

Towards Zero Waste annual data report 2022-2023



Overview

This report provides key statistics and a summary of Council's annual data collected for the last financial year. It also reflects the trend over the five-year period 2018/19 - 2022/23 relating to kerbside collection of waste and diversion of waste from landfill.

Measuring our progress

The data provided in this report helps us measure our progress against the key goals and targets set out in the Waste and Litter Strategy 2018 - 2022 as well as the State Government targets introduced in Recycling Victoria: a new economy (2020 - 2030).

Waste and Litter Strategy 2018 targets

- Introduce a kerbside food and garden waste collection service.
- Increase the number of households composting their food waste.
- Reduce the percentage of food waste in the waste to landfill stream.
- Aim for zero waste to landfill by 2030 with an interim target to achieve 60% waste diversion (recycling and organic waste) by 2022.
- Enable households to reduce the amount of material presented as waste (garbage) to below 7kg/household/week by 2022.

Recycling Victoria: a new economy targets

- Divert 80% of waste from landfill by 2030, with an interim target of 72% by 2025.
- Cut total waste generation by 15% per capita by 2030.
- Halve the volume of organic material going to landfill between 2020 and 2030, with an interim target of 20% reduction by 2025.
- Ensure every Victorian household has access to food and garden organic waste recycling services or local composting by 2030.

Waste data collection

The waste data provided in this report is based on the following (see also Data Sources):

- Data on the weight (tonnage) of waste that Council collects as part of its kerbside garbage, recycling and food and garden organics service. The combination of the three kerbside streams is known as 'total waste generation'.
- Data on tonnages collected via the hard waste collection service and sourced from Council's hard waste contractor.
- Bin composition (what is in the bin) and contamination (what should not be in the bin) data is
 gathered through kerbside bin audits (by weight) and sourced from Council's bin audit
 contractor. Bin inspections (visual assessment) provide additional data on contamination which is
 sourced from Council's bin inspection contractor.
- Population and housing data for Merri-bek were used to generate per capita and per household estimates of waste. The annual Estimated Resident Population (ERP) for Merri-bek and number of households based on Merri-bek population forecasts were used, these are provided by Profile ID based on ABS 2021 Census data.
- Data on food and garden organics service participation rates are sourced from Council bin and rates information.

Key statistics for annual comparison

In the financial year 2022 - 2023 the key statistics for kerbside waste collected in Merri-bek were:

- Total Garbage: 28,582 tonnes
- Total Recycling: 13,661 tonnes
- Total Food and Garden Organics: 13,173 tonnes
- Total waste generation (kerbside garbage, recycling and organics combined): 55,416 tonnes
- Total waste generation per capita: 295 kilograms per person
- Diversion rate for kerbside bins (percentage of total waste diverted from landfill): 48%¹
- Percentage of all households in Merri-bek with access to the food and garden organics service: 75% (From 23/24 all households will have access to this service)
- Percentage of organics (food and garden waste) present in the landfill stream: 44%²

Waste hierarchy

Goals and targets relating to waste generation are in accordance with the waste hierarchy, which sets out the preferred approach to managing waste. The waste hierarchy (Figure 1) shows that the most preferable way to manage waste is to avoid producing it, while the least preferable is to send it to landfill.³

Diagram 1: The Waste Hierarchy



Annual waste tonnages over the past 5 years

When the Waste and Litter Strategy was adopted in 2018, the amount of kerbside waste sent to landfill in 2018/19 was 29,571 tonnes. For the following 4 years the amount didn't change significantly, despite an annual increase in organics collected. The period 2022/2023 marks the first time since the strategy was adopted that the amount of waste sent to landfill has measurably decreased. It decreased by 1,055 tonnes, from 29,637 in 2021/22 to 28,582 in 2022/23. This decrease can be attributed to an increase in organics diverted from landfill through the food and garden organics service, which has increased by

¹ The formula to calculate the diversion rate is: recycling + organics / total waste x 100

² Source: Waste Audit 2021

³ Source: Barwon South West Waste and Resource Recovery Group, website 2021

more than 5,000 tonnes annually over this time. Recycling has also decreased over the life of the strategy from 14,930 tonnes in 2018/19 down to 13,661 tonnes in 2022/23.

