

Technical Report

Investigations and
Monitoring Group

**Canterbury Regional
Waste Data Addendum
Report
2002-2009**

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**Environment
Canterbury**
Your regional council

Canterbury Regional Waste Data Addendum Report 2002-2009

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Trudy Geoghegan

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58 Kilmore Street
PO Box 345
Christchurch 8140
Phone (03) 365 3828
Fax (03) 365 3194

75 Church Street
PO Box 550
Timaru 7940
Phone (03) 687 7800
Fax (03) 687 7808

Website: www.ecan.govt.nz

Customer Services Phone 0800 324 636

Executive summary

Data on the amount of solid and hazardous waste disposed of in Canterbury is collected from the regions territorial authorities. Environment Canterbury collates and analyses this data with the aim of producing information that can be used to gauge the effectiveness of waste minimisation activities and identify waste minimisation needs. This report includes data from 2002/03 to 2008/09 and uses 2001/02 as a benchmark for percentage changes.

Data indicate that the total amount of waste recorded in Canterbury (excluding cleanfill) has increased after showing a decrease in 2007/08. Only Selwyn, Mackenzie and Waimate Districts show an overall decrease in total waste from 2007/08.

Residual waste has decreased region wide and across the majority of districts. The quantities recorded in 2008/09 are lower than in any other year and 2008/09 was the first year that the quantity of residual waste fell below that of the benchmark year. Diversion has increased, to a high of 28% of total measured waste. In 2008/09, the amount of diversion per person was more than twice that collected in 2001/02, with a 112% increase from the benchmark year. Most diversion still comprises recycling or organic waste, although the amount of reuse materials is also steadily increasing.

In 2008/09 asbestos containing materials were the most commonly recorded hazardous waste by weight. Car batteries, waste oil and LPG cylinders were the next most common hazardous wastes collected by territorial authorities and collectively make up 41% of hazardous waste recorded.

Kerbside waste collection services vary between districts as the type of service provided is affected by location, distance from a main centre, economics and community preferences. Overall the proportion of kerbside waste that is landfilled has decreased, and much of this decrease is accounted for as an increase in organic waste collected.

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Glossary

Cleanfill/cleanfill material: inert materials disposed of into or onto land, at a consented cleanfill. Materials typically include construction and demolition waste such as concrete, uncontaminated soil and rock. Hardfill and cleanfill are distinguished in this report by their disposal points.

Diversion/Diverted Materials: are any items or materials that are no longer required for its original purpose and would be disposed of to landfill if it were not for some waste minimisation activity, such as reuse stores, recycling, or composting. It includes the waste streams reuse stores, recycling, organics and hazardous waste.

Financial year: the financial year for government departments in New Zealand; this is the 12 months from 1 July of one year until 30 June of the next year. For example, 2005/06 is from 1 July 2005 until 30 June 2006.

Hardfill: inert materials disposed of in a municipal solid waste landfill. Materials typically include construction and demolition waste such as concrete, soil and rock. Hardfill and cleanfill are distinguished in this report on the basis of their disposal points.

Hazardous waste: waste that is potentially harmful to human and /or environmental health. It typically has one or more of the following hazard properties: explosive, flammable, oxidising, corrosive, radioactive, toxic or ecotoxic. Or it may react with air or water to have one of these properties. Hazardous waste includes used oil, unwanted agricultural chemicals, paint and vehicle batteries.

Landfill: a site where waste is disposed of onto or into land. In this report the term landfill is used to describe municipal solid waste landfills and the term cleanfill is used to describe sites that accept only cleanfill material.

Organics: food scraps and green or garden waste

Rates: taxes and fees charged by a council (Territorial Authority or Regional Council), rates can be made up of compulsory charges, targeted charges and fees for specific services.

Recycling: a resource recovery method involving the collection, separation and processing of unwanted materials and their use as raw materials for manufacture into new products. Recycled materials typically include: glass containers, plastic containers and film, paper, cardboard, and metal items.

Residual waste: the material left over after all potentially useful material has been removed from the waste stream; and which is disposed of in landfill or by incineration.

Resource Recovery Park (RRP)/transfer station: a site where waste is collected to be processed, sorted and transferred for disposal or processing. A site may have separate collections for different waste types, and either storage and transfer to other sites for processing or disposal and/ or storing, processing, or composting on site.

Reuse stores: items that are salvaged or diverted from the waste stream undergo little or no modification and are sold at stores run by the community or territorial authorities.

Total waste: both residual waste and diverted materials are included under this term.

Units

| | |
|----------------|----------------------------|
| kg | kilogram |
| t | tonne = 1000 kilograms |
| L | litres |
| m ³ | metres cubed/ cubic metres |

Abbreviations

| | |
|-------|---|
| DHWDO | domestic hazardous waste drop off (point) |
| RRP | resource recovery park |

1 Introduction

Each year Environment Canterbury collects and analyses data from the region's territorial authorities on the amount of solid and hazardous waste collected and disposed of in Canterbury. Knowing what waste we produce and how it is managed in our region can help identify waste minimisation needs and gauge the effectiveness of current waste minimisation activities. This report is an addendum to the Canterbury Regional Waste Data Technical Report 2002-2008, published in May 2009; it covers the financial years 2002/03 to 2008/09, and carries across 2001/02 as a benchmark year, from the Canterbury Region Waste Data Technical Report 2002-2008.

2 Methods

Data on the amount of waste generated in each district were collected from territorial authorities. All territorial authorities supplied data in 2003/04-2008/09. The data were compiled in one spreadsheet then summed to give regional amounts. Data were analysed using Microsoft Office Excel 2003 to show trends over time and between districts.

In this report waste amounts are often shown as kilograms per person because population size varies between districts and years. Larger districts will produce more waste than smaller districts because there are more people generating waste. Analysis on a per person basis eliminates the effect of population variation and allows comparisons to be drawn between districts of differing sizes.

All waste measurements are by mass or percentages, and percentage changes are by mass. No figures are shown which measure waste by volume. All amounts reported to Environment Canterbury as volumes have been converted using the conversion factors below.

2.1 Conversion factors

Conversion factors were included on the reporting spreadsheet for items typically not recorded in tonnes (or kilograms), such as waste oil or vehicle batteries. The conversion factors are shown in Table 2.1 and are the same factors used in the *Canterbury Waste Data Addendum Report (2001-2007)*¹, with the exception of greenwaste, which was added for this report.

Table 2.1: Conversion factors used to convert waste measurements to tonnes

| Material | Original Unit | To convert to tonnes |
|---------------------------|--------------------------------|--|
| Asbestos/ asbestos cement | Cubic meters (m ³) | m ³ x 0.6184 |
| Waste oil | Litres (L) | (L x 0.95)/1000 |
| Cooking oil | Litres (L) | (L x 0.92)/1000 |
| LPG bottles | Number of | Number of bottles x 6.5 x 10 ⁻³ |
| Vehicle batteries | Number of | Number of batteries x 1.297 x 10 ⁻² |
| Reuse stores material | Cubic meters (m ³) | m ³ x 0.5567 |
| Greenwaste ² | Cubic meters (m ³) | m ³ x 0.169 |

2.2 Population data

Data from the 2001 and 2006 census were used to calculate the annual rate of change in population for each district. A linear rate was used to calculate the inter-census year populations for each district and the populations each year since the last census. This method smoothes the population change between census years and allows different rates of population growth to be used for each district. However, it does not account for any non-linear population changes, seasonal changes, spikes or dips in population during inter-census years.

The 2006 census was taken in March 2006 so has been used as the 2005/06 population.

2.3 Waitaki data

Geographically, part of Waitaki District is in the Canterbury Region but the majority is in the Otago Region, and most of Waitaki's population (92%) live in the Otago part of the district. Waste statistics for the two parts of Waitaki district cannot be separated; therefore Waitaki's data have not been

included in the regional waste amounts as this would overestimate the amount of waste produced in Canterbury. However, Waitaki is shown on by-district graphs for comparison.

2.4 Accuracy and limitations of the data

District waste data are provided by the territorial authorities and only includes data available to them. It does not include data from most commercial sources, such as recycling companies dealing directly with businesses, nor does it include onsite disposal such as farm dumps and home composting. Kerbside data only includes material collected by council kerbside collections, not waste collected from the kerbside by private operators. This limitation means the amount of waste recorded in most categories is likely to be an underestimate of the amount actually produced.

Some waste amounts are under estimated because not all districts measure all waste collected. This is often the case for hazardous waste where the amounts of paint or garden chemicals received at domestic hazardous waste drop off points (DHWDO) are small and records are not kept. Cleanfill waste is also underestimated because most cleanfills are privately operated and are not obliged to report the amount of waste received to the local or regional council. Only Christchurch City has a complete data set for cleanfill material because they have the *Cleanfill Licensing Bylaw (2008)*, which includes a requirement for data reporting from licensed cleanfills.

Data collected from territorial authorities is taken as correct and is not validated by Environment Canterbury staff. However, where reported data were unusually high or low, the information was clarified with the appropriate territorial authority staff.

2.4.1 Hurunui reuse data

Before 2006/07 the amount of reuse store material collected in Hurunui was estimated by district council staff. Estimates suggests the amount of material collected remained relatively steady between 2002/03 and 2006/07, but estimates for 2004/05 and 2005/06 were approximately twice the amount recorded in 2006/07. The 2004/05 and 2005/06 amounts are considered large overestimates.

