Hobsons Bay City Council

Waste and Litter Profile Relevant to Packaging Impacts Consultation RIS

Hobsons Bay City Council (the Council) is situated 10 kilometres from the central business district (CBD) with a 22 kilometre bay frontage onto Port Phillip Bay, covering an area of 66 square kilometres. The forecast population in 2012 for the municipality is 87,050 residents.

The Council provides a range of waste and litter services to the community of Hobsons Bay. Of relevance to the topic of the Packaging Impacts Consultation RIS are the Council's kerbside recycling collection service, garbage collection service, recyclables acceptance and sorting service, public place recycling bin collection service and municipal cleansing services including collection of litter bins and beach, street and stormwater cleaning.

In 2008/2009 the Council spent $3.8 million on waste management services and $2.3 million on litter management services. In 2012/2013 this is expected to increase to approximately $6.7 million for waste management services and $3.5 million on litter management services due to the increased landfill levy and the carbon price. The costs of recycling, garbage and litter management services as a proportion of these total costs with respect to packaging waste are discussed further.

The following is a snapshot of the Council's waste and litter management services as they relate to packaging waste and litter.

Waste Management in Hobsons Bay

Waste services

The Council provides the following waste management services:

- weekly 120 litre garbage collections
- 240L fortnightly recycling collections
- 120 or 240 litre fortnightly garden waste collections
- A weekly commercial cardboard collection service
- At call hard waste collections

Of importance to the management of packaging waste are the kerbside recycling, commercial cardboard and garbage collections service where most packaging is recovered through.

The following table provides and overview of the performance of each service with some comparison to metropolitan Melbourne Councils. Data from 2008/2009 has been used as this is the latest Victorian data available at the time of preparing this submission.

Service	Garbage Collection Service	Recycling Collection Service	Commercial Cardboard Collection Service
Number of residential premises serviced by the Council's waste service 2008/09	34,823	34,823	Not applicable
Number of non-residential premises serviced by the Council's waste service 2008/09	2,436	2,436	Approximately 200
Annual tonnes collected 2008/09 (Council)	17,039.98	10577.78	Approximately 250
Yield per household & non-residential premises (kg) 2008/09 (Council)	457	284	1250
Yield per household & non-residential premises (kg) (metropolitan councils)2008/09	489	291	Not available
Participation rate at June 2009 (Council)	90 per cent	80 per cent	Not available
Average contamination rating (Council)	Not applicable	3.3 to 4.3 per cent	Minimal because a collection is rejected if there is evidence of contamination
Annual cost of the service 2008/09 (Council)	$2,171,088.58	$883,403.03	$26,500.00
Annual cost of the service per household & non-residential premises 2008/09 (Council)	$58.27	$23.71	Not applicable
Average annual cost per household & non-residential premises 2008/09 (metropolitan councils)	$63.97	$28.95	Not applicable
Cost per tonne 2008/09 (Council)	$127.41	$86.02	$106
Cost per tonne 2008/09 (metropolitan councils	$130.72	$99.30	Not applicable

Table 1: Waste management services in Hobsons Bay and comparisons to metropolitan councils during 2008/2009 (Sources: Hobsons Bay City Council and Sustainability Victoria *Victorian Local Government Annual Survey 2008-2009*)

The amount of recyclables and garbage collected in 2010/2011 was 10,432 and 20,607 tonnes respectively.

The recyclables collected from the recycling collection service are sent to be processed at a Materials Recovery Facility (MRF). The range of packaging materials that are collected include glass bottles and jars whether broken or unbroken, PET, HDPE, PVC, aluminium cans and foil, steel cans, paper and cardboard, and liquid paper board. The waste collected in the garbage collection service is sent to landfill.

Changes in Quantities of Waste Collected

The Hobsons Bay community have met the Towards Zero Waste Strategy's interim target of 45 per cent for 2008/2009 financial year with 45.63 per cent recycled through the Council's recycling and garden waste service as shown in Figure 1 below. A new Victorian Policy Waste is being drafted. The Council expects to uphold the 45 per cent target and will consider new targets when they are established by State or Australia Governments.

