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EXECUTIVE SUMMARY

Waste management is an essential service provided by Council, an effective system will improve local amenity, environmental performance and the health and wellbeing of the community.

This Plan will set Council’s direction to minimise waste, increase resource recovery and improve efficiency across all waste management and resource recovery services for the municipality for the next four years.

Council’s commitment to continually improve the efficiency and effectiveness of waste and resource recovery services is reflected by the fact Council’s first waste strategy was developed in 1996. The Waste and Resource Recovery Plan 2014-18 (the Plan) is the fourth such plan Council has delivered to meet the community’s waste and resource recovery needs.

In April 2013, the Victorian Government released Getting full value: the Victorian Waste and Resource Recovery Policy, a new market driven waste and resource recovery policy and vision for Victoria for the next 30 years. This is the key document providing policy principles and strategic direction for a range of other plans and strategies that are currently being developed or reviewed to help achieve Getting full value. These include Getting full value’s implementation plan and new performance measures, a review of the Metropolitan Waste and Resource Recovery Strategic Plan, a new Statewide Waste and Resource Recovery Infrastructure Plan and a range of material specific strategies due for release in 2014.

Together this new suite of policy, plans and strategies will guide Council’s waste and resource recovery priorities. Those already released will inform the Plan which will also provide flexibility for the incorporation of additional plans and strategies as they are released.

Council faces a range of challenges to reduce waste sent to landfill. In reality, Council has little direct control over key factors that define waste and resource recovery management.

Key factors include existing and new long-term contracts, collection systems, processing systems and market demand for materials. Council can negotiate a contract that delivers best value at the time, but the contracts often lack the flexibility to adapt to new issues as they arise that can frustrate the achievement of Council’s objectives. While many materials, such as such as flexible plastics and expanded polystyrene packaging, can technically be recycled, reprocessing is prevented by recovery facilities which cannot sort materials collected at the kerbside. Market demand drives technological changes to sort and recover materials if their value increases.

Apart from the environmental and social benefits of recycling over landfill, there has been a strong and growing financial driver to increase materials recovered and reduce waste to landfill since 2007-08, when the cost per tonne of landfill exceeded the cost of recycling. This price differential has increased over time and in 2012-13 the cost of the kerbside collection was $176 a tonne for landfill and $84 a tonne for recycling. This has been, and continues to be, a strong driver for Council to work with the community to ensure all recyclable materials are placed in the correct bin to minimise waste to landfill. Council anticipates further financial gains to be negotiated in the 2015 recyclables processing contract to increase the returns on recycled material and support for better waste avoidance education and campaigns to reduce contamination. These parameters are common across the more recently negotiated reprocessing contracts.

The Plan sets Moonee Valley’s direction for waste and resource recovery to meet the community’s needs for the next four years. The Plan includes a review of current waste and resource recovery services, the strategic framework, challenges and the action plan. The action plan focuses on activities within Council’s control or responsibility. Council will continue to advocate strongly to the organisations that control areas where improvements could be made and would result in positive benefits for the municipality.
1 INTRODUCTION

Moonee Valley City Council’s vision of a clean, green and safe community is underpinned by the services Council provides. An efficient waste management and resource recovery system delivers local amenity, environmental performance and the health and wellbeing of the community.

Waste management and resource recovery is a core activity for council, providing an essential service to residents, community organisations and businesses. The activities undertaken by Council will consider behavior, infrastructure and treatment approaches to develop sustainable solutions to deliver the 2030 Vision adopted by Council.

We all create waste so waste affects everyone. We need to plan for how it will be treated and what will be done with it. This Plan will guide Council’s waste management and resource recovery decisions for the next four years.

Council prioritises delivery of an environmentally sound, efficient and comprehensive waste management service to its residents. This long-term service commitment is reflected in Council’s three previous waste management strategies commencing with the Waste Minimisation Strategy in 1996. This was followed by the 2003 Waste Management Strategy and the 2008-14 Waste Management Strategy.

The 2008-14 strategy aimed to avoid and minimise waste generation and sustainably manage the waste collected. It had a strong focus on national and international best management practices and adopting current thinking and new innovations as they emerged.

In 2007, an audit of the municipal solid waste (MSW) stream found 41 per cent of materials in the landfill bin were recoverable organics or recyclables. Based on this information Council made recovery of these materials its priority, shifting these materials from the landfill to the recyclables bin through increased services supported by education. Since its introduction, Council’s goal has been to include food waste in the garden waste bin. Through which Council was committed to surpassing the previous Victorian Government’s policy: Towards Zero Waste (TZW), which included a resource recovery target of 65 per cent by 2013-14.

Table 1 shows the tonnes collected by waste stream and the recovery rate between 2007-08 and 2012-13.

Table 1 Tonnes of materials collected by waste streams, 2007-13

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>28,832</td>
<td>22,354</td>
<td>22,004</td>
<td>22,326</td>
<td>22,038</td>
<td>21,800</td>
</tr>
<tr>
<td>Recyclables</td>
<td>13,092</td>
<td>12,149</td>
<td>13,792</td>
<td>13,588</td>
<td>16,079</td>
<td>14,030</td>
</tr>
<tr>
<td>Recyclables recycled</td>
<td>11,560</td>
<td>10,837</td>
<td>12,412</td>
<td>12,230</td>
<td>13,180</td>
<td>12,340</td>
</tr>
<tr>
<td>Garden waste</td>
<td>8,778</td>
<td>6,270</td>
<td>6,849</td>
<td>9,175</td>
<td>8,791</td>
<td>7,836</td>
</tr>
<tr>
<td>Total collected</td>
<td>50,702</td>
<td>40,773</td>
<td>42,645</td>
<td>45,089</td>
<td>46,908</td>
<td>43,666</td>
</tr>
<tr>
<td>Total diverted</td>
<td>20,338</td>
<td>17,107</td>
<td>19,261</td>
<td>21,405</td>
<td>21,971</td>
<td>20,176</td>
</tr>
<tr>
<td>Diversion rate</td>
<td>40%</td>
<td>42%</td>
<td>45%</td>
<td>47%</td>
<td>47%</td>
<td>46%</td>
</tr>
</tbody>
</table>

The above table shows an overall improvement in Council’s diversion rate. As landfill decreased, recyclables and garden waste generally increased, with peaks in garden waste when the long-term drought broke in 2010.

This shows that despite a growing population Moonee Valley is maintaining a downward trend on the quantity of waste to landfill. A result of the improved availability of resource recovery options, waste prevention education and collection infrastructure.

Despite good progress it is clear that Council will not meet the TZW target to recover 65 per cent of all waste by June 2014. The continued inability of organics facilities to process food waste is the single greatest barrier to improving the current diversion rate. Slower than expected increases in the expansion of materials recovered for recycling has also contributed to this outcome.
Municipal Solid Waste (MSW) comprises over a quarter (27 per cent) of the 12.4 million tonnes of waste generated in Victoria. Half of MSW is recovered and the other half landfilled. Of the nearly four million tonnes of waste landfilled, 1.6 million (42 per cent) was MSW. The draft Statewide Waste and Resource Recovery Infrastructure Plan was released for consultation in September 2013 by Sustainability Victoria. Under business as usual, it is estimated that in 2040-41 compared to 2010-11, MSW recovered will increase by 500,000 tonnes, landfill will decrease by 100,000 tonnes and waste generation will increase by 330,000 tonnes against a population increase of 2.5 million.

Council is committed to creating a sustainable municipality which includes minimising the waste sent to landfill and maximizing the re-use and recovery of all valuable resources. This Waste and Resource Recovery Plan shows us how we will get there.

1.1 Purpose

The purpose of the Plan is to set Council’s direction to minimise waste, increase resource recovery through kerbside collections, drop-offs and other projects and improve efficiency across all waste management and resource recovery services for the municipality for the next four years.

The Plan addresses Council’s waste and resource recovery responsibilities including:

- kerbside landfill, recycling and garden waste collections
- Transfer Station operation
- participation in product stewardship and state collection programs
- quarterly Re-new collection
- twice yearly branch and pruning collection
- annual hard waste collection

Litter and illegal dumping are a significant area of waste management and a separate Litter Prevention and Management Plan is currently being developed so is not the subject of this plan. Litter services include providing education, incentives, signage, street bins, street sweeping, illegal dumping clean up and investigation, litter traps and litter law enforcement.

1.2 Guiding principles

Council is committed to continuous service improvement and incorporating emerging best practice and new technologies as they become available in Victoria. The guiding principles of the plan align with the Moonee Valley Council Plan 2013-17 and include:

- minimising waste generation
- increasing reuse of materials
- increasing recovery of materials for recycling
- reducing waste to landfill
- maximising contracts
- improving service efficiencies

1.3 Approach

The process for developing the draft plan included:

- reviewing policy, legislation and context
- reviewing services and infrastructure
- consultation and workshops with Council officers and Councillors
- developing strategies and actions
- community consultation

1.4 Council’s role

Under the Local Government Act 1989 local government provides for the peace, order and good government of its municipality, delivers services and facilities for the community and manages the resources of the municipality. It has responsibility for implementing many diverse programs, polices and regulations set by the Victorian and Federal Governments.
Local government is responsible for a range of domestic waste management services, including, kerbside landfill, recycling and garden waste collections, Transfer Stations, waste education and litter management and prevention.

To fulfill its role in waste management Council provides the community with:

- a weekly landfill and fortnightly recycling and opt-in garden waste kerbside collections
- a wide range of range of drop-off services at the Transfer Station
- annual hard waste collection
- twice-yearly branch and pruning collection
- quarterly reusable household goods collection (Re-new)
- programs and services to motivate and encourage the community to reduce waste, recycle and manage waste appropriately

Council’s continuous improvement approach identifies new waste management needs as well as opportunities to use new technologies to increase efficiencies and achieve best value.

1.5 Overview of the municipality

The municipality is a mostly residential area covering 43 km², located between four and 13 kilometers north west of Melbourne’s CBD. Its diverse community includes the suburbs of Aberfeldie, Airport West, Ascot Vale, Avondale Heights, Essendon, Essendon North, Essendon West, Flemington (shared with the City of Melbourne) and Keilor East (shared with the City of Brimbank), Moonee Ponds, Niddrie, Strathmore, Strathmore Heights and Travancore.

Complementing its residential areas, is an eclectic mix of retail strips and centres, combined with offices, some industrial areas and Essendon Airport.

The municipality is well serviced by both road linkages, including the Tullamarine and Calder freeways, and public transport, including the number 57, 59 and 82 trams and the Craigieburn train line.
1.5.1 Household and population characteristics

A population of 116,000 people live in approximately 45,000 households across the municipality. From 1996 to 2006 Moonee Valley had a relatively stable population of 105,000, since then the municipality has seen steady growth of about 5 per cent and is predicted to continue at this rate until 2020. Figure 2 shows actual and population projections between 2006 and 2020.

Figure 2 Moonee Valley population, 2006-2020


* Dwellings includes properties with accommodation attached

Moonee Valley is characterised by a relatively high turnover in the resident population as 20 per cent of residents did not live here five years ago and another 10 per cent have moved residence but stayed in the municipality.

There is a high rate of home ownership in the municipality with:

- 36% of homes fully owned
- 28% being purchased (mortgage)
- 29% rented
- 7% other/not stated

Factors relating to property ownership and the turnover of new residents affect waste management and resource recovery, with education and re-education required.

Figure 3 shows the variation across dwelling types in the municipality, with separate houses the most common accommodation type.

Figure 3 Moonee Valley dwelling type, 2011 Census

- ‘Separate house’ includes all free-standing dwellings separated from neighbouring dwellings by a gap of at least half a metre.
- ‘Medium density’ includes all semi-detached, row, terrace, townhouses and villa units, plus flats and apartments in blocks of 1 or 2 storeys, and flats attached to houses.
- ‘High density’ includes flats and apartments in 3 storey and larger blocks.
- ‘Other’ includes houses and flats attached to shops or offices, and improvised homes, tents and sleepers out on Census night.
1.5.1.1 Multi-unit developments (MUDs)

In Moonee Valley, 35 per cent of dwellings are medium to high density. A greater concentration of higher density dwellings is likely to attract more young adults and smaller households, often renting. Larger, detached or separate dwellings are more likely to attract families and prospective families.

There are a number of future approved and proposed developments in the municipality including the Ascot Chase residential development of approximately 400 separate houses on 16 hectares of land in Ascot Vale and the Niddrie Lake development.

1.5.1.2 Municipal boundary changes

In 2010, 2500 rateable properties in Flemington and Kensington were transferred back to the City of Melbourne. This explains some of the data fluctuations between 2009-11.

1.5.1.3 Key demographic issues that impact on waste management

Population and household demographics influence waste generation. Larger separate households and those with teenagers tend to generate higher amounts of waste, with older people generating less. Food waste has been identified for its contribution to the landfill bin, estimated at over 40 per cent of total. Sustainability Victoria 2010 food waste surveys found people who waste the most food were:

- aged between 18 and 24
- households with incomes of more than $130,000 a year
- households with incomes of $65,000-$80,000
- families with children

The groups wasting least food were people aged over 55 and couples.

These factors will define the engagement programs Council delivers to reduce food waste and minimise the generation of waste sent to landfill.

With a median income in Moonee Valley of around $71,000 and families with children comprise 41 per cent of all households, with this in mind Council will tailor targeted education programs to minimise food waste in these and other demographic groupings.

Other factors to consider for service and education programs include:

- 29% of residents have English as a second language who may require specialised communication of waste management changes.
- 5% of the community speaks English with difficulty or not at all.
- The three languages with the most people with poor English skills are Southern European (mostly Italian – 1,500 people), Southeast Asian (mostly Vietnamese – 600 people) and Southern Asian languages (Punjabi, Hindi and Gujarati – 60 people).
- Clusters of MUDs with high resident turnover and lower rates of recycling.
- High density high-rise public housing estates in Flemington and Ascot Vale that Council would like to provide a recycling service to but are difficult to retrofit appropriate recycling infrastructure. This may not be a high priority for the landlord, Department of Human Services.
2 COMMITMENT STATEMENTS

Council’s vision, plans and policies provide the context for the draft Waste and Resource Recovery Plan 2014-18. The following section outlines key information from these important documents.