2.4.2 Other waste streams category

The category 'other waste streams' was added to this report to capture data on key waste streams that do not fit into other categories, such as electronic waste and used tyres. This information was first collected from territorial authorities in 2007/08 but first reported as a separate category in this report.

2.4.3 Kerbside collections

Direct comparisons of each district's kerbside collected waste are limited because territorial authorities record the level of access to kerbside collections differently. Some districts record the number of properties that have access to the service, others the number of households or bins in service. Kerbside collected waste cannot be compared based on the whole population of a district because not everyone has access to the service and access levels vary between districts. Also not all territorial authorities measure the amount of kerbside collected waste.

Kerbside collected waste amounts have been used as an indicator for domestic waste in the past, but this approach is limited because some territorial authorities also collect from businesses. Most territorial authorities do not know the proportion of residential to commercial properties with access to kerbside collections.

Where businesses contribute to kerbside collected waste the amount contributed by businesses is not measured separately from that collected from residential properties, as this would be impractical. In addition, estimating the amount of kerbside collected waste from businesses based on business numbers would give an unfair estimate because a business does not necessarily produce the same amount, or type, of waste as a household.

2.4.4 Earlier data excluded

Environment Canterbury has data for the years 1998/99 to 2001/02 which are not shown in this report. These data were excluded because we have less confidence in its accuracy and completeness than for later data. Data for 1998/99 -2004/05 were provided in 2006, but information was not always kept from earlier years.

2.4.5 Correction of errors

Graphs and analysis for Selwyn District's kerbside waste collections were left out of the *Canterbury Region Waste Data Technical Report 2002-2008* in error. This information is presented in this addendum report.

In 2008/09 Ashburton's waste exchange figures were found to have been over-reported since 2004/05. Figures were corrected using waste exchange end of year reports provided to Environment Canterbury as part of the waste exchange programme.

3 Summary of waste trends

3.1 Total measured waste

Table 3.1: Amount of waste (tonnes) measured in Canterbury between 2002/03 and 2007/08

| Waste Stream | Financial Year | | | | | | |
|---|----------------|----------------|------------------|------------------|------------------|------------------|------------------|
| | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 |
| Residual Waste | 289,253 | 326,953 | 340,443 | 354,282 | 328,805 | 330,069 | 294,475 |
| Hazardous Waste | 249 | 286 | 408 | 637 | 540 | 1,047 | 930 |
| Recycling | 21,358 | 27,784 | 33,502 | 37,551 | 56,599 | 55,684 | 62,400 |
| Reuse Materials | 1,328 | 4,439 | 5,239 | 4,821 | 6,286 | 7,065 | 8,840 |
| Organics | 42,618 | 36,802 | 39,729 | 38,667 | 51,236 | 49,689 | 56,566 |
| Hardfill | 10,043 | 11,621 | 11,947 | 12,202 | 11,260 | 7,766 | 38,764 |
| Other Waste Streams* | 0 | 0 | 0 | 0 | 0 | 599 | 11,208 |
| Total Measured Waste | 364,849 | 407,885 | 431,268 | 448,160 | 454,726 | 451,919 | 473,183 |
| Cleanfill | 45,242 | 372,607 | 826,745 | 648,541 | 610,680 | 954,295 | 695,384 |
| Total Measured Waste Including Cleanfill | 410,091 | 780,492 | 1,258,013 | 1,096,701 | 1,065,406 | 1,406,214 | 1,168,567 |
| Contributing Population | 482,170 | 504,125 | 512,208 | 520,290 | 528,374 | 536,457 | 544,541 |

* First Collected for the 2007/08 year

Table 3.1 shows the amount (tonnes) of measured waste recorded in Canterbury each year between 2002/03 and 2008/09. This is the total amount of waste; it has not been adjusted for population increases over time. All waste streams are shown including those that divert waste from landfill, because this gives the most comprehensive view of the material discarded in Canterbury. Definitions of each waste stream can be found in the glossary.

Cleanfill has been separated from other waste streams and not included in total measured waste, because it is a very large waste stream which would mask trends in other waste streams if included.

Data for 2002/03 does not include Hurunui or Mackenzie District as they did not provide data for these years. Consequently the 2002/03 contributing population does not include the population of these districts. All districts contributed data for 2003/04 to 2008/09.

The main trends shown in this table are:

- An increase in total measured waste in 2008/09 over previous years.
- A decrease in residual waste in 2008/09 from previous years.
- Significant increase in hardfill recorded in 2008/09; over three times the amount recorded in the previous highest year.
- Recycling, reuse and organics have increased and are the highest in 2008/09 of all years recorded.

Amount of total measured waste produced per person, per year in Canterbury

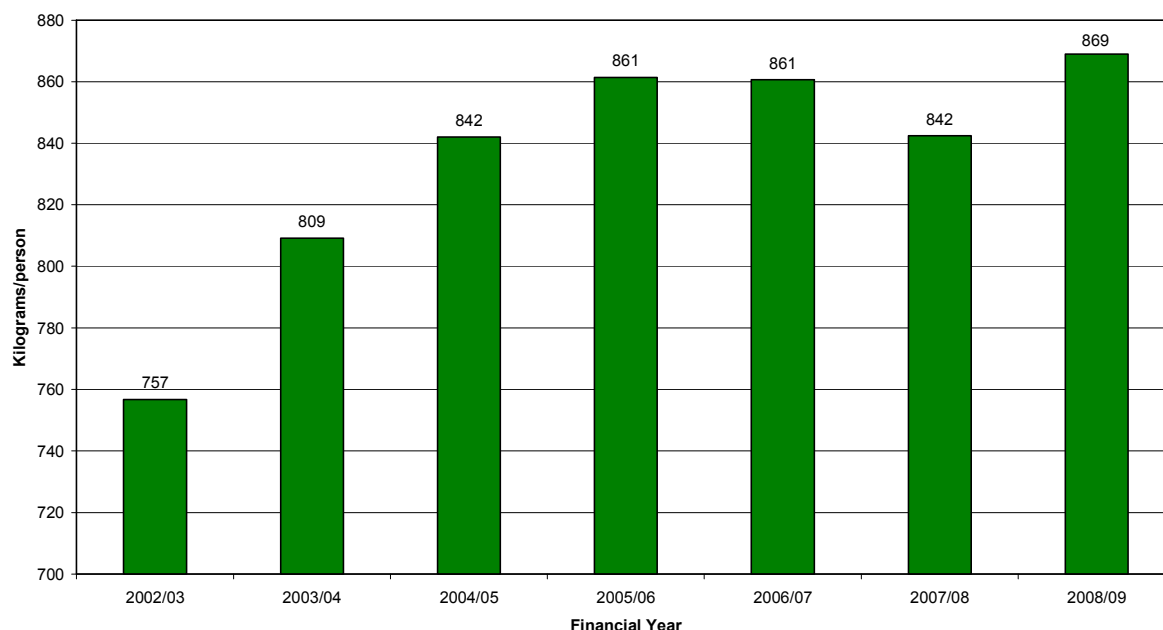


Figure 3-1: Mean amount of total measured waste per person per year in Canterbury

Figure 3-1 shows the total amount of waste (excluding cleanfill) disposed of per person in Canterbury. Total waste has increased significantly, between 2007/08 and 2008/09, after dropping each year in 2006/07 and 2007/08. Total measured waste produced per person in 2008/09 is the highest recorded across all years. Table 3.2 shows that total measured waste has increased 15.2% between 2001/02 and 2008/09. The 2001/02 benchmark year is carried over from the Canterbury Region Waste Data Technical Report 2002 – 2008.

Waste is generally expected to decrease during a recession, but the opposite has occurred in Canterbury during 2008/09. Figures 3-3 and 3-5 indicate that this increase is due to more diverted materials being collected rather than more residual waste.

