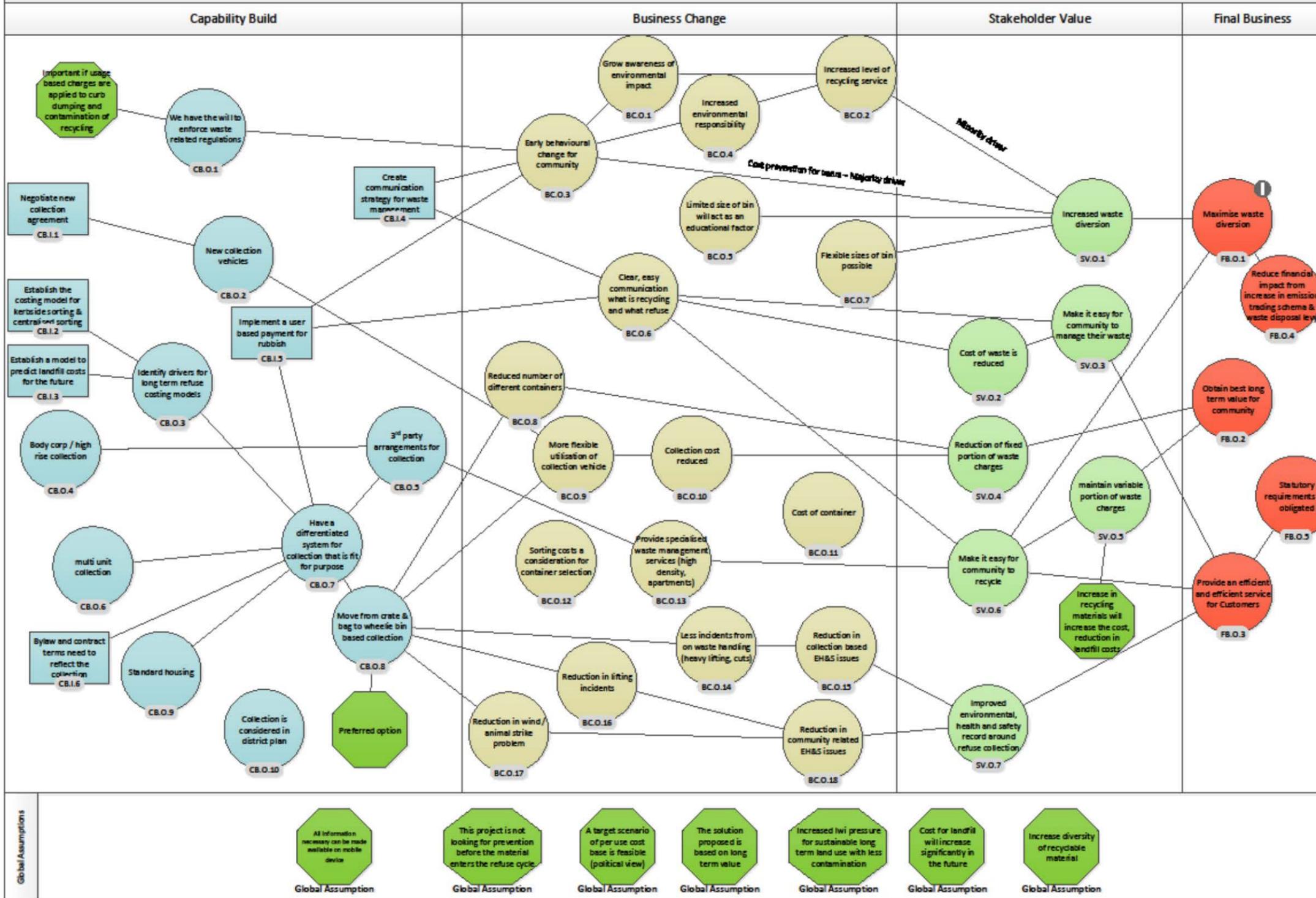
Statutory requirements are met.

For the diagram on the next page – double-click the image with your mouse to open a high-resolution PDF image of the diagram.

Hamilton City Council: Goal: Rubbish and recycling service change for kerbside collection;

Objective: Hamilton city becomes recognised as a national leader in the minimisation of waste and ensures that innovative and sound waste management practice underpin the city's environmental, social, economic and cultural wellbeing

BME Kerbside Collection.vsdX



8. Risks

8.1. Financial risks

8.1.1. Emissions Trading Scheme

The landfilling of waste is subject to the Emissions Trading Scheme (ETS), a cost per tonne of waste disposed is levied against the landfill owner/operator who then passes these costs onto their customers, ie, the Council.

To date the ETS charges to customers applied by landfill operators have tended to be in the order of \$5 per tonne of CO₂ requiring New Zealand trading Units (NZU's). However this cost to the landfill operators is volatile and subject to regular change. These fluctuations are normally managed by the operator, who fixes the charge to the customer on an annual basis.

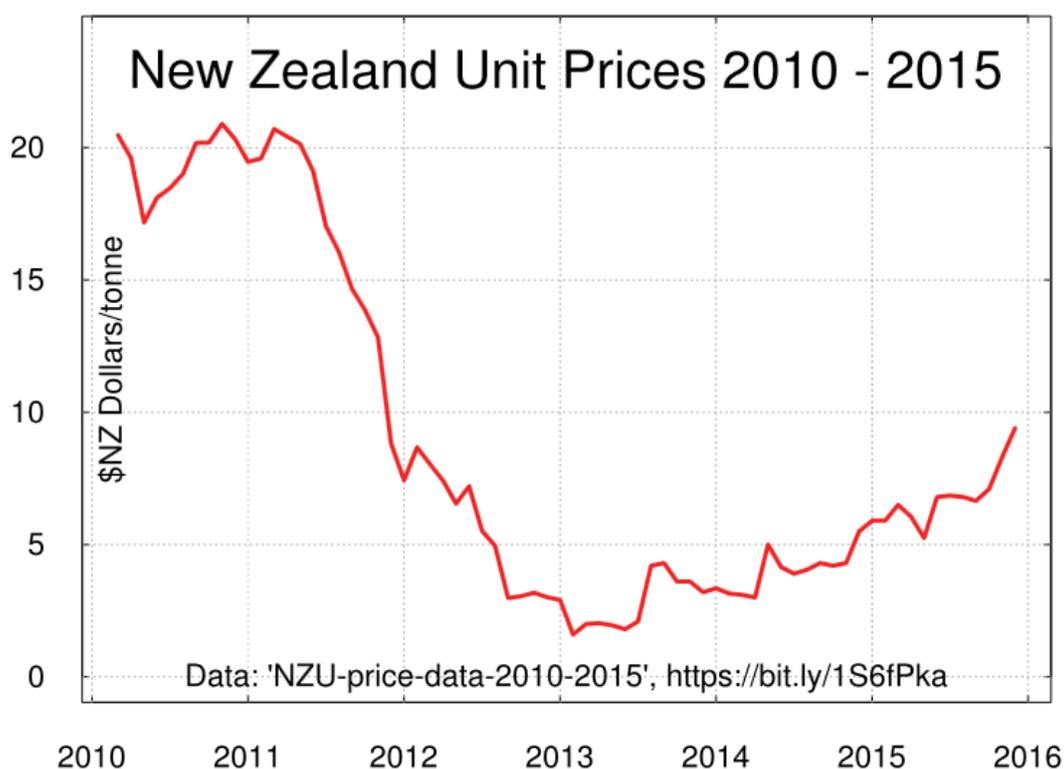


Figure 32: New Zealand price of carbon

The following table summarises how the cost of emissions is calculated. Further information on the variables for this calculation can be found in *Services Review: Analysis of Current Services*, Eunomia Research & Consulting, November 2013.

Based on \$5 per tonne, the cost of the ETS for Hamilton City Council is \$17,000.

The New Zealand Government's Budget 2016 was released on the 26 May 2016; within the budget was the phasing out of the government's 'two for one' ETS subsidy for major

emitters over three years. The subsidy meant some entities, including landfills, only had to pay for one emissions unit for every two tonnes of pollution they emitted.

Table 14: Calculation of ETS for Hamilton based on current service

| | 2019 values at modelled ETS of \$8.40 per tonne (pre 2016 Budget) | 2019 values at modelled ETS of \$8.40 per tonne (with subsidy removed) | 2019 values at historical highest price of carbon \$21 per tonne | 2019 values at capped price for carbon @ \$25 per tonne |
|--|---|--|--|---|
| Tonnes to landfill, based on current level of service | 26,000 | 26,000 | 26,000 | 26,000 |
| Emissions factor | 1.31 | 1.31 | 1.31 | 1.31 |
| Tonnes of CO ₂ - e (<i>tonnes to landfill x emissions factor</i>) | 34,000 | 34,000 | 34,000 | 34,000 |
| Methane collection and destruction UEF | 0.80 | 0.80 | 0.80 | 0.80 |
| Tonnes of CO ₂ - e emitted (<i>tonnes CO₂ x UEF</i>) | 6,790 | 6,790 | 6,790 | 6,790 |
| Tonnes of CO ₂ - e requiring NZUs (50% e emitted) | 3,395 | | | |
| Price of carbon | \$5.00 | \$5.00 | \$21 | \$21 |
| Cost of emissions (price of carbon x e requiring NZUs) | \$17,000 | \$34,000 | \$143,000 | \$170,000 |

The financial risk to Council if the ETS was to change has been identified based on the following scenarios.

- ETS at \$5 per tonne.
- ETS at \$8.40 per tonne, this figure has been used as the baseline for financial modelling with forecasted stepped increases.
- ETS at \$21 per tonne, this is the historical highest price for carbon.
- ETS at \$25 per tonne, this is the transition capped price for carbon.

In all scenarios the amount of rubbish disposed remains constant at 450kgs per household per year, and the number of households has increased as per the population projections presented in Section 5.

The forecasted ETS cost for the kerbside rubbish collection activity in 2019/20 is estimated to be \$57,000. If the ETS was to rise to the current capped value of \$25 per tonne, the cost for the city in 2019/20 will be \$170,000, adding an additional \$113,000 operational cost. Over the 10-year period, taking into account growth, the difference between the likely ETS and the capped value of \$25 per tonne would be \$1 million.

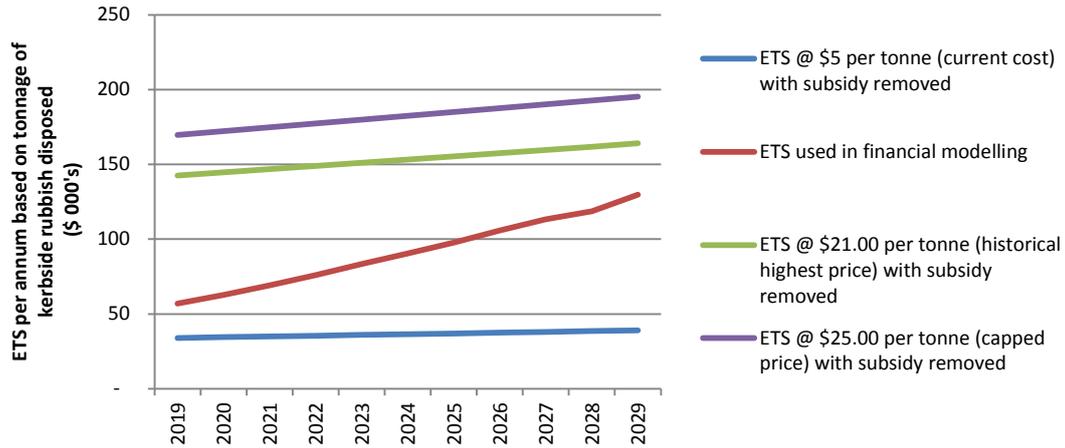


Figure 33: Cost of ETS based on tonnage of current kerbside refuse disposed

Options to mitigate financial impact of the ETS

There are ways to minimise the financial risk to Council regarding any potential increase to the ETS. These include:

- reducing the amount of rubbish that the city sends to landfill by increasing the amount of kerbside recycling provided
- negotiating a fixed or capped ETS rate with the contractor for the duration of the contract.

ETS used in financial modelling

The financial modelling includes a gradual change in ETS charges over the 10-year period, starting at \$8.40 in 2019/20 and increasing to \$16.60 in 2029/30. How this has been calculated is provided in the following table.

Table 15: Calculation of ETS future projection

| | Cost of carbon ³ | Emissions factor | Cost per tonne waste | Gas capture | Direct ETS cost per tonne waste | Admin cost | Implied cost | Rounded ETS cost used |
|------|-----------------------------|------------------|----------------------|-------------|---------------------------------|------------|--------------|-----------------------|
| 2019 | \$ 22.40 | 1.31 | \$ 29.34 | 0.8 | \$ 5.87 | \$ 2.50 | \$ 8.37 | \$ 8.40 |
| 2020 | \$ 25.00 | 1.31 | \$ 32.75 | 0.8 | \$ 6.55 | \$ 2.50 | \$ 9.05 | \$ 9.10 |
| 2021 | \$ 28.20 | 1.31 | \$ 36.94 | 0.8 | \$ 7.39 | \$ 2.50 | \$ 9.89 | \$ 9.90 |
| 2022 | \$ 31.40 | 1.31 | \$ 41.13 | 0.8 | \$ 8.23 | \$ 2.50 | \$ 10.73 | \$ 10.70 |
| 2023 | \$ 34.60 | 1.31 | \$ 45.33 | 0.8 | \$ 9.07 | \$ 2.50 | \$ 11.57 | \$ 11.60 |
| 2024 | \$ 37.80 | 1.31 | \$ 49.52 | 0.8 | \$ 9.90 | \$ 2.50 | \$ 12.40 | \$ 12.40 |
| 2025 | \$ 41.00 | 1.31 | \$ 53.71 | 0.8 | \$ 10.74 | \$ 2.50 | \$ 13.24 | \$ 13.20 |
| 2026 | \$ 44.20 | 1.31 | \$ 57.90 | 0.8 | \$ 11.58 | \$ 2.50 | \$ 14.08 | \$ 14.10 |

³ The projected cost of carbon is pro-rated annually based on estimates from the following sources: 2016 carbon price from <https://carbonmatch.co.nz/>; 2020 estimate sourced from Carbon Pulse. Retrieved from www.carbon-pulse.com/poll-analysts-raise-eucarbon-price-estimates-big-jump-for-2018-2020/ (26 October 2015); 2030 estimate from IEA. 2015. World Energy Outlook 2015. Retrieved from www.worldenergyoutlook.org/ (13 November 2015)

| | | | | | | | | |
|------|----------|------|----------|-----|----------|---------|----------|----------|
| 2027 | \$ 47.40 | 1.31 | \$ 62.09 | 0.8 | \$ 12.42 | \$ 2.50 | \$ 14.92 | \$ 14.90 |
| 2028 | \$ 50.60 | 1.31 | \$ 66.29 | 0.8 | \$ 13.26 | \$ 2.50 | \$ 15.76 | \$ 15.80 |
| 2029 | \$ 53.80 | 1.31 | \$ 70.48 | 0.8 | \$ 14.10 | \$ 2.50 | \$ 16.60 | \$ 16.60 |

8.1.2. Waste Disposal Levy

The Waste Disposal Levy was introduced under the Waste Minimisation Act 2008 to encourage New Zealanders to start taking responsibility for the waste they produce and to find more effective and efficient ways to reduce, reuse, recycle or reprocess waste.

The levy is set at \$10 per tonne (excluding GST) on all waste sent to landfill.

Fifty per cent of the levy is distributed back to territorial authorities for the purposes of promoting waste minimisation. Refer to Section 22 for waste levy revenue and proposed expenditure.

The current levy is noted as being conservative so it:

- is less likely to result in behaviour such as illegal dumping
- reduces the impact on businesses and households
- reduces the risk of inefficient spending on revenue
- allows the effects, both positive and negative, resulting in the levy to be assessed.

The levy was last reviewed in 2014, and resulted in no change to the rate. The next review is due in 2017.

For the purpose of financial modelling, the waste levy in 2019/20 has been estimated to be 11.50 per tonne of rubbish disposed. This 1.5 per cent increase has been based on the assumption that the levy will increase, but again the Ministry of Environment will take a conservative approach to the increase. This rate is expected to increase over time, the increases used in the financial modelling are as follows.

Table 16: Forecasted Waste Disposal Levy

| Year | Forecasted Waste Disposal Levy – % increase |
|------|---|
| 2019 | 11.5 |
| 2020 | 17.25 |
| 2021 | 23 |
| 2022 | 28.75 |
| 2023 | 34.5 |
| 2024 | 40.25 |
| 2025 | 46 |
| 2026 | 51.75 |
| 2027 | 57.5 |
| 2028 | 57.5 |
| 2029 | 57.5 |

Australia has similar waste levy schemes, managed via each state government. The levy rates are noted in Table 17.

Table 17: Waste Disposal Levy in Australia

| Area | Rate per tonne |
|--|--|
| South Australia - Metropolitan Adelaide. | \$57 |
| South Australia - Non-metropolitan Adelaide. | \$28.50 |
| Western Australia – Putrescible (food and garden waste). | \$55 as at January 2016, rising to \$70 from 1 July 2019 |
| Western Australia – All other rubbish. | \$40 as at January 2016, rising to \$70 from 1 July 2019 |
| Victoria – Metro Municipal. | \$58.50 |
| New South Wales – Metropolitan Areas. | \$133.10 as at 1 July 2015, and rising by Cost Price Index (CPI) per annum |

The financial risk to Council if the Waste Disposal Levy was to change has been identified based on the following scenarios:

- At the current levy of \$10 per tonne.
- At a likely future conservative rate of \$11.50 per tonne in 2019/20 with increases over time.
- At a probable future rate of \$70 per tonne.
- At a maximum rate of \$133 per tonne.

The forecasted waste levy cost for kerbside rubbish in 2019 is estimated to be \$300,000. If New Zealand was to adopt the levy charges of New South Wales, the waste levy cost in 2019 would add an additional \$2.6 million to the activity.

The total cost of the waste levy on the activity is estimated to be \$12 million over the 10-year period. If New South Wales rates were adopted, this cost over the 10-year period is estimated to be \$37 million, resulting in an additional \$25 million in OPEX.

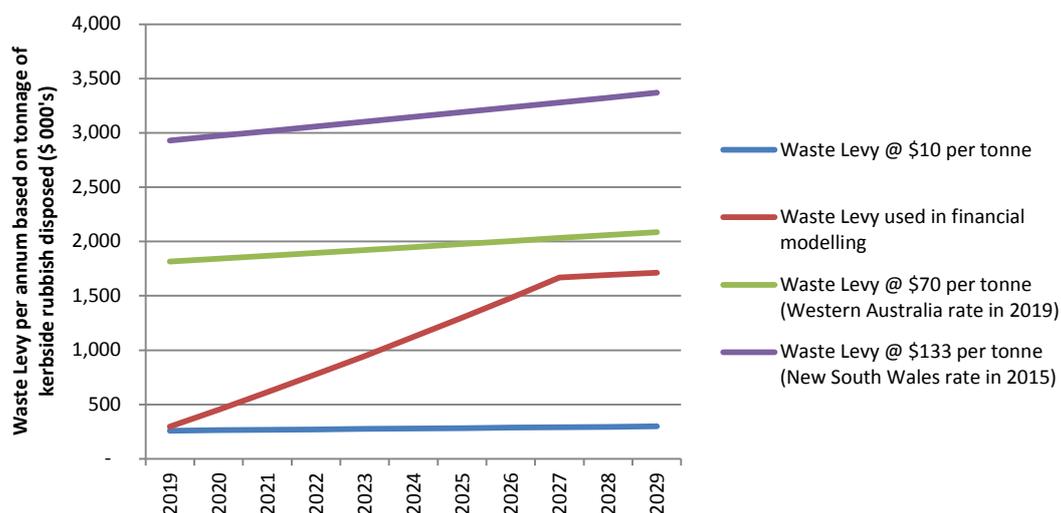


Figure 34: Cost of Waste Disposal Levy based on tonnage of current kerbside refuse disposed

Options to mitigate financial impact of the ETS

The only option for Council to minimise the financial risk of any increase in the waste levy is to reduce the amount of waste being sent to landfill.

Waste Disposal Levy used in financial modelling

The financial modelling includes a gradual change in the waste levy over the 10-year period. Starting at \$11.50 in 2019/20 and increasing to \$57.50 in 2029/30.

9. Kerbside rubbish collection options

The Local Government Act requires Council to ensure the provision of solid waste collection and disposal services are available to the community, Section 11A.

There are no metro councils in New Zealand who have opted out of providing a kerbside rubbish collection service. However there are some provincial councils who have (for example, Waipa). In these areas, the towns are serviced by private collection companies; it is likely that the more rural customers do not receive a service from private collectors.

Rubbish collection options are based on the type of container used; bags or wheeled bins. The cost of each option is described in Section 12.

Table 18: Kerbside rubbish container options

| | Advantages | Disadvantages | Metro councils providing this container type |
|--|--|---|--|
|  <p>Plastic or paper sacks</p> | <ul style="list-style-type: none"> Minimal weekly cost to purchase. Efficient collection from kerbside. Flexible capacity for households. | <ul style="list-style-type: none"> Cost over a 10-year period for purchase of bags is greater than that of a wheeled bin, refer Section 9.1. Manual handling required gives rise to health and safety risks including injury from sharp objects, lifting injuries and risks from working on the roadside. Over the last 5 years there have been 17 reported cut and lacerations injuries requiring either first aid, or medical assistance including stitches. Potential for animal strike. When bags are left out overnight, animal strikes can occur. Over the course of 10 years, if each household put out 2 black bags, the city will be adding 3,500 tonnes of waste to the landfill through the disposal of the black bag. | Wellington Hamilton Dunedin Tauranga Hutt City Palmerston North Whangarei New Plymouth Hastings Napier Porirua Nelson Upper Hutt |

| | | | |
|--|---|---|---|
|  <p>Wheeled bins</p> | <ul style="list-style-type: none"> • Prevents animal strike issues. • Available in range of sizes 60-360 litres. • Contain waste effectively potentially for a longer period of time. • Can reduce or avoid manual handling issues. • Bins can be electronically tagged to gather high quality data. | <ul style="list-style-type: none"> • High initial purchase cost. • Ongoing maintenance and replacement costs. • Lifting equipment required on vehicles adds capital costs. • No flexibility for households if they want to put out more rubbish than normal. • Larger sized bins do not encourage recycling. | <p>Auckland Christchurch Invercargill</p> |
|--|---|---|---|

Table 19: Frequency of set out

| Frequency | Advantages | Disadvantages | Metro councils providing this service |
|--------------------|---|--|--|
| Weekly | <ul style="list-style-type: none"> Minimise risks of odour and vermin. Convenient and flexible for householders. | <ul style="list-style-type: none"> Higher cost. Does not directly incentivise waste minimisation. | All metros excluding Christchurch |
| Fortnightly | <ul style="list-style-type: none"> Can reduce collection costs by approximately 1/3. Provides incentive to minimise waste by constraining volume and encouraging separation of putrescible waste. Reduces congestion at the kerb if the rubbish and recycling containers are picked up on alternative weeks. | <ul style="list-style-type: none"> Needs to be matched with a food waste collection to avoid odour and vermin issues. More difficult for householders – can create issues if a collection is missed. | <p>Christchurch</p> <p>Auckland has considered this option. However as it is coupled with a User-pays service recommendation is now to provide a weekly service where customers can put out their rubbish at a frequency that suits them best. This also protects council's market share and therefore cost efficiencies related to the provision of the service</p> |

Rubbish collection service can be funded through either a rate (General Rate, Uniform Annual Charge or a Targeted Rate) or through User-pays. There are many advantages and disadvantages to each of these, which are summarised in the following table.

Table 20: Rubbish funding options

| Funding option | Advantages | Disadvantages | Metro councils providing this funding type | Cost | Market share (if known) |
|--|---|--|--|--|---|
| <p>Rates funded either general, Uniform Annual Charge or Targeted Rate.</p> <p>Can be bag or wheeled bin based.</p> <p>Refer Section 22.1.1 for different rating methods.</p> | <p>Can be applied to any type of collection service.</p> <p>Very efficient to collect the charge.</p> <p>Favours larger households and those who rent.</p> | <p>Provides no incentive to reduce or recycle waste.</p> <p>Disadvantages those who produce little refuse, particularly those who live alone or in a two person households. One person households make up 22% of the total number of households in Hamilton (see Figure 30).</p> | <p>Christchurch (wheeled bin)</p> <p>Hamilton (bag)</p> <p>Whangarei (bag)</p> <p>Napier (bag)</p> <p>Invercargill (wheeled bin)</p> | N/A | |
| <p>User-pays</p>  <p>User-pays bag based systems: Can be either an official bag or a prepaid sticker applied to bags.</p> | <p>Very simple and low cost to implement and administer a bag-based charging system (print and supply bags to supermarkets).</p> <p>Provides an effective incentive to minimise waste.</p> <p>Efficient low cost collection is possible when compared to User-pays wheeled bin options.</p> | <p>Introducing User-pays will open the market to private operators. Hamilton City Council is likely to lose at least 40% of the market to private collectors who will be offering a wheeled bin service. This loss of market share will impact on Council's ability to:</p> <ul style="list-style-type: none"> provide a cost efficient service due to economies of scale, picking up rubbish from all 10 households on one street is more financially efficient than picking up just one maximise the diversion | <p>Wellington</p> <p>Dunedin</p> <p>Tauranga</p> <p>Hutt City</p> <p>Palmerston North</p> <p>New Plymouth</p> <p>Hastings</p> <p>Porirua</p> <p>Nelson</p> <p>Upper Hutt</p> | <p>\$2.50</p> <p>\$2.30</p> <p>\$2.39</p> <p>\$2.50</p> <p>\$2.60</p> <p>\$3.30</p> <p>\$2.40</p> <p>\$2.50</p> <p>\$2.20</p> <p>-</p> | <p>Wellington :40%</p> <p>Palmerston North 30-40%</p> <p>Upper Hutt 33%</p> |

| | | | | | |
|---|--|---|----------|--|--|
| | | of waste, as larger wheeled bin containers provided by the private sector encourage rubbish disposal not waste diversion. | | | |
| <p>User-pays, volume based systems: Set fees (eg, annual) are paid by householders based on the size of bin they select.</p> | <p>Relatively simple to administer (via rates bill). Enables households to tailor their capacity to their needs.</p> | <p>These types of systems tend to be the least effective in terms of waste minimisation; as once the service is purchased the incentive is to make the most use of it and fill the bin as much as possible each time.</p> | Auckland | | |
|  <p>User-pays, pay per pickup (wheeled bin): Users pay each time their bin is picked up. Different charges for different sized bins may be applied.</p> | <p>Can be a very effective incentive for waste minimisation. Will protect market share. Provides flexibility for households.</p> | <p>Requires electronic tags and on-board vehicle systems and back of house billing systems which add cost.</p> | | | |
| | <p>The most effective system for incentivising waste reduction. Will protect market share.</p> | <p>Weighing systems are expensive and complex and some questions still remain over the technology. May be issues with</p> | | | |



User-pays, pay by weight (wheeled bin): Users pay each time their bin is picked up. Different charges for different size bins may be applied.

smuggling of rubbish into neighbours' bins.

9.1. Comparisons between bag vs wheeled bin

9.1.1. Net present value

A net present value calculation has been carried out to compare the cost of a 120L wheel bin versus the cost of purchasing two black bags per week. The calculation converts the future cost of the black bags into a lump sum in today's money to enable the comparison to be made.

The following has been used in the calculation:

- 10-year period, as this is the expected life of a wheeled bin.
- Bin purchase price \$47.15 (excl GST).
- Bag purchase price \$0.22 each (excl GST).
- Inflation at 0.5 per cent per annum.
- No borrowing costs have been included as the purchase of a wheeled bin is considered as an operational cost, not capex.
- Wheeled bin replacement at the end of the 10 years has been included as an annualised cost, using straight line depreciation methods.
- A 120L wheeled in collected weekly provides the same level of service as 2 x 60L bags collected weekly (current level of service).

Net present value of a wheeled bin is calculated as \$76, this is favourable when compared to the net present value of two rubbish bags per week over 10 years at \$145, providing a net present value saving of \$69 per household.

