

# Strategic Waste Reviews

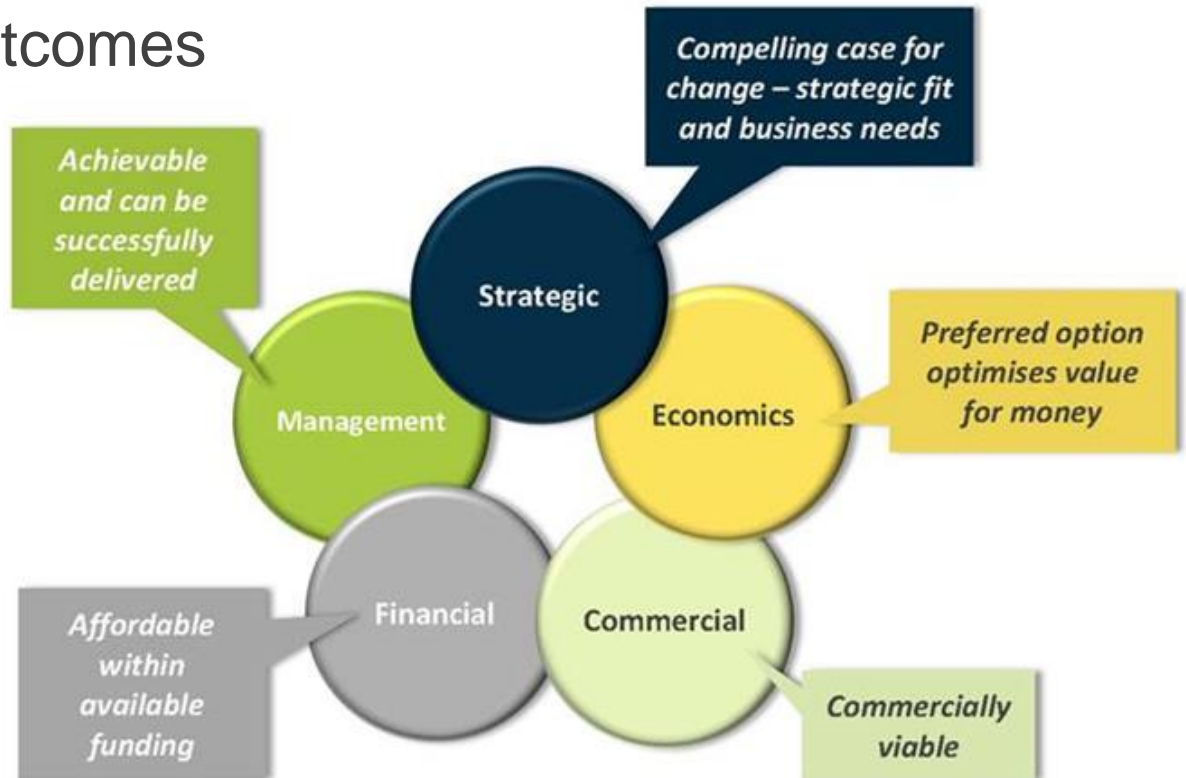
# Background

- Waste Minimisation and Management Plan 2017-23 informs the waste work at HCC
- September 2018: Officers commenced strategic reviews into three waste areas
  - Residential hazardous waste
  - Resource recovery
  - Kerbside collection
- Key question: *Are the current services still fit for purpose, and if not, what are the alternatives available?*
- Consultants Morrison Low Ltd, with key expertise in waste management, were commissioned to assist in this process



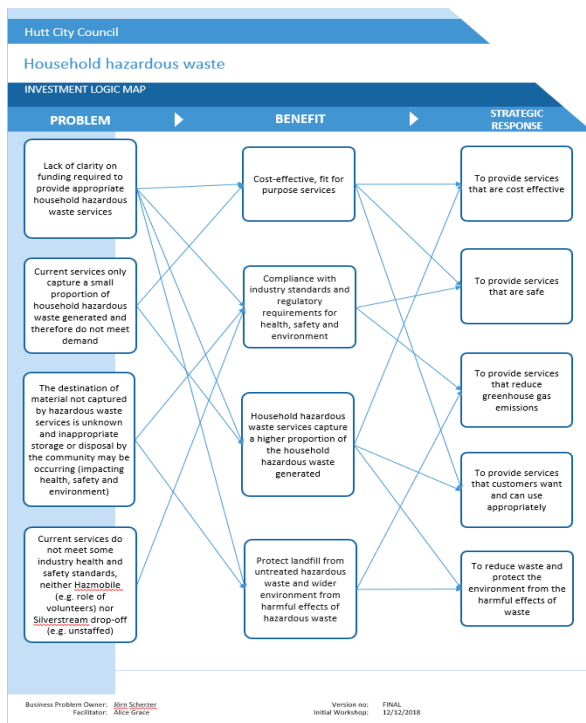
# Business cases?

- A way of systematically thinking through the problem, and determining options
- Our approach follows Treasury's *Better Business Case* model
- Focused on outcomes



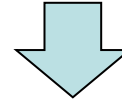
# The process

## Investment Logic Map



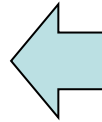
## Strategic investment objectives

- provide services that are cost effective
  - provide services that are safe
  - provide services that reduce greenhouse gas emissions
  - provide services that customers want and can use appropriately
  - reduce waste and protect the environment from the harmful effects of waste
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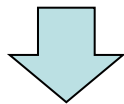