Table 3.2: The percent change in total measured waste per person from 2001/02

| Financial year | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|
| Percent change from 2001/02 | 0.4% | 7.3% | 11.7% | 14.2% | 14.1% | 11.7% | 15.2% |

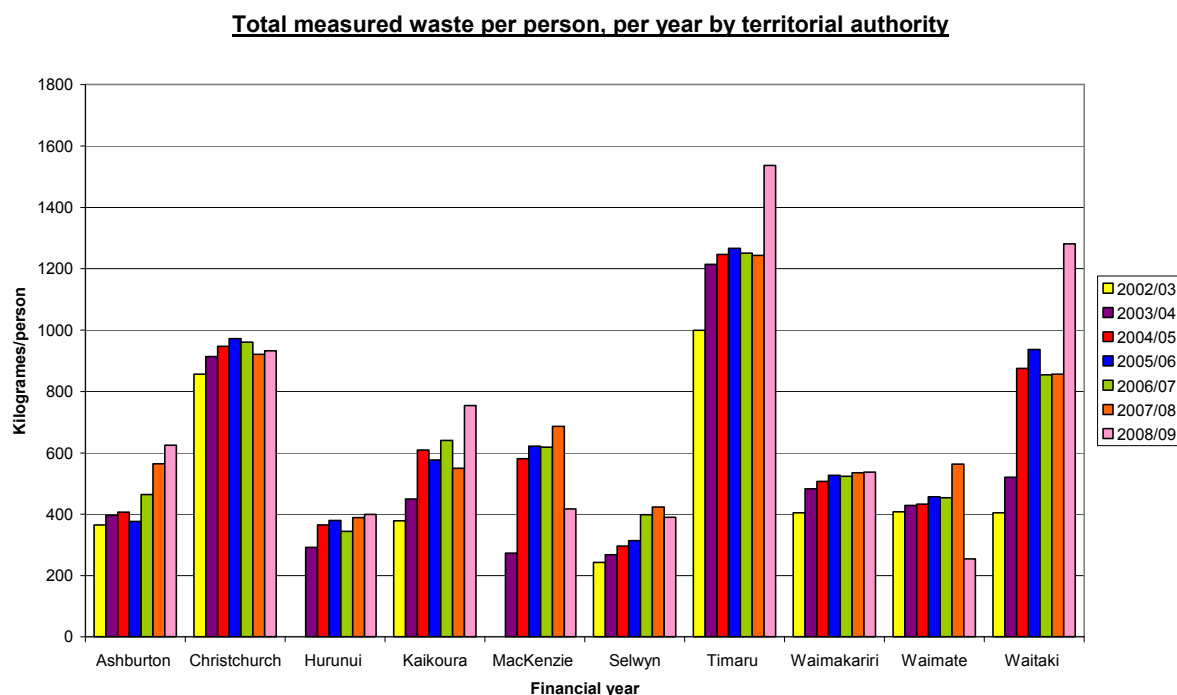


Figure 3-2: Total measured waste per person per year by territorial authority

Figure 3-2 shows how each district contributed to the increase in total measured waste. Mackenzie, Selwyn Districts have had a decrease in total measured waste from 2007/08 to 2008/09, while all other districts show an increase. Waimate shows a decrease, but their data set was incomplete in 2008/09 as they only reported residual waste amounts. The largest increases in total measured waste were in Kaikoura, Timaru and Waitaki. The increase in Waitaki and Timaru Districts was primarily due to more hardfill being disposed of, while in Kaikoura the increase was due to more recycling being collected.

Waimakariri waste amounts are steady. This graph shows a slight increase but the difference between 2007/08 and 2008/09 is so small (<2kg/person) that a slight variation in the estimated population could change this to a decrease rather than an increase.

3.2 Residual waste

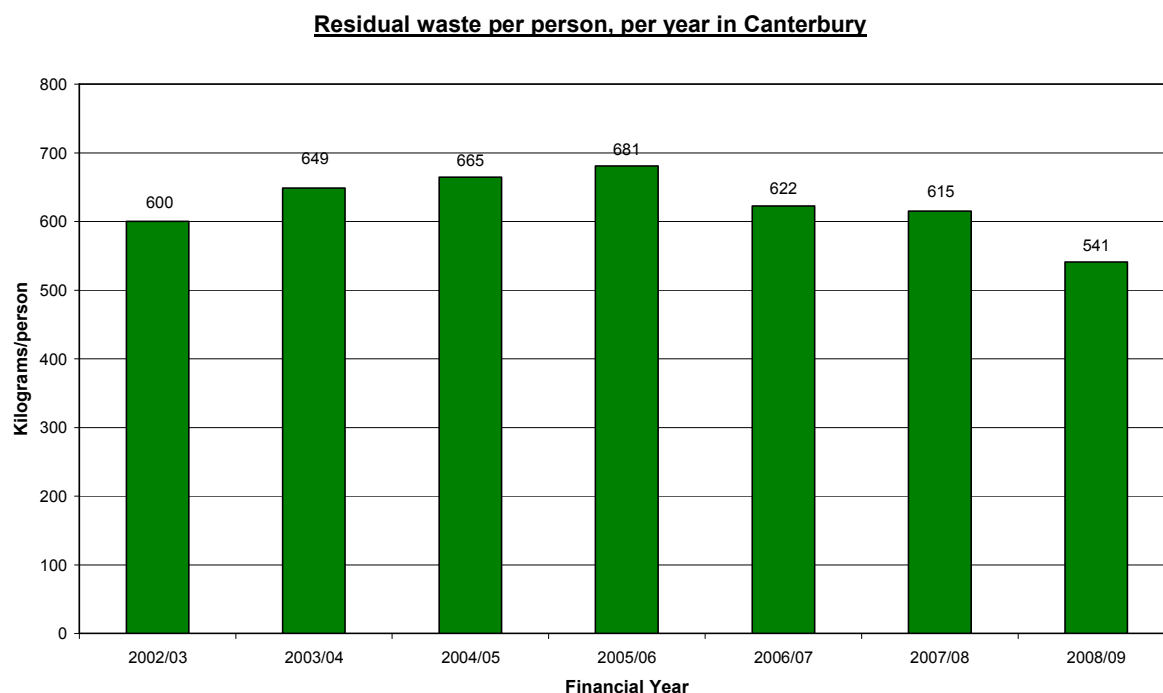


Figure 3-3: Mean amount of residual waste collected per person, per year in Canterbury

The amount of residual waste disposed of this year has decreased compared to previous years, as shown in Figure 3-3. In 2008/09 9.7% less residual waste was disposed of in Canterbury than in 2001/02, when 599kg/person was recorded for Canterbury. This is the first year that less residual waste has been recorded than in the benchmark year.

Table 3.3: Percent change in residual waste per person from 2001/02

| Financial year | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|
| Percent change from 2001/02 | 0.2% | 8.3% | 11.0% | 13.7% | 3.9% | 2.7% | -9.7% |

Note: Negative values indicate a decrease in residual waste.

Residual waste collected per person, per year by territorial authority

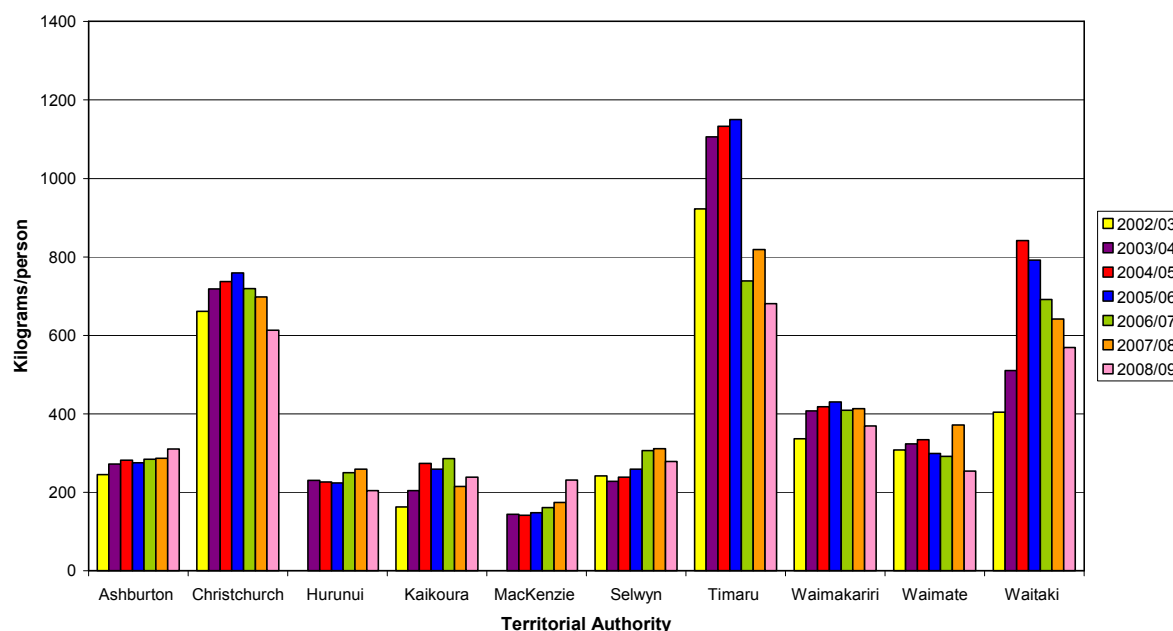


Figure 3-4: Mean amount of residual waste collected per person, per year by territorial authority

Figure 3-4 shows the amount of residual waste collected per person, per year in each district. In 2008/09, the data show that Ashburton, Kaikoura and Mackenzie Districts have had an increase in residual waste per person from 2007/08, while Christchurch, Hurunui, Selwyn, Timaru, Waimakariri, Waimate and Waitaki Districts have shown a decrease. Although, there is no evidence to indicate why residual waste levels may have decreased in some districts, the national economic recession and the introduction of a national waste levy on residual waste may have influenced waste generation and waste disposal practises.

Table 3.4 shows the percentage change in the amount of residual waste recorded by each district between 2001/02 and 2008/09. Hurunui and Mackenzie did not have data available for 2001/02 so the percentage change could not be calculated.

Between 2001/02 and 2008/09 Christchurch, Timaru and Waimate had an overall decrease in residual waste. Waitaki had the largest increase in residual waste at 51% between 2001/02 and 2008/09, although their residual waste levels have been steadily decreasing each year since a peak in 2004/05.

