

Victorian Local Government Waste Services Report

2017–2018



Victorian Local Government Waste Services Report 2017–18

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1. Introduction

Sustainability Victoria has surveyed local councils¹ about their waste and recycling services annually since 2000 to produce the Victorian Local Government Annual Waste Services Report.

This report summarises kerbside municipal waste, also known as municipal solid waste, collected within local government areas (LGAs) in Victoria. Municipal solid waste (MSW) is comprised of kerbside waste collections (garbage, recycling and organics), resource recovery centre/transfer station drop-off waste, street sweepings, public place litter collections, and any other waste related service that is managed by local councils. More information on the survey methodology can be found in [Appendix A](#).

The findings in this report are based on the data outlined in the Victorian Local Government Waste Services Report Workbook 2017–18 (the Workbook). The Workbook provides public access to the underlying data and includes historically available figures. All figures in this report are sourced from data supplied in the Workbook. This report and the Workbook are available on the Sustainability Victoria website (www.sustainability.vic.gov.au/).

The Victorian Recycling Industry Annual Report, released concurrently with this report, summarises the total waste managed throughout Victoria for all source sectors and material types. This report is also available on the Sustainability Victoria website.

¹ Local councils refer to the 79 municipalities of Victoria where the local governments preside. Victorian municipalities are split into metropolitan (metro) and non-metropolitan (non-metro) regions, with 31 metropolitan local councils and 48 non-metropolitan local councils.

1.1 Key findings for 2017–18

The tables below show a summary of key data findings from the survey.

Table 1. Percentage change from 2016–17 to 2017–18 for Total Waste Managed by Local Councils

Total Kerbside Waste Managed by Local Councils ²	Tonnages				Costs		
	Tonnes Collected	Sorted for reprocessing	Diversion rate	Per Household (kg) ³	Total Collection Service Cost	Cost per tonne	Cost per household
2.22 million tonnes collected at the kerbside 970,000 tonnes sorted for reprocessing 44 per cent diversion rate 860 kg collected per household ⁴ or 340 kg per person							
\$432 million spent \$170 cost per household or \$70 per person \$180 average cost per tonne	-0.3%	-5%	-2%	-2%	7%	7%	5%

Table 2. Percentage change from 2016–17 to 2017–18 by Collection Service

Kerbside Waste Managed by Local Councils by Collection Service	Tonnages			Costs		
	Tonnes Collected	Sorted for reprocessing	Per Household (kg)	Total Collection Service Cost	Cost per tonne	Cost per household
Garbage Collection 1.18 million tonnes collected at the kerbside 460 kg per household or 180 kg per person \$270 million spent \$100 cost per household or \$41.50 per person \$230 cost per tonne						
	0.3%		-1%	4%	3%	2%
Recyclables Collection 580,000 tonnes collected at the kerbside 520,000 tonnes sorted for reprocessing Contamination rate of 10.4 per cent 230 kg per household or 90 kg per person \$80 million spent \$30 cost per household or \$12 per person \$140 cost per tonne						
	-1.5%	-6%	-3%	18%	20%	16%
Organics Collection 460,000 tonnes collected at the kerbside 450,000 tonnes sorted for reprocessing Contamination rate of 3 per cent 310 kg per household or 70 kg per person \$82 million spent \$50 cost per household or \$12.50 per person \$180 cost per tonne						
	-0.2%	-3%	-3%	6%	6%	3%

² Victorian councils may provide collection services via in house collection service (13 councils in 2017–18) or by outsourcing to private collection companies (66 councils in 2017–18). Some private collection companies also operate independently of local council contracts where servicing Multi Unit Developments, in these instances, the data is not made available to local councils.

³ Households refers to residential properties serviced by a regular kerbside service provided by council, in some instances small businesses may also be included in the kerbside service collection where council has provided a kerbside bin. In many cases these cannot be identified separately and are included in the residential properties serviced figures.

⁴ Per household figures for total waste managed by local councils have been calculated using household numbers from garbage collection service data provided by local councils in 2017–18.

1.2 Insights from the survey results in 2017–18

A summary of selected insights from the survey results appear below.

The total weight of kerbside waste managed by local council in Victoria has remained relatively stable since 2016–17.

Local councils collected 2.22 million tonnes of kerbside garbage, recyclables and organics⁵ in 2017–18, equivalent to 860 kg per household.

The total kerbside yield decreased by a marginal 6,000 tonnes (0.3 per cent), due to a small decrease in recyclables and organics and a corresponding small increase in garbage collected in 2017-18.

In 2017–18, garbage accounted for more than half (53 per cent) of the waste collected by kerbside collection services at 1.18 million tonnes. Garbage still represents the largest component of the overall waste collected in kerbside collection services.

The total amount of garbage generated in Victoria has only increased by 7 per cent since 2001–02, despite a 34 per cent increase in population over the same period.

The increase in the total amount of kerbside waste collected by local councils since 2001–02 can be attributed to the growth in tonnes collected from organic and commingled services.

Waste generated per household in Victoria declined by two per cent by weight in 2017–18, largely due to a 1.5 per cent decrease in the total weight of recyclables collected.

In 2017–18, local government areas collected 580,000 tonnes of recyclables via household kerbside collection services (equivalent to 230 kg per household). This figure decreased by 1.5 per cent from 2016–17.

When analysed against a three per cent increase in population over the year, waste generated per household declined by two per cent – mainly due to a 1.5 per cent reduction in weight of recycling materials generated. The use of lighter weight packaging materials in some products could have potentially influenced the small decrease in Victoria’s recycling waste collection in 2017– 18. This slight decrease observed in yield per household is consistent across all three of the kerbside collection services of garbage, recyclables and organics.

Paper and cardboard continue to make up the highest proportion of waste by weight in Victorian recycling bins at 55 per cent, followed by glass at 33 per cent, plastic at nine per cent and metals at three per cent.

While the composition of materials collected through kerbside recycling bins demonstrates annual variation, commingled materials have remained relatively stable since 2001–02. However, in the past five years, from 2013–14 to 2017–18, paper items have increased at the same rate as glass items have decreased from kerbside.

In 2017–18, the following materials were found in recycling bins by weight:

- Paper/cardboard 290,000 tonnes or 55 per cent, a decrease of 3 per cent since 2016–17

⁵ Organics also includes food organics collected through kerbside collections by some local councils.

- Glass containers 170,000 tonnes or 33 per cent, an increase of 4 per cent since 2016–17
- Plastic containers 50,000 tonnes or 9 per cent, the same as observed in 2016–17
- Aluminium and steel cans 15,000 tonnes or 3 per cent, a decrease of 1 per cent since 2016–17.

The costs of kerbside collection services increased across Victoria, with recycling collection services increasing by 20 per cent or \$23 per tonne since 2016–17.

The costs for all local councils to provide kerbside collection services in 2017–18 were:

- \$432 million to provide total kerbside waste collection services (\$66 per person) – a \$27 million (7 per cent) increase since 2016–17.
- \$80 million in total to provide a recycling collection service (\$12 per person), a \$12 million (18 per cent) increase since 2016–17.
- \$82 million to provide an organics collection service (equivalent to \$12.50 per person) – a \$5 million or 6 per cent increase since 2017–18.
- \$270 million to provide a garbage collection service (\$41.50 per person) – a \$9 million or 4 per cent increase since 2016–17.

These increases can only be partly explained by a Consumer Price Index (CPI)⁶ increase of 2.8 index points (2.5 per cent) since June 2017.

Recycling collection services increased most significantly over the period, by almost 20 per cent. Changes in the recycling industry since the January 2018 Chinese National Sword restrictions were reported by councils to be responsible for this increase.

Non-metropolitan regions continue to pay higher costs per tonne and per household despite smaller household yields across all waste streams.

On average, non-metro local councils pay on average \$185 per tonne to deliver their service compared to metro local councils, who pay on average \$120 per tonne. Households in metropolitan local government areas generated 4 kg more recyclables per household annually than those in non-metro areas.

Organics is a significant component of household kerbside waste, forming 20 per cent of the total waste generated.

In 2017–18, local councils collected 460,000 tonnes of organics via household kerbside collection services, equivalent to 310 kg per household or 70 kg per person. This figure remained largely unchanged since 2016–17. Organics also maintained a 21 per cent proportion of the total state waste generated across both years.

Twenty-two local councils provided collection services for mixed food and garden organics (FOGO) in 2017–18, an increase of around 47 per cent in service availability since 2016–17. Of these councils, an average of 20 per cent of the mixed organics stream was composed of food organics, representing about 3 per cent of total waste collected from households.

The kerbside contamination rate for 2017–18 has increased by 3.9 per cent due to a change in the method used for calculation.

⁶ ABS Cat. no. 6401.0 – Consumer Price Index, Australia, Mar 2019, Index Numbers, All groups CPI, Melbourne, Original Series, ID A2325811C.

It is important to note that this increase in contamination rate is due to the use of an improved calculation method in 2017–18, rather than a change in Victorians' recycling behaviour. The new contamination rate for 2017–18 is deemed to be more accurate and a better reflection of rates in previous years across Victoria. Other factors may have contributed slightly. Refer to [Appendix A](#) and the section on [Composition and contamination of materials collected](#) for further explanation.

Combined with a marginal increase in tonnes of garbage collected and a decrease in organics and recyclables collected, the state-wide diversion rate decreased by two per cent in 2017–18.

While there were marginal changes in the tonnes collected for all three waste collection services in 2017–18, the state-wide decrease in diversion rate is mainly due to changes in contamination rates recorded for recyclables and organics.

2. Household kerbside collection

2.1 Total kerbside collection

Local councils collected 2.22 million tonnes of kerbside garbage, recyclables and organics⁷ in 2017–18, equivalent to 860 kg per household receiving garbage collection or 340 kg per person. This figure decreased slightly by around 6,000 tonnes (0.3 per cent) since 2016–17.

Figure 1 shows the tonnes of kerbside waste collected across all 79 local government areas in Victoria in metro and non-metro areas since 2001–02. This indicates a rising trend in total waste collected each year since 2001–02.