# Long list of options

Short list of options



Economic analysis



Description of Option:	Scope Options (What)					Service Solution Options (How) Note: education and advocating for national product stewardship common to all options										
	SO-1	SO-2	SO-3	SO-4	SO-5	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-6a	SS-7	SS-8	SS-9	SS-10
<b>Treatment Objectives</b>	Statis quo household hazardous waste, full range	Household hazardous waste limited range	Household hazardous waste + agricultural chemicals	Household hazardous waste + commercial hazardous waste	Household hazardous waste + commercial hazardous waste + agricultural chemicals	Status quo household hazardous waste with limited drop off (unstaffed)	Enhanced landfill drop off (e.g. staffed by qualified hauler, quantity restrictions, haz waste fee reverse advertise service)	Hamobile every two years + enhanced landfill drop off	Hamobile every two years + network of drop off points	Hamobile annually, network drop off points	Hamobile every year, no drop off points	Hamobile every year, no drop off points	Hamobile six months, no drop off points	Landfill drop off point only (unstaffed)	Network of drop off points	No council service, education and advocacy only
To provide services that are cost effective	Yes - cost effective	Yes - cost effective	Partial - increased cost but increased capture	No - high cost to provide substantial service alongside domestic	No - high cost to provide commercial service alongside domestic	Partial - low cost service but low capture rate and not fully compliant with regulations	Yes - increased cost but enhanced drop off and risk awareness	Partial - increased capture but increased cost	Partial - increased capture but increased cost	Partial - increased capture but increased cost	Yes - cost effective	Yes - cost effective	Partial - increased capture but increased cost	Yes - cost effective	Partial - capture may increase and cost will increase	Yes - cost effective
To provide services that are safe	Yes - encourages safe disposal of haz waste	Partial - limited range may increase household disposal	Yes - encourages safe disposal of haz waste	Yes - encourages safe disposal of haz waste	Yes - encourages safe disposal of haz waste	No - unsafe drop off + health and safety risk	Yes - means H&S regs and encourages safe disposal of haz waste	Yes - means H&S regs and encourages safe disposal of haz waste	Yes - means H&S regs and encourages safe disposal of haz waste	Yes - means H&S regs and encourages safe disposal of haz waste	Yes - means H&S regs and encourages safe disposal of haz waste	Yes - means H&S regs and encourages safe disposal of haz waste	Yes - means H&S regs and encourages safe disposal of haz waste	No - unstaffed drop off + health and safety risk	Yes - means H&S regs and encourages safe disposal of haz waste	No - inappropriate disposal of haz waste
To provide services that reduce greenhouse gas emissions	Partial - no change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - no change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - limited change from status quo	Partial - limited change from status quo
To provide services that customers want and can use appropriately	Partial - supported by customers that use service but limited use overall	Partial - a reduction in service	Partial - service available more widely but agricultural sector may prefer existing options, particularly urban area	No - commercial services are specialised	No - commercial services are specialised	Partial - service available but limited use by customers	Partial - may still have limited use	Partial - may still have limited use	Yes - increase in service availability that may increase use by customers	Yes - increase in service availability that may increase use by customers	Partial - service only available when hamobile events run	Partial - service only available when hamobile events run	Partial - service only available when hamobile events run	Partial - a reduction in service but current use is low	Partial - a reduction in service but current use is low	Partial - a reduction in service but current use is low
To reduce waste and protect the environment from the harmful effects of waste	Yes - options supports this	Yes - options supports this	Yes - options supports this	Yes - options supports this	Yes - options supports this	Partial - unstaffed drop offs can create environmental issues	Yes - encourages appropriate disposal haz waste	Yes - encourages appropriate disposal haz waste	Yes - encourages appropriate disposal haz waste	Yes - encourages appropriate disposal haz waste	Yes - encourages appropriate disposal haz waste	Yes - encourages appropriate disposal haz waste	Yes - encourages appropriate disposal haz waste	Partial - unstaffed drop offs can create environmental issues	Yes - option supports this	Partial - a reduction in service but current use is low
<b>Critical Success Factors (as these CSFs are crucial (not just desirable) any options that score a 'no' are automatically discounted from further analysis)</b>																
<b>Strategic fit and business needs</b> - Alignment with District Plan, City Infrastructure Strategy & Regional Plans	Yes - alignment with strategic objectives	Yes - alignment with strategic objectives	Partial - overall fit with strategic objectives			Yes - alignment with strategic objectives	Yes - alignment with strategic objectives	Yes - alignment with strategic objectives	Yes - alignment with strategic objectives	Yes - alignment with strategic objectives	Yes - alignment with strategic objectives	Yes - alignment with strategic objectives	Yes - alignment with strategic objectives			Yes - alignment with strategic objectives
<b>Potential value for money</b> - right solution, right time at the right price	Yes - cost effective	Yes - cost effective	Partial - increased cost but increased capture			Partial - low cost service but low capture rate and not fully compliant with regulations	Yes - increased cost but enhanced drop off and risk awareness	Partial - increased capture but increased cost	Partial - increased capture but increased cost	Partial - increased capture but increased cost	Yes - cost effective	Yes - cost effective	Partial - increased capture but increased cost			Partial - capture may increase and cost will increase
<b>Supplier capacity and capability</b> - is it a sustainable arrangement (over time)	Yes - common service in NZ	Yes - common service in NZ	Yes - common service in NZ	Not assessed. Does not meet strategic objectives.	Not assessed. Does not meet strategic objectives.	Yes - similar to status quo	Yes - similar to status quo	Yes - similar to status quo	Partial - service available may not be available	Partial - suitable area may not be available	Yes - similar to status quo	Yes - similar to status quo	Partial - service providers may not have capacity for increased events	Not assessed. Does not meet strategic objectives.		Partial - suitable area may not be available
<b>Potential affordability</b> - are there no funding constraints	Yes - similar to status quo	Yes - similar to status quo	Partial - increased cost			Yes - common funding	Partial - increased funding would be required	Yes - common LTP funding	Partial - increased funding required	Partial - increased funding required	Yes - similar to current funding	Partial - increased funding required	Partial - increased funding required			Partial - increased funding required
<b>Potential achievability</b> - ability and skills to deliver (present)	Yes - would be achievable	Yes - would be achievable	Partial - more investment in message			Yes - within ops	Yes - similar to status quo	Yes - similar to status quo	Partial - increased network of sites to manage	Partial - more hamobile events and increased network of sites to manage	Yes - similar to status quo	Partial - more hamobile events to manage	Partial - more hamobile events to manage			Partial - increased network of sites to manage
<b>Summary of Advantages and Disadvantages:</b>																
<b>Overall Assessment:</b>	Prefered - addresses all household hazardous waste integration	Possible - reduction in level of service	Discard - increased cost alternative available for agricultural chemicals, low capture rate and not fully compliant with regulations	Discard - commercial services are specialised	Discard - commercial services are specialised	Does not meet strategic objectives but continues to economic assessment for comparison	Prefered - this option provides best service outcome although would come at increased cost	Possible - service available for those that want to use it but higher cost	Discard - difficult to manage a network of sites and a hamobile service	Discard - difficult to manage a network of sites and a hamobile service	Possible - service available for those that want to use it but only when hamobile scheduled	Possible - service available for those that want to use it but only when hamobile scheduled	Discard - more investment in land management	Discard - unstaffed drop off is unsafe	Discard - difficult to manage a network of sites	Discard - with no service, inappropriate disposal will increase
<b>Short-listed options:</b>																
Option 1: Enhanced landfill drop off	SO-1: Full range household hazardous waste					SS-1: Hamobile annually, landfill drop off										
Option 2: Enhanced drop off & hamobile						SS-2: Enhanced landfill drop-off, no hamobile										
Option 3: hamobile every year						SS-3: Enhanced landfill drop-off, hamobile every 2 years										
Option 4: hamobile every two years						SS-4: hamobile every year, no drop off points SS-6: hamobile every 2 years, no drop off points										