Table 3.4: Percent change in the amount of residual waste disposed of per person between 2001/02 and 2008/09, by territorial authority

| Ashburton | Christchurch | Kaikoura | Selwyn | Timaru | Waimakariri | Waimate | Waitaki |
|-----------|--------------|----------|--------|--------|-------------|---------|---------|
| 13% | -11% | 35% | 8% | -25% | 9% | -23% | 51% |

Note: Negative values indicate a decrease in residual waste.

3.3 Diverted materials

Diverted materials include recycling, reuse, organics and hazardous waste collected for treatment.

Waste diverted from landfill per person, per year in Canterbury

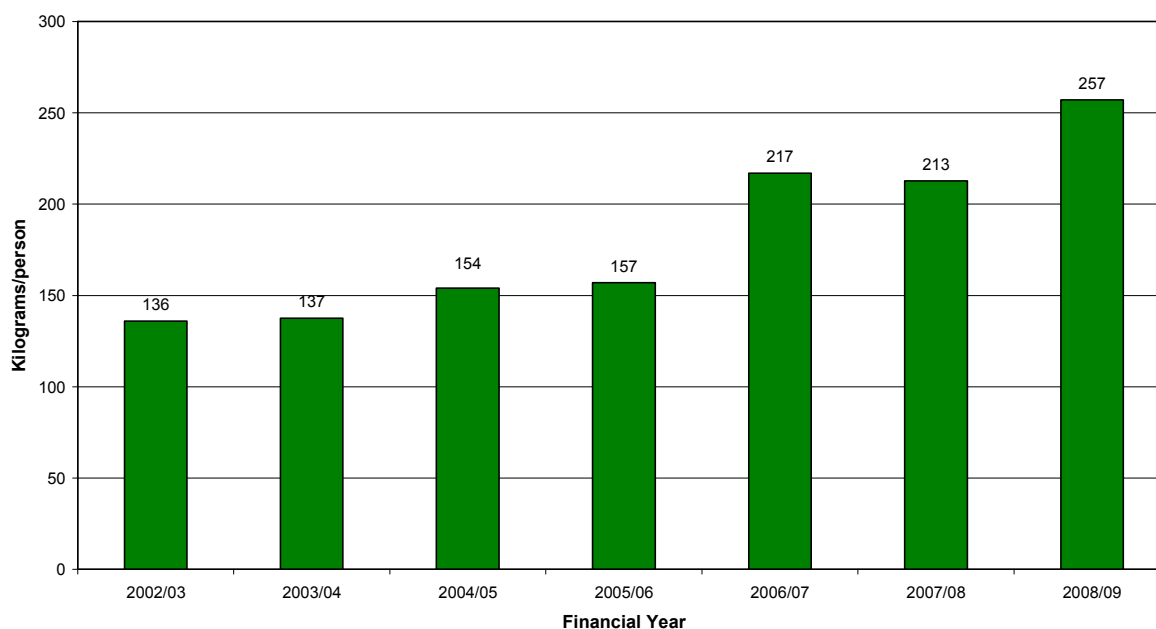


Figure 3-5: Mean amount of material diverted from landfill per person, per year in Canterbury

The amount of material diverted from landfill per person each year has increased in 2008/09, after decreasing slightly in 2007/08. In 2008/09, 257kg/person of material has been diverted from landfill, which is a 112.4% increase from 2001/02, as shown in Table 3.5. Table 3.6 shows that the proportion of total measured waste diverted has also shown a consistent increase over the years measured. In 2002/03, 18% of total measured waste was diverted over that recorded in 2001/02, while 28% has been diverted in 2008/09.

Table 3.5: Percent change in diversion per person from 2001/02

| Financial year | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|
| Percent change from 2001/02 | 12.4% | 13.6% | 27.3% | 29.7% | 79.3% | 75.8% | 112.4% |

Table 3.6: Percentage of total measured waste diverted from landfill each year in Canterbury

| Financial year | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|
| Percent of total waste diverted | 18% | 17% | 18% | 18% | 25% | 25% | 28% |

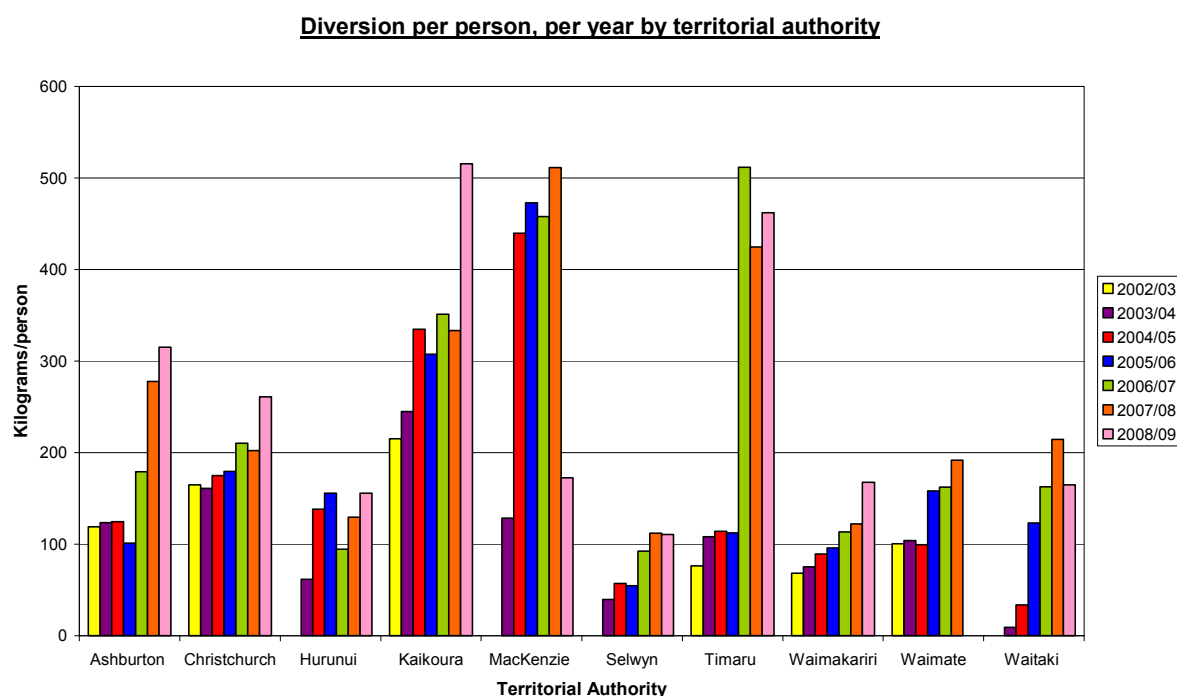


Figure 3-6: The average amount of material diverted from landfill per person per year by territorial authority

In 2008/09, the largest amounts of diversion were in Kaikoura, Ashburton and Timaru, while the largest proportion of total measured waste diverted was in Kaikoura and Ashburton which both diverted more than 50% of total waste away from landfill (see Table 3.7). All districts where data is available increased diversion between 2001/02 and 2008/09.

Diversion increased between 2007/08 and 2008/09 in Christchurch, Hurunui, Kaikoura, Timaru, Ashburton and Waimakariri, while diversion decreased in Waitaki and Mackenzie. Figure 3-6 shows a small decrease for Selwyn but it is so slight that a small variation in the estimated population could produce an increase in diversion per person rather than a decrease.

No data on diverted materials was provided by Waimate District for 2008/09.

Table 3.7: Diversion as a proportion of total measured waste 2008/09, by territorial authority

| Ashburton | Christchurch | Hurunui | Kaikoura | Mackenzie |
|-----------|--------------|-------------|------------------|-----------|
| 50.5% | 27.9% | 38.8% | 68.4% | 44.7% |
| Selwyn | Timaru | Waimakariri | Waimate | Waitaki |
| 28.4% | 30.15 | 30.8% | No data provided | 12.9% |

Note: Negative values indicate a decrease in residual waste.

Division of diverted materials collected by territorial authority for 2006/07 to 2008/09

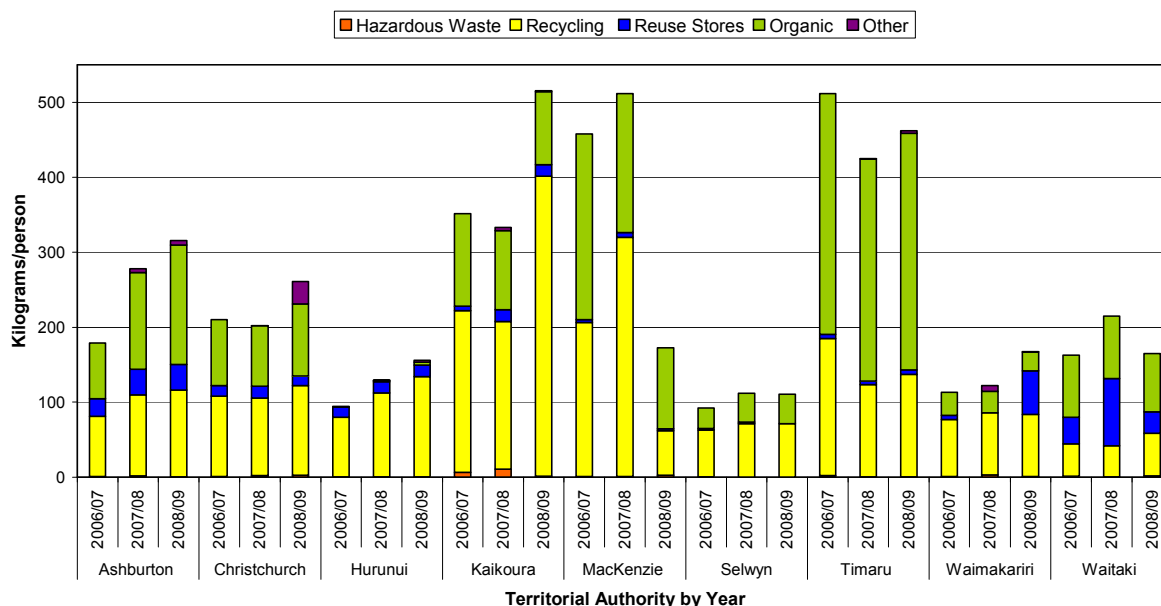


Figure 3-7: Mean amount of diverted material collected per person per year divided by material type, for the years 2006/07 to 2008/09

Figure 3-7 shows the proportion of different materials that make up diversion, for each district. Waimakariri's increase in diversion in 2008/09 is due to a large increase in reuse, which comes from a very large amount of material exchanged through the waste exchange in 2008/09.