Figure 1: Kerbside total waste managed by metro/non-metro, Victoria from 2001–02 to 2017–18

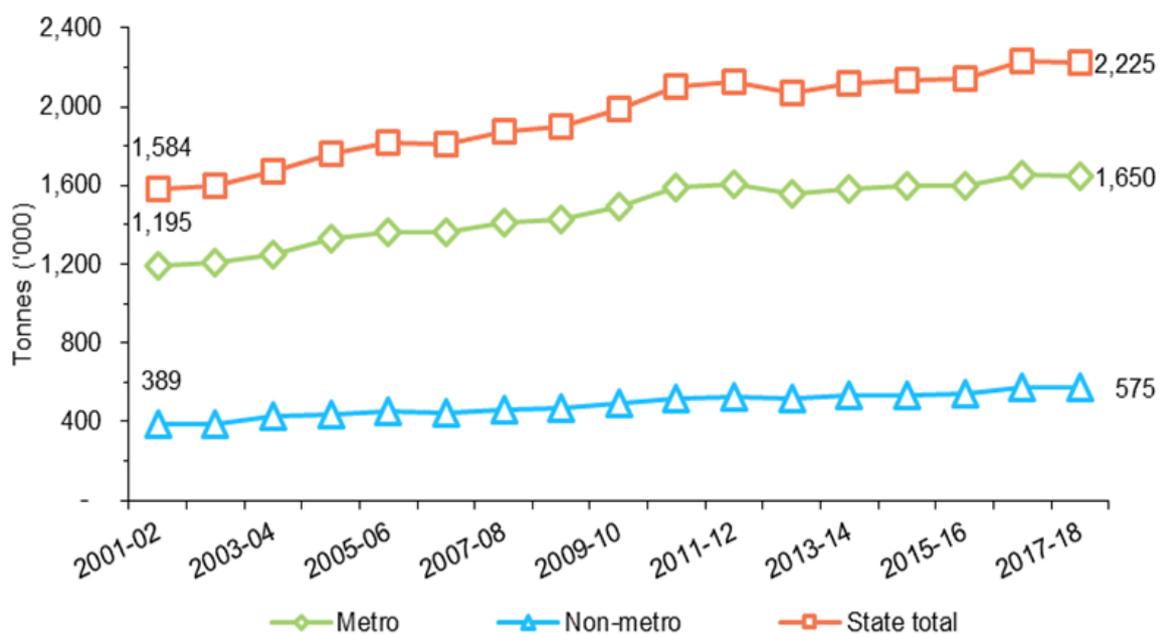
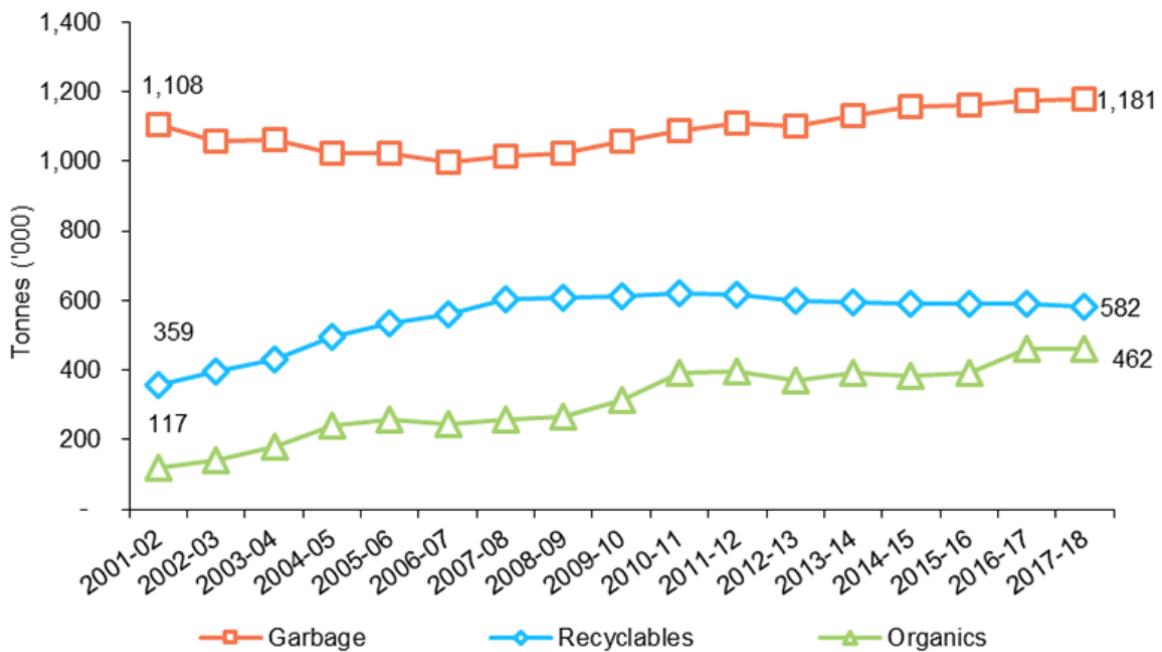


Figure 2 shows the tonnes collected of the three main types of kerbside waste since 2001–02. Recyclables and organics tonnes collected by kerbside services have increased significantly since 2001–02; by 62 per cent and 295 per cent respectively. Recyclables have increased from 360,000 in 2001–02 to 580,000 tonnes in 2017–18. Organics has increased from 117,000 tonnes in 2001–02 to 462,000 tonnes in 2017–18.

The amount of garbage has remained relatively stable since 2001–02, increasing by only 7 per cent despite a 34 per cent increase in population over the same period.

⁷ Organics also includes food organics collected through kerbside collections by some local councils.

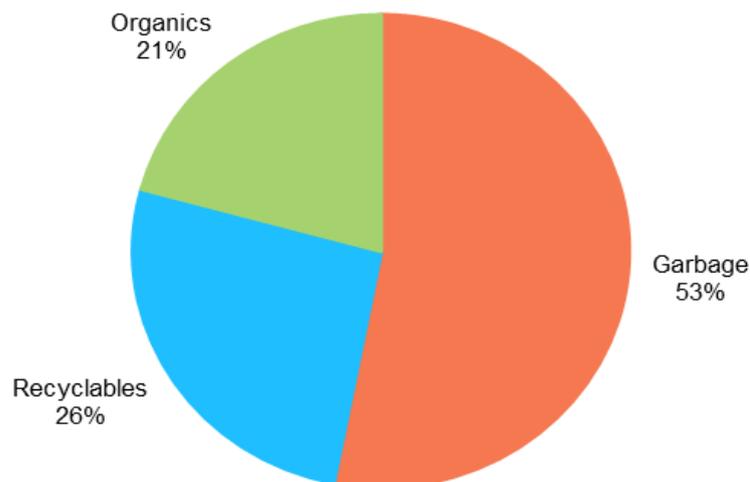
Figure 2: Total waste tonnes collected by kerbside service, Victoria 2001–02 to 2017–18



Composition

In 2017–18, garbage accounted for more than half (53 per cent) of the 2.22 million tonnes of waste collected by kerbside collection services. Garbage still represents the largest component of the overall waste collected in kerbside collection services, as shown in Figure 3.

Figure 3: Composition of waste collected through kerbside services, Victoria in 2017–18



Cost and geography

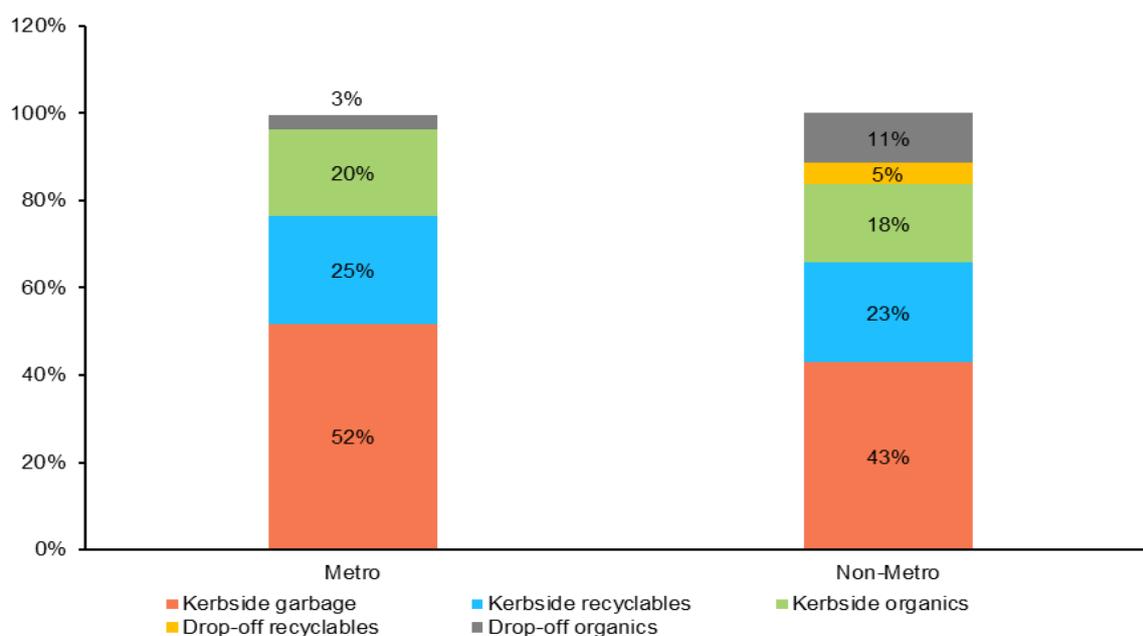
In 2017–18, it cost local councils \$432 million to provide kerbside waste collection services (equivalent to \$70 per person). This is \$27 million (7 per cent) more than the previous year.

Metro local councils (31 of 79) collected most of Victoria’s total municipal waste, accounting for nearly 1.7 million tonnes (75 per cent). Regional local councils (48 of 79 local councils) collected nearly 600,000 tonnes (25 per cent).

Figure 4 shows the relative proportion of materials collected by metro and non-metro local councils from kerbside and drop-off facilities. Drop-off includes commingled recyclables and organics.

Metro and non-metro regions collect different proportions of waste types from the kerbside and drop-off facilities. The metro region collects a larger proportion of garbage, organics and recyclables from the kerbside and a relatively low number of organics from drop-off facilities. In non-metro regions, the proportion of drop-off recyclables and organics is much higher as local councils, especially in rural area, tend to provide drop-off facility access in lieu of a kerbside system for residents outside of townships.