Figure 1 below shows the variation in the amount of waste collected in Hobsons Bay for various waste

streams. It illustrates a decline to 2009/2010 in waste being sent to landfill in the garbage stream and a steady increase in tonnes collected in recycling and garden waste services. Table 2 shows that recently from 2009/2010 to 2010/2011 waste collected rose by 12.9 per cent. With respect to each service and the change from 2009/2010 to 2010/2011, land filling rose 17.55 percent, recycling dropped 8.05 per cent and garden waste increased by 45.60 per cent.

The increase in recycling and garden waste tonnes collected shown in 2004/2005 data can be attributed to the introduction of the fortnightly recycling and garden waste services in February 2004 and the subsequent increased use.

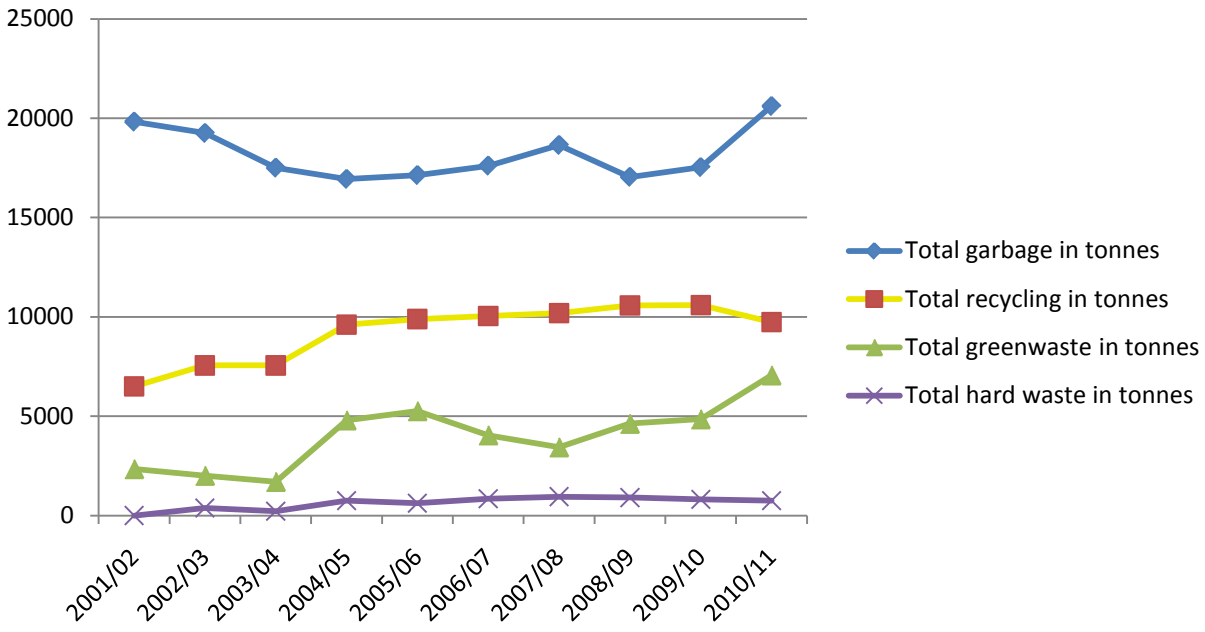

Figure 1: Total waste in tonnes collected in Hobsons Bay 2001/2002 to 2010/2011 from each municipal waste collection services (Source: Hobsons Bay City Council, 2011).

Financial year	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
% change garbage	-2.88	-9.08	-3.24	1.15	2.78	5.91	-8.62	2.88	17.55
% change recycling	16.32	0.00	27.12	2.95	1.55	1.47	3.81	0.13	-8.05

Table 2: percentage change in waste collected in tonnes from previous financial years in all municipal waste collection services (Source: Hobsons Bay City Council, 2011).

As shown in Figure 1, the overall percentage of Hobsons Bay domestic waste being sent to landfill has dropped from just under 70 per cent in the 2000/2001 financial year, to under 60 per cent during the same period in 2007/2008. This trend was encouraging as it meant more of the municipality's waste was being diverted from landfill. Data does not necessarily indicate that more people are recycling, as total waste generation has increased in the same period. The spike in 2010/2011 could be attributed to the increase in garden waste production during a heavy rainfall year and the disposal of this material in garbage bins where a property does not have a garden waste bin or if they do it is at capacity.