The 'Other' waste stream was a major contributor to Christchurch's increase in diversion. This waste stream includes treated and untreated timber for reuse, tyres, electronic waste (e.g. computers), and construction and demolition waste materials recovered for reuse. Most of the 'Other' waste stream from Christchurch is construction and demolition materials.

While most districts reported a recycling levels dip in 2007/08 or 2008/09, recycling has steadily increased in Hurunui District from 2006/07 to 2008/09. This is also the case in Ashburton where all diversion waste streams increased each year over the years shown. In Kaikoura, the increase in diversion, and increase in total measured waste for 2008/09, is due to recycling.

Mackenzie reported significant decreases in recycling and organics collected in 2008/09.

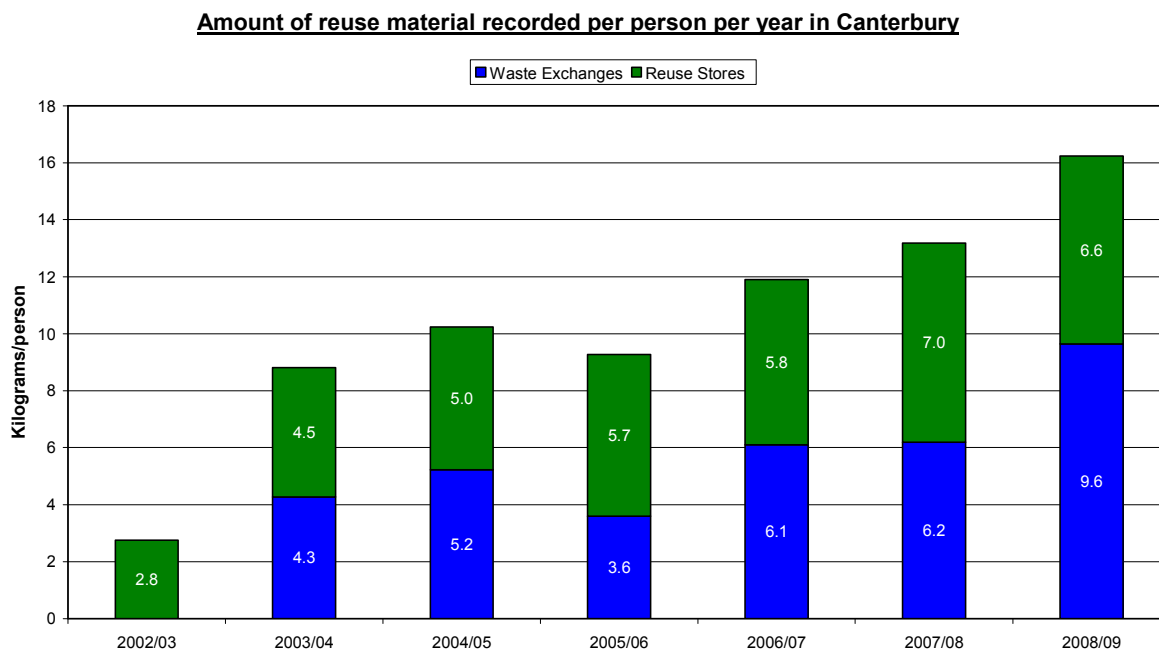


Figure 3-8: The amount of reuse material per person, per year sold through territorial authority/city council operated reuse stores and exchanged through waste exchanges

Total reuse has increased over 500% between 2002/03 and 2008/09, and with the exception of 2005/06, has increased each year compared to the year before. Materials collected through reuse stores have increased each year shown, except more recently in 2008/09, which shows a slight decrease compared to 2007/08. However, materials passing through waste exchanges increased significantly in this year, resulting in an overall increase in reuse.

3.4 Hazardous waste collections

The majority of hazardous waste collected by District and City Councils is collected via domestic hazardous waste drop off points (DHWDO). All districts, except Selwyn and Waimate, have DHWDO located in at least one resource recovery park (RRP). Therefore, no hazardous waste collection data was provided by Selwyn or Waimate for the 2008/09 year. DHWDO points allow the public to dispose of domestic quantitiesⁱ of hazardous wastes safely and without charge. They typically accept used oil, petroleum products, pool chemicals, pesticides, household cleaners, solvents, chemicals, vehicle batteries and LPG cylinders.

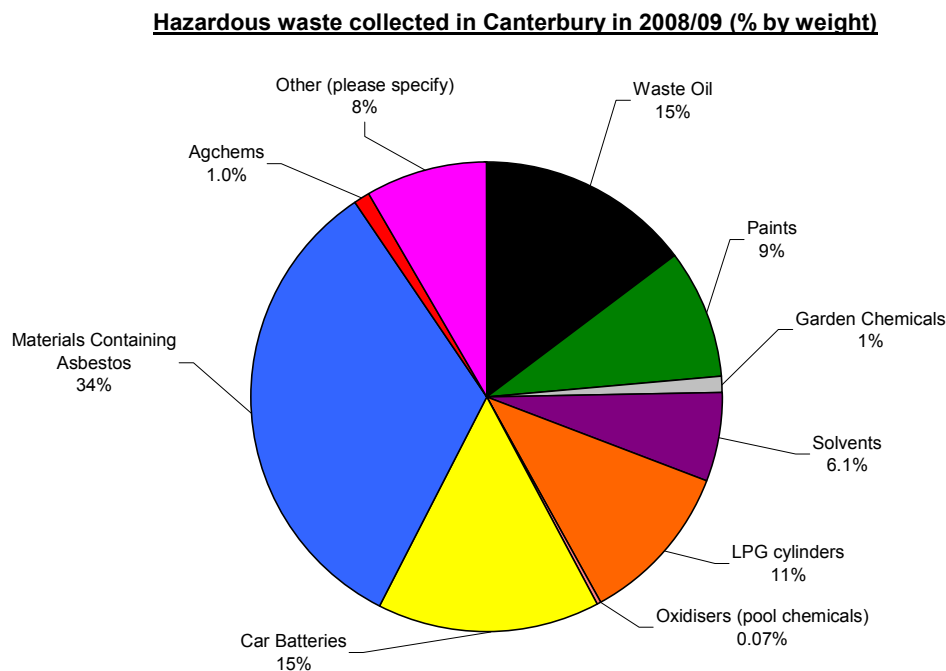


Figure 3-9: The proportion, by weight, of different hazardous wastes collected in Canterbury in 2008/09

The data show that the most collected category of hazardous waste is asbestos containing materials, at 34% of all hazardous waste. However these figures are by mass and asbestos tends to be bound into concrete building materials, so will be relatively heavy for the volume of material collected. The next three most common categories are car batteries, waste oil and LPG cylinders, collectively making up 41% of all hazardous waste recorded. These are also the most commonly accepted items. Some smaller transfer stations and RRP are not set up to accept solvents and chemicals but will accept LPG cylinders, waste oil and car batteries.

ⁱ Up to 20 litres or 20kg

4 Domestic waste services

Domestic or household waste is collected from the kerbside, at resource recovery parks (RRP) and at recycling drop off centres. The public are encouraged to separate recyclables, hazardous wastes and organic waste from their residual waste and dispose of these at designated facilities, which are often parts of a RRP. All districts offer lower disposal fees for recycling and organic waste; most districts do not charge for recycling.

Some districts also offer drop-off sites for residual waste and/ or recycling. These facilities are smaller than RRP's and consist of skips and bins for different materials; they are typically unmanned or have limited opening hours. Drop-off facilities are typically found in rural towns which do not have kerbside collections and/or are a long way from a RRP.

4.1 Kerbside collections

The main domestic waste service provided by territorial authorities and city councils is a kerbside collection of waste. Kerbside waste collections predominantly service residential properties, although many also collect from commercial properties in urban areas. Territorial authorities offer kerbside collections in most urban areas; some districts also have collections in rural areas. In rural areas the collection may be optional, or only available if a property is on a collection route. The cost of collection is covered by ratesⁱⁱ, which are charged to all properties in the collection area, unless a service is optional.