2.1 Moonee Valley Next Generation 2035 Community Vision

In 2035 Moonee Valley will be a city of clean, green and beautiful, vibrant, diverse and sustainable communities that people experience as friendly and safe to live in.

This shared vision represents the values and priorities of local residents, students, workers and businesses.

2.2 Council Plan 2013-17

The Council Plan is based on the four themes of the community vision and excellence in governance. It reflects the services council delivers. Each theme includes strategic objectives, strategies for achieving these objectives and strategic indicators.

It includes a Strategic Resource Plan and performance measures that will be reported on through the Annual Report.

Theme 2  Green, clean and beautiful: a sustainable environment for future generations

Strategic objective 4  Continually improve current waste diversion rates through community education and other initiatives

Strategies

1. Review and strengthen the community education program to achieve higher levels of reuse and recycling.
2. Encourage increased recycling by residents, traders, businesses and in public areas.
3. Develop a recycling methodology for community housing areas and an accompanying education campaign for residents.
4. Require developers of new MUDs to submit a waste management strategy with planning permit applications that reduce the impact of the collections on the wider community.
5. Evaluate the provision of incentives and other strategies to increase the uptake of garden waste bins.
2.3 City Sustainability Policy 2013-17

Council’s *City Sustainability Policy 2013-17* sets the environmental directions and policies to accommodate rapid change in technology, lifestyles and the climate and to meet Council’s 2035 vision.

It aims to help make the best use of everything and help Moonee Valley become a better place to live and work by incorporating sustainability into everything. *Valuing our resources: ways to lessen our waste* is one of the four key themes in the Policy. Council will create an economy where resources are valued under three guiding principles; limited resources, preventing waste and new economy.

2.4 Moonee Valley Public Health and Wellbeing Plan 2013-17

Waste management is also part of the *Public Health and Wellbeing Plan 2013-17*:

- Create a healthy and sustainable city: Be vigilant in environmental health protection measures including immunisation programs and food safety, and waste management and street cleansing.
- Promote positive mental health: Assist residents to gain the health and wellbeing benefits of gardening, including growing food, recycling waste and creating homes for wildlife through opportunities such as participation in My Smart Garden.

2.5 Other relevant plans

The *Waste and Resource Recovery Plan* and the *Litter Prevention and Management Plan*, fall under the *City Sustainability Policy*, along with a number of other relevant plans, as shown in Figure 4.
3 WASTE AND RESOURCE RECOVERY SERVICES

3.1 Overview

Council provides a range of waste management and resource recovery services. This includes a regular kerbside collection service for three waste streams: landfill, commingled recycling and garden waste.

To supplement this service Council also provides:

- quarterly Re-new collection of re-usable household goods
- twice yearly branch and pruning collection
- an annual hard waste collection

Council also operates a Transfer Station in Aberfeldie, where residents, businesses and non-residents can drop-off a variety of materials which are aggregated for reuse, recycling or landfill.

Collection services include national and state resource recovery programs:

- TechCollect computer and television collection
- Detox your home household chemical collection

Council includes a flat rate Environmental Charge as part of its annual property rates to all property owners. The Environmental Charge covers the cost of Council’s waste management and cleansing services and was set at $186.70 per ratable property in 2013-14.

All the data used in the draft plan is drawn from Sustainability Victoria’s Local Government Annual Survey.

3.1.1 Overview of costs

In 2012-13 the cost of providing waste and resource recovery services was $6.6 million.

Of this the Transfer Station provided a drop-off collection at an annual cost of $300,000, with significant costs offset through the collection and resale of valuable materials for recovery.

The costs associated with the kerbside collection reflect the incentives to divert as much material from landfill as possible. Currently landfill makes up over half the cost (58 per cent) with recycling and garden waste equivalent to nearly 20 per cent, hard waste 4 percent, Re-new and branch and pruning collections 1 per cent or less each, as can be seen in Figure 5.

Figure 5 Waste and resource recovery costs, 2012-13

In 2012-13, nearly 46,000 tonnes of material was collected through kerbside services and of these landfill was almost half (48 per cent), recycling was 31 per cent, green waste 17 per cent and hard waste 4 per cent as shown in Figure 6.
Of the tonnes collected, 53 per cent were recyclables, which gives Moonee Valley an overall diversion rate of 47 per cent (recyclables, garden waste, branches and pruning and Re-new).

Figure 6 Tonnes and proportion collected through kerbside collections, 2012-13

Comparing Figures 5 and 6 highlights that landfill costs more to collect and dispose of per tonne compared to recyclables – landfill is a higher proportion of the totals for cost (58 per cent) than tonnes collected (48 per cent) while recyclables is a lower proportion for cost (18 per cent) compared to tonnes collected (31 per cent). The other categories share similar proportions for tonnes and cost.

This highlights the need for Council to focus on reducing waste to landfill in order to reduce costs, and improve the environmental and social outcomes, and to increase recovery of recyclables.

3.2 Services

3.2.1 The Great Recycling Revolution: residential kerbside collection

Council’s 2004 Great Recycling Revolution introduced a residential three-bin system for landfill and recycling and an opt-in garden waste bin. The new system was based on EcoRecycle Victoria’s 2004 Guide to preferred services standards for kerbside recycling in Victoria that reduced the size of the landfill bin to move materials into the recyclables and garden waste bins. Table 2 shows rateable property bin entitlements for different types of properties.

Table 2 Council bin entitlements, 2013-14

<table>
<thead>
<tr>
<th>Property</th>
<th>Landfill</th>
<th>Recyclables</th>
<th>Garden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual dwelling</td>
<td>1 x 120 litre bin collected weekly</td>
<td>1 x 120/240/360¹ litre bin collected fortnightly</td>
<td>1 x 240 litre bin collected fortnightly $58.50 per annum</td>
</tr>
<tr>
<td>Low density development of less than 20 apartments</td>
<td>120/240 litre bin collected weekly Option of individual 120 litre bin or shared use of</td>
<td>120/240 litre bin collected fortnightly Option of individual 120 litre bin or shared use of</td>
<td>240 litre bin collected fortnightly $58.50 per annum</td>
</tr>
</tbody>
</table>
A 360L bin attracts a $50 one-off charge.

### Larger bins

There is some flexibility for residents to obtain larger recycling bins and in very special circumstances, a larger landfill bin for a limited time.

For recyclables, this includes upgrading to:

- 240L from 120L for medium density dwellings at no charge
- 360L for a one-off charge

Families with young children in nappies or elderly adults using incontinence aids may request an additional landfill bin. If approved there is an annual review of requirements and fee to be paid.

### Bin lid colours

Standardised bin lid colours make it easy for people to sort their waste materials into the right bins no matter where they live. Different bin lid colours in different councils may make it harder for residents moving between municipalities to know how to sort their waste correctly. Standardised bin lid colours also mean councils can share advertising campaigns and materials and save money and time making individual local campaigns.

In order to maximise these benefits, Council followed the 2006 Australian Standard for mobile waste containers (AS 4123). The Standard identified colours, markings, and designation requirements which were used when Council introduced the new three-bin system (it was in draft at the time). The standard specifies yellow lids for commingled recyclables, red lids for landfill and lime green for garden waste.

Commercial bins have a black body with a blue lid for landfill to differentiate the bins from residential collections. This does not meet the Australian Standard.

### Garden waste bin

Council’s bio insert garden waste bin has a ventilation system that maximises the flow of oxygen establishing an aerobic environment that produces higher internal temperatures. This leads to increased evaporation and weight loss of thirty-three per cent compared to eight per cent in a standard bin. This means that organic material is lighter to collect than if it was in a standard bin resulting in trucks collecting more bins than they would normally before the truck is full. This delivers other environmental and carbon reduction benefits.

### Commercial businesses

Council does not provide a waste collection service to shopping centres, industrial, manufacturing or construction and demolition businesses as their waste generation far exceeds the waste and recycling service funded through the Environment Charge included in the property rates. Sustainability Victoria collects data on commercial and industrial waste generation, recovery and disposal.

Council provides a 240L recyclables bin and a 240L landfill bin collection service to around 1000 small commercial premises such as shops and offices to collect waste usually generated from staff and customer consumption of food and drinks.

Council planning and permit processes require an approved Waste Management Plan for all new commercial developments. The plan must include waste generation, storage and collection methodologies that can be developed from the guidelines available on the website.

| High density development of 20 or more apartments | Have access to the same service as low density development provided that the service can be delivered within the existing bin based service. |
| Commercial | 1 x 240 litre bin collected weekly | 1 x 240 litre bin collected fortnightly | N/A |
3.2.6 Multi-unit developments (MUDs)

Council’s *Waste Management Plan – Guidelines* outlines the entitlements and requirements for MUDs.

Council provides the same bin-based kerbside service to MUDs that meet the collection requirements. Generally developments of up to 20 apartments meet the requirements with the occupants putting out and taking in the bins each week with arrangements detailed in the Waste Management Plan.

Larger developments, where the number of bins would obstruct the footpath, require a private collection system collected from within the boundary of the property and not on the street. The Waste Management Plan must provide details of collection type, frequency and access for waste collection vehicles.

3.2.7 Education facilities

There are currently 43 educational facilities in the municipality including:

- 23 primary schools
- 10 secondary schools
- 5 primary/secondary combined
- 4 special schools
- 1 tertiary institution

Council offers primary schools a free recycling service as part of the fortnightly residential collection system. Schools can obtain 240 litre recycling bins, based on one bin per 30 students to a maximum of 15 bins per school.

Schools that qualify for the recycling service can also use Council’s landfill bin service for an annual charge of $110 for each 240 litre bin, based on one bin per 50 students to a maximum of 10 bins per school, as part of the weekly residential collection system. This service is part of Council’s support for Resource Smart schools and increases the recovery of recycling in the municipality.

Council also provides services to community organisations including childcare and leisure centres. Council may also provide free recycling services to local sports clubs and community groups on a case by case basis.

3.2.8 Bins in service

Council provides a bin based collection service to an approximate 44,000 properties. Table 3 shows the current number of bins in service 2012-13, with approximately 60 per cent of properties utilising the opt-in garden waste bin.

<table>
<thead>
<tr>
<th>Bins in service</th>
<th>Recyclables</th>
<th>Landfill</th>
<th>Garden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total residential 2012-13</td>
<td>43,737</td>
<td>44,300</td>
<td>26,300</td>
</tr>
<tr>
<td>Total commercial 2012-13</td>
<td>1000</td>
<td>1000</td>
<td>N/A</td>
</tr>
</tbody>
</table>

DATA

Since the introduction of the *Great Recycling Revolution*, total waste generation increased by 5 per cent (between 2003-04 and 2012-13). Despite this increase, the amount of landfill collected has decreased by 22 per cent rather than increase as would be expected from population growth. The amount of recyclables and garden waste collected from kerbside increased by 24 per cent and 136 per cent respectively. This indicates that households are better educated about recycling and waste avoidance, have improved behaviours separating materials into the right bin and are supported by appropriate recycling infrastructure.

The immediate impacts of the 2004 *Great Recycling Revolution* can be seen in Figures 7 and 8 that show the changes in the composition of the waste and the tonnes collected. In the first year, 2004-05, landfill decreased by 19 per cent, recycling increased by 79 per cent and garden waste grew by over 500 per cent compared to 2003-04. Since then landfill has continued to decline as a
proportion of overall waste and recyclables have remained relatively steady. Garden waste slowly increased in line with increased uptake of the service and experienced a major jump in 2010 with the end of the long-term drought.

In summary, although landfill still represents the greatest component of the waste stream, the amount of recyclables and garden waste collected continue to increase proportionately while landfill decreases.

Figure 7 Proportion of kerbside landfill, recyclables and garden waste materials 2001-13

Figure 8 Landfill, recyclables and garden waste tonnes collected, 2003-2013
Council provided a landfill and recycling collection service to over 43,000 households in 2012-13. The number of user-pays garden waste bins in service has steadily increased from 20,000 in 2004-05 to nearly 27,000 or 61 per cent of households in 2012-13.

Figure 8 demonstrates the challenge of reducing overall waste generation. Looking at the streams in more detail between 2004-05 and 2012-13:

- landfill collections formed a relatively stable downward trend with small fluctuations
- recycling collections formed a relatively stable upwards trend with some fluctuations
- garden waste was gradually increasing over time and jumped 34 per cent in 2010-11 once the drought broke compared to 2009-10

Providing a three-bin kerbside collection service cost $6.3 million in 2012-13, a significant cost to Council and the community. Landfill is the most expensive stream as Council pays a range of landfill fees and charges. Council currently receives $20 for every tonne of materials recycled that offsets some of the collection costs, and pays per tonne for garden waste to be processed.

The landfill levy increase from $9 to $44 from 1 July 2011 increased Council’s annual cost by about $700,000 in 2011-12. The landfill levy continues to increase by 10 per cent annually. The carbon price was introduced from 1 July 2012 and adds a further $6 a tonne to the cost of landfill. Council must continue to pay the carbon price until the new Government fulfills its election promise to repeal the legislation.

Figure 9 Cost per tonne landfill and recyclables, 2001-13

Since 2004-05 it has been cheaper to recycle than landfill materials with a growing disparity between the two over time, as can be seen in Figure 9. In 2012-13 it cost just over 50 per cent more to landfill ($176) than recycle ($84) each tonne. The financial, environmental and social benefits of increasing recycling have been, and continue to be, a strong driver for Council to work with the community to ensure all recyclable materials are placed in the correct bin to minimise the amount of waste to landfill. Council anticipates further financial gains to be negotiated in the upcoming recyclables processing contract to bring the rebate into line with other councils. Council seeks cost neutrality through the upcoming recycling contract, establishing a rebate per tonne, so that the on-selling of materials for recycling, covers the cost of collection.

After some early fluctuations due to the volatility of a new industry the cost per tonne of garden waste has been relatively stable since 2008-09.