Waste composition

Composition of waste streams are determined in two ways, one by measuring the composition in a sample of collection vehicles and the other by measuring the composition sample bins from a number of households. The compositions of both waste streams are provided below.

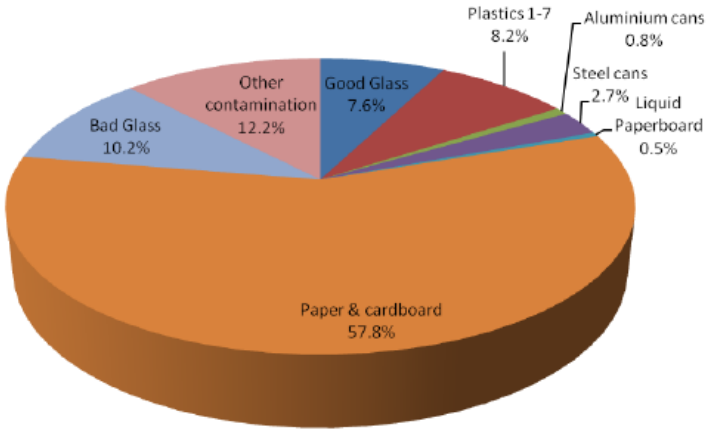

Figure 2: composition by weight of recyclables from results of audits of collection vehicles, November 2011 (Audit of Recyclables for Hobsons Bay City Council, Wastemin, February 2012)

Definitions used in the vehicle audit of each type of recyclable product are described below:

Term	Definition
Other Contamination	Includes dirt, rigid plastic, plastic film, soiled paper, organics, steel and other (mainly smaller hard waste type items such as electricity parts, carpet, underlay, used tyres, clothing, textiles etc.). For detailed classification for each Council refer to detail listing under each Council section.
Total Contamination	Includes other contamination plus bad glass
Glass Breakage	Unrecoverable or "bad" glass divided by total glass ("good glass and "bad" glass) expressed as a percentage
Good Glass	Glass containers such as bottles or jars that are recoverable from the recycling stream using normal sorting methods. Includes broken glass greater than 65mm in size.
Bad Glass	Includes all broken glass less than 65mm in size and some other minor contamination which adheres to this broken glass.
Recycle (excluding glass)	Includes Codes 1-7 plastics, steel cans and aerosol cans, aluminium cans
Compaction Rate	The weight of the load of the truck (kg) divided by the capacity or volume of the truck (cubic metres)

Table 3: Definitions used in the vehicle audit of each type of recyclable product (Hobsons Bay City Council (Audit of Recyclables for Hobsons Bay City Council, Wastemin, February 2012)

Collection vehicle audits for garbage services have not been completed.

Current data is lacking for bin based audits in garbage and recycling collection services. Most available data from Sustainability Victoria is provided below:

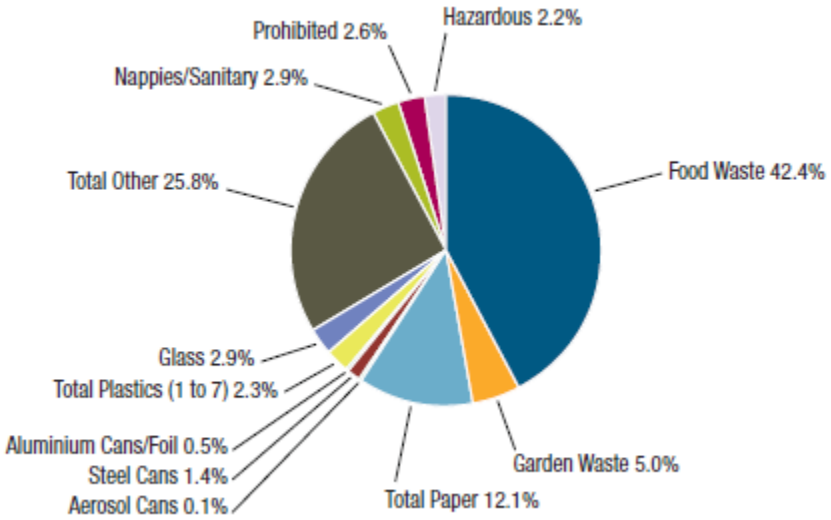

Figure 3: Garbage bin composition by weight for Metropolitan municipalities with a three bin system (Source: Kerbside garbage composition: recent findings, Sustainability Victoria 2008)