Table 21: Net present value (NPV) (\$) of a wheeled bin and rubbish bags

| | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 | Yr 8 | Yr 9 | Yr 10 |
|--|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Wheeled bin 120L | 47.15 | | | | | | | | | |
| Operational funding required to enable replacement, design life is 10 years, expect that 2.5% of all wheeled bins will need replacement per year, with 0.5% inflation. | 4.72 | 4.74 | 4.76 | 4.79 | 4.81 | 4.83 | 4.86 | 4.88 | 4.91 | 4.93 |
| Rubbish bag 60L = 2 x 60L bags per week. | | | | | | | | | | |
| Cost of bag at 0.5% inflation per annum. | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.25 | 0.25 | 0.25 | 0.25 |
| Cost per annum at 2 bags per week per year. | 24.76 | 18.66 | 18.76 | 18.85 | 18.94 | 19.04 | 19.13 | 19.23 | 19.33 | 19.42 |
| NPV of bags in Year 1. | \$145.31 | | | | | | | | | |
| NPV of wheeled bin in Year 1. | \$75.62 | | | | | | | | | |

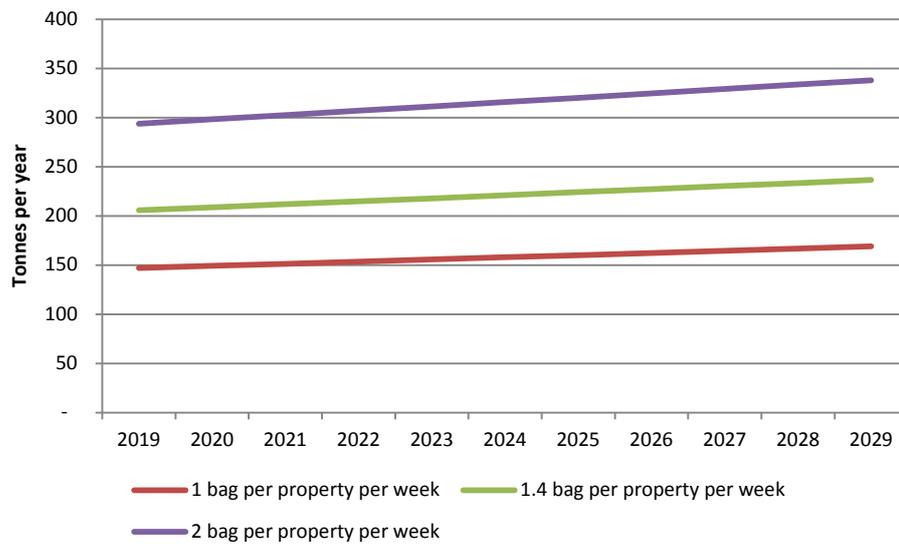
9.1.2. Environmental Impacts

The black bag has an environmental impact associated with its disposal to landfill. The total tonnage of black bags sent to landfill has been calculated based on the:

- weight of 30 drawstring black bags purchased from Countdown supermarkets 1.447kg
- forecasted number of households using Statistics NZ’s medium projections
- number of bags set out per property. On average, Hamilton sets out 1.4 bags per property per week. For comparison purposes, one bag and two bags have also been calculated.

Over the 10-year period from 2019-29, the city would dispose approximately 2,400 tonnes of black rubbish bags, based on the current average of 1.4 bags pre household.

Figure 35: Weight of the black bags sent to landfill per year



9.1.3. Black bag disposal costs

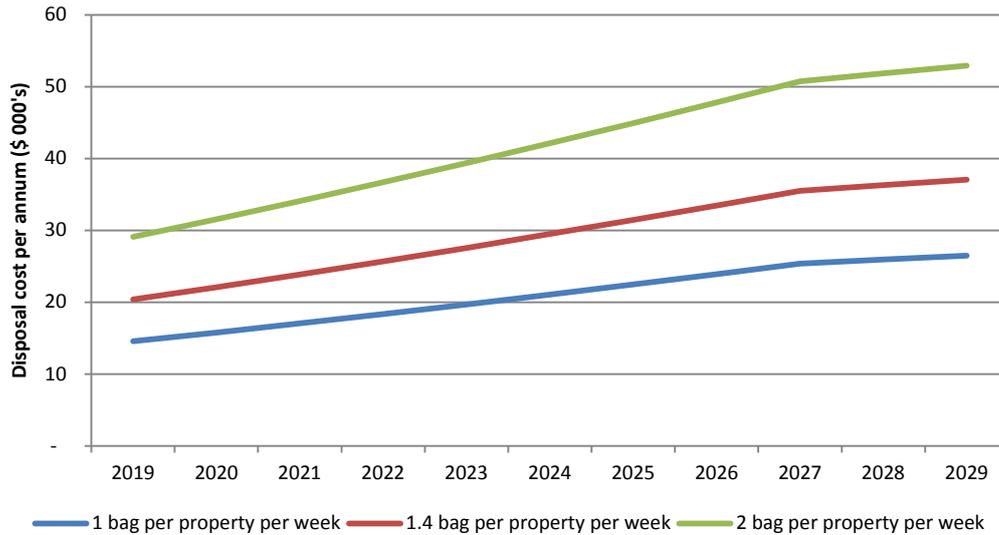
Once collected, the black bags become part of the waste stream, in the previous section the tonnage of the black bags was calculated for the city.

The disposal costs for the black bag are forecasted to be \$20,000 in 2019/20 if households continue to put out an average of 1.4 bags each. If households used the maximum number of bags this would increase to \$29,000 in 2019/20.

Over the 10-year period, the cost for black bag disposal would be \$323,000, based on 1.4 bags per household per week, or \$461,000 for two bags per household per week.

In Figure 36, the cost of disposal, in the later years is not increasing as steeply as that in the first seven. This is due to the uncertainty of disposal costs in the future, therefore only minimal increases per annum have been included in the forecast.

Figure 36: Cost of disposal for the black bags per year



9.1.4. Total community cost/saving

The total cost for the community over the 10 years (excluding inflation adjustments and GST) has been calculated using:

- wheeled bin purchase at 47.15 each
- replacement of wheeled bins based on a replacement rate of 2.5 per cent per annum
- cost of purchasing the black bag at \$0.22, with an average use of bags 1.4 bags per household per week
- cost of black bag disposal to landfill, with an average use of bags 1.4 bags per household per week.

Table 22: Bags versus bins total cost/saving for the community (excluding GST)

| | No. of properties collected from | Cost of rubbish wheeled bin purchase and replacement at 2.5% per annum \$/yr (000's) | Community cost of black bag purchase ⁴ \$/yr (000's) | Community cost of black bag disposal ⁵ \$/yr (000's) | Total cost/saving for community \$/yr (000's) |
|------|----------------------------------|--|---|---|---|
| 2019 | 58,576 | 2,761.86 | 1,015 | 20 | 1,726 |
| 2020 | 59,444 | 70.07 | 1,030 | 22 | - 982 |
| 2021 | 60,313 | 71.09 | 1,045 | 24 | - 998 |
| 2022 | 61,181 | 72.12 | 1,060 | 26 | - 1,014 |
| 2023 | 62,050 | 73.14 | 1,075 | 28 | - 1,030 |
| 2024 | 62,937 | 74.19 | 1,091 | 29 | - 1,046 |
| 2025 | 63,825 | 75.23 | 1,106 | 31 | - 1,062 |
| 2026 | 64,713 | 76.28 | 1,122 | 33 | - 1,079 |
| 2027 | 65,601 | 77.33 | 1,137 | 36 | - 1,095 |
| 2028 | 66,489 | 78.37 | 1,152 | 36 | - 1,110 |

⁴ Based on 1.4 bags per household per week

⁵ Based on financial modelling disposal costs incl. Emissions Trading Scheme, Waste Levy, landfill disposal costs, transfer and transport

| | | | | | |
|-------|--------|-------|--------|-----|---------|
| 2029 | 67,376 | 79.42 | 1,168 | 37 | - 1,125 |
| Total | | 3,509 | 12,003 | 323 | - 8,817 |

After the initial purchase, the community will experience approximately \$982,000 in savings in 2020 due to the use of wheeled bins. Over the 10-year period, taking into account growth, this saving would equate to \$8.8 million.

10. Kerbside recycling collection options

The Waste Act section 42 obligates territorial authorities to promote effective and efficient waste management and minimisation within their district

The majority of metro councils provide a recycling service, with the exception of Tauranga and Upper Hutt City who do not provide a service.

For those metros who do provide a service, it is funded through rates, either General Rate, Uniform Annual Charge or Targeted Rate (refer Section 22.1.1)

The most basic service is the collection of aluminium, metal, plastics and paper:

- Aluminium.
- Tins.
- Plastics - some councils only collect plastics grades 1-2, whereas others collect grades 1-7. An overview of the types of plastics and their key properties is shown in the following table. It is recommended that all types of flexible plastic packaging (bags and film) and polystyrene including foam trays and cups are excluded from any proposed kerbside recycling collecting for the reasons notated below.
- Glass.
- Paper and card - currently in Hamilton, food contaminated card (pizza boxes) are not collected. This is due to the current conditions of contract. In the future, the new contractor will be required to collect and provide recycling for all card food containers.

Kerbside recycling services can also be enhanced to include:

- Garden (green) waste.
- Food.
- In-organic collection.

10.1. Plastics

Rigid containers

The majority of plastic collected through a kerbside service consist of various containers including plastic bottles, yoghurt and ice cream containers, biscuit trays etc. These types of materials are generally suitable for collection in that they can be readily sorted by manual or optical sorters, and do not present significant issues in mechanical sorting systems or in respect of creating windblown litter.

Commodity prices for rigid plastics; in particular grades 1, 2 and 5 are relatively high, making these grades attractive to collect.

Soft Plastics Grade 3

Flexible plastic packaging is problematic in a kerbside collection for a number of reasons. It is more likely to result in wind-blown litter, and bags can easily hide contamination. It is also difficult to separate out mechanically, can cause problems in mechanical systems (getting caught in rollers, drives, belts etc).

The Soft Packaging Forum and Hamilton City Council in March 2016 launched a recycling programme for soft plastics. The service has eighteen drop-off points located at supermarkets, warehouse stores, Waikato University and the refuse transfer station.

Polystyrene Grade 6

Plastic foam includes polystyrene meat trays, cups and clamshells. While this material can have a similar value per tonne compared to other polymers, the expansion process means that it has a low bulk density, ie, it is very light relative to the volume it takes up.

This causes a number of issues when it comes to recycling the material:

- A large volume is required to make up an economic amount.
- The cost of collecting and storing expanded polystyrene generally makes it uneconomic to collect.
- It can become windblown litter easily because it is so light.
- It is not practical to mechanically sort.
- It is often contaminated as it is used in food packaging.

Figure 37: The Plastic Identification Code

| The Plastic Identification Code | | | | |
|--|--|--|--|--|
| Symbol | Type of Plastic | Properties | Common Uses | Recycled In |
|  PET | PET Polyethylene Terephthalate | Clear, tough, solvent resistant, barrier to gas and moisture, softens at 80°C | Soft drink and water bottles, salad domes, biscuit trays, salad dressing and peanut butter containers | Pillow and sleeping bag filling, clothing, soft drink bottles, carpet |
|  PE-HD | PE-HD High Density Polyethylene | Hard to semi-flexible, resistant to chemicals and moisture, waxy surface, opaque, softens at 75°C, easily coloured, processed and formed | Crinkly shopping bags, freezer bags, milk bottles, ice cream containers, juice bottles, shampoo, chemical and detergent bottles, buckets, rigid agricultural pipe, milk crates | Recycling bins, compost bins, buckets, detergent containers, posts, fencing, pipes |
|  PVC | PVC Unplasticised Polyvinyl Chloride PVC-U Plasticised Polyvinyl Chloride PVC-P | Strong, tough, can be clear, can be solvent welded, softens at 80°C Flexible, clear, elastic, can be solvent welded | Cosmetic containers, electrical conduit, plumbing pipes and fittings, blister packs, wall cladding, roof sheeting, bottles Garden hose, shoe soles, cable sheathing, blood bags and tubing, watch straps | Flooring, film and sheets, cables, speed bumps, packaging, binders, mud flaps and mats |
|  PE-LD | PE-LD Low density Polyethylene | Soft, flexible, waxy surface, translucent, softens at 70°C, scratches easily | Glad wrap, garbage bags, squeeze bottles, black irrigation tube, black mulch film, garbage bins | Rubbish bin liners, pallet sheets |
|  PP | PP Polypropylene | Hard but still flexible, waxy surface, softens at 140°C, translucent, withstands solvents, versatile | Dip pottles and ice cream tubs, potato chip bags, straws, microwave dishes, kettles, garden furniture, lunch boxes, blue packing tape | Pegs, bins, pipes, pallet sheets, oil funnels, car battery cases, trays |
|  PS  PS-E | PS Polystyrene PS-E Expanded Polystyrene | Clear, glassy, rigid, brittle, opaque, semi-tough, softens at 95°C. Affected by fats and solvents Foamed, light weight, energy absorbing, heat insulating | CD cases, plastic cutlery, imitation 'crystal glassware', low cost brittle toys, video cases Foamed polystyrene hot drink cups, hamburger take-away clamshells, foamed meat trays, protective packaging for fragile items | Coat hangers, coasters, white ware components, stationery trays and accessories |
|  OTHER | OTHER Letters below indicate ISO code for plastic type e.g. SAN, ABS, PC, Nylon | Includes all other resins and multi materials (e.g. laminates) Properties dependent on plastic or combination of plastics | Car parts, appliance parts, computers, electronics, water cooler bottles, packaging | Car parts, concrete aggregate, plastic timber |

Source: <http://www.econation.co.nz/plastic-recycling/>

10.2. Recycling container options

The most common containers used in a kerbside recycling service are crates, wheeled bins and caddies. The following table describes the use, recommended collection frequency, advantages and disadvantages of each container type.

Table 23: Recycling container options

| Container | Advantages | Disadvantages | Metro councils providing this service |
|--|--|---|---|
|  <p>Crates.</p> <p>Material is usually presented in open crates and sorted into key materials streams at the kerb. Can use multiple bins and/or bags.</p> <p>Collection Frequency: Weekly.</p> | <ul style="list-style-type: none"> • Preserves material quality resulting in consistently higher prices for commodities and lower service costs. • Contamination can be spotted, removed and feedback left for householder. • Although quantity collected is lower than wheeled bin systems, lower contamination results in greater proportion of the material actually being recycled. • Cost-effective methodology. | <ul style="list-style-type: none"> • Can present health and safety risks which must be managed. • Capacity of bins limited as must be practical to lift and sort. • Multiple bins more difficult for householder and collector. • Windblown litter from lighter plastics. | <p>Hamilton Hutt City Whangarei Porirua Nelson</p> |
|  <p>240L wheeled bin + crate.</p> <p>Glass is collected separately. Glass can be colour sorted at kerb. Remaining recyclables (paper, plastic, tin and aluminium) collected in wheeled bin and sorted at a material recovery facility.</p> <p>Collection Frequency: Fortnightly.</p> | <ul style="list-style-type: none"> • Provides good capacity to householder. • Substantially preserves material quality by separating the most problematic materials (glass breaks and the shards contaminate other recyclables and machinery). • Large volume enables fortnightly collection which reduces cost. • Each container can be collected on alternative weeks reducing service costs and congestion at the kerb. | <ul style="list-style-type: none"> • Contamination can be a problem in wheeled bins. • Limited opportunity for feedback to householder. • Need access to a material recovery facility to enable sorting of recyclables from the wheeled bin. | <p>Wellington Dunedin Palmerston North New Plymouth</p> |

| Container | Advantages | Disadvantages | Metro councils providing this service |
|---|---|--|---|
|  <p>Comingled.</p> <p>All recyclable material is collected in a single bin and sorted at a material recovery facility.</p> <p>Collection Frequency: Fortnightly.</p> | <ul style="list-style-type: none"> • Very convenient for the householder. • Large capacity is able to be provided which increases quantity collected. • Large bin size enables fortnightly collection which reduces collection cost. | <ul style="list-style-type: none"> • Material quality is often compromised through glass breakage and compaction of material reducing the value of materials and the quantity eventually recovered. • Need access to a material recovery facility to enable sorting of recyclables from the wheeled bin. • Broken glass can reduce the life of the material recovery facility, adding cost. | <p>Auckland Invercargill</p> |
|  <p>Food Waste.</p> <p>Food waste is collected using a 23L kerbside bin, each household also has a 5L kitchen caddy.</p> <p>Collection Frequency: Weekly.</p> | <ul style="list-style-type: none"> • Proven system in UK and Europe. • Good rates of capture and diversion – especially where ventilated caddies and liners are used. • Ventilating caddies dry the food stopping odours and mess and helping maintain participation. • Food waste is dense and self-compacts so only small collection vehicles are needed. Cheap single operative vehicles can be used reducing costs. • Ability to check bins, remove contamination and provide feedback to householder. • Enables the introduction of fortnightly rubbish collection, which further reduces overall cost of service. • Because food is removed, animal strikes to rubbish put out in bags is reduced. | <ul style="list-style-type: none"> • All manual systems present health and safety risks which must be managed. • Does not capture garden waste. • Requires an organic processing system. | <p>Auckland implementing this service</p> |
|  <p>Food and garden bin.</p> <p>Both food and garden waste are</p> | <ul style="list-style-type: none"> • Enables garden waste to be simultaneously collected. • Garden waste is often needed to assist in the composting of food waste. • The garden waste helps aerate the food waste drying it out and stopping it smelling. This can enable fortnightly collections. | <ul style="list-style-type: none"> • To incentivise collection of food waste the collection needs to be rates-funded. This 'free' collection of garden waste can lead to massive quantities entering the collection system that were previously not collected, thus adding substantial cost. • Contamination can be a problem in wheeled bins. • Limited opportunity for feedback to householder. | <p>Christchurch</p> |

| Container | Advantages | Disadvantages | Metro councils providing this service |
|--|--|---|--|
| <p>collected together, usually in a wheeled bin.</p> <p>Collection Frequency: Fortnightly.</p> <p>Collection can be weekly or fortnightly.</p> | | <ul style="list-style-type: none"> Requires an organic processing system. | |
|  <p>Garden bin only.</p> <p>Garden waste is collected usually in wheeled bins. They may be between 80L and 360L.</p> <p>Collection Frequency: Fortnightly or Monthly.</p> | <ul style="list-style-type: none"> Convenient for the householder. Large capacity increases quantity collected. Large bin size enables fortnightly or monthly collection which reduces collection cost. | <ul style="list-style-type: none"> 'Free' collection of garden waste can lead to massive quantities entering the collection system that were not collected previously, adding substantial cost. Collection of garden waste would compete with existing private sector service providers. Contamination can be a problem in wheeled bins. Limited opportunity for feedback to householder. Requires an organic processing system. | <p>No councils provide a garden-only service</p> |

10.3. Recycling preferred options

The following containers and services are to be considered within the financial modelling:

- Two crates, with increase in plastics.
- A 240L wheeled bin and a crate for glass.
- Food collection.

Excluded from the financial modelling are the following containers and services:

- Comingled wheeled bin. This option has been discounted due to the contamination that glass would create.
- Food and garden. This option has been discounted as garden waste is not currently collected and including this service would increase the cost of the service but not necessarily the diversion rate.
- Garden-only. As above, there would be no associated benefit of including this service. This service is also provided well by the private sector.

11. Kerbside non-financial comparison of options

There are a number of non-financial comparisons that can be made between the service types. These include (in no particular order of importance):

- Percentage of waste diverted from landfill (refer Section 2.2.4 for calculation).
- Complexity of service, measured by the number of containers.
- Complexity of service, measured by the frequency of collection.
- Level of service, measure by the volume of containers provided.

- The health and safety of contractors, based on the risk of cuts and abrasions, manual handling.

The following table compares the 24 scenarios using the non-financial performance measures, and the following sections provide more information on the measures and results.

The scenarios include rubbish, recycling and food options:

Rubbish

- Current service of two bags per week, rate-funded.
- Bags, User-pays.
- A 120L wheeled bin, rate-funded.
- A 120L wheeled bin, User-pays.

Recycling

For each of the above rubbish options, the following recycling options have been added:

- Current service, 1x 45L crate (householder can purchase a second), collected weekly
- 1x 45L crate and 1x55L crate, collected weekly
- 240 L wheeled bin + existing 45L crate, collected fortnightly.

Food

To each of these 12 scenarios food has also been added:

- 1 x 23L food kerbside bin, collected weekly.

Table 24: Non-financial comparison of kerbside collection scenarios

| Scenario | % Diverted | Total container volume (L) | Container volume % including on existing service | Complexity and congestion (number of containers) | Complexity (set out times) | Health and safety risks (cuts/lacerations) |
|--|------------|----------------------------|--|--|----------------------------|--|
| Current | 33% | 8,580 | | 2 | weekly | yes |
| User-pays bags (weekly) - one crate (can purchase 2nd crate) (weekly) | 29% | 10,920 | 27% | 2 | weekly | yes |
| Wheeled bin (weekly) - one crate (can purchase 2nd crate) (weekly) | 29% | 10,920 | 27% | 2 | weekly | risk mitigated |
| User-pays bags (weekly) - two crates (weekly) | 30% | 11,440 | 33% | 2 | weekly | yes |
| User-pays wheeled bin (weekly) - one crate (can purchase 2nd) (weekly) | 30% | 11,440 | 33% | 2 | weekly | risk mitigated |
| Two bags (weekly) - two crates (weekly) | 31% | 11,440 | 33% | 2 | weekly | yes |
| Wheeled bin (weekly) - two crates (weekly) | 31% | 11,440 | 33% | 3 | weekly | risk mitigated |
| User-pays bags (weekly) , wheeled bin + crate (fortnightly) | 32% | 13,650 | 59% | 3 | Weekly and fortnightly | yes |
| Two bags (weekly) - wheeled bin + crate (fortnightly) | 33% | 13,650 | 59% | 3 | Weekly and fortnightly | yes |
| Wheeled bin (weekly) - Wheeled bin + crate (fortnightly) | 33% | 13,650 | 59% | 3 | Weekly and fortnightly | risk mitigated |
| User-pays wheeled bin (weekly) + two crates (weekly) | 33% | 11,440 | 33% | 2 | weekly | risk mitigated |

| Scenario | % Diverted | Total container volume (L) | Container volume % including on existing service | Complexity and congestion (number of containers) | Complexity (set out times) | Health and safety risks (cuts/lacerations) |
|--|------------|----------------------------|--|--|----------------------------|--|
| User-pays wheeled bin (weekly) - wheeled bin + crate (fortnightly) | 35% | 13,650 | 59% | 3 | Weekly and fortnightly | risk mitigated |
| Current + food | 42% | 9,776 | 14% | 3 | weekly | yes |
| User-pays bags (weekly) - one crate (can purchase 2nd crate) + food (weekly) | 43% | 12,116 | 41% | 3 | weekly | yes |
| User-pays bags (weekly) - two crates + food (weekly) | 44% | 12,636 | 47% | 3 | weekly | yes |
| Two bags (weekly) - two crates + food (weekly) | 45% | 12,636 | 47% | 3 | weekly | yes |
| Wheeled bin (weekly) - one crate (can purchase 2nd crate) + Food (weekly) | 46% | 12,636 | 47% | 3 | weekly | risk mitigated |
| User-pays wheeled bin (weekly) - one crate (can purchase 2nd)+ food (weekly) | 45% | 12,116 | 41% | 3 | weekly | risk mitigated |
| Two bags (weekly) - wheeled bin + crate (fortnightly) + food (weekly) | 47% | 14,846 | 73% | 4 | Weekly and fortnightly | yes |
| User-pays bags (weekly) , wheeled bin + crate (fortnightly) + food (weekly) | 47% | 14,846 | 73% | 4 | Weekly and fortnightly | yes |
| User-pays wheeled bin (weekly) + two crates + food (weekly) | 48% | 12,636 | 47% | 3 | weekly | risk mitigated |
| Wheeled bin (weekly) - two crates + food (weekly) | 49% | 12,636 | 47% | 4 | weekly | risk mitigated |
| User-pays wheeled bin (weekly) - wheeled bin + crate (fortnightly) + food (weekly) | 51% | 14,846 | 73% | 4 | Weekly and fortnightly | risk mitigated |
| Wheeled bin (weekly) - Wheeled bin + crate (fortnightly) + Food (weekly) | 52% | 14,846 | 73% | 4 | Weekly and fortnightly | risk mitigated |

11.1. Percentage diversion

For each modelled scenario, the potential diversion rate has been calculated. How the rate is calculated is explained in Section 2.2.4.

Diversion rates for User-pays bags are lower than that of rates-funded bags. It is expected that at least 40 per cent of the city will choose a private collection service. All private collectors in New Zealand offer a wheeled bin service. Customers will be able to choose the size of bin to suit their needs, the larger volumes offered could result in less materials being recycled.

The greatest diversion rates are obtained by introducing a food collection service.

11.2. Complexity

Complex services which are supported by a good education and marketing strategy work well, however there are risks.

Services that include collection on alternative weeks are more complex for the householder than a standard weekly collection service. Metro council's who provide alternative week collections include: Auckland, Christchurch, Wellington, Dunedin, Palmerston North, New Plymouth and Invercargill. These services are well-managed with supporting information provided to householders to enable ease of use.

Services that include multiple containers are more complex to the householder than services with fewer containers. Auckland, Christchurch, Wellington, Dunedin, Palmerston North and New Plymouth all provide a kerbside collection service with three containers, one for rubbish and at least two for recycling. These services are well managed with supporting information provided to householders to enable ease of use.

11.3. Kerbside volume level of service

The current service provides for two x 60 L bags with a 45L crate for recyclables, a second recycling crate can be purchased by the householder. This equates to a total volume of 165L per week or 8,850 litres collected per year.

As shown in Table 24 this level of service increases depending on the containers used. Rubbish in a wheeled bin or bag, combined with a wheeled bin + crate (collected fortnightly) and food provides the greatest volume at 14,846 litres collected per annum. Even with recycling collected fortnightly, this service combination increases the service volumetrically by 73 per cent.

12. Kerbside financial modelling

A financial model has been developed to enable comparisons between options. The model provides costs per household for owner occupier and rented households, the total cost for Council and the percentage of waste diverted.

Financial modelling of the kerbside rubbish and recycling collection service needs to be carried out in a single model, as the service provided by recycling will have effect on the amount of rubbish that is put out and vice versa.

As with all financial models there are assumptions and limitations. These include:

- The model includes the current service provided. The total value for the rubbish and recycling services matches that of the current service provided, but there are differences in the costs when they are broken down into component levels. These differences are not considered significant.
- The actual cost of the service can only be determined through a tender process. The model only provides a theoretical indication of the costs, market forces at the time of tendering may result in different costs.
- The results are for year one of the contract, costs for years two and beyond will be subject to inflation.
- The model is based on future forecasted ETS and charges as per Table 15 and Table 16 respectively. Actual charges may differ over time.
- Modelling carried out includes provision for both the Council and contractor to provide containers. Council in 2018/19 has \$2.8 million funding allocation for the purchase of containers. This has been added to the financial modelling, where scenarios require greater than \$2.8 million for purchase of containers, it is assumed that the contractor

will fund. Therefore the cost of the purchase and contractors borrowing costs has been added to the forecasted value.

- GST has been added to all household costs. Council costs are exclusive of GST.
- Inflation has not been added.
- For the purpose of financial modelling the charges for User-pays are as follows. These charges cover the cost of the service. If Council wishes, there are a number of alternatives to consider, such as subsidising these costs via rates; providing hardship grants to low income families; and increasing the cost to fund additional recycling services etc.
 - Rubbish bag \$2.20 (incl. GST).
 - 120L wheeled bin for rubbish \$3.50 (incl GST).
- In order to determine the cost for an owner occupied household an average rate value per household was used. As the activity is funded via a General Rate, and therefore the cost per household differs depending on the Land Values and Capital Values of a property. The spectrum of the 2015/16 General Rate per property per week for rubbish and recycling are shown in Figure 43.
- Marketing and education is known to increase diversion rates. For the purpose of this exercise, only minimal marketing and education is included. If this was to be increased, it would be expected that each scenario would have a similar level of increase in its diversion rates. The cost of this marketing and education is excluded from this financial model as waste levy funding is used for this activity.
- It is expected that the containers will last 10 years, however some damage is expected. The financial modelling includes replacement rates as per Table 25.
- On average, households in Hamilton put out 1.4 rubbish bags per week. This has been used in the modelling. The cost of a bag is \$0.27 (incl. GST)⁶. Where scenarios will reduce the amount of rubbish, the following number of bags have been used:
 - 1.2 bags per week when a wheeled bin + crate are used.
 - 1.2 bags per week when two crates and food is used.
 - 1 bag per week when a wheeled bin + crate and food is used.
- All calculated costs to households include GST, all Council costs exclude GST.
- For scenarios based on User-pays, Council’s market share has been taken into consideration. When User-pays are introduced, households have the choice of the Council-operated service, or that from the private sector. Nationally if a council provides a User-pays bag service, their market share reduces substantially. With market share reduction, a corresponding reduction in percentage of waste diverted is also found; as private sector collection can provide greater volume, reducing a householders’ need to recycle. Market shares used in modelling include:
 - User-pays bagged service 60 percent.
 - User-pays wheeled bin service 80 per cent.

