

**Metropolitan
Waste and Resource
Recovery Group
Hard Waste Services
Leading Practice Guide**



**METROPOLITAN
WASTE AND
RESOURCE RECOVERY
GROUP**



Creative Commons



This publication is licensed under the Creative Commons Attribution 3.0 Australia License. In essence, you are free to copy, distribute and adapt the work, as long as you attribute the work and abide by the other license terms. To view a copy of this license, visit www.creativecommons.org/licenses/by/3.0/au

Disclaimer

This publication is for general information purposes only. The State of Victoria does not guarantee that this publication is comprehensive, without flaw or appropriate for your needs. You should make your own inquiries or seek independent professional advice before relying on anything in this publication. The State of Victoria disclaims all liability for any error, loss or damage that may arise as a result of you relying on anything contained in this publication.

Accessibility

If you would like to receive this publication in an accessible format, such as large print, telephone the Metropolitan Waste and Resource Recovery Group on (03) 8698 9800 or email metro.waste@mwrrg.vic.gov.au

Acknowledgements

MWRRG would like to thank the following organisations for their contributions during the development of this guide:

- Banyule City Council
- City of Boroondara
- Brimbank City Council
- Glen Eira City Council
- City of Greater Dandenong
- Kingston City Council
- Knox City Council
- Manninghm City Council
- Melton City Council
- City of Monash
- Moonee Valley City Council
- Moreland City Council
- Mornington Peninsula Shire
- Nillumbik Shire
- Stonnington City Council
- Sustainability Victoria
- Yarra Ranges Council
- Victorian Waste Management Association
- WMS Knox transfer station

At a glance	4
Introduction.....	5
Step 1: Understanding hard waste and a hard waste service	6
1.1 Council’s role in delivering hard waste services.....	6
1.2 What is hard waste?	6
1.3 What isn’t hard waste?.....	6
1.4 Service cost, yield and frequency.....	7
1.5 Types of hard waste services.....	7
1.5.1 Blanket collections	7
1.5.2 Booked collections	7
1.5.3 Combination collections.....	7
Step 2: Promoting safety and accessibility	9
2.1 Social equity and ensuring access for all	9
2.2 Leading practice in health and safety for hard waste collections.....	9
2.3 Supporting communities	11
2.4 Multi-unit developments (MUDS).....	11
Step 3: Designing the hard waste service	12
3.1 Exploring opportunities to recover hard waste.....	12
3.2 Avoiding hard waste.....	12
3.3 Facilitating opportunities to reuse household items.....	14
3.3.1 Adopting a pre-assessment scheme for hard waste	15
3.4 Creating opportunities for recovering hard waste.....	15
3.4.1 Promoting transfer stations and commercial collections	15
3.4.2 Charity stores and social enterprise	15
3.4.3 Exploring recycling targets for new collection services.....	15
3.4.4 Source separating at the kerbside	16

3.4.5 Determining the amount of household material to be collected.....	16
3.4.6 Linking collections with facilities that receive and recover waste.....	16
3.5 Priority materials and facilitated group procurement.....	17
3.6 Understanding constraints and opportunities in different neighbourhoods.....	19
3.6.1 Scavenging	21
3.7 Dumped rubbish and prevention	22
Step 4: Procuring hard waste services.....	23
4.1 Developing the service model	23
4.1.1 Hard waste service models.....	23
4.2 Collaborative procurement	24
4.3 Determining service needs	25
4.4 Leading practice hard waste contracts	25
4.5 Measuring performance.....	26
4.6 Continuous improvement and benchmarking hard waste performance.....	26
Step 5: Communicating and promoting hard waste services.....	27
5.1 The 'what', 'how' and 'when' of communication.....	27
5.2 Determining the message.....	28
5.3 Target audiences	29
5.4 Capturing feedback.....	30
Figures	
Figure 1: Hard waste services offered by Melbourne councils.....	8
Figure 2: The waste hierarchy	12
Figure 3: Communication methods used by Melbourne councils.....	28
Figure 4. Total hard waste service costs, 2001-2013	33
Figure 5. Tonnes of hard waste collected and disposed, 2001-2013.....	34
Figure 6. Annual household yield (kg), 2001-2013	34

Figure 7. Costs per tonne versus cost per household, 2001-2013	35
--	----

Tables

Table 1: Metropolitan Melbourne hard waste service cost, yield and frequency.....	7
Table 2: Booked versus blanket collections: considerations	8
Table 3: Factors to consider when designing a hard waste service	20
Table 4: Communication approaches for key target audiences	29

Appendices

Appendix 1: Overview of hard waste collection in metropolitan Melbourne hard waste	31
Appendix 2: Classification of metropolitan Melbourne councils	35
Appendix 3: Alternative pathways for non hard waste items.....	36
Appendix 4: Example hard waste communication material.....	39

At a glance

The Hard Waste Services Leading Practice Guide sets out ideas, tips and guidance for council hard waste collection services. The guide challenges accepted thinking and encourages councils to move beyond existing practice and harness opportunities for boosting reuse and recycling of hard waste.

The guide is based on the following leading practice principles:

- councils and residents should recognise that there is a significant cost associated with managing hard waste and these costs can be reduced by taking advantage of alternative means of managing, collecting and disposing of large, unwanted items
- the design of hard waste services should reflect the waste hierarchy and encourage residents to utilise reuse and recycling opportunities before using a council's hard waste collection service
- hard waste services should complement other waste management services that a council provides
- options for managing hard waste (including alternative collection options) should be accessible and promoted to all residents, including those who have limited mobility as well as individuals living in culturally and linguistically diverse communities
- hard waste services must comply with the relevant occupational health and safety and hazardous waste management legislation.

The guide provides five steps that councils can use to deliver hard waste services that meet their residents' needs in an efficient and cost effective way, while reducing the amount of waste that goes to landfill:

Step 1: Understanding hard waste and a hard waste service - looks at the role that councils play in helping communities manage their hard waste. It explains what hard waste is and what it isn't as well as discusses different types of hard waste service models.

Step 2: Ensuring safety and accessibility - explores the issues that residents face when trying to access hard waste services and the needs of different communities and neighbourhoods. Managing health and safety is an important aspect of delivering hard waste services and the guide draws upon advice provided by WorkSafe Victoria through its Safe Collection of Hard Waste Handbook.

Step 3: Designing a hard waste service - looks at redesigning hard waste services to increase reuse and recycling and encouraging residents to take advantage of services provided by commercial and social enterprises to deliver environmental and financial benefits for the community.

Step 4: Procuring a hard waste service - examines different ways of procuring hard waste services, including the use of group procurements which can reduce service costs while providing better options for managing unwanted hard waste items. Setting key performance indicators for service delivery, and collecting and analysing data on contractor performance. These are key ingredients to achieving continuous improvement in service delivery.

Step 5: Communicating and promoting a hard waste service - discusses communication and engagement methods that councils can use to help residents understand the problems of sending hard waste to landfill and raise awareness of alternative ways of managing hard waste that achieve better environmental outcomes.



Introduction

The Hard Waste Services Leading Practice Guide has been developed to support councils to move beyond existing practice and harness opportunities to maximise the reuse and recycling of hard waste.

Hard waste collections are a part of the broader metropolitan waste and resource recovery network, which managed around 10.4 million tonnes of waste in 2014-15. Of this, around 2.8 million tonnes was landfilled. Population will continue to drive waste generation, and it is projected that Melbourne will manage around 16.5 million tonnes by 2041, of which an estimated 4 million tonnes will be landfilled.

All 31 metropolitan Melbourne councils offer their residents a hard waste collection service that residents pay for either through council rates or through a separate charge.

In 2012-13 over 94,911 tonnes of hard waste was collected from 1,655,191 households (comprising of an average of 57kg per participating household). This represents a near doubling of the amount collected in 2001-02, when 47,729 tonnes was collected, an average of 38kg collected per participating household.

In addition to increasing volumes of hard waste, costs have also risen. In 2001-02 the average cost of collecting and managing a tonne of hard waste was about \$106 per tonne. By 2012-13 this had increased to \$256 per tonne. In the same period the average cost of collecting hard waste from each participating household increased from around \$4 per household in 2001-02 to nearly \$14 in 2012-13.

The recovery rate for hard waste materials showed significant decreases between 2001-02 and 2010-2011 (dropping from 22% to 9%) but has rebounded to 24% in 2013-14.

Although much has been achieved in recent years to improve the management of hard waste, there is a strategic imperative to make hard waste collections more cost effective, to increase the amount of material that can be recovered and support residents to reduce hard waste generation.

This guide offers tips to support councils design and deliver a leading practice hard waste service. Leading practice includes:

- improving resource recovery and achieving best value
- making residents aware of the role that they can play in managing their own waste
- helping all members of the community identify and access hard waste services
- mitigating the risks associated with managing hard waste.

The guide sets out five steps that councils can use to deliver hard waste services that meet their residents' needs in an efficient and cost effective way, while reducing the amount of waste that goes to landfill.

Step 1: Understanding hard waste and hard waste services

1.1 Council's role in delivering hard waste services

Hard waste collections provide households with the opportunity to dispose of items not normally accepted or possible to fit into a kerbside residual, commingled or garden organics bin.

All metropolitan councils provide hard waste collection services for their residents.

A survey of metropolitan councils undertaken by the Metropolitan Waste and Resource Recovery Group (MWRRG) has found that the use of hard waste services by residents varies across the metropolitan region. Usage is influenced by a range of factors, including the extent to which residents are aware of a council's hard waste service or alternative management options such as local transfer facilities or community enterprises that provide drop off opportunities for residents.

Collecting usage data can help benchmark performance and can be an important first step in rethinking how a council provides its hard waste services to residents (see Section 4.6).

1.2 What is hard waste?

Hard waste generally consists of materials (usually inert) that cannot be collected through kerbside collection bins. The definition of 'hard waste' varies across metropolitan Melbourne as each council defines what materials they will accept in their hard waste collection.

Most metropolitan Melbourne councils typically include the following materials in hard waste collections:

- white goods
- timber (limits on length may apply)
- mattresses (limits on number per collection may apply)
- metals
- e-waste
- general household goods and furniture.

It is common for councils to place restrictions on the types of materials that residents may place out for collection as hard waste, either due to health and safety concerns or for financial reasons. Restrictions are imposed through the following means:

- exclusion of particular materials, for example some councils will not collect glass as hard waste
- quantity/volume caps of material per collection
- size limitations on individual items.