The type of kerbside collection service available varies throughout the region. Most districts have a weekly collection of each waste stream, although some have fortnightly collections on alternating weeks. The Canterbury Region Waste Data Technical Report 2002-2008 discusses the services provided by each district.

4.1.1 Amounts of kerbside collected waste

Kerbside collected waste can be measured in a number of ways; as the amount per person, per household, per service (bin) or per property. Different districts measure kerbside collected waste differently, making it difficult to compare amounts between them. Districts do report total tonnes of kerbside collected waste, but this is not comparable because of different access levels and large population differences between districts. Future work will look at standardising the way kerbside collected waste is reported.

Figures 4-1 to 4-6 show the trends in kerbside collected waste for Christchurch, Waimakariri, Hurunui, Selwyn, Timaru and Ashburton. Mackenzie, Kaikoura and Waitaki Districts have insufficient data so are not shown; each has less than three years of kerbside data. Waimate District did not provide data on kerbside collected waste for the 2008/09 financial year, previous data for Waimate is shown in the Canterbury Region Waste Data Technical Report 2002-2008.

In Christchurch, since 2002/03, residual waste remained steady and recycling increased. In Waimakariri and Selwyn, residual waste has decreased and recycling has increased or stayed steady.

Timaru is the only district with three years of organics data; here all kerbside collected waste streams dipped in 2007/08, and have increased in 2008/09.

In Hurunui, there has been a significant increase in residual waste and decrease in recycling between 2007/08 and 2008/09. This may have been caused in part by possible community disengagement after a drawn out kerbside collection contract process and related issues.

In Ashburton, residual waste shows a slight decrease and recycling has increased between 2007/08 and 2008/09.