The consultant’s reports supporting the financial model are:

- Hamilton City Waste and Recycling Collection Procurement Business Case Parameter Report, Eunomia, May 2016.
- Hamilton City Waste and Recycling Collection Procurement Business Case Modelling Report with Food Waste Collection Options, Eunomia, May 2016.

Table 25: Container purchase costs and replacement rates

| Container | Costs | Replacement |
|-----------|-------|-------------|
|-----------|-------|-------------|

⁶ Source: Countdown, Big Black Sacks Low Cost Rubbish Bags Bulk Roll 50 pk @13.69

| | | | rate per annum |
|--|---|---|-----------------------|
|  | 45-60L crate | \$10 per 45 L crate OR \$12 per 60L crate plus \$2.25 for delivery to households | 5% |
|  | 120/140L wheeled rubbish bin | Approximately \$45 per bin plus \$5.50 for delivery to households. RFID tag would cost approximately \$2 extra per bin. | 2.5% |
|  | 240L wheeled recycling bin | Approx. \$48.50 per bin plus \$5.50 for delivery to households. RFID tag would cost approximately \$2 extra per bin. | 2.5% |
|  | 2L roadside food bin and 5L kitchen caddy | Kitchen caddy @ \$5. Roadside bin @ \$15. | 5% |

12.1. Kerbside financial scenarios

Twenty-four scenarios have been modelled. These include the key themes of rubbish, recycling and food.

Rubbish

- Current service of two bags per week, rate-funded. The purchase cost of the bag has been added at \$0.27 (including GST) per bag.
- Bags, User-pays at \$2.20 (including GST) per bag.
- 120L wheeled bin, rate-funded.
- 120L wheeled bin, User-pays @\$3.50 (including GST).

Recycling

For each of the above rubbish options, the following recycling options have been added:

- Current service, one x 45L crate (householder can purchase a second), collected weekly. Plastics 1 and 2 only, paper is separate.
- One x 45L crate and one x 55L crate, collected weekly. All plastics collected excluding polystyrene and film. Paper remains separate.
- A 240L wheeled bin + existing 45L crate, collected fortnightly. All plastics collected excluding polystyrene and film. Paper is collected in the wheeled bin along with plastics, aluminium and tin cans. Glass is placed in the crate.

Food

To each of these 12 scenarios food has also been added, using a 1 x 23L food kerbside bin, collected weekly.

The following sections describe each scenario. They are presented in order of waste diverted and summarised in the following figures.

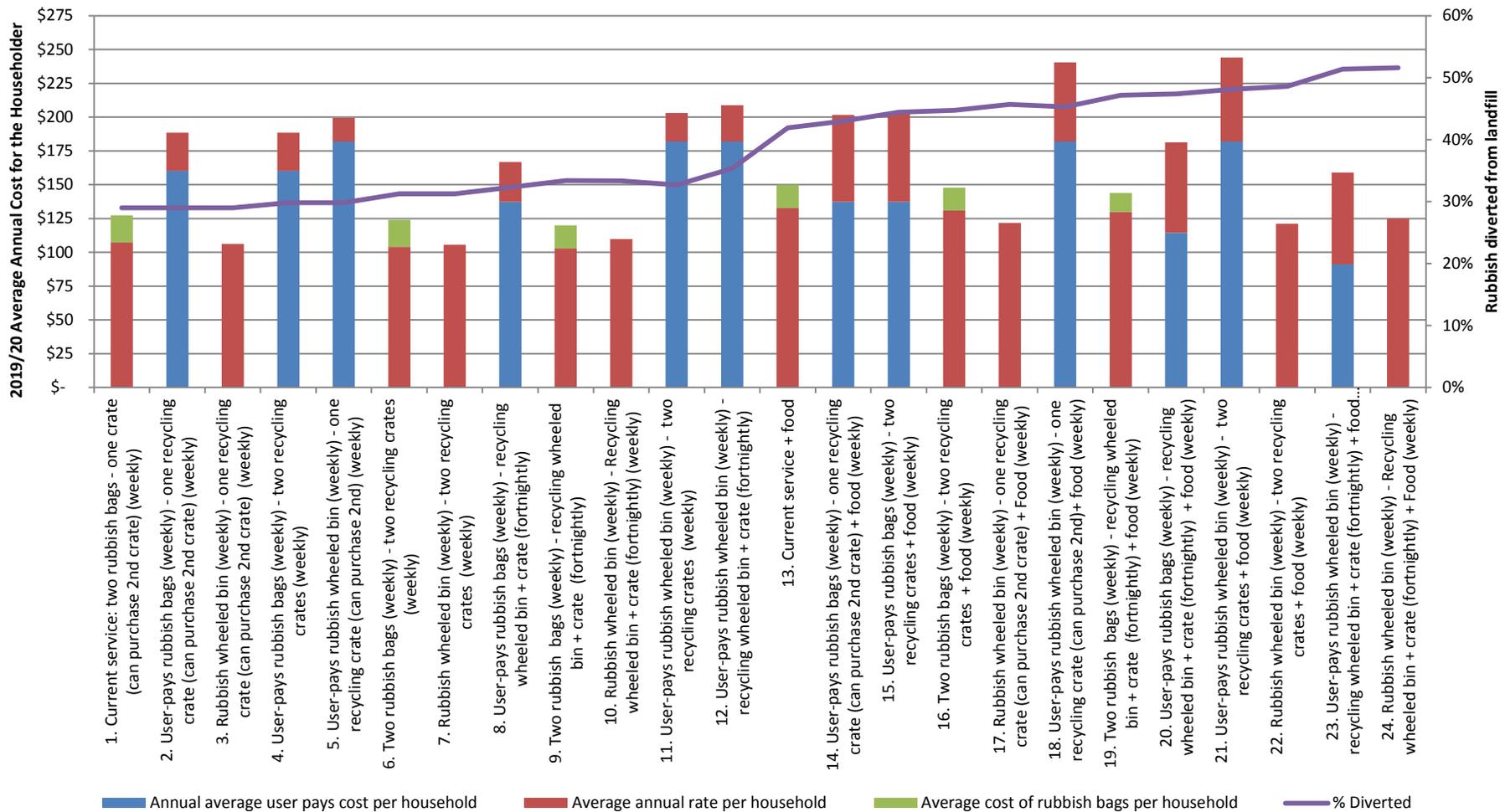


Figure 38: 2016/20 annual cost per household, with % diversion (including GST)

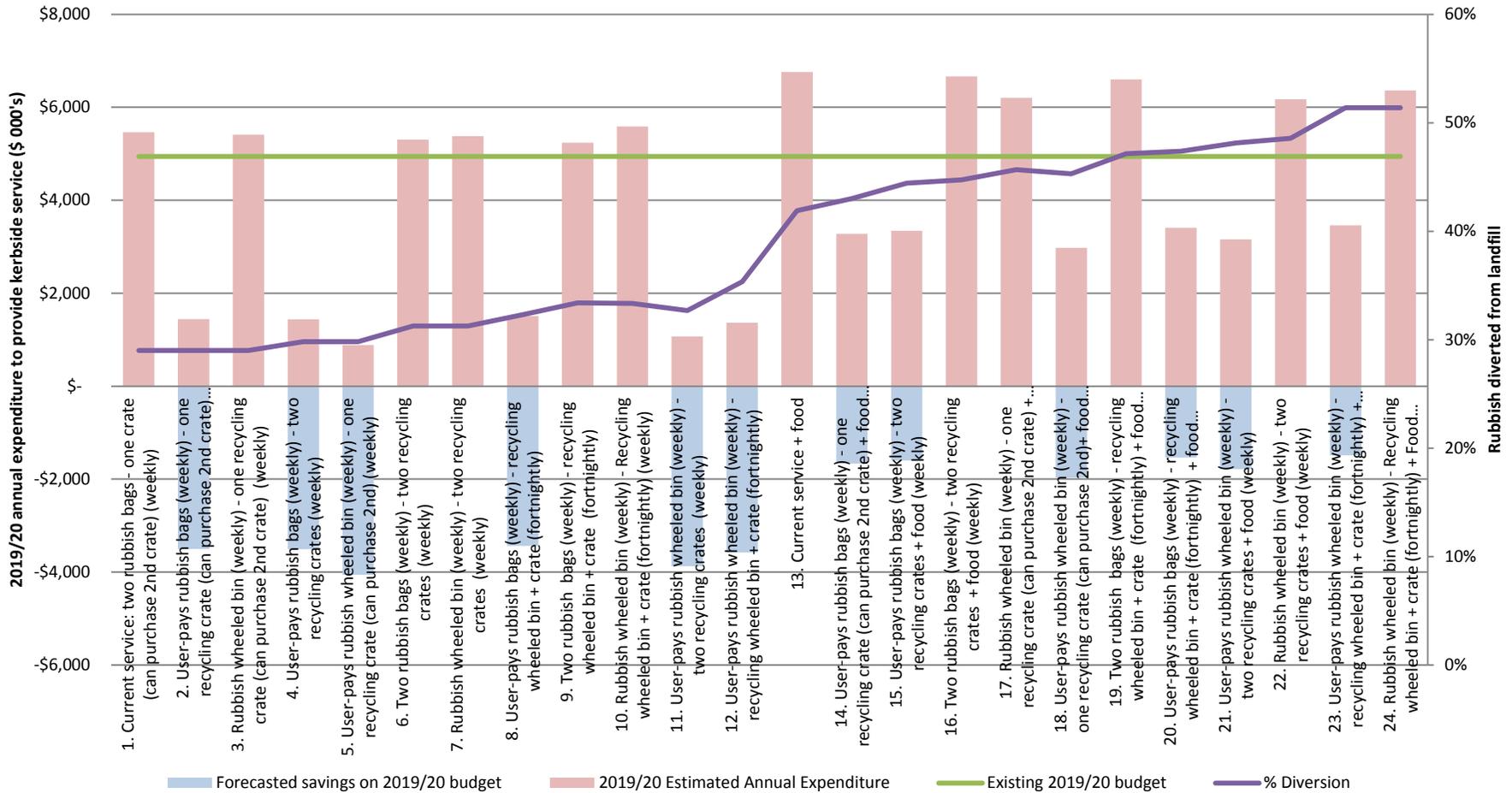


Figure 39: 2019/20 annual cost for Council, with % diversion (excluding GST)

Scenario 1: Current service

The current service includes:

- Two x 60L bags per week per household rate-funded. Cost for owner occupied households is based on a Uniform Annual Charge.
- One x 45L recycling crate, additional crates can be purchased by the householder.
- Recycling includes plastics 1-2, aluminium, tin cans, glass and paper (bundled separately)
- The cost to the householder includes the cost of the plastic rubbish bag, it is assumed that on average each household would use 1.4 bags per week.

Costs

| | Cost per annum | Change on current service |
|--------------------------|----------------|---------------------------|
| Owner occupied household | \$127 | N/A |
| Rented household | \$20 | N/A |
| For Council | \$5.5 million | |

Percentage diverted

Percentage diverted is 29 per cent.

Additional diversion can be achieved through increased marketing and education, analysis on the proposed Waste Minimisation Education and Communications Plan indicates that an increase to 32 per cent is achievable.

Scenario 2: User-pays rubbish bags, no change to recycling

The financial model is based on:

- A figure of 1.4 bags per week at \$2.20 (including GST) per bag. The contractor would provide and distribute the bags.
- A 60 per cent market share. It is expected 40 per cent of households to choose the private sector service of a 240L wheeled bin, with the remaining 60 per cent using Council's pre-paid bags.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$189 | +\$62 |
| Rented household | \$160 | +\$140 |
| For Council | \$1.5 mill | -\$4.0 million |

Percentage diverted

Percentage diverted remains at 29 per cent as there are no additional services provided to enable households to increase their recycling.

Additional diversion can be achieved through increased marketing and education, analysis on the Waste Minimisation Education and Communication Plan indicates that an increase to 32 per cent is achievable.

Scenario 3: Rubbish in a wheeled bin, rates funded with a single recycling crate (householder can purchase a second crate)

The volume of rubbish collected per week would remain the same, 120L except that it is collected in wheeled bin, not two bags.

Financial modelling includes:

- a 120L wheeled bin for rubbish, rate-funded. Cost for owner occupied households is based on a Uniform Annual Charge.
- one x 45L recycling crate, additional crates can be purchased by the householder.
- Recycling includes plastics 1-2, aluminium, tin cans, glass and paper (bundled separately).

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied Household | \$106 | -\$21 |
| Rented household | 0 | -\$20 |
| For Council | \$5.4million | -0.1million |

Percentage diverted

Percentage diverted remains at 29 per cent as there are no additional services .

Scenario 4: User-pays rubbish bags and increase in plastics using two crates

Financial modelling includes:

- A figure of 1.4 bags per week at \$2.20 (including GST) per bag. The contractor would provide and distribute the bags.
- A 60 percent market share.
- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected
- A second 55L recycling crate is provided to all households by the contractor.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$188 | +\$61 |
| Rented household | \$160 | +\$140 |
| For Council | \$1.4 million | -\$4.0 million |

Percentage diverted

Percentage diverted will increase to 30 per cent due to the introduction of increased plastic recycling and volume increasing from 45L to 100L.

For this scenario the introduction of User-pays has a negative effect on the diversion rate, when compared to the equivalent service which is rate-funded (Scenario 6). This is due to the loss in market share.

Scenario 5: User-pays rubbish in a wheeled bin and no change to recycling (single crate, households can purchase a second)

Financial modelling includes:

- 120L rubbish bin collected weekly at \$3.50 (including GST) per pick up.
- An 80 per cent market share.
- No change to recycling.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied Household | \$199 | +\$72 |
| Rented household | \$182 | +\$162 |

| | | |
|-------------|---------------|----------------|
| For Council | \$0.9 million | -\$4.6 million |
|-------------|---------------|----------------|

Percentage diverted

Percentage diverted will increase to 30 per cent % due to the introduction of User-pays, and Council maintaining 80 per cent of the market.

Scenario 6: Rate-funded rubbish bags and increase in plastics using two crates

Financial modelling includes:

- Two x 60L bags per week per household rate-funded. Cost for owner occupied households is based on a Uniform Annual Charge.
- One x 45L and one x 55L recycling crate, collecting all plastics excluding film and polystyrene.
- The cost to the householder includes the cost of the plastic rubbish bag, it is assumed that on average each household would use 1.4 bags per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$104 | -\$23 |
| Rented household | \$20 | No change |
| For Council | \$5.3million | -\$0.2 million |

Percentage diverted

Percentage diverted will increase to 31 per cent due to the increase in recycling provided.

Scenario 7: Rubbish in a wheeled bin, rate-funded and an increase in plastics using two crates

Financial modelling includes:

- A 120L wheeled bin for rubbish, rate-funded. Cost for owner occupied households is based on a Uniform Annual Charges.
- One x 45L and one x 55L recycling crate, collecting all plastics excluding film and polystyrene.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$106 | -\$22 |
| Rented household | 0 | -\$20 |
| For Council | \$5.4million | -\$0.1 million |

Percentage diverted

Percentage diverted will increase to 31 per cent due to the increase in recycling provided.

Scenario 8: User-pays rubbish bags, increase in recycling using a wheeled bin and crate collected fortnightly

Financial modelling includes:

- An average of 1.2 bags per week at \$2.20 (including GST) per bag. This is reduced from the 1.4 bags on average due to the increase in recycling.
- A 60 per cent market share.

- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected .
- Recycling is collected fortnightly.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$167 | +\$40 |
| Rented household | \$137 | +\$117 |
| For Council | \$1.5million | -\$4.0 million |

Percentage diverted

Percentage diverted will increase to 32 per cent due to the increase in recycling provided.

Scenario 9: Rate-funded rubbish bags, increase in recycling using a wheeled bin and crate collected fortnightly

Financial modelling includes:

- Two x 60L bags per week per household. Cost for owner occupied households is based on a Uniform Annual Charge.
- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected
- Recycling is collected fortnightly.
- The cost to the householder includes the cost of the plastic rubbish bag, it is assumed that on average each household would use 1.4 bags per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$103 | -\$24 |
| Rented household | \$17 | -\$3 |
| For Council | \$5.2million | -\$0.2million |

Percentage diverted

Percentage diverted will increase to 33 per cent due to the increase in recycling provided.

Scenario 10: Rate-funded rubbish in a wheeled bin, increase in plastics using a wheeled bin and crate collected fortnightly

Financial modelling includes:

- A 120L wheeled bin for rubbish, collected weekly, rate-funded. Cost of owner occupied households is based on a Uniform Annual Charge.
- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected.
- Recycling is collected fortnightly.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied Household | \$110 | -\$18 |
| Rented household | \$0 | -\$20 |
| For Council | \$5.6million | +\$0.1 million |

Percentage diverted

Percentage diverted will increase to 33 per cent due to the increase in recycling provided.

Scenario 11: User-pays rubbish in a wheeled bin, increase in plastics using two crates

Financial modelling includes:

- A 120L rubbish bin collected weekly at \$3.50 (including GST) per pick up.
- An 80 per cent market share.
- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$203 | +\$76 |
| Rented household | \$182 | +\$162 |
| For Council | \$1.1million | -\$4.4 million |

Percentage diverted

Percentage diverted will increase to 33 per cent due to the increase in recycling provided.

Scenario 12: User-pays rubbish in a wheeled bin, increase in plastics using a wheeled bin and crate

Financial modelling includes:

- A 120L rubbish bin collected weekly at \$3.50 (including GST) per pick up.
- An 80 per cent market share.
- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected.
- Recycling is collected fortnightly.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$209 | +\$82 |
| Rented household | \$182 | +162 |
| For Council | \$1.4million | -\$4.1 million |

Percentage diverted

Percentage diverted will increase to 33 per cent due to the increase in recycling provided.

Scenario 13: Current Service with food

The current service includes:

- Two x 60L bags per week per household. Cost for owner occupied households is based on a Uniform Annual Charge.
- One x 45L recycling crate, additional crates can be purchased by the householder.
- Recycling includes plastics 1-2, aluminium, tin cans, glass and paper (bundled separately).
- The cost to the householder includes the cost of the plastic rubbish bag; it is assumed that on average each household would reduce from 1.4 bags to 1.2.
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$150 | +\$23 |
| Rented household | \$17 | -\$3 |
| For Council | \$6.8 million | +\$1.3 million |

Percentage diverted

Percentage diverted is 42 per cent.

Scenario 14: User-pays rubbish bags, no change to recycling, with food

The financial model is based on:

- A figure of 1.2 bags per week at \$2.20 (including GST) per bag. The average number of bags put out reduces from 1.4 bags to 1.2 due to the food collection.
- A 60 per cent market share.
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied Household | \$202 | +\$74 |
| Rented household | \$137 | +\$117 |
| For Council | \$3.2 million | -\$2.2million |

Percentage diverted

Percentage diverted is 43 per cent.

Scenario 15: User-pays rubbish bags and increase in plastics using two crates with food

Financial modelling includes:

- A figure of 1.2 bags per week at \$2.20 (including GST) per bag. The average number of bags put out reduces from 1.4 bags to 1.2 due to the food collection.
- A 60 per cent market share.
- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected.
- A second 55L recycling crate is provided to all households by the contractor.
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$203 | +\$76 |
| Rented household | \$137 | +\$117 |
| For Council | \$3.3million | -\$2.1 million |

Percentage diverted

Percentage diverted is 44 per cent.

Scenario 16: Rate-funded rubbish bags and increase in plastics using two crates with food

Financial modelling includes:

- Two x 60L bags per week per household. Cost for owner occupied households is based on a Uniform Annual Charge.
- Modelling based on the use of 1.2 bags per week. The reduction from 1.4 bags is due to food being collected.
- One x 45L and one x 55L recycling crate, collecting all plastics excluding film and polystyrene.
- The cost to the householder includes the cost of the plastic rubbish bag.

- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$148 | +\$21 |
| Rented household | \$17 | -\$3 |
| For Council | \$6.7 million | +\$1.2 million |

Percentage diverted

Percentage diverted is 45 per cent.

Scenario 17: Rubbish in a wheeled bin, rates-funded with a single recycling crate (householder can purchase a second crate) with food

The volume of rubbish collected per week would remain the same (120L), except that it would be collected in wheeled bin, not two bags.

Financial modelling includes:

- A 120L wheeled bin for rubbish. Cost for owner occupied households is based on a Uniform Annual Charge.
- One x 45L recycling crate, additional crates can be purchased by the householder.
- Recycling includes plastics 1-2, aluminium, tin cans, glass and paper (bundled separately).
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$122 | -\$5 |
| Rented household | \$0 | -\$20 |
| For Council | \$6.2million | -\$0.7million |

Percentage diverted

Percentage diverted is 46 per cent.

Scenario 18: User-pays rubbish in a wheeled bin and no change to recycling (single crate, households can purchase a second) with food

Financial modelling includes:

- A 120L rubbish bin collected weekly at \$3.50 (including GST) per pick up.
- An 80 per cent market share.
- No change to recycling.
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$240 | +\$113 |
| Rented household | \$182 | +\$162 |
| For Council | \$3.0 million | -\$2.5 million |

Percentage diverted

Percentage diverted is 45 per cent.

Scenario 19: Rate-funded rubbish bags, increase in recycling using a wheeled bin and crate collected fortnightly with food

Financial modelling includes:

- Two x 60L bags per week per household. Cost for owner occupied households is based on a Uniform Annual Charge.
- Modelling based on average use of one bag per week. Average use per week is reduced from 1.4 bags to one due to the increase in recycling.
- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected
- Recycling is collected fortnightly.
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$144 | +\$16 |
| Rented household | \$14 | -\$6 |
| For Council | \$6.6million | +1.1 million |

Percentage diverted

Percentage diverted is 47 per cent.

Scenario 20: User-pays rubbish bags, increase in recycling using a wheeled bin and crate collected fortnightly with food

Financial modelling includes:

- One bag per week at \$2.20 (including GST) per bag. This is reduced from the 1.4 bags on average due to the increase in recycling.
- A 60 per cent market share.
- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected .
- Recycling is collected fortnightly.
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$181 | +\$54 |
| Rented household | \$114 | +\$94 |
| For Council | \$3.4million | -\$2.1 million |

Percentage diverted

Percentage diverted is 47 per cent.

Scenario 21: User-pays rubbish in a wheeled bin, increase in plastics using two crates with food

Financial modelling includes:

- A 120L rubbish bin collected weekly at \$3.50 (including GST) per pick up.
- An 80 per cent market share.
- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected.
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$244 | +\$117 |
| Rented household | \$182 | +\$162 |
| For Council | \$3.2million | -\$2.3 million |

Percentage diverted

Percentage diverted is 48 per cent.

Scenario 22: Rubbish in a wheeled bin, rate-funded and an increase in plastics using two crates with food

Financial modelling includes:

- A 120L wheeled bin for rubbish. Cost for owner occupied households is based on a Uniform Annual Charge.
- One x 45L and one x 55L recycling crate, collecting all plastics excluding film and polystyrene.
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$121 | -\$6 |
| Rented household | 0 | -\$20 |
| For Council | \$6.1million | +\$0.6 million |

Percentage diverted

Percentage diverted is 49 per cent.

Scenario 23: User-pays rubbish in a wheeled bin, increase in plastics using a wheeled bin and crate with food

Financial modelling includes:

- A 120L rubbish bin collected weekly at \$3.50 (including GST) per pick up.
- An 80 per cent market share.
- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected.
- Recycling is collected fortnightly.
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$159 | +\$32 |
| Rented household | \$91 | +71 |
| For Council | \$3.56million | -\$2.0 million |

Percentage diverted

Percentage diverted is 51 per cent.

Scenario 24: Rate-funded rubbish in a wheeled bin, increase in plastics using a wheeled bin and crate collected fortnightly with food

Financial modelling includes:

- 120L wheeled bin for rubbish, collected weekly. Cost for owner occupied households is based on a Uniform Annual Charge.

- All plastics excluding foam and film (polystyrene and plastic bags etc) are collected.
- Recycling is collected fortnightly.
- Food is collected using a 23L kerbside food bin per week.

Costs

| | Cost per annum | Change on current service per annum |
|--------------------------|----------------|-------------------------------------|
| Owner occupied household | \$125 | -\$2 |
| Rented household | \$0 | -\$20 |
| For Council | \$6.4million | +\$0.9 million |

Percentage diverted

Percentage diverted is 51 per cent.

13. City-wide service options

This section describes a number of city-wide service options that could be considered.

The following table summarises the findings, with further information included in the following sections.

Table 26: City-wide service options

| Potential service/Infrastructure | Advantages | Disadvantages | Recommendation |
|----------------------------------|--|---|---|
| Inorganic waste collections | Enables those without access to cars and trailers to dispose of bulky items. | Provision of this service would not increase diversion rates, therefore the cost benefit of providing the service is not achieved. In areas where this service is provided, there are significant amenity issues, although these can be minimised through improved management. | Do not provide service, with the exception of service provision within the university area at the start and conclusion of the education year. |
| E-waste | The number of e-waste items being disposed is increasing over time. E-waste contains recoverable materials as well as hazardous materials. | Private industry has found this to be a marginal business due to international commodity market fluctuations. Lack of collection infrastructure, support from central government, e-waste not designated a priority product for product stewardship under the Waste Minimisation Act. | Provision made at the refuse transfer station to collect this waste. |
| Tyres | Tyres are among the largest and most problematic sources of waste, due to the large volume produced, their durability, and the fact they contain a number of components that are ecologically problematic. | Provision of this service would not increase diversion rates, therefore the cost benefit of providing the service is not achieved. | Do not provide service. |

13.1. Inorganic waste collections

Hamilton City Council does not currently provide an inorganic waste collection. Residents are advised to take inorganic or bulky items to the refuse transfer station where charges apply. This could cause problems for many residents who may not be able to get large items to the transfer station due to lack of access to suitable transport, particularly where the items are of low or no value to a charity or secondhand shop that may otherwise offer a collection.

There are a number of recyclers in Hamilton which will collect materials with a recycling value from households, as do most charities that operate secondhand shops.

Some inorganic or bulky items are currently illegally dumped on public land, particularly road verges (Section 2.2.3). There is an opinion that inorganic collections will reduce illegal dumping as people will use this service as opposed to dumping. However there is also the counter-view that inorganic waste collections increase illegal dumping, as people expect Council to remove any waste from the kerb at any time. Data from Australia failed to find any correlation between the provision of an inorganic waste collection and illegal dumping. (KESAB, South Australia LGA, South Australia EPA and Zero Waste SA. *2006 An Investigation of Illegal Dumping in South Australia* Available at www.lga.sa.gov.au)

Inorganic collections do have a negative impact on street amenity values, with streets commonly appearing to be rubbish dumps in the weeks leading up to and during the collection service. This can generate resident concern and complaints. On-property collection services can minimise this concern.

Inorganic collections are not generally seen as making a positive contribution to waste minimisation, particularly where no effort is made to recover any recyclable or reusable items. However a well-designed inorganic/bulky waste collection that is integrated with a re-use centre and recycling systems could make a positive contribution, and are generally services that are perceived well by the public.

Council's ability to offset the cost of the collections from on-selling items of value can be affected by public scavenging amongst the inorganic material before it is collected and removing anything of value.

Options for inorganic collections:

- **Rates-funded kerbside collection**
Historically common throughout New Zealand, and still provided by Waikato District Council. Auckland City Council is phasing this service out and replacing it with an on-property User-pays system. This service has been heavily criticised in the past due to the cost of collection, the accumulation of 'rubbish' at the kerbside and public scavenging for any materials of value.
- **Rates-funded 'on property' collection**
Similar in nature to the kerbside collection, but minimises the level to which the public is able to 'scavenge' amongst the inorganic material before it is collected.
- **On-property User-pays collection**
A small number of opportunities for householders to book a collection each year, with fees paid up-front. The size and number of items can be restricted. There is a potential to subsidise the cost of this collection for any low income household.
- **University**

At the end of the 2015 year and at the commencement of the 2016 year, inorganic collection sites within the Waikato University area were provided. These sites were well used, and resulted in a significant reduction in complaints about uncollected rubbish and fly tipping within this area. The City Waters Compliance Team in conjunction with the university will continue to provide this service in the future.