Figure 4: Proportions of waste collection services by metro/non-metro areas, Victoria 2017–18



Diversion rates

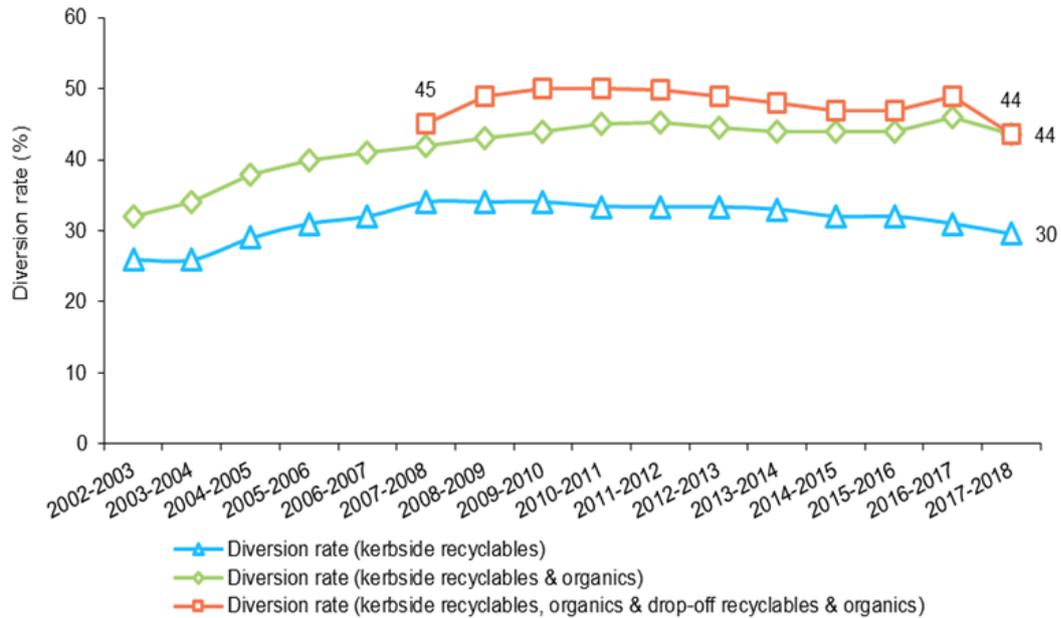
The rate of kerbside recyclables and organics diverted from landfill was 44 per cent in 2017–18 a reduction of 2 per cent since 2016–17.

Figure 5 shows the state kerbside diversion rate trends.

It is important to note that this decrease in diversion rate reflects an improvement in the method used to calculate statewide contamination rather than a decline in Victorians’ recycling behaviour. Refer to [Appendix A](#) for details. An average of 10.4 per cent contamination for recyclables in 2017–18, compared to 6.5 per cent previously and 3 per cent contamination for organics in 2017–18, compared to 1 per cent in 2016–17.

The official diversion rate used in this report incorporates recyclables and organics collected from the kerbside but does not include recyclables and organics left at drop-off facilities (the green line in Figure 5). For comparative purposes, all three diversion rates by local councils are included in [Appendix C](#).

Figure 5: Kerbside diversion rate, Victoria 2002–03* to 2017–18

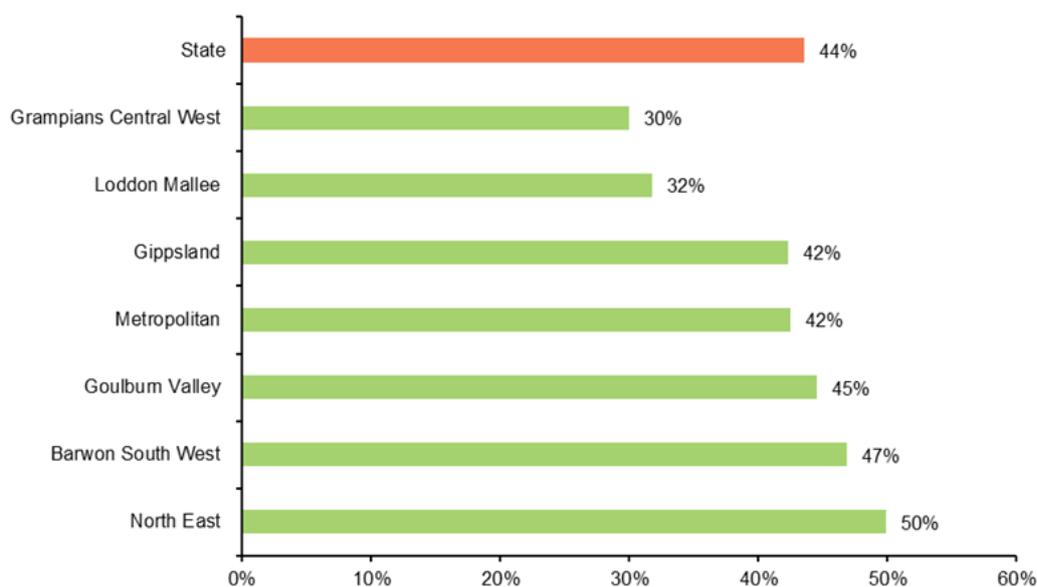


*Diversion rates from 2001–02 are unavailable.

Figure 6 compares diversion rates across the seven waste resource recovery regions of Victoria (WRRGs) with varying kerbside service availability.

The North–East region has the highest diversion rate of 50 per cent, surpassing the state average of 44 per cent. The North East, Barwon South West and Goulburn Valley regions achieved a diversion rate above the state average, however, the other four regions had rates below the state average.

Figure 6: Kerbside diversion rate by waste and resource recovery region, Victoria in 2017–18



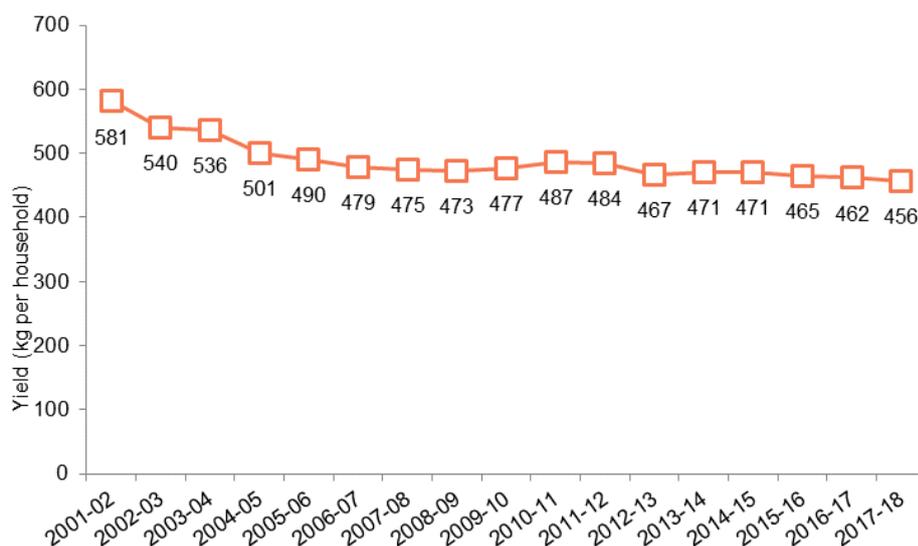
2.2 Garbage collection service

All 79 local councils in Victoria offer household kerbside garbage collection services, collectively covering 93 per cent of Victorian households. The remaining 7 per cent are generally located in remote areas where providing a kerbside garbage service is not feasible.

In 2017–18, the amount of garbage collected by local councils via household kerbside collection services was just over 1.18 million tonnes (equivalent to 460 kg per household or 180 kg per person). This figure increased by 4,000 tonnes (0.3 per cent) from 2016–17.

Since 2001–02, the household yield has decreased by 20 per cent, representing 125 kg less per household (Figure 7). The Victorian population increased by 34 per cent over the same period, while the total amount of garbage generated per person also decreased by 20 per cent, indicating that Victorians are disposing of less waste than at the beginning of the century.

Figure 7: Kerbside garbage yield per household, Victoria 2001–02 to 2017–18



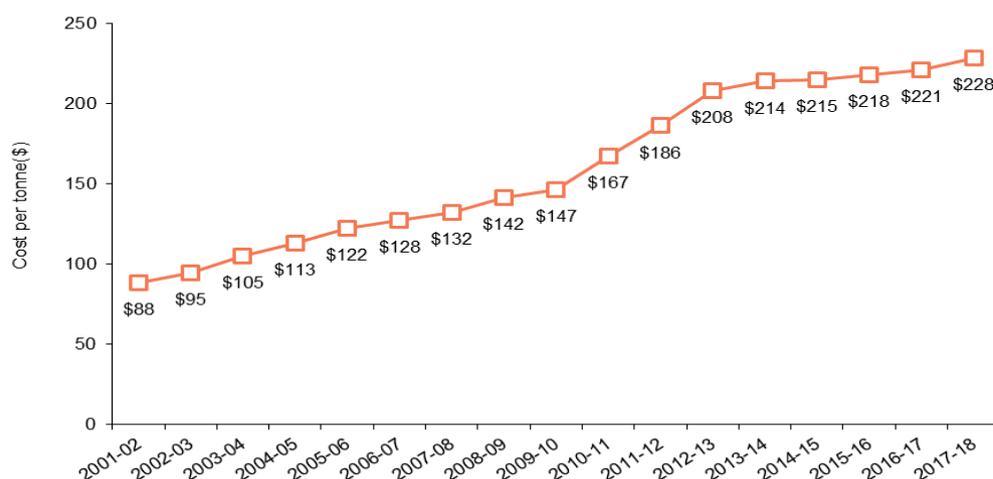
Cost and geography

In 2017–18, the cost for local councils to provide a garbage collection service was nearly **\$270 million** (equivalent to \$100 per household or \$41.50 per person). This has increased by \$9 million or 4 per cent since 2016–17 and can be partly explained by a Consumer Price Index (CPI)⁸ increase of 2.8 index points (2.5 per cent) since June 2017.

Households in non-metro local councils generated on average 12 per cent less garbage than households in metro areas. Non-metro local councils continue to pay higher prices to deliver their services, with the average cost per tonne of garbage collected being 13 per cent higher than metro local councils. Figure 8 shows the steady increase in garbage collection costs per tonne since 2001–02 with an increase of \$140 over 17 years.

⁸ ABS Cat. no. 6401.0 – Consumer Price Index, Australia, Mar 2019, Index Numbers, All groups CPI, Melbourne, Original Series, ID A2325811C.