The new North West Organics contract for in-vessel composting commenced in October 2013 and is anticipated to service 11 North and West Melbourne Local Governments, processing an estimated 80,000 tonnes per year and will include food waste from 2015. The cost per tonne is lower than the current landfill cost which will help incentivise diversion of garden waste from landfill. The in-vessel composting system, promotes a rapid brake down of collected materials while minimising potential impacts on amenity, such as odour, and increases processing efficiency and product quality.

Similar to the overall trend for cost per tonne, the cost per household (including collection cost) is most expensive for garbage at $87 followed by $52 for garden waste and lowest for recyclables at $26 shown in Figure 10.
Council programs and infrastructure support households to reduce waste to landfill and increase recovery of garden waste and packaging for recycling. However the yield per household shows mixed results for the three streams.

Landfill per household showed large decreases between 2001-02 and 2006-07 and has remained relatively stable around an average of 480 tonnes for the rest of the period. In contrast, recyclables per household, after a long period of steadily increasing, decreased in 2012-13. Council needs to continue working with the community to ensure the correct materials are placed in the correct bins.

The yield of garden waste is susceptible to climatic changes. Since 2010-11, the height of the household yield, nearly 2000 more households opted into the green waste service while the yield per household decreased.

The challenge for Council is how to replicate the significant landfill reduction and resource recovery increase resulting from the 2004 Great Recycling Revolution. Inadequate infrastructure to sort the landfill stream to extract both packaging and organics for recycling and/or energy recovery has added to this challenge. It is expected that the new North West Organics in-vessel composting facility will provide the necessary processing capacity. However, food waste is unlikely to be included in collections until possibly 2015.

### 3.3 Landfill bin audits

Landfill bin audits conducted in August 2012, as part of the statewide Get it right on bin night campaign to increase household recycling, found nearly 15 per cent of the contents by weight was recyclable materials and nearly 50 per cent, or over 4kg, was organic material. Council needs to continue educating households to move the 15 per cent of recyclables into the correct bin, and include food waste in the kerbside collections once processing capacity becomes available.

Food waste and compostable paper made up 40 per cent or 3.5kg, garden and vegetation were 7 per cent or 0.6kg and containerised food 2 per cent or 0.15kg.
There are considerable opportunities to reduce waste to landfill through minimising avoidable food waste and managing unavoidable food waste at home. This would result in environmental benefits as well as cost savings to Council and the community through reduced landfill costs and making household savings through avoided food waste.

The United Nations Food and Agricultural Organisation recently released the *Food Wastage Footprint Report* that estimated about a third of all food for human consumption, around 1.3 billion tonnes, is wasted every year, along with all the energy, water and chemicals needed to produce it and dispose of it.

If Council can work to minimise avoidable food waste it would also contribute to broader sustainability goals.

### 3.4 Public housing

Council’s ability to provide household recycling to public housing residents is restricted by the infrastructure at each site. Council collects around 450 tonnes of landfill annually from the high rise public housing. Council has also completed the successful Ascot Vale Housing Estate Household Recycling Program, which included an extensive engagement program to support the new household recycling service supported by bin audits to detect and address contamination issues (see 5.3).

### 3.5 Monitoring contamination and missed bins

The kerbside collection trucks each have four cameras installed – in the front, back, side and hopper. The cameras help monitor contamination, missed bins or bin spills while emptying. Stickers are placed on contaminated bins to educate the household. The service provider submits monthly reports to monitor problem areas and to follow up contaminated loads at the processing facility.

In early 2014 Council will run an education campaign to reduce contamination using continued truck signage, driver and camera information to detect households with contaminated bins and kerbside auditing to provide targeted education.

**KERBSIDE COLLECTIONS**

**ISSUES**

- Council actions are constrained by the collection and processing systems which have resulted in:
  - no significant reductions in landfill or increase in recyclables since the introduction of the Great Recycling Revolution in 2004
  - an inability to recover a wider variety of materials such as flexible plastics
  - no food waste recovery
- Contamination of recyclables.
- Recyclables continue to be lost in the landfill bin.
- Avoidable food waste.
- Public housing infrastructure that prevents recycling.

**OPPORTUNITIES**

- Increase targeted community education programs.
- Minimise the 40 per cent of food waste in the landfill bin through supporting households:
  - to reduce avoidable food waste
  - manage food waste at home such as composting and worm farms.
- Include food waste in the garden waste bin from 2015.
- Advocate through MWMG for additional infrastructure funded by the landfill levy to manage waste streams.
- Investigate introducing a universal garden waste service

### 3.6 Hard waste collection

Council’s in-house hard waste collection is a popular service in high demand by residents. The hard waste web page was in the top 10 of all pages visited in the two quarters leading up to and
during the hard waste collections in 2012-13. It is the second most visited page of all the website waste and recycling pages.

In 2012-13, 1672 tonnes were collected and landfilled costing $260,000. Servicing over 44,000 households cost nearly $6 per household and yielded 38kg per household.

Since 2007-08 the annual service cost, tonnes collected, cost and yield per household have all been steadily increasing. Increased efficiency in providing the service is demonstrated by the steady decrease in cost per tonne from $163 in 2008-09 to $155 in 2012-13. However based on the trends, unless Council can recover materials and reduce landfill, the tonnes collected and cost will continue to increase.

Although material placed on the kerb becomes Council property, the amount of materials initially placed on the kerb by householders is often reduced by the time the material is collected. This is for three reasons:

1. Commercial scavengers “cherry pick” the hard waste for valuable materials such as steel, white goods and furniture for resale.
2. There is a lively claiming of goods by other households demonstrating that one person’s trash is another’s treasure.
3. Council also separately collects materials not accepted at landfill, such as televisions, computers and mattresses.

This results in a reduced volume of material requiring collection, however it also has negative results for Council, including increased cleanup costs due to scattering of material by scavengers.

In September 2013 Council engaged a service provider to trial sorting hard waste to determine the recovery potential by offering the same amount per tonne as the landfill gate charge. 30 per cent of materials were recovered for recycling providing evidence there is potential to recycle cost effectively, despite materials being compacted in the collection truck. Council will continue investigating cost effective options to increase recovery for the 2014 collection.

It should be noted that not all councils provide an annual collection, with some opting for a range of at-call, material specific and periodic collections, drop-off vouchers or in some cases, no service at all. Some councils ban scavenging of hard waste in their local laws and enforce the ban.

In the 2011 Department of Planning and Community Development (DPCD) Annual Community Satisfaction survey for Moonee Valley respondents wanted more frequent hard waste collections, more consistent/lower tip fees and to reintroduce tip vouchers.

**ISSUES**

- Recyclable materials are being landfilled as there is currently no cost-effective sorting system.
- Tonnes collected continue to increase exposing Council to continued increased service costs, particularly the rising landfill fees and charges.
- The annual hard waste collection impacts negatively on the municipality’s amenity and may pose risks to footpath users.
- Commercial and residential scavengers (they are tolerated because materials are recovered).
- The community expects and demands a hard waste service.

**OPPORTUNITIES**

- Continue trials to recover materials and reduce waste to landfill, including:
  - expand the 2013 sorting trial that recovered 30 per cent of materials
  - engage organisations such as charities to collect furniture and other reusable household items for resale.
- Develop an on-demand white goods collection to reduce hard waste scavenging and tonnes collected and increase reuse.
- Advocate strongly for landfill levy allocation to establish a hard waste materials recovery facility in the western suburbs.
- Investigate other hard waste collection systems.
3.7 Transfer Station

Council’s Transfer Station is open every day except public holidays for residents to dispose of a wide range of materials.

Recyclable items that can be dropped off for free include aluminum, car batteries, cardboard, paper, recyclable packaging, cooking oil, engine oil up to 20 litres, e-waste, polystyrene, paint, fluorescent lighting, steel and textiles.

Items accepted for a fee include hard rubbish, tree pruning and garden waste larger than a car boot load, furniture, timber and fencing, mattresses, tyres, and gas bottles.

The Transfer Station recovers:
- steel
- cardboard
- glass
- plastic
- aluminium
- paper
- mattresses
- tyres
- mobile phones
- ink cartridges
- oil
- computers
- corks
- batteries
- gas bottles
- expanded polystyrene

Council also provides free untreated mulch made from Council’s tree pruning operations.

3.7.1 Cost recovery model

Council’s intention is for the operation of the Transfer Station to be cost neutral, however a comprehensive review in 2011 found expenditure far exceeded revenue. Historically Transfer Station fees, along with all other Council fees, increased in line with the Consumer Price Index (CPI). However over time State and Federal Government policies have resulted in increased landfill fees, resulting in landfill costs outstripping CPI. Most notably from July 2011 the Victorian landfill levy increased $9 to $44 followed by an annual 10 per cent increase and in July 2012 the Federal Government introduced a carbon price to be paid on material landfilled.

Council introduced a Transfer Station cost-recovery system from 1 July 2012 with a materials pricing system focused on encouraging recovery and obtaining full payment for materials to be landfilled.

This price correction resulted in a 23 per cent decrease in tonnes received at the Transfer Station in the first year. Landfill tonnes decreased by 16 per cent, garden waste by 38 per cent, recyclables by 10 per cent and tonnes recovered decreased by 29 per cent.

DATA

In 2012-13 nearly 6,000 tonnes of materials were dropped off at the Transfer Station, with 55 per cent for landfill and 45 per cent for recycling as can be seen in Figure 12.
In 2012-13, the most popular recyclable materials dropped off at the Transfer Station were computers and televisions followed by paper and commingled recyclables. Figure 13 shows the range of materials by tonnes.

**Figure 13 Transfer Station recyclable materials tonnes, 2012-13**

- Computers & televisions: 225 tonnes
- Paper & commingled: 78 tonnes
- Mattresses: 35 tonnes
- Glass/plastic: 32 tonnes
- Ink cartridges: 20 tonnes
- Oil: 19 tonnes
- Batteries: 10 tonnes
- Plastic: 4 tonnes
- Polystyrene: 4 tonnes
- Aluminium: 3 tonnes
- Gas Bottles: 1 tonne
- Tyres: 1 tonne

Residents can drop off boot loads of garden waste for free without any restrictions. This service cost an estimated $90,000 in 2012-13 providing over 10,000 free loads.

**ISSUES**

- An ever increasing number of materials separated for recycling puts pressure on space and vehicle movements at the Transfer Station.
- As more products become regulated through the Federal Product Stewardship Legislation there is likely to be increased demand for Council to provide drop-off areas within the Transfer Station.
- While many materials are recyclable it is not currently financially viable to recover and reprocess all materials, such as flexible plastics. Critical factors include market development and cost effective collection systems.
- Council’s free untreated mulch poses some risks as it may carry weeds and pathogens that may attract criticism from the community.

**OPPORTUNITIES**

- The National Television and Computer Recycling Scheme replaced Byteback, the previous state government and industry computer take back scheme, and resulted in a cost recovery stream as Council is paid 50 cents per tonne for rent and handling costs. As more products are regulated this may provide additional revenue that could be used to support recovery of other financially marginal streams.
- Review the 2012-13 operational deficit to investigate the sources and restructure the pricing system to achieve full cost recovery.
- Continue programs and pricing to achieve cost neutral operation of the Transfer Station.
- Use the Transfer Station to engage and educate residents about recycling processes and waste minimisation by running Transfer Station tours.
- Consider extending business hours, for example open late on a week night during daylight savings and until 4pm on Sundays in line with closing time on other days.
- Encourage residents to opt into the kerbside garden waste service.
- Investigate withdrawing the free boot load to residents to support a cost neutral Transfer Station.
3.8 Detox Your Home household chemical collection

The Detox Your Home program is run in partnership with Sustainability Victoria for residents to dispose of old and unwanted household chemicals in an environmentally responsible and safe way. Residents can dispose of household, garden, automotive, workshop and other miscellaneous hazardous materials for free.

Council has hosted six mobile collections between 1997 and 2011, an average of one every three years. A total of 118 tonnes was collected from the six collections with an average of 20 tonnes per collection with a minimum of nine tonnes in 1997 and a maximum of 31 tonnes in 2005.

Residents can drop off a range of materials from high toxicity like poisons to low toxicity like paint and batteries. Low toxicity products were the most common collected with an average of 80 per cent over the six collections. Paint was the most common low toxicity material comprising an average of 61 per cent of all materials collected across the collections and reached 67 per cent and 68 per cent in 2005 and 2008.

In 2013 Council welcomed Sustainability Victoria’s announcement that the Moonee Valley Transfer Station would become a permanent site for low toxicity high volume materials such as paint, batteries, fluorescent tubes and compact fluorescent lamps. Transition to becoming a Victorian permanent drop-off site is currently underway.

ISSUES

- Ongoing demand to drop off household chemicals and other hazardous materials.
- Risk of illegal dumping if there are no appropriate disposal options.

OPPORTUNITIES

- Inclusion in the statewide program will provide improved more accessible service to residents, extending their disposal options.
- Inclusion in the program will reduce council costs, covering the cost of collection and disposal for a broader range of waste materials.

3.9 Re-new

In 2007 in an Australian first and with funding support from Sustainability Victoria, Council trialed a Re-new collection for recyclable materials, where residents placed clothing and household items into the existing kerbside bins for an additional collection. This was developed to increase recovery and further reduce the amount of household waste going to landfill. A regular permanent collection commenced in 2009.

On a specified date each quarter, households can place bagged usable textiles, clothing and household items as well as printer cartridges and mobile phones in their recyclables bin the day after the normal recyclables collection.

The goods are recovered for resale at a range of charities and reuse markets both in Australia and overseas. Some goods that cannot be reused get turned into brand new items, for example household plastics are recycled into e-wood fence posts and furniture. The Re-new collection is currently delivered by Southern Cross Recycling.

Since its introduction the collection system has evolved to maximise the collection of useful and undamaged items. The collectors have special sorting stillages in the van allowing on-the-spot kerbside sorting of materials to maximise reuse.

In 2012-13, 79 tonnes of materials were recovered from four collections. An average 2500 households participated donating eight kilograms per bin in each collection. An average of just over 5 per cent of households participated in the Re-new collection dropping from around 15 per cent in earlier years. This could be due to a change in promotion activities by the new service provider who commenced in 2012-13.