In summary:

- Inorganic collections are not generally considered to support waste minimisation or responsible product stewardship, however this is possible if the collection is well-designed. This is likely to require an on-property collection.
- For waste minimisation of any reasonable extent to be achieved through an inorganic collection, the material should be protected from public 'scavenging' and ideally, collections and the materials accepted for collection should be closely aligned with other reuse, recycling and recovery services and facilities.
- There are potentially significant health and safety issues associated with the manual collection of loose wastes, although these can be reduced by using on-property collections.
- Kerbside inorganic collections inevitably create street scene issues while a collection is taking place.
- Available data does not suggest that the absence of a 'free' or rates-funded inorganic collection leads to an increase in illegal dumping. There is however some anecdotal evidence that kerbside inorganic collections can provide a 'smokescreen' for illegal dumping.
- The most significant 'need' for an inorganic collection appears to be providing a way to dispose of bulky items that cannot be included in the weekly kerbside collections for those that are not able to transport these items themselves.
- Many of the negative issues associated with inorganic collections can be minimised by offering a restricted on-property pre-paid (or subsidised) collection service.

13.2. E-waste

E-waste is the most rapidly growing segment of the municipal solid waste stream.

E-waste contains many valuable, recoverable materials such as aluminium, copper, gold, silver, plastics, and ferrous metals. In order to conserve natural resources and the energy needed to produce new electronic equipment from virgin resources, electronic equipment can be refurbished, reused, and recycled instead of being landfilled.

E-waste also contains toxic and hazardous materials including mercury, lead, cadmium, beryllium, chromium, and chemical flame retardants, all of which have the potential to leach into our soil and water.

- Advantages for recovery:
 - Conserves natural resources. Recycling recovers valuable materials from old electronics that can be used to make new products. As a result, we save energy, reduce pollution, reduce greenhouse gas emissions and save resources by extracting fewer raw materials from the earth.
 - Protects your surroundings. Safe recycling of out-dated electronics promotes sound management of toxic chemicals such as lead and mercury.
 - Helps others. Donating your used electronics benefits your community by passing on ready-to-use or refurbished equipment to those who need it.

- Create jobs. E- recycling creates jobs for professional recyclers and refurbishers and creates new markets for the valuable components that are dismantled.
- Saves landfill space. E-waste is a growing waste stream. By recycling these items, landfill space is conserved.
- Electronic waste management options hierarchy:
 - Reuse of whole units: reuse functioning electronic equipment by donating it to someone who can still use it.
 - Repair/refurbishment/remanufacturing of units.
 - Recovery/reuse of functional peripherals or components.
 - Recycling of constituent materials: recycle those components that cannot be repaired.
 - Last option if none of the above is possible/feasible. Responsible disposal of hazardous and non-hazardous waste in permitted landfills.

Electronic waste has been a high profile waste stream in recent times with a number of government-funded initiatives being delivered to tackle this waste stream. These include the RCN e-cycle initiative which has established recovery centres for e-waste around the country, and 'TV Takeback' which accompanied the national roll-out of digital TV transmission. TV Takeback ended on 31 March 2014 and over 220,000 TVs were collected at collection points across the country.

However, despite ongoing government support for e-waste initiatives, there is still uncertainty about long-term product stewardship arrangements. In the meantime, ongoing variability in international commodity markets appears to be causing significant financial difficulties for the few collectors and processors that do exist.

Kerbside collection of e-waste is not viable, given the low volume; however a collection point at the refuse transfer station would be beneficial to the community.

13.3. Tyres

Tyres are among the largest and most problematic sources of waste, due to the large volume produced, their durability and the fact they contain a number of components that are ecologically problematic.

Tyres cause problems in landfills because they are bulky, trap air, and move around, while tyres stockpiled above ground are a major fire risk. Hamilton City Council was recently involved in a regional tyre stockpiling issue. While there are no current government-backed product stewardship initiatives relating to tyres, it remains an issue of concern.

There may be a private sector-lead product stewardship programme for tyres in the near future however, with the Motor Trade Association, major tyre companies, industry associations, and various other parties reaching agreement on an end of life tyre (ELT) scheme. The consortium successfully applied to the Waste Minimisation Fund for support in developing a product stewardship programme. This project was completed in August 2013, although no further progress has been made since.

Some tyre-fitting businesses already charge a small fee for disposal of unwanted tyres. However there is no tracking system or audits in place to ensure that these tyres are disposed of appropriately.

There are reputable firms running good businesses in Hamilton for tyre collection and recycling.

14. City-wide infrastructure options

Table 27: City-wide infrastructure options

| Potential service/Infrastructure | Advantages | Disadvantages | Recommendation |
|----------------------------------|--|--|--|
| Refuse transfer station | <p>Provides diversion of the following materials for the city:</p> <ul style="list-style-type: none"> • Non-hardened glass. • Steel. • Whiteware. • Aluminium. • Paper. • Plastic - type 1 and 2. • Cardboard. • Other metals. • Waste oil - household volumes. <p>Responsible for approximately 20% of the waste diverted to landfill.</p> | <p>The ability for the site to divert more waste from landfill is constrained by the site layout.</p> <p>Approximately \$1.5 million is required for improvements at the site.</p> | <p>Continue to provide the service through a lease agreements with the following improvements:</p> <ul style="list-style-type: none"> • Single contract for kerbside collection and refuse transfer station. • Incentivise the contractor to invest in the site. |
| Organic centre | <p>The organic centre processes approximately 9,000 to 10,000 tonnes of green waste per annum.</p> <p>This is the only facility of this type within the city.</p> | <p>This site is an operational marginal business.</p> <p>Site constraints due to high water table, peat soils and alligator weed restrict improvements to the site.</p> | <p>Include the operational opportunity of the site within the City Parks service review, if positive develop a business case for transfer.</p> <p>OR</p> <p>Continue to provide the service through a lease agreements with the following improvements:</p> <ul style="list-style-type: none"> • Include within the suite of contracts/lease agreements for kerbside collection and refuse transfer station. • Incentivise the contractor to invest in the site. |
| Drop-off points | <p>Low cost method of gathering materials for recovery.</p> <p>Enables the recovery of materials not collected at the kerbside.</p> | <p>Can become focal point for dumping.</p> <p>Approximately \$200,000 is required for the roll out of 10 drop-off points throughout the city.</p> | <p>Funding of this infrastructure is not available in the 2015 10-Year Plan. Consider this option in the future when funding is available.</p> |
| Material recovery facility | <p>Maximise resource recovery and revenue, by sorting</p> | <p>Significant capital investment required for the</p> | <p>A facility of this type will need to be provided by the</p> |

| | | | |
|---|---|---|---|
| | mixed recyclables to a particular grade for sale. | development of a site. | contractor to support the preferred option. This facility could be within the city or outside the city depending on the preferred contractors existing resources. |
| Bulking and bailing facility | Provides bulking of materials to enable transport and sale. | | There are two private bulking and bailing facilities in Hamilton, which can support the services provided. |
| Construction and demolition waste recovery facility | Approximately 25% of the material received at the refuse transfer station could be recovered using this type of facility. At present this material is either on-sold in the shop or disposed to landfill. | The cost of developing a facility of this type has not been estimated. | Funding of this infrastructure is not available in the 2015 10-Year Plan. Consider this option in the future when funding is available. |
| Resources recovery park | Incorporates material recovery facility, organic centre, refuse transfer station and construction and demolition waste facilities into one. Maximises amount of waste diversion for the city Includes education as a key service. | Approximately \$20 million is required to develop a park. This could be funded through partnership with private industry and sub-regional councils. | Funding of this infrastructure is not available in the 2015 10-Year Plan. Consider this option in the future when funding is available. |
| Sub-regional network | A network would be developed in support of a resource recovery park, whereby waste and materials would be accepted from the sub-region. | As above. | Funding of this infrastructure is not available in the 2015 10-Year Plan. Consider this option in the future when funding is available. |

14.1. Refuse transfer station

The site use (whilst still being used for waste consolidation) has become a community hub for the disposal and recovery of materials. This change in use is shown over time by the amount of waste being recovered; refer to Section 2.2.6.

The volume of waste which is processed by the site requires that the waste handling and bulking operation is fast and efficient. Therefore there is limited time and space available for sorting of recyclable materials.

At present, recovery at the refuse transfer station yields approximately 5,000 tonnes. This compares to approximately 10,000 tonnes per annum from kerbside recycling activity, and a further 9,000 tonnes of material diverted through the organic centre. The refuse transfer station is therefore responsible for approximately 20 per cent of Council's resource recovery.

As waste management and resource recovery practice evolve, the role of a transfer station can become increasingly important. The logistical problems in collecting and bulking a growing list of items and materials which require treatment or disposal at distinct locations

will drive the increased reliance on effective transfer stations. The refuse transfer station is likely to become more strategically important as the management of different waste streams evolves over time. It could evolve from its current main function, which is to bulk and transfer waste, to a resource recovery park model (refer Section 14.4.4), where its principle function is to separate materials for recovery and beneficial use.

The site is economically viable due to its use as the city bulking facility for kerbside rubbish. The removal of the bulking of kerbside rubbish from this site, could negatively impact on the operational economies of scale, making the site a marginal business.

There are a number of operational issues at the refuse transfer station that constrain the sites opportunities to maximise waste diversion. These issues include:

- The physical constraints of the site in its current configuration prevent an increase in the range and quantity of recyclable materials which can be collected, separated and stored.
- Current lease arrangements do not enable infrastructure investment in the site that would enable improvements to enhance waste recovery.
- The traffic flows and parking space on entry to the site are awkward for access the recycling drop-off and dump shop.
- There are health and safety concerns, especially associated with people falling into the pit. Physical barriers have been constructed to try and reduce the risk, however the site still presents a number of health and safety issues including:
 - High volumes of traffic.
 - Lack of segregation between large and small vehicles.
 - Operation of large wheeled loader in close proximity to people.
- Physical constraints of the site have led to the operator using an adjacent site (not owned by Council). This has led to operational inefficiencies with the movement and storage of the compactor pods. This may lead to a risk for future refuse transfer operation if the incumbent contractor is not successful and a new contractor manages the site.
- Operational inefficiencies due to constraints on the site regarding the movement of filled compactor pods.

14.1.1. Future option – sell the site

In this option, Council sells the site. Given the infrastructure on site, it is likely that it will remain as a refuse transfer station.

The current Capital Rating Valuation is \$4,860,000. If this was the sale price achieved and the revenue was used to retire debt, then this would equate to interest savings from repayment of debt of approximately \$234,000 per annum (after administration and sale costs).

Return on investment

The annual rental (2016/17) of the site is \$339,000 plus GST plus all outgoings. Annual maintenance budgeted for the site is in the order of \$19,000 per annum over the next 10 years.

Based on the above figures, Council the net return at current lease rates would be \$320,000 per annum. This is equivalent to a return on capital of approximately 6.5 per cent.

In addition there are capital renewals budgets of \$360,000 over the next 10 years.

Allowing for the above level of capital investment in the site the net return at current lease rates would be \$284,000 per annum. This is equivalent to a return on capital of approximately 5.8 per cent.

The return on investment for the site is greater than the interest savings from repayment of debt.

Impact on kerbside collection

The site provides for the compaction of kerbside rubbish prior to it being transported to Hampton Downs Landfill. As the refuse transfer station and compactors are owned by Council and operated by the same contractor who also collects the rubbish, the cost of compaction is discounted to below market rate.

If sold, it is expected that the cost of compaction would increase, increasing the cost of the kerbside collection service by approximately \$215,000 per annum.

Other considerations

- Through the lease agreements, Council approves the gate charges. If sold, Council would not have any influence on these gate charges, which may create a social dis-benefit to the community if they were to increase.
- The site currently provides for approximately 20 per cent of Council's waste diversion and recovery, the site is therefore a significant tool for Council to ensure it meets its legislative requirements to promote effective and efficient waste management and minimisation (Waste Minimisation Act). Under ownership, Council can influence the recovery of materials, which may not under a commercial operation be recovered due to their low economic value.

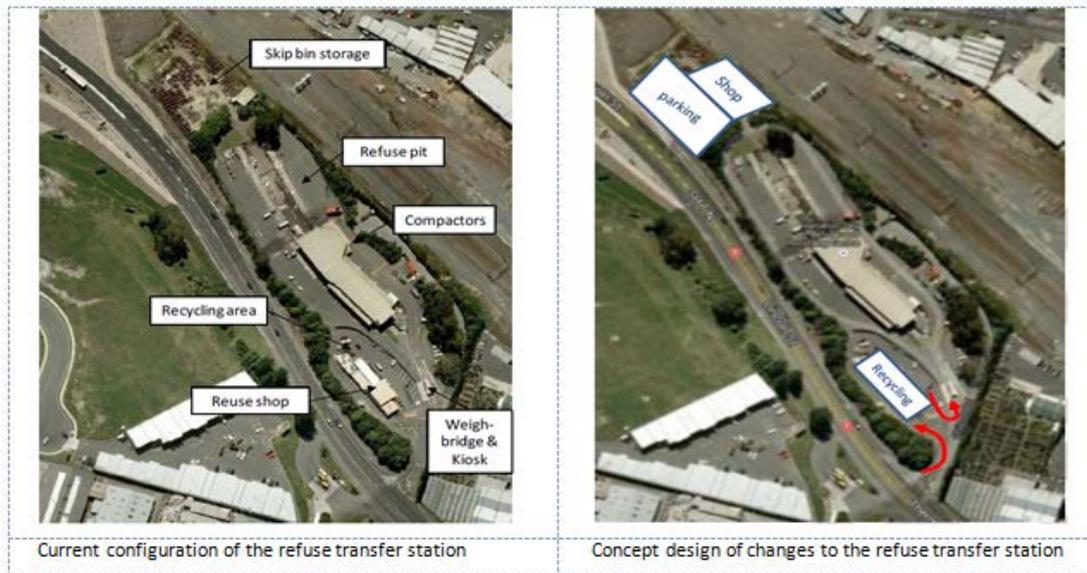
14.1.2. Future option - development of site

This option maximises the potential of the site as a materials recovery facility.

The topography of the site limits other potential industrial uses. The site is narrow, approximately 50m wide. The access to the main road is only available at one point, which is a further restriction on altering the layout of the site. Taking account of the existing infrastructure (eg, weighbridge, pit etc.) it is likely that the site is best suited to remain designated for waste management applications.

The current site was designed for efficient waste handling for disposal to landfill but not for resource recovery. The reconfiguration of the site to optimise resource recovery within the limited footprint will not be straightforward and is likely to require significant capital investment.

The size of the site is thought to be sufficient if steps were taken to reconfigure the layout. For example, the area currently used for skip bin storage, approximately 2500m², has the potential to be used more effectively for resource recovery.



The total cost of improvements is estimated at \$1.5 million.

The location of the site has many advantages for use as a refuse transfer station. It is relatively accessible and, therefore, convenient for refuse collection routes and for residents. The direct access onto State Highway 1 is potentially good for onward shipping of refuse and recyclables. However, due to the limited space available near the compactor for storage of refuse containers, they are currently being taken for temporary storage in the leasee’s site before going to landfill.

The adjacent rail line could also prove to be an asset in the future if more waste or recyclables are transported by rail. The nature of the cargo, ie, heavy and low priority, makes it well suited for rail transportation.

14.1.3. Future option – Council operates the site

In this option, Council would take possession of the site at the end of the current lease agreement and operate the site as a commercial business.

The revenue generated by the site is unknown, financial modelling suggests that this could be in the order of \$8.8 million per annum based on the following:

- Approximately 48,000 tonnes per annum are received from households (excludes kerbside collection), commercial and industrial customers. Based on \$157 per tonne, this equates to \$7.5 million per annum.
- Sale of recyclables and recovered material estimated to be \$1.3 million.

As the business is currently being run as a commercial enterprise, it is expected that the operating surplus would be in the order of 15 to 20 per cent which would put the operating costs at approximately \$7.5 million per annum.

Refer Lincoln Avenue Refuse Transfer Station and Hamilton Organic Centre: Strategic Implications of Potential Sale, Eunomia, May 2013.

Therefore if Council was to bring the operation of this site in-house, it is likely that the annual expenditure for the activity would need to be increased by approximately \$7.5 million per year, however this would be offset by an annual income of approximately \$8.8 million per year, leaving \$1.3 million surplus to offset other services contained within the rubbish and recycling activity. However the \$1.3 million surplus is subject to the volatile recycling market, and therefore cannot be guaranteed; refer Section 16.2.2 on commodity risk.

Whilst the financial assessment of bringing the operation of the refuse transfer station in house is favourable, with risk, Council does not currently have the skills and resources to successfully commence operation. It is likely that any financial operating surplus in the first one to three years will be used to secure these skills and resources. However, once secured there is no guarantee that these skills and resources can deliver the operation as it is currently.

Given that any financial surplus is subject to market, skill and resource risks, it is recommended that Council does not bring the operation of the refuse transfer station in-house.

14.1.4. Future option – contractor operates the site

This is the current operating model, and is the preferred future option, based on the current arrangements, with the following improvements:

- That the lease is let as part of a suite of contracts to deliver the kerbside rubbish and recycling collection and operation of the organic centre. The refuse transfer station is considered to be a drawcard of this suite of contracts, given its current and future operational potential. These benefits can then be maximised to ensure less financially attractive services are also provided.
- Develop new site lease arrangements and conditions to incentivise investment in infrastructure by the new contractor. This would need to include a significantly long contract period to enable capital investment to be written down (eg, 10 years plus), financial performance incentives for enhanced waste minimisation that enable payback on capital invested to achieve this.
- Increase marketing of the site and its services as part of the ‘fight the landfill’ campaign. Refer Section 24 for Waste Minimisation Education and Communication Plan.

14.2. Organic centre

The site, as currently operated, is not able to process all of the organic waste received. The operator transfers approximately half of it to an alternative composting operation at Tirohia.

The area currently used for operating the site is approximately 160m by 140m (2.2ha). The remainder of the site (1.7ha) is taken up by trees and large bunds to the south and east of the site.

However, as noted, because of site restrictions such as the presence of the Restricted Place on a quarter of the site and the presence of large bunds, only about half of the current space is able to be used for composting.

In addition, it would appear that the composting methodology employed by the lessee to reduce odour issues is not particularly space-efficient. It requires frequent turning of

relatively small (one metre high) windrows in the initial composting phase. The size of the windrows is principally constrained by the size of the compost turning machine that is used.

Use of a larger turning machine would result in larger, more space efficient windrows and may also speed up the process as the larger windrows would reach thermophilic temperatures more quickly. Thus, if the full site could be utilised and a more efficient methodology applied, it may be possible to increase the capacity of the site sufficiently to process all material received on site.

However the use of larger equipment needs to be assessed in relation to the sites peat soils and high water table during the winter months.

14.2.1. Future option – sell the site

In this option, Council sells the site. Given the marginal nature of this business, it may not continue as an organic centre after sale.

The current Capital Rating Valuation is \$432,000. If this was the sale price achieved and the revenue was used to retire debt, then this would equate to interest savings from repayment of debt of approximately \$21,000 per annum (after administration and sale costs).

Return on investment

The annual rental (2016/17) of the site is \$90,000 plus GST plus all outgoings, with an annual subsidy of \$18,000 provided through the Waste Levy Fund. Annual maintenance budgeted for the site is in the order of \$2,000 per annum over the next 10 years.

Based on the above figures, Council the net return at current lease rates would be \$70,000 per annum. This is equivalent to a return on capital of approximately 16 per cent.

In addition there are capital renewals budgets of \$360,000 over the next 10 years.

Allowing for the above level of capital investment in the site the net return at current lease rates would be \$34,000 per annum. This is equivalent to a return on capital of approximately eight per cent.

The return on investment for the site is greater than the interest savings from repayment of debt.

Other considerations

The operation is a marginal business, therefore once sold it may or may not continue to operate as a green waste processing site. Without this site, residents of the city would need to either:

- use the transfer station, the site does not have capacity to manage the volume of green waste
- travel to Cambridge to dispose of their garden waste.

The hydrology of the site may present a problem for development as it is a low-lying site that is often waterlogged due to its peat base, making sale difficult.

14.2.2. Future option – development of site

In this option, the site would be developed to its full potential, site constraints would be removed.

Option 1: Removal of alligator weed

In this option, the contaminated soil would be removed and disposed of at a suitable site which is approved by Waikato Regional Council (WRC).

In 2007, WRC analysis through topography survey (LiDAR) data showed 30,000 cubic metres of soil would need to be removed to ground level to effectively rid the site of alligator weed. Removal and safe disposal of the material would cost approximately \$300,000 to \$450,000.

Option 2: Development of a temporary clean fill site

In this option, the site would be utilised as a clean fill site, which would effectively bury the alligator weed under a five metre layer of fill.

The remaining areas of the site, would also be raised, removing the issues associated with the high water table and peat soils. Revenue in the order of \$1,000,000 (based on current clean fill disposal costs of \$10 to \$15 per tonne) could be generated over time through the acceptance of clean fill. However due to the peat, careful engineering will be required to remove the risk of settlement in the future. Operations at the site would also be compromised during the works, with less green waste being able to be composted.

If this option was to be considered in the future, a full business case would need to be developed to enable consideration.

Option 3: Extend operations to include biosolids and food waste composting

If the full area of the site was able to be used, this could also open up the possibility of siting other organic waste treatment operations on the site; for example processing food wastes or water treatment biosolids. Given the location, this would likely have to entail the construction of an in-vessel facility (either aerobic composting or anaerobic digestion) to control odours. This type of facility would complement the existing green waste composting operation. The in-vessel output would likely require a maturation phase and the output material would provide additional nutrient value to the green waste compost. As this type of activity would be outside of current consent conditions, additional resource consents would be required.

If this option was to be considered in the future, a full business case would need to be developed to enable consideration.

14.2.3. Future option – Council operates site

In this option, Council would take possession of the site at the end of the current lease agreement and operate the site as a commercial business.

There is significant alignment with the operations of this site and that of the City Parks Unit. The City Parks activity currently dispose excess green waste material to other composting facilities in the area, the Unit then purchases mulch and compost for use.

Through the current City Parks services review, this option is being considered. If the outcome is positive, then a separate business case would be developed.

14.2.4. Future option – contractor operates site

This is the current operating model, and is the preferred future option, based on the current arrangements, with the following improvements:

- Operate the site as a component of the rubbish and recycling contracts which include kerbside collection and refuse transfer station. This way any risks associated with the marginal business can be offset against the other services or (depending on the outcome of the City Parks services review) transfer the operation of the site to Parks and Gardens upon the next lease review date.
- Increase marketing of the site and its services as part of the 'fight the landfill' campaign. Refer Section 24 for the Waste Minimisation Education and Communication Plan.
- Develop new site lease arrangements and conditions to incentivise investment in infrastructure by the new contractor. This would need to include a significantly long contract period to enable capital investment to be written down (eg, 10 years plus), financial performance incentives for enhanced waste minimisation that enable payback on capital invested to achieve this.

14.3. Drop-off facilities

Drop-off facilities provide a low cost method of gathering materials for recovery. Drop-off points require minimal supervision, can be serviced as required and are capable of providing economic quantities of good quality material.

Drop-off facilities can have issues however, including becoming a focal point for dumping and litter, and being subject to vandalism. These issues, coupled with the increase in kerbside recycling, have resulted in drop-off facilities largely falling out of favour in New Zealand.

Drop-off facilities can play an important role in supplementing other collection systems and infrastructure, particularly for materials that are more difficult to collect at kerbside such as plastic bags, textiles and batteries. Issues with drop-off facilities can be largely overcome through the use of modern, attractive infrastructure and signage, carefully located and with good servicing.



LoveNZ Drop-off point at BP



Tesco recycling centre UK

For this option, it is proposed to develop these sites over a five-year period, with two sites per year being commissioned. The sites and design specifications for these facilities are yet

to be determined. The following capital works estimates have been based on utilising private sites, eg, supermarket car parks and therefore do not include land.

Table 28: Capital and operational costs of city wide drop-off points

| | |
|--|-----------|
| Total Capex for 10 drop-off points located in public areas such as supermarkets. | \$200,000 |
| Average annual operating costs over 10 years (excludes debt repayment). | \$30,000 |

The cost benefit for these sites exists, with the cost per tonne from these facilities estimated to be \$36 compared with the alternative disposal of the kerbside refuse collection at \$110 per tonne.

Funding for these facilities has been considered as part of the 2015-25 10-Year Plan, within funding provisions provided in the following 10-year window in 2026-35.

As there is no funding available, this option has not been considered further as part of this business case.

14.4. Resource recovery facilities

Resource recovery facilities sort waste to maximise its value.

Depending on the materials, and how they are collected, there are a number of different steps and different types of facilities that are required to extract value.

14.4.1. Material recovery facility

Material recovery facilities essentially separate mixed materials into their components. While there are a wide variety of types and configurations, the most common material recovery facilities separate out kerbside collected recyclables including glass, plastics, paper, aluminium and steel. Material recovery facilities can be a simple manual sort line, fully automated, or some combination of the two. A common modern configuration is a manual sort to remove contamination followed by automated processes to separate the material. Modern automated processes can generally sort most materials more accurately and faster than manual processes.

Most material recovery facilities will sort material to a particular grade suitable for sale. Higher grades generate higher incomes but generally require more sorting. The level of sorting that takes place is usually a business decision based on the trade-off between higher prices and the marginal cost of obtaining those prices.

Hamilton currently has no material recovery facilities. A facility of this type will be required to support the preferred option within this business case. It will be up to the contractor to either source and develop a site in Hamilton or utilise their existing infrastructure elsewhere in order to deliver the contracted services.

As a facility of this type will be provided by the contractor, infrastructure development by Council is not considered as part of this business case.

14.4.2. Bulking and baling facility

Where material has been sufficiently separated at collection, for example commercial collections of cardboard, or kerbside paper collections, the material can simply be bulked for transport and sale. This will involve baling to a specified density to enable economic shipping of the material to the reprocessor. Material that has not been sufficiently sorted will be bulked and may also be baled (but at lower densities) for transport to a material recovery facility.

Hamilton has two bulking and baling facilities; one owned by CHH Fullcircle and the other by Waste Management. Therefore this business case does not consider Council providing infrastructure for this facility.

14.4.3. Construction and demolition waste recovery facility

As the name suggests, this type of facility focuses on construction and demolition waste. They will typically separate concrete, bricks, timber, metals, plasterboard, and cardboard.

Such facilities can divert 80 to 90 per cent of input material. Concrete and brick is crushed for use as aggregate, timber recovered for hog fuel (wood residue and waste products used for fuel), metals for recycling, and plasterboard (gypsum) for reuse or as an additive to soil amendments.

There are no construction and demolition waste recovery facilities in Hamilton.

As presented in Section 2.2.6 construction and demolition waste makes up for approximately 15 per cent of the recoverable waste at the refuse transfer station.

As there is no funding available, this option has not been considered further as part of this business case.

14.4.4. Resource recovery park

A resource recovery park (RRP) is the hub for smaller local sites such as the refuse transfer station and drop-off points to feed material into for consolidation and processing. This linked network of sites can be extended out to include the sub-region and commercial and industrial waste maximising its potential.

The central characteristic of an RRP is that it is able to contain a wide range of waste minimisation related functions, and that these functions are able to work together synergistically. Some of the functions that can be located at an RRP site include:

- Public drop-off for recyclable and recoverable materials.
- Sales of reusable items.
- Education and training centre.
- Workshop space for refurbishment of second-hand goods and waste minimisation activities (eg, food rescue, reusable nappies etc).
- Processing of recovered materials including composting and construction and demolition wastes (C&D).
- Operational space for bulking and storage of materials.



As there is no funding available, this option has not been considered further as part of this business case. Funding of a facility like this has been identified as long term (within the next 30 years) within the Solid Waste Asset Management Plan.

14.4.5. Sub-regional network

There is potential to link a central resource recovery park (as detailed in the section above) with other waste management and recovery sites in the region. This is outlined in the following figure.