Figure 8: Kerbside garbage collection cost per tonne in Victoria from 2001–02 to 2017–18



Bin collection system

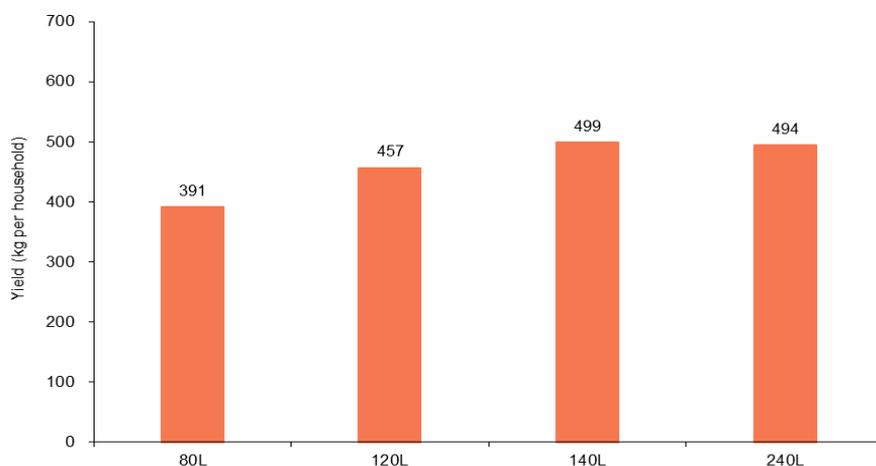
The 120-litre household garbage bin continues to be the most commonly used with 46 (58 per cent) of 79 local councils providing it (Table 3).

Table 3: Garbage bin system in Victoria, 2017–18

Bin type	Metro	Non-Metro	Total
80L	7	3	10
120L	19	27	46
140L	5	10	15
240L	2	6	8

In 2017–18, as collection bin size increases, corresponding household garbage generally increases on a yield per household basis (Figure 9), although, this is not the case for the 140L to 240L bins, which shows a slightly smaller yield per household for 240L bins.

Figure 9: Kerbside garbage yield per household by collection system, Victoria in 2017–18



2.3 Recyclables collection service

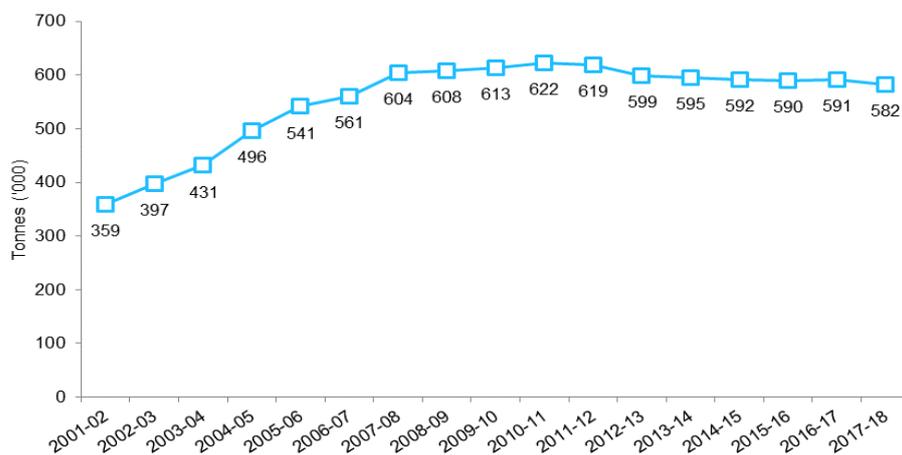
In 2017–18, local councils collected **580,000 tonnes** of recyclables via household kerbside collection services (equivalent to 230 kg per household or 90 kg per person). This figure decreased by 1.5 per cent from 2016–17.

Since the survey began in 2001–02, tonnes of recyclables collected steadily increased until 2010–11. Over the last seven years, the amount of annual kerbside recyclables collected has trended downwards by 6 per cent, from 620,000 tonnes in 2010–11 to 580,000 tonnes in 2017–18 (Figure 10). This diverges from Victoria’s increasing trend in population growth, indicating a decline in household yield of recyclables across Victoria.

Several factors may influence changes in Victoria’s recycling waste collection, including changes in:

- packaging products, where traditional packaging may be substituted with lighter alternatives
- consumer behaviour, and
- economic climate, leading to reduced overall purchasing.

Figure 10: Kerbside recyclables collected (tonnes) in Victoria from 2001–02 to 2017–18



Cost and geography

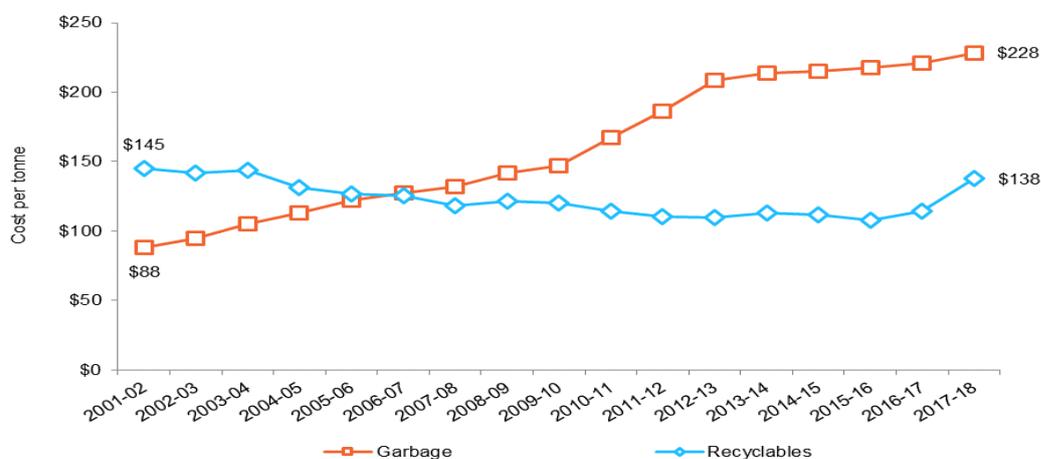
In 2017–18, the cost for local councils to provide a recycling collection service was **\$80 million in total** (equivalent to \$30 per household or \$12 per person), an increase of 18 per cent or \$12 million from 2016–17.

On average, households in metro local government areas generated 4 kg more recyclables per household annually than those in non-metro areas. Non-metro local councils pay on average \$185 per tonne to deliver their service compared to metro local councils, who pay on average \$120 per tonne.

Collection and disposal costs increased to \$23 per tonne in 2017–18, or by 20 per cent since 2016–17. Until 2015–16, the cost per tonne for recyclables was generally decreasing. The corresponding cost per tonne for garbage collection and disposal continues to increase, and has increased by 160 per cent since 2001–02 (Figure 11).

Despite this, recycling waste material continues to be more cost-effective than disposing of garbage to landfill. With the average cost per tonne of garbage at \$228 in 2017–18 compared to \$138 for recyclables.

Figure 11: Kerbside recyclables and garbage collection cost per tonne, Victoria from 2001–02 to 2017–18



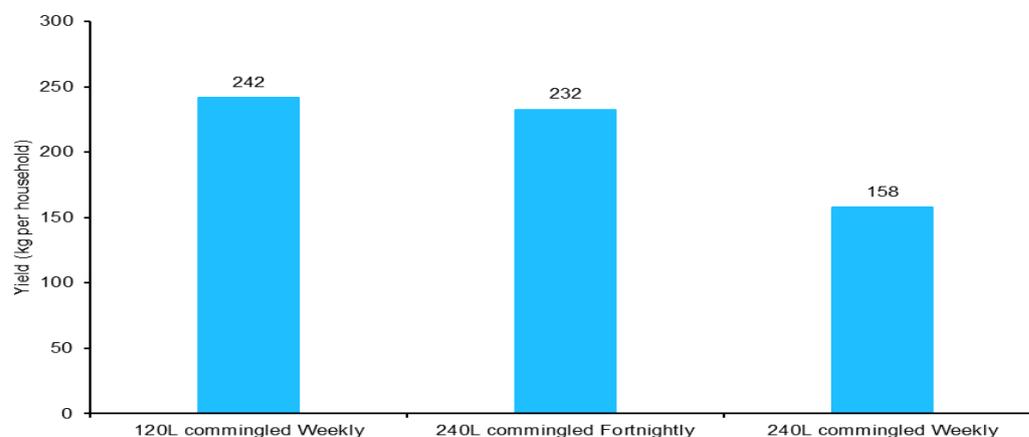
Bin collection system

Victorian local councils currently use seven different combinations of garbage and recyclables bin collection systems (in the past there were up to 14). The most common bin combination is a 240L commingled bin collected fortnightly for recyclables with a 120L weekly garbage bin. This recyclables bin collection system is used by 71 of 79 local councils (90 per cent).

The 240L commingled bin collected fortnightly generates 10 kg (4.1 per cent) less recyclables per household annually than a 120L commingled bin collected weekly and costs \$10 less per household (31.4 per cent) (Figure 12).

The 240L commingled bin collected weekly generates 75 kg (32 per cent) less recyclables per household than a 240L commingled bin collected fortnightly and costs \$2 (6 per cent) more per household.

Figure 12: Recycling yield by collection system in Victoria in 2017–18*



* Four local councils used a 120L commingled bin collection weekly, 66 local councils used a 240L commingled bin collected fortnightly, and three local councils used a 240L commingled bin collected weekly.

Composition and contamination of materials collected

In 2017–18, paper items were the largest category of recyclables collected through kerbside recycling services accounting for 55 per cent by weight. Glass containers made up 33 per cent, plastic containers 9 per cent and aluminium and steel cans the remaining 3 per cent. In 2017–18, contamination levels averaged 10.4 per cent, an increase of 3.9 per cent from the previous year.

Composition⁹

While the composition of materials collected through kerbside recycling bins demonstrate year on year variation, generally, commingled materials have remained relatively stable since 2001–02. However, in the past five years, from 2013–14 to 2017–18, an inverse relationship between the proportions of paper items and glass items has indicated small changes to the two main material streams from kerbside. The reported tonnages by local councils have indicated a general decline in the tonnes of paper collected and a growing trend in glass items collected at the kerbside.

Paper and Cardboard

Paper represents the largest proportion of materials collected through kerbside recycling services, accounting for 55 per cent or almost 300,000 tonnes in 2017–18. This has decreased by 3 per cent since 2016–17 when paper and cardboard held a 58 per cent share of the commingled bin.

Since the 2001–02 paper and cardboard has consistently remained the largest component of the materials collected via commingled kerbside services. Historical trends have shown that paper and cardboard items collected steadily increased from 2001–02 until 2007–08. Statewide yields then remained stable until 2011–2012, when the trend started to reverse and since then consistent downward trends have been observed yearly. Despite these changes, the paper and cardboard component of the commingled bin has only varied by 11 per cent in the past 17 years with a high of 66 per cent in 2004–2005 and the lowest percentage of 55 per cent reported in 2017–18.

Glass

Following paper and cardboard, glass holds the second largest proportion of the commingled bin system. This was 33 per cent in 2017–18, equivalent to around 170,000 tonnes, which increased from a reported 29 per cent in the previous year.