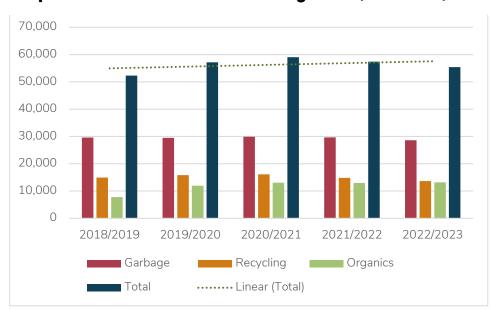
In July 2019, food was added to the fortnightly opt-in organics collection service (formerly known as the garden or green waste service). The number of households using this service increased to 75% of the municipality, up from 64% at the time food was introduced. In 2022/23 the total amount of organics collected increased by 2% from the previous financial year. When compared to 2018/19 the amount of organics collected in 2022/23 increased by 70%.

The period 2022/23 is the final year that the number of households accessing the food and garden organics service will be reported on because from July 2023 all households in the municipality will have access to the service as part of the Kerbside Waste Reform Project.

Over two financial years in this reporting period public health orders relating to the Covid-19 pandemic resulted in Victorians spending more time at home. For many people, working from home since March 2020 led to more pressure on household waste services. The data for the 2020/21 financial year was considered atypical as compared to previous years. That year saw a peak in recycling at 16,104 tonnes. The move to working from home at least part of the time for many employees, has become common practice and can now be seen as typical. With hybrid working now the norm for many people we can see a decline in total waste tonnage for the first time in the past 5 years.

The "Waste Levy" is a tax on waste sent to landfill set by State Government under the Environment Protection Act, which increases annually. In 2020 the Victorian Government outlined reforms to this tax in Recycling Victoria, setting out significant increases over the next 4 financial years. This was delayed due to the pandemic with only moderate increases occurring up to 2018/19 and no change from 2019/20 to 2020/21. The cost however increased significantly in the 2021/22 financial year, up from \$65.90 per tonne in 2020/21 to \$105.90 per tonne in 2021/22. The Waste Levy for 2022/23 was \$125.90 per tonne.

The following graph shows the total tonnages of kerbside garbage, recycling and organics collected in Merri-bek in the 5-year period from 2018/19 to 2022/23.



Graph 1: Annual kerbside waste tonnages 2018/19 to 2022/23

Total waste generation per capita and per household for 2022/23

Estimates of waste generation per capita are based on kerbside waste tonnages and the Estimated Resident Population (ERP) for Merri-bek for each relevant financial year.⁴ The release of 2021 Census data has resulted in a decrease in the ERP from 2018/19 to 2022/23. This means that even though the annual tonnage of garbage collected in 2022/23 decreased the per capita amount has increased.

Estimates of waste generation per household are based on kerbside waste tonnages and the total number of households as estimated by Merri-bek City Council's forecasts for each relevant year. In 2022/23 revised data for housing has been used, as provided by Profile ID.⁵

Total waste generation includes the materials collected at kerbside from all bin-based waste streams i.e. garbage, recycling and organics.

The goal is to reduce total waste generation, not just waste sent to landfill, because whilst it is preferable to recycle items into other products this still represents a waste of resources (in the manufacture, transportation and reprocessing of materials). The preferred higher order goal in the waste hierarchy is to avoid generating waste in the first place.

Table 1 shows the average waste generation (in kilograms) per capita and per household in Merri-bek for the year **July 2022 to June 2023.**

Table 1: Total waste generation per capita and per household for 2022/23

Average garbage generation	Per week	Per year
Per person	3 kilograms	164 kilograms
Per household	7 kilograms	365 kilograms
Average recycling generation	Per week	Per year
Per person	1.5 kilograms	78 kilograms
Per household	3 kilograms	174 kilograms
Average organics generation	Per week	Per year
Per person	1.4 kilograms	75 kilograms
Per household	3 kilograms	168 kilograms
Average total waste generation	Per week	Per year
Per person	6 kilograms	318 kilograms
Per household	14 kilograms	708 kilograms

Waste generation (in kilograms) per person per year increased marginally for garbage and increased significantly for organics over the period July 2018 to June 2023.