Figure 14 shows that textiles comprised 60 per cent of materials recovered, followed by shoes at 10 per cent and paper and books at 10 per cent with only 5 per cent disposed to landfill.
3.10 Branch and pruning collection

Council provides two branch and pruning collections every year for materials up to one cubic meter placed in tubs or neatly bundled and securely tied. The service allows residents without a garden waste bin to recycle and also accepts larger diameter branches that are not accepted in the garden waste bin. The twice-yearly service in Spring and Autumn coincides with pruning and vegetation growth periods.

In 2012-13 Council collected approximately 260 tonnes at a cost of nearly $86,000 or $330 per tonne or $1.95 per household assuming all households participated. The cost per tonne is significantly higher compared to the $165 per tonne for the garden waste bin. The service collects 3 per cent of the total tonnes of garden waste collected for 7 per cent of the cost.

ISSUES
• high demand
• higher cost per tonne compared to the green waste bin

OPPORTUNITIES
• The new North West Organics contract may allow for additional material to be processed Council could investigate phasing out the twice-yearly collection.

3.11 TechCollect

TechCollect is a free, permanent drop-off service for televisions, computers and computer products located at the Transfer Station and run by Australia and New Zealand Recycling Platform Limited (ANZRP) under the National Television and Computer Recycling Scheme. The scheme requires importers and manufacturers of televisions, computers and computer products to fund and implement recycling services for these products, and to meet a range of requirements (see 4.2.3.1).

In 2012-13, the first year of the national scheme, over 170 tonnes of televisions, computers and accessories were collected in Moonee Valley, as shown in Tables 4 and 5.
In June 2013 TechCollect made a Guinness Book Record collecting the most television and computer e-waste in the world in one day. Computers and accessories were the most common item dropped off for the record (86 per cent) while televisions were slightly more popular at the permanent Transfer Station drop-off site (56 per cent). Figure 15 shows monthly drop-offs with a steady increase between October and January followed by a decline then sharp rises in May and June to a peak of 45 tonnes, possibly due to end of financial year purchasing.

Knowledge of the free national scheme for television and computer disposal has not reached all areas of the community as these items continue to be illegally dumped in residential streets.

On 10 December 2013, Melbourne and surrounding areas switched off their analog television signals and switched to digital-only television. It is still unknown if people have already made the switch or there will be a future spike in the number of analog television sets for disposal.

Table 4 TechCollect television and computer collections, 2012-13

<table>
<thead>
<tr>
<th></th>
<th>kg</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Televisions</td>
<td>91,222</td>
<td>56</td>
</tr>
<tr>
<td>Computers</td>
<td>72,038</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td>163,260</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 5 TechCollect Guinness Book of Records Moonee Valley collection, June 2013

<table>
<thead>
<tr>
<th></th>
<th>kg</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Televisions</td>
<td>858</td>
<td>14</td>
</tr>
<tr>
<td>Computers</td>
<td>5,443</td>
<td>86</td>
</tr>
<tr>
<td>Total</td>
<td>6,301</td>
<td>100</td>
</tr>
</tbody>
</table>

Figure 15 TechCollect monthly collections (kg), 2012-13

Prior to the introduction of the national computer and television recycling scheme, Council was a drop-off location for Byteback, a computer recovery scheme initiated by government and industry. Byteback ran from January 2008 until May 2012 and collected a total of 428 tonnes of computers averaging 8 tonnes per month.

**ISSUES**
- televisions continue to be illegally dumped

**OPPORTUNITIES**
- Council receives a return for space occupied to offset the cost of the space and handling
- Council will promote a drop-off weekend to increase awareness of the free service and to try to reduce illegal dumping
3.12 Public place recycling

In 2012 Council undertook a trial into the effectiveness of introducing a public place recycling scheme. Based on the results of the trial and further research, two possible models of collecting recycling from public places were considered:

- A twin-bin source separation model (trialled)
- A single-bin materials recovery facility (MRF) sorting model

The single bin MRF model could be an option in 2015 when the current recycling reprocessing contract expires and is renegotiated. Council will continue to pursue the introduction of a public place recycling scheme.

3.13 New opportunities

Council are investigating alternative collection systems to improve the recovery of items collected through the current hard waste collection.

A current project with not for profit organisation Kids off the Kerb, provides an on demand home collection of fridge and whitegoods for repair/reuse and recycling.

Council is committed to developing this and other projects to ensure the diversion of reusable and recyclable goods from landfill.

3.14 Waste infrastructure

Council has a single contract for the collection of kerbside landfill, garden waste and recycling collections. The contractor collects and transports material directly to nearby processing facilities or landfills.

Council is well serviced, with a new garden waste facility at Bulla in the North West, Materials Recovery Facility in Coolaroo (Northern Melbourne) and access to a long term landfill in the West.

Re-new is undertaken by a separate contractor, which processes the material collected. Council operates the remaining ad-hoc collections with a combination of rented and Council owned vehicles. The Transfer Station is Council’s primary waste and resource recovery sorting facility. Sited on 4000 square meters, with forklift, hook lift truck and toll bridge.

3.15 Waste and recycling rates

Sustainability Victoria conducts a comprehensive annual waste and recycling service survey of all 79 councils in Victoria. This provides useful data for councils to track progress across years and also to compare with all other councils as well as those with similar demographics. The following diversion rates are from SV’s most recent published Victorian Local Government Annual Survey in 2010-11.

The kerbside collection diversion rate is the official measure used by Sustainability Victoria to track progress of local governments. However as not all local governments provide the same service, Sustainability Victoria calculates two other diversion rates to allow comparisons between local governments without green waste collections and for those with recyclables drop-off collection facilities for parts of their municipality, rather than a regular kerbside recyclables service as is the case in some rural municipalities. Table 6 provides a summary of the diversion rates and rank against the state average and diversion range.

When 2012-13 data is provided it is calculated from Council’s survey submitted to Sustainability Victoria awaiting validation and publication.

3.16 Kerbside collection diversion rate

The diversion rate is calculated from the tonnes of recyclables and garden waste collected (less contamination) divided by tonnes of landfill, recyclables and garden waste collected.

In 2010-11, Council ranked 20th in Victoria, with a diversion rate of 47 per cent compared to the state average of 45 per cent.
3.16.1 Dry recyclables diversion rate

The dry recyclables diversion rate is calculated from the tonnes of recyclables collected (less contamination) divided by tonnes of landfill and recyclables collected.

Council ranked 35th with a 34 per cent diversion rate against the state average of 33 per cent.

3.16.2 Kerbside collection plus drop-off diversion rate

The kerbside collection plus drop-off diversion rate is calculated from the sum of the tonnes of recyclables, garden waste and drop-off material (recyclables and garden waste) collected (less contamination), divided by tonnes of landfill, recyclables, garden waste and drop-off material collected.

Council ranked 30th with a diversion rate of 52 per cent against the state average of 50 per cent.

<table>
<thead>
<tr>
<th>Table 6 Moonee Valley diversion rates, Victorian Local Government Annual Survey 2010-11</th>
</tr>
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<tbody>
<tr>
<td>Kerbside collection</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>State average</td>
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<tr>
<td>Council diversion rate</td>
</tr>
<tr>
<td>Council rank</td>
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<td>Diversion rate range</td>
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</table>

3.16.3 Annual household recovery of recyclables

Moonee Valley households recovered 310kg in 2010-11 in their kerbside recyclables bin. This is 11 per cent higher than the state average of 279kg. In 2012-13 this increased to 321kg.

3.16.4 Annual household disposal of landfill

Moonee Valley households disposed of 507kg in 2010-11 in their kerbside landfill bin. This is 4 per cent higher than the state average of 488kg. In 2012-13 this reduced to 495kg of landfill.

3.16.5 Kerbside services waste generation per capita

In 2010-11 every Victorian generated 380kg of waste from household kerbside services. Moonee Valley residents generated 402kg in 2010-11 and 376kg in 2012-13.

3.17 Community engagement

It is commonly accepted that three key elements are required to change behaviours. This includes providing people with the right tools to do the right thing, educating people how to use the tools correctly and why it is important, supported by follow up of those who require further help to understand the tools and the education. Council has provided the community with the infrastructure tools, the three-bin system, to help households do the right thing. Council supports this with a community education program to support the correct use of the waste and recycling infrastructure.

Council has refined its communications based on resident feedback, uptake of services and website visits. Current education activities include:

- the annual household waste calendar
- up to date kerbside recycling and Transfer Station information on the website
- articles in Council’s quarterly newsletter
- articles in Council’s newspaper columns
- letterbox reminders of the quarterly Re-new collection
- participation in national campaigns such as Clean Up Australia Day, National Recycling Week, Keep Australia Beautiful Week
- participation in the statewide Get it right on bin night campaign to increase recycling and reduce contamination, funded by the Australian Packaging Covenant, State Government, MWMG and councils
- monitoring bin contamination with truck cameras to target households with contaminated bins for education
- truck adshell and service vehicle based advertising with regular campaign messages including fitting the landfill, recyclables and garden waste trucks with a new graphic to reduce contamination will be seen early in 2014
- Kerbside recycling and garden waste contamination campaign 2014

Council will utilise the above activities and develop new education programs to assist the residents reduce the volume of waste sent to landfill and maximise the recovery of valuable resources.

Residents demonstrate both strong levels of interest and knowledge about Council’s waste and recycling services and also how to access information. In 2013-13, the Transfer Station page was in the top 10 most visited pages of Council’s website. The hard waste page was in the top 10 in the July-September 2012 and April-June 2013 quarters, and rated higher than Transfer Station visits in these quarters – the lead up and period of hard waste collections.

Of all the website waste and recycling pages, the Transfer Station page is the most visited, followed by hard waste and then general waste and recycling information. Analysis of the monthly visits shows a spike in December for the Transfer Station, Transfer Station fees, bin collections and waste and recycling pages reflecting the need for increased information over the holiday period when there is an increase in waste generation including some packaging items that are less common. The pattern for visits to the hard waste page show increased activity as the annual hard waste collection period approaches, consistent with the pattern described in relation to the top 10 most visited pages on the entire website. Figure 16 shows the number of unique visits to waste and recycling pages in 2012-13.

![Figure 16 Unique visits to waste and recycling website pages, 2012-13](image)

![Figure 17 Moonee Valley recycling truck with campaign advertisement, 2013](image)
3.18 Progress against previous plan

As discussed earlier, Council did not meet the target of both TZW and Council's previous waste strategy to recovery 65 per cent of all waste. In 2012-13 it recovered just 46 per cent.

This is in line with the state diversion rate and is largely attributed to a lack of processing infrastructure. It is now also clear that despite significant improvements in recycling, the volume of total waste is growing, undermining the successful collection and treatment of recyclable material.

This highlights the challenges of what is within and outside of Council's control and the impact state government planning and programs have on Council's ability to meet targets:

- all actions within council control that remained relevant were completed
- those actions that were not completed were outside council control, for example the lack of food waste processing that means 40% of food waste in the landfill bin has no recycling option

Further discussion of the individual issues affecting council's diversion targets is included in Section 5: Current Challenges.

4 STRATEGIC FRAMEWORK

4.1 Strategic context

The nature and performance of waste operations significantly influences environmental, public health and liveability outcomes.

Waste management is an essential service. Failure to deliver can result in significant risks to the public and environment, considerable financial exposure to governments and lost economic development and job creation opportunities.

Waste management operates within a highly regulated framework of primary legislation, regulations, directions and guidelines.

Council's key waste and resource recovery priorities and actions reflect the strategic framework of the relevant state and national policies, legislation and regulations.

4.2 Federal legislative and policy framework

4.2.1 Federal Government’s Carbon Price Mechanism in the Clean Energy Future

All of metropolitan Melbourne's Municipal Solid Waste (MSW) is subject to the former Federal Government’s Carbon Price Mechanism in the Clean Energy Future legislative package with the carbon price per tonne of waste landfilled effective from 1 July 2012.

IMPACT FOR COUNCIL

Council has paid the carbon price for each tonne of waste landfilled from 1 July 2012.

However the new Federal Government, elected on 7 September 2013, has promised to repeal the legislation. It is unclear how long this will take and Council must pay the carbon price until any such repeal.

4.2.2 National Waste Policy: Less Waste, More Resources

The National Waste Policy, Less Waste, More Resources, agreed to by all Australian environment ministers in November 2009, sets Australia's waste management and resource recovery direction to 2020. It is linked to the key legislation, policies and commitments of state and territory governments.

Six key areas are identified in the policy to deliver waste management economic, environmental and social benefits:

- taking responsibility
- improving the market
- pursuing sustainability
• reducing hazard and risk
• tailoring solutions
• providing the evidence

4.2.3 Product stewardship Act 2011

The Product Stewardship Act 2011 provides the framework to effectively manage the environmental, health and safety impacts of products, and in particular those impacts associated with the disposal of products. The framework includes voluntary, co-regulatory and mandatory product stewardship. Enacting the legislation delivered a key Australian Government commitment under the National Waste Policy.

4.2.3.1 National Television and Computer Recycling Scheme

On 3 November 2011 Government regulations to support the National Television and Computer Recycling Scheme required importers and manufacturers of televisions, computers and computer products to fund and implement recycling services for these products, and to meet a range of requirements.

Under the scheme, householders and small businesses can drop-off these items for free at designated access points such as permanent collection sites, take-back events or through a mail-back option.

A TechCollect drop-off location is based at Council’s Transfer Station (see 3.11).

IMPACT FOR COUNCIL

TechCollect pays 50 cents a tonne to Council for rent and handling. As the scheme becomes more well known it should result in cost savings to Council from reduced dumping and smaller numbers put out as hard waste.

4.2.3.2 2013-14 Product List - 30 June 2013

Under the Product Stewardship Act 2011 a list of products being considered for some form of accreditation or regulation under the Act must be published annually to provide at least 12 months notice to industry.

Products being considered include architectural and decorative paint, handheld batteries under 2kg, packaging, air conditioners and refrigerators as shown in Table 7. Council currently collects some of these items in its hard waste collection and accepts them at the Transfer Station.