1.3 What isn't hard waste?

The following items are excluded by most metropolitan Melbourne councils:

- asbestos
- gas bottles
- paint
- tyres
- chemicals.

Options for the management of these materials include resource recovery centres, transfer stations, drop-off and collection points or landfill (where no other recovery avenue is available). See Appendix 2: Alternative pathways for non-hard waste items.

Leading Practice Tips

- Understand how much hard waste services cost and how the cost is recovered
- Collect and analyse data on residents' usage of hard waste collection services
- Be clear about which materials are defined as hard waste and which materials are not
- Investigate the advantages of offering a booked service, or restricting hard waste services to those residents who cannot take advantage of other management options

1.4 Service cost, yield and frequency

Metropolitan Melbourne councils collectively spend more than \$24 million in providing annual hard waste collection services. Outer metropolitan councils account for 64% of this spend.¹ The metropolitan recovery rate of kerbside hard waste is relatively low at 24%.

Table 1 sets out cost, yield and frequency for metropolitan collections in 2012-13.

Table 1: Metropolitan Melbourne hard waste service cost, yield and frequency 2012-13

	Inner metro	Outer metro	Metro fringe	Metro total
Annual service cost	\$5,494,035	\$15,684,215	\$3,189,214	\$24,367,464
Tonnes collected	16,763	67,281	10,867	94,911
Tonnes disposed to landfill	14,085	47,074	10,667	71,826
Recovery rate	16%	30%	2%	24%
Total households participating	491,749	976,706	186,736	1,655,191
Cost per tonne	\$327.75	\$233.12	\$293.48	\$284.79 (average)
Cost per household	\$11.17	\$16.06	\$17.08	\$14.77 (average)
Household yield (kg)	34	69	58	57 (average)
Service frequency:				
Annual	4	4	1	
Blanket	1	1	1	
Monthly	-	-	-	
Booked	5	12	2	
No. local governments	10	17	4	31

Source: Victorian Local Government Annual Survey 2012-13, Sustainability Victoria

1.5 Types of hard waste services

Figure 1 shows the different approaches to managing hard waste collection services across metropolitan Melbourne. These are divided into three approaches: blanket collections, booked collections or combined collections.

Each approach has different advantages and disadvantages, Table 2 provides a summary of each.

1.5.1 Blanket collections

Blanket collection is a 'one size fits all' approach, offering a hard waste service to all residents at least once each year at a scheduled time. Blanket collections are generally charged through council general rates or as part of the municipal waste charge placed on all residential properties. The time and day of a household's hard waste collection is determined by the council in consultation

with the contractor (where applicable). Seven of the 31 metropolitan councils offer blanket collection services.

1.5.2 Booked collections

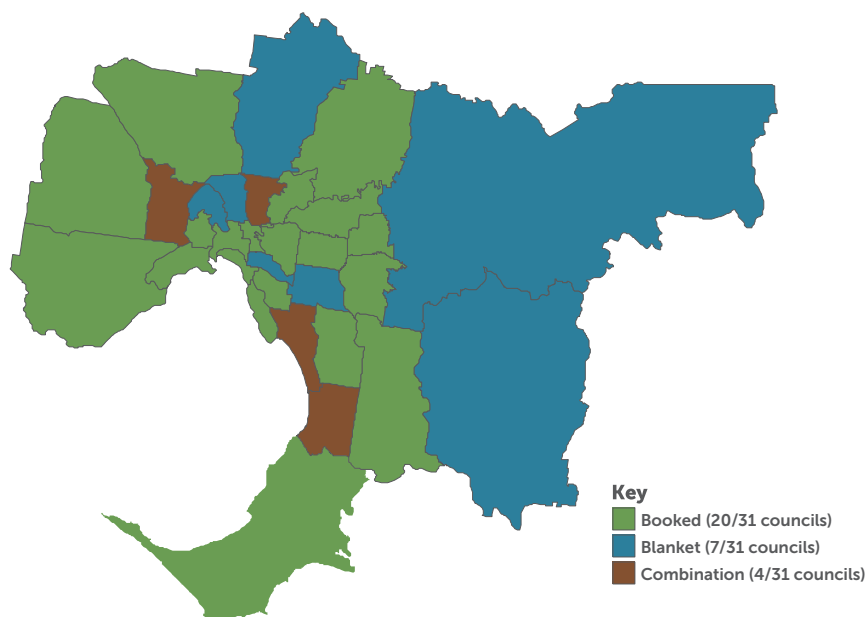
Booked collections give residents the option of arranging a collection at any point throughout the year. Residents will have access to a limited number of booked collections annually. Some councils allow residents to book additional collections for a fee. This model is the most popular in Melbourne with 20 of the region's 31 councils offering a booked collection.

1.5.3 Combination collections

Four metropolitan councils offer a combined blanket and booked service. This is usually offered as a blanket service, with a subsidised booked service offered as needed.

¹ Victorian Local Government Annual Survey 2012-13, Sustainability Victoria

Figure 1: Hard waste services offered by metropolitan Melbourne councils



Note: As of late 2014-15 council hard waste service delivery.

Table 2: Booked versus blanket collections: considerations

Aspect	Blanket	Booked
Resource recovery/ source separation	The large volume and number of daily collections may reduce the opportunity to source separate.	A reduced number of collections and volume of material may provide more opportunity for re-use and source separation
Impact on scavenging	Scavenging is likely to be higher given the greater volume of material present in the municipality at the same time	As collection times and days vary according to residents' needs, there is less material across the municipality available for scavenging. If residents place material out too early, scavenging is more likely
Equity	A blanket service encourages participation as residents respond to the visual signal of neighbours placing hard waste out for collection.	A booked service requires effort from residents to arrange the collection. Those not familiar with the process or for some reason unable to arrange a collection may not benefit from the service
Flexibility	General communication provided in the form of waste calendars and other notices. In addition, a blanket service has limited flexibility to meet residents' needs. This may be less of an issue where there is a local transfer station or resource recovery centre.	A booked service has a high ability to cater for transient residents and their schedules, providing residents are aware of the service
Cost of service	Increased service costs with more material to collect and manage.	Reduced service costs with less material required to be collected and managed

Step 2: Promoting safety and accessibility

2.1 Social equity and ensuring access for all

Residents' ability to manage hard waste can be influenced by:

- limited awareness of local options for managing large waste items and/or the hard waste service provided by a council
- interest in using the service or being proactive about managing hard waste
- timing of the service (in the case of blanket collections)
- limited ability to transport items to transfer facilities or participate in a council hard waste service because of limited mobility or other access issues
- disability, mobility issues or communication barriers.

Many of these issues will not be unique to council hard waste services and working with the communications and community services departments within council can help identify ways to deal with access issues.

2.2 Leading practice in health and safety for hard waste collections

Keeping people and property safe must be central to the design and delivery of a hard waste service.

To help reduce manual handling and other safety risks associated with hard waste, WorkSafe Victoria, in conjunction with industry stakeholders, has published a handbook on the safe collection of hard waste⁴. The guidelines, which apply both to private and council collections, provide employers, contractors and councils with information on how to safely collect domestic hard waste. The advice in the handbook is widely recognised by the waste management industry as good practice, but the handbook notes employers have a responsibility to continuously improve and update management of occupational health and safety.

WorkSafe recommends reducing manual handling and exposure risks by encouraging oversized and hazardous waste items to be disposed of directly to transfer facilities. The risk of slips and trips can be reduced by making sure that crews have adequate time for collections and do not have to rush between pickups. Health and safety risks associated with waste being placed on pathways can be reduced by arranging to collect waste from within property lines.

WorkSafe's handbook recommends that:

- waste is placed on the kerbside for a minimum period
- hard waste should be stored and collected from within the property line for booked services
- residents are clearly informed about the types of hazardous waste that will and will not be collected
- residents are provided with alternative collection methods and contacts for hazardous waste services such as Sustainability Victoria's 'Detox Your Home' program and other statewide programs
- councils respond promptly to hazardous waste placed on the kerbside.

Where blanket collections are offered by councils, or where there may be a delay of several days before hard waste from a booked service is collected, there is a risk that lighter fractions of the waste may become mobilised by high winds and endanger pedestrians, cyclists and motorists. This situation may be made worse by scavengers who disturb the hard waste piles placed out by residents. Scheduling blanket collections to avoid high wind periods – such as during the spring months – can help to reduce this risk, as will prompt collection of the waste from nature strips.

It is also important to consider the health and safety of residents when material has to be placed on the kerbside for collection. Information on how to move hard waste safely can be provided to residents through communication materials. This may include:

- advice on correct manual handling methods for heavy items
- advice on the equipment that is available for moving heavy items
- encouraging residents to contact support networks
- advising residents to place hard waste so that it doesn't obstruct pathways or roadways, or block the vision of pedestrians and road users.

⁴ WorkSafe Victoria: A Handbook for Workplaces – Safe Collection of Hard Waste, Edition No. 1 November 2008

Leading practice tips

- Work with stakeholder groups and other interested parties to learn about residents' hard waste needs and share targeted information about local hard waste management opportunities
- Understand what is limiting residents' knowledge of management options for hard waste
- Work with other council departments to find solutions to service access issues
- Educate residents on how hard waste should be presented for collection
- Understand local traffic conditions and how these impact hard waste collections
- Limit the amount of hard waste that residents can dispose of through the hard waste collection service
- Use the WorkSafe hard waste collection handbook to develop appropriate OH&S procedures for hard waste collections



**Stack One:
Hard Rubbish**



**Stack Two:
Metals, Whitegoods & E-Waste**

Source: Monash City Council

2.3 Supporting communities

Victoria has been enriched by the presence of people from all over the world. Victorians come from more than 200 countries, speak approximately 260 languages and dialects. Social research undertaken by Sustainability Victoria and MWRRG in 2012 as part of developing the 'Get it Right on Bin Night' recycling education campaign indicated that culturally and linguistically diverse (CALD) communities can experience a number of barriers when accessing waste and recycling services, including language and education.

Working with council, community development team can help identify demographics and tailor solutions that meet community needs.

Some suburbs have a high proportion of transient residents, such as students and renters. Providing targeted information and messages for all residents helps ensure they can successfully use the hard waste service.

- Students – provide information about local hard waste management options through the student services departments of local universities and other education providers
- Renters – provide information about community re-use schemes and local hard waste collection arrangements to real estate agents for inclusion in renters' documentation
- New buyers - provide information directly to new residents through council welcome packs.