Graph 2 shows the amounts (kgs) per stream of waste generated per person over five years from 2018/19 to 2022/23.

⁴ Source: Estimated Resident Population (ERP) for Merri-bek municipality, Australian Bureau of Statistics, 2021 Census data. Note that estimates of waste per capita for financial year 2021/22 are based on ERP 2021 and ERP 2022 for 2022/23.

⁵ Source: Estimated Resident Population (ERP) for Merri-bek municipality, Australian Bureau of Statistics. Note that estimates of waste per household for financial year 2021/22 are based on ERP 2021 and ERP 2022 for 2022/23.

350 300 75 75 64 69 43 250 85 82 85 78 200 150 100 170 159 50 0 2019/2020 2020/2021 2021/2022 2022/2023 2018/2019 ■ Garbage ■ Recycling ■ Organics

Graph 2: Total waste generation per capita from 2018/19 to 2022/23

Garbage

The average yearly amount of garbage generated by one Merri-bek resident increased from 163kgs in 2018/19 to 164kgs in 2022/23. **This represents a 0.5% increase in garbage generation per capita over 5 years.**

Recycling

The average yearly amount of recycling generated by one Merri-bek resident decreased from 82kgs in 2018/19 to 78kgs in 2022/23. This represents a 5% decrease in recycling generation per capita over 5 years.

Organics

The average yearly amount of organics generated by one Merri-bek resident increased from 43kgs in 2018/19 to 75kgs in 2022/23. **This represents a 74% increase in organics generated per capita over 5 years.** This could be attributed to an increase over this period in the number of households with an organics bin.

Total waste

The increase in organics recycling combined with the decrease in estimated population means that over the past five years total waste generation per capita increased by 10% from 2018/19 to 2022/23. However, when measured against the previous 12 month period total waste generation per capita decreased by 4% from 2021/22 to 2022/23 down from 330kgs in 2021/22 to 317kgs in 2022/23.

Measuring our progress

Council target:

Enable households to reduce the amount of material presented as waste (garbage) to below 7kg/hh/wk by 2022.

Recycling Victoria target:

Cut total waste generation by 15% per capita by 2030. (note: RV target set in 2020)

The results:

- In the year 2022/23 the average weekly garbage generation per household in Merri-bek was 7kgs (no change from 21/22).
- In the year 2022/23 the average total waste generation per capita in Merri-bek was 317kgs, a 1% increase from 313kgs in 2020/2021.

Bin composition: physical audit data (weight of materials)

Bin composition data is obtained through a physical audit of bin contents, where the materials are sorted into categories and weighed. The data tells us the percentage of materials in each waste stream, including the materials that belong in that bin and the materials that do not belong. This data helps us measure household compliance with the bin rules and where confusion exists around what goes in which bin.

Garbage stream - physical audit data

The 2015 Kerbside Garbage Audit sampled the garbage bin contents of 600 households (120 households per day over 5 days). The results of the 2015 garbage audit indicated that food waste made up over half (52%) of the contents of the garbage stream (counting containerised/packaged food waste) and 48% not counting containerised food, while resource loss (items that should have been placed in the recycling bin) made up a further 20%. Nappies and sanitary products accounted for 10% of the garbage stream.

The 2021 Kerbside Waste Audit (undertaken in November 2021) sampled the contents of 180 garbage, 180 recycling and 180 organics bins over 9 days (20 bins per day of each stream). The results of the 2021 waste audit indicated that food waste made up 41% of the garbage stream (counting containerised/packaged food waste) and 32.5% not counting containerised food, while recyclables accounted for 11%. Nappies and sanitary products accounted for 10% of the garbage stream, clothing and textiles accounted for 4.5% and pet waste (faeces and cat litter) made up a further 4%.