Table 7 2013-14 Product List – 30 June 2013

<table>
<thead>
<tr>
<th>Product</th>
<th>Currently managed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste architectural and decorative paint</td>
<td>Detox your home</td>
</tr>
<tr>
<td>End-of-life handheld batteries (less than 2kg)</td>
<td>Detox your home</td>
</tr>
<tr>
<td>Packaging (and subsets of packaging, such as</td>
<td>Kerbside recycling, street bins and litter clean up</td>
</tr>
<tr>
<td>consumer packaging and beverage packaging)</td>
<td></td>
</tr>
<tr>
<td>End-of-life air conditioners with small gas charges</td>
<td>Residents pay to drop-off, hard waste collections and illegal dumping clean up costs</td>
</tr>
<tr>
<td>End-of-life refrigerators with small gas charges</td>
<td>Residents pay to drop-off, hard waste collections and illegal dumping clean up costs</td>
</tr>
</tbody>
</table>

IMPACT FOR COUNCIL

As more products are regulated, making the producer responsible for the end-of-life disposal of its products, the burden and cost of disposal will be removed from Council. Council anticipates any future schemes using the Transfer Station would provide financial compensation for rent and handling. Costs would also be reduced for cleaning up illegal dumping and hard waste collections.

4.2.4 Australian Packaging Covenant

The Australian Packaging Covenant (APC) is an agreement between companies in the supply chain and all levels of government to reduce the environmental impacts of consumer packaging through:

• designing packaging that is more resource efficient and more recyclable
• increasing the recovery and recycling of used packaging from households and away-from-home sources
• taking action to reduce the incidence and impacts of litter

The Municipal Association of Victoria (MAV), a peak local government body, is an APC signatory. Its action plan includes activities to:

• facilitate the principles of the sustainable packaging guidelines into MAV and local government purchasing decisions
• support improvements in packaging recycling by local government
• facilitate the relationship between the covenant and local government
• support product stewardship

IMPACT FOR COUNCIL

The MAV advocates for funding and packaging improvements to support Council’s work to increase resource recovery.

Council received funding from the APC to introduce a kerbside household recycling service to Ascot Vale Housing Estate, a public housing estate with over 1500 residents, and to develop a model for replication to other public housing estates. Future funding to expand a kerbside household recycling service to other public housing estates in the municipality may be available.

4.3 Victorian legislative and strategic framework

Council’s new Waste and Resource Recovery Plan is being developed at a time of change for waste and resource recovery policy and management in Victoria. Victoria’s new waste policy: Getting full value was released early 2013, this policy sets the strategic direction for waste management in Victoria over the next 30 years and has resulted in a series of draft strategies including statewide and metropolitan plans, released late 2013. The draft plans influence local government decisions on waste, providing an implementation plan for achieving the new policy’s vision, objectives and goals.

Figure 18 shows the legislative and strategic framework for waste and resource recovery.

4.3.1 Environment Protection

The fundamental role of waste and resource recovery infrastructure and services is to protect public health and the environment from the risks of waste materials. Managing waste within the environment portfolio ensures that all decisions – from policy through to regulation and enforcement – minimise harm.

4.3.1.1 Environment Protection Act 1970

The Environment Protection Act 1970 (the Act) is the primary legislation for waste management in Victoria. It establishes a statutory framework for the management of all solid wastes, such as municipal, commercial, industrial and prescribed wastes in Victoria. It also establishes government
waste agencies, defines their objectives, powers and functions and creates policy tools that are used to achieve objectives.

The framework helps to drive resource efficiency, sustainable waste management and pollution prevention, including the statutory powers, instruments and measures to:

- manage environmental quality
- establish environmental standards and criteria
- regulate emissions, discharges and wastes
- prevent and clean up pollution
- impose and enforce environmental requirements

The Act sets out Principles of Environmental Protection (sections 1B to 1L) including the waste hierarchy (section 1I) that reflects the environmental order of preference of managing waste. The preferred environmental option is avoiding and reducing waste with landfill disposal the least environmental option, as can be seen in Figure 19. The waste hierarchy is enshrined in environmental legislation around the world.

The principles also require the integration of economic, social and environmental considerations.

### IMPACT FOR COUNCIL

Provisions particularly relevant to Council include:

- The requirement for metropolitan councils to perform waste management in a consistent manner with the *draft Metropolitan Waste and Resource Recovery Strategic Plan* and the requirement for any person involved in the generation, management or transport of waste within the metropolitan Melbourne region to be consistent with the draft Strategic Plan.
- MWMG’s power to facilitate and manage services and facilities for metropolitan councils.
- Restrictions and controls to prevent pollution.
- The landfill levy, which is established to incentivise resource recovery and fund environment protection activities.
- *The Waste Management Policy (Siting, Design and Management of Landfills) 2004*, established under section 16A (1) of the *Environment Protection Act*.

#### 4.3.1.2 Victorian landfill levy

A landfill levy is one of a number of economic instruments designed to deliver environmental outcomes, in this case to discourage waste to landfill by incentivising resource recovery.

A levy for waste deposited to landfill in Victoria was established under the Act in 2002. The levy has been hypothecated to resource recovery and other environmentally beneficial programs and projects and funds environmental government organisations such as Environment Protection Authority (EPA), Sustainability Victoria and waste management groups.

When introduced the levy was higher for metropolitan and provincial compared to rural areas, and for industry compared to local government. Table 8 shows the levy for metropolitan municipal waste commenced at $4 per tonne in 2002, gradually increased to $9 per tonne in 2007 where it remained until the 2011 increase to $44 a tonne for both local government and industry. The levy
will increase to $58.50 in 2014. *Getting full value* allows for a differential landfill levy – within 2014 to 2024 – to target strategic materials such as untreated organic materials in landfill.

Table 8 Landfill levy per tonne, 2002-15

<table>
<thead>
<tr>
<th>Year</th>
<th>Metro and provincial Municipal</th>
<th>Metro and provincial Industrial</th>
<th>Rural Municipal</th>
<th>Rural Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-03</td>
<td>4.00</td>
<td>5.00</td>
<td>2.00</td>
<td>3.00</td>
</tr>
<tr>
<td>2003-04</td>
<td>5.00</td>
<td>7.00</td>
<td>3.00</td>
<td>5.00</td>
</tr>
<tr>
<td>2004-05</td>
<td>6.00</td>
<td>9.00</td>
<td>4.00</td>
<td>7.00</td>
</tr>
<tr>
<td>2005-06</td>
<td>7.00</td>
<td>11.00</td>
<td>5.00</td>
<td>9.00</td>
</tr>
<tr>
<td>2006-07</td>
<td>8.00</td>
<td>13.00</td>
<td>6.00</td>
<td>11.00</td>
</tr>
<tr>
<td>2007-08</td>
<td>9.00</td>
<td>15.00</td>
<td>7.00</td>
<td>13.00</td>
</tr>
<tr>
<td>2011-12</td>
<td>44.00</td>
<td>44.00</td>
<td>22.00</td>
<td>38.50</td>
</tr>
<tr>
<td>2012-13</td>
<td>48.40</td>
<td>48.40</td>
<td>24.20</td>
<td>42.40</td>
</tr>
<tr>
<td>2013-14</td>
<td>53.20</td>
<td>53.20</td>
<td>26.60</td>
<td>46.60</td>
</tr>
<tr>
<td>2014-15</td>
<td>58.50</td>
<td>58.50</td>
<td>29.30</td>
<td>51.30</td>
</tr>
</tbody>
</table>

**IMPACT FOR COUNCIL**

As the levy increases Council’s financial liability increases with every tonne of waste disposed to landfill. Council must either absorb the increase, resulting in less funding for other services, or pass it onto ratepayers, which is often unwelcome. Council must reduce waste to landfill to try to slow the rate of increase in its waste disposal costs. To educate the community about the cost of disposing of waste to landfill, the landfill levy charge is listed on the rate notice – this was $31.73 per assessment in 2013-14.

**4.3.2 Victorian Auditor-General Report: Municipal Solid Waste Management**

In June 2011 the Victorian Auditor-General released its report into *Municipal Solid Waste Management*. The Auditor-General believed Sustainability Victoria and the Department of Sustainability and Environment had not effectively fulfilled their roles in implementing the TZW strategy, resulting in ineffective planning, leadership, coordination, and oversight.

The report found progress related to the MSW sector, a significant source of organic waste, and therefore greenhouse gases, had been slow. It also found waste generation continued to rise above expectations and it was unlikely this rate of increase would reduce by 2014. Overall, the report concluded it was unlikely MSW TZW outcomes would be achieved by 2014.

The Victorian Coalition Government responded by developing a new waste policy for Victoria and appointing a Ministerial Advisory Committee on waste to resolve the governance and administrative issues.

**IMPACT FOR COUNCIL**

This finding supports and validates Council’s explanation for failing to make significant progress towards the 65 per cent recovery target. It highlights the challenges for Council to meet external targets when the bulk of waste and resource recovery management are outside of its direct control.

**4.3.3 Victorian Competition and Efficiency Commission**

In 2009, the Victorian Government directed the Victorian Competition and Efficiency Commission (VCEC) to report on the benefits, burdens on business, opportunities for improving efficiency of environmental regulations, and their capacity to respond to economic opportunities from environmental sustainability challenges.

VCEC recommended that waste should be managed according to the net benefit criterion. The Government response articulated EPA’s existing practice of applying a net benefit criterion to the management of waste in Victoria as it regulated waste management according to the Principles of Environmental Protection set out in the *Environment Protection Act 1970* (sections 1B to 1L of the Act). The waste hierarchy (section 1l) is one of these principles and reflects generally the environmental ‘order of preference’ of managing waste. The Government agreed EPA must also ensure it gives consideration to other principles in the Act when considering waste management requirements, including section 1B which requires the integration of economic, social and
environmental considerations (effectively a net benefit test). The Government agreed to a range of actions for EPA to undertake to ensure waste was managed according to the net benefit criterion including publishing guidance material on the principles that guide waste management regulation in Victoria, including how the hierarchy fits within EPA Victoria’s regulatory framework.

**IMPACT FOR COUNCIL**

This will assist industry to invest in waste and resource recovery infrastructure.

### 4.3.4 Getting full value: the Victorian Waste and Resource Recovery Policy

In April 2013, the Victorian Government released *Getting full value: the Victorian Waste and Resource Recovery Policy* that sets a 30-year market driven vision for waste and resource recovery in Victoria with policy priorities to guide actions for the next ten years.

It is focused on market driven resource recovery and sets a road map for achieving a Victorian waste and resource recovery system that maximises the economic value of waste while reducing its environmental harm and potential public health risks.

The policy, a component of the Victorian Government’s *Securing Victoria’s Economy: Planning, Building, Delivering and Environmental Partnerships*, has six goals to:

1. Assist Victorians to reduce the waste they generate and save Victorian’s money through efficient use of resources.
2. Facilitate strong markets for recovered resources.
3. Facilitate a Victorian waste and resource recovery system that maximises the value of waste.
4. Reduce the environmental and public health risks of waste.
5. Reduce illegal dumping and littering.
6. Reform and strengthen the way institutions work and are governed to effectively implement waste policy.

Significant infrastructure reforms include:

- preparing a Statewide Waste and Resource Recovery Infrastructure Plan, which will work with the metropolitan and regional waste and resource recovery plans to shape a ‘hub and spoke’ network over time
- a suite of actions to better integrate waste and resource recovery infrastructure planning with Victorian land use and transport planning
- allowing for a differential landfill levy – within 2014 to 2024 – to target strategic materials such as untreated organic materials in landfill

The policy sets three strategic directions to shape a statewide waste and resource recovery system to maximise the economic value of waste:

1. Undertake planning that promotes a cost effective, statewide network of infrastructure capable of moving waste to where the highest economic value can be achieved.

   The state government will work with councils and industry to plan for a connected system of ‘hub and spoke’ infrastructure and logistics, where:

   - ‘hubs’ will be major facilities that process or contain significant quantities of waste, or provide specialised processing capacity for smaller quantities
   - ‘spokes’ will be the sequence of activities that move materials from waste generators to and from hubs, for example, collection, transport and sorting

   Metropolitan and regional waste and resource recovery plans will respond to the statewide infrastructure plan, by identifying and assessing:

   - initiatives to get the most value from existing council infrastructure and services
   - new infrastructure needs and timing for their development
   - possible precincts for infrastructure and the mechanisms to secure land through infrastructure /landfill schedules with contingency planning for emergency events

2. Align waste and resource recovery planning with land use and transport requirements under the *Planning and Environment Act 1987* and *Transport Integration Act 2010* to ensure that:
• planning policies and strategies refer to and include provisions for critical waste and resource recovery infrastructure, including maintaining the separation distances needed to protect adjacent land uses
• targeted planning tools are deployed to secure statewide waste management and resource recovery priorities

3. Foster investment in a diversified portfolio of infrastructure that can manage the projected mix and volumes of waste materials. State and local governments will develop and use approaches that provide Victorians with cost effective access to waste and resource recovery services, including:
• planning, coordination and facilitation of council procurement of waste management and resource recovery services
• a greater commercial discipline to infrastructure provision through budgeting and procurement processes

The policy emphasises market ‘pull’ rather than market ‘push’ to deliver sustainable outcomes that minimise government intervention, other than to achieve environmental and public health outcomes.

It highlights that waste management and resource recovery facilities need secure long-term sites and secure long-term supplies of waste materials to remain commercially viable. Access to existing freight corridors between transfer stations, recovery facilities, landfills and markets for end products are critical.

The policy highlights the key role of the planning system to ensure waste management and resource recovery sites and infrastructure are protected from nearby incompatible and sensitive land uses. The planning system also needs to ensure adequate waste and resource recovery infrastructure is provided in new urban developments to manage waste and protect the health and amenity of residents.

The implementation plan and performance measures are due to be released in late 2013. Figure 20 shows Getting full value’s planning and strategy requirements.
4.3.5 Victorian Government Response to the Report of the Ministerial Advisory Committee on Waste and Resource Recovery Governance

To address *Getting full value’s* goal to reform and strengthen the way institutions work and are governed to effectively implement waste policy, in January 2013 the Minister appointed a *Ministerial Advisory Committee on Waste and Resource Recovery Governance* (MAC) to recommend the best institutional and governance models to deliver on Victoria’s new waste and resource recovery policy.