As aforementioned the positive trend in the proportion of glass in recent years shares an inverse relationship with the proportion of paper and cardboard. The lowest recorded proportion for glass was observed in 2004–2005 with 23 per cent and the highest percentage was reported in 2017–18. Despite the highest proportion recorded in 2017–18, glass composition in the commingled bin has only swung by 10 per cent over a 17-year period.

Plastics

Plastic items have maintained a 9 per cent proportion of the recyclables collected for the past four years. In 2017–18 just under 50,000 tonnes of plastic items were reportedly collected. Since 2001–02 the proportion of plastics has only varied by 3 per cent between 6 and 9 per cent, and over the past 12 years this has not dipped below 8 per cent.

⁹ Compositional analysis looks at material stream data proportions less the contamination allowing for year on year comparison.

Metals

Aluminium and steel cans collected via kerbside services accounted for 3 per cent of the commingled kerbside collection in 2017–18 with close to 15,000 tonnes. The proportion of metals from the commingled recycling system decrease by 1 per cent since 2016–17 from a combined share of 4 per cent. Aluminium and steel collection in Victorian kerbside collection services has remained stable since 2001–02, with the combined composition between 3 and 5 per cent over the 17-year period.

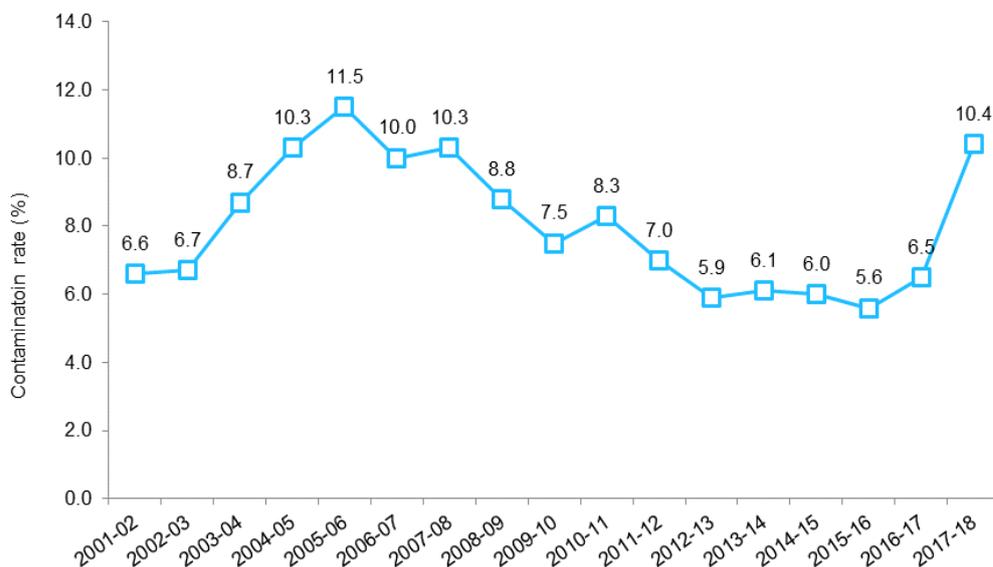
Contamination

In 2017–18, contamination levels averaged 10.4 per cent, an increase of 3.9 per cent from the previous year. Contamination rates fluctuate from year to year (Figure 13), but data validation shows this may be due to variations in data rather than a significant change in contamination rates. Contamination rates are traditionally highly variable. In 2017–18, local councils reported contamination rates that ranged by 24 per cent from 3 per cent to 27 per cent.

The large-scale adoption of the 240L commingled bin system in 2003–04 is thought to be a contributor in the significantly increased contamination rates seen from 2003–04 to 2005–06, compared to the previous 50L crate-based system that had a very low contamination rate.

The decline in contamination rates from 2005–06 to 2015–16 has been attributed to education campaigns. However, in recent years and particularly in 2017–18, the data showed a reversed trend with an increase in contamination of 3.9 per cent since 2016–17. As aforementioned, this change can largely be attributed to an improvement in calculation methodologies for 2017–18, rather than a reflection of Victorians' recycling behaviour, see [Appendix A](#).

Figure 13: Contamination rate of kerbside recyclables in Victoria from 2001–02 to 2017–18



2.4 Organics collection service

In Victoria, 73 per cent (58 of 79) of local councils offer household organics bin collection services. Of the 58 local councils offering an organics bin service, 16 of those offered residents more than one type of service such as a regular fortnightly collection, on-call service or a user-pays optional service.

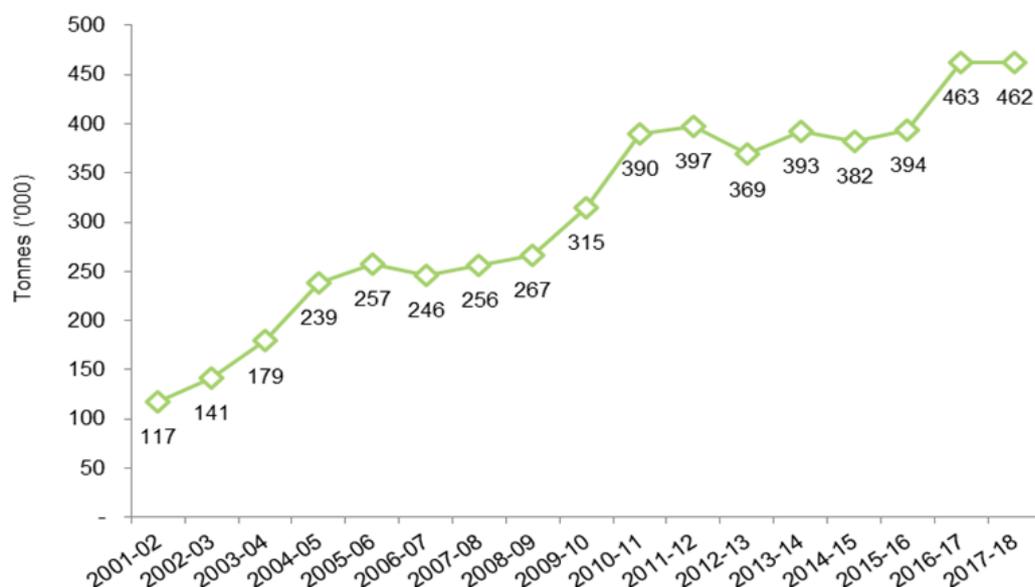
In 2017–18, local councils collected 460,000 tonnes of organics via household kerbside collection services, equivalent to 310 kg per household or 70 kg per person. This figure decreased by 0.2 per cent from 2016–17. However, organics maintained a 21 per cent proportion of the total state waste generated as in 2016–17.

The quantity of organics deposited in kerbside collections depends on seasonal factors. Historical data has shown evidence of the impact of drought and other environmental conditions, as these factors may affect year-on-year variations where there are no significant changes to collection service availability and frequency throughout the state.

Local councils reported an average of 3 per cent of the total tonnes of organics collected via kerbside collection in 2017–18 was contaminated after separation for reprocessing.

Since 2001–02, kerbside organics tonnes collected has almost quadrupled, although collection amounts reduced slightly since 2016–17 (Figure 14).

Figure 14: Kerbside organics tonnes collected, Victoria from 2001–02 to 2017–18



Food organics collection

Twenty-two local councils provided collection services for mixed food and garden organics (FOGO) in 2017–18, an increase of around 47 per cent in service availability statewide since 2016–17, when 15 local councils offered FOGO collection services. Of the 22 local councils providing FOGO services, it was estimated that an average of 20 per cent of the mixed organics stream was composed of food organics, representing about 3 per cent of total waste collected from households across the state. There has been a steep increase in availability of FOGO services in Victoria since it was first introduced in 2002–03, especially in the past three years as it gains popularity as a collection stream.

Cost and geography

In 2017–18, it cost local councils almost \$82 million to provide an organics collection service (equivalent to \$50 per household or \$12.50 per person). This is an increase of nearly \$5 million or 6 per cent since 2017–18 (\$77 million).

Non-metro local councils spent on average \$17 (9 per cent) more per tonne and yielded 14 kg (5 per cent) less per household for organics collection services than metro local councils.

Bin collection system

Local councils predominantly provide the 240L bin, accounting for 52 or 68 per cent of all organics collection services (Table 4). Although 59 local councils offer a kerbside organics bin service, 18 local councils also offer an on-call garden collection service. Three local councils offer only on-call service.

Table 4: Kerbside garden organics bin systems, Victoria in 2017–18

Primary bin	Metro	Non-metro	Total
120L	6	1	7
240L	24	28	52
Tied bundle / Loose stack	16	1	17
Total	46	30	76

3. Other local council services

The survey also asked local councils about the other waste services they provide, including:

- litter maintenance and street sweeping services
- household hard waste service
- landfill and transfer station operations.

3.1 Litter maintenance and street sweeping service

All 79 local councils provide litter maintenance and street sweeping services. In 2017–18, 71 of 79 local councils reported on these services in their survey response. The figures below are a general indication of these services.

In 2017–18, local councils collected:

- 30,000 tonnes of material from litter bins, a decrease of 17 per cent from 2016–17
- 20,000 tonnes of illegally dumped rubbish, a decrease of 3 per cent from 2016–17
- 2,000 tonnes of material from litter traps, a decrease of 14 per cent from 2016–17.

Cost and geography

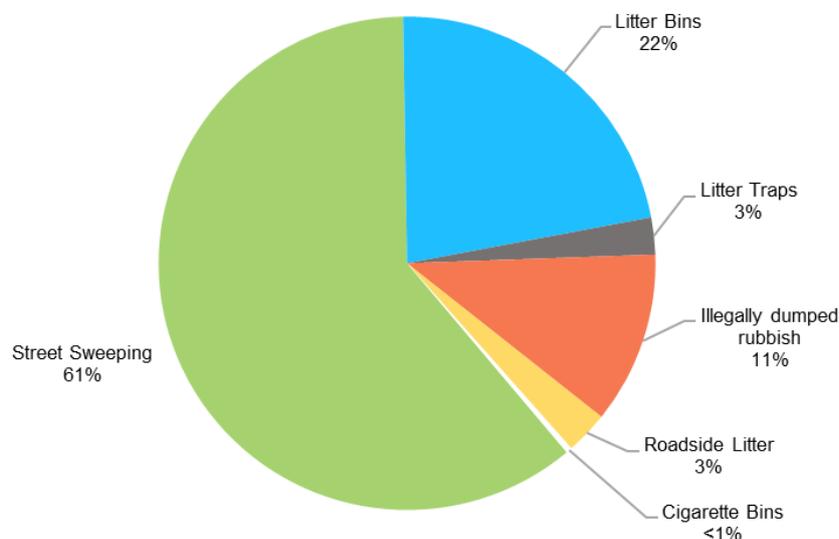
In 2017–18, the cost for local councils to provide litter maintenance and street sweeping services was more than \$101 million (or \$15 per person).