ⁱⁱ This may be general rates, a targeted rate or service fee

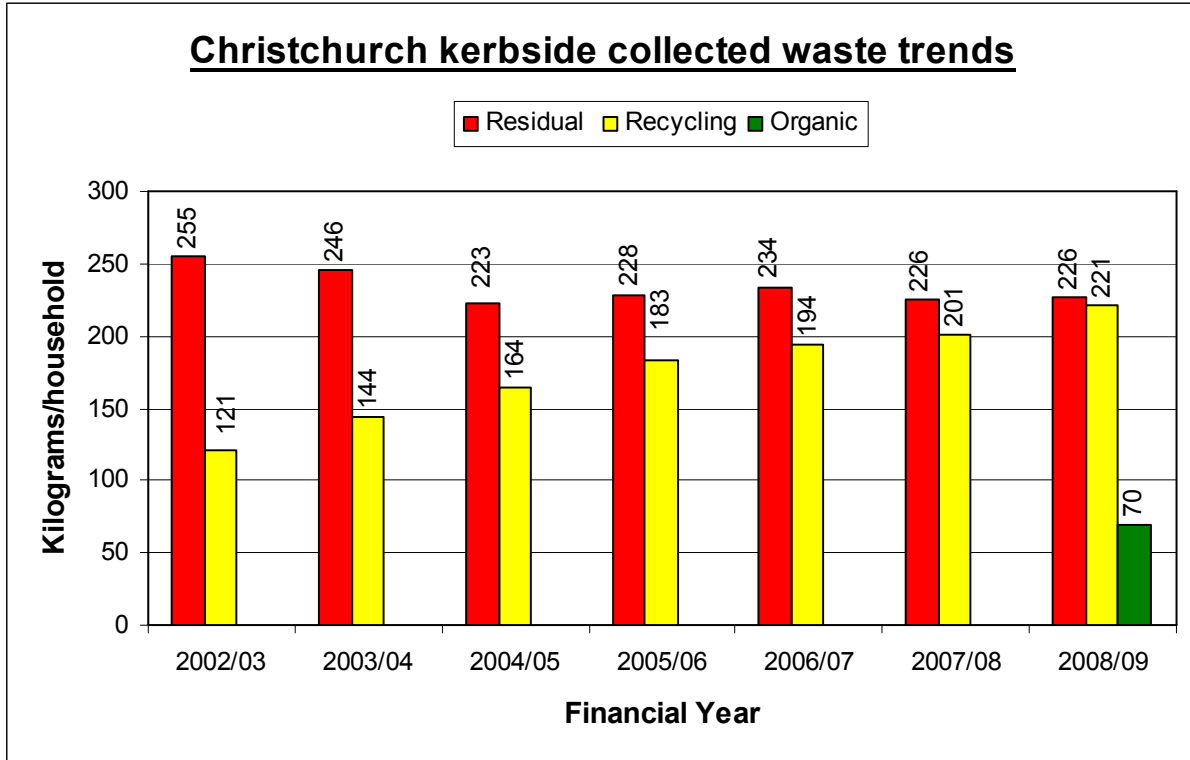


Figure 4-1: Christchurch City kerbside collected waste

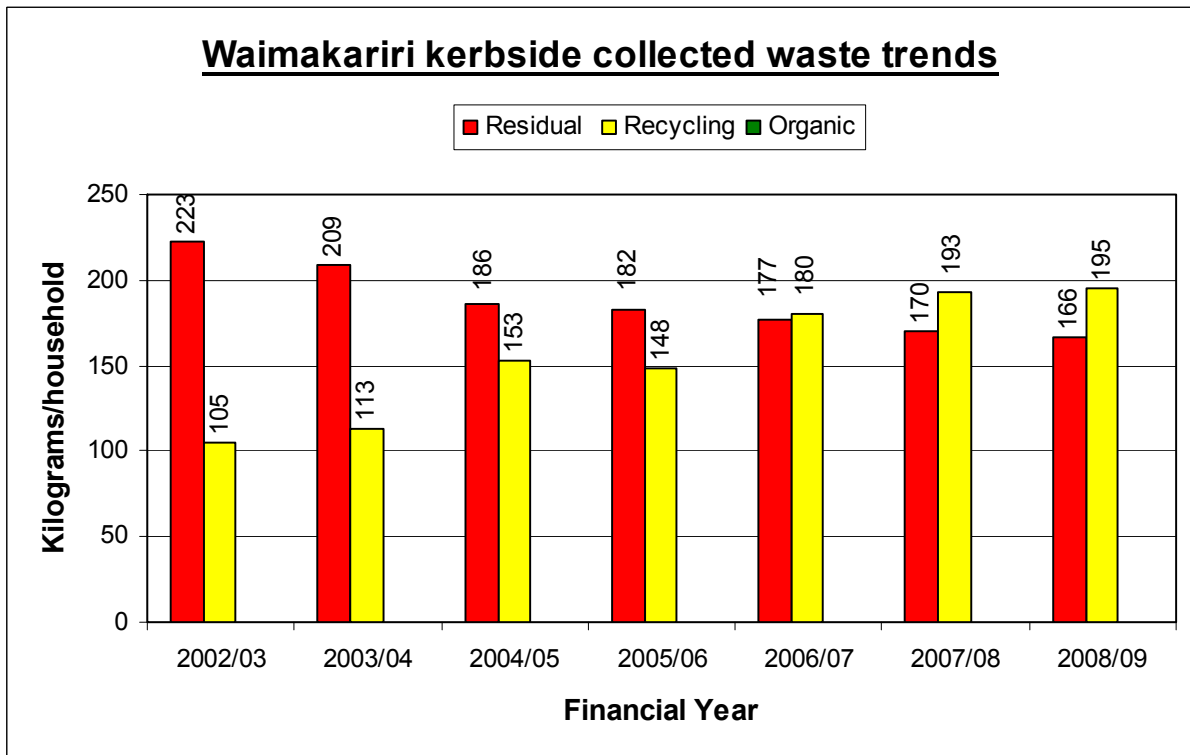


Figure 4-2: Waimakariri District kerbside collected waste

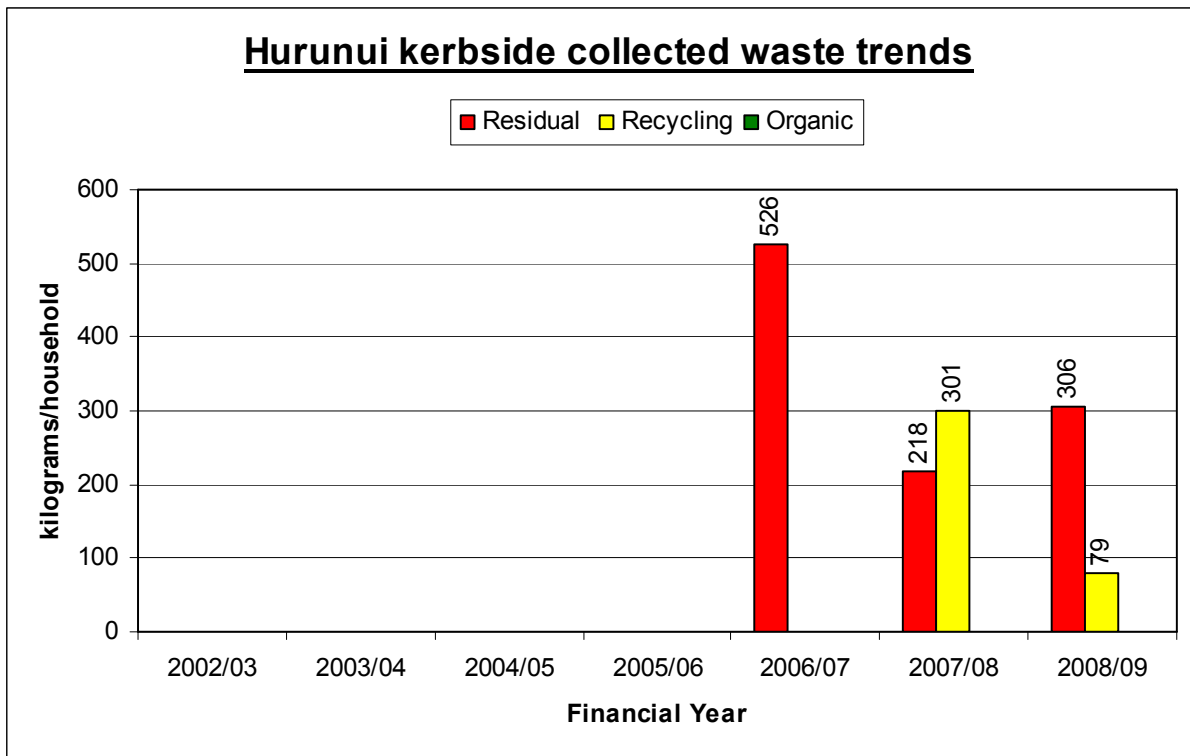


Figure 4-3: Hurunui District kerbside collected waste

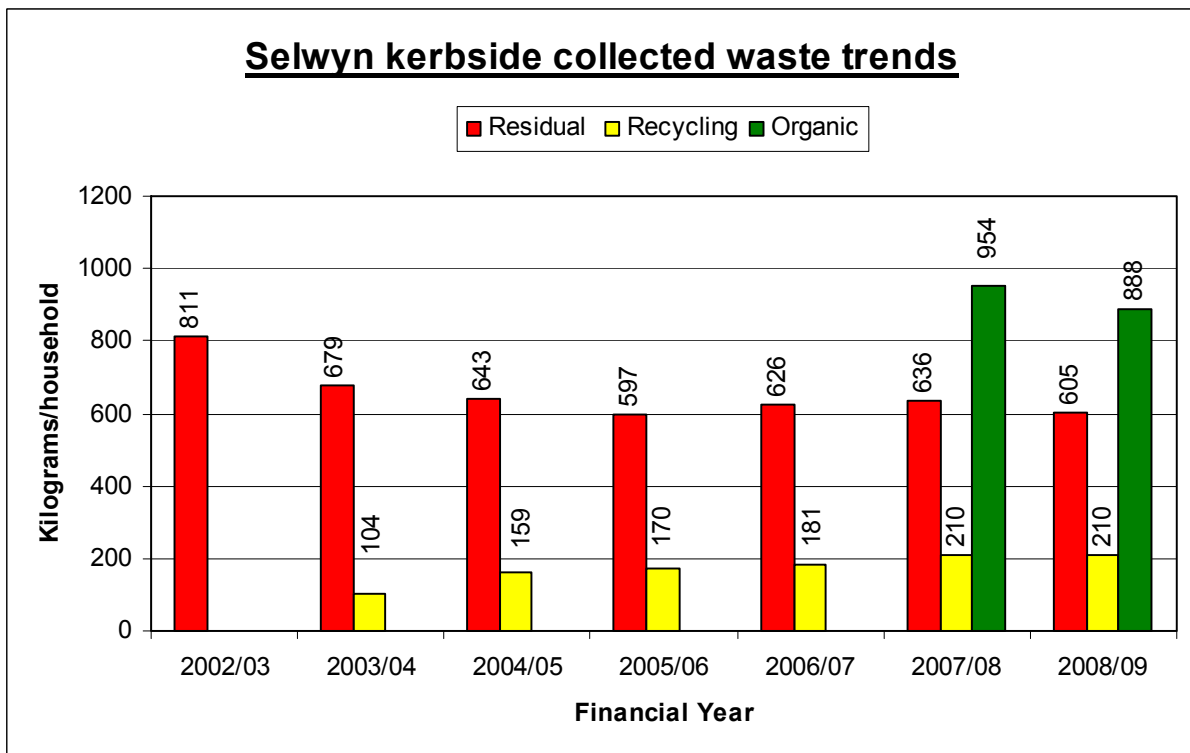


Figure 4-4: Selwyn District kerbside collected waste

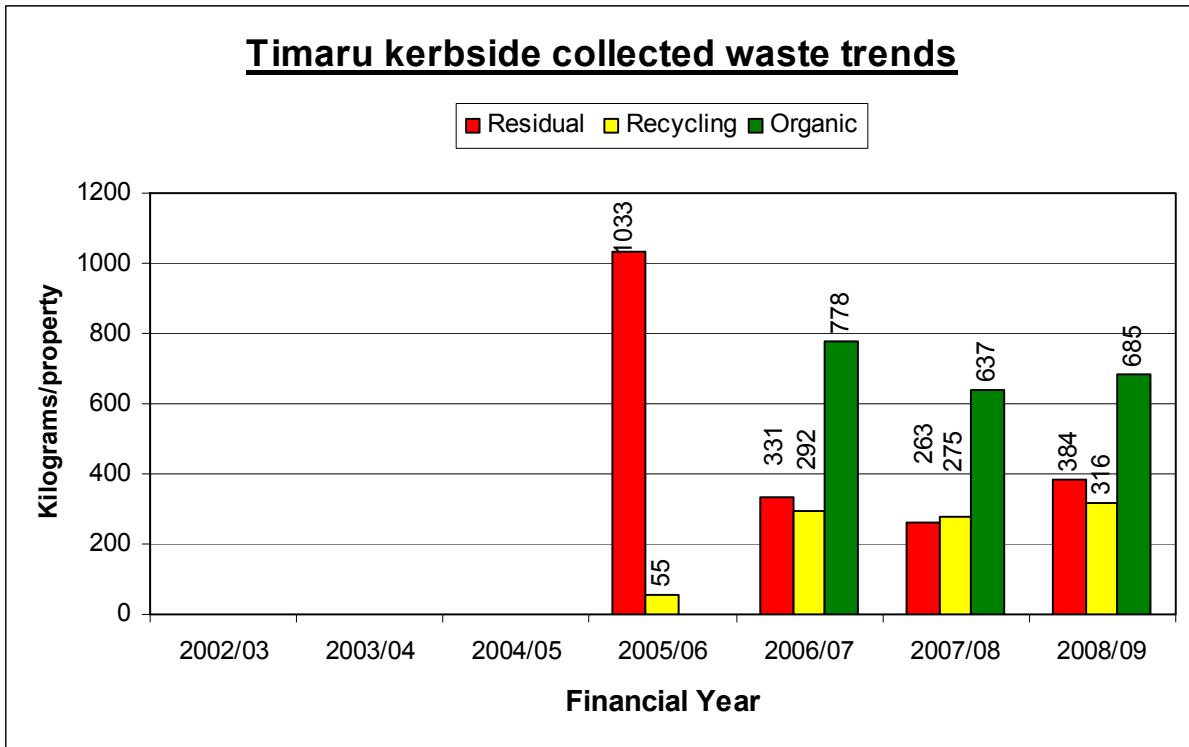


Figure 4-5: Timaru District kerbside collected waste

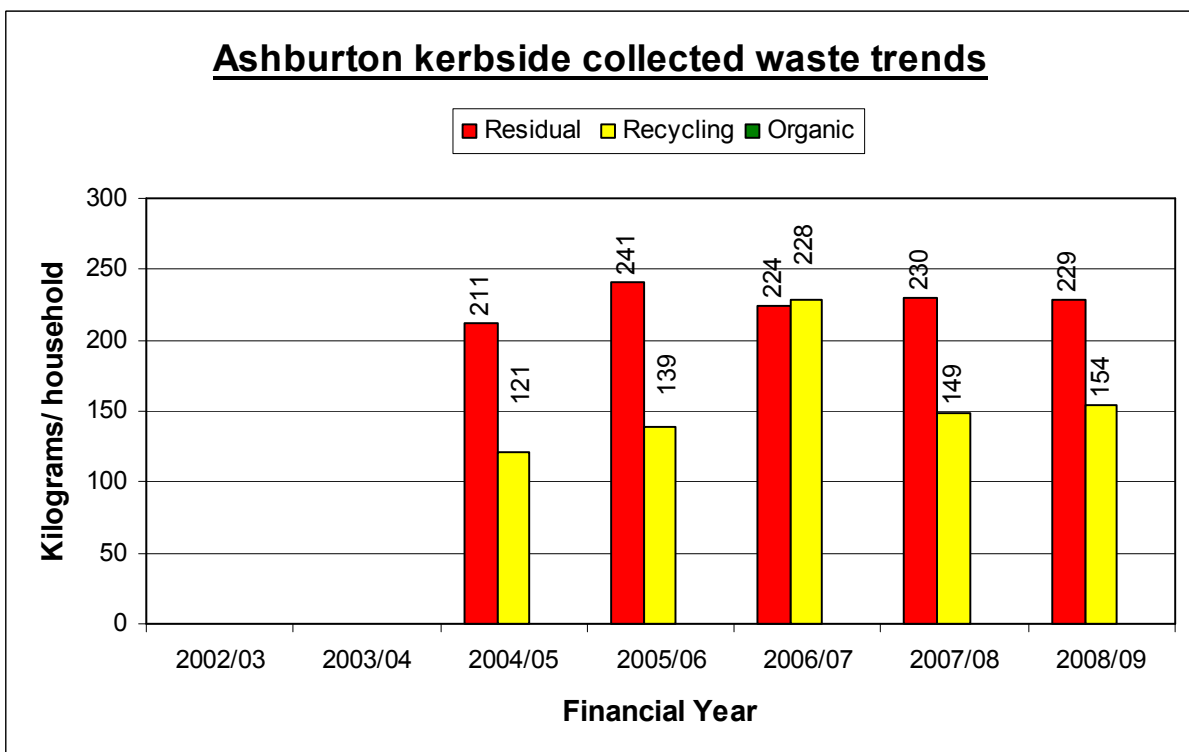


Figure 4-6: Ashburton District kerbside collected waste

4.1.2 Kerbside diversion

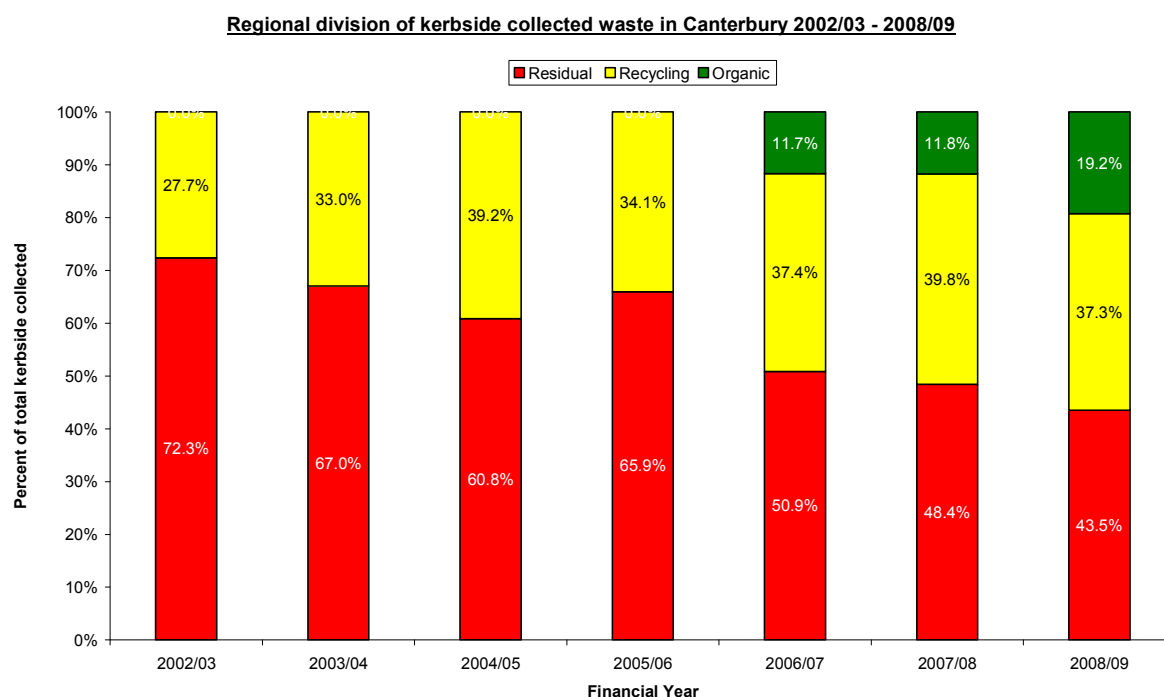


Figure 4-7: Percentage of Canterbury’s total kerbside waste collected as recycling, organics or residual waste between 2002/03 and 2008/09

A key way for households to divert waste from landfill is through kerbside recycling and organics collections. Figure 4-7 shows the proportion of total kerbside collected waste which is collected through separate recycling, organic and residual waste services in 2008/09. Between 2002/03 and 2008/09 the proportion of kerbside residual waste landfilled decreased by 28.8%, from 72.3% in 2002/03 to 43.5%, in 2008/09. Much of this decrease has been accounted for by an increase in organic waste.

4.1.3 Kerbside collection access

Access to kerbside recycling collections in 2008/09, by territorial authority

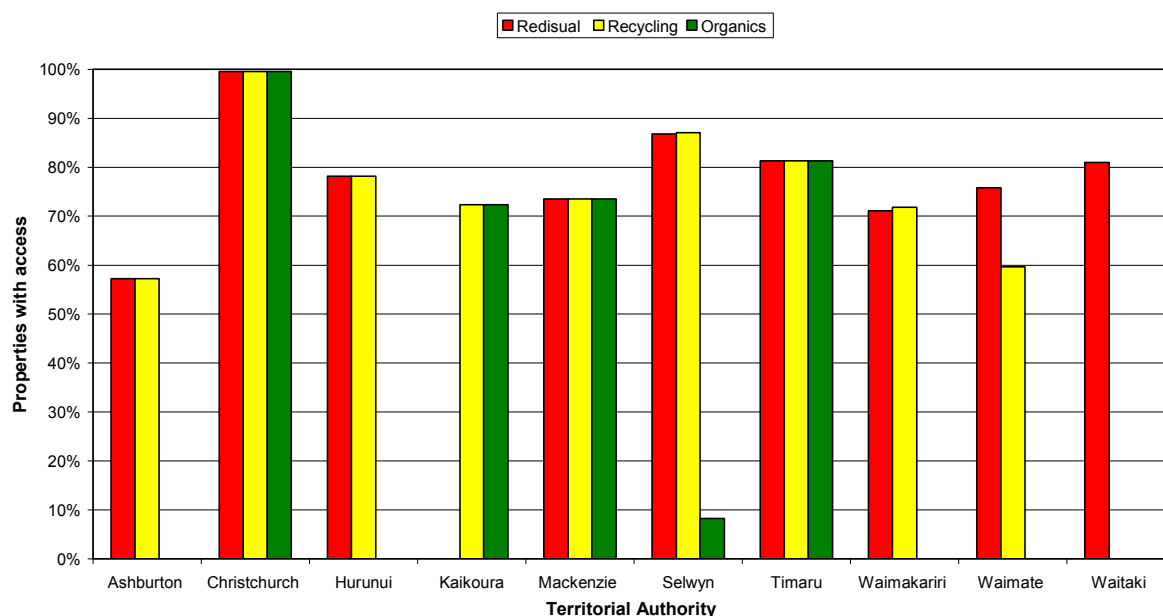


Figure 4-8: Percentage properties in each district that had access to a kerbside waste collection in 2008/09

Most people in urban centres, and some in rural areas with a high population density, have access to a kerbside collection. In other rural areas, or smaller remote towns, alternative services are provided for domestic properties because it is generally too uneconomic or impractical to provide a regular kerbside collection service. For example, at Arthurs Pass Village in the Selwyn District, residents have access to a central drop off point rather than a kerbside service. This provides an economical service and prevents birds or vermin from getting into bins or bags left on the kerbside for collection.