### Kerbside Collection Services Business Case

#### Strategic Case:

##### Need to Invest

The current contract for Council's kerbside collection service ends in the third quarter of 2019 and requires tender ahead of this. This contract also includes the provision for recycling drop-off points in Kaitake, Waikohurangi, Akaroa, Akaroa, Newsum, and Seaview. In addition, the current Refuse Collection and Disposal expires in April 2020. There is an opportunity to review the services ahead of extending the contract and then undertaking a buy-back review to support any service changes. Note that the buy-back may be a regional buy-back chosen by all Councils in the Greater Wellington Region.

Council's current kerbside collection services are as follows:  
**REFUSE**  
Weekly user pays bag collection service to both urban residential and commercial customers. Customers can put out as many bags as they like as they have a guide. Waste companies also provide refuse wheelie bin services directly to customers (i.e. non-Council services).

Experience throughout New Zealand has shown that customers prefer bins to bags for refuse collection because they are easier to use, less prone to animal strike and less odorous. In Hutt City residents have taken up private wheelie bin services and consequently Council's market share, although stable, is a service 50%. The service is currently self-funding, however experience in other parts of New Zealand shows that further being cost effective. A greater market share would increase revenue.

Most private wheelie bin services provide 240L wheelie bin minimisation. Restricting bin volume (e.g. via a Solid Waste Bag collection services have been identified as higher risk for services due to the need to wait the vehicle to complete the RECYCLING.

Weekly kerbside collection service to residential customers. Throughout New Zealand Councils have found that customers because the materials are not impacted by wind and rain and City continue to see recyclables disposed in their refuse service despite a recycling service being provided. This has been shown to reduce with wheelie bin recycling services.

However, the improved convenience of wheelie bins is balanced by the need for post-collection sorting in processing facility and the inability to detect contamination until wheelie bins are filled. Overall, these two factors result in greater contamination of recyclables in wheelie bin services. The separation of glass from other recyclables has been shown throughout the country to address a large proportion of the contamination and reduction in recycling quality that results from mixed recycling wheelie bin collections.

Recycling crates services have higher worker health and safety risk than wheelie bins due to the need for staff to sort trucks, manually handle crates and handle recyclables, including chisels.

There are contamination issues at Council's community recycling stations, which are open 24/7 and are unstaffed. The Nearest site is the worst, and effectively all material deposited in the recycling bins needs to be sent to landfill due to the high contamination.

Some materials that are collected through Council's recycling service are sold as part of recycling products but are not recycled by their end processor. For example, plastic grade 3-7 are included in mixed plastic products from which the valuable grade 1 and 2 plastics are extracted and the residual 3-7s disposed. Working collaboratively with their contractor, Council needs to ensure that there are appropriate end markets available for the materials collected through Council's recycling services.

There has always been volatility in the recycling commodities market, however the commodity prices are currently at an all-time low due to the bans imposed by China on many recycling products.

**ORGANICS**  
No kerbside collection service provided, although customers can pay for a private greenwaste collection service. There is a low rate of diversion of organics wastes, with compostable food and green waste accounting for approximately 45% of domestic refuse.

There is an opportunity to increase diversion of kerbside collected waste by targeting organics, however this needs to be balanced by the high cost of organic collection services and the increased transport-related greenhouse gas emissions that result from an additional collection service.

Food and green waste breaks down quickly in landfill and can assist in breaking down other materials, because of the carbon and moisture they introduce. Breaking down quickly, food and green waste do not take up valuable airspace in the landfill. However, the breakdown of organic waste does increase landfill gas production and the risk of increased fugitive emissions of greenhouse gases such as methane.

**Strategic Context**  
Council waste minimisation and management is governed by the Waste Minimisation Act (WMA). The purpose of the WMA is to "encourage waste minimisation and a decrease in waste disposal in order to (a) protect the environment from harm and (b) provide environmental, social, economic, and cultural benefits."

To further it's aims, the WMA requires councils to promote effective and efficient waste management and minimisation within their district. To achieve this, all councils are required by the legislation to adopt a Waste Management and Minimisation Plan (WMMP).

In 2017 the Councils of the Greater Wellington Region, including Hutt City, adopted a new joint WMMP. The vision for the WMMP is "waste free, together – for people, environment and economy".

The WMMP also outlines Council's vision, goals, objectives and targets for waste minimisation and management in the region and includes both regional and Council-specific action plans. As part of the WMMP action plan, HC has committed to further investigate a number of options of its organic waste services. The two key actions are:  
**C.1. Investigate Options and costs of a two-stream recycling collection, by 2019**  
**C.2. Investigate the use of wheelie bins for kerbside recycling by 2019**

Further, there are three actions in the WMMP that relate to the above actions, these need to be jointly considered:  
**C.3. Investigate methods to prevent reporting from being an council rubbish bag**  
**C.4. Provide city-wide weekly refuse and recycling collection service plus recycling collection stations**  
**W.4. Review efficiency, number, and positions of community recycling stations. Implement agreed changes if any.**

In addition to the WMA, kerbside collection services are governed by the Local Government Act and the Health and Safety Work Act.  
Hutt City Council has also adopted a carbon reduction goal of carbon zero by 2050 (subject to approval at 11 December 2018 meeting).

#### Investment Objectives and Case for Change

<b>Objective 1</b>	<b>To provide services that are cost effective</b>
<b>Status Quo</b>	A user pays bag/refuse collection service provides a price incentive to divert waste. With 30% market share, the cost of providing the service is covered by the bag sales, but this may not be the case if bag sales drop. Council's recycling collection costs Council \$1.3 million level (GST) per annum. Refuse collection costs Council \$1.07 per bag sold or approximately \$550K level (GST) per annum.
<b>Relevant Investment Benefits</b>	The overall suite of Council kerbside services provided is a cost-effective package. Customers are encouraged to divert waste with the right funding mechanism. Fixed cost are shared across sufficient customers to achieve efficiencies from scale.
<b>Relevant KPIs</b>	Overall service cost within approved budgets.
<b>Potential Scope</b>	Changes to Council kerbside collection services and drop-off points are considered as a package from a cost perspective. A 2- and 3-stream recycling collection contract expires in September 2019. The Hilly terrain of Mt Valley coupled with strong winds and rain impact service delivery. A need for collection methodology and funding mechanisms do not align (e.g. user pays refuse wheelie bins). Service costs recovered through rates are unacceptable to provide services that are safe.
<b>Risks</b>	Council's services include manual collections of bags and crates, which are generally considered higher risk from a health and safety perspective. Council staff and the general public are kept safe at all times. Reportable incidents associated with Council's hazardous waste services.