Of this, local councils spent:

- \$40 million (39 per cent) on litter services including litter bins, litter traps and clean-up services (e.g. dumped rubbish)
- \$62 million (61 per cent) on street sweeping services.

Figure 15 shows the breakdown of service costs.

Figure 15: Litter and street sweeping services annual service cost, Victoria 2017–18



3.2 Household hard waste services

In 2017–18, 45 of 79 local councils provided a hard waste collection service, 31 from metro and 14 from non–metro. Hard waste is household waste that is not normally accepted or cannot fit into kerbside garbage bins, such as white goods and timber.

In 2017–18, **110,000 tonnes** of hard waste was collected, with 90,000 tonnes disposed to landfill and the rest recovered for reprocessing. This is an average diversion rate of 20 per cent, which is the same as the diversion rate reported in 2016–17.

On average, 60 kg of hard waste was collected per household with access to a hard waste service.

Cost and geography

In 2017–18, the cost for local councils to provide a hard waste service was **\$34 million** (\$5 per person). This was an increase of \$3 million, or 9 per cent, compared to 2016–17.

Of the 110,000 tonnes collected in 2017–18, metro local councils collected 98 per cent of the total tonnes from hard waste collection services. non–metro local councils collected only a small fraction.

3.3 Landfill and resource recovery centre operations

Local council operated or owned landfills (licensed and unlicensed by the Environment Protection Authority Victoria) and resource recovery centres / transfer stations (RRC/TS) across the state. The figures below do not include privately owned sites.

Resource recovery centres

There were 259 local council owned/operated RRC/TS reported in 2017–18. Of these, (227 or 90 per cent) were from non–metro areas and 32 from metro areas. This reflects demand in rural communities for drop–off facilities – these are often regions where hard waste and potentially kerbside collection is not as readily available. In rural communities, centres are often relied on to consolidate recyclables and waste before being sent on for sorting and reprocessing.

Landfills

In 2017–18, of the 53 landfills reported as owned or operated by local councils:

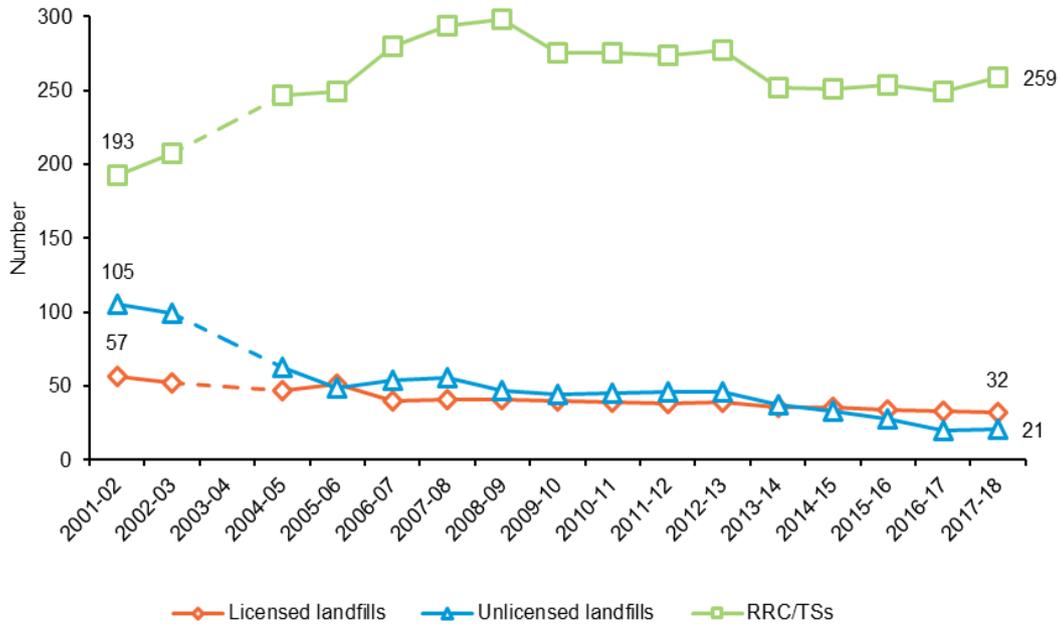
- 32 were licensed – 26 in non–metropolitan (non–metro) areas and six in the metropolitan (metro) area. Of the metro landfills, all were located in the outer metropolitan area
- 21 were unlicensed – There are no unlicensed landfills in metro areas. All unlicensed landfills are in either small provincial or rural townships in non–metro areas.

Three council–owned landfills closed¹⁰ in 2017–18 – two licensed and one unlicensed. Maribyrnong City Council and Alpine Shire Council both closed licensed landfill sites while Great Bendigo City Council closed an unlicensed site.

¹⁰ In some instances, local councils reported the closure of unlicensed landfills which had not been reported in previous years. This may skew the results.

The number of licensed and unlicensed landfills has gradually decreased since 2006–07, as shown in Figure 16. The number of RRC/TS established across the state fluctuates from year to year, with 10 more reported this year, a 4 per cent increase.

Figure 16: Number of licensed/unlicensed landfills and RRC/TS in Victoria from 2001–02 to 2017–18*



*No survey was conducted for the landfill and RRC/TS component of the 2003–04 survey. Data has been estimated from existing information for this period.

1.1. Glossary

Annual service cost: The yearly collection, sorting, processing and disposal costs of providing a waste service, as well as the annualised depreciated bin costs.

Cigarette bin: A dedicated container for the disposal of cigarette bins.

Closed landfill: A waste disposal site used for the controlled deposit of solid waste that is closed and no longer accepting waste input.

Collection system: A group of kerbside bin collection services offered. Garbage, recyclables and organics collection services combine to make a collection system.

Commingled recyclables: Combined materials, also known as commingled materials that are mainly gathered through municipal collection services. Such as plastic bottles, other plastics, paper, glass and metal containers. Commingled recyclable materials require sorting after collection before they can be reprocessed.

Contamination: The amount of incorrect material placed in the kerbside bin which cannot be recovered or sorted for reprocessing. Contamination is measured in organics and recyclables bin collection services. Contamination once sorting has taken place cannot be measured by the Survey data.

Diversion rate: A calculation that assesses the amount of waste diverted from landfills. The official diversion rate is calculated by dividing the tonnes of recyclables and organics collected (less contaminants) by the tonnes of recyclables, organics and garbage collected from the kerbside system (i.e. excludes transfer station and drop-off materials).

Food organics: Food materials discarded from households or industry, including food processing waste, out-of-date or off-specification food, meat, fruit and vegetable scraps. Excludes liquid wastes.

Garbage: Any discarded matter that is disposed to landfill. In VLGAS all garbage bin collection services are assumed to be sent directly to landfill without any recovery or sorting.

Garden/Green organics: Plant matter derived from garden sources, e.g. grass clippings, tree pruning's. Also, known as green organics.

Generated material/waste: Material/waste entering the waste stream.

Hard waste: Household goods that are not usually accepted in kerbside garbage bins by local councils, e.g. old fridges and mattresses.

Households serviced: The residential and non-residential (commercial and industrial) premises serviced by a local council kerbside bin collection. Many local councils cannot provide a split of the number of commercial and industrial premises serviced or do not have a separate charge for this service.

Illegal dumping: The deliberate and unauthorised dumping, tipping or burying of waste on land that is not licensed or fit to accept that waste.

Kerbside collection: Materials and waste collected by local councils, including garbage, commingled recyclables and garden organics, but excluding hard waste.

Landfill: A waste disposal site used for the controlled deposit of solid waste onto or into land.

Licensed Landfill: A landfill site licenced under the Environment Protection Act. The licence sets the performance objectives for the operating landfill, defines operating parameters and requires monitoring to check on environmental performance.

Litter: Any small, medium or large item placed inappropriately.

Litter trap: A filter placed in stormwater drains to capture litter before it enters the waterways. They are cleaned regularly, either manually or with a vacuum, to dispose of the litter to landfill. In-line litter entry traps operate within the drainage system and act as a filter to capture litter flowing through the stormwater drains. Side entry traps act at the drainage entrance to capture litter.

Local councils: The 79 municipalities of Victoria where the local governments preside. Victorian municipalities are split into metropolitan (metro) and non-metropolitan (non-metro) regions, with 31 metropolitan local councils and 48 non-metropolitan local councils. Also, referred to as municipalities or local government areas.

Local government area: The area covered by each of the 79 municipalities of Victoria where the local governments preside.

Municipal solid waste (MSW): Solid materials and waste generated from municipal and residential activities; including that collected by, or on behalf of, local councils. In VLGAS, municipal solid waste is comprised of kerbside waste collections (garbage, recycling and organics), resource recovery centre/transfer station drop-off waste, street sweepings, public place litter collections and any other waste related service that is managed by Council's.

Organics: Plant or animal matter, e.g. grass clippings, tree pruning's and food organics.

Recovered: Materials recovered and diverted from landfill for reprocessing or use.

Recyclables: The recyclable component of kerbside waste, ie. glass, paper, plastics and metals, excluding food and garden organics. Recyclables covers all materials collected at the kerbside via the commingled bin and excluding contaminants.

Regional Waste and Resource Recovery Implementation Plan: Each Regional Group developed a Regional Implementation Plan in accordance with the EP Act. Regional Implementation Plans provide an understanding of each region's current waste infrastructure, environmental and financial performance, projected waste volumes, urban growth and industry demands.

Resource recovery: A process that extracts materials from the waste stream.

Resource recovery centre/Transfer station: A facility for unloading and consolidating waste and a range of recyclable materials. It does not undertake reprocessing activities.

Service provision categories: The six service provision categories established in the [Guide to Preferred Service Standards for Kerbside Recycling in Victoria](#). These have been applied to each local government area (see [Appendix C](#)):

- Inner metropolitan – the more densely populated inner area of Melbourne which is characterised by high levels of multi-tenanted dwellings, narrow streets that make accessibility for collection purposes difficult, and generally short distances to a landfill/transfer station, sorting facilities and end-markets for recyclables.
- Outer metropolitan – the geographically more dispersed part of Melbourne which is generally characterised by having average population density, average block sizes and short distances to landfill/transfer stations, sorting facilities and end-markets for recyclables.