The audits show recycling bins comprising at least 30 per cent packaging waste, when excluding paper and cardboard and garbage bins having 7.2 per cent percent of packaging waste. Including paper and cardboard this rises to 87.8 percent in recycling bins and 19.3 per cent in garbage bins. Audits did not determine how much of the paper and cardboard content was a result of packaging or other sources such as media and communications materials, telephone books, or office or school materials. For this reasons paper and cardboard have been separated from packaging waste. It would be beneficial to understand how much paper and cardboard can be attributed to packaging waste.

Cost of providing the collection of packaging waste through waste services

Most of the cost of providing recycling services can be attributed to packaging waste as most of the composition is made up of this type of material.

In 2008/2009 the Council spent $3.08 million on recycling and garbage services (excluding garden and hard waste services). In 2012/2013 this is expected to increase to approximately $5 million for recycling and garbage services due to the increased landfill levy and the carbon price. This is therefore a large proportion of the costs to local government. The following table show how much it costs the Council to collect packaging waste as part of its kerbside recycling and garbage collection services.

	Recyclables composition (truck audit results)	Cost of collecting packaging waste in the recycling stream 2008/2009	Cost of collecting packaging waste in the recycling stream 2012/2013	Garbage composition (bin audits)	Cost of collecting packaging waste in the garbage stream 2008/2009	Cost of collecting packaging waste in the garbage stream 2012/2013
Packaging waste	30%	$256,021	$525,951	7.2%	$156,318	$293,131
Paper and cardboard	57.8%	$510,607	$272,985	12.1%	$262,702	$492,622
Total packaging waste	87.8%	$775,628	$798,936	19.3%	$419,020	$785,753

Table 4: the Council's cost to collect packaging waste as part of its kerbside recycling and garbage collection services (Table note: the analysis is based on weight of materials and assumes most paper and cardboard is packaging type waste)

The Council receives a small income for the sale of recyclables via a contract, estimated at $500,000 per year for five years and subject to tonnes of recyclables collected. Providing the collection of recyclables still costs the Council and is estimated at $909,950 for 2012/2013.

Excluding paper and cardboard, collecting packaging waste in the recycling stream is estimated to cost the Council $525,951 (2012/2013) and in the garbage stream $293,131 (2012/2013).

Including paper and cardboard packaging this is estimated to almost double to $1.58 million (2012/2013).

Litter Management in Hobsons Bay

Litter services

Litter management services that the Council provide include street cleaning, dumped rubbish removal, litter bin collections, beach cleaning and seaweed removal and storm water traps cleaning. The following table provides and overview of the performance of each service with some comparison to metropolitan Melbourne Councils. Data from 2008/2009 has been used as this is the latest Victorian data available at the time of preparing this submission.

Service	**Summary of the Council's service**	**Recycling or disposal site**	**Annual tonnes waste collected by the Council 08/09**	**Annual cost of the Council's service 08/09**	**Annual average of service for metropolitan councils (30) with similar services 2008/2009** (Source: Sustainability Victoria Local Government Annual Survey 2008-2009)
Street Cleaning	Street cleaning is undertaken on a scheduled basis with residential streets cleared once per month and high activity areas weekly	Disposed to landfill	975.8	$843,562	$1,226,561 Tonnages unavailable for comparison.
Litter and Dumped Rubbish Removal	Public spaces are maintained on regular basis depending on their seasonal use. Litter is removed by manual methods. Dumped litter is removed on an at-call basis and by patrols.	Disposed to landfill	737.1	$480,603	Data incomplete for comparison.
Litter Bin Collections	Regular scheduled removal of litter from 550 street litter bins. The frequency of emptying litter bins depends on their location and volume of litter generated.	Disposed to landfill	320.2	$454,609	650 bins $324,150 595 tonnes
Beach Cleaning and Seaweed Removal	Cleaning of litter and seaweed from beaches is programmed according to tidal movements and weather conditions. Litter is removed by both mechanical and manual methods.	Beach cleanings disposed to landfill. From 2012 seaweed is recycled	6733.0	$553,276	Data unavailable for comparison
Stormwater traps	There are 84 stormwater traps installed in Hobsons Bay; 61 side entry traps and 23 in-line traps.	Disposed to landfill	242.0	$29,000.00	95 side entry traps 20 in-line traps $39,460 68 tonnes
Total			**9,008.10**	**$2,361,050**	**Data incomplete for comparison**
Cost per tonne 2008/09 (Council)				$262.10	Data incomplete for comparison
Annual cost of the service per household & non-residential premises 2008/09 (Council)				$63.37	Data incomplete for comparison