<b>Potential Scope</b>	Health and safety considered as part of service options.
<b>Constraints and dependencies</b>	Changes to kerbside services must improve health and safety standards and comply with regulatory requirements.
<b>Risks</b>	Continuing with bag collection for refuse or crate collection for recycling may not be acceptable to some contractors due to H&S risks, and may give Council up to an end H&S liability should a serious incident occur.

<b>Objective 3</b>	<b>To provide services that reduce greenhouse gas emissions</b>
<b>Status Quo</b>	Transportation emissions associated with weekly refuse and recycling collections plus private refuse collection vehicles also driving the same streets. Emissions from landfill disposal as well as the processing of kerbside collected recycling.
<b>Relevant Investment Benefits</b>	Greenhouse gas emissions are unchanged or reduced as a result of service changes.
<b>Relevant KPIs</b>	Reduce carbon emissions to zero by 2050 Reduce landfill disposal of material with high greenhouse gas generation potential.
<b>Potential Scope</b>	Greenhouse gas emissions considered as part of service options.
<b>Constraints and dependencies</b>	Changes to kerbside services introduce new greenhouse gas emissions not previously considered.

<b>Objective 4</b>	<b>To provide services that customers want and can use appropriately</b>
<b>Status Quo</b>	Council has received requests from residents for a change to wheelie bins for both refuse and recycling, although the level of satisfaction with the current service is relatively high. In the case of refuse, this only applies to the 30% of residents that use the service, with the remaining 70% of residents opting to use private wheelie bin services.
<b>Relevant Investment Benefits</b>	Reduced contamination of recycling products. Increased customer satisfaction recorded on Council's annual customer survey.
<b>Relevant KPIs</b>	High level of satisfaction with Council's kerbside collection services in Council's annual customer satisfaction survey.
<b>Potential Scope</b>	Change in kerbside collection methodology from status quo. Potential introduction of organics collection. Potential changes to recycling drop-off points.
<b>Constraints and dependencies</b>	Refuse and recycling collection contract expires in September 2019. The Hilly terrain of Mt Valley coupled with strong winds and rain impact service delivery.

<b>Risks</b>	Residents uncertain how to use the new recycling system, may result in increased contamination. If no market exists for them.
<b>Objective 5</b>	<b>To reduce waste and protect the environment from the harmful effects of waste</b>
<b>Status Quo</b>	Large quantities of recyclable material and organics that could be diverted are currently being landfilled. Material collected as recyclables may be disposed of at the end processor if no market exists for them.
<b>Relevant Investment Benefits</b>	Reduction in waste to landfill and improved recycling outcomes. Reduction in contamination of recycling products.
<b>Relevant KPIs</b>	Meet regional WMMP diversion targets.
<b>Potential Scope</b>	Change in kerbside collection methodology from status quo. Potential introduction of organics collection. Potential changes to recycling drop-off points.
<b>Constraints and dependencies</b>	Refuse and recycling collection contract expires in September 2019. Alignment with the implementation of regulatory framework change (e.g. solid waste bylaws). The Hilly terrain of Mt Valley coupled with strong winds and rain impact service delivery.
<b>Risks</b>	Residents uncertain how to use the new recycling system, may result in increased contamination. Markets not available for some recyclables, resulting in the need to landfill these materials.

# Strategic case

Economic Case:					Financial Case:	
Determine Potential Value for Money (COSTS ARE INDICATIVE AND FOR COMPARISON ONLY. ACTUAL COSTS WILL DEPEND ON MARKET RESPONSE)					Financial Costing for 2-stream recycling and range of refuse options	
	Status quo: bags, crates	Opt out refuse, 2-stream recycling	Refuse bins, 2-stream recycling	PART refuse bins, 2-stream recycling	Year One	Total
Appraisal period (years)	10	10	10	10		
Capital costs (\$m)	0.0	0.0	0.0	0.0	0.00	0.00
Whole of Life Costs (\$m)	44.2	-27.5	-27.8	-43.5	Refuse \$0m to \$4.5m	Refuse \$0m to \$45m
Cost/Benefit Analysis of (monetary) benefits and costs at the Public Sector Discount Rate)					Recycling \$2.2m	Recycling \$22m
Net Present Value of Benefits (\$m)	12.4	5.2	5.5	32.6	Refuse \$0m to \$4.5m	Refuse \$0m to \$45m
Net Present Costs of (\$m)	-31.1	-19.4	-31.2	-46.1	Recycling \$0m (zero funded)	Recycling \$0m (zero funded)
Net Present Value (\$m)				-13.5	0.00	0.00
Multi-criteria Analysis					Refuse \$0m to \$4.5m	Refuse \$0m to \$45m
Auditor's risk - negative community feedback					Recycling \$2.2m	Recycling \$22m
Economic risk - unexpected cost increases	Medium risk - long term recycling commodity prices unknown	Medium risk - long term recycling commodity prices unknown	Medium risk - long term recycling commodity prices unknown	Medium risk - long term recycling commodity prices unknown		
Social risk - risk to public health or worker safety (h.o. community opposition assessed under Political)	High risk - manual handling with crates and bags	Medium risk - some manual handling with glass crates	Medium risk - some manual handling with glass crates	Medium risk - some manual handling with glass crates and removal PART tags		
Technical risk - limited technology or process	Low risk - approach is common in NZ	Low risk - approach is common in NZ	Low risk - approach is common in NZ	Medium risk - not widely used in NZ		
Legal risk - Council decisions legally challenged	Low risk - unlikely to be legally challenged	Low risk - unlikely to be legally challenged	Low risk - unlikely to be legally challenged	Low risk - unlikely to be legally challenged		
Environmental risk - risk of discharge to environment	Low risk - existing diversion	Medium risk - no refuse price control or diversion	Medium risk - no refuse price control or diversion	Low risk - more diversion anticipated		
Preferred Option:						

# Economic case

**The Preferred Option:**  
For the kerbside recycling collection service, a move to 2-stream recycling will provide a more cost-effective service and will also reduce the health and safety risks associated with kerbside sorting of recyclables. The provision of recycling drop-off stations would be reduced from five to two, with the new recycling drop-off stations restricted to locations where drop-off can be supervised when open. No kerbside organics collection services are proposed at this time.