- Melbourne fringe – the outskirts of Melbourne, a blend of urban and rural areas which are generally characterised by having slightly larger block sizes, moderate collection transport costs and freight costs to landfill/transfer stations, sorting facilities and end–markets for recyclables.
- Major provincial centres – the large population centres which are generally characterised by significant population totals and average population density, the high likelihood of a regional sorting facility within the city, reasonable transport route to Melbourne or other market destinations and relatively short distances to a landfill/transfer station.
- Small provincial centres – the moderate population centres which are generally characterised by a reasonable likelihood of transportation to a major centre for sorting, as well as transportation of recyclables to reprocessing markets and moderate distances to a landfill/transfer station.
- Rural townships/remote – the small population centres which are generally characterised by significant distances to sorting and reprocessing facilities, sparse populations, lower level road infrastructure, and greater distances to a landfill / transfer station for waste disposal.

Sorted for reprocessing: Recyclable materials separated for recovery after the removal of contamination. This often refers to the total recyclables tonnes, net of bin level contamination, of a material stream e.g. recyclable or organics.

Street sweeping: A service offered by local councils to clean residential streets, main roads, laneways and footpaths. Local councils use mechanical street sweepers, manual street sweepers or a combination of the two.

Sustainability Victoria (SV): A statutory authority established in October 2005 under the Sustainability Victoria Act 2005 with the key objective of facilitating and promoting environmental sustainability in the use of resources. SV works across the areas of energy, waste and water engaging with communities, industries and government and applying the best ideas to encourage positive change in environmental practices.

Tonnes collected: The amount of material collected inclusive of contamination.

Tonnes recovered: The amount of material collected exclusive of contamination.

Unlicensed Landfill: Landfills exempt from licensing under the Environment Protection Act. Municipal landfills serving a population of fewer than 5,000 people can be categorised as unlicensed landfills under the Environment Protection Act.

Waste: Any discarded, rejected, unwanted, surplus or abandoned matter, including what was originally intended for recycling, reprocessing, recovery, purification or sale. Anything that is no longer valued by its owner for use or sale and which is, or will be, discarded.

Waste and resource recovery groups (WRRGs): Statutory authorities established under the EP Act that are responsible for planning the management of municipal solid waste and delivering the Regional Waste and Resource Recovery Implementation Plan for their region.

1.2. Appendix A: Survey methodology

The Victorian Local Government Annual Waste Services Survey 2017–18 (the Survey) was conducted between August 2018 and May 2019 and sought data from all 79 municipalities in Victoria. Findings in this report are subject to the accuracy of data provided by individual local councils.

Each local council was emailed the Survey and asked to provide information for the 2017–18 financial year about the tonnages and costs relating to their waste services, with a focus on the three–main household kerbside waste services: garbage, recyclables and organics collection.

The Survey questions focused on the following areas:

- household garbage collection and disposal
- household recyclables (e.g. containers and paper/cardboard) collection and sorting
- household organics collection and processing
- litter bin and litter trap collection and disposal
- litter clean–up services
- street sweeping
- hard waste collection services
- landfill and resource recovery centre/transfer station operations.

All 79 local councils participated in the survey, representing a 100 per cent response rate. The quality and completeness of the data depended on the local council data available.

All local councils provided data on total tonnages for garbage, recyclables and organics which represents the key data points for the calculation of total kerbside municipal waste collected.

Seventy per cent of local councils provided data on contamination rates and material stream level data. Where this data was not available, the data was imputed with the state averages utilising the available data points from 2017–18. Prior to the 2017–18 period, data for missing contamination figures for local councils was assumed to be zero. Hence, why in 2017–18 the contamination rates appeared higher, this may also influence the decrease in diversion rates observed for 2017–18 compared to the previous year.

The survey calculates diversion rates to offer a comparison between local councils based on available kerbside services. Diversion rates were calculated by dividing the tonnes of recyclables separated for reprocessing (recyclables collected less contamination) and recovered organics (organics collected less contamination) by the total tonnes collected which includes garbage, recyclables and organics from household kerbside services.

The data is presented in aggregated form, which reduces the impact of statistical anomalies on the findings. The findings are therefore more representative of costs, yields and trends in collection quantities. In various parts of the report, the data is grouped by:

- service provision categories
- metro and non–metro classifications
- waste and resource recovery region
- collection system type
- collection frequency.

Sustainability Victoria utilises a hierarchical validation structure to ensure data quality. An internal local council approval process is in place at each local council. Dual local council representatives participate in the survey, with one respondent and another reviewer confirming submitted data.

Sustainability Victoria has additional validation processes in place. Local councils are contacted individually to verify findings. Comparisons with previous years' data is also used to assist in data validation, where any unusual diversions from historical trends are identified. Sustainability Victoria also verifies data with WRRGs.

Additional data to calculate per person values are derived from demographic statistics obtained from the Australian Bureau of Statistics. These figures are quarterly estimates and historical figures are recalculated and updated per rebased population figures from the Australian Bureau of Statistics.

1.3. Appendix B: VRIAR comparison with VLGAWSR

At a glance, high level summary data from VRIAR and VLGAWSR appear quite similar summary data:

Table 5: VRIAR and VLGASWSR tonnes comparison at an aggregated level

Data point	VRIAR (municipal only)	VLGAWSR	% difference
Total waste to landfill	1,718,000	1,610,600	-6%
<i>Data source</i>	<i>EPA landfill levy data</i>	<i>Garbage kerbside, drop-off and other council services</i>	
Total recovered/ sorted for recovery	1,159,000	1,139,700	-2%
<i>Data source</i>	<i>Reported recovered for plastics, paper/card, glass, metals, organics</i>	<i>Kerbside recyclables and drop-off data for plastics, paper/card, glass, metals, organics</i>	
Total generation	2,895,000	2,750,200	-5%
<i>Data source</i>	<i>Sum landfill and recovered</i>	<i>Sum of landfill and sorted for recovery</i>	
Diversion Rates	40%	44%	4%
<i>Data source</i>	<i>Total recovered ÷ Total generation</i>	<i>Total sorted for recovery from kerbside ÷ Total kerbside generation</i>	

Note: All figures are rounded to the nearest 100 tonnes

However, individual material stream data shows considerable differences:

Table 6: VRIAR and VLGASWSR tonnes comparison at a material stream level

Main items recovered	VRIAR tonnes	VLGAWSR tonnes	Difference tonnes	%
Plastics	79,200	52,000	-27,200	-34%
Paper/cardboard	102,400	308,600	206,100	201%
Glass	229,400	182,800	-46,600	-20%
Metals	357,900	16,400	-341,500	-95%
Organics	390,100	579,900	189,800	49%
Total	1,159,000	1,139,700	-19,300	-2%

Note: All figures are rounded to the nearest 100 tonnes

The differences observed between the two data sets could be explained by:

- responses by material type by source sector can vary significantly from year to year, potentially due to:
 - respondent data entry error, unfamiliarity with business operations, confusion over data and/or the survey
 - material entered as originating from an industrial source (e.g. a materials recovery facility) which was initially from a municipal source (a kerbside recyclable bin)
- for some materials, more are captured in VRIAR from municipal sources than in VLGAWSR (e.g. only aluminium and steel cans are counted in VLGAWSR for metals while VRIAR contains data associated with end of life vehicles and large appliances that often are received by scrap metal dealers and classified as municipal waste)
- garden waste materials collected in council services or dropped off at council facilities may be processed (e.g. mulching) onsite by council and may not be captured in VRIAR

- some multi-unit dwellings are serviced by private waste collection contractors that are separate to the services offered by local councils and tonnes collected in these services are not captured in VLGAWSR
- there is a gap in information between VLGAWSR data and VRIAR, for example, where materials sorted for reprocessing may not be recoverable due to post sorting contamination.

Data in these reports are provided to Sustainability Victoria from two different surveys, targeting different participants. Consequently, we do not expect the results to align for all material types. Sustainability Victoria advises that figures from VLGAWSR should be used for the municipal sector.

1.4. Appendix C: Local council classifications

Table 7: Victorian local government areas by municipality name, region, service provision category, and metro/ non-metro classification.

Local council	Waste and resource recovery group region	Service provision category ¹¹	Metro/Non-Metro
Alpine Shire Council	North East	Small provincial	Non-metro
Ararat Rural City Council	Grampians Central West	Small provincial	Non-metro
Ballarat City Council	Grampians Central West	Major provincial	Non-metro
Banyule City Council	Metropolitan	Outer metropolitan	Metro
Bass Coast Shire Council	Gippsland	Small provincial	Non-metro
Baw Baw Shire Council	Gippsland	Small provincial	Non-metro
Bayside City Council	Metropolitan	Outer metropolitan	Metro
Benalla Rural City Council	North East	Small provincial	Non-metro
Boroondara City Council	Metropolitan	Outer metropolitan	Metro
Brimbank City Council	Metropolitan	Outer metropolitan	Metro
Buloke Shire Council	Loddon Mallee	Rural township	Non-metro
Campaspe Shire Council	Goulburn Valley	Small provincial	Non-metro
Cardinia Shire Council	Metropolitan	Melbourne fringe	Metro
Casey City Council	Metropolitan	Outer metropolitan	Metro
Central Goldfields Shire Council	Grampians Central West	Small provincial	Non-metro
Colac Otway Shire Council	Barwon South West	Small provincial	Non-metro
Corangamite Shire Council	Barwon South West	Rural township	Non-metro
Darebin City Council	Metropolitan	Inner metropolitan	Metro
East Gippsland Shire Council	Gippsland	Small provincial	Non-metro
Frankston City Council	Metropolitan	Outer metropolitan	Metro
Gannawarra Shire Council	Loddon Mallee	Rural township	Non-metro
Glen Eira City Council	Metropolitan	Inner metropolitan	Metro
Glenelg Shire Council	Barwon South West	Rural township	Non-metro
Golden Plains Shire Council	Grampians Central West	Rural township	Non-metro
Greater Bendigo City Council	Loddon Mallee	Major provincial	Non-metro
Greater Dandenong City Council	Metropolitan	Outer metropolitan	Metro
Greater Geelong City Council	Barwon South West	Major provincial	Non-metro
Greater Shepparton City Council	Goulburn Valley	Major provincial	Non-metro
Hepburn Shire Council	Grampians Central West	Small provincial	Non-metro
Hindmarsh Shire Council	Grampians Central West	Rural township	Non-metro
Hobsons Bay City Council	Metropolitan	Inner metropolitan	Metro

¹¹ Service provision categories are defined in the [Guide to Preferred Service Standards for Kerbside Recycling in Victoria](#). Available on the Sustainability Victoria website (www.sustainability.vic.gov.au).