2.4 Multi-unit developments

Collecting hard waste from Multi-unit developments (MUDs) can be a challenge, especially in high-rise apartments where access is through lifts and corridors or from older buildings that do not have space for bins or controlled areas for larger items.

Discussing access issues with property managers can help identify practical solutions that meet the needs of both residents and collectors. For future developments, council planning departments should consider how provision can be made at the design stage for temporary storage areas for hard waste. These concepts extend beyond apartment blocks, with similar issues and recommendations being relevant to retirement villages and caravan parks.

Coordinated approaches involving multiple council departments, such as waste management staff liaising closely with planning teams, can help resolve many of the hard waste problems in MUDs or in neighbourhoods with large populations of transient residents.

Responding to challenges of MUDs

MUDs are creating challenges for waste management and resource recovery. MUDs often have lower resource recovery rates and higher contamination rates compared with single dwellings.

There are a number of design and planning issues that create barriers to effective and efficient waste management and recycling in MUDs including:

- inappropriate waste collection infrastructure or insufficient storage for waste and recycling
- limited opportunities for residents to recycle
- difficulties with access for collection vehicles.

The number MUDs is increasing rapidly across metropolitan Melbourne. There are now more than 49,000 apartments in the Melbourne CBD, with an additional 27,000 planned to be completed by 2017. This growth places pressure on councils to increase the level and type of waste services that they provide.

MWRRG has responded to these key issues by establishing a MUDs working group with 11 councils.

The working group has produced:

- draft templates to support waste management planning
- draft check list to support council officers assessing waste management plans
- draft check list for developers to assist in preparing waste management plans.

The MUDs working group members are currently trialling these documents through their planning approval processes.

For more information visit: www.mwrrg.vic.gov.au

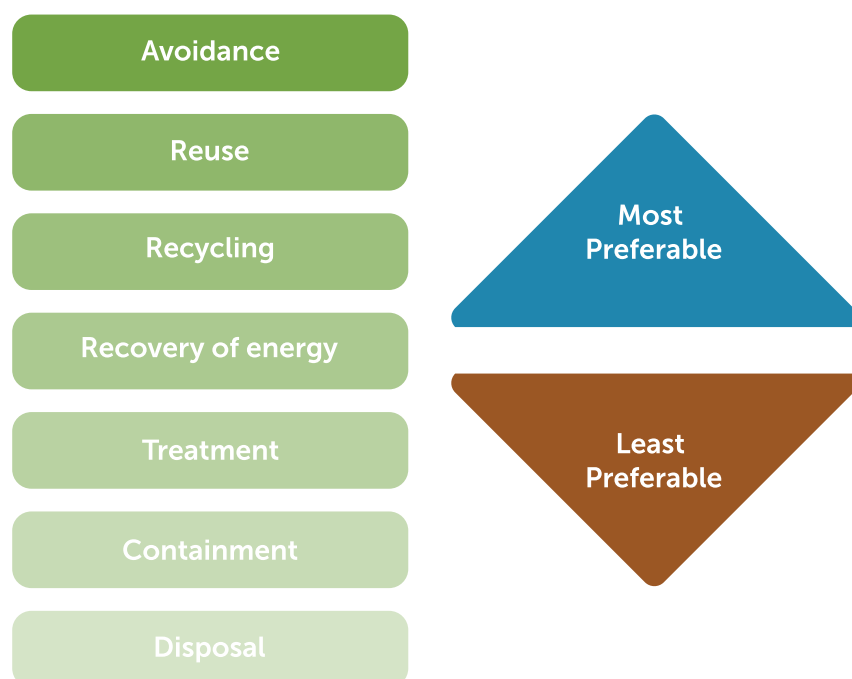
Step 3: Designing the hard waste service

3.1 Exploring opportunities to recover hard waste

Renewing hard waste contracts are an opportunity to explore how council can maximise diversion of hard waste from landfill, while meeting community needs and achieving greater cost efficiencies.

The waste hierarchy is a good starting place to work through opportunities to avoid, reuse and recycle hard waste. Thinking across the life cycle of hard waste materials can be a good approach to designing an integrated hard waste service that can harness community reuse schemes, and incentivise industry to innovate through tendering processes.

Figure 2: The waste hierarchy



3.2 Avoiding hard waste

The best way to reduce waste is to avoid creating it in the first place. Residents can be supported to reduce waste through education and awareness programs.

This can be achieved by:

- purchasing only what is needed
- avoiding disposable products
- buying products which are durable, reusable and recyclable
- repairing instead of replacing
- donating items to charity.

Leading practice tips

- Understand the community: what services do they need, how do neighbourhoods differ?
- What reuse opportunities exist in the municipality? How can the community comment with these services?
- Provide your community with information about reuse and recycling items. This can be done through a hard waste checklist or calendar
- Deliver the service, seek feedback and review the service delivery
- Analyse waste collected and identify opportunities to reuse and recycle items
- Share hard waste collection information with other councils
- Have an ongoing program to manage dumped rubbish especially around hard rubbish collection times

Case Study: Small Electrical Appliance Recovery Project

The Small Electrical Appliance Recovery Project was a pilot collection system that Bright Sparks Australia delivered on behalf of five local councils (Moreland, Boroondara, Darebin, Whittlesea and Yarra) for the donation, repair and recycling of small electrical appliances.

The project objectives were to:

- repair, reuse and recycle a significant number of small electrical appliances across five local councils
- provide an easy and affordable option for consumers to reuse and recycle their small electrical appliances
- provide useable electronic appliances to low income and/or vulnerable households
- recycle ferrous, non-ferrous and rare metals together with a range of engineering plastics
- explore the potential for expansion across metropolitan Melbourne, leading to a national program.

From August 2015 to April 2016 the pilot diverted 6,132 electrical appliances from landfill, equating to almost 15 tonnes of e-waste. Whilst the pilot demonstrated there is a demand for this type of service there are also significant costs associated with this type of service.

The major result from the delivery of this pilot project was that for a period of time there was an avenue for people to dispose of unwanted, old or broken electrical appliances instead of sending them to landfill.

The following are the key findings from the pilot project:

- the cost to provide the service in the future will need to be further evaluated.
- there are people looking for a means to dispose of unwanted, old and broken small electrical appliances so they don't end up in landfill.
- some users were willing to travel distances if it means their unwanted, old and broken small electrical appliances could be rescued from landfill.
- greater involvement from, or a partnership with, the recycling industry will benefit this type of service in the future.
- accessing local government and social media communication channels can be utilised successfully on a minimal budget.
- even though the project was specifically targeted to residents within the five partner councils, over half the items donated were from people living outside these municipalities.
- people engaged in the pilot said they would be willing to pay to use the services offered by Bright Sparks Australia.



For more information visit: www.moreland.vic.gov.au

3.3 Facilitating opportunities to reuse household items

Recovering materials before residents put them on the kerb for council collection requires residents to play a much more active role in managing waste. Councils can play a strong leadership role through facilitating community reuse and supporting residents to consider and act on alternatives.

Research the range of community reuse schemes and not for profit (NFP) providers in the local municipality. Consider engaging with NFP providers to explore partnership arrangements for receiving residential hard waste items for community reuse. Partnerships may be formal logistical arrangements for collecting and distributing items. They could also be a simple arrangement, such as promoting and providing a community directory of NFPs which will accept hard waste.

Council and NFP partnerships can benefit both residents and the community sector. It is essential to engage with the sector before widespread promotion of community schemes to ensure community providers have capacity to receive projected quantities of materials.

Social media also supports community reuse. Opportunities include:

- commercial trading websites where residents can sell unwanted household items
- local 'buy, swap, sell' pages on social media platforms such as Facebook, or websites created to allow residents to give away or receive unwanted household items for free.

Councils may also host or promote activities such as such as car boot sales, community markets or garage sales.

Councils can also promote opportunities for residents to take advantage of local trading options. Ensure all promotional material includes information for residents on their rights and responsibilities, as well as staying safe in an online environment. Consumer Affairs Victoria has useful information - www.consumer.vic.gov.au.

Case Study: The City of Boroondara's bicycle recycling scheme

Since August 2014, the City of Boroondara has been working with Collingwood based Second Chance Cycles. The not-for-profit organisation takes bikes that have been collected through the council's hard waste service and transfer stations, and trains community members to become bike mechanics. The refurbished bikes are provided to low income earners at little or no cost. In the first five months of the scheme more than 100 bicycles were re-homed.



For more information visit: www.boroondara.vic.gov.au

3.3.1 Adopting a pre-assessment scheme for hard waste

An efficient way to divert hard waste from council collection services is to implement a hard waste pre-assessment scheme. This opportunity works best with booked collections and it requires close cooperation with local commercial and community enterprises, including council transfer facilities. When a resident requests a booked collection service (or completes an online service request form) he or she is taken through a list of hard waste items on a checklist.

Where local reuse or recycling options exist for particular materials (such as bicycles, cardboard, scrap metal, furniture, etc.) the resident is provided with the contact details of the appropriate organisation so that hard waste is collected by council is strictly limited to those items for which no alternative management option exists. Such an approach may provide an effective means of helping residents manage hard waste in the face of increasing financial restrictions.

3.4 Creating opportunities for recovering hard waste

3.4.1 Promoting transfer stations and commercial collections

Often opportunities to recycle materials – such as televisions, computers or metals, are available through council transfer stations or through private companies and collection points. Limited awareness of what other services are available to the community can mean residents will tend to rely on council hard waste collections services.

Ensure residents are aware of local transfer station facilities available to them. To ensure recycling is maximised, guide residents to separate materials so that they can be easily sorted for recycling at the transfer station. If recycled materials are accepted for free or a discounted rate, promote these savings to encourage recycling.

There are many commercial providers that will collect household hard waste. Councils can choose to promote use of commercial services as an option for residents, be sure to offer tips so that households can select providers that recycle as much material as possible.

For example – when making enquiries residents could ask “What and how much material can you recycle? Where is the material taken to be recycled?”

3.4.2 Charity stores and social enterprises

Residents should be encouraged to donate unwanted good quality furniture and household items to charity stores or social enterprises for reuse. These items are sold to raise funds for community programs or donated to disadvantaged individuals or families. It is important to ensure that residents are advised to confirm that their items are suitable and will be accepted.