A summary of key findings from the 2015 and 2021 physical audits are presented in Table 2 below:

Table 2: Results of physical bin audits 2015 and 2021 for garbage

Category	% in garbage stream 2015	% in garbage stream 2021
Food (includes packaged food)	52%	41%
Garden organics	4%	3%
Nappies / sanitary products	10%	10%
Clothing / textiles	7% (includes other organic)	4.5%
Pet waste	counted in 'other organic'	4%
Other	5%	23.5%
Hazardous / E-waste	2%	3%
Recyclables (resource loss)	20%	11%

Resource loss - half of the 'waste' sent to landfill has value

Resource loss is defined as any item placed in the garbage bin that should have been placed in the recycling or organics bin for recovery. According to the 2021 audit, 55% of the materials in the garbage stream should not be sent to landfill and could be placed into another bin to be recycled or processed. The main items that count as 'resource loss' are recyclables and food and garden organics.

Recycling stream - physical audit data

The 2015 Kerbside Recycling Audit sampled the recycling bin contents of 600 households (120 households per day over 5 days). The 2021 Kerbside Waste Audit sampled the contents of 180 garbage, 180 recycling and 180 organics bins over 9 days (20 bins per day from each stream).

In 2015 glass bottles and jars made up 36% of the recycling stream, while paper and cardboard accounted for a further 35%, with contamination at 17%.

In 2021 glass bottles and jars made up 26% of the recycling stream, while paper and cardboard accounted for a further 31% and contamination made up 30%.

A summary of key findings from the 2015 and 2021 physical audits are presented in Table 3 below:

Table 3: Results of physical bin audits 2015 and 2021 for recycling

Category	% of recycling stream 2015	% of recycling stream 2021
Glass bottles and jars	36%	26%
Paper and cardboard	35%	31%
Recyclable plastic containers	7%	8%
Recyclable metal (steel, aluminium)	3%	4%
Liquid paperboard / other	2%	1%
Contamination	17%	30%

Contamination - wrong items in the recycling bin almost doubled in 2021

In 2015 the recycling contamination rate was 17%, this almost doubled in 2021, up to 30%. Items counted within the 30% contamination category in 2021 included glass fines (6.94%), bagged garbage (6.80%), other (4.48%), bagged organics (2.89%), non-recyclable rigid plastics (2.06%), containerised/packaged food (1.61%), clothing/textiles (1.17%), plastic films (1.16%), organics (0.97%), building materials/dirt/rock (0.70%), ceramics (0.52%), bagged recyclables (0.38%), e-waste (0.32%).

'Glass fines' are small pieces of glass that are too small to recycle. Glass fines were, by weight, the largest proportion of contamination measured. This material is a by-product of the collection process and not a direct result of user error. With the introduction of a separate glass recycling bin in July 2023 we should see a lower contamination in the mixed recycling stream in the next audit.

Organics stream - physical audit data

The 2021 Kerbside Waste Audit found **food waste** made up 5.5% of the organics stream, while **garden organics** accounted for a further 91%, with contamination at 3.5%. There is no pre-existing data to compare with the 2021 audit.

A summary of key findings from the 2021 physical audit are presented in Table 4 below:

Table 4: Results of physical bin audit 2021 for organics

Category	% of organics stream 2021
Food	5.5%
Garden organics	91%
Contamination	3.5%

Supplementary information: Home composting

The Compost Community program has been running in Merri-bek since 2016. The program provides subsidies and rebates for residents to purchase a wide range of home composting equipment, such as

compost bins, worm farms, bokashi bins and aerators, to suit a variety of living situations. Participants also benefit from the education resources available through the program such as website content, factsheets, mailouts, webinars and a compost helpline.

The number of households purchasing equipment through the program provides an indicator of the takeup of households directly composting their food and organic waste in Merri-bek. However, direct composting rates are difficult to measure. Many households will be composting with equipment procured from outside of the Compost Community program. Also, households who have previously participated in the program (i.e. purchased equipment) do not necessarily require equipment purchases each year.

In 2022/23, 195 households purchased compost equipment through the program, down from 325 households in 2021/22.

Measuring our progress

Council targets:

- Introduce a kerbside food and garden waste collection service (achieved 2019).
- Increase the number of households composting their food waste.
- Reduce the percentage of food waste in the waste to landfill stream.

Recycling Victoria target:

Halve organic material going to landfill between 2020 and 2030, with an interim target of 20% reduction by 2025.