After consultation with stakeholders the MAC made a number of recommendations on:

1. The strengths and weaknesses of the current system for effectively and efficiently achieving the government’s new waste and resource recovery policy objectives.
3. Risks associated with each proposed option.
4. Recommendations for reform, within short and medium timeframes, for successfully and efficiently achieving the government’s new waste and resource recovery policy objectives.

The government accepted the majority of the recommendations and will work closely with local government, industry and across state government to implement these actions.

A number of the recommendations, when implemented, will shape future strategic plans, including the *draft Statewide Waste and Resource Recovery Infrastructure Plan* (SWRRIP) and metropolitan and regional waste and resource recovery implementation plans (WRRIPs).

The government response notes that ministerial guidelines will establish detailed content requirements for strategic plans and establish processes for accountability, transparency and consultation.

The government response notes that the SWRRIP will:

- map long-term trends in waste generation, population, waste infrastructure at a statewide scale over a 30 year time horizon
- integrate with regional WRRIPs as these are completed
- provide data to inform the infrastructure schedules within the metropolitan and regional WRRIPs

The government response notes that metropolitan and regional WRRIPs will:

- connect waste and resources and infrastructure planning with budgets of local government and industry for delivering *Getting full value’s* objectives
- recognise the partnership between state and local government
- reflect the broad directions of the SWRRIP, but plan for delivery of infrastructure over a 5-10 year planning time horizon
- be developed through an integration process with Sustainability Victoria (with referral to EPA), to ensure that infrastructure schedules are coordinated and integrated with state objectives but reflect local and regional needs
- be referenced in the Victorian Planning Provisions (*the Metropolitan Waste and Resource Recovery Strategic Plan 2009* is referenced in the State Planning Policy Framework)

Other recommendations that will shape future Strategic Plans include:

- extending the MWMG boundary to cover the Mornington Peninsula Shire
- RWMGs and the MWMG taking responsibility for regional planning for all waste streams

**IMPACT FOR COUNCIL**

The government adopted recommendations that may impact on Council and other metropolitan councils include:
• Increasing the level of joint procurement of waste infrastructure and services by local government.
• The need for a coordinated and tiered statewide approach to waste infrastructure planning, across all waste streams, supported by regional and local input and implementation.
• The need for waste planning to more effectively link to, and coordinate with the State Planning Policy Framework, Metropolitan Planning Strategy and Regional Growth Plans across the state. This will ensure the location of existing and future waste facilities are known and planned for in all aspects of state land-use planning. It is important that buffers for landfills and resource recovery infrastructure are defined, protected and maintained.
• Consolidate and focus Sustainability Victoria’s role on facilitating and coordinating waste and resource efficiency programs to support Getting Full Value.
• Build on current portfolio coordination to ensure consistent and collaborative governance of public sector agencies.

Sustainability Victoria will be the lead agency to drive statewide market development strategies in line with Getting full value’s policy direction to grow and mature resource recovery markets in Victoria by improving the supply-side activities.

4.3.6 Statewide Waste and Resource Recovery Infrastructure Plan

Sustainability Victoria released the Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP) on 27 September for consultation until 6 December 2013. The SWRRIP is a major commitment of Getting full value.

The draft SWRRIP provides a 30-year roadmap to guide future investment in waste management and resource recovery infrastructure to effectively manage the expected mix and increasing volumes of waste generated by Victorian households, businesses and industry.

The draft SWRRIP describes the current scene, sets the agenda for the future and identifies major opportunities and priorities for the government over the next five years.

The SWRRIP identifies the Kingston/Clayton/Dingley precinct as a hub of state importance because it is a significant hub for the surrounding area for organics, landfill and C&D processing. With landfill closures anticipated in the next five years, the plan identifies the opportunity to transition the site to resource recovery activities compatible with surrounding land use that does not impact on community amenity.

IMPACT FOR COUNCIL

With significant landfill airspace remaining in the West, a new organic waste processing facility at Bulla and Moonee Valley’s accessibility to road based transport, this infrastructure plan generally focuses on high priority areas in Melbourne’s south east. However overarching themes still affect Council. The draft plans include an increased focus on food and C&I waste, setting the tone for the next major diversion target.

It is hoped that Council will be able to incorporate food waste into the existing kerbside garden waste collection, however this will not be possible prior to 2015.

Council are committed to participating in finalising the two plans, aligning Council and State priorities to ensure full use of resources and to maximise the diversion of resources from landfill,

4.3.7 Metropolitan Waste Management Group

The MWMG, established under 2006 amendments to the Environment Protection Act, is responsible for coordinating and facilitating MSW management in metropolitan Melbourne.

MWMG works with Melbourne’s 30 metropolitan councils to:

• plan for waste management and resource recovery facilities and services across metropolitan Melbourne
• facilitate procurement of efficient and sustainable resource recovery and residual waste disposal services for local governments

1 Pending legislative changes to implement the MAC recommendations the MWMG will be responsible for planning for C&I and C&D streams.
• help build the capacity and knowledge of local governments and their communities of world best practice waste minimisation and the opportunities and options available for improved services and infrastructure.

Through collaboration with the 30 metropolitan councils, the Department of Environment and Primary Industries (DEPI), the Environment Protection Authority (EPA), Sustainability Victoria, industry, business and the community, MWMG aims to:

1. maximise resource recovery
2. integrate statutory planning for waste and resource recovery
3. improve waste and resource recovery infrastructure
4. manage residual waste
5. improve delivery capacity
6. minimise waste

MWMG advocates for shared Council issues and problems to industry and the State Government and supports the 30 metropolitan councils to undertake strategic procurement activities through facilitating multi-council waste disposal and resource recovery services procurements.

**IMPACT FOR COUNCIL**

Council has benefited from MWMG’s multi-council procurements and contracts that provide economies of scale, ensure contract expertise is shared, ensure risks are managed and duplication of activities at an individual council level is minimised. Council’s landfill, recycling and garden waste services are provided through MWMG’s multi-council contracts. MWMG led the negotiations with landfill operators for the contract variation for the introduction of a carbon price and achieved a significant reduction in the price proposed by the landfill operator.

### 4.3.8 Metropolitan Waste and Resource Recovery Strategic Plan

Under the Act MWMG is responsible for developing the *Metropolitan Waste and Resource Recovery Strategic Plan* (Strategic Plan) to set the strategic framework for managing all solid waste in metropolitan Melbourne. The Strategic Plan provides a 30-year road map for metropolitan councils and industry to shape a metropolitan network of infrastructure and services that is cost effective and capable of moving waste material to where the highest economic value can be achieved. The 2009 Strategic Plan has been revised and released for consultation until 25 November 2013.

The plan is divided into three parts to address the three objectives, as shown in table 9.

**Table 9 Metropolitan Waste and Resource Recovery Strategic Plan objectives and parts**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide a long-term vision for the management and reduction of waste in metropolitan Melbourne</td>
<td>1. Metropolitan Plan</td>
</tr>
<tr>
<td>Identify short-term and long-term MSW infrastructure needs</td>
<td>2. MSW Infrastructure Schedule</td>
</tr>
<tr>
<td>Schedule the development of solid waste landfill sites</td>
<td>3. Metropolitan Landfill Schedule</td>
</tr>
</tbody>
</table>

**IMPACT FOR COUNCIL**

The Metropolitan Plan will identify the strategic priorities that Council will need to ensure are incorporated into its final Waste and Resource Recovery Plan. There may be a requirement for a new Council focus on recovery of C&I and C&D waste.

### 4.3.9 Metropolitan Local Government Waste and Resource Recovery Fund

The MWMG manages the Metropolitan Local Government Waste and Resource Recovery Fund (the Metro Fund) to implement the key strategic priorities of the *Metropolitan Waste and Resource Recovery Strategic Plan*. Councils can apply to the Metro Fund for funding. Current priorities, to be confirmed by the Metropolitan Plan review and *Getting Full Value* alignment, are:

- improved resource recovery
- transfer stations/resource recovery centres
- multi-unit dwellings
• food waste avoidance
• waste recovery trials
• organics diversion
• mattress recycling

IMPACT FOR COUNCIL
Council can apply for funding to support implementation for its priorities that align with the Metropolitan Plan’s priorities.

4.3.10 Melbourne Organics Strategy
The MWMG is developing a Melbourne Organics Strategy that will align with the Victorian Organics Strategy being developed by Sustainability Victoria and support achievement of Getting full value. It will provide a framework for best practice collection, transport and recovery of organics from metropolitan Melbourne households to divert organics from landfill.

IMPACT FOR COUNCIL
Council anticipates the Melbourne Organics Strategy and the SWRRIP would provide solutions to remove food waste from waste sent to landfill.

4.3.11 Towards Zero Waste Strategy
The 2005 Sustainability in Action: Towards Zero Waste Strategy (TZW) was a ten-year Victorian Government strategy to minimise waste, increase resource recovery and reduce materials disposed to landfill. Released in 2005, the strategy included four targets:

1/ 1.5 million tonne reduction in the projected quantity of solid waste generated by 2014
2/ 75 per cent by weight of solid waste recovered for reuse, recycling and/or energy generation
3/ Sectoral recovery rates:
   • municipal solid waste 65%
   • commercial and industrial waste 80%
   • construction and demolition waste 80%
4/ A 25% improvement in littering behaviour from 2003 levels.

The strategy was superseded by the Victorian Government’s 2013 Getting full value (Section 4.3.5). In the most recent published TZW Progress Report in 2010-11, recovery of Municipal Solid Waste (MSW) decreased from 48% to 47% and MSW sent to landfill decreased by just over 4,000 tonnes from 1,655,000 tonnes in 2009-10.

In contrast to the 2005 Towards Zero Waste Strategy (TZW), Getting full value does not include targets but will provide performance measures as they are developed. Council’s previous waste strategies adopted the 65% target.

TZW identified the need for advanced resource recovery technologies capable of recovering more recyclables and/or energy from the landfill stream to achieve the targets. However, no advanced resource recovery technologies have been established in Victoria and it is only possibly in the next 12 months, with the commencement of the new North West Organics Tender, that household food will be collected for the first time.

This emphasises how State Government policy and infrastructure planning affects Council’s ability to achieve the 2008-14 strategy target to recover 65% of all waste.

Figure 21 shows the MSW resource recovery rate against TZW projected targets. The trend between 2004-05 and 2009-10 showed the actual and target reasonably aligned, however the recovery rate dropped to 47% in 2010-11 against the target of 53%.
4.3.12 Victorian Advanced Resource Recovery Initiative

The TZW strategy acknowledged that new approaches would be needed to achieve the TZW target to recover 65% of MSW by 2014. In 2008 the government provided $10 million of funding for the Victorian Advanced Resource Recovery Initiative (VARRI) to investigate options to divert organic and usable materials from landfill using advanced resource recovery technologies (ARRTs) for metropolitan Melbourne.

VARRI was led by DEPI and the MWMG. It aimed to develop a business case to develop ARRT facilities to process residual MSW and, if supported, commence procurement for two facilities by 2010.

The business case was provided to the Minister prior to the 2010 state election that resulted in a change of government. This meant that the Cabinet-in-confidence documents were no longer accessible\(^2\). A high level summary and a number of fact sheets were released.

**IMPACT FOR COUNCIL**

Unfortunately VARRI failed to provide the expected ARRT infrastructure and plans and while VARRI was underway no facilities were constructed or planned during this time resulting in a major gap in processing capacity, particularly for food waste. This highlights how the State Government’s policy and infrastructure planning affects the ability of Council to recover food and other streams from landfill.

4.3.13 Planning – Victorian legislative and policy framework

4.3.13.1 Planning and Environment Act 1987

The *Planning and Environment Act 1987* establishes a framework for planning the use, development and protection of land in Victoria to meet the present and long term interests of all Victorians. Land use is separated to minimise the risk of any potential adverse environmental, health and safety impacts.

The objectives are to:

- provide for the fair, orderly, economic and sustainable use and development of land
- provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity

\(^2\) In accordance with the requirements of the *Public Records Act 1973* all Cabinet documents, including briefings, submissions, memoranda, agenda and minutes, are returned to the custody of the Department of Premier and Cabinet during an election caretaker period for storage until election results are known. When a change of government occurs, all Cabinet documents from the previous government are transferred to Public Records Office Victoria.
c. secure a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria

d. conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special culture value

e. protect public utilities and other assets and enable the orderly provision and coordination of public utilities and other facilities for the benefit of the community

f. facilitate development in accordance with the objectives set out in paragraphs a), b), c), d)

g. balance the present and future interests of all Victorians

The Act sets out procedures for preparing and amending the Victoria Planning Provisions (VPP) and planning schemes, obtaining permits under schemes, settling disputes, enforcing compliance with planning schemes, and other administrative procedures.

The Act provides for a single instrument of planning control, the planning scheme, which sets out the planning rules – the state and local policies, zones, overlays and provisions about specific land uses that inform planning decisions way. The planning scheme is a legal document, prepared and approved under the Act.

A planning scheme can only be changed by a formal amendment process

4.3.13.2 State Planning Policy Framework

The State Planning Policy Framework (SPPF) is a compulsory part of every planning scheme in Victoria and seeks to ensure that all responsible authorities work to achieve the Planning and Environment Act’s objectives, including policy integration and balancing conflicting objectives in favour of net community benefit and sustainable development.

It comprises general principles and specific policies for how land is to be used and developed that must be taken into account and given effect to by responsible authorities and planning authorities to ensure integrated decision-making.

It requires municipal planning authorities to identify potential regional impacts when making decisions and to coordinate strategic planning with their neighbours and other public bodies to achieve sustainable development and efficient use of resources. This requirement is consistent with the objectives in the Local Government Act 1989.

As part of its local planning policy framework a council prepares a municipal strategic statement (MSS) and local planning policies that meet the requirements and considerations of the planning framework and reflect the community’s priorities and guide planning decisions. Councils enforce the planning scheme and make decisions on individual planning permit applications that must be consistent with the planning scheme.

4.3.13.3 Plan Melbourne: Metropolitan Planning Strategy

In October 2013, the Victorian Government released its vision for the city to 2050 in Plan Melbourne: Metropolitan Planning Strategy. The environment and water objective is to protect our natural assets and better plan our water, energy and waste management systems to create a sustainable city.