Table 5: Litter management services provided by the Council (Sources: Hobsons Bay City Council and Sustainability Victoria *Victorian Local Government Annual Survey 2008-2009*) Note: litter management systems differ across metropolitan Melbourne. More detail can be gathered from Sustainability Victoria's *Victorian Local Government Annual Survey 2008-2009*.

Composition of Loose Litter

Figure 4 shows results of loose litter audits at 261 sites across Hobsons Bay. Loose litter is litter found on the ground and not appropriately contained or disposed in litter bins. Audits counted the number of items but not the weight of the loose litter.

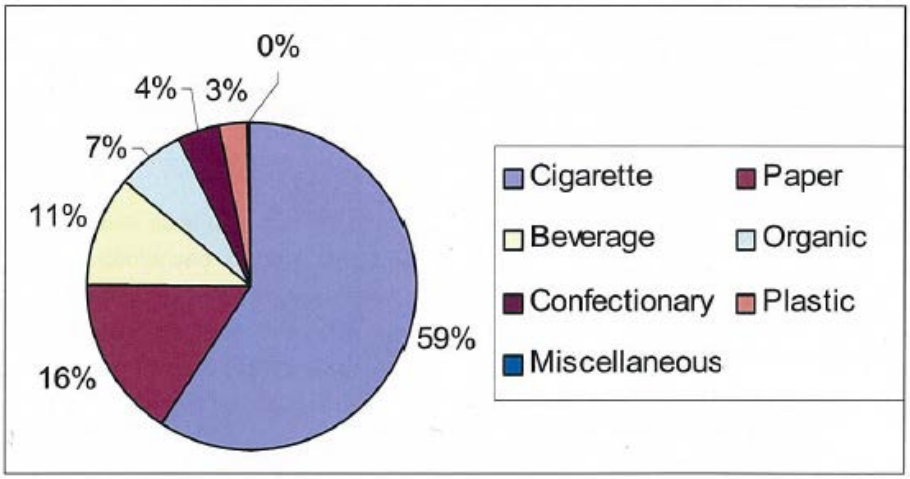

Figure 4: Summary of loose litter on the ground, number of items by category (Source: *Municipal Litter Audits in Hobsons Bay*, 2008)

Glass and plastic bottles, plastic caps, straws, aluminium cans and ring pulls, comprise 11 per cent of loose litter or an average of two items per site. 50 per cent of all beverage litter was aluminium cans, caps and ring pulls with beer caps accounting for the majority of this category. 79 per cent of sites recorded between one and two pieces of plastic type litter.

Paper accounted for 16 per cent of the loose litter. Audits did not determine how much of the paper and cardboard content was a result of packaging or other sources such as media and communications materials, telephone books, or office or school materials. For this reasons paper and cardboard have been separated from packaging litter. It would be beneficial to understand how much paper and cardboard can be attributed to packaging waste.

Other packaging waste such as confectionary wrappers and plastic accounted for 4 percent and 3 per cent respectively of loose litter.

Composition of Litter in litter bins

Figure 5 shows the number of litter items contained in 298 litter bins across Hobsons Bay during litter bin audits in 2008.