Unfortunately, a large percentage of donated items are unsuitable for sale and must be disposed of by the charity organisation. Disposing of these unsuitable goods is a cost to the charity and diverts both money and staff resources that could otherwise have gone towards the provision of community programs. Many of these items have been donated with good intention but are not accepted (i.e. televisions) or damaged beyond repair. Items donated outside of operating hours are also often unsuitable due to being exposed to weather or damaged by scavenging activity.

The Victorian Litter Action Alliance (VLAA) has free online publications to provide practice guidelines for managing litter and illegal dumping at clothing bins and charity stores. Visit: www.litter.vic.gov.au

3.4.3 Exploring recycling targets for new collection service

Designing new hard waste collection services is a great opportunity to test community and council appetite to set recycling targets in new contracts. Industry is well placed to innovate in a cost effective way if there are commercial incentives to do so.

Consider running a stakeholder and community engagement program to help redesign hard waste services. Local industry and community can be a great source of local knowledge and insight, and can help design a cost effective service that meets the community’s needs and expectations. Councils’ engagement or communications teams can help. MWRRG can also provide assistance with designing a strategic engagement process.

MWRRG’s long term aim is to reduce metropolitan Melbourne’s reliance on landfill, so we encourage all opportunities to improve current recycling rates as well as activities that will contribute to an improvement in long term landfill diversion rates.

When modelling the potential impacts of different contractual recycling targets, it is useful to reference council’s current hard waste recycling rate, and the current metropolitan Melbourne hard waste recycling rate of 24% (2012-13).

Measuring the effectiveness and success of a new service is crucial for building council and community confidence that their new service and the effort they are putting into it is delivering better recycling and environmental outcomes. As well as exploring recycling targets, it is useful to explore success indicators to help manage new contracts. Convening a multi-disciplinary working group (for example: finance, waste services, sustainability, local laws and communications) can be an effective way to develop and test new contractual ideas and approaches.

There may be opportunities for jointly exploring and modelling potential target recycling rates. Councils may even like to explore the option of joint procurement, which may offer a more cost effective way of maximising recycling because of greater economies of scale.

MWRRG can assist and facilitate councils to explore these options.

3.4.4 Source separating at the kerbside

If the new hard waste contract seeks to increase recycling rate, the new service will need to encourage residents to separate 'high value' items into different piles on the kerb. The new hard waste collection contract will drive what items will be 'high value' recyclable items that residents will need to separate.

3.4.5 Determining the amount of household material to be collected

When determining the volume and size restrictions that define a council's hard waste service, much depends on the available kerbside space within the jurisdiction, arrangements with the collection contractor (where applicable), consideration of general health and safety, and council costs.

Most councils permit hard waste piles in the range of 2-3 cubic metres, but restrictions can be tighter, for example the City of Banyule limits collections to one cubic metre twice a year or one collection of two cubic metres. It is common for councils to impose size restrictions on certain items (for example specifying that timber has to be less than 1.5 metres in length so that it can fit into the collection vehicle without causing obstruction) or restricting the number of particular items that can be collected at any one time from a household (such as only one mattress per collection).

3.4.6 Linking collection with facilities that receive and recover waste

The design of the service should incorporate all of the steps of managing the waste and include consideration of where the hard waste will be taken directly after collection.

If council owns and/or operates a transfer station, consider whether:

- the transfer station has the adequate sorting capabilities to maximise recycling of materials
- the contracts will transport material to councils transfer station or to another facility

Innovation

Pop Up Transfer Stations can provide residents with alternative ways to easily dispose of unwanted household items.

3.5 Priority materials and facilitated group procurement

Priority materials include items that have traditionally had limited value and poor markets for recycling and make up a significant portion of the hard waste stream that end up in landfill. Examples include:

- mattresses
- timber, wood products and furniture
- e-waste
- packaging materials such as expanded polystyrene.

Viable recycling options for a number of these materials are starting to emerge. Facilitated collective procurement for receival facilities provides an opportunity for incentivising industry providers to table recycling options for these materials.



Source: Moreland City Council

Advantages and opportunities of this approach for councils include:

- achieving economies of scale by aggregating commercially viable quantities of waste to be treated by private sector service providers
- securing the expected quality and quantity of feedstock over the commercial life of a facility
- incorporating environmental and other regulatory requirements into contracts
- providing certainty of collection and supply for industry to development of sustainable recycling solutions.

MWRRG can provide support to groups of councils interested in exploring receival contracts for source separated, priority hard waste materials.

Overview of mattress recycling in Melbourne and greater Geelong

Mattress waste is growing as our population increases. It is estimated that around 299,000 mattresses are disposed of annually in the area comprising metropolitan Melbourne and greater Geelong. In 2014 councils collected around 232,000 mattresses through kerbside collections, transfer stations and clean-ups of illegal dumping. Of these mattresses 215,000 were recovered for recycling and 17,000 were landfilled. The average gate price for mattress drop-off for all Resource Recovery Centres/ Transfer Stations and landfills - both council-owned and private - is \$26.17 with prices ranging from \$20 up to \$45 per mattress.

MWRRG has recently undertaken research to better understand mattress waste and the issues and opportunities associated with increasing recycling them.

There are a range of processing methods that have been used to dismantle mattresses, either for easier disposal to landfill, or for recovery of materials. Some mattresses are also refurbished for reuse. Recycling methods range from manual dismantling combined with mechanical separation to mixed shredding to recover the steel. However these type of recycling methods are incomplete. The estimated landfill diversion of materials recovered using these recycling processes is an estimated 55% which means almost half of the materials left over from mattress recycling are landfilled.

While the steel components have mature markets, products made from other materials have small, niche markets that can be subject to economic fluctuations.

Fabric is used as wadding for punching bags and gym mats.

There are a number of problems associated with landfilling mattresses including :

- excessive use of landfill space
- the creation of gas pockets and uneven settlement arising from the voids that form in the waste under the mattresses
- the establishment of uneven pathways for leachate arising from uneven decomposition and uneven settlement
- increased maintenance costs arising from the high-tensile springs that are in mattresses sometimes breaking loose and becoming entangled in the drive train and axles of compaction equipment
- issues over time, whereby whole mattresses can 'float' to the surface of landfilled waste if they are not properly compacted.

MWRRG sees opportunities to improve recycling rates and divert mattresses from landfill through collective procurement and investment in fully automatic technology and best practice recovery methods.

For more information on mattress recycling in Melbourne and greater Geelong go to the Mattress Recycling Report: www.mwrrg.vic.gov.au/waste/recycling/mattresses



3.6 Understanding constraints and opportunities in different neighbourhoods

The design of hard waste services should reflect the constraints and opportunities that exist within particular neighbourhoods. For councils that cover a large area this may mean using different collection and drop off methods in different neighbourhoods. Key factors to consider when designing a hard waste system include:

- the property mix within the council area
- the road and pathway infrastructure
- traffic – vehicles, cyclists and pedestrians
- local events and seasonal influxes of visitors to an area that may restrict access to properties
- non-conforming/unacceptable waste materials

Table 3 explores these issues.

Once the constraints and opportunities are well understood it is important to ensure the new hard waste service effectively aligns with other collection services (particularly for residual and garden waste).



Source: Bayside City Council

Table 3: Factors to consider when designing a hard waste service

Key Factors	Aspect	Impact	Recommendations
Property mix within the council area	Multi-unit developments (MUDs)	<ul style="list-style-type: none"> MUDs can have constrained space for residents to place waste, and for access by collection crews, leading to increased manual handling or having to provide smaller collection vehicles. Hard waste items abandoned outside property at the end of tenancy. 	<ul style="list-style-type: none"> Work with building managers to identify suitable arrangements for managing hard waste items, such as arranging collections by private companies. Work with building managers, real estate agents, housing authorities, and others to provide information to householders on council waste services and/or community enterprises.
	Mixed use neighbourhoods (residential and commercial properties)	<ul style="list-style-type: none"> Businesses may seek to take advantage of residential hard waste collections. 	<ul style="list-style-type: none"> Only use booked collections in mixed use neighbourhoods.
	Retirement Villages	<ul style="list-style-type: none"> Retirement Villages can have constrained space for residents to place waste, and for access by collection crews, leading to increased manual handling or having to provide smaller collection vehicles. 	<ul style="list-style-type: none"> Work with site managers to identify suitable arrangements for managing hard waste items, such as arranging collections by private companies. Work with site managers to provide information to residents on council waste services and/or community enterprises.
Road and pathway infrastructure	Width of pathway and presence or absence of nature strip	<ul style="list-style-type: none"> Narrow footpaths limit options for hard waste collections. 	<ul style="list-style-type: none"> Use booked collections and collect waste from inside the property line.
	Constrained access to properties e.g. laneways or narrow access roads	<ul style="list-style-type: none"> Waste placed outside the property may impede road users, or collection vehicles may not be able to access properties during normal working hours. 	<ul style="list-style-type: none"> Use booked collections but arrange for waste to be collected at a suitable time to not interfere with other road users and within a short time frame (1 to 2 hours).

Key Factors	Aspect	Impact	Recommendations
Traffic	Slow moving collection vehicles	<ul style="list-style-type: none"> Collection vehicles may cause local traffic jams, delay emergency vehicles and expose cyclists to additional risks. 	<ul style="list-style-type: none"> Use appropriate traffic management schemes to control traffic flow (e.g. flag/sign operators).
Non-conforming waste materials	Non-conforming waste put out for collection, for example: <ul style="list-style-type: none"> hard waste materials not allowed by council hazardous materials and chemicals quantities exceeding council limits non-hard waste items such as clothing, other textiles, small household goods and appliances 	Impacts include: <ul style="list-style-type: none"> material not collected and left on kerb health and safety risks for public and collection crews illegal dumping 	Include clear instructions to residents in all hard waste communications and education materials that address these issues: <ul style="list-style-type: none"> educate residents about the types and quantities of material accepted encourage residents to use programs such as 'Detox your Home' or use specialist contractors promote the use of community hubs and charity bins for items that can't be recycled via council collections advise residents to book commercial collections for materials/quantities not accepted by council.

3.6.1 Scavenging

The design of the service can discourage private and commercial scavenging. Issues arising from scavengers include waste being displaced and broken down on the nature strip, and removing high value items that help reduce service costs.

Scavenging is primarily a challenge for councils with blanket collections. The most effective way to limit scavenging is for councils to implement a booked hard waste collection service as the material is presented for a short time around a specific collection date.