The results:

- In 2010 an estimated 35% of households composted their food waste in Merri-bek (Household composting survey, 2010).
- Food waste was introduced into the opt-in kerbside green waste collection service in July 2019, and an estimated 75% of households in Merri-bek now opt-in to this service (Merri-bek bin data, 2022).
- Based on Council's physical bin audits it is estimated that food waste made up 41% of waste by weight collected in the kerbside garbage stream in 2021, which is an 11% reduction from 52% in 2015.
- As an indication of households directly composting their own waste; a total of 195 households purchased subsidised composting equipment through Compost Community in 2022/23.

Bin composition: visual audit data (frequency of bin contamination)

The Bin Inspection Program has been running in Merri-bek since 2010. The purpose of the program is to inform residents when they have put the wrong item in a bin (contamination) to increase awareness of correct bin use and to reduce contamination⁶. The program also acts to monitor contamination hotspots.

The visual bin inspection program is carried out monthly by Council's bin inspection contractors as part of its waste collection monitoring and education program.

Compared to physical audits which measure actual weights of bin contents as a proportion of the waste stream, visual inspections identify bins that are contaminated i.e. the proportion of households that are contaminating the contents of their bins. Visual inspections can be more readily and frequently implemented. Therefore, contamination data from visual audits can also provide a useful supplement to physical audit data by providing information on trends over time.

Recycling and organics bins are inspected for contamination. Bins found to have minor contamination (1 - 3 items) receive a bin tag indicating which items should not have been placed in the bin however the

⁶ Contamination is defined as any item placed in a recycling or organics bin that cannot be processed by the receiver.

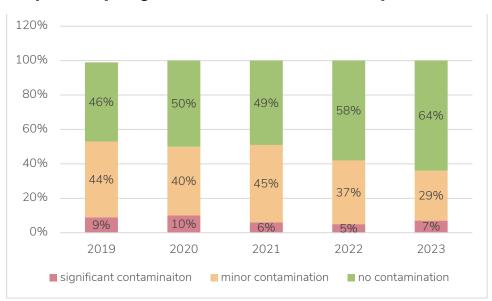
bin will still be collected. Bins found to have significant contamination (4 or more items of general waste or 1 or more items of hazardous waste) receive a rejection sticker on the lid and the bin will not be collected. Bins with correct items placed in them receive a 'well done' bin tag.

Bin inspections are conducted via a visual assessment by a trained auditor. The results are based on what auditors observe in the bins (generally at the top) and are different to the results obtained via physical waste audits which provide percentages based on weight for the composition of the bin. Bin inspections tell us <a href="https://doi.org/10.2016/journal.o

Recycling bins - visual inspections

Bin inspection results for recycling bins over the past 5 years indicate that on average over 50% of bins inspected are fully complying with the bin rules, and this number has increased over the period 2019 to 2023. As shown in Graph 3, the other half of bins inspected are found to be contaminated, with on average 7% of these bins having significant contamination and receiving a rejection sticker in 2023.

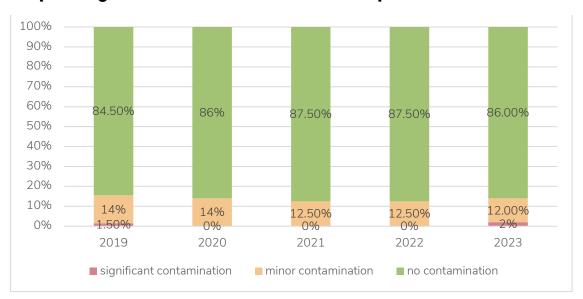
Visual bin inspections show a moderate improvement in contamination in the 5-year period from 2018/19 to 2022/23, with 64% having no observable contamination in 2023 up from 46% in 2019.



Graph 3: Recycling bin contamination – visual inspections from 2019 to 2023

Organics bins - visual inspections

Visual bin inspection results for organics bins over the past 5 years indicate that on average 5 in every 6 organics bins inspected were complying with the bin rules. The other 1 in 6 bins inspected were found to be contaminated, with on average only 2% of these bins having significant contamination and receiving a rejection sticker in 2023 as shown in Graph 4 below.



Graph 4: Organics bin contamination - visual inspections from 2019 - 2023

Measuring our progress

No Council or Victorian target:

There is currently no target at a local or state government level to reduce contamination in the recycling or organics streams.