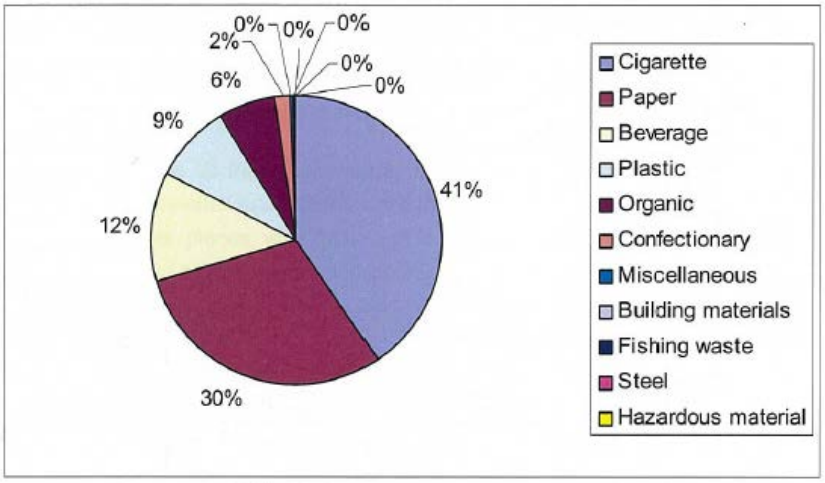

Figure 5: Breakdown of bin litter by category disposed in litter bins, number of items by category (Source: *Municipal Litter Audits in Hobsons Bay*, 2008)

Glass and plastic bottles, plastic caps, straws, aluminium cans and ring pulls, comprise 12 per cent of litter appropriately disposed of in litter bins.

Paper comprising mostly tickets and receipts, accounted for 30 per cent of all rubbish recorded in litter bins. Cardboard boxes, newspapers and advertising material made up 23 per cent of the paper items disposed in litter bins.

Audits did not determine how much of the paper and cardboard content was a result of packaging or other sources such as media and communications materials, telephone books, or office or school materials. For this reasons paper and cardboard have been separated from packaging waste. It would be beneficial to understand how much paper and cardboard can be attributed to packaging waste.

Other packaging waste such as confectionary wrappers and plastic accounted for 2 percent and 9 per cent respectively of litter in litter bins.

Waste collected from litter bins comprise recyclable product and provide opportunity for Public Place Recycling (PPR) rather than land filling. The Council's experience in Public Place Recycling is discussed later.

Composition of Beach Litter

Glass and plastic bottles, plastic caps, straws, aluminium cans and ring pulls, comprise 14 per cent of beach litter. Paper accounted for 10 per cent of all rubbish from beaches. Other packaging waste such as confectionary wrappers and plastic accounted for 7 percent and 16 per cent respectively of litter in litter bins. At Altona Beach, plastic was the second highest littered item accounting for 30 per cent of the beach litter.

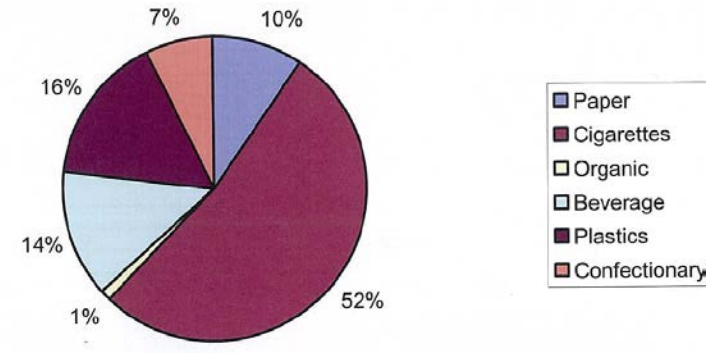

Figure 6: Percentage of litter items on beaches, number of items by category (Source: *Municipal Litter Audits in Hobsons Bay*, 2008)

Cost of providing the collection of packaging waste through litter services

In 2008/2009 the Council spent $2.3 million on litter management services. In 2012/2013 this is expected to increase to approximately $3.5 million for litter management services due to the increased landfill levy and the carbon price. This is therefore a large cost to local government.

The following table show how much it costs the Council to collect packaging waste as part of its litter management services.