Where blanket collections are used ensure that hard waste is collected as quickly and efficiently as possible, recognising that once blanket collections begin in an area, scavengers will be able to anticipate where collections will occur in subsequent weeks.

Metals are items that are most frequently scavenged so work with residents and contractors to remove these items from the hard waste streams. This can include organising a third party to collect this material separately.

3.7 Dumped rubbish and prevention

Dumped rubbish is the deliberate or unauthorised dumping, tipping or burying of waste on land that is not licensed or fit to accept that waste. This material is damaging to the environment and costly to councils to remove.

Dumped rubbish can be created when:

- residents place incorrect items out for collection or exceed their allocated hard waste limit
- neighbours add incorrect items to correctly placed piles or add additional items to exceed the first resident's hard waste limit
- hard waste is rummaged through as part of scavenging activity, resulting in the remaining goods being damaged or scattered.

Hard waste services should feature practices that reduce the level and visual impact of dumped rubbish at kerbside.

The best practice approach to preventing dumped rubbish comprises of:

1. a well-designed collection services and infrastructure
2. community education and engagement
3. enforcement activities.

Each prevention component reinforces the others to influence behaviour. For example a resident may dump if they are not sufficiently motivated by an easy to use service that they understand. In this case it is likely that follow-up enforcement may be required.

With this in mind, involving local laws officers and communication officers in the design and delivery of a hard waste service may help reduce the amount of non-compliant hard waste that is placed out for collection.

Encouraging local laws officers to schedule their street patrols to coincide with areas of the municipality where hard waste collections are being carried out may discourage residents from either placing too much waste out for collection, or putting non-conforming waste for collection.

Providing clear instructions to residents about how much hard waste they can place out for collection, how it should be presented, and what they can't place out as hard waste is a key step that should be taken to discourage dumping behaviour.

Incidences of non-conformance can be communicated to residents directly by placing a notice in the letter box of the appropriate property. Where the source of the waste is not clear, marking non-compliant waste with tape or

sticking a notice on the waste requesting the resident to remove the material have been found to be effective.

The Environment Protection Act 1970 contains several litter provisions that can be used by council enforcement officers to require the removal of dumped rubbish or prosecute offenders. The EPA, Victorian Action Alliance and the Litter Enforcement Officer Network are able to provide training and support to authorised officers to understand and more effectively use available legislation.

For more information on how to managing and prevent dumped rubbish visit: www.litter.vic.gov.au



Source: City of Greater Dandenong

Step 4: Procuring hard waste services

4.1 Developing the service model

The service model for a hard waste contract should reflect the needs and aspirations of the local community and align with council's policies for service provision and waste and resource recovery objectives.

Metropolitan councils generally manage their hard waste collection services through a contract or service arrangement that is separate to their kerbside collections for residual waste, commingled and garden waste. Some metropolitan councils deliver their hard waste service in-house whereas others outsource the service to private contractors⁶.

If council chooses to outsource the hard waste service, consider what components of the service design (Step 3) could be included. While most out-sourced contracts provide only collection services, expanding the scope of the tender may create opportunities for industry to innovate and deliver better value service outcomes. Group procurement options may also provide opportunities for better service outcomes, including improved resources recovery.

Councils' multi-disciplinary project team can help work through the procurement design and consider the opportunities, issues and risks to be managed.

4.1.1 Hard waste service models

Councils have a choice between delivering a blanket or a booked service to collect hard waste materials from the kerb or a combination of the two. Whichever service is chosen, the hard waste service model should take account of the following elements⁷:

- material that is to be collected (types and restrictions)
- collection service type (blanket, booked, or combined)
- collection method (whether the service is delivered in-house or by a contractor)
- service frequency (the number of collections that residents receive or can request each year)
- service cost (including how the cost of providing the service will be met)
- collection location (from the nature strip or from within the property boundary)
- waste and resource recovery objectives
- environmental outcomes (including actions to improve resource recovery and reduce greenhouse gas emissions)
- management of OH&S risks

- community education and provision of information about the hard waste service (including how information is shared with hard to reach groups)
- customer service management (providing accurate information to all enquirers and helping residents identify appropriate management options for their waste items)
- whether to contract the collection and processing of some material separately (e.g. e-waste, mattresses)
- provision of data on hard waste collections and performance, including performance indicators.

It is important to build flexibility into the contract to allow council to request reasonable changes to the service during the contract period, for example to increase the efficiency or effectiveness of the service, or respond to legislative changes that may affect the way that materials are collected and managed.

Leading practice tips

- Develop a service model that encourages recycling while meeting residents' needs
- Investigate group procurement opportunities for hard waste contracts
- Determine hard waste service needs
- Develop key performance indicators
- Measure the performance of hard waste contracts
- Benchmark hard waste performance
- Strive for continuous performance in service delivery

Customer service elements of hard waste contracts that contractors can provide

- Information about the alternative management options for materials
- Arrangements for booking collections
- Community education to improve resource recovery

⁶ Information provided by Hard Waste Stakeholder Workshop, Melbourne May 2016 and telephone interviews undertaken by Arcadis Australia

⁷ Adapted from MWRRG Hard Waste Service Model V1.3-29 May 2015

4.2 Collaborative procurement

Collaborating with other councils to procure hard waste services (collection and/or receipt of materials) can help meet increasing demands, achieve cost savings and deliver better services and recycling and environmental benefits.

Some of the advantages of collaborative procurement include:

- economies of scale – there may be cost savings from consolidating services and multi-council contracts can deliver greater long term security and financial benefits
- extending existing budgets – working together may lead to new ways to reduce procurement costs, such as using standardised specifications and extending the purchasing capacity of existing budgets
- reduced administration overheads – fewer contracts can help reduce transaction costs between suppliers and councils
- higher standards of supplier performance – using the expertise of MWRRG and multiple councils can help establish setting clearer service requirements and encourage contractors to be innovative
- building connections with other councils including relationships between neighbouring councils can lead to cooperative procurement planning in related areas, as well as sharing of information about suppliers and their performance history
- improved competition with suppliers – large volume procurements can attract more competition and enable councils to access more favourable pricing and achieve improved environmental, recycling and social outcomes.

MWRRG is committed to supporting facilitated group procurement for priority materials currently ending up in the hard waste stream.

Joint contracts for the receipt of priority materials can help establish the critical mass of material that enables their reuse or recycling on a commercial basis.

Collaborative procurement – things to consider

- Allow time to establish agreed processes and principles with partner councils
- Obtain agreement on common needs and/or requirements
- Don't narrow the market and create unfair opportunities for larger industry players
- Recognise that individual councils may require hard waste services to be delivered at the same time of year

Key performance indicators for contracts

- Quantity of hard waste diverted from landfill, along with overall recycling rates
- Number of enquiries received about hard waste that do not result in a hard waste collection
- Cost of providing the hard waste service
- Number of incidences of 'non-conforming' hard waste
- Number of complaints received from residents

4.3 Determining service needs

The development of the service requirements for a new hard waste contract should be based upon:

- service needs, developed during the design phase of this service
- an objective assessment of the current arrangements for managing hard waste.

The requirements of a hard waste service needs to reflect the local situation and may include:

- the scope of services to be provided by the contractor (e.g. collection, sorting, material recovery, or disposal, communication with residents)
- the timing of the service and the number of collections to be provided each year
- management arrangements for priority materials
- key performance indicators for the service data collection, analysis and reporting to assess performance
- service costs
- innovation in service delivery, including working with community enterprises.

4.4 Leading practice hard waste contracts

The best opportunities for diverting hard waste from landfill come from encouraging residents to seek alternative management options for their unwanted material.

A leading practice hard waste contract takes a waste hierarchy approach (see Step 3, Figure 2) and gives the market an opportunity to be innovative. Councils can incentivise contractors by using performance payments linked to reducing the amount of hard waste that is sent to landfill.

A progressive hard waste service will offer a comprehensive information service to residents that helps them identify local management options for different materials through a phone or internet-based hard waste pre-assessment.

For more traditional hard waste collection services, the contract should specify whether council or contractor is responsible for providing information to residents about the service, booking arrangements or timing.

The contract should also provide a mechanism for recording and dealing with residents' complaints or concerns about the service – as well as capturing positive feedback from residents who are pleased with the service.

Requirements to consider including in tender documents for hard waste services

- Priority materials: the contractor must divert all of the following materials from the hard waste collection from landfill:
 - ferrous and non-ferrous metals
 - e-waste
 - mattresses
 - white goods
 - furniture
- The contractor may only take non-recoverable material to landfill.
- The contractor must offer a booked service that includes a hard waste pre-assessment scheme that helps residents identify and use local management options for the recoverable items in their hard waste.

Evaluation criteria for hard waste services tenders

- Is the tenderer making a clear commitment to diverting hard waste from landfill?
- Does the tenderer clearly explain how residents will be made aware of alternative management options for hard waste items?
- Is the tenderer providing evidence of off-take arrangements for recyclable material (e.g. draft contracts with recyclers)?
- Is the tenderer willing to collect and share information about the final destination of collected hard waste material?
- Is the tenderer willing to have its hard waste collection data independently audited and verified?

4.5 Measuring performance

Best value in service delivery is usually achieved by setting clear objectives and strong performance indicators. In order to measure performance and improvements in service delivery it is important that council has a clear framework for collecting data.

MWRRG has identified a list of performance parameters (see box) and recommends that councils use this list to collect information on the performance of hard waste services for reporting through the Victorian Local Government Annual Survey.

A contractor will usually collect much of this data for internal reporting purposes. The presentation rate for blanket collections is an important metric and this information is collected by undertaking a survey of selected areas of the municipality, recording the number of properties that are presenting hard waste for collection, and then dividing this number by the total number of properties within the surveyed areas.

4.6 Continuous improvement and benchmarking hard waste performance

Collecting data on a contractor's performance is the first step to improving the delivery of hard waste services. The performance data should be analysed to determine whether performance payments should be paid to the contractor if key performance indicators (KPIs) have been met. Conversely, if KPIs haven't been met, council may be entitled to recompense from the contractor.

A summary of the performance data should be reported as part of council's normal business. The information can also be shared with other councils to help benchmark hard waste performance across the region.