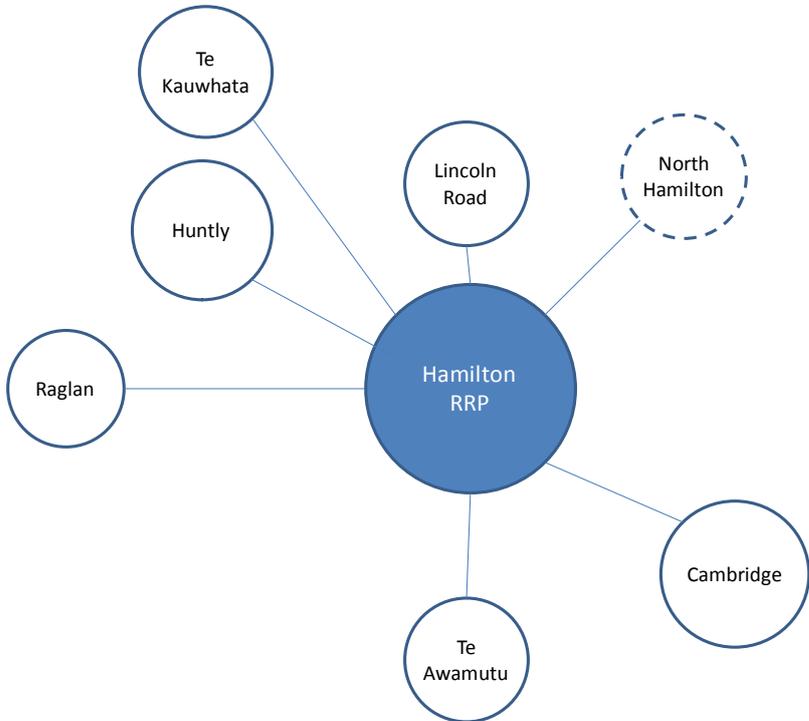


Figure 40: Sub-regional network

Waikato Regional Council in their Waikato Regional Waste and Resources Strategy (Section 3.1.10) cites “identification of regional infrastructure requirements like a regional resource recovery park/facility or materials recovery network, of facilitating beneficial cross-sector linkages” as one of their action areas.

Discussions between Council’s and private companies are currently taking place. Should this result in a positive outcome, a full business case will be developed, identifying opportunities, partnerships and funding requirements for approval before any agreement and or investment is made. It is possible (subject to application) that funding through Council’s Contestable Waste Minimisation Fund could be made available for this business case.

Further discussion on what Council is doing sub-regionally is provided in Section 15.1.

Further information on what a regional recovery network can do can be found in *Service Review: Service Options, Eunomia, November 2013*.

The creation of this network is not included in this business case; however it should be noted that whatever Hamilton City Council does, it should be future-proofed in such a way to support this initiative.

15. Promote options

The Waste Minimisation Act requires Council to promote effective and efficient waste management and minimisation within our district. This does not necessarily mean to provide services.

Promotion could be provided by Hamilton City Council or in conjunction with other councils in the area, and could take the form of:

- Provide education resources to schools, industry etc.
 - For schools this would include the development of Waste Minimisation in Schools Education Programme. This programme would include the development of programmes of learning. Funding for these programmes can be sourced from a combination of Hamilton’s Waste Levy Fund and the Contestable National Waste Levy Fund.
 - For industry this could include advice on how to minimise waste within their businesses
- Marketing and communications. The Waste Minimisation Education and Communication Plan (Section 24) has been developed in support of the new brand ‘fight the landfill’.
- The District Plan and relevant Bylaw provide rules about how waste is managed to maximise recycling potential. For example the size of rubbish containers put out on the kerbside can be limited.

15.1. Joint working

The Waikato and Bay of Plenty councils have collaborated on a number of projects in the past, with the aim of achieving efficiency gains for territorial authorities across the two regions. In an effort to prioritise future work, two workshops to further explore these opportunities, took place in 2015.

The goal of these workshops was to undertake a structured process to identify a potential short-list of initiatives that councils within, and across, the two regions could productively

work together on. This shortlist was then further developed at the second workshop, where and action plans developed for each of the priority initiatives.

There were two priority areas and four non-priority areas identified. These included:

1. Waste bylaws and licensing.
2. Waste Management and Minimisation plan and waste assessments.
3. Education and communications.
4. Rural waste.
5. Procurement.
6. Biosolids.

It was decided that priority be given to 1 and 2 due to Council timeframes related to these areas. These two initiatives have been taken to the Local Authority Shared Services (LASS) Policies and Bylaws Working Group for advice and management, and are out with the scope of this business case.

Councils involved in this working group include:

- Bay of Plenty Regional Council.
- Hamilton City Council.
- Hauraki District Council.
- Kawerau District Council.
- Matamata-Piako District Council.
- Ōpōtiki District Council.
- Otorohanga District Council.
- Rotorua Lakes District Council.
- South Waikato District Council.
- Taupō District Council.
- Tauranga City Council.
- Thames-Coromandel District Council.
- Waikato District Council.
- Waipa District Council.
- Waitomo District Council.
- Western Bay of Plenty District Council.
- Whakatāne District Council.

15.2. Sub-regional service provision

It is possible to provide sub-regional services, however this option has been discounted based on the following:

- The services provided by the three relevant councils are substantially different, with Waipa and Waikato district each funding their services through User-pays.
- Hamilton is a very compact urban area, economies of scale result in a lower cost per household than compared to Waikato and Waipa districts, therefore any joint service could increase the cost to Hamilton households.

The resource recovery park (Section 14.4.4) could enable sub-regional services in the future; the provision of such a park is out of scope of this business case.

Section 16.4 discusses the pros and cons of a sub-regional Council-Controlled Organisation (CCO).

16. Service delivery options

There are a number of service delivery and procurement options, including:

- Withdrawing from service provision.
- Contracting out, and the ownership of recyclable commodities.

- Providing the service in-house.
- Council Controlled Organisation (CCO).
- Joint working.

16.1. Council withdraws from providing the service, and regulates only

Under this scenario, Council withdraws from direct service provision and aims to achieve its waste minimisation outcomes via the licensing of private waste operators and the comprehensive monitoring and enforcement of the licence conditions. This is possible under the Bylaw provisions of the Waste Minimisation Act.

The advantages of this approach are that Council is essentially able to remove the costs of waste management from its operating expenses and cover the costs of monitoring and enforcement through a licence fee. Provided that monitoring and enforcement are effective, reasonable levels of waste minimisation could be achieved simply by enabling and directing the private sector.

The sale of the refuse transfer station and organic centre could result in a sale price of \$9.2 million. Operational savings for kerbside collections based on the 2015/16 year would be \$4.3 million per annum, and capex costs (renewals and improvements) would be approximately \$72,000 per annum (based on average funding allocations over the next 10-year period).

There are no metro councils in New Zealand which have taken on this option fully, Tauranga has in part, by not providing a recycling service. Tauranga does own a refuse transfer station which is managed by a contractor.

The approach is not without some substantial downsides however. These include the following:

- It is likely that the diversion of recycling from the rubbish stream will decrease. Tauranga diversion rate is 20 per cent, compared to Hamilton's at 29 per cent.
- The costs of waste management are not avoided but are simply shifted onto the resident.
- These costs are likely to be higher than if the Council were to provide the same services. Council provision enables significant economies of scale in the operation of the collection services. Where the private sector competes, multiple service providers will be servicing each street, reducing collection efficiencies.
- Multiple trucks from different service providers collecting from the same street will result in traffic congestion, noise and a loss of amenity.
- There may be some 'cherry picking' of preferred areas by operators with the most profitable areas preferred and other areas missing out, resulting in Council having to incentivise operators to service these areas.
- Lower socio-economic groups and in particular those renting may have difficulty meeting the higher costs that they will face.
- As a result of this there may be increased pressure on illegal dumping and the potential emergence of unlicensed collectors who offer a cheap service and dispose of the collected waste illegally.
- The effectiveness of the licensing regime and the monitoring and enforcement is relatively untested when it comes to certain provisions (such as quantities of recyclables in the refuse), and it is uncertain how effective this approach may be in the long term.

- Once Council divests its assets and disengages from refuse and recycling collection it may be difficult to re-enter the market if this approach is not successful.

To enable this approach to be implemented, there are a number of tasks that Council could do in order to minimise the above disadvantages:

- Reviewing and where necessary revising the Solid Waste Bylaw to ensure it had the requisite powers to enable an appropriate licensing and enforcement regime.
- Setting a license fee sufficient to meet the costs of monitoring and enforcement.
- Divestment of all waste infrastructure assets including the Hamilton Organic Centre and the Lincoln Road Refuse Transfer Station.

Key features of the Bylaw would include:

- Collections from the 'public space', ie. on the berm outside of a property, can only be undertaken by licensed collectors.
- licensed collectors must comply with all conditions of the licence imposed by Council including:
 - Size and type of bins able to be used.
 - Collection day for a given area and the frequency of collection.
 - Service providers offering refuse collections must also offer collections of specified recyclables and organic waste.
 - Quantities of recyclables and organic waste in the residual waste must be below a specified level.
- Waste facilities as defined in the Bylaw could only be managed by licensed operators. Licensed facility operators would need to comply with all conditions of the licence imposed by Council. Conditions imposed by Council could include the following:
 - Separation of specified materials (as notified by Council) must take place at the waste facility.
 - Waste facility operators must offer incentives in the form of differential charges for users to separate out waste types (eg, green waste, recyclables).
 - The quantity of recyclables and organic waste in the residual waste must be below a specified level.
 - Failure to comply with any of the conditions imposed by Council could result in the operator's licence being revoked.

This option is not recommended as there is no community gain both in terms of financial and environmental.

16.2. Contracted out

Under this scenario, Council provides for the services but engages contractors to carry out the services.

Funding for this can be obtained from rates and user charges.

This model is currently in place in Hamilton, and is the most common form of service provision with metro councils in New Zealand.

To enable contracting out of services, several decisions need to be made including:

- The services to be provided.
- The term of the contract.

- Ownership of commodities.
- Roles and responsibilities of Council and the contractor.
- Setting and agreement of key performance indicators.

Services to be provided were discussed in previous sections, terms of contract, ownership, roles and key performance indicators (KPIs) are discussed in the following sections.

16.2.1. Term of contract

Given the nature of the services, and the investment in infrastructure required by the contractor to provide the service, long-term contracts are common with seven, 10, 12 and 15 years used throughout New Zealand.

Council's current contract was for a term of 15 years. This term whilst the most cost-effective as the contractor has the ability to maximise investment, has resulted in Hamilton providing a level of service which is less than that of the other metros in New Zealand.

For the purpose of this business case, financial modelling has been based on a 10-year period, as forecasting external costs further out into the future becomes less accurate.

For tender purposes, a 10-year period will be provided, as this will enable comparison between tenders. However through the tender process, if a more financially attractive proposal is put forward by the tendering contractors for an extended period, this will be reviewed at the appropriate time.

16.2.2. Ownership of commodities

The rubbish and recycling service produces product from three sources; kerbside collection recyclables, refuse transfer station recovery and the production of mulch and compost from the organic centre (Figure 1).

There are a number of options of these materials including full ownership by the contractor, full ownership by Council or some form of sharing of risk/reward between Council and the contractor.

The most significant revenue stream is that from kerbside recycling collections which is on-sold onto the international market. Revenue obtained from the refuse transfer station and organic centre is centred around the local market, the success of these businesses is determined though quality of product and local market prices.

The advantages and disadvantages of each option are presented below. It is recommended that the contractor ownership model is used in the future, as it removes Council from the financial risks of international markets.

Market exposure

Recyclable materials are on-sold into an international market; markets for recycled commodities are influenced by prevailing economic conditions and most significantly by commodity prices for the equivalent virgin materials.

The global economic crises lead to international markets falling sharply; these prices were recovered in 2011 to 2014, but are once again in a state of sharp decline. If Council was to take the rubbish and recycling service in-house, the activity would be subjected to these

price changes, increasing the financial risk of the activity. During periods of high prices, Council would essentially be able to provide the service at a very low cost to the community, however any decline in commodity price, and Council will not have sufficient revenue to deliver the service, creating an operational deficit.

Alternatively by using a contractor, the contractor essentially manages the risk throughout the contract term.

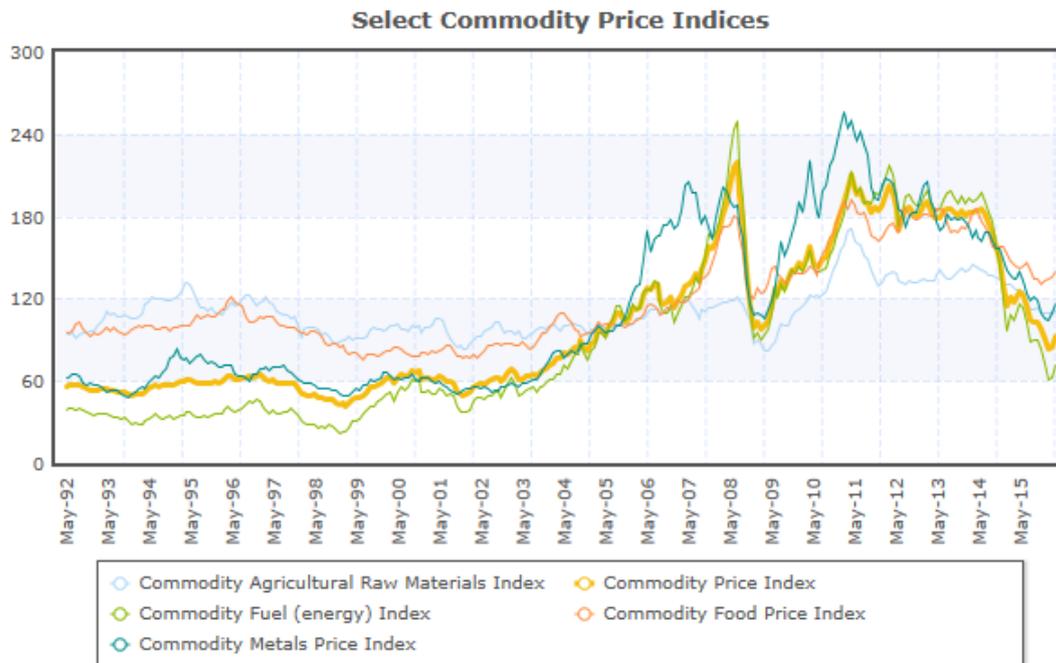


Figure 41: Select commodity price indices

Reference: <http://www.indexmundi.com/commodities/>

16.2.3. Commodity ownership options

Contractor ownership

Under this option, once the recyclables are placed at the kerb, or disposed at the refuse transfer station, they become the property of the contractor.

This option has the advantage of the contractor potentially being incentivised to maximise recovery and returns on recovered materials. The extent to which this actually takes place will depend in large part on the business model used by the contractor.

A disadvantage of full contractor ownership of materials is that they may regard recycling income as uncertain and price the contract as if the income is low or non-existent, increasing the overall cost of the contract. On the other hand, this approach will favour companies that have a more aggressive approach to recycling and confidence in their abilities to operate successfully in the commodities markets over the longer term.

Council should ensure that a contract protects them from covering any shortfall in income should the materials market crash, and the contractor’s income significantly reduces.

Council ownership

Under this option, once the recyclables are placed at the kerb, or disposed at the refuse transfer station, they become the property of Council.

If Council owns the materials they accept all the risk in terms of returns and so they can be more confident of paying the true contract price. However, this also means that strategic future planning is required to ensure that any outgoings relying upon income from recyclables can be covered in such a time that the materials markets crash.

The significant disadvantage is that there is no incentive for contractors to maximise the volume or quality of recyclable material collected.

Sharing of risk and reward

Under this option, Council and the contractor share the risk and any rewards associated with the sale of recyclables on the international market.

There are a number of ways this can be structured, but they will generally involve parties agreeing to either split the recyclables income (enabling the contractor to price a lower level of risk associated with the income) or agreeing a minimum income from recyclables for the contractor which Council will top up to if commodity prices fall. This is often paired with a ceiling rate, with the Council receiving all or a portion of the additional income if recycling rises above this ceiling.

These types of arrangements attempt to limit the contractors risk, (and hence enable them to price the contract more accurately), while providing the potential for some reward for Council when commodity prices are high.

16.2.4. Roles and responsibilities

Roles and responsibilities will be set as part of the conditions of contract. These will include, but not be limited to:

Kerbside collection

Contractor

- Collection of kerbside material.
- Removal of litter / protection of amenity values.
- Provision of a call centre including capture and resolution of customer complaints.
- Provision of KPI information.
- Provision of containers for new households.
- Replacement of containers where damage has occurred .due to collection handling. Other damage will be the responsibility of the householder.
- Marketing and education in conjunction with Council.
- Assisted collections for physically impaired or elderly persons.
- Collection of rubbish and recycling from Council facilities.

Council

- Compliance.
- Setting and reporting of KPIs.
- Marketing and education in conjunction with the contractor.
- Review of Bylaw.
- Guidelines to developers regarding suitable areas for storage of rubbish and recycling containers.
- Policy for assisted collections for physically impaired or elderly persons.

Refuse transfer station and organic centre

Contractor

- Operation of the site, including expenses.
- Refuse Transfer Station:
 - Maximise materials for recovery / recycling / on-selling.
- Organic Centre:

Council

- Approves fees and charges.
- Maintenance of council owned buildings.
- Marketing of the site in conjunction with Council and the 'Fight the Landfill' brand.
- Setting and reporting of KPIs.

- Production and on selling of product (mulch and compost.)
- Maintenance of all plant, equipment and tools.
- Resource consent compliance.
- Marketing of the site in conjunction with Council.
- Provision of KPI information.
- Capital improvements.

16.2.5. Key performance indicators (KPIs)

Key performance indicators will be developed once the service option has been approved.

16.3. Service provided in-house

In this option, Council provides the service without the use of contractors. This will require Council to acquire the necessary resources including; people, skills, plant, equipment, vehicles, and infrastructure.

The cost of providing the service would be offset by revenue obtained from selling recyclables. Based on 2015 data and international prices, the revenue is estimated at \$700,000 per annum - see Table 11. However as discussed in 16.2.2, this revenue is subject to international market commodity prices, and therefore Council would be subjected to this financial risk.

Palmerston North is the metro council in New Zealand providing this service in-house.

Refer Sections 14.1.3 and 14.2.4 for further information.

Given the investment required and financial risk, this option has not been investigated further.

16.4. Council Controlled Organisation (CCO)

The rubbish and recycling activity can be managed by a CCO, which could be expanded to include Waipa and Waikato district councils. The CCO would be responsible for the delivery of the services and asset ownership including maintenance and renewals.

- It would be charged with the delivery of the Council's rubbish and recycling functions and would report on the achievement of agreed waste management KPIs. This could include:
 - procurement and management of all waste contracts and operations, harmonising existing services across the sub-region
 - improvements to existing facilities as required
 - development and management of a sub-regional resource recovery network
 - sub-regional waste management and minimisation planning, bylaw management.
- It would be able to take on debt to fund infrastructure development. In this regard it would be important for it to have the base level of operations and income that would be provided by being responsible for management of the collection contracts and other waste functions
- It would be staffed with the appropriate personnel, resources, and expertise to undertake the functions required of it.
- It would be provided with an appropriate operating budget equivalent to that required to undertake Council's waste management functions. If user charges elements are included as part of the service, the CCO or similar would potentially receive this revenue.

- It would have a mandate to improve and develop income sources, and deliver operational efficiencies while ensuring all KPIs are met.
- It would be able to be structured so as to continue to deliver its functions over the length of any long term (eg, 25 year) contract arrangements and would be able to continue to operate effectively across any future amalgamations, or changes in Council structure.
- It could be structured to enable joint governance, ownership, and funding arrangements.

The approach is not without some substantial downsides however. These include the following:

- There would be no service efficiencies to be gained by extending out the service provision over the sub-region. Hamilton City is compact; the cost per property is therefore lower than that of a rural provincial area where it takes longer to drive between properties.
- The services provided by each Council are substantially different. Waipa has a User-pays service, with small market share. Waikato District Council is about to provide a User-pays service.
- Waikato District Council has just let a long-term contract, a change in service provider or scope of the current contract may have financial and service delivery implications for Waikato.

17. Procurement options

The following procurement options have been considered as part of this business case.

- Individual service contracts.
- Integrated contracts.
- Alliance.
- Public private partnership (PPP).
- Design, build, operate, transfer (BOOT).
- Contractor-provided containers (includes purchase and delivery).
- Council-provided containers (includes purchase and delivery).

17.1. Individual service contracts

In this option, each service would be let as a separate contract. It is likely that Council will end up with at least three contracts (with kerbside collections let as one) if not seven contracts for kerbside rubbish, kerbside recycling, food collection, refuse transfer operation, organic centre operation, litter collection and landfill disposal.

Advantages of individual contracts:

- Simple procurement process.
- Individual contractors can be engaged who have the right skills, experience and track record for a specific service.
- Can utilise the Local Government New Zealand Kerbside Collection contract, which is specific to this service.
- Would be more attractive to local companies, who may be able to supply one or two of the services, but not the entire suite of services.
- Services with different starting dates can be tendered independently of others.

Disadvantages of individual contracts:

- Multiple contractors to manage.
- Will require facility access agreements, enabling the kerbside contractors access to the refuse transfer station, and potentially a second between the refuse transfer station and the organic centre.

Possible risks of individual contacts:

- Different performance across the suite of services.
- Less viable services such as the organic centre operation may not be attractive, and result in few or no bidders.

17.2. Integrated contracts

Integrated contracts refer to the possible combination of the current multiple solid waste services into fewer or even only one contract.

The main advantages to council of reducing the number of contracts include:

- Simplified procurement process.
- Reduced Council involvement via:
 - simplified contract administration
 - interface management devolved to contractor(s).
- Preferred suppliers can be included as nominated subcontractors.
- Existing suppliers can have their contracts novated into the bundled contract as subcontractors, (if they agree), eg, the organic centre.
- Allows for the effective transfer of resources between services. For example food collection service will reduce rubbish, or organic waste disposed at the refuse transfer station being able to be processed at the organic centre. Savings in one service could then offset costs in another.
- Boundary issues are minimised. In all areas of service delivery there is potential for dispute as to where responsibility for certain actions lies in different situations, eg, windblown litter from recyclables.
- Overheads can be spread across a wider range of activities reducing overall cost.

Possible disadvantages of an integrated contract are:

- If the integrated services require different equipment, experience and manpower, the market may not respond to requests to tender for them. Contractors may have the experience to do one or two elements of the contract well but not all of them.
- Defining works of differing content in the same contract can make the specifications cumbersome and difficult to navigate.
- Larger contracts can become exponentially more complex (if not well managed) than a number of smaller ones.
- Incentivising differing types of service in the same contract implies multiple sets of contractual provisions for things like; KPIs, damages for poor performance, term extensions as rewards for good performance, etc, can make the contract conditions cumbersome and difficult to navigate.
- Services with differing start dates in the same contract can create difficulties when re-tendering each portion, the organic centre is on different timing to the kerbside and refuse transfer station.

Possible risks of bundling fixed term contracts include:

- Lack of interested bidders meaning that competitive tenders are not offered.

- One contractor being locked in for the term of the contract, which may drive smaller players from the market and could also encourage the contractor to try to leverage additional services or payment without Council being able to go back to the market.
- One organisation providing all of the services and Council being exposed in the event of that organisation not being able to deliver the services; such exposure would include both financial and health impacts.

17.3. Alliance

An alliance changes the basis of a contractual arrangement from a 'master/servant' relationship into a relationship between equals. As a result, the alliance team is able to focus on the outcomes from the project. Incentives are built into the remuneration structure to encourage innovation, increase efficiency and other key non-cost outcomes.

Accordingly, this model requires parties to accept collective responsibility for risk, performance and outcomes (including sharing the financial pain/gain) all within a 'no-blame' culture. An alliance contract does not depend solely on contract clauses but includes considerations such as trust, openness and a collaborative and constructive mentality.

Conflict is avoided by defining the nature and extent of the cooperation between the parties at an early stage and by establishing an effective management/alliance board which can intervene as an arbiter when circumstances dictate. Typically, a culture change is required by all the parties involved.

There are currently two types for alliance:

- Competitive Alliance - a type of 'shared risk' delivery model where the selection of suppliers to form an alliance is on the basis of quality and price.
- Pure Alliance - a type of 'shared risk' delivery model where the selection of suppliers to form an alliance is on the basis of quality only.

Alliance contracts between territorial authorities and rubbish and recycling suppliers are not common in New Zealand. An alliance could potentially enable capital works to be undertaken at both the refuse transfer station and organic centre, however it is unlikely to provide any additional benefits when compared to the traditional contracts for kerbside collection.

An alliance does have a high cost of establishment; it would be difficult to find a financial return on these savings through the suite of services. Therefore this is not a preferred option.

17.4. Procurement of infrastructure improvements at the refuse transfer station and organic centre

The refuse transfer station was originally designed to collect, compact and transport waste. Over time the station has changed into a resource recovery facility, however space constraints restrict opportunities for future improvement (Section 14.1.2). Capital improvements to the organic centre have also been identified, to enable the site to become commercially viable enterprise (Section 14.2.2).

Capital funding allocation is not available within the 10-year window (2019-29) to enable Council to fund improvements, the other option for Council is to implement performance

measures (which may or may not require operator capital funding) to obtain. Procurement options to obtain this include:

1. Setting performance measures, inviting responders to the registrations of interest (refer Section 21.3) to outline how they would meet these measures, reviewing the preferring option prior to issuing request for tender documentation, and requiring tender submissions to detail how these performance measures would be met; or
2. Setting performance measures, assessing options for achieving these performance measures, including a preferred option in the registration of interest documentation (refer Section 21.3), and inviting comments on the preferred option and other options, and reviewing the preferring option prior to issuing request for tender documentation.

With option one; there is less for Council to do in preparing registrations of interest documentation. However, the onus is placed on interested parties to investigate the current situation and alternatives, and make any necessary arrangements to secure one or more options (eg, access to capital funding, land or facilities). In considering responses to the registration of interest, Council would need to investigate the merits of different options. This process has risks which include one party securing capital funding, land or facilities that enables performance measures to be met, with a possible compromising of competitiveness during the request for tender stage, a longer registration of interest evaluation time, and uncertainties in determining a preferred option as responders to the registration of interest may limit the information they divulge because of commercial sensitivity.

With option two; Council can undertake an independent, objective assessment of options and potentially secure a preferred option. With this information, Council can test the preferred option through the registration of interest process and more reliably specify requirements in the request for tender documentation. The proposed Procurement Plan (Section 21.1) is based on option 2.

For both options, Council will need to consider how the works are to be funded; possibilities include public private partnerships, alliance, and build, own, operate and transfer (BOOT) models.

17.4.1. Public private partnership (PPP)

A PPP is a long-term contract between Council and a private company or consortium of companies (a 'Private Entity') covering the design, construction, maintenance, and financing of an infrastructure asset. PPPs can take many different forms, but typically have the following characteristics:

- Council enters into a contract with a Private Entity to provide finance and arrange the design, construction and ongoing operation of an asset. 'Ongoing operation' is usually limited to maintenance of the asset (but may extend to the provision of ancillary services, such as cleaning). The delivery of core social services to the public (such as the provision of teachers at a school or medical services at a hospital) typically remains the responsibility of a government agency.
- The Public Sector Client undertakes to pay for use of an asset for a specified term normally ranging from 15 to 35 years (the Concession). The Concession represents a substantial part of the life of the asset.
- The Private Entity contracts out construction and facilities management under fixed-price terms thereby passing construction and operational performance risk to sub-contractors where possible; and
- At the end of the Concession, ownership of the asset is returned to the Public Sector Client, who can continue to use the asset.

Advantages of a PPP:

- Brings 'off-balance sheet' funding.
- Strong commercial governance.
- Faster completion of large complex projects.
- Return on investment is greater than public-only projects.
- Whole of life analysis is robust.
- Operation and project execution risk transferred to private sector.
- Allows public funding to be used elsewhere.
- Potential high level of technical innovation.
- Often User-pays funded.

Disadvantages of a PPP:

- Partial private ownership of public assets.
- High cost of establishment.
- Very expensive to bid.
- The term of a common concession period is longer than the period of this contract (10 years).

A PPP could enable improvements to be made to the refuse transfer station, or enable the service to be expanded to incorporate a resource recovery network and material recovery facility (Section 14.1), resource recovery networks and material recovery facilities.

The capital improvements at the refuse transfer station are estimated to be \$1.5 million, this investment does not offset the costs associated with a PPP, and therefore this option is not preferred.