**Status quo: refuse bags**  
For the kerbside refuse collection service, a continuation of the status quo using refuse bags is not recommended due to the health and safety risks. These risks are considered too high for most of the major waste collection companies in New Zealand and these companies will not tender for council contracts that continue refuse bag collection services.  
In general, the smaller waste companies will tender for refuse bag collection services. Their health and safety management systems are typically less mature than those of the major waste companies. Therefore, they are not well positioned to take on the higher health and safety risks that they would need to manage with a bag collection service.  
Under the current health and safety legislation, Council would have to take on more responsibility for managing the health and safety risks of the bag collection service than it would have if it has followed the wider industry's position of not supporting bag collection services.

**Opt-out**  
Opting out of refuse collection means rates funding is only required for the recycling collection service. Households would contract a private waste company to receive a refuse collection service. Already 70% of households in Hutt City use this option. Based on current advertised prices for private wheelie bin services, households would pay more for their refuse collection services than they do now for Council's bag collection service. In addition, Council would have less control over the refuse collection service both in terms of cost and its ability to encourage diversion through restricting wheelie bin volume.

**Rates funded bins**  
Universally providing rates-funded refuse bins is more cost-effective than households receiving a private wheelie bin service, however additional rates per funding of \$4,500,000 per annum is required for Council to provide this service. The associated rates increase may be unacceptable to ratepayers when considered alongside other rate increases. A range of bin sizes can be offered to match household needs and the targeted rate adjusted to reflect customer choice of bin size.  
There may be opposition from private wheelie bin service providers, particularly smaller local companies, that may see a loss of revenue with the introduction of a Council service.

**PART bins**  
PART refuse bins will set rates funding charging participating households a fee (either per pick-up or an annual fee) for receiving the service. In order to ensure rates funded bins to fund the service, Council would need to charge a similar fee to that currently charged for private wheelie bin services. From a household perspective, the cost would be similar to a private collection service. This option incentivises diversion with households only paying the disposal volume they use, however the technology and administrative requirements to implement PART refuse bins are not well advanced in New Zealand at this time.

**Commercial Case:**  
Prepare for the Potential implementation of a private refuse bin service in September 2019. It is noted supplied, recruited and supported with help.

At a high level, the identified for implementing the preferred option, with these risks needing to be managed through the project.  
The depending on preferred option

# Commercial case

**Financial Case:**  
The financial case looks at the overall cost to Council, including the funding required, whether there is any net revenue, whether the service financial case is in the BBC Summary in Age. The funding required for organics is estimated. The funding required for service depends on the following decisions:  
The funding of which refuse and recycling be funded from capex expenditure. General expenditure is not recommended to be used to fund kerbside services.  
The funding of organics services to be lower than binning costs. It is also possible for the Council's collectors contractor to fund the upfront capital cost, with bin capital purchased through amortisation over the contract term. Council would own the wheelie bins and crates at the end of the contract.  
Note, for comparison purposes the wheelie bin and crate purchase has been amortised over the contract term in the financial modelling.

# Financial case

**Management Case:**  
**Plan for Successful Delivery:**  
In order to successfully implement the preferred option, the following actions are recommended:  
Consult with community on proposed service change for refuse collection, recycling collection and recycling drop-off points.  
Annual Plan to include kerbside recycling collection.  
Understate price and recycling collection.  
February 2020.  
Mobilise and roll out recycling collection.  
August 2020.  
Progressively de-commission kerbside recycling collection (onwards).

# Management case

# Where are we at

- Have completed
  - Investment Logic Map (problem definition and outcomes sought)
  - Defined strategic objectives
  - Compiled long list of options
  - Short-listed options for more detailed analysis, have commenced detailed analysis
- Currently building a more detailed cost picture, yet to be completed
- Today, present our findings so far

# Hazardous waste

## Relevant WMMP 2017-23 actions:

- **C.8: Review effectiveness, scope and location of hazardous waste collection day**
- **IN.10: [Improve] Recycling and hazardous waste facilities at the transfer station / landfill**



# Current service and case for change

- Annual hazardous waste collection day coordinated with Upper Hutt City Council
- Event supported by volunteer Council staff, but with H&S risks
- Only captures a relatively small portion of household hazardous waste generated
- Hazardous waste may be stored or disposed inappropriately between collection days
- Unattended hazardous waste drop off area at Silverstream Landfill, does not meet best practice H&S standards



# Option 1: Contracted event

- Contracted event once per year, discontinue drop off
- Assumes continued shared costs between HCC and UHCC
- Improved Health and Safety regarding waste materials, but some concerns remaining (eg traffic management)
- Will miss out on some materials as some residents not able to wait until the next event
- Operating costs higher than compared to status quo (~ \$92k vs \$50k) but can be funded from HCC's (ring-fenced) waste levy funding with no impact on rates
- **Sub-option: contracted event every two years**
  - Lower cost than annual event, but higher risk of inappropriate storage by residents, and reduced capture of hazardous materials

# Option 2: Enhanced landfill drop off

- Upgrade storage facilities, staff at all times with trained personnel preferably via the landfill operator, no annual collection event
- Operating costs relatively similar to Option 1 (~ \$100k vs \$92k)
- Some additional upfront investments required, eg bunkers (~ \$50k) but can be funded from HCC's (ring-fenced) waste levy funding with no impact on rates
- Implementation can be staged, eg continue with annual event, and move to enhanced drop off when landfill contracted re-tendered in 2020

## **Sub-option: Enhanced landfill drop off and contracted event every two years**

- Could potentially result in increased capture, but most expensive option due to service duplication

# Resource recovery

## Relevant WMMP 2017-23 action:

- **IN.3: Investigate the establishment of a free to use recycling waste facility and shop before the landfill gates, implement if found to be economically viable**
- **IN.11: Increase waste diversion at landfill and increase collection and diversion of reusable and recyclable items**

# Current service and case for change

- Existing resource recovery drop-off at Silverstream landfill
- Focused on reuse of bric-a-brac, usable furniture, etc
- Collected items are processed and sold at Earthlink's Wingate site and shop
- Customers charged for waste disposal regardless of use of drop-off point
- Current transfer station layout does not encourage use of resource recovery drop-off
- Material dropped off is not protected from the weather
- Drop-off area and resale shop are located at two different sites