Reporting hard waste service performance for blanket and booked collections

- Quantity of hard waste collected (tonnes)
- Quantity of hard waste diverted from landfill (tonnes)
- Percentage diversion from landfill
- Number of properties serviced
- Presentation rate
- Average Quantity of hard waste per residential unit (tonnes)
- Number of collections per year
- Cost of providing service (\$)
- Average cost per collection (\$)
- Cost per participating residential unit (\$)

Step 5: Communicating and promoting hard waste services

Communicating with residents is an important part of delivering hard waste services. Residents are more likely to respond positively to changes in hard waste service arrangements and support increased recycling if they understand the environmental, economic and social benefits associated with diverting waste from landfill.

5.1 The 'what', 'how', 'when' and 'why' of communication

Effective communication about hard waste services has four parts: the 'what', the 'how', the 'when' and the 'why'.

The 'what' and 'why' focuses on the 'nuts and bolts' of the service itself, such as:

- Service objectives, which may include:
 - diverting hard waste from landfill through recycling
 - helping residents make the right management choice for disposing of their hard waste items
 - working with residents to improve the recovery of materials from the hard waste stream
 - reducing the amount of material that is collected through council's hard waste service
 - providing information about the range of disposal and recycling options available
- Advice about materials and items that council will collect as hard waste, as well as materials that are better managed through other services such as transfer facilities, community enterprises or specialist contractors
- Lists of materials that council will not collect as hard waste, including chemicals, paints and asbestos, and advice on alternative management or disposal options for such materials
- Who to contact:
 - for advice about the service
 - to provide constructive feedback to council
 - to make requests about the service

The 'how' involves making choices about the engagement and communication methods that council will use to provide the information to residents and can include:

- Engagement activities including:
 - community networks (e.g. community centres, senior citizen groups, schools, CALD communities)
 - local real estate agents, community groups, student associations, bulletin boards

- Communication channels including:
 - traditional print media – flyers, brochures, guides, rates notices, newspaper adverts
 - community broadcast service – radio advertisements
 - billboards, signs and poster campaigns
 - internet and social media – including council websites, Facebook and Twitter.

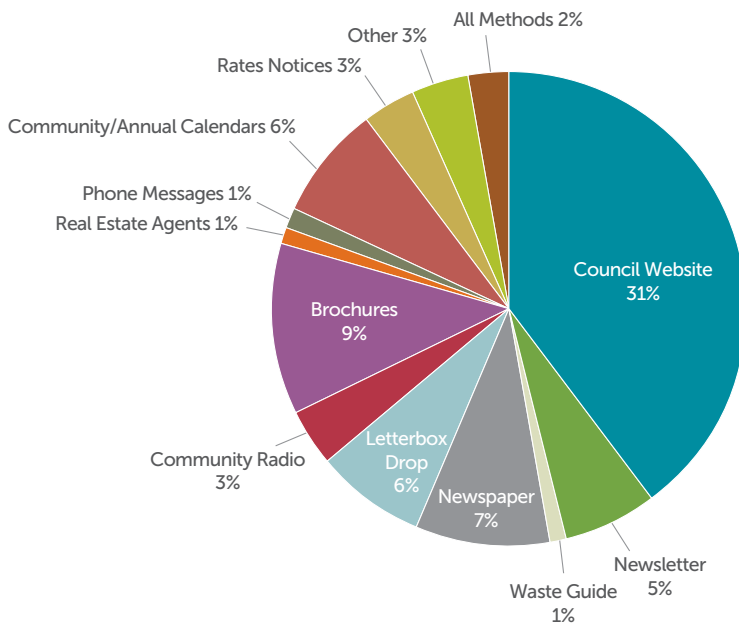
A range of promotional approaches and engagement methods can be used to inform residents about hard waste services.

Figure 3 presents the findings of research that MWRRG has carried out into the methods that Melbourne's councils use to deliver information about hard waste services. No councils reported using social media (Facebook, Twitter, etc.) to share information about hard waste services with residents.

Developing an engagement and communications program that uses different methods and channels to address particular audiences and their needs can be more effective than adopting a 'one size fits all' approach to providing information about hard waste collections.

The 'when' will be determined by what is being communicated and the medium that is being used and time of year. It is important to recognise that residents move into and out of an area and may have missed previous communication campaigns. Static notices at council facilities (such as libraries and transfer facilities) can be a constant reminder to residents (new and old alike) about core aspects of the service, whereas radio advertisements can be used to support campaigns targeting the better management of priority materials. Performance results can be reported in rates notices – particularly where increased resource recovery and reduced hard waste generation are leading to service efficiencies and better environmental, economic and social outcomes.

Figure 3: Communication methods used by metropolitan Melbourne councils



5.2 Determining the message

Council should have a clear understanding of the purpose of the hard waste collection service. Providing information on what currently happens to hard waste and the impact that it can have when it is sent to landfill can help begin the conversation. Proposed changes to hard waste services should be communicated in a proactive way and provide residents with opportunities to ask questions about the intended changes. Open engagement will enable council to tell the whole story and explain that the changes are being implemented to provide better community and environmental outcomes while delivering an improved service.

The communication framework for the hard waste services should encourage residents to:

- consider waste avoidance when making household purchasing decisions
- consider using alternative re-use and recycling opportunities prior to presenting hard waste for collection
- utilise the service in accordance with program requirements and restrictions
- consider repair or repurposing instead of disposal.

From a delivery perspective, each council offers a different collection service, therefore the specifics of the messaging will vary.

The messaging around the functional requirements of the hard waste service should include:

- types of materials that will be collected by council through different waste and recycling services (including transfer facilities)
- types of materials that will be collected through the hard waste service
- types of materials that are excluded from the hard waste service
- the placement of material for collection
- the type of service provided by council
 - booked – procedure for booking service, number of services available per year and cost of service (if applicable)
 - blanket – frequency of service and collection dates
- presentation requirements and restrictions.

The City of Greater Dandenong and the City of Whittlesea have posted videos on their YouTube channels about their hard waste services, including information about where, when and how items should be placed out for collection; where unaccepted items should be taken and opportunities for reusable items. There is also a video that focuses on illegal dumping and how to report it.

5.3 Target audiences

Understanding the different socio-economic groupings and age profiles across the municipality allows the development of tailored communication approaches for particular target audiences and different neighbourhoods.

Table 4 presents an overview of issues that some target audiences may face, as well as potential approaches that could help change the way that these groups manage hard waste.

Leading practice tips

- Help residents understand the environmental, economic and social benefits of diverting waste from landfill
- Understand the 'what', 'how' and 'when' of hard waste communication strategies
- Be clear about what is to be communicated about hard waste to residents
- Develop a communications program that is fit for purpose and uses suitable methods to engage and communicate with target audiences
- Collect feedback from residents on the changes that have been made to hard waste services to support continuous improvement

Table 4: Communications approaches for key target audiences.

Audience	Issues	Approach
Young adults	This group tends to be less aware of council waste services and about the illegal nature of dumping. This group can believe that it is acceptable to abandon unwanted furniture and white goods on the nature strip or on the street.	Use communication channels that appeal to this age group, such as social media advertisements to get the message across.
Renters	Higher levels of transience among individuals living in rented properties often mean that they need to dispose of bulky waste more frequently than individuals who own their property. This group may have a limited understanding of waste management options within the area.	Provide information about hard waste options through real estate agents, student housing associations and community groups.
Residents of multi-unit developments	Lack of space to place hard waste for collection and restricted access for collection crews can mean that people in multi-unit developments find it difficult to participate in hard waste collections.	Work with building managers and residents' associations to find appropriate solutions.
Culturally and linguistically diverse communities	Culturally and linguistically diverse communities generally have lower awareness of council waste services.	Use communication campaigns that focus on community pride and maintaining the image of the local neighbourhood. Focus on activities that are easy to do such as local community recycling schemes, particularly if they have associated cost savings. Translate educational material using a NAATI accredited translator.
Senior residents	Some senior residents may become disconnected with their neighbourhood and won't understand the options that they have to dispose of unwanted hard waste items, which can lead to hoarding of waste within and around the home.	Liaise with other council services that work with these senior residents to build trust and identify opportunities to manage hard waste items.

5.4 Capturing feedback

A monitoring and evaluation program can be used to assess the efficiency of a hard waste communications program. Before making changes to a hard waste service, baseline information on the effectiveness of the existing service can be collected through research, including survey of residents' experience of the service.

Surveys can be undertaken online, by phone, face-to-face, through the council website or through social media. Follow up surveys after the changes have been implemented can be undertaken using similar methods. Levels of awareness about services can also be assessed by monitoring the extent to which residents use the hard waste service (either to seek advice about alternative management options or requesting a hard waste collection) and the number of incidences of non-conforming waste that are reported by collection crews.



A good communications plan will help direct residents to services and facilities to manage items that do not fit into the category of hardwaste, but should not be placed in kerbside bins.

Source: City of Whittlesea

Appendices

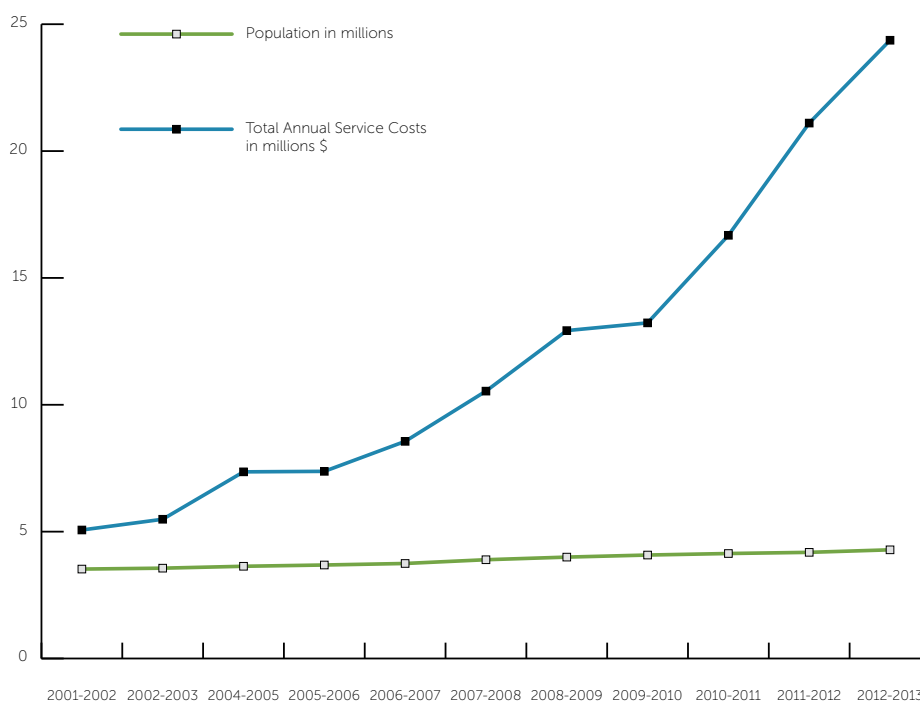
Appendix 1: Overview of hard waste collection in metropolitan Melbourne hard waste

Total hard waste service costs 2001-2013

Hard waste service costs have grown considerably over the last thirteen years. An increase of \$19,256,989 has been recorded from 2001 to 2013, this is a 389% increase in costs.