17.4.2. Build, own, operate, transfer (BOOT)

In a BOOT project, Council would grant to a contractor the right to develop and operate the transfer station and organic centre for the 10-year contract period.

The contractor will finance, capital improvements to the sites, whilst operating it commercially for the contract period, after which the facilities will be transferred to Council.

It is likely that the contractor will negotiate the lease rental in order to obtain finance for the improvement works.

As the contractor is funding the works, Council will need to negotiate upfront their involvement in the design decisions. However it is likely that the contractor will provide a comprehensive improvement plan, as they will be receiving the direct benefit from these improvements over the contract period.

18. Timing of a service change

The proposed service change could occur at a single point in time (1 July 2019) or be phased in over a period of time.

Services do not operate in isolation but impact on each other. Put simply, for a service to work well there needs to be both incentives to use the service and disincentives to use an

alternative. To optimise recycling for example requires not just a good recycling service, but some constraints on disposing of recyclables in the rubbish. Introducing one of these aspects (eg, constraining rubbish) without the other (eg, more recycling capacity) will result in sub-optimal results. 'Evolution' of service does not therefore lend itself to a smooth transition or small steps, but to large jumps.

The start of a new contract is the best opportunity for change, as it enables the operator to make the best use of all infrastructure, tools and resources required (vehicles etc), maximising their returns over the entire contract period. This is passed onto Council through favourable contract rates.

Behaviour change is most effective in terms of cost and impact where the number and frequency of changes is kept to a minimum. Although a single large change can require significant investment in education and communication, this is still likely to be less than multiple smaller changes, which can lead to confusion, and which can be harder to generate profile for.

However, a staged approach enables changes to be introduced and bedded in and their effectiveness evaluated before determining whether additional changes are likely to yield significant additional benefit.

It is possible to make changes within a contract term, as long as any prerequisite works have taken place at the start of the contract. For example, if User-pays rubbish was to be introduced, the container needs to be determined and implemented at the start of the contract; enabling User-pays to be introduced at some point in the future.

It is not recommended to introduce service changes part way through a contract. Changes may not only require the purchase of new equipment but the reconfiguration of vehicles collection routes etc. These changes must be paid for over a shorter contract period. All of this will add to cost. The most cost effective time to introduce change is therefore at the start of a contract.

19. Communication strategies

There are three strategies for communication including engagement with:

- the customers to promote waste minimisation and to support the service change, provided by the Education, Communication and Engagement Strategy
- external stakeholders who are interested in what we are doing
- internal stakeholders through various stages through the project.

19.1. Waste Minimisation Education and Communication Plan

In order to promote waste minimisation and to enable the achievement of the waste diversion targets a Waste Minimisation Education and Communication Plan has been developed. The Plan has developed the 'Fight the Landfill' brand and is supported by characters to increase awareness about recycling. Refer Section 24.

This Plan includes how Council will engage with the community over time, covering a 10-year period from 2016 to 2026. It includes the promotion and engagement of the current service up until 2019, the roll out of the new service in 2019 and individualised campaigns promoting waste minimisation.

For the new service, it is expected that communications with the customers will start approximately six months prior to the service (just before or just after the Christmas break). Actions are likely to include:

- Preparation and sign off communications programme.
- Procurement of all education materials including design, printing and delivery.
- Engagement of new staff members to assist with the call centre, and training of all call centre staff.
- activities related to media releases , radio campaign, presentations at public meetings, community groups, etc.
- Displays at public buildings, city libraries, Council's office.

19.2. Communication strategy with interested external stakeholders

Stakeholders to be managed closely

Key external stakeholders that need to manage closely include:

- The incumbent contractor and leaseholders.
- The new contractor and leaseholders.
- Residents who currently receive a kerbside collection service (this will be delivered through the strategy in the previous section).

During the procurement of a new contractor and post award the incumbent contractor needs to be kept informed about what is happening and the contractor will need to ensure that the service provided is not compromised throughout this period.

There are two scenarios to consider post-contract award:

- The incumbent contractor is successful. It would then be likely that a third meeting series would be set up to manage the setup of the contract.
- If the incumbent contractor is not successful, then the operations meeting will need to focus on ensuring the level of service for the remaining two years of the contract is not compromised.

A communications strategy (to be developed) will need to consider both scenarios.

The lead-in time for the new contract is two years. It is expected that a series of meetings will be held between City Waters and the successful contractor over this time to manage all the associated works necessary for a successful completion date.

Stakeholders that need to be kept informed

Key external stakeholders that we need to keep informed include:

- Residents who currently do not receive a kerbside collection service.
- Users of the refuse transfer station.
- Users of the organic centre.
- Property Investors Association and property managers.
- Consultants.
- Tompkins Wake.
- Probity Auditor.
- All interested contractors who may tender for the service.

There is unlikely to be any disruption for the users of the transfer station and organic centre through the change in leaseholder and contractor, at worst the sites may require closure for

a short period of time. This will be worked through once the new contractor and leaseholders are known.

There may also be disruption as improvement works are made to the refuse transfer station and organic centre. The disruption will be managed through the detailed design and construction methodology works, which are yet to take place.

Direct contact will be made with the Waikato Property Investors Association and property managers as part of the roll out of the new service, the details of which are included in the Education, Communications and Engagement Strategy.

Consultants, Tompkins Wake and the Probity Auditor will be contacted on a needs basis, as the project progresses. Refer to Section 21.

The tendering of this contract is likely to attract attention from all interested contractors who provide rubbish and recycling services in Hamilton and nationally. Direct contact will be made to the major companies, and advertisement through tender link will take place.

Further engagement will be made as part of the registrations of interest and request for tender process, refer Sections 21.3 and 21.4.

There is opportunity through the presentation of papers at national conferences to extend communications out nationally.

19.3. Communication strategy with internal stakeholders

This project will create a lot of interest from internal stakeholders who are directly involved in the project and who are customers of the service.

The following communication strategies will be used:

- Daily Mail for key milestones.
- Velocity page for the project, the page will identify key milestones, meeting minutes etc.
- Project meetings with the project team.
- Key milestone reporting to SLT and Council.
- The customer services team will need a detailed communications plan to assist in answering customer queries. This will be developed once the service is confirmed and will consist of frequently asked questions and training.

19.4. Significance and Engagement Policy

The proposed service change has been reviewed against Council's Significance and Engagement Policy. It has been found that the consultation already performed would meet the requirements under Council's Significance and Engagement Policy, and therefore further public consultation is not required. The rationale for this decision is based on following:

- Kerbside collection is a service which already exists.
- The proposal makes no recommendation of transferring the ownership or control in Council's strategic asset(s).
- The current service in the future is likely to cost more than the proposed service due to disposal costs associated with the Emissions Trading Scheme and Waste Disposal Levy charges.

- The 10-Year Plan (LTP) outlined Council’s plan to reduce the amount of waste produced by residential properties. The Plan was consulted on.
- The Waste Minimisation and Management Plan has a vision to become a leader in waste minimisation. This proposal has considered all options and found the most cost-efficient method of achieving this. The Waste Minimisation and Management Plan was consulted on.
- Consultation has been undertaken with 400 individual responses and responses from four focus groups.
- Where other councils have changed their service, they have only consulted on the User-pays component. This proposal does not recommend User-pays.

Table 29: Determining appropriate consultation methods - framework

| Change to kerbside (rubbish and recycling) collections | | |
|---|-----|--|
| Background: Business case for rubbish and recycling – Change to kerbside collection from two black bags and recycling bin (weekly) to: <ul style="list-style-type: none"> • A wheeled bin for rubbish (collected fortnightly) • A larger wheeled bin plus crate for recycling (collected fortnightly) • Separate new collection for food | | |
| Was the change already signalled in the LTP? | Yes | On Page 44 of the 10-Year Plan (LTP) [Para 3] it states that a business case will be prepared over the next year, to be considered by the Council as part of the 2016/2017 Annual Plan. The business case will also look at options for a User-pays rubbish bag system. |
| Is the initiative funded in the LTP? | No | Any additional funding is not part of the 2015-25 10-Year Plan. This is a requirement for new funding. |
| Will everyone be affected? | Yes | All residential properties, excluding those in the city centre and within gated communities will be affected. |
| Will there be a transferring of ownership or control in Council’s strategic asset(s)? | No | Kerbside collection is not listed as a strategic asset. The business case does consider improvement to services provided at the refuse transfer station and organic centre however strategic assets listed in the Significance and Engagement Policy does not consider these. Further there is no recommendation to transfer ownership or control of the transfer station and organic centre. |
| Will the contract be long term? | Yes | The contract is intended for at least a 10 year period. |
| Will there be a change in the level of service? Will there be an impact of the decision on intended service levels for a group of activities, including the start/or stop of any group of activity? | Yes | <p>Kerbside collection already exists. The service of roadside collection will not stop but there will be a change in the delivery mode of service as the current bags and bins will be replaced with wheeled bins. The specifics are detailed as follows:</p> <p>The existing service consist of:</p> <ul style="list-style-type: none"> • 2 x 60L rubbish bags, collected weekly. • 45L crate for recycling, plastics 1&2, with paper separate, collected weekly. <p>The proposed service consists of:</p> <ul style="list-style-type: none"> • 1 x 120L rubbish wheeled bin, collected weekly • 240L wheeled bin for all plastics (excluding film and polystyrene), paper, card, tin and aluminium. Glass will be collected in the recycling crate. Collection fortnightly. • 23L bin for food, collected weekly. <p>There will be a new service for food collection.</p> <p>Pick up of recycling will no longer be weekly but fortnightly. However, this is mitigated in that bins provided will be larger.</p> |
| Has there been any consultation | Yes | Approximately 800 households (with 400 responses) for |

| | |
|----------|---|
| already? | door to door survey. Four focus groups targeted at certain sectors of the community (Students; Low-income households; Maaori households; and general residents (non-targeted)). |
|----------|---|

Table 30: Determining significance

| Determining significance | |
|---|--|
| What is the number of people affected, the degree to which they are affected and the likely impact of a decision? | All residential properties (excluding those in the city centre and within gated communities) will be affected as a change to kerbside collection city-wide. |
| Will community interest be high? Does this type of decision have a history of generating wide public interest within Hamilton or New Zealand generally? | A change in kerbside collection does have a history in generating wide public interest particularly with community groups. |
| Are community views already known, including the community's preferences about the form of engagement? | The community would have a preference for waste minimisation if there is no additional cost. |
| What is the impact of the decision on Council's ability to deliver on actions that contribute to the Hamilton Plan, as well as any statutory responsibility? | A change in the kerbside service will have no adverse impact on Council's ability to deliver on actions that contribute to the Hamilton Plan. The impact would be a system which supports Council's objective to reduce the amount of waste produced by residential properties. |
| What is the degree to which the decision or proposal can be reversed should circumstances warrant? | The contract will be for 10 or more years but there will be provision(s) in the contract to end the agreement if the service provided fails to meet set requirements. |
| What is the level of financial consequences of the proposal? Will there be an increase (by 33% or more) or a decrease (by 20% or more) spending on a group of activity? | The existing service will cost approximately \$6.7million p.a. to continue. This is due to the costing of disposing waste increasing due to emissions trading and waste levies. The new service will cost approximately \$6.4million p.a. The new service will result in a decrease in spending. |
| What form of engagement has Council used in the past for a similar decision? | Council has had the existing service for more than 10 years. Given legislative changes in terms of consultation requirements since then, it would not be appropriate to make a comparison. |
| What have other Council's done in terms of consultation? | Waikato DC changed their service to a User-pays and consulted only on their User-pays component. |

LTP (10-Year Plan), previous consultation and comparisons

Council's LTP (10-Year Plan) clearly outlines that Council will be looking at reducing the amount of waste produced by residential properties. Consistent with the Plan, this business case relates to options to divert recyclable materials from black bags and waste streams. The preference highlighted in the Plan is for recycling wheelie bins. The proposal is in alignment with the Plan which went through a consultation process.

Approximately 800 households were targeted for consultation with 400 responses received. Four focus groups were also targeted at certain sectors of the community (Students; Low-income households; Maaori households; and general residents (non-targeted)).

Waikato DC recently changed its service to User-pays. Consultation was only on the User-pays component.

Change in service

Kerbside collection already exists. The proposal is for a change in the delivery mode of service for general waste. Although it is in a long term contract (10 years), it relates to a change in a contract for an existing service.

Changes in the level of service will be the addition of food collection and fortnightly pick up of recycling (in place of weekly). The fortnightly pick up of recycling is mitigated by bins significantly larger than the existing crates.

Change in costs

The existing service will cost approximately \$6.5 million per year to continue. The new service will cost approximately \$6.4 million per year. The new service will be less expensive than the existing service as it mitigates the increasing costs of disposing waste due to Emissions Trading Scheme and Waste Disposal Levy charges. Although all residential properties will be affected and there may be wide public interest, the community would have a preference for waste minimisation if there is no additional cost.

20. Housing Review - Multi-unit developments (MUDs)

Development in Hamilton is changing; there is a move towards intensified housing types. Currently in the city 11 per cent of the population is living in areas defined as intensification areas, this over the next 15 years will raise to 13 per cent.

The traditional kerbside rubbish and recycling service may or may not be suited to new housing types, this review identifies the types of housing that Hamilton has or will have, provides service solutions and identifies issues associated with Council business processes that need to be improved prior to the new service being implemented.

Table 31: Housing development types and kerbside collection options

| Development type | Photos <i>(photo's to be updated)</i> | Current service | Issues/container restrictions |
|--|---|----------------------------|--|
| <p>Standard House Standard residential, standalone house. Individual driveway.</p> |  | <p>Kerbside collection</p> | <ul style="list-style-type: none"> • Suits all container types. |
| <p>Studio Apartments Larger houses, with sub-let rooms, communal kitchen area.</p> |  | <p>Kerbside collection</p> | <ul style="list-style-type: none"> • Current service of two black bags per week is not sufficient due to number of residents, issues would be resolved if Uniform Annual Charge or User-pays was introduced. • Individual site solutions required including private collection with rates rebate for Council service. • Suits all container types with size/volume being a limiting factor. |
| <p>Houses on Shared Access Shared access way/right of way, no or limited street frontage.</p> |  | <p>Kerbside collection</p> | <ul style="list-style-type: none"> • Amenity issues. • Not able to police number of bags per property, contractor collects all. Issue would be resolved if User-pays was introduced. • May have limited space for multiple wheeled bins, individual site solutions will need to be sorted. |

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|--|---|----------------------------|---|
| <p>Gated Community Residential houses within a locked or gated access point.</p> |  | <p>Kerbside collection</p> | <ul style="list-style-type: none"> • Individual access agreements with contractor required to enable collection within the development. • Suits all container types. |
| <p>Terraces Two or three storey houses attached to at least one neighbour. Properties can have street frontage or can be off the road in a contained development.</p> |  | <p>Kerbside collection</p> | <ul style="list-style-type: none"> • Amenity issues. • Where kerbside collection creates amenity concerns, collections could be on-site, using communal areas if available. • Individual site solutions at development stage to be considered. • Suits all container types. |
| <p>Units Single storey, each unit with individual front door access. Can be stand-alone units or attached to a neighbour.</p> |  | <p>Kerbside collection</p> | <ul style="list-style-type: none"> • If there are storage issues or street amenity concerns service may be communal and/or private. • Individual site solutions at development stage to be considered. • Suits all container types. |
| <p>Low Rise Individual Units Two storey block, each unit with individual front door access.</p> |  | <p>Kerbside collection</p> | <ul style="list-style-type: none"> • If there are storage issues or street amenity concerns service may be communal and/or private. • Individual site solutions at development stage to be considered. • Suits all container types. |

| | | | | |
|--|---|--|-------------------------------------|---|
| <p>Walk Up Apartments Two to three storey blocks. Individual front doors are accessed through a communal entrance point.</p> |  | | <p>Kerbside collection</p> | <ul style="list-style-type: none"> • If there are storage issues or street amenity concerns service may be communal and/or private. • Individual site solutions at development stage to be considered. • Suits all container types. |
| <p>Low Rise Mixed Use Units Two to three storey blocks, lower level is commercial. Upper levels residential. Can have a communal access point or individual access.</p> |  | | <p>Modified kerbside collection</p> | <ul style="list-style-type: none"> • Generally cannot place rubbish and recycling at kerb as this is in front of commercial properties. • If available kerbside collection can be at an alternative location. • If there are storage issues or street amenity concerns service may be communal and/or private. • Individual site solutions at development stage to be considered. |
| <p>Retirement Village Community of individual houses and low rise apartments. Sometimes gated. Elderly occupant, living independently with central hub on site.</p> |  | | <p>Kerbside collection</p> | <ul style="list-style-type: none"> • Individual access agreements with contractor required to enable collection within the development. • Suits all container types. |

| | | | |
|---|---|--|---|
| <p>Apartments – Low Rise Communal entrance, three to five storeys. Can be residential only or mixed use.</p> |  | <p>Communal collection CBD – Private Other areas – Council collection with new contract provisions or private</p> | <ul style="list-style-type: none"> • Rubbish and recycling services are provided by the body corporate within a commercial area. • CBD areas have private collection services. • Apartments outside the CBD can have council provided service as part of new contract. • Individual site solutions at development stage to be considered. |
| <p>Mid Rise Apartment Block Communal entrance, six to ten storeys. Can be residential only or mixed use.</p> |  | <p>Communal collection CBD only - Private</p> | <ul style="list-style-type: none"> • Rubbish and recycling services are provided by the body corporate within a commercial area. • CBD areas have private collection services. |
| <p>High Rise Apartment Block Communal entrance, more than ten storeys. Can be residential only or mixed use.</p> |  | <p>Communal collection CBD only - Private</p> | <ul style="list-style-type: none"> • Rubbish and recycling services are provided by the body corporate within a commercial area. • CBD areas have private collection services. |

20.1. Growth projections of MUD dwellings

Currently 11 per cent of the population in Hamilton live within the Council’s identified intensification areas; this is projected to rise to 13 per cent over the next 15 years.

The following table shows the current situation, with the total existing dwellings in each of the intensification areas, the total provision provided in the District Plan and the maximum plausible density that could be reached into the future.

The table provides information on the central city for information, this business case does not include extending the Council-provided service in this area.

Table 32: Populations in intensification areas

| Intensification area (Refer Figure 42 for locations) | Area (ha) | Total existing dwellings | Existing density (dwelling /ha) | Average household size (persons) | District Plan planning provision (dwelling /ha) | Maximum plausible density (dwelling /ha) |
|---|------------------|---------------------------------|--|---|--|---|
| 1 Central City, Downtown Precinct (no Council-provided rubbish and recycling service) | 29.9 | 69 | 2.3 | 1.89 | 50 | 200 |
| 2 Central City, City Living (North) Precinct (no Council-provided rubbish and recycling service) | 34.8 | 256 | 7.4 | 2.82 | 50 | 120 |
| 3 Central City, City Living (West) Precinct (no Council-provided rubbish and recycling service) | 16.6 | 59 | 3.7 | 3.25 | 50 | 120 |
| 4 Central City, Ferrybank Precinct (no Council-provided rubbish and recycling service) | 12 | 132 | 11 | 1.92 | 50 | 140 |
| 5 Dinsdale | 32 | 968 | 30.3 | 2.33 | 30 | 54 |
| 6 Waikato Hospital/Melville | 10.4 | 346 | 33.3 | 2.34 | 30 | 60 |
| 7 Hamilton Lake/Central City South Area | 23.4 | 542 | 23.2 | 2.38 | 30 | 56 |
| 8 Hamilton East | 30.4 | 977 | 32.2 | 2.5 | 30 | 50 |
| 9 Ruakura South/West of University | 33.2 | 1196 | 36 | 3.23 | 30 | 57 |
| 10 Hillcrest (East of University) | 9.6 | 254 | 26.5 | 2.92 | 30 | 59 |
| 11 Five Crossroads | 14.1 | 372 | 26.6 | 2.92 | 30 | 57 |
| 12 North of City Centre (Whitiora) - Area a | 36.4 | 1089 | 29.9 | 1.98 | 30 | 45 |
| 12 North of City Centre (Whitiora) - Area b | | | | 2.2 | 30 | 60 |
| 13 Frankton (East) | 7.7 | 185 | 24 | 2.92 | 30 | 46 |
| 14 Opoia | 4.8 | 152 | 31.7 | 2.43 | 30 | 57 |
| 15 Hamilton East (Grey Street Area) | 6.5 | 110 | 16.9 | 3.34 | 30 | 50 |

Figure 42: Intensification areas



20.2. Next steps

Developer uidelines

Develop guidelines for developers, owners, and body corporates on how to effectively manage waste within their site. Consideration to be given to:

- Space of private and communal areas to store waste.
- Availability of kerbside collection areas.
- Best service model for the site; private or Council service.
- How other Council's provide these services in their own city centres.

The guidelines are to be developed in conjunction with Building Unit and City Planning Units.

Before new contract

If service containers are to change, site assessments will need to be carried out at known properties where kerb area is limited to determine if an alternative service is required. Discussions with individual property owners will need to take place.

There is sufficient contract lead in time for these discussions to take place, and resolution to be sort for each individual property.

21. Proposed Project Management Plan

The following Project Management Plan includes future stages of the project, with City Waters providing project management of each task and team members being sourced from the various teams identified.

It should be noted under resource requirements that:

- All teams identified have sufficient resources to deliver the tasks unless otherwise stated, it is expected that reprioritisation of workloads within the teams will be required. A high level of communication (Task 1) between the Project Manager and each of the Unit Managers and Team Leaders will be required to ensure availability.
- The City Waters teams deliver the rubbish and recycling activity as well as the water, wastewater and stormwater activities. Discussion between Hamilton City Council, Waikato District and Waipa District is underway to form a CCO to deliver the water activity. This will result in some of the staff who currently deliver the rubbish and recycling activity leaving Hamilton City Council and joining the CCO. This may or may not occur during the project life span. The risk of retaining sufficient resources and skills to deliver the rubbish and recycling activity has been identified as a project risk.

The following table summarises the key tasks, milestones, resource and budget requirements. Further information on each task is provided in the following sections.

To enable the new contractor to have sufficient lead-in time, the procurement process needs to be fully completed by December 2017, with a new service start date of 1 July 2019.

Table 33: Proposed Project Management Plan

| Task | Time Line | Key milestones touch points with Governance /SLT /Council | Resource requirements | Budget requirements |
|--|---|---|---|--|
| <p>1. Communications plans and strategies</p> <p>Refer Section 19 for full brief of each of the plans and strategies.</p> <ul style="list-style-type: none"> Engagement with the customers to promote waste minimisation and to support the service change, provided by the Waste Minimisation Education and Communications Plan. Engagement with external stakeholders who are interested in what we are doing. Engagement with internal stakeholders through various stages through the project. | <p>Now – 2026</p> <p>New service communication plan roll out</p> <p>Dec 2018 – Dec 2019</p> | | <ul style="list-style-type: none"> Communications Team. City Waters Operational and Compliance teams. City Waters Asset Team has one full time Waste Minimisation Advisor. In order to deliver the long-term Education, Communication and Engagement Strategy an additional waste resource is required in this team. External marketing and service providers. <p>The development of the communications plans will be owned and managed by City Waters with strong support from the Communications Team.</p> <p>Implementation of the communications plans will be lead by the Communications Team and strongly supported by City Waters.</p> | <p>In addition to the existing salary budgets, the following funding is required and available through the waste levy budget. Refer to Section 22 for full budget breakdown.</p> <ul style="list-style-type: none"> \$100,000 p.a funded from the waste levy for additional staff member in the City Waters Waste Team. \$100,000 p.a. to roll out communication projects under the Waste Minimisation Education and Communications Plan. \$150,000 over the two-year period of 2018/19 and 2019/20 to support the new service. |
| <p>2. Compliance</p> <p>Ensuring households now and into the future comply with the Solid Waste Bylaw. Compliance also includes provision of additional services in areas of need, including</p> | <p>Now, and into the future</p> | | <ul style="list-style-type: none"> City Waters Compliance Team. In order to meet current and future demand an extra staff member is required. Communications Team. | <p>In addition to the existing salary budgets, an extra \$70,000 p.a. is required to enable the establishment of a new position within the Compliance Team.</p> |

| Task | Time Line | Key milestones touch points with Governance /SLT /Council | Resource requirements | Budget requirements |
|--|---|--|--|--|
| the drop of points within the university area at the end and beginning of the university year. | | | | \$10,000 p.a. is required to provide drop-off facilities in the university area. |
| <p>3. Procurement</p> <p>The procurement process will follow Council’s Procurement Policy and Procedures Manual. There are five key steps in this process including:</p> <ul style="list-style-type: none"> • Registrations of Interest (ROI). • Request for Tender (RFT). • Evaluation. • Negotiation. • Award. <p>Refer Section 21.1 for the draft Procurement Plan. This will be finalised upon approval of this business case.</p> | August 2016 (subject to successful approval of this business case – December 2017 | <p>Upon completion of the ROI, RFT and negotiation phases.</p> <p>Approval to award will be sort from Council.</p> | <p>Hamilton City Council teams including:</p> <ul style="list-style-type: none"> • Communications. • Procurement. • City Waters Assets, Operations and Compliance teams. • Finance. • Strategic Property (lease agreements). <p>From the above resources, a Procurement Team will be appointed lead by City Waters. This team will be responsible for the development of the tender documents (with external resource assistance) and tender evaluation.</p> <p>The award process will also require resources from :</p> <ul style="list-style-type: none"> • SLT. • Democracy. • Council. • Communications. <p>External resources include:</p> <ul style="list-style-type: none"> • Consultants to assist with the development of, procurement plans, evaluation plans, contract documents (EOI and RFT) and tender evaluation. | <p>There is no specified budget in 2016/17 for the engagement of consultants to assist with the development of the tender documents and tender evaluation.</p> <p>The required funding will be \$60,000 and can be funded from City Waters operational budgets for kerbside collection services.</p> |

| Task | Time Line | Key milestones touch points with Governance /SLT /Council | Resource requirements | Budget requirements |
|--|-----------------------------|---|---|--|
| | | | <ul style="list-style-type: none"> All external waste service providers interested in tendering. | |
| <p>4. Housing Type Review</p> <p>In Hamilton there are approximately 13 types of housing. Over time it is expected that there will be more demand for multi-unit developments ranging from semi-detached housing to high rise apartments. The kerbside collection requires access to the kerb, high density housing will require an alternative solution, which could be provided by Council, private or a combination of service providers. Section 20 details the assessment completed to date, this work is expected to be completed by December 2016 to inform the RFT process.</p> | Now – June 2017 | | <p>Hamilton City Council teams including:</p> <ul style="list-style-type: none"> City Waters Operations, Compliance and Asset teams. City Growth. Building Control. City Planning. Planning Guidance. Finance. <p>External resources include:</p> <ul style="list-style-type: none"> The incumbent contractor. | <p>Works to be completed in-house, using existing staff budgets.</p> <p>Note, the extra resource required to complete Task 2 Compliance will also assist with the development and compliance with this Plan.</p> |
| <p>5. Legal reviews and probity audit</p> <p>Legal review of the ROI and RFT tender documents and process will need to be carried out.</p> <p>An independent probity audit of the procurement process will be required as the total value of the contract is greater than \$10 million. The audit will be carried out on the procurement and evaluation plans and</p> | August 2016 - December 2017 | | <p>Hamilton City Council teams including:</p> <ul style="list-style-type: none"> City Waters Assets Team. Procurement. <p>External resources include:</p> <ul style="list-style-type: none"> Tompkins Wake External Probity Auditor (to be appointed). | <p>There is no specified budget in 2016/17 for the engagement of Tompkins Wake and a probity auditor.</p> <p>It is estimated that these services will cost \$40,000.</p> |

| Task | Time Line | Key milestones touch points with Governance /SLT /Council | Resource requirements | Budget requirements |
|---|--|---|--|---|
| processes. | | | | |
| <p>6. Review of policies and bylaws</p> <p>At the end of each phase (business case approval, procurement phases - ROI, RFT, Tender Award) a high level review of Council's WWMP and Solid Waste Bylaw needs to be undertaken to determine any implications that may arise. Once the tender is awarded any required changes to these policies and plans will need to be implemented to ensure successful completion of the project.</p> <p>Future scheduled reviews are as follows:</p> <ul style="list-style-type: none"> • Bylaw – 2017. • Waste Management and Minimisation Plan - commencing in 2017. | Now till tender award December 2017 | | <p>Reviews to be carried out by City Waters, Waste Minimisation Advisor.</p> <p>The scheduled reviews of the Bylaw and Waste Management and Minimisation plans are not within the scope of this project and business case.</p> | Works to be completed in-house, using existing staff budgets. |
| <p>7. Transition</p> <p>The scope of the transition phase will be dependent on the outcome of the procurement process. Works may include:</p> | December 2017 – June 2019 | | <p>Hamilton City Council teams including:</p> <ul style="list-style-type: none"> • City Waters Operations, Compliance and Assets teams • Communications Team. | No budget requirements. |

| Task | Time Line | Key milestones touch points with Governance /SLT /Council | Resource requirements | Budget requirements |
|---|-------------------------------------|--|---|--------------------------------------|
| <ul style="list-style-type: none"> • Management of the incumbent if they are not successful. • Close out of existing contract. | | | <ul style="list-style-type: none"> • Finance Team. • Strategic Property (lease agreements). | |
| <p>8. New contract management</p> <p>Contract management will be split into three phases:</p> <ul style="list-style-type: none"> • Service preparation (1 December 2017 – 30 June 2019). • Contract services start (1 July 2019 – 30 June 2029). • Contract monitoring (1 July 2019 – 30 June 2029). <p>Refer Section 21.6.</p> | <p>December 2017 – 30 June 2029</p> | <p>Report to Council prior to new contract starting Feb 2019, with updates provided by executive updates.</p> <p>Six-monthly and annual report to Council on KPI', after the first year, KPI reporting will be carried out as business as usual.</p> | <p>Hamilton City Council teams including:</p> <ul style="list-style-type: none"> • City Waters Operations, Compliance, and Assets teams. An additional waste minimisation advisor is required. • Communications Team. • Finance Team. • Call Centre. It is likely that extra resources will be required immediately before and after the new service commences. It is expected that the contractor will provide a call centre, however, budget allocation has been provided to secure and additional two Council Call Centre staff members. • Strategic Property (lease agreements). <p>External resources include:</p> <ul style="list-style-type: none"> • Consultants to provide technical support to the Project Manager. | <p>Call Centre support \$60,000.</p> |

21.1. Draft Procurement Plan

This draft Procurement Plan has been drafted on the assumption that the preferred delivery mechanism of a contracted service provider (Business Case Section 2.2) is accepted. The Procurement Plan is split into five staged processes of:

- registrations of interest
- request for tender
- evaluation
- negotiation
- award.