Local council	Waste and resource recovery group region	Service provision category	Metro/Non-Metro
Horsham Rural City Council	Grampians Central West	Small provincial	Non-metro
Hume City Council	Metropolitan	Outer metropolitan	Metro
Indigo Shire Council	North East	Small provincial	Non-metro
Kingston City Council	Metropolitan	Outer metropolitan	Metro
Knox City Council	Metropolitan	Outer metropolitan	Metro
Latrobe City Council	Gippsland	Major provincial	Non-metro
Loddon Shire Council	Loddon Mallee	Rural township	Non-metro
Macedon Ranges Shire Council	Loddon Mallee	Melbourne fringe	Non-metro
Manningham City Council	Metropolitan	Outer metropolitan	Metro
Mansfield Shire Council	North East	Rural township	Non-metro
Maribyrnong City Council	Metropolitan	Inner metropolitan	Metro
Maroondah City Council	Metropolitan	Outer metropolitan	Metro
Melbourne City Council	Metropolitan	Inner metropolitan	Metro
Melton Shire Council	Metropolitan	Outer metropolitan	Metro
Mildura Rural City Council	Loddon Mallee	Small provincial	Non-metro
Mitchell Shire Council	Goulburn Valley	Small provincial	Non-metro
Moira Shire Council	Goulburn Valley	Rural township	Non-metro
Monash City Council	Metropolitan	Outer metropolitan	Metro
Moonee Valley City Council	Metropolitan	Inner metropolitan	Metro
Moorabool Shire Council	Grampians Central West	Melbourne fringe	Non-metro
Moreland City Council	Metropolitan	Inner metropolitan	Metro
Mornington Peninsula Shire Council	Metropolitan	Melbourne fringe	Metro
Mount Alexander Shire Council	Loddon Mallee	Small provincial	Non-metro
Moyne Shire Council	Barwon South West	Rural township	Non-metro
Murrindindi Shire Council	Goulburn Valley	Rural township	Non-metro
Nillumbik Shire Council	Metropolitan	Melbourne fringe	Metro
Northern Grampians Shire Council	Grampians Central West	Small provincial	Non-metro
Port Phillip City Council	Metropolitan	Inner metropolitan	Metro
Pyrenees Shire Council	Grampians Central West	Rural township	Non-metro
Queenscliffe Borough Council	Barwon South West	Small provincial	Non-metro
South Gippsland Shire Council	Gippsland	Small provincial	Non-metro
Southern Grampians Shire Council	Barwon South West	Small provincial	Non-metro
Stonnington City Council	Metropolitan	Inner metropolitan	Metro
Strathbogie Shire Council	Goulburn Valley	Rural township	Non-metro
Surf Coast Shire Council	Barwon South West	Small provincial	Non-metro
Swan Hill Rural City Council	Loddon Mallee	Small provincial	Non-metro
Towong Shire Council	North East	Rural township	Non-metro

Wangaratta Rural City Council	North East	Small provincial	Non-metro
Local council	Waste and resource recovery group region	Service provision category	Metro/Non-Metro
Warrnambool City Council	Barwon South West	Small provincial	Non-metro
Wellington Shire Council	Gippsland	Small provincial	Non-metro
West Wimmera Shire Council	Grampians Central West	Rural township	Non-metro
Whitehorse City Council	Metropolitan	Outer metropolitan	Metro
Whittlesea City Council	Metropolitan	Outer metropolitan	Metro
Wodonga City Council	North East	Major provincial	Non-metro
Wyndham City Council	Metropolitan	Outer metropolitan	Metro
Yarra City Council	Metropolitan	Inner metropolitan	Metro
Yarra Ranges Shire Council	Metropolitan	Melbourne fringe	Metro
Yarriambiack Shire Council	Grampians Central West	Rural township	Non-metro

1.5. Appendix C: Other relevant data

Local council diversion rates

Table 8: Kerbside diversion rate by local council, Victoria 2017–18

Rank	Municipality Name	Diversion rate 1* (%)	Diversion rate 2* (%)	Diversion rate 3* (%)
1	Bass Coast Shire Council	70	47	63
2	Wodonga City Council	68	41	63
3	Strathbogie Shire Council	66	48	62
4	Indigo Shire Council	62	42	50
5	Corangamite Shire Council	62	41	54
6	Nillumbik Shire Council	60	41	59
7	Benalla Rural City Council	59	43	60
8	Moyne Shire Council	59	36	53
9	Manningham City Council	55	35	57
10	Surf Coast Shire Council	54	40	49
11	Wangaratta Rural City Council	54	31	48
12	Greater Geelong City Council	53	33	49
13	Queenscliffe Borough Council	52	32	52
14	Frankston City Council	52	36	56
15	Moira Shire Council	52	34	56
16	Melton Shire Council	51	27	40
17	Maroondah City Council	51	31	51
18	Baw Baw Shire Council	51	31	51
19	Monash City Council	50	30	51
20	Banyule City Council	50	36	50
21	East Gippsland Shire Council	50	34	60
22	Knox City Council	49	28	52
23	Mornington Peninsula Shire Council	49	37	50
24	South Gippsland Shire Council	49	32	54
25	Whitehorse City Council	48	34	37
26	Casey City Council	48	29	48
27	Latrobe City Council	48	25	53
28	Bayside City Council	47	30	38
29	Greater Shepparton City Council	47	29	51
30	Darebin City Council	47	33	47
31	Yarra Ranges Shire Council	47	34	47
32	Alpine Shire Council	46	45	44
33	Colac Otway Shire Council	46	28	47
34	Boroondara City Council	46	29	46

Rank	Municipality Name	Diversion rate 1* (%)	Diversion rate 2* (%)	Diversion rate 3* (%)
35	Hobsons Bay City Council	45	31	45
36	Greater Bendigo City Council	45	29	47
37	Cardinia Shire Council	45	31	45
38	Ballarat City Council	44	28	44
39	Greater Dandenong City Council	43	26	43
40	Macedon Ranges Shire Council	42	29	48
41	Southern Grampians Shire Council	42	34	52
42	Glen Eira City Council	42	27	42
43	Moreland City Council	41	30	41
44	Central Goldfields Shire Council	41	35	45
45	Moonee Valley City Council	39	26	38
46	Campaspe Shire Council	38	29	38
47	Moorabool Shire Council	38	33	38
48	Gannawarra Shire Council	36	31	40
49	Brimbank City Council	36	24	36
50	Yarra City Council	36	35	37
51	Golden Plains Shire Council	35	35	35
52	Mansfield Shire Council	34	34	40
53	Stonnington City Council	34	26	35
54	Warrnambool City Council	33	32	33
55	Wyndham City Council	33	25	29
56	Whittlesea City Council	33	18	35
57	Murrindindi Shire Council	33	33	34
58	Hume City Council	32	24	37
59	Mount Alexander Shire Council	32	32	42
60	Maribyrnong City Council	32	26	32
61	Mitchell Shire Council	31	31	34
62	Pyrenees Shire Council	31	31	31
63	Wellington Shire Council	31	31	36
64	Mildura Rural City Council	30	30	48
65	Northern Grampians Shire Council	30	30	32
66	Hindmarsh Shire Council	29	29	31
67	Port Phillip City Council	28	28	27
68	Hepburn Shire Council	27	27	27
69	Towong Shire Council	26	26	26
70	Buloke Shire Council	26	26	36
71	Swan Hill Rural City Council	25	21	29
72	Melbourne City Council	24	24	24

Rank	Municipality Name	Diversion rate 1* (%)	Diversion rate 2* (%)	Diversion rate 3* (%)
73	Yarriambiack Shire Council	24	24	40
74	Kingston City Council	24	31	24
75	Ararat Rural City Council	23	23	27
76	Horsham Rural City Council	21	21	33
77	Glenelg Shire Council	20	20	21
78	West Wimmera Shire Council	17	17	41
79	Loddon Shire Council	17	17	25
	Victoria	44	30	44

*Diversion rate 1: Tonnes of recyclables and organics collected (less contamination) divided by tonnes of garbage, recyclables and organics collected.

*Diversion rate 2: Tonnes of recyclables collected (less contamination) divided by tonnes of garbage and recyclables collected.

*Diversion rate 3: Tonnes of recyclables, organics and drop-off material (recyclables and organics) collected (less contamination), divided by tonnes of garbage, recyclables, organics and drop-off material (recyclables and organics) collected.

Classifying local councils

Table 9: Victorian local councils by service provision category and metro and non-metro classification

Service provision classification	Metro	Non-metro	State total
Inner metropolitan	10	—	10
Outer metropolitan	17	—	17
Melbourne fringe	4	2	6
Major provincial	—	6	6
Small provincial	—	24	24
Rural township	—	16	16
Total	31	48	79

Victorian population figures

Table 10: Victorian population¹² figures

Reference year	Population	Percentage change from previous year (%)	Percentage change from base year 2001–02 (%)
2001–02	4,863,084	—	—
2002–03	4,923,485	1.2	1.2
2003–04	4,981,467	1.2	2.4
2004–05	5,048,602	1.3	3.8
2005–06	5,126,540	1.5	5.4
2006–07	5,153,522	0.5	6.0
2007–08	5,256,375	2.0	8.1
2008–09	5,371,934	2.2	10.5
2009–10	5,461,101	1.7	12.3
2010–11	5,537,817	1.4	13.9
2011–12	5,632,521	1.7	15.8
2012–13	5,736,672	1.8	18.0
2013–14	5,901,970	2.9	21.4
2014–15	6,032,968	2.2	24.1
2015–16	6,179,249	2.4	27.1
2016–17	6,323,606	2.3	30.0
2017–18	6,497,700	2.8	33.6

¹² ABS Catalogue number 3101.0 Australian Demographic Statistics, September 2018, published 21 March 2019. Table 5, Population by Sex States and territories, Persons, Victoria. Victorian 2017–18 population figure has been used to calculate the Victorian 'per person rate' in this publication (pop 6,497,700).

Table 11: Melbourne CPI¹³ figures from June 2001 to June 2018

Quarter	Index numbers, all groups CPI Melbourne
Jun 2001	75.1
Jun 2002	77.3
Jun 2003	79.6
Jun 2004	81.3
Jun 2005	83.0
Jun 2006	86.2
Jun 2007	87.9
Jun 2008	91.8
Jun 2009	92.9
Jun 2010	95.8
Jun 2011	99.2
Jun 2012	100.4
Jun 2013	102.6
Jun 2014	105.9
Jun 2015	107.1
Jun 2016	108.6
Jun 2017	111.0
Jun 2018	113.8

¹³ ABS Cat. no. 6401.0 – Consumer Price Index, Australia, Mar 2019, Index Numbers, All groups CPI, Melbourne, Original Series, ID A2325811C