Plan Melbourne recognises Getting full value’s policy objectives and includes a direction (Section 5.8) to plan for better waste and resource recovery. The strategy identifies a number of waste management and resource recovery short- and medium-term actions to:

1. Establish the city’s long-term needs for waste management sites by working in consultation with local governments and key stakeholders to identify possible sites and, through planning, secure these sites by rezoning land in planning schemes.

2. Protect existing waste management and resource recovery facilities from urban encroachment and assess opportunities for new waste facilities to meet the logistical challenges of medium- and higher-density developments.

The plan recognises that attracting investment for the right mix of waste management and resource recovery infrastructure is vital for maintaining the environmental resilience and long-term productivity of Melbourne.
The plan will create direct links between waste and resource recovery infrastructure planning and land use planning through a combination of statutory measures and clearer guidance to identify and protect waste and resource recovery sites and separation distances (see 5.8). Specific actions for improved waste and resource recovery planning include:

- Determine the capacity of existing landfill and waste management sites, and identify potential new locations for additional facilities, if required (DEPI).
- Prepare and implement planning provisions to clarify separation distances for all landfill land resource recovery sites listed in the MSW Infrastructure Schedule and Metropolitan Landfill Schedule of the MWRRSP under the EP Act 1970 (EPA).
- Prepare and implement planning provisions to support co-location of allied and non-sensitive industries on or near waste and energy precincts (DTPLI – Planning).
- Encourage co-location of new resource recovery infrastructure with complementary infrastructure (such as waste water treatment and other industrial activities). High-priority areas for immediate action include organics processing to service the south-east metropolitan area (DEPI).
- Ensure precinct structure plans provide for waste and resource recovery infrastructure identified in the MWRRSP (Metropolitan Planning Authority).
- Actions to develop new waste systems to meet the logistical challenges of medium- and higher-density developments are also included:
  - Ensure the new Good Planning Guide better defines the need for, and provision of, waste infrastructure for all multi-unit residential developments (DTPLI – Planning and DEPI).
  - Review and streamline regulations and planning provisions for waste and recycling storage and collection in apartment buildings. (DTPLI – Planning and DEPI).
  - Investigate and encourage precinct-wide innovations in waste management and recycling (DEPI).

**IMPACT FOR COUNCIL**

Plan Melbourne identifies Flemington-Newmarket as an urban renewal precinct close to rail to co-locate employment, population and public transport. If this is realised it is likely to result in new MUDs.

**4.3.14 Transport**

There are significant impacts from the waste and resource recovery sector on metropolitan Melbourne’s roads by truck movements associated with collecting, transferring and disposing of waste.

An optimum mix of transport and infrastructure is needed to support and grow Melbourne’s waste and resource recovery industry, while managing and minimising the potential congestion costs for Melbourne.

**4.3.14.1 Transport Integration Act 2010**

The Transport Integration Act 2010 provides for an integrated and sustainable transport system that contributes to an inclusive, prosperous and environmentally responsible state.

The Transport Integration Act 2010 requires a planning authority (under the Planning and Environment Act 1987) making a waste and resource recovery planning decision that is likely to have a significant impact on the transport system to have regard to the Act’s vision, objectives and principles.

**4.3.14.2 Victoria The Freight State**

Victoria’s long-term freight and logistics plan was released in August 2013. It examines freight forecasts up to 2050 and uses them to model freight network scenarios that can inform decision-making about future projects. It addresses transport logistics for waste and resource recovery and particularly, how improved networks can lower the cost of waste transport. Minimising transport costs is essential because materials recovery is often a marginal, business proposition and lower costs will increase and stabilise markets.
5 CURRENT CHALLENGES

Council faces a number of challenges to help the community reduce waste to landfill and increase resource recovery. Some of these challenges are within Council’s control, others are outside its control and some it can influence.

The availability of suitable sorting and re-processing technologies can limit the ability to recover resources, including recyclables and organic materials. Markets for recycling are largely international and subject to fluctuations outside of Council control. Council is committed to working with State Government and other external stakeholders to ensure the best reprocessing technologies are available to treat waste generated.

5.1 Food waste

A 2012 audit found food waste comprised 40 per cent of the landfill bin. If food waste could be processed and was removed from the landfill bin it would reduce landfill by 8,700 tonnes and the annual service cost by $1.5 million (based on 2012-13 data).

5.1.1 Avoidable and unavoidable food waste

Food waste is divided into avoidable and unavoidable food waste. Unavoidable food waste includes vegetable peelings, bones, shells, tea bags, coffee grounds, egg shells, fat, skin and other food that cannot be eaten. Avoidable food waste results from over-purchasing, poor preparation, not using by the use-by or best-by date or incorrect serving sizes. It can usually be avoided by planning the week’s meals, cooking correct portion sizes and checking the fridge before shopping.

Sustainability Victoria is developing a Victorian version of the successful United Kingdom Love Food Hate Waste program adopted by NSW EPA. The program helps households and businesses reduce their avoidable food waste and look at alternatives to landfill for unavoidable food waste. There is currently no launch date.

5.2 Garden waste

The same 2012 audit found garden waste comprised 7 per cent of the landfill bin. 61 per cent of households serviced in 2012-13 had a garden waste bin. If the service was universal and was used to collect this material it could potentially reduce the tonnes of landfill collected by nearly 550 tonnes and the annual service cost by $101,000 (based on 2012-13 data and the price per tonne for the new North West Organics Contract).

5.3 Public housing recycling services

There are a number of public housing estates in the municipality that do not currently receive a kerbside recycling service.

Council will investigate opportunities to improve residential access to recycling services, working with the Department of Human Services (DHS) to promote the social and environmental benefits of recycling. Council provides all properties a landfill collection but has been unable to introduce an adequate recycling service to high-rise estates. A current lack of adequate infrastructure, such as dedicated recycling chutes to effectively separate recyclables from landfill, constrains the ability to collect recyclables. Retrofitting adequate infrastructure requires the support of DHS and significant external funding.

Council plans to introduce the recycling service to low-rise public housing estates based on the award winning Ascot Vale Housing Estate model but this also requires external funding.

5.3.1 Case study: Ascot Vale Housing Estate household recycling project

In 2012, Council successfully completed a project to provide kerbside recycling services to the Ascot Vale Housing Estate, delivering recycling infrastructure and education to the estates 1500 residents. The project was completed with funding support from the Australian Packaging Covenant, the Victorian Government and Department of Housing Services.
Direct results of the project included:

- residents embraced the service and said they now felt just like the rest of the community
- over 50 tonnes of recyclables collected in first 6 months
- litter around the estate decreased
- three of the project team have since gained full time employment

The project developed a community engagement model for culturally and linguistically diverse communities (CALD) and influenced the CALD component of the statewide *Get it right on bin night* campaign to increase household recycling.

Moonee Valley City Council and Wingate Avenue Community Centre won the top prize at the Premier’s Sustainability Awards 2013 for the work undertaken as part of this project.

Figure 22 Ascot Vale Housing Estate Doorknocking team

5.4 Planning

Council is committed to maintaining an efficient and equitable waste management system across its growing population, ensuring appropriate services are provided to all properties.

5.4.1 New developments

New developments must supply an appropriate Waste Management Plan. The plan must detail the type of collection to be provided, addressing material storage and collection methodology including access. Properties that cannot be accommodated by the weekly kerbside collection must arrange a private collection service. Council’s *Waste Management Plan Guidelines* details the collection service requirements, including how properties must present their bins for collection without blocking any access and that they must be returned to a dedicated bin store, the same day as collected.
5.5 Kerbside recycling

5.5.1 Contamination

The contamination rate is the percentage of the recycling stream that is not a recyclable material accepted in that stream.

Council’s kerbside recycling has been analysed with bin audits conducted in 2012, which found contamination rates of around 10 per cent, highlighting the need for continued household education.

The recyclables processor conducts an annual audit of materials collected and found the contamination rate for 2013 was nearly 22 per cent. It is acknowledged that truck compaction set at 30 per cent may result in the loss of some otherwise recyclable materials. This explains the higher rate and will be addressed in the next processing contract to be negotiated in 2015.

5.5.2 Education campaign

Council has already developed communications materials and will be continuing the current education campaign to reduce the amount of contamination in the residential recycling bin.

This will be an ongoing project targeting poor performing streets and priority issues, Council currently utilise the collection vehicles to provide information on what can and cannot be recycled and participate on the state Get it right on bin night and Back to earth campaigns.

5.5.3 Kerbside capacity

2012 bin audits found households filled around 83 per cent of their recycling bin fortnightly and the service provider data estimates 85 per cent of households put their bins out for collection each fortnight. It is possible that some recyclable materials are placed in the landfill bin once the recyclables bin is full.

5.6 Reprocessing capacity

Council has limited control over the processing capacity for specific materials. The new state policy Getting full value will focus on developing strong end markets for materials to encourage collection and reprocessing of these resources and diversion from landfill.

Currently there is no (or limited) processing capacity for:

- food waste
- flexible plastics
- polystyrene meat trays
- nappy recycling

5.6.1 Technological innovation in collection and treatment

Related to the lack of processing capacity are collection and treatment technological innovation. Council has little direct control over this but can drive improvements through contract specifications particularly multi-council contracts that deliver viable economies of scale. However, contracts tend to be long-term which limits this influence.

Victoria does not currently have any large-scale advanced resource recovery technologies designed to increase recovery of residual waste.

5.6.2 Increased packaging

The amount of packaging of food, beverages and other consumer products continues to grow despite it being constantly light weighted. Single serve consumables have increased dramatically in the past decade. Not all packaging materials can be recovered in the current processing facility and some packaging made from composite materials is difficult to recycle. These items are not accepted through the kerbside commingles collection and are counted as contamination.

5.6.3 Flexible plastics

Flexible plastics are recyclable but cannot be recycled by the current kerbside recyclables processor and are considered to be contamination. Some householders incorrectly bag their
recyclable material and place in the recyclables bin. This is a form of contamination and these bagged materials must be landfilled on receipt at the processing facility.

5.6.4 Nappies

Nappies cannot currently be recycled and are disposed to landfill although some households contaminate the recyclables or green waste bin with nappies. There is no bin audit data estimating the proportion of nappies in landfill or contamination of other bins. There were almost 4000 children aged under two years in the 2011 Census. Families can apply for a user-pays 240 litre landfill bin to manage the quantity of nappies that is reviewed annually.

5.7 Additional recycling options through the Transfer Station

Council offers residents non-residents and businesses recycling options at its Transfer Station for materials that cannot be collected at through the kerbside collection. While this is a well-used facility there are still residents that seem unaware of the service, are unable to transport materials there or illegally dump materials on the kerb or elsewhere in the municipality. Council aim to increase its promotion of the Transfer Station, with economic and environmental benefits including; reduced illegal dumping, increased yield of recyclable material collected and reduced kerbside contamination.

Ongoing financial analysis of the Transfer Station is required to progress towards cost neutrality.

5.8 Community issues

Council regularly consults with the community in the development of the Moonee Valley Vision 2035, Council Plan 2013-17 and the City Sustainability Policy. Feedback received has included requests for more frequent hard waste collections, more consistent/lower fees, reintroduction of tip vouchers and more frequent collections of garden waste.

5.8.1 Annual community surveys

The Department of Planning and Community Development (DPCD) has conducted an annual survey measuring community satisfaction with council performance. Survey changes in 2012 make comparisons with previous years inappropriate. The survey assesses the performance of councils across five governance measures and 18 service measures.

Council conducts its own annual community survey. Figure 23 shows the results for the DPCD and Moonee Valley Community Surveys for 2012 and 2013 with a decrease in performance in 2013 measured in both surveys.

Figure 23 DPCD and Moonee Valley Community Survey results, 2012-13
Council asks questions on five areas of waste and recycling in its annual community survey. Figure 24 shows high and consistent performance ratings for landfill, green waste and recycling collections, with slightly lower ratings for operation of the Transfer Station and less satisfaction with hard rubbish collection. The latter result reflects the high demand for hard waste collections.

Figure 24 Moonee Valley Community Survey waste management performance ratings

### 5.9 Environmental impacts

Disposing waste to landfill has a range of environmental impacts including burying valuable resources, Co2 emissions and amenity impacts. Like food, there is avoidable and unavoidable waste to landfill. Recycling collections and drop-off systems try to capture the valuable materials that can be recycled and contain embodied energy and water. Additional energy, water and natural resources are required to manufacture new products.

Providing recycling collection systems results in environmental impacts from the collection, transportation and processing systems. It is intended that these are less than the impacts of sending waste to landfill.

### 5.10 Carbon price

Since 1 July 2012 Council has paid a carbon price on waste disposed to landfill. The newly elected Liberal Coalition Government will repeal the carbon price but Council must continue to pay the price until the legislation is repealed. It is unclear what that money will be allocated to.

### 5.11 Contracts

The kerbside collection contracts are all long-term contracts and part of MWMG multi-council contracts.

Contracts need to be long term to allow the contractor to purchase trucks and bins. However they can lock Council into terms that fall behind the market.

Long-term contracts also lock in the processing technologies available during contract negotiation for the life the contract, rather than promoting innovation as it becomes available.
Councils recycling processing contract is due for negotiation in 2015. This represents a significant opportunity to prioritise greater recovery of materials and will incorporate recommendations from state government that new contracts include provisions for education and focus on end markets.

5.12 Public place recycling

There are currently very limited options across metropolitan Melbourne to have contaminated litter bin material sorted into waste and recycling for recovery. A new arrangement would need to be entered into with a new service provider before this could occur.

The option of installing twin receptacles for collection of recycling and litter was also investigated, issues raised, included significant contamination levels and cost of infrastructure. Council will continue to investigate the options for public place recycling.

5.13 Waste generation

According to Sustainability Victoria’s 2010-11 Victorian Local Government Annual Survey, Victorians continue to generate more waste despite policy and attempts to reduce waste generation. The majority of the increase in generation was recycled rather than landfilled, as can be seen in Figure 25.