Figure 1: Total hard waste service costs, 2001-2013

Year	Total Annual Service Costs	Population
2001-2002	\$5,064,819	3,524,682
2002-2003	\$5,487,897	3,560,226
2004-2005	\$7,356,608	3,634,809
2005-2006	\$7,376,236	3,685,029
2006-2007	\$8,558,206	3,744,982
2007-2008	\$10,538,542	3,893,031
2008-2009	\$12,924,226	3,996,160
2009-2010	\$13,228,363	4,077,660
2010-2011	\$16,680,108	4,138,050
2011-2012	\$21,103,397	4,183,975
2012-2013	\$24,367,464	4,283,405



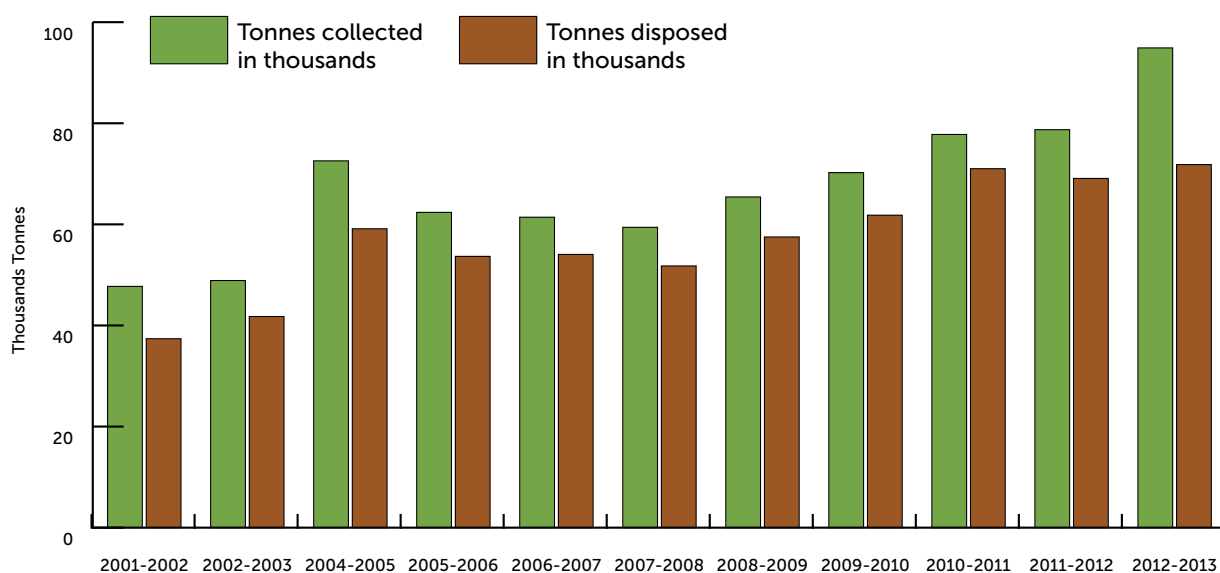
Source: Victorian Local Government Annual Survey 2012-13, Sustainability Victoria

Total annual metropolitan Melbourne hard waste tonnage collected and disposed 2001-2013

There has been a considerable increase in the tonnes of hard waste collected (94%) and disposed (89%) over the last thirteen years.

Figure 2. Tonnes of metropolitan Melbourne hard waste collected and disposed, 2001-2013

Year	Tonnes collected	Tonnes disposed
2001-2002	47,729	37,384
2002-2003	48,889	41,775
2004-2005	72,566	59,135
2005-2006	62,374	53,672
2006-2007	61,419	54,054
2007-2008	59,420	51,779
2008-2009	65,424	57,511
2009-2010	70,234	61,819
2010-2011	77,786	71,020
2011-2012	78,732	69,088
2012-2013	94,911	71,825



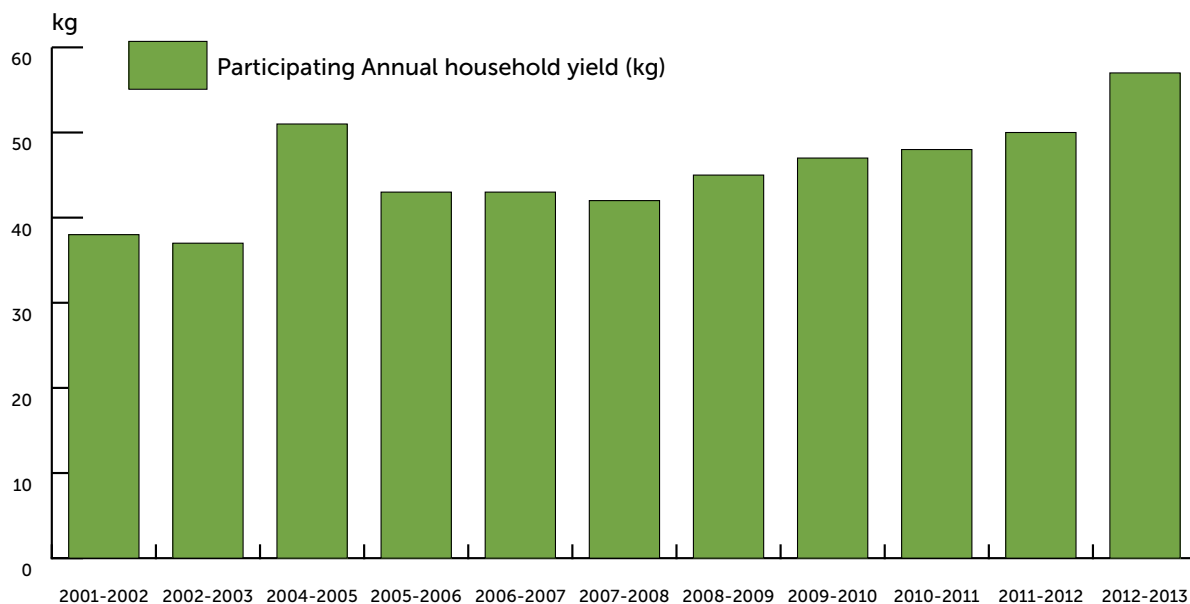
Source: Victorian Local Government Annual Survey 2012-13, Sustainability Victoria

Annual hard waste yield (kg) per household

There has been an increase of 20kg (48%) in the collection of hard waste per participating household between 2001-2013.

Figure 6. Annual participating household yield (kg), 2001-2013

Year	Participating Household Yield (kg)
2001-2002	38
2002-2003	37
2004-2005	51
2005-2006	43
2006-2007	43
2007-2008	42
2008-2009	45
2009-2010	47
2010-2011	48
2011-2012	50
2012-2013	57



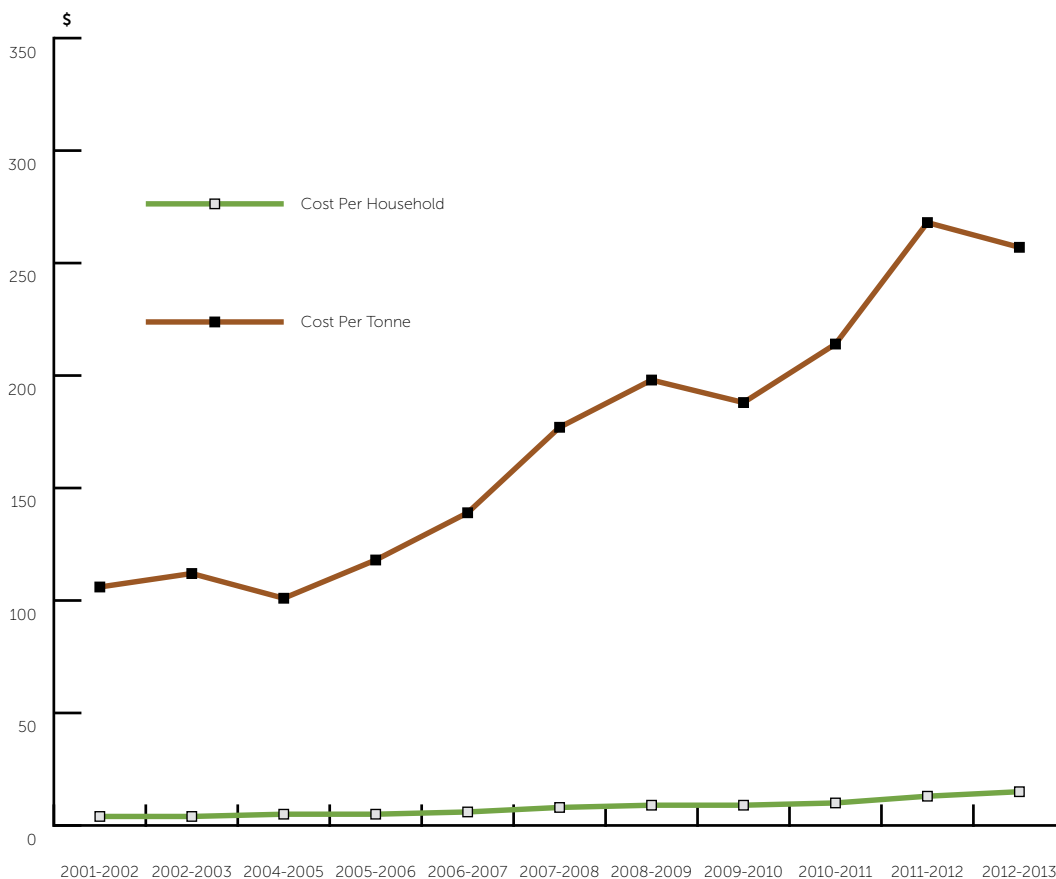
Source: Victorian Local Government Annual Survey 2012-13, Sustainability Victoria

Cost per tonne and cost per participating household

There has been a \$158.06 increase in the cost per tonne and an 151% increase in the cost per participating household for a hard waste services.