# Option 1 – Status quo

- Continuation of current arrangement with Earthlink, but with focus on valuable items (not tonnage per se)
- Traffic flow improvements already under consideration
- Maintain at current financial support (\$82k) from waste levy
- **BUT** continuation of key limitations (no financial incentive to customers, poor weather protection for items, H&S concerns)



# Option 2 – Enhanced status quo

- Improved reception area for items dropped off, preserve value of items
- Better shelter for resource recovery staff
- Incentivise diversion by changes to landfill gate fee (eg discount voucher)
- **BUT:**
  - initial upfront investment to improve storage and drop off point (~ \$300k, one-off) albeit costs could come from HCC's (ring-fenced) waste minimisation reserve fund or an application to the Government's Waste Minimisation Fund
  - Potential reduction in landfill income (estimated at \$50k/year)

# Option 3 – Private site

- Customers drop-off items at separate resource recovery site (eg Earthlink), no drop-off at Silverstream
- Could enable a more fit-for-purpose facility
- **BUT:**
  - customers less likely to go to two separate destinations in one trip
  - would require increased on-going funding support from HCC to maintain viability
  - risk of reduction in diversion as no site close to the immediate drive up to the landfill



# Options not considered further

## **No service**

→ Not assessed as does not meet strategic objectives

## **Expand scope to include construction and demolition waste**

→ unlikely to be demand for expanded service scope as virgin materials available at low cost and waste disposal costs are low (refer recent Tonkin & Taylor report on C&D waste)

# Kerbside collection

## Relevant WMMP 2017-23 actions:

- **C.1: Investigate options and costs of a two-stream recycling collection, by 2019**
- **C.2: Investigate the use of wheelie bins for kerbside recycling by 2019**
- **IN.4: Review effectiveness, number, and positions of community recycling stations. Implement agreed changes (if any)**

# Current service and case for change

## **Kerbside refuse collection**

- Weekly collection pre-paid official refuse bags
- Significant health and safety concerns with bags (handling injuries)
- Most customers prefer bins albeit bag market share currently stable at 30%

## **Kerbside recycling collection**

- Weekly collection of 55L crates
- Significant concerns about wind-blown litter and also rain damage

## **Recycling drop-off stations**

- Unstaffed sites attracting illegal dumping and associated costs
- Incorrect use / abuse resulting in bin content contamination

## **Kerbside food or green waste collection**

- Currently no kerbside collection service

# *Recycling*

# Option 1: continue with crates only

- Continued concerns about wind-blown litter and rain damage (some people use nets but they can get damaged and/or lost, and are not mandatory)
- Continued concerns about crate capacity
- Would continue to rely on recycling stations to take overflow, but concerns regarding illegal dumping and bin contamination



# Option 2: two-stream recycling

- Two-stream recycling using wheelie bin for mixed recyclables and a crate for glass collected fortnightly
- Higher capacity bins with latches will reduce wind-blown recycling litter
- Bin option used in many NZ cities: Auckland, Christchurch, Wellington, Dunedin, Porirua, Palmerston North
- Glass in separate crate to protect value of other recycling (paper) and to enable sorting on truck to protect value of colour-sorted glass
- Following roll-out of high capacity kerbside bins, phase out *unstaffed* recycling stations, retain only in two strategic locations (co-located with key staffed waste infrastructure, such as a transfer station)



# Estimated costs recycling

	<b>Current</b>	<b>Estimated future</b>	
System	Crates, weekly	Crates, weekly	2-stream, fortnightly
Annual cost per household	\$40*	\$82 (\$65 - \$100)	\$69 (\$55 - \$85)
Total service cost	\$1.2m	\$2.6m	\$2.2m

- Cost range based on mid-point estimate +/- 20%; total service cost based on mid-point estimate
- Market changes over the last two years means less revenue from recycling for contractor, thus future collection costs for status quo likely higher than at present
- Costs for 2-stream collection in line with current costs in Dunedin (\$66/property) and Porirua (\$74/property)
- Recommend further cost analysis and consult & report back to Council as part of the 2020 annual plan process

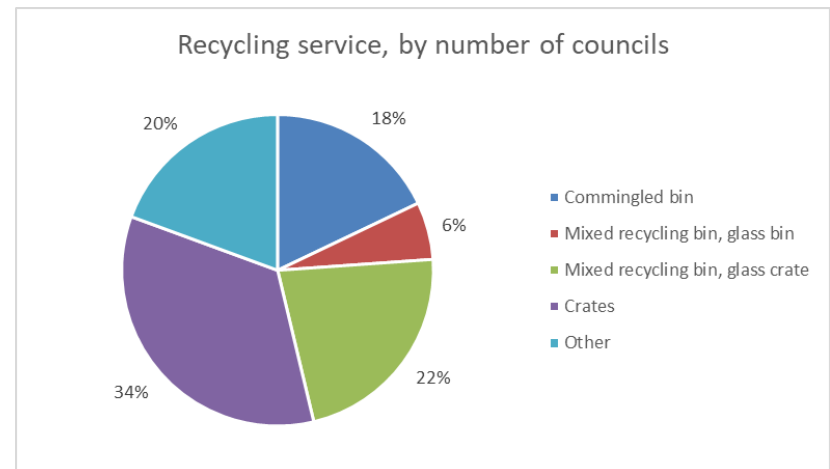
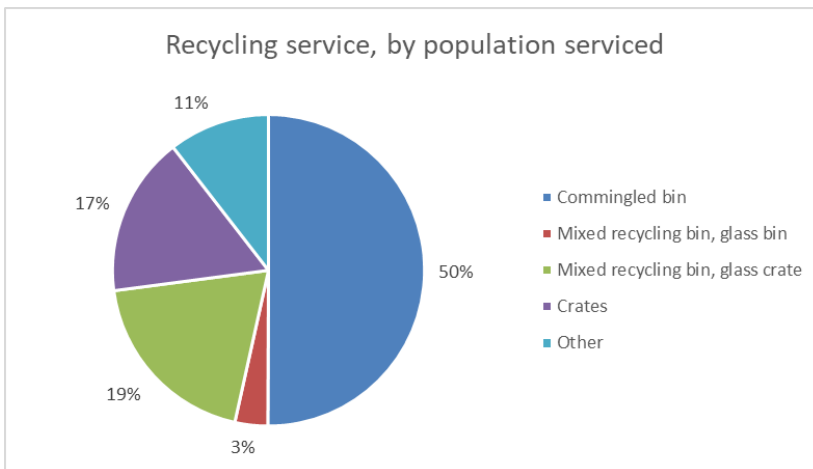
\* Crates and nets are sold on an at-cost basis, not included in the annual targeted rate of \$40 per property