Types of litter	loose litter (loose litter audits)	Cost of collecting packaging waste in the loose litter 2008/2009	Cost of collecting packaging waste in the loose litter 2012/2013	beach litter (beach litter audits)	Cost of collecting packaging waste in the beach cleanings 2008/2009	Cost of collecting packaging waste in the beach cleanings 2012/2013	litter bin composition (bin audits)	Cost of collecting packaging waste in the litter bin 2008/2009	Cost of collecting packaging waste in the litter bin 2012/2013
Beverage	11%	$148,848	$267,108	14%	$7,077	$15,360	12%	$54,553	$68,408
Plastic	3%	$40,595	$72,848	16%	$8,088	$17,554	9%	$40,915	$51,306
Confectionary	4%	$54,127	$97,130	7%	$3,538	$7,680	2%	$9,092	$11,401
Paper and cardboard	16%	$216,506	$388,520	10%	$5,055	$10,971	30%	$136,383	$171,020
Total packaging waste	27%	$365,355	$655,628	24%	$23,757	$26,331	19%	$190,936	$239,427

Table 6: the Council's costs to collect packaging waste as part of its litter management services (table note: the analysis is based on number of items and assumes that most paper, cardboard, confectionary and plastic waste is packaging waste)Excluding paper and cardboard and confectionary type packaging, collecting packaging waste through litter management services is estimated to cost the Council $492,583 (2012/2013). Including paper and cardboard and confectionary type packaging this is estimated to almost double to $921,387 (2012/2013).

Public Place Recycling in Hobsons Bay

Public Place Recycling (PPR) is a materials recovery system designed to collect materials from the waste stream for recycling used in high-use public areas such as parks, shopping centres, tourism areas, transport hubs and sporting and entertainment venues. The system is provided with litter bins.

Types of litter that are recycled in public spaces include aluminium cans, glass bottles and jars, plastic bottles and cups and tetra boxes. Paper and cardboard, while recyclable are often over contaminated in a public place recycling system with food waste. In 2007 the Council trialled a PPR system in Altona and Williamstown beaches. Due to high contamination rates and limited recovery of materials as shown in table 7 the trial was unsuccessful and costly. A further trial was conducted in shopping precincts and the Council is due to review these results giving consideration to the change in the Council's recycling contracts recently.

Performance measure (four PPR stations)	Estimated performance	Actual trial performance
Trial length	August 2007 to April 2008	August 2007 to April 2008
Kilograms recyclable	2300 kilograms	190 kilograms
Contamination rate	Less than 10%	11% (unable to be recycled and therefore land filled)
Average per cent bin fullness per week	75 per cent	46 per cent
Annual cost (includes labour, vehicle, signage, landfill and recycling costs)	$3,392	$3,367
Cost per tonne of recyclable potential (excluding signage)	$920	$11,000
Contaminating products	Plastic bags, polystyrene, rubbish, food	Plastic bags, polystyrene, cardboard, paper, waxed or lined cups
Green house gas saving CO2 equivalents (tonnes)*	41.56	0 (3.43**)
Energy savings (kwH)*	198,950	0 (16,435**)
Water savings (tonnes)*	513	0 (43**)
Trees saved (number)***	0.250	0 (0.02**)
Green house gas contribution CO2 equivalents (tonnes)****	1.2	1.2

Table 7: Public Place Recycling trial data (Source: Waste and Litter Management Plan, Issues Paper, Hobsons Bay City Council, 2010).

The Council's future direction: Waste and Litter Management Plan

The Council is currently developing its Waste and Litter Management Plan (the Plan) which will provide direction for its waste and litter services for the next five years. The Plan will be finalised and published by mid 2012 and will consider opportunities for packaging waste resource recovery and litter reduction. The Council is participating in the metropolitan improving kerbside recycling program run through the Metropolitan Waste Management Group to increase awareness of recycling and improve the quality of recycling. It also develops and implements antilitter campaigns that promote away from home recycling and public event recycling programs. Initiatives that the Council is considering to improve packaging waste recycling include reducing the size of garbage bins, increasing the size of recycling bins and changing bin lid colours to standardised systems. These types of infrastructure initiatives are also costly to local government.