Figure 7. Costs per tonne versus cost per participating household, 2001-2013

Year	Cost per tonne (\$)	Cost per participating household (\$)
2001-2002	106	4
2002-2003	112	4
2004-2005	101	5
2005-2006	118	5
2006-2007	139	6
2007-2008	177	8
2008-2009	198	9
2009-2010	188	9
2010-2011	214	10
2011-2012	268	13
2012-2013	257	15



Source: Victorian Local Government Annual Survey 2012-13, Sustainability Victoria
Metropolitan Waste and Resource Recovery Group Hard Waste Services Leading Practice Guide

Appendix 2: Classification of metropolitan Melbourne councils

Table 1: Classification of metropolitan Melbourne councils

Inner Metropolitan	Melbourne Fringe	Outer Metropolitan
Darebin City Council	Cardinia Shire Council	Bayside City Council
Glen Eira City Council	Mornington Peninsula Shire Council	Boroondara City Council
Hobsons Bay City Council	Nillumbik Shire Council	Brimbank City Council
Maribyrnong City Council	Yarra Ranges Shire Council	Casey City Council
Melbourne City Council		Frankston City Council
Moonee Valley City Council		Greater Dandenong City Council
Moreland City Council		Hume City Council
Port Phillip City Council		Kingston City Council
Stonnington City Council		Knox City Council
Yarra City Council		Manningham City Council
		Maroondah City Council
		Melton Shire Council
		Monash City Council
		Whitehorse City Council
		Whittlesea City Council
		Wyndham City Council

Source: Victorian Local Government Annual Survey 2012-13, Sustainability Victoria

Appendix 3: Alternative pathways for non-hard waste items

Households produce a number of items that cannot be disposed of through kerbside hard waste collection services for health and safety reasons. These items can be disposed of at transfer station or landfills. The below table provides information on these options.

Table 2: Alternative pathways for non-hard waste items

Priority Material	Pathways
Paint	<p>National Paint Product Stewardship Scheme</p> <p>The National Paint Product Stewardship Scheme Implementation Working Group, made up of industry and government, aims to develop and implement a National Voluntary Paint Stewardship Scheme.</p> <p>The proposed scheme will, for the first time, allow both trade painters and households a safe, reliable and environmentally-sound mechanism to deal with waste architectural and decorative (A&D) paint.</p> <p>For more information visit: www.sustainability.vic.gov.au/services-and-advice/business/paint-stewardship</p> <p>Detox your Home</p> <p>There are 30 permanent Detox your Home drop-off sites located at council depots and transfer stations across Victoria that accept paint, lights and batteries for free. Trade waste paint is not accepted. The service is for households only.</p> <p>For more information visit: www.sustainability.vic.gov.au/services-and-advice/households/waste-and-recycling/paint-and-fluorescent-lights/permanent-drop-off-sites</p>
Tyres	<p>Tyre Stewardship Australia (TSA)</p> <p>TSA has been established to administer a national tyre product stewardship scheme.</p> <p>Through the scheme, TSA aims to increase domestic tyre recycling, expand the market for tyre-derived products and reduce the number of Australian end-of-life tyres that are sent to landfill, exported as baled tyres or illegally dumped.</p> <p>For more information visit: www.tyrestewardship.org.au</p>

Priority Material	Pathways
E-waste	<p>National Television and Computer Recycling Scheme</p> <p>The National Television and Computer Recycling Scheme was established in 2011 to provide Australian householders and small business with access to industry-funded collection and recycling services for televisions and computers.</p> <p>There are four Co-Regulatory Arrangements signatories involved in the scheme in Victoria:</p> <ul style="list-style-type: none"> • E-Cycle Solutions: www.ecyclesolutions.net.au Central distribution warehouse in Dandenong South. They arrange for e-waste items to be collected from collection points and transported to e-waste recyclers that are affiliated • Australian & New Zealand Recycling Platform: www.anzrp.com.au Office in Melbourne, partnering with Dell, Epson, Fuji Xerox, HP, Toshiba, Goodson, Brother, Canon, Scholastic & Kyocera • Electronics Product Stewardship Australasia (SIMS): www.epsaewaste.com.au Permanent collection sites at Frankston, Knox and Coldstream transfer stations, and at SIMS Recycling Solutions, Clayton • MRI PSO Drop Zone: www.dropzone.org.au Site in Campbellfield for collection and transport to recyclers. Collection points established across Melbourne at Officeworks and council transfer stations.
Lights	<p>Detox your Home – permanent sites</p> <p>There are 30 permanent Detox your Home drop-off sites located at council depots and transfer stations across Victoria that accept paint, lights and batteries for free.</p> <p>For more information visit: www.sustainability.vic.gov.au/services-and-advice/households/waste-and-recycling/paint-and-fluorescent-lights/permanent-drop-off-sites</p>
Asbestos	<p>For health reasons asbestos needs to be disposed of very carefully. Regardless of whether it's in the home, the workplace or the environment, disposal is best left to the experts. To find out how to safely identify, manage and dispose of asbestos visit: www.asbestos.vic.gov.au</p> <p>If asbestos has already been removed, it must be correctly wrapped and labelled and can only be disposed of at licensed asbestos disposal facilities.</p>
Chemicals	<p>Detox your Home – mobile collection points</p> <p>Toxic household chemicals - such as solvents, poisons, cleaning products, fertiliser and car care products - can be safely disposed, at no cost, on 'Detox your Home' collection days in Melbourne and across regional Victoria. Collected items are recycled for recovery and diverted from landfill.</p> <p>For more information visit: www.sustainability.vic.gov.au/detoxyourhome</p>

Priority Material	Pathways
Batteries	<p>Detox your Home – permanent sites</p> <p>Batteryback™ is a free Victorian Government service that recycles old and used household batteries collected at permanent Detox you Home sites.</p> <p>For more information visit: www.sustainability.vic.gov.au/services-and-advice/households/waste-and-recycling/batteries</p>
Gas bottles	<p>Transfer stations may accept gas bottles, for free or at a small cost.</p> <p>A number of trade in programs are available through hardware stores, service stations and retails stores to exchange an empty bottle for a full bottle.</p> <p>For more information visit: www.mwrrg.vic.gov.au/waste/recycling/</p>
Clothing and textiles	<p>Charity stores, social enterprise groups and commercial collectors accept good quality clean clothing and textiles such as curtains, bedding and towels. It is important to ensure that residents are advised to confirm that their items are suitable and will be accepted.</p>

Appendix 4: Example hard waste communication material

FREE HARD WASTE SERVICE

> One Free at-call service per financial year
> Maximum of 3 cubic metres
> Bookings: 8721 1915

✓ ITEMS ACCEPTED:


✓
 Mattresses (maximum of two)


✓
 Whitegoods and metals


✓
 General household furniture and other items


✓
 Televisions and computers

✗ ITEMS NOT ACCEPTED:


✗
 Car parts, tyres, batteries and engine blocks


✗
 Building or renovation materials (bricks, concrete or asbestos)


✗
 Gas cylinders, chemicals, pesticides, paint and hazardous waste


✗
 Household waste, recycling products, green waste or soil

 **GREATER DANDENONG**
City of Opportunity

REPORT ILLEGAL DUMPING

It's in your hands

A cleaner Greater Dandenong is in your hands. To report dumped rubbish and littering call **8571 1000** and provide as many details as possible.

Helpful information includes:

 **The location of the dumped rubbish.**

 **The date and time you saw the rubbish being dumped.**

 **Any identifying details such as the vehicle make, colour and registration.**

Dumping is an offence.
Maximum penalty exceeds \$6,000.

To report littering call **8571 1000** 

Phone: 8571 1000 Fax: 8571 5196 council@cgd.vic.gov.au	Find us online  greaterdandenong.com
TTY: 133 677 Speak and listen: 1300 555 727 Internet: www.iprelay.com.au	TIS: 13 14 50

Source: City of Greater Dandenong

LITTER ALERT

My name is Amy McLoughlin and I have been investigating the rubbish illegally dumped on the nature strip/foot path in your street today (/ /).

If you can help my investigation and report any helpful information, call 8571 1000 to report it to me.

Helpful information includes:

 **The date and time the rubbish was dumped.**

 **The vehicle make, colour and registration.**

 **The address the rubbish came from.**

Source: City of Greater Dandenong

This is a **booked** hard waste collection



A penalty may apply to hard waste placed out on your nature strip that has not been booked. To arrange a booked hard waste collection call WM Waste Management on 9433 3512.

Adding to or removing anything from this pile by others is an offence

Source: Nillumbik Shire Council

Hard Waste Collection



Date:

Time:

We could not collect your hard waste

No hard waste out for collection

The following has been placed in your hard waste incorrectly. Please refer to your hard waste brochure for acceptable materials and the allowable amount of materials.

- Material in excess of 2 cubic metres
- Over length or over weight materials
- Unwrapped glass (must be heavily wrapped and marked 'glass')
- Mattress / mattress base (no more than 2 mattresses / mattress bases can be collected)
- Green waste or other recyclables
- Carpet (no more than one roll of carpet can be collected)
- Household garbage
- Fence panels, renovation material, building waste or cement sheeting
- Car or truck tyres, engines or car springs
- Other



You are required to remove this material within 24 hours of receiving this notice. Failure to remove may incur penalties.

Some of these items are accepted at Nillumbik's Recycling and Recovery Centre, 290 Yan Yean Road, Plenty. Charges may apply. Refer to your hard waste brochure, visit Council's website or call 9433 3111 for more information.

We have not collected the following hazardous material:

- Gas bottles
- Batteries
- Liquid waste including paint, oil, garden sprays and chemicals
- Asbestos
- Other



You are required to remove this hazardous material within 24 hours of receiving this notice. Failure to remove may incur penalties.

For alternative disposal locations, refer to your hard waste brochure, visit Council's website or call 9433 3111.

For more information about why items have not been collected, call WM Waste Management on 9433 3512.

Source: Nillumbik Shire Council

Contact

Level 4, Tower 4
World Trade Centre
18-38 Sideley St
MELBOURNE, VIC 3005
(03) 8698 9800
MWRRG.VIC.GOV.AU