The presence of contamination in these streams indicates that households are unsure about what to put in which bin. Contamination has multiple impacts including financial penalties for Council, risk to workers and machinery, and the loss or poor quality of materials affecting their value for use in manufacturing.

The results:

Physical bin audits indicate that:

- The contamination rate, by weight, in the recycling stream has increased to 30% in 2021 up from 17% in 2015.
- The contamination rate, by weight, in the organics stream was low, at 3.5% in 2021.

Visual bin audits indicate that:

- The proportion of households contaminating their recycling bins from 2019 2023 has decreased from over 50% in 2019 to less than 40% in 2023.
- Amongst households participating in the kerbside organics collection, household bin contamination rates have remained consistently low with less than 14% of participating households contaminating their organics bins from 2019 to 2023.

Hard waste service - from blanket to booked collection

The kerbside collection of hard waste accounts for 7% of the total waste managed by Council through its various waste management services. For almost 2 decades Council has collected hard waste via a blanket, or municipal-wide, service.

Up until 2018 residents received one hard waste collection of 1 cubic metre per year. A second municipal-wide hard waste collection per year was introduced in 2018, this resulted in an increase in the amount of hard waste collected annually, as can be seen in Graph 5 below.

Between 2018/19 to 2021/22 there was a 48% increase in the amount of waste collected and sent to landfill via Council's blanket hard waste collection service, with a steep increase in 2021/22 of 5,046 tonnes up from 3,392 in 2018/19.

The service also provides the opportunity to collect a range of items for recycling, however 2021/22 saw a decline in the amount recovered compared to previous years.

In July 2022 Council initiated a 12-month trial of a booked hard waste collection service, with residents and businesses able to book 2 collections per year. The amount and items accepted remained the same as the blanket service over the trial period.

The amount of waste collected during the 12 months of the booked trial decreased significantly when compared to the previous 12 months of the blanket service.

From July 2022 and June 2023, 1,218 tonnes of waste to landfill was collected through the booked service and 119 tonnes of material was recovered for recycling, with a 8.9% diversion rate. Over the final 2 municipal-wide collections in 2021/22, 5,046 tonnes of waste to landfill was collected and 518 tonnes of material waste recovered for recycling, with a diversion rate of 9.3%. The booked hard waste collection achieved a 75% decrease in the amount of waste sent to landfill and a 77% decrease in the amount collected for recycling.

6000 5000 4000 3000 2000 1000 0 2022/2023 2018/2019 2019/2020 2020/2021 2021/2022 (booked) Landfill Recycling Total Linear (Total)

Graph 5: Annual hard waste tonnages 2018/19 to 2022/23

Hard waste composition: visual survey data (proportional volume of materials)

Hard waste composition data is obtained through a visual survey of hard waste piles, where the materials are categorised and comparative weights are determined. The data tells us the percentage of materials in the hard waste stream, including the materials that are accepted in the collection as well as the materials that are not accepted. This data helps us measure household compliance and better understand community disposal needs.

In addition to assessing composition, the survey also determined the proportion of materials placed out for collection that could have been reused, repaired and recycled.

Graph 6 below shows that furniture is the most common item placed out for hard waste collection, comprising 43% of materials surveyed. Mattresses made up 10% and textiles 8% of the materials surveyed. Cardboard is a household recyclable and therefore not accepted through the hard waste collection, yet it still made up 9% of materials surveyed, demonstrating that there is community demand for cardboard collection.

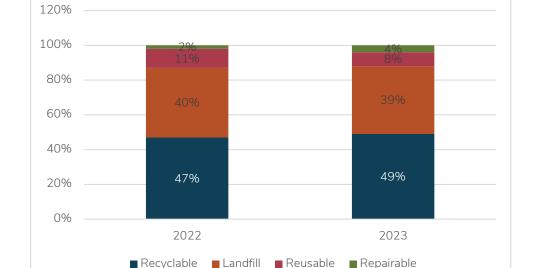
Garbage E-waste Whitegoods Other 1% 2% 1% Garden organ 2% 2% Metal 7% Timber, wood 7% Furniture 43% Rigid plastic 8% Textiles 8% Cardboard Mattress