# Recycling: What are other councils doing?

Currently not possible in Wellington region due to lack of infrastructure

Recycling service	Population serviced	Number of councils
Commingled bin	2,123,319	12
Mixed recycling bin, glass bin	144,504	4
Mixed recycling bin, glass crate	824,278	15
Crates	704,538	23
Other	444,501	13
<b>Total</b>	<b>4,241,140</b>	<b>67</b>

Currently only on trial basis





# Options not short-listed

## **No service**

→ Not assessed as does not meet strategic objectives

## **One stream 240L bin for commingled recycling, including glass**

→ Not viable as no infrastructure to deal with commingled glass

## **Separate organics collection**

→ No kerbside organics collection service short-listed at this stage due to lack of clear carbon footprint comparison and further market analysis required (eg processing infrastructure and end-market for collected materials)

→ Wellington City Council trialling a separate food organics collection from later in 2019; opportunity to follow their progress and apply lessons learnt

→ acceptance of green waste at landfill is being assessed separately, still to be completed, but if no longer accepted, would affect landfill revenue

*Refuse*

# Option 1: continue with bag service

- 30% of users still want this service
- Incentive for waste minimisation, only pay for what you use (\$2.50 per bag)
- Council achieves approximately \$400k in revenue
- **BUT:**
  - Market share currently stable, but there is a risk that costs could increase and this could affect revenue
  - Health and safety concerns (eg injuries, animal strike)



# Bag service: safety issues

Proportion of injuries by collection method

Collection Method	Usage of this method (%)	Total injuries for this method (%)
Automated bin	46	5
Bag	32	36
Non-automated bin (crate)	13	17
Loose materials	9	41

- Automated bin collection makes up nearly half of the systems, but only 5% of the injuries

# Option 2: Discontinue Council service

- Council pulls out of service provision, and users are free to choose their own provider (eg as is done in Kapiti)
- Users do not have to engage a provider, they could share bins
- Private operators do not offer bag collection, so this would effectively mean moving fully to bins (addresses health and safety risks associated with bags)
- **BUT:**
  - Tends to be more costly per household as private operators do not get the economies of scale
  - Council currently achieves \$400k in revenue from its bag service
  - There is still demand for bags and private operators do not offer this



# Option 3: Rates-funded bin

- Addresses health and safety risks associated with bags
- Range of bin sizes can be provided (80L / 120L) to match customer needs
- Could still enable private service providers to operate if Council service is limited to small bin options (eg for those wanting larger bins)
- Ensures Council still provides a service that customers expect
- Can be more cost effective for households currently using small private bins (eg 120L)
- **BUT:**
  - Transfer costs from user pays to rates funding → rates impact, potentially by 5%
  - Unless Council service is limited to only small bins, could reduce options for private operators with potential job losses
  - Can disadvantage those that create little waste (single person household, elderly) and in hilly areas (or where access is difficult)



# Option 4: PAYT bin

- “*Pay As You Throw*”
- Similar to Option 3 but enables households to pay only for bin collection when needed
- On average slightly more expensive than Option 3, but cost effective for households with little waste
- **BUT:**
  - PAYT technology still not full commercialised
  - Council currently achieves \$400k in revenue from its bag service



# Estimated costs

Service option	Pre-paid Official Refuse Bag	Opt-out Refuse Service	Rates Funded Refuse Bins	PAYT Refuse Bins
Annual average cost / household	\$130 - \$143	\$240 - \$342	\$115 - \$175	\$190 - \$280
Frequency assumptions	one bag per week	one bin pick-up/week	one bin pick-up/week	one bin pick-up/week
Household cost assumptions	<p><b>Low:</b> \$2.50/bag in Lower Hutt</p> <p><b>High:</b> \$2.75/bag in Porirua</p>	<p><b>Low:</b> lowest cost offer in Lower Hutt at \$4.62/week for 80L bin</p> <p><b>High:</b> average of advertised prices at \$285 (at \$5.50/pick up) + 20%</p>	<p>Range based on mid-point at \$144 (at \$2.77 per pick up)</p> <p>+/- 20%</p>	<p>Range based on mid-point at \$234 (at \$4.50 / pick up)</p> <p>+/- 20%</p>

- Changing to bin models could have impact on rates, and/or potentially lead to \$400k loss in council revenue (due to loss of bag service), but could also be more cost effective for households
- Recommend further cost analysis and consult & report back to Council as part of the 2020 annual plan process



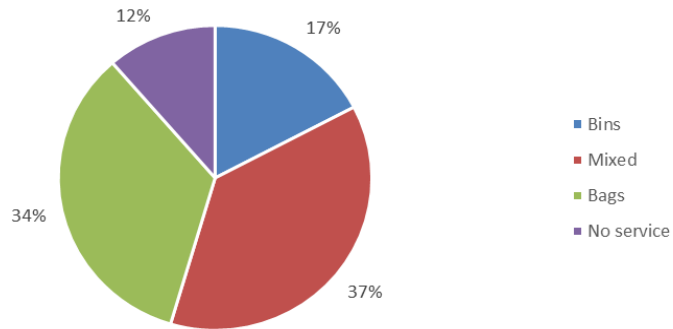
# Household cost scenarios

Service option	Pre-paid Official Refuse Bag	Opt-out Refuse Service	Rates Funded Refuse Bins	PAYT Refuse Bins
<b>Assumptions</b>	\$2.50/bag in Lower Hutt	\$4.62/wk for 80L bin or \$5.50/wk for 120l	\$2.77/wk for 120l bin	\$4.50 per pick up for 120l bin
<b>Household A: One person, 60l of rubbish every three weeks</b>				
Estimated cost	\$43	\$240	\$144	\$58.50 (pick up four-weekly)
<b>Household B: Three people, 120l of rubbish per week</b>				
Estimated cost	\$260	\$286	\$144	\$234 (pick up weekly)