This Procurement Plan will need to be developed further in conjunction with Council's Procurement Policy and Procedures Manual and developed to include:

- probity and assurance plans
- procurement timetable
- detailed processes including those for decision making, e.g. tender evaluation
- risk assessments
- confirmation of resource requirements and procurement of those resources
- contingency planning.

The services to be included in the contract are:

- Kerbside recycling collection.
- Kerbside rubbish collection and disposal.
- Management and operation of the refuse transfer station through a lease including provision requesting the contractor investment in the facilities to improve operations and waste diversion. Ownership of improvements will be vested in Council upon the expiry of the contract.
- Management and operation of the organic centre through a lease provision requesting the contractor investment in the facilities to improve operations and waste diversion. Ownership of improvements will be vested in Council upon the expiry of the contract.
- Requirement for all litter produced through the rubbish collection or recycling collection is removed from the street on the day of collection, amenity values are to be maintained.
- Assisted collections for physically impaired or elderly persons.
- Kerbside collections will take place on all public roads, collections from private roads will only occur upon agreement between the property owner(s) and Council.
- Collection of rubbish and recycling from all Council-owned facilities.
- Provision of a call centre to deal with all public enquiries and freephone number. It is expected that the Call Centre will be sufficiently staffed to deal with a higher number of enquires at the commencement of the new service.
- KPI reporting.

Services excluded from the contract are:

- Collection of rubbish and recycling from the CBD area (refer Table 32 and Figure 42).
- Collection of rubbish and recycling from private property, including rest homes, gated communities, high density housing where an agreement between the property owner(s) and Council is not in place.

Table 34: Proposed Procurement Plan

| Task | Approximate finish dates | Purpose | Project Manager | Technical advisors ⁷ | Probity specialists | Legal specialists | Independent evaluators | Governance ⁸ |
|---|--------------------------|---|---|--|--|--|---|--|
| 1. Appoint Procurement Team | End August 2016 | To provide skills, resources and advise to ensure each task is successfully delivered. This team may change as the project progresses through each task. | Identify key skills and personnel for team. Organise meetings. Identify key time and resource constraints and contingencies and put appropriate measures in place. Procure external technical advisors, probity and legal specialists through LASS PSP or by direct appointment. | Initial advice on the skills and decision-makers you need and why. | Identify scope of role for procurement (level of involvement/oversight). Issue declarations of conflict of interest for team members and put measure in place to manage any issues arising. | | | Project Steering Group: review team members, provide advice to Project Manager. |
| 2. Complete and finalise Procurement Plan | End September 2016 | This document confirms the project items set out in this business case, timetable for each task, what processes will be used and why, decision making processes and requirements, risk assessment, resources required, contingencies. | Monitor progress of Plan and provide feedback on timings. | Author the Procurement Plan. | Review Plan and provide feedback on process to ensure no probity issues. | | | Programme Governance Group: review and approve Procurement Plan. |
| 3. Evaluation Plan | End October 2016 | This is a statutory document. It sets out how the tenders will be evaluated, including measures used, probity, evaluation team, confidentiality, non-conforming tenders, shortlisting, negotiations, contract award etc. | Monitor progress of Plan and provide feedback on timings. | Author the Evaluation Plan, and establish the evaluation tools and processes. | Review Plan and provide feedback on process to ensure no probity issues. Role of probity auditor included in the Plan. | | Familiarise selves with Evaluation Plan. May also be helpful to review drafts and provide feedback. | Programme Governance Group: Review and approve Evaluation Plan. |
| 4. Registration of Interest (ROI) document preparation and issue | End November 2016 | This is the first call for response from potential tenderers. It is used to get initial market response, and to narrow the field to those who pass the threshold. | Monitor progress, organise meetings and minutes, identify decision-making escalations and involve appropriate people. | Supply primary content and work with legal advisors to ensure the documentation is complete and elicits the desired responses. | Review documentation and provide feedback to ensure no probity issues. | Review documentation and provide feedback to ensure no legal issues. | | Project Sponsor: review and approve expressions of interest. |
| 5. Registration of Interest response period | End February 2016 | Period for bidders to respond. | Ensure all process in place, disseminate documentation. | Work with the Evaluation Team to supply responses to any notice to tenderers. | Available to provide advice regarding notice to tenders or issues with documentation, requests etc as required. | Available to provide advice regarding notice to tenderers. | | |
| 6. Registration of Interest evaluation | End March 2016 | Determining who to take forward to the next phase. | Organise meetings and minutes, identify decision making escalations and involve appropriate people. | Potentially part of the Evaluation Team, and/or could facilitate the Evaluation Team in an expert advisor role. | Depends on role that has been determined: Observes in evaluation meetings, reviews notes and decisions, provides independent opinion of process. | | Undertake evaluation of responses in accordance with Evaluation Plan. | Programme Governance Group: approval of tender evaluation. |
| 7. Authority to invite to second phase | End April 2017 | Receive appropriate authority to invite selected tenderers to next phase. | Manage process. Report to Council. | Assist in preparation of management reports. | | | | Report to Council on outcome of expressions of interest, approval to move to next phase. |

⁷ Technical advisors will change depending on the task, and could be internal or externally resourced.

⁸ Governance includes: Project Steering Group, Programme Governance Group, Project Sponsor, SLT, or Council.

| Task | Approximate finish dates | Purpose | Project Manager | Technical advisors ⁷ | Probity specialists | Legal specialists | Independent evaluators | Governance ⁸ |
|---|--------------------------|---|---|--|--|--|---|--|
| 8.Request for Tender document preparation and issue | End April 2017 | The request for tender document sets out what services are being tendered and any terms and conditions associated with the provision of the services. | Monitor progress, organise meetings and minutes, identify decision making escalations and involve appropriate people. | Supply primary content and work with legal advisors to ensure the documentation is complete and elicits the desired responses. | Review documentation and provide feedback to ensure no probity issues. | Review documentation and provide feedback to ensure no legal issues. | | Project Sponsor: approval of tender documents. |
| 9.Request for Tender response | End June 2017 | Period for bidders to respond. | Ensure all process in place, disseminate documentation. | Work with the Evaluation Team to supply responses to notice to tenderers. | Available to provide advice regarding notice to tenderers or issues with documentation, requests etc, as required. | Available to provide advice regarding notice to tenderers. | | |
| 10. Request for Tender evaluation | End July 2017 | Evaluating the bids to identify the preferred bidder. | Organise meetings and minutes, identify decision making escalations and involve appropriate people. | Either part of the Evaluation Team, and/or could facilitate the Evaluation Team in an expert advisor role. | Depends on role that has been determined: observes in evaluation meetings, reviews notes and decisions, provides independent opinion of process. | | Undertake evaluation of responses in accordance with Evaluation Plan. | Programme Governance Group: approval of tender evaluation. |
| 11. Identify preferred supplier and receive authority to negotiate | End August 2017 | Receive appropriate authority to invite selected tenderer to negotiate. | Manage process. Report to Council. | Potentially involved through evaluation panel role. | | | | Report to Council and approval sort to negotiate with preferred tenderer |
| 12. Contract Negotiations | End October 2017 | Clarify, agree and confirm any part of the contract. | Manage process. organise meetings and minutes, identify decision making escalations and involve appropriate people. | Either part of the Negotiation Team, and/or could facilitate the Evaluation Team in an expert advisor role. We could advise on the content of the final contracts. | Available to provide advice for any issues arising. | Available to provide advice for any issues arising. | | Report to Council and approval sort to engage contractor. |
| 13.Contract award and official sign off | End December 2017 | The official approval by the Council (or delegated officer). | Manage process. Report to Council. | Potentially involved through evaluation panel role. | | | | Council signs contract. |

21.2. Contract forms

The available contract forms include:

- NZS 3917:2013.
- NEC3-Term Services Contract.
- LGNZ Kerbside Collection Contract, only applicable if the kerbside collections are to be procured separately. This form of contract has been discounted, as the procurement of services is to be obtained from an integrated contract, refer Section 17.
- Facilities Access Agreements.
- Build Operate Own Transfer Contract.
- Lease Agreements.

21.2.1. NZS 3917:2013

Intended for use when contracts are let for maintenance or other building or engineering works where the contract is intended to run for a defined period of time, as opposed to a contract for a defined scope of work. It might also be used for the provision of services (other than design) such as inspection and testing, cleaning, painting, preventative maintenance, repairs, or renewal of components within completed works. When defining the Contract Works, it needs to be made clear what the services are, and whether the Contractor has the exclusive right to provide all such services to the Principal, or whether its right is limited in extent. This new Standard was developed following a 'limited technical review' of NZS 3910: 2003, which focused only on feedback from the construction sector, and resulted in clearer wording and a reduced need for extensive special conditions. The Standard includes Word form schedules that may be completed with project specific details.

NZS 3917 consists of 166 pages in all, covering:

- A sample Contract Agreement.
- General Conditions (15 core clauses, in 83 pages).
- A Cost Fluctuation appendix.
- A total of 16 schedules:
 - Specific Conditions (a long list of contract data.)
 - Other Conditions (a space for new or amended conditions).
 - 14 pro-forma documents to assist contract administration.
- Conditions of tendering with its own schedule.
- Guidelines on 13 clauses and 1 schedule.
- Index.

Due to its similarity of layout and content to NZS 3910, NZS 3917:2013 should be easy for both council and contractors to pick up and use.

NZ3917 is the preferred form of contract for this project.

21.2.2. NEC3-Term Service Contract (TSC)

The New Engineering Contract (NEC3) suite of contracts has developed from early work by the Institution of Civil Engineers in the United Kingdom. The first NEC contract was published in 1993. At the time, it was a radical departure from existing UK building and engineering contracts, being written in 'plain language' and designed to stimulate good management.

A decade of extensive international use followed, culminating in the development and launch of the NEC3 contract suite in 2005. This included the then new “Term Service Contract (TSC)”. The suite was updated and enlarged to 39 documents in April 2013, including an enhanced set of guidance documents.

The NEC3 suite is intended for use in the United Kingdom and is based on UK law. So called ‘Z clauses’ have been developed to adapt some of the suite to local laws and practice for particular jurisdictions. For example, a set of such clauses exists for use with the NEC3 Engineering and Construct Contract (ECC) in New Zealand, purporting to take account of our Construction Contracts Act and Contracts (Privity) Act.

The NEC-TSC consists of 72 pages in all, covering:

- Nine core clauses.
- Three main option clauses.
- Two dispute resolution options.
- Thirteen secondary option clauses.
- A price list.
- Contract data.
- Index.

The TSC looks shorter and simpler than other contracts, but needs considerable augmentation by optional and additional ‘Z’ clauses. It lacks guidelines (available separately), conditions of tendering and pro-forma schedules for use in contract administration. Conditions of tendering need to be added. Proforma schedules have been produced for electronic use by at least two providers, at significant extra cost.

The major downside to TSC is the strict time limits for paperwork and intensive level of involvement it necessitates by the Council’s staff, which usually can only be achieved by full time attendance at the contract sites. Queenstown Lakes District Council have recently phased out their TSC contracts for services due to the bid demands on council staff resources

21.2.3. Facility Access Agreements

Facility Access Agreements (FAA) will be required to ensure other council activities such as litter collection carried out by Transportation, green waste disposal by City Parks can maximise the use of Council’s facilities at an appropriate rate.

A Facility Access Agreement would govern the respective rights and obligations of the facility operator and other Council contractors regarding access to the facility and acceptance of collection materials. The FAA would not contain a contract price, rather the contractual consideration takes the form of the mutual covenants set out in the FAA. The conditions of the will need to include clauses obliging them to enter into the separate FAA with other council contractors and include a pro-forma of FAA agreement.

21.3. Registrations of Interest (ROI)

The request for registration of interest provides opportunity for bidders to submit high level, uncosted proposals for how they could assist Council in meeting the objectives (Section 1 of the Business Case).

The registration of Interest document will be drafted upon successful completion and acceptance of the business case. Up to three (3) potential suppliers will be selected from this process and be invited to submit fully costed tenders for the second stage. Unsuccessful bidders will be offered the option to participate in a debriefing.

Key items to be included in the ROI:

- Overview.
- Expressions of interest process, including evaluation criteria.
- Contact information.
- Services to be provided including:
 - Council's objectives.
 - Services to be tendered.
 - KPIs.
 - Contract term.
- Evaluation requirements weightings.

The registration of interest can also seek respondent interest and comments on:

- Proposed bundled packages and comment on possible alternatives.
- Proposed conditions of contract and comment on possible special conditions and alternatives.
- The services sought and their delivery, including the suitability and alternatives.
- Contract term and possible alternatives.

21.3.1. Lease

The refuse transfer station and organic centre are currently operated under lease agreements. It is proposed that this arrangement will continue under the new contracts. The revenue received from these sites includes:

- An annual cost of \$400,000 plus GST and outgoings for the refuse transfer station.
- An annual cost of \$90,000 plus GST and outgoings for the organic centre.

The return on investments for both sites is provided in Sections 14.1.1 and 14.2.1.

21.4. Request for Tender (RFT)

Parties invited to submit tenders for stage two of the process will also be offered a debriefing on their registration of interest proposal and will have the option of participating in a separate individual 'dialogue' session prior to submitting their request for tender (RFT).

The dialogue sessions will provide an opportunity for bidders to test ideas and receive informal feedback before finalising their tenders. The process is intended to facilitate the development of proposals by bidders that meet the Council's objectives as set out in Section 1 of this business case.

Key items to be included in the RFT:

- Background.
- Conditions of tendering.
- Schedule to conditions of tendering.
- Tender evaluation methodology.
- Form of contract.
- Specification.

- Schedule of prices.
- Form of tender.
- Any other documents.

The contract will be structured so as to elicit the ongoing outcomes the Council wants through use of the right KPIs and also incentives, so performance and innovation is inbuilt and naturally occurs without having to manually make it happen.

Bidders will be asked to deliver on the services as per this business case, as well as being invited to submit alternative tenders that would also met Council's objectives and KPIs.

21.5. Evaluation, negotiation and award

An Evaluation Plan is required to be developed in conjunction with Council's Procurement Policy and Procedures Manual and will be audited by the probity auditor. This Plan sets out how the tenders and alternative tenders will be evaluated, including measures used, probity, evaluation team, confidentiality, non-conforming tenders, shortlisting, negotiations, contract award.

21.6. New contract management

21.6.1. Service preparation

Preparation for the commencement of the new service is likely to include the following. This list will be updated throughout the procurement process and finalised as part of the award process.

Contractor:

- Procurement of new trucks – expect an 18-month lead-in time.
- Wheelie bins procurement (with input from Council) including colour, logo, microchips.
- Procurement or development of necessary infrastructure to support the recycling collection service, the extent of this investment will be dependent on existing infrastructure owned by the contractor.
- Development of a delivery schedule. Utilising the property register, for each eligible property, location of bin drop-off/collection, house number, provisions for high density and rural residents etc, will be identified.
- Route collection planning in conjunction with City Waters if collection days require change.
- Negotiation with City Waters on properties that require a specialised collection service, this may include assisted collections (for physically impaired, elderly persons etc) and/or alternative service provision if sufficient kerb areas are not available.
- Provision of a Call Centre to deal with all customer enquiries.
- Engagement and assistance to develop and deliver a Communications Plan with Council on the new service roll out.
- Development of processes to ensure KPI reporting is met.
- Option assessments, concept and detail design, pricing and construction methodologies for improvements at the refuse transfer station and organic centre.

City Waters:

- Development of a property register, identification of properties that may require a specialised collection service. For these properties alternative solutions will be sort and implemented.
- Development of process for assisted collections (physically impaired, elderly persons etc, and/or alternative service provision if kerb areas are not available
- If new contractor:
 - management of handover of organic centre and refuse transfer station
 - termination of current contract and any communication requirements arising.
- For infrastructure improvements complete with the contractor option assessment, concept, detailed design, pricing, construction methodologies and business case development and approval.
- Roll out of communications plans – refer to Section 19.

21.6.2. Contract start

For the first three months a high level of engagement with the contractor is expected, including monitoring of customer complaints and service performance against KPIs.

Additional communications with the customers may be required on a city-wide basis, or street basis depending on any issues that arise.

A six-month and 12-month report to the Finance Committee will be provided to report on performance.

21.6.3. Contract monitoring

After the first 12-month period, the contract management will become business as usual, regular operations and management meetings will be underway to manage the contract.

KPI reporting will be carried out through normal Council process to the Finance Committee on a quarterly basis.

22. Funding and expenditure

22.1. Funding options and sources

The rubbish and recycling activity is currently funded through the General Rate, lease revenue and Waste Disposal Levy.

There are other rate options including, Targeted Rate on Capital Value, Uniform Annual Charge (UAC) User-pays, and private capital through a BOOT contract (Section 17.4.2).

The recommended funding option includes:

- Rates funded rubbish and recycling services with targeted rate for container purchase.
- Lease revenue from the refuse transfer station and organic centre
- Waste disposal levy funding
- Private capital to improve the refuse transfer station and organic centre through a BOOT contract.

The following sections provide further information on all the options.

22.1.1. Rates

General Rates

The General Rate is value based on Capital Value and Land Value, it applies to all rateable properties.

Each property receives the same service regardless of the number of dwellings on the property and or the amount paid. Intensification development has resulted in multi-units on a single property. Each of these developments needs a bespoke arrangement to ensure rubbish and recycling services are available for each dwelling.

General rate-funded services are not transparent to the customer, the higher the value of the property the more money they pay compared to a low value property.

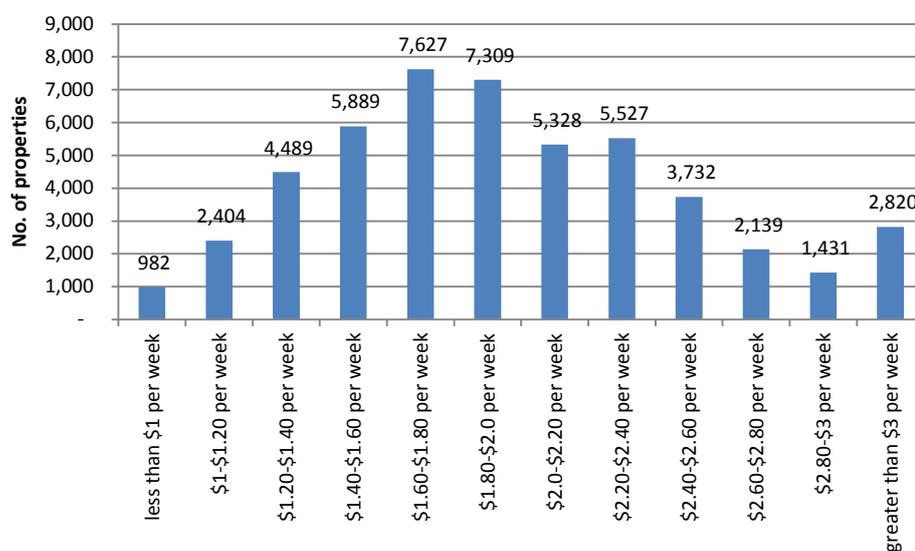


Figure 43: Distribution of General Rate for Rubbish and Recycling (2015/16)

Targeted Rate on Capital Value.

A Targeted Rate based on Capital Value, is essentially separating the General Rates component for rubbish and recycling and presenting this as a separate charge on the rates invoice.

It provides for the transparency that is missing from the General Rate. Customers will still pay different amounts for the same service based on the Capital Values and Land Values of their properties.

Uniform Annual Charge (UAC)

This is a fixed charge per rating unit/or dwelling that receive the service. A UAC can also be described as a Targeted Rate based on a uniform charge.

A UAC is transparent to the ratepayer and all properties pay the same amount for the service. It is considered a fairer way of charging for the service.

Benefits of a UAC for rubbish and recycling collection.

- Each allowance for standard rubbish and recycling collection is the same. A set charge for each collection may be considered fairer by ratepayers.

- Properties with additional dwellings will pay the same amount for each additional collection.
- The rates invoice will clearly show the amount of rubbish and recycling collections available to the property.
- It is easier to implement policy changes regarding the amount of allowable collections available to different types of properties eg.
 - allowing properties with two dwellings to have only one collection; or,
 - allowing properties with one dwelling to add an additional collection; or,
 - allowing vacant land to not pay for collection.

Differential Uniform Annual Charge

The differential UAC would only be used, if Council was to implement a service where a customer could choose their level of service. For example if wheeled bins were introduced, different rates could be set based on the size of the wheeled bin.

Targeted Rate

Short term targeted rate can be used to either recover a specific one off cost or fund specific future expenditure. The rate is the same for all properties.

22.1.2. User-pays

User-pays is an efficient method for funding the services, and is the most common method for funding the service amongst the metro councils. User-pays ensures that the service is provided in an equitable manner, you pay for what you use.

However User-pays enables competition, and an economically efficient service requires Council to hold a majority share of the market. Loss of market share will result in Council losing financial efficiencies obtained through economies of scale. The cost per rubbish container (bag or wheeled bin) will increase as market share decreases as fixed costs of the service are spread over a smaller number of bags/wheeled bins.

User-pays also adds a cost to the service. Financial modelling (Section 12) indicates that the cost for the average household for the current service is \$127 per year, the same service but with User-pays will cost the average household \$168 per year, an increase of \$40 per annum. Approximately 50 per cent of the households in Hamilton are rentals, the current service costs these households on average \$20 per annum (purchase of the bags), with a User-pays service this will increase to \$139 per annum, an annual increase of \$119.

22.1.3. Waste levy fund

Through the Ministry of Environment, Council receives waste levy funding provided through setting waste levy charges for every tonne of rubbish disposed (refer Section 3.1.2 for further information on the Waste Disposal Levy and the Fund).

The amount of waste levy funding received over the last six years has been increasing, as the population increases.

The actual waste levy received in 2014/15 was \$491,000. At the end of 2015/16, this is expected to increase to \$543,000. By the end of 2028/29 it is forecasted to be at \$638,000 per annum.

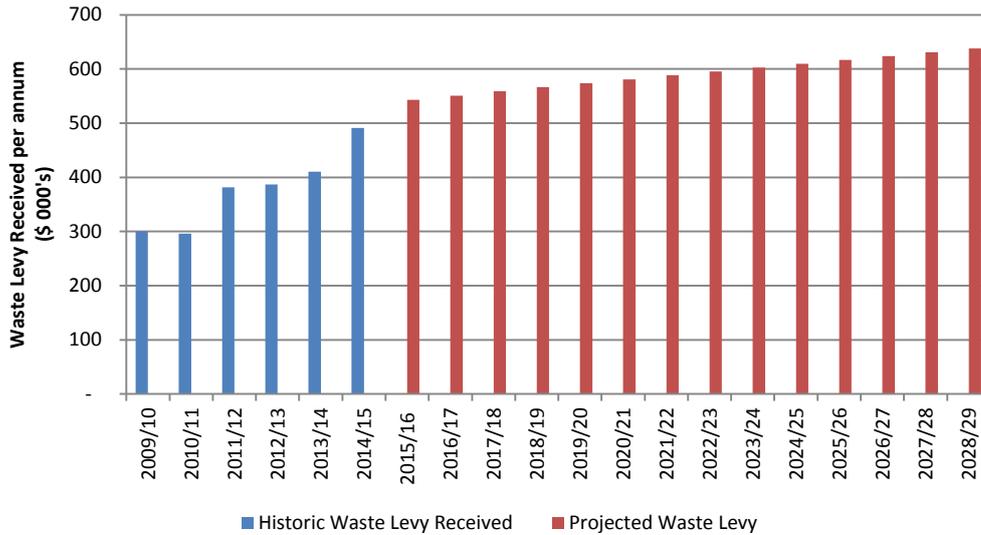


Figure 44: Historical and future projected waste levy funding

22.2. Impact of changes on Council's books

Several funding options for the kerbside collection services have been modelled to determine their impact on Council's financial books. These options include:

- Retaining the current service
- The cost of the rubbish and recycling containers are
 - funded through a four year targeted rate
 - funded through operating expenditure
 - funded through capital expenditure
 - funded by the contractor, with cost recovery through the life of the contract

The impact on Council's overall debt, debt revenue percentage and the impact on Council's ability to balance the books is summarised for each of the five options below.