While total waste generation increased, the amount of landfill collected decreased by 2.6% rather than increase as would be expected from population growth.

Total waste generation (in tonnes) increased by 27.8 per cent between 2000-01 and 2010-11. The survey explains the increase was due primarily to the expansion of kerbside services to more households and the introduction of the third bin for garden waste rather than just the effects of population growth.

The survey explains this indicates households are better educated and informed about recycling and waste avoidance, are better at separating material and have the appropriate supporting infrastructure to recover more materials for recycling.

Solid waste generation per capita increased to 2.15 tonnes, an increase of 3.1 per cent from 2009-10 following an 8.2 per cent increase the previous year. This was an increase of 70 kilograms per person from 2009-10. Of the 2.15 tonnes of waste per capita 1.46 tonnes was recovered.
The per capita rate for landfill (garbage) generated decreased from a high of 233 kg in 2000-01 to 197 kg in 2010-11 representing a 15.5 per cent decrease. Although the population has grown by 15.2 per cent over the same period, the per capita landfill generation has decreased at a greater rate.

Recyclables show an increase from 70 kg per person to 112 kg over the same period, a 60.2 per cent increase, and garden waste increased by 241.8 per cent from 21 kg per person to 71 kg.

Figure 26 Per capita waste generation for the three main kerbside services

5.14 Summary of challenges

The challenges described above affect council’s ability to deliver an efficient, environmentally sound and innovative waste management service. Council has grouped the challenges into 5 key project areas for focus over the next 4 years:

- diversion of organic material from landfill
- waste management planning (population growth, planning requirements)
- treatment of hazardous waste (including paint, batteries and electrical items)
- community engagement/education
- service delivery (prioritise innovation and improved processes)

Table 10 summarises the challenges providing an analysis of the levels of influence available to Council.
<table>
<thead>
<tr>
<th>Item</th>
<th>Issue</th>
<th>Council control</th>
<th>Existing program</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Within</td>
<td>Influence</td>
</tr>
<tr>
<td>Food waste in the landfill bin</td>
<td>Lack of processing capacity</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Reducing avoidable food waste</td>
<td>Better shopping and cooking planning</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Managing unavoidable food waste on-site</td>
<td>Promoting home composting</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Garden waste in the Landfill bin</td>
<td>Not universal garden waste service</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Flexible plastics</td>
<td>Contamination in the recyclables bin</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Flexible plastics</td>
<td>Lack of processing</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Bagged recyclables in the recyclables bin</td>
<td>Unsuccessful education</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Nappies</td>
<td>No viable recycling system</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Recyclables bins at capacity</td>
<td>Increased packaging</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Recyclables bins at capacity</td>
<td>Packaging may not be accepted in kerbside recycling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer Station costs</td>
<td>Not full cost recovery</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Increasing waste generation</td>
<td>Despite policy and programs to reduce it</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Increased packaging</td>
<td>Not all packaging can be recovered in the existing system</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Public place recycling</td>
<td>Correct segregation of recyclables, MRF limitations</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Community centre/sports club recycling</td>
<td>Education and facilities management responsibilities</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
6 ACTION PLAN 2014–2018

6.1 Guiding principles

The action plan shows how Council will achieve the priorities in the Waste and Resource Recovery Plan based on continuous service improvement, incorporating emerging best practice and new technologies as they become available in Victoria while achieving best value. The guiding principles of the plan align with the Moonee Valley Council Plan 2013-17 and include:

- minimising waste generation
- increasing reuse of materials
- increasing recovery of materials for recycling
- reducing waste to landfill
- maximising contracts
- improving service efficiencies

The guiding principles are based on the waste hierarchy, discussed in 4.3.1, reflects the environmental order of preference of managing waste. The preferred environmental option is avoiding and reducing waste with landfill disposal the least environmental option, as can be seen in Figure 27.

Figure 27 The waste hierarchy

To achieve the objectives Council must use a variety of approaches based on:

- infrastructure
- services
- relationships
- knowledge and information
- policy

6.2 Links to other Council commitments

The Council Plan 2013-17 commits to continually improve current waste diversion rates through community education and other initiatives. The City Sustainability Policy’s theme of valuing our resources: ways to lessen our waste commits Council to create an economy where resources are valued. This is underpinned by key guiding principles of limited resources, preventing waste and the new economy. The Action Plan aligns with these commitments and highlights the partnership approach across relevant business units, such as Waste Management, Planning, Sustainability and Economic Development, required to achieve the Action Plan.

6.3 Targets and performance measures

As discussed in section 4.3.5, the Government released its new waste policy, Getting full value, in April 2013 and is developing an implementation plan and performance measures. Council awaits the release of these documents so that it can ensure its indicators are aligned with Victorian waste policy. Until they are released Council will use the following indicators measure performance:

- awareness – measures level of awareness of target audience
- behavioural – measures changes in behaviour
- service – measures changes in the numbers participating in the service
• financial – measures changes in financial cost of providing services
• infrastructure – highlights actions that cannot be implemented until appropriate infrastructure is available.

6.4 Monitoring and review
The Action Plan will be monitored annually for progress against targets. A formal review of the Action Plan will be conducted after three years, at the completion of 2016-17, and will inform preparation of a new Waste and Resource Recovery Plan.

6.5 Action plan
Strategies have been identified to address the objectives. The actions are designed to be achievable and meet the strategies and objectives. They are within Council’s control and areas of responsibility. The action plan provides flexibility to adapt to external and internal changes and may be amended during the four years.
<table>
<thead>
<tr>
<th>Action</th>
<th>When</th>
<th>Indicators</th>
<th>Current performance</th>
<th>Target</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic objective 1: Continually improve current waste diversion rates through community education and other initiatives</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1.1 Reduce food waste disposed to landfill</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continue to encourage home composting through the community education program (My smart garden)</td>
<td>Ongoing</td>
<td>&gt; Behavioural: annual community survey</td>
<td>46.5% in 2013</td>
<td>Annual 2% increase in number of households composting</td>
<td></td>
</tr>
<tr>
<td>Implement Sustainability Victoria’s Love Food Hate Waste program to reduce avoidable food waste</td>
<td>When released</td>
<td>&gt; Awareness: SV market research</td>
<td>40%</td>
<td>Program implemented &gt;5% reduction in landfill bin &lt;5% contamination</td>
<td></td>
</tr>
<tr>
<td>Collect food waste in the garden waste collection when processing is available</td>
<td>2015-16</td>
<td>&gt; Infrastructure: available</td>
<td>40%</td>
<td>&gt;10% reduction of food waste in landfill bin; incremental targets by year &lt;5% contamination</td>
<td></td>
</tr>
<tr>
<td><strong>Strategic objective 2. Increased recovery of recyclable materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.1 Review and strengthen the community education program to achieve higher levels of reuse and recycling by residents, traders, businesses and users of public areas through:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Council Plan</td>
</tr>
<tr>
<td>Education to reduce the amount of recyclables in the landfill bin</td>
<td></td>
<td>&gt; Behavioural: bin audits every two years</td>
<td>11%</td>
<td>&lt;5%</td>
<td></td>
</tr>
<tr>
<td>Education to reduce contamination of the recyclables bins – implement the Get it right on bin night campaign and Council’s contamination campaign</td>
<td>Ongoing</td>
<td>&gt; Behavioural: bin audits every two years</td>
<td>TBC</td>
<td>&lt;5%</td>
<td></td>
</tr>
<tr>
<td><strong>2.2 Expanding public housing household recycling using the successful Ascot Vale Housing Estate model to other public housing areas in partnership with DHS. Analyse and prioritise estates.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Council Plan (adapted)</td>
</tr>
<tr>
<td>Reliant on external funding</td>
<td></td>
<td>&gt; Infrastructure</td>
<td>2 of x estates currently receive the recycling service</td>
<td>1 new estate per year</td>
<td></td>
</tr>
<tr>
<td><strong>2.4 Promote recyclables bins to appropriate commercial businesses after analysis</strong></td>
<td>2014-15</td>
<td>&gt; Behavioural: additional bins in service</td>
<td>1000 properties</td>
<td>Extension of commercial recycling &gt;10%</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>Expand Council’s free recycling service to all primary schools community groups and sporting clubs</td>
<td>2014-15</td>
<td>&gt; Behavioural: additional bins in service</td>
<td>80%</td>
<td>Offer Service to all primary schools, and extend to not for profit sports clubs and community groups</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------</td>
<td>------------------------------------------</td>
<td>-------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>2.6</td>
<td>Require developers of new multi-unit dwellings to submit a waste management plan with planning permit. Review the current guidelines to reflect the changing waste management requirements for new developments, and Establish a trigger for a mandatory Waste Management Plan. Require a biennial review of the guidelines.</td>
<td>On-going</td>
<td>&gt; Advocacy – Provide an up to date guideline for new developments</td>
<td>New developments currently required to submit a WMP Current Guidelines in place</td>
<td>Update WMP Guidelines (every 2 years) Establish WMP Trigger levels Council Plan (adapted)</td>
</tr>
<tr>
<td>2.7</td>
<td>Increase the number of materials recovered in the recyclables bin – negotiate in the new contract for ongoing expansion</td>
<td>2014-15</td>
<td>&gt; Infrastructure</td>
<td>Adequate material in new contract that maximises recovery – education component</td>
<td></td>
</tr>
<tr>
<td>2.8</td>
<td>Investigate a Public Place Recycling (PPR) solution to capture the recyclable content of street litter bins</td>
<td>2014-15</td>
<td>&gt; Infrastructure / reprocessing contract</td>
<td>PPR Trial</td>
<td>Review inclusion in 2015 reprocessing contract</td>
</tr>
</tbody>
</table>

**Strategic objective 3. Increase recovery of organics (additional to 1.1)**

<table>
<thead>
<tr>
<th>3.1</th>
<th>Implement MWMG’s education strategy to support the transition to the North West Organics Contract with low contamination</th>
<th>2014-15</th>
<th>&gt; Behavioural: bin audits every two years &gt; Awareness: MWMG market research</th>
<th>&gt; 7836 tonnes &gt; 0% contamination</th>
<th>&gt; 8000 tonnes recovered &gt; 0% contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Evaluate the provision of incentives and other strategies to increase the uptake of garden bins</td>
<td>2014-15</td>
<td>&gt; Behavioural: uptake of bins</td>
<td>&gt; 26,600 properties</td>
<td>&gt; Universal or opt-out service Council Plan</td>
</tr>
</tbody>
</table>

**Strategic objective 4. Increase recovery of a broader range of materials to increase recovery, reduce illegal dumping and reduce hard waste costs**

<table>
<thead>
<tr>
<th>4.1</th>
<th>Implement the on-demand white goods service</th>
<th>2013-14</th>
<th>&gt; Financial: offset by reduced costs in other services</th>
<th>N/A</th>
<th>&gt; Residents have access to on-demand collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2</td>
<td>Continue hard waste sorting trials to develop a long-term recovery solution</td>
<td>2013-14</td>
<td>&gt; Financial: cost neutral moving to cost savings</td>
<td>N/A</td>
<td>&gt; Achieve 50% diversion from landfill</td>
</tr>
</tbody>
</table>
### Strategic objective 5. Increase or maintain community satisfaction with waste and recycling services

<table>
<thead>
<tr>
<th>5.1</th>
<th>Analyse DPCD survey annually</th>
<th>Ongoing</th>
<th>&gt; Survey: percentile ranking of community satisfaction with waste management</th>
<th>Annual surveys: &gt; DPCD 75</th>
<th>Annual surveys: &gt; DPCD 78</th>
<th>Annual surveys: &gt; MVCC 72</th>
<th>Annual surveys: &gt; MVCC 75</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Review waste and resource recovery questions in Council's annual community survey</td>
<td>2014-15</td>
<td>&gt; Survey: update as required</td>
<td>N/A</td>
<td>&gt; Survey updated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Strategic objective 6. Collect and report data to meet Council and the community’s needs

| 6.1 | Ensure data reporting is aligned with the new state database | Ongoing | > | | | | |
ABBREVIATIONS

advanced resource recovery technology ARRT
Australia New Zealand Recycling Platform Limited ANZRP
Australian Packaging Covenant APC
Consumer Price Index CPI
culturally and linguistically diverse CALD
Department of Community Development and Planning DPCD
Department of Environment and Primary Industries DEPI
Department of Human Services – Housing Office DHS
Environment Protection Authority Victoria EPA
Metropolitan Waste and Resource Recovery Strategic Plan Metropolitan Plan
Metropolitan Waste Management Group MWMG
Ministerial Advisory Committee on Waste and Resource Recovery Governance MAC
multi-unit dwellings MUDs
municipal solid waste MSW
regulatory impact statement RIS
Draft Statewide Waste and Resource Recovery Infrastructure Plan SWRRIP
Sustainability Victoria SV
Victorian Advanced Resource Recovery Initiative VARRI
Victorian Competition and Efficiency Commission VCEC

GLOSSARY

Contamination rate The contamination rate is the percentage of the recycling stream that is not a recyclable material accepted in that stream.

Kerbside collection diversion rate The kerbside collection diversion rate is calculated from the tonnes of recyclables and garden waste collected (less contamination) divided by tonnes of landfill, recyclables and garden waste collected.
REFERENCES

DATA

Unless otherwise stated, all data in this document is from the Victorian Local Government Annual Survey conducted by Sustainability Victoria. Data to 2010-11 is validated and published data and data from 2011-12 onwards is Council’s survey submission data that has not been validated by Sustainability Victoria.

REFERENCES

2013 Consultation Draft Metropolitan Waste and Resource Recovery Strategic Plan, Metropolitan Waste Management Group


Draft Statewide Waste and Resource Recovery Infrastructure Plan 2013-43, September 2013, Sustainability Victoria


Ministerial Advisory Committee on Waste and Resource Recovery Governance Reform, 2013


Victorian Local Government Annual Survey 2010-11, Sustainability Victoria

MOONEE VALLEY DOCUMENTS

2008-14 Waste Management Strategy

Moonee Valley Next Generation 2035 Community Vision

Council Plan 2013-17

City Sustainability Policy 2013-17

Moonee Valley Public Health and Wellbeing Plan 2013-17