Graph 6: Hard waste composition: visual survey data 2022

9%

The hard waste audit determined the percentage of items that were potentially recoverable for reuse, repair or recycling. Graph 10 below shows that the survey found 11% of items placed out for collection were potentially reusable (the majority of these items were furniture); 47% of items were recyclable (including both compliant and non-compliant items); 40% of items were landfill (not suitable for reuse or repair); and 2% of items were repairable.⁷

10%



Graph 7: Hard waste potential for recovery: visual survey data 2022 and 2023

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⁷ Source: Hard waste audit, 2022

Measuring our progress

No Council or Victorian target:

There is currently no specific local or state government target focused on reducing the amount of waste sent to landfill via the hard waste collection service.

The results:

- Since 2018/19 the amount of waste sent to landfill via the hard waste blanket service increased by 39%, up from 3,392 tonnes in 2018/19 to 5,046 tonnes in 2021/22.
- Since 2018/19 the amount of waste recovered for recycling via the hard waste service decreased by 9%, down from 569 tonnes in 2018/19 to 518 tonnes in 2021/22.
- The introduction of the booked hard waste service in July 2022 saw a decrease in the amount of waste sent to landfill, down from 5,046 tonnes in 2021/22 to 1,2018 tonnes in 2022/23, which is a 75% decrease. The amount collected for recycling also went down from 518 tonnes in 2021/22 to 119 tonnes in 2022/23, a 77% decrease.

Recycling stations at customer services centres

Council provides an additional service to enable the recovery of items for recycling. Three recycling stations, located at our customer service centres, provide a recycling option for targeted items not accepted in the kerbside system. These items include fluorescent globes and tubes, mobile phones, batteries, VHS and cassette tapes, CDs and DVDs, and eye glasses. From July 2022 to June 2023 the amounts collected for recycling were:

Item	Weight (kgs)
Mobile phones	57
Household batteries	816
Fluorescent tubes + globes	284
CDs/DVDs/tapes	989
Other small e-waste	183

Waste collection, receival and disposal contracts

Service	Delivery model / contractor	Expires
Garbage, Recycling and Organics collection - North of Bell Street	In-house	
Garbage, Recycling and Organics collection - South of Bell Street	Citywide	2024
Garbage disposal	Cleanaway Melbourne Regional Landfill (MRL) Regional contract	2026
Recycling receival	Visy Heidelberg Materials Recovery Centre (MRF)	2026
Organics receival	Veolia Bulla Organics Facility, Regional contract	2028
Hard Waste collection	WM Waste Management	2026
Hard Waste disposal / recycling	Cleanaway, Sims Metals, others	2026

Sources of data

Estimated Resident Population (ERP)

Each year the Australian Bureau of Statistics (ABS) releases an estimate of the population for each 'Statistical Area 2' (SA2) and municipality (local Government Area). The most current ERP at the time of writing and used in this report is the 2021 data release. Further information can be found online: abs.gov.au/statistics/people/population/regional-population

Waste tonnages

Waste tonnage data is updated weekly and reconciled monthly by the Moreland city Council Waste Services team. Tonnages are taken from truck weights recorded on the weigh bridge at disposal and processing facilities. This data is aggregated to establish the total waste generation as well as the amount per stream each financial year.

All material collected via the kerbside recycling bin is counted as recycling however some of this material (contamination) will be sent to landfill by the processor.

All material collected via the kerbside garbage bin is counted as landfill however some of this material (resource loss) could have been diverted from landfill into recycling or organics processing.

Waste stream composition - physical waste audits

The composition of material in the different waste streams is determined through a physical audit of bins. The contents of a representative sample of bins from each waste stream are separated into categories and weighed. The 2021 audit used a sample of 180 bins per stream. The weights are converted into percentage of total bin content.

Bin contamination - visual bin inspections

The presence of contamination in recycling and organics bins is identified through bin inspections. The results are based on what auditors observe in the bins and are different to the results obtained via physical waste audits which provide percentages based on weight for the composition of the bin or waste stream. Bin inspections tell us the how many bins are found to contain contamination as opposed to waste audits which tell us how much contamination is in a bin or waste stream.