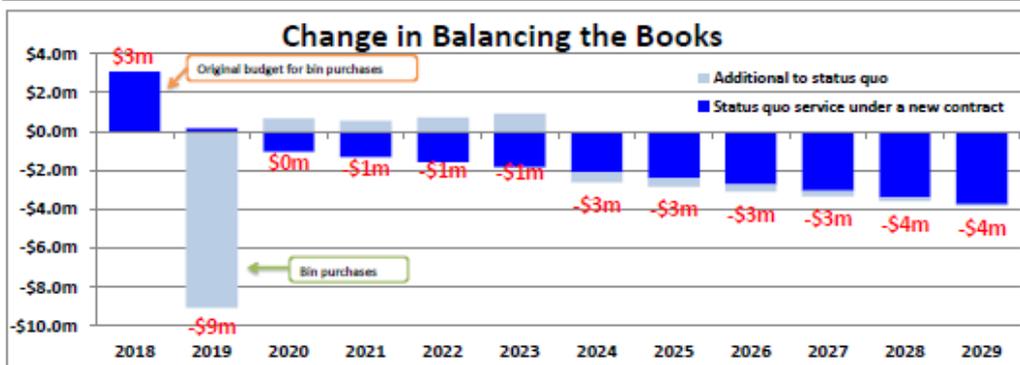
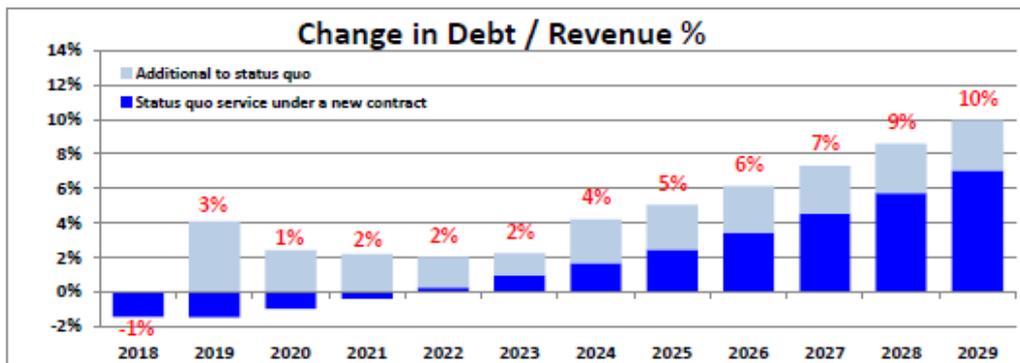
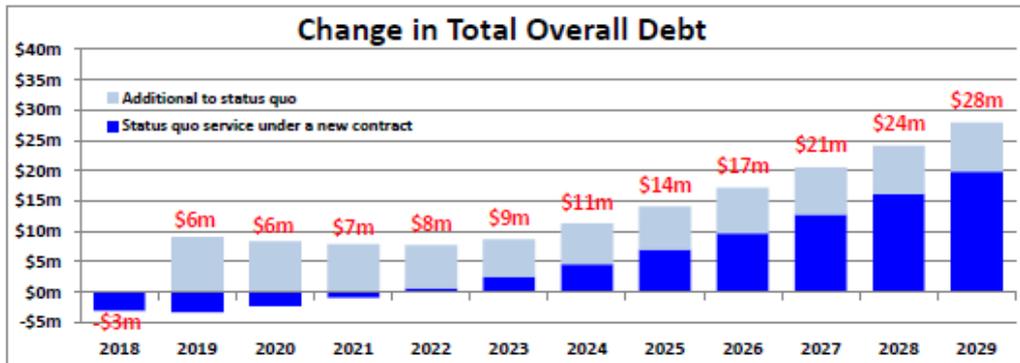
Table 35: Impact of service on Council's debt

| | Change in overall debt Cumulative at 2028/19 | Change in debt to revenue ratio Cumulative at 2028/19 | Impact on forecasted budget surplus Cumulative at 2028/19 |
|--|--|---|---|
| Current service provided under new contract | \$20 million | 7% | -\$4 million |
| The cost of the rubbish and recycling containers funded through a four year targeted rate of approx. \$22.50 per property | \$28 million | 10% | -\$4 million |
| The cost of the rubbish and recycling containers funded through operating expenditure | \$37 million | 13% | -\$4 million |
| The cost of the rubbish and recycling containers funded through capital expenditure | \$37 million | 13% | -\$5 million |
| The cost of the rubbish and recycling containers funded by the contractor, with cost recovery through the life of the contract | \$38 million | 13% | -\$5 million |

Graphical analysiss of the above per year isprovided in the following figures.

KEY INDICATORS - IMPACT OF CHANGES

SCENARIO HCC funds the cost of the bins through a 4 year targeted rate of about \$22.50 per year

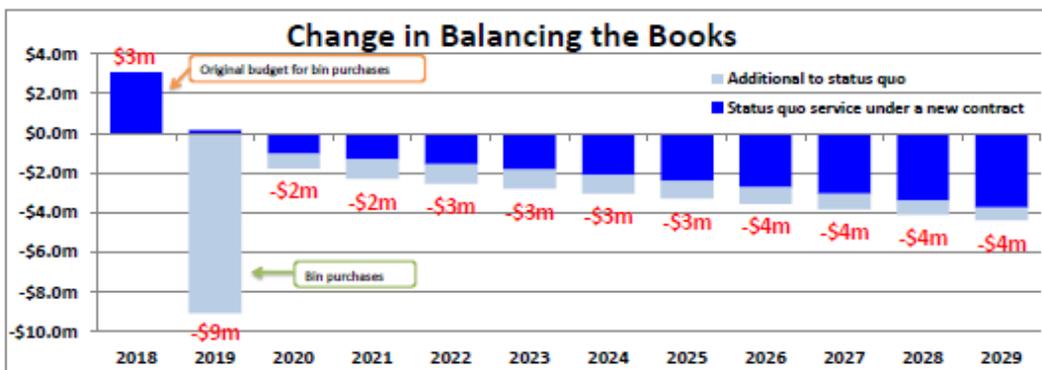
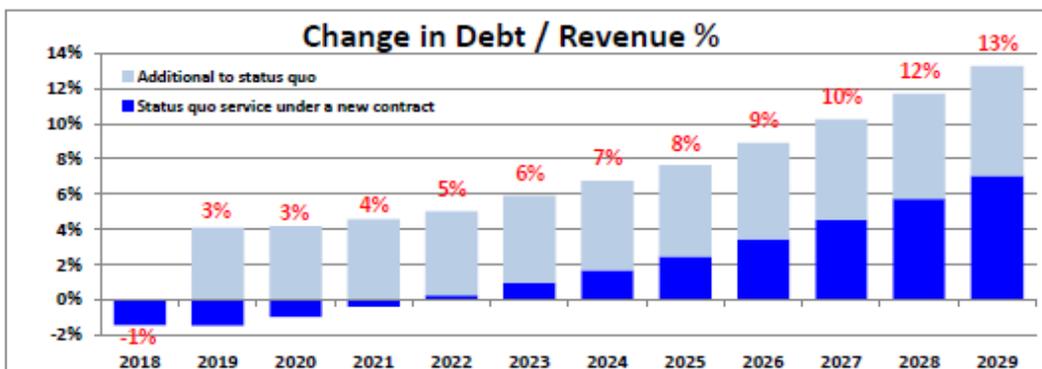
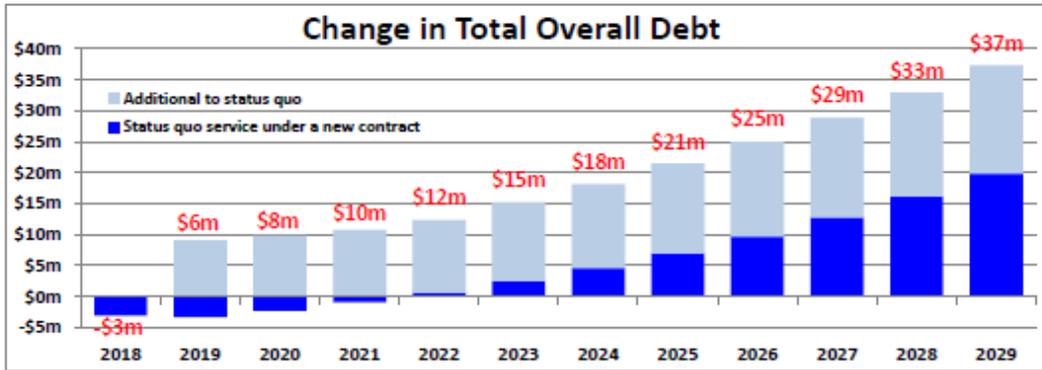


| Variances to 2015-25 10-Year Plan Budget (\$000's) | | | | | | | | | | | | |
|--|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
| Revenue - Increase / (Decrease) | | | | | | | | | | | | |
| - Targeted rates | - | - | 1,341 | 1,403 | 1,468 | 1,535 | - | - | - | - | - | - |
| - Other revenue | - | - | 85 | (56) | (57) | (50) | (61) | (63) | (65) | (66) | (68) | (70) |
| Expenses - Increase / (Decrease) | | | | | | | | | | | | |
| - Operating expenditure | (3,003) | 8,801 | 1,447 | 1,704 | 1,795 | 1,883 | 1,948 | 2,006 | 2,064 | 2,114 | 2,143 | 2,160 |
| - Interest | (93) | 81 | 365 | 400 | 448 | 501 | 609 | 775 | 956 | 1,152 | 1,362 | 1,588 |
| - Depredation | - | - | - | - | - | - | - | - | - | - | - | - |
| Capex - Increase / (Decrease) | | | | | | | | | | | | |
| All bins | - | - | - | - | - | - | - | - | - | - | - | - |

Figure 45: Financial impact of change, containers funded though a targeted rate vs continuation of current servcie

KEY INDICATORS - IMPACT OF CHANGES

SCENARIO HCC funds the cost of the bins through operating expenditure

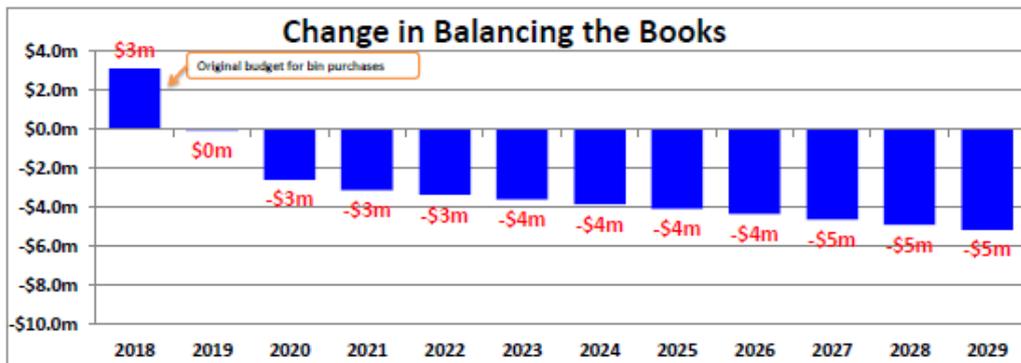
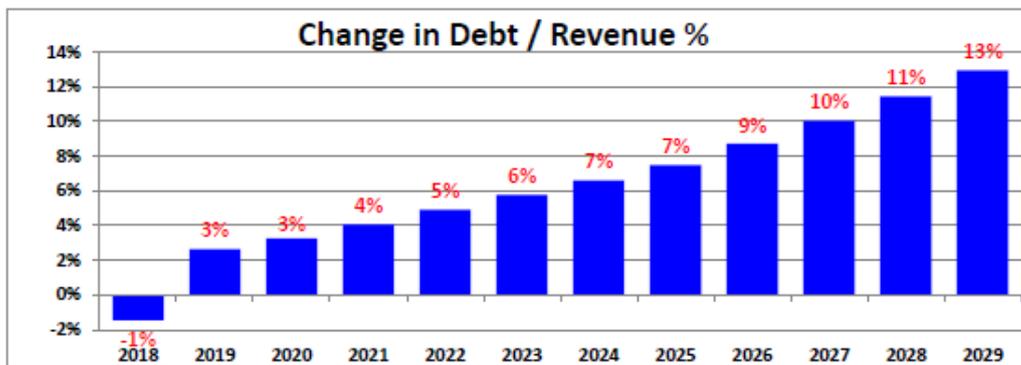
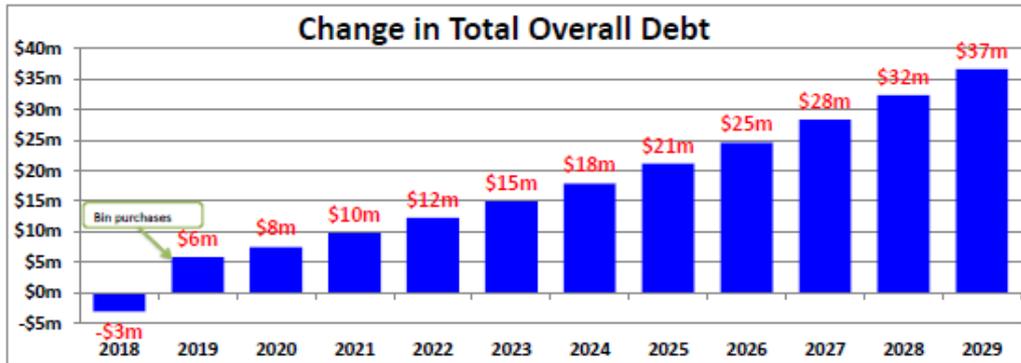


| Variances to 2015-25 10-Year Plan Budget (\$000's) | | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
|--|--|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Revenue - Increase / (Decrease) | | | | | | | | | | | | | |
| - Targeted rates | | - | - | - | - | - | - | - | - | - | - | - | - |
| - Other revenue | | - | - | 85 | (56) | (57) | (59) | (61) | (63) | (65) | (66) | (68) | (70) |
| Expenses - Increase / (Decrease) | | | | | | | | | | | | | |
| - Operating expenditure | | (3,003) | 8,801 | 1,447 | 1,704 | 1,795 | 1,883 | 1,948 | 2,006 | 2,064 | 2,114 | 2,143 | 2,180 |
| - Interest | | (93) | 81 | 407 | 531 | 678 | 840 | 1,017 | 1,209 | 1,417 | 1,642 | 1,884 | 2,142 |
| - Depreciation | | - | - | - | - | - | - | - | - | - | - | - | - |
| Capex - Increase / (Decrease) | | | | | | | | | | | | | |
| All bins | | - | - | - | - | - | - | - | - | - | - | - | - |

Figure 46: Financial impact of change, containers funded through operational expenditure vs current service under new contract

KEY INDICATORS - IMPACT OF CHANGES

| | |
|----------|--|
| SCENARIO | HCC funds the cost of the bins through capital expenditure |
|----------|--|

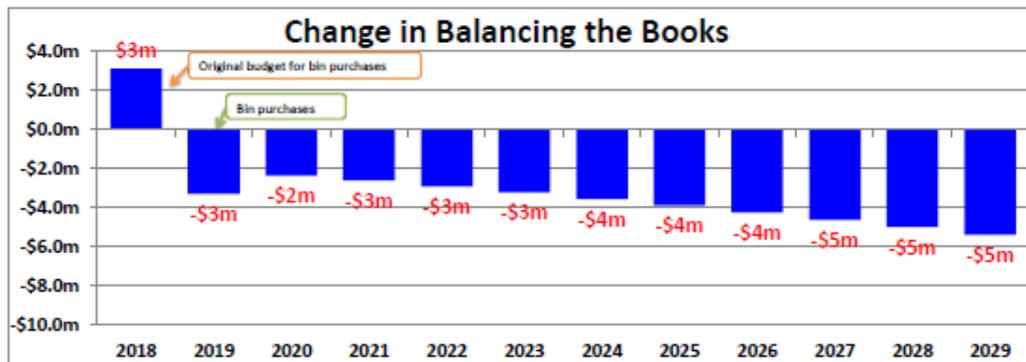
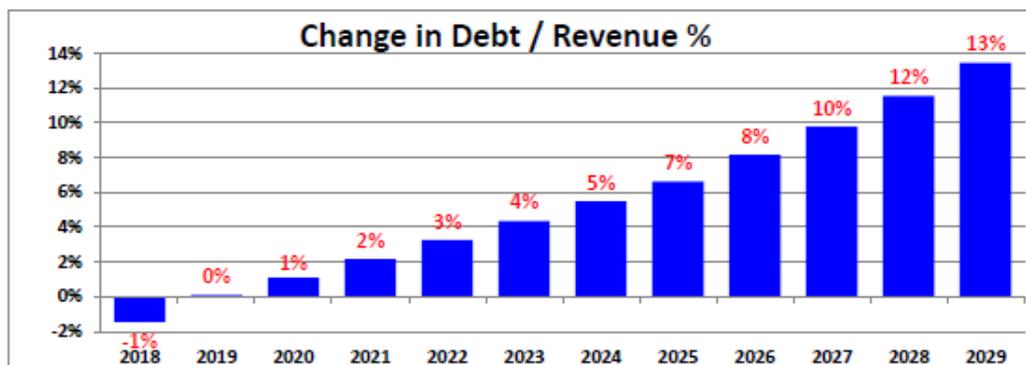
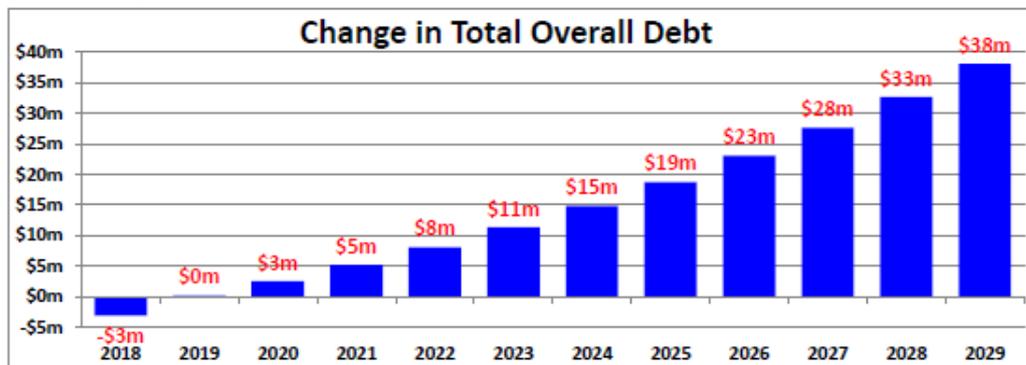


| Variances to 2015-25 10-Year Plan Budget (\$'000's) | | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
|---|--|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Revenue - Increase / (Decrease) | | | | | | | | | | | | | |
| - Targeted rates | | - | - | - | - | - | - | - | - | - | - | - | - |
| - Other revenue | | - | - | 31 | 14 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 |
| Expenses - Increase / (Decrease) | | | | | | | | | | | | | |
| - Operating expenditure | | (3,003) | - | 1,323 | 1,727 | 1,818 | 1,901 | 1,977 | 2,030 | 2,089 | 2,141 | 2,170 | 2,188 |
| - Interest | | (93) | 83 | 408 | 528 | 672 | 831 | 1,004 | 1,192 | 1,396 | 1,616 | 1,852 | 2,104 |
| - Depreciation | | - | - | 885 | 885 | 885 | 885 | 885 | 885 | 885 | 885 | 885 | 885 |
| Capex - Increase / (Decrease) | | | | | | | | | | | | | |
| All bins | | - | 8,852 | - | - | - | - | - | - | - | - | - | - |

Figure 47: Financial impact of change, containers funded through capital expenditure

KEY INDICATORS - IMPACT OF CHANGES

| | |
|----------|---|
| SCENARIO | Contractor funds the additional cost of the bins (ie greater than budgeted) |
|----------|---|



| Variances to 2015-25 10-Year Plan Budget (\$000's) | | | | | | | | | | | | |
|--|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
| Revenue - Increase / (Decrease) | | | | | | | | | | | | |
| - Targeted rates | - | - | - | - | - | - | - | - | - | - | - | - |
| - Other revenue | - | - | 31 | 14 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 |
| Expenses - Increase / (Decrease) | | | | | | | | | | | | |
| - Operating expenditure | (3,003) | 3,388 | 2,321 | 2,395 | 2,526 | 2,654 | 2,777 | 2,878 | 2,988 | 3,094 | 3,181 | 3,258 |
| - Interest | (93) | (87) | 85 | 237 | 406 | 594 | 801 | 1,028 | 1,277 | 1,547 | 1,841 | 2,158 |
| - Depreciation | - | - | - | - | - | - | - | - | - | - | - | - |
| Capex - Increase / (Decrease) | | | | | | | | | | | | |
| All bins | - | - | - | - | - | - | - | - | - | - | - | - |

Figure 48: Financial impact of change, contractor funds the containers

22.3. Expenditure

The following table provides the 2015-25 10-Year Plan budget against expenditure for the current service under a new contract and the proposed service

All costs include growth based on stats medium and are exclusive of GST and inflation.

Estimated contract costs are as per Eunomia Financial Modelling.

Table 36: Current and proposed expenditure over contract term (\$ 000's)

| | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 | Total Over Contract Term |
|---|---------|---------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------------------|
| Contract Year | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 2015/25 10 Yr Plan net expenditure budget | 4,102 | 7,156 | 4,443 | 4,605 | 4,777 | 4,968 | 5,177 | 5,397 | 5,633 | 5,873 | 6,123 | 6,382 | 6,653 | 55,587 |
| Current service under new contract | | | | | | | | | | | | | | |
| Income | | | | | | | | | | | | | | |
| Lease income from refuse transfer station | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 3,390 |
| Lease income from organic centre | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 900 |
| Litter collection - from Transportation Activity | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 660 |
| Waste levy works | 200 | 200 | 200 | 225 | 200 | 200 | 237 | 200 | 200 | 200 | 237 | 200 | 200 | 2,099 |
| Total current 2015-25 10-Year Plan income | 695 | 695 | 695 | 720 | 695 | 695 | 732 | 695 | 695 | 695 | 732 | 695 | 695 | 7,049 |
| Expenditure | | | | | | | | | | | | | | |
| Consultant support for development of tender documents | 60 | | | | | | | | | | | | | |
| Legal review | 20 | | | | | | | | | | | | | |
| Probity Auditor | 20 | | | | | | | | | | | | | |
| Current Contract inc bins for growth | 4,505 | 4,697 | 4,847 | | | | | | | | | | | |
| New contract including new bins for growth and replacment bins | | | | 5,465 | 5,737 | 6,010 | 6,282 | 6,555 | 6,827 | 7,120 | 7,412 | 7,704 | 7,996 | 67,109 |
| Additional complaince member | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 700 |
| University area drop off points | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 100 |
| Litter collection | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 660 |
| Maintenance of refuse transfer station and organic centre | 16 | 14 | 15 | 14 | 12 | 15 | 23 | 26 | 29 | 29 | 29 | 29 | 29 | 236 |
| Waste levy works | 200 | 200 | 200 | 225 | 200 | 200 | 237 | 200 | 200 | 200 | 237 | 200 | 200 | 2,099 |
| Contingency 10% | 46 | 36 | 36 | 585 | 610 | 637 | 669 | 693 | 720 | 749 | 782 | 808 | 837 | 7,090 |
| Total Expenses | 5,013 | 5,092 | 5,244 | 6,435 | 6,705 | 7,008 | 7,357 | 7,620 | 7,923 | 8,244 | 8,606 | 8,887 | 9,209 | 77,995 |
| Net expenditure current services under new contract | (4,318) | (4,397) | (4,549) | (5,715) | (6,010) | (6,313) | (6,625) | (6,925) | (7,228) | (7,549) | (7,874) | (8,192) | (8,514) | (70,946) |
| Differnece in net expenditure between current funding allocations and continuning the current service under a new contract | (216) | 2,759 | (106) | (1,110) | (1,233) | (1,346) | (1,448) | (1,528) | (1,595) | (1,676) | (1,752) | (1,810) | (1,861) | (15,359) |
| Proposed service | | | | | | | | | | | | | | |
| Proposed income | | | | | | | | | | | | | | |
| Lease income from refuse transfer station, with estimated rent relief | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 339 | 3,390 |
| Lease income from organic centre , with estimated rent relief | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 900 |
| Litter Collection - from Transportation Activity | 66 | 66 | 66 | 33 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 182 |
| Waste levy works | 200 | 200 | 310 | 335 | 200 | 200 | 237 | 200 | 200 | 200 | 237 | 200 | 200 | 2,209 |
| Total Proposed Income | 695 | 695 | 805 | 797 | 646 | 646 | 683 | 646 | 646 | 646 | 683 | 646 | 646 | 6,681 |
| Expenditure | | | | | | | | | | | | | | |
| Consultant support for development of tender documents | 60 | | | | | | | | | | | | | |
| Legal review | 20 | | | | | | | | | | | | | |
| Probity Auditor | 20 | | | | | | | | | | | | | |
| Housing Type Review support for call centre | 40 | | | 30 | 30 | | | | | | | | | 30 |
| Litter Collection | 66 | 66 | 66 | 33 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 182 |
| Additional Compliance Team Member | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 700 |
| Drop off points at University | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 100 |
| Maintenance of the sites | 16 | 14 | 15 | 14 | 12 | 15 | 23 | 26 | 29 | 29 | 29 | 29 | 29 | 236 |
| Current Contract inc bins for growth | 4,505 | 4,697 | 4,847 | | | | | | | | | | | 0 |
| Purchase of containers | | | 7,442 | 26 | 316 | 319 | 322 | 325 | 331 | 334 | 337 | 340 | 343 | 2,994 |
| Proposed collection contract costs -no container costs | | | | 5,514 | 5,713 | 5,913 | 6,113 | 6,313 | 6,512 | 6,732 | 6,952 | 7,172 | 7,392 | 64,327 |
| Waste levy works | 200 | 200 | 310 | 335 | 200 | 200 | 237 | 200 | 200 | 200 | 237 | 200 | 200 | 2,209 |
| Contingency 10% | 50 | 36 | 794 | 603 | 634 | 654 | 679 | 696 | 717 | 739 | 765 | 784 | 806 | 7,078 |
| Total Proposed Expenses | 5,057 | 5,092 | 13,585 | 6,635 | 6,972 | 7,198 | 7,470 | 7,656 | 7,885 | 8,131 | 8,417 | 8,622 | 8,867 | 77,856 |
| Net expenditure proposed services | (4,362) | (4,397) | (12,780) | (5,838) | (6,327) | (6,553) | (6,788) | (7,011) | (7,240) | (7,486) | (7,735) | (7,976) | (8,222) | (71,175) |
| Differnece in net expenditure between current funding allocations and proposed new service | (260) | 2,759 | (8,336) | (1,233) | (1,549) | (1,585) | (1,611) | (1,614) | (1,607) | (1,613) | (1,612) | (1,594) | (1,569) | (15,588) |

Table 37: Waste levy income and expenditure - expenditure highlighted is in support of this business case (\$ 000's)

| | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Total |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| Contract Year | | | | | | | | | | |
| Income | | | | 1 | 2 | 3 | 4 | 5 | 6 | |
| Estimated levy income (as greater actual amounts consistently received) | 551 | 559 | 567 | 574 | 581 | 588 | 595 | 602 | 610 | 5,227 |
| Estimated waste licensing income | 3.8 | 3.8 | 6.4 | 6.4 | 6.4 | 6.6 | 6.6 | 6.6 | 6.6 | 53 |
| Total Income | 433.8 | 433.8 | 436.4 | 436.4 | 436.4 | 436.6 | 436.6 | 436.6 | 436.6 | 5,280 |
| Activity Expenditure / Waste Minimisation Initiatives | | | | | | | | | | |
| Support Functions | | | | | | | | | | |
| City waters support unit waste min | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 900 |
| City waters support unit 2nd waste staff member | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 900 |
| Temporary assistance to project manager for new service roll out | | | 35 | 35 | | | | | | 70 |
| Organic centre | 18 | 18 | | | | | | | | 36 |
| Waste grant | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 450 |
| Waste Management and Minimisation plan review and waste assessment | 25 | 25 | | | | | 25 | 25 | | 100 |
| Bylaw review | 30 | | | | | | | | | 30 |
| Materials | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 |
| Professional membership | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 6 |
| Waste license management | 6.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 26 |
| Waste Minimisation Education and Communication plan | | | | | | | | | | |
| Customer Surveys | | | | 25 | | | 34 | | | 59 |
| Schools curriculum education | | | | | 45 | 45 | 45 | 45 | 45 | 225 |
| Waikato Students Union comms contract based on 60% @ \$6,600 | 1.1 | | | | | | | | | 1 |
| Website | 4.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 9 |
| Waste minimisation campaigns | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 900 |
| Love Food Hate Waste | 2.5 | 2.5 | 2.5 | | | | | | | 8 |
| Soft plastics recycling initiative promotion/internal advertising | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 22 |
| Social campaign - sCrap to Catwalk - regional program (\$250K estimate, \$80K HCC host fee) | | 80 | | | | 40 | | | | 120 |
| New service roll out education and marketing | | | 75 | 75 | | | | | | 150 |
| Marketing and bins at events | 5 | | | 2 | | | 2 | | | 9 |
| Fight the Landfill brand | | | | | | | | | | |
| Review of waste brand | | | | | 10 | | | 10 | | 20 |
| Regional initiatives | | | | | | | | | | |
| Sub regional waste education initiative | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 90 |
| Waste Management and Minimisation plan review and waste assessment | 5 | | | | | | | | | 5 |
| Regional Bylaw review | 3.2 | | | | | | | | | 3 |
| Beyond the Bin | | | | | | | | | | |
| City wide infrastructure | | | | | | | | | | |
| Soft plastic bin purchase and annual servicing | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 14 |
| City wide drop off points operations and maintenance | | | 5 | 10 | 15 | 15 | 15 | 15 | 15 | 90 |
| Total expenditure | 466.5 | 494.2 | 486.2 | 515.7 | 438.7 | 468.7 | 489.7 | 463.7 | 428.7 | |
| Net expenditure | 88.3 | 68.6 | 87.2 | 64.7 | 148.7 | 125.9 | 111.9 | 144.9 | 187.9 | 4,252 |

23. Supporting documentation

Hamilton City Waste and Recycling Collection Procurement Business Case Modelling Report a with Food Waste Collection Options. Eunomia Research and Consulting, June 2016.

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