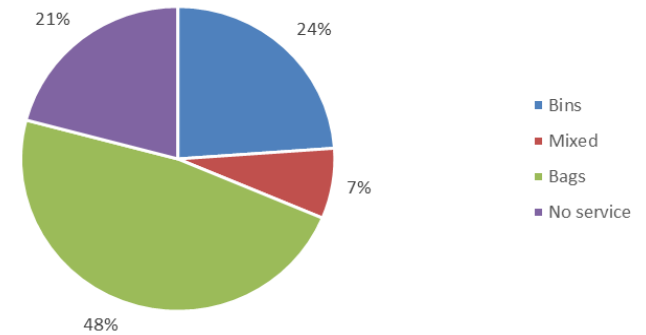


# Refuse: What are other Councils doing?

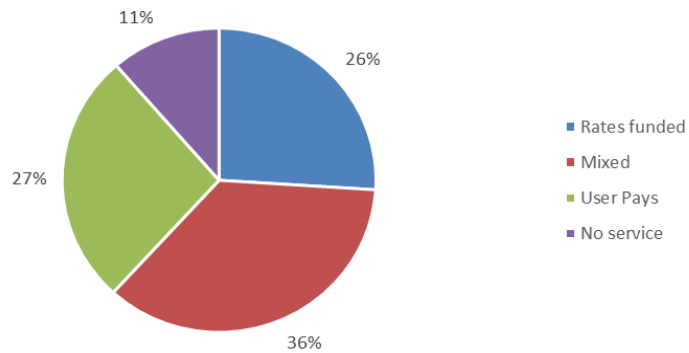
Waste service type, by population serviced



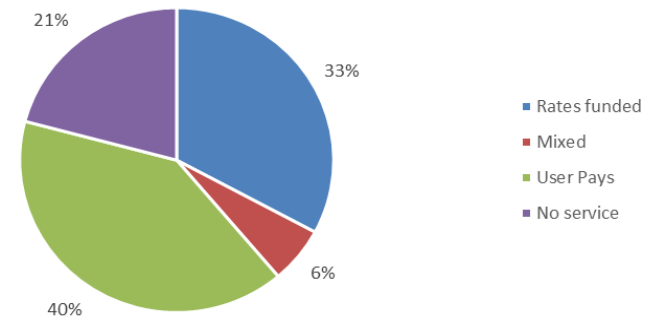
Waste service type, by number of councils



Waste service funding, by population serviced



Waste service funding, by number of councils



# Next steps

# Next steps

- Councillor feedback today and following this workshop on the shortlisted options
- Carry out more detailed cost modelling and analysis for kerbside options
  - *Note: current kerbside contract expires in September 2019, but working on extending by one year, in order to enable the completion of the waste reviews to inform approach for next service contract*
- Undertake community consultation on relevant options as part of the annual plan process in early 2020
- Mid-2020: Council decisions on preferred approach
- Late 2020 / early 2021: New service contract in place

# Low carbon opportunities

# Electric trucks?

- HCC recycling waste services ~ 270 tonnes of CO<sub>2</sub> (trucks)
- Opportunity for Council to move to fully electric trucks for collecting recycling and/or rubbish as part of the roll-out of any new collection approach ~ 80% carbon savings
- EV technology very suitable as short-start operation, and predictable and relatively short routes
- A number of vehicles now in regular operation
- Technology is becoming cost-competitive, but costings would need to be tested as part of the procurement process

# Palmerston North





# Christchurch

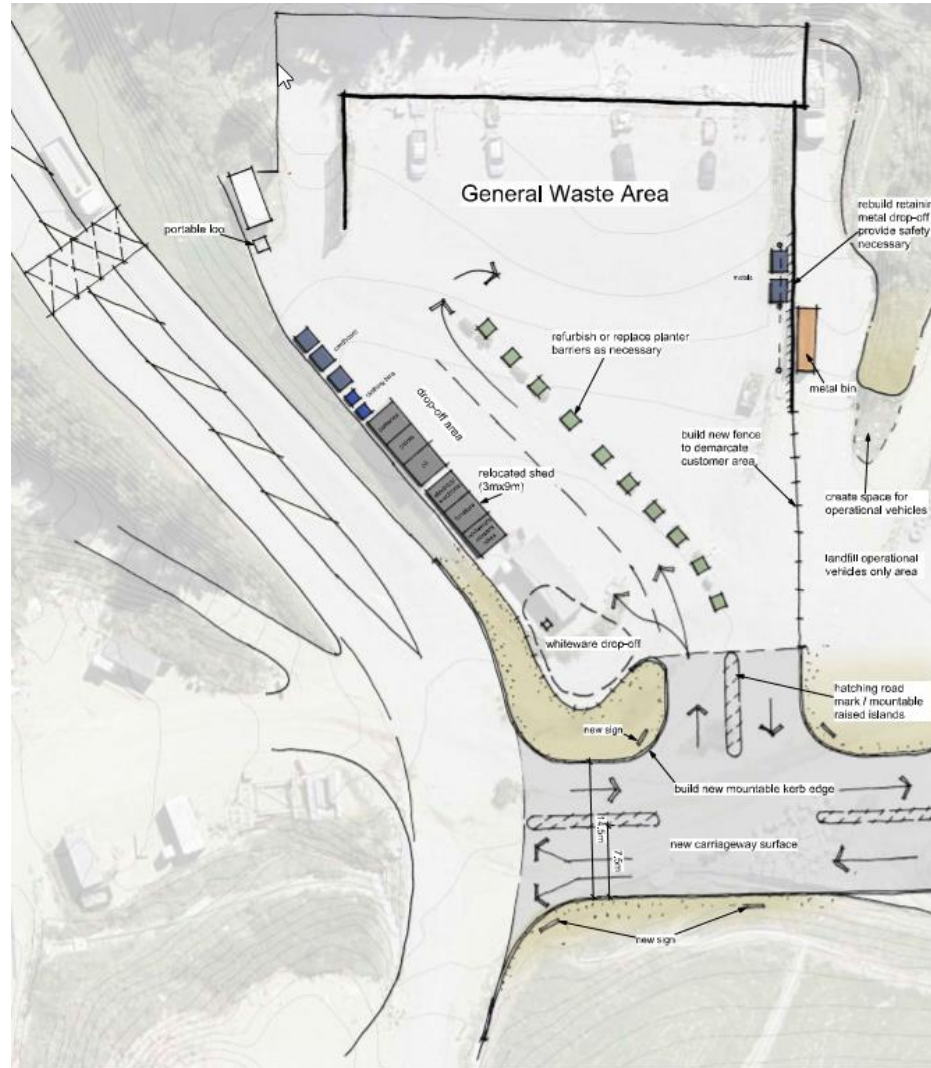


# Civic



# Thank you

# New traffic layout under consideration



Silverstream Resource Recovery  
Option 1 Concept Plan

# Recycling sorting facility