Figure 4-8 shows the proportion of people who have access to those services in each district and the types of kerbside collection offered. Most districts pick up residual waste and recycling, although Kaikoura only collects recycling and organics to encourage residents to recycle more. Residents in Kaikoura have to either pay for a private residual waste collection or take their residual waste to the transfer station and pay for its disposal. Waitaki only collects residual waste, offering no recycling or organics collection service. The data show that, with the exception of Ashburton, at least 70% of properties in most districts have access to some form of kerbside collection.

Organic collections are now offered in five of nine districts. In Selwyn, the organics collection is optional, so the 8.2% shown represents the percentage of people who have opted to use the service, rather than those who have access to the service.

5 Conclusions

Data indicate that the total amount of waste recorded in Canterbury (excluding cleanfill) has increased after showing a decrease in 2007/08. However, rather than showing an increase in landfilled waste, more materials have been diverted from landfill as recycling, reusable materials or organic waste (composting).

The total amount of waste recorded in the region was the second highest recorded at 473,183 tonnes, and the amount per person (869kg/person) is the highest recorded to date, showing an increase from 2007/08 levels (842kg/person). However, the amount of that waste going to landfill has reduced significantly; in 2008/09 it was 541kg/person, the lowest of the all years presented. This was the first year that residual waste was reported at less than the benchmark year (2001/02), with a 9.7% decrease compared to 2001/02. Diversion per person has increased significantly over the years measured. It has more than doubled between 2001/02 and 2008/09 with 112% more diversion being recorded in 2008/09 than 2001/02. The proportion of total measured waste diverted from landfill has also increased to a high of 28%.

In kerbside collections, the proportion of kerbside waste landfilled has been steadily decreasing over the years measured and was 43.4% in 2008/09. Much of this decrease is accounted for by an increase in organic waste, which made up 11.8% of kerbside collected waste in 2008/09. The type of kerbside collection available varies between districts, and has not been discussed in detail in this report. At least 70% of properties in most districts have access to some form of kerbside collection.

6 Further investigations and monitoring

Environment Canterbury recognises the value of collecting and analysing regional waste data. In the past Environment Canterbury as published technical reports every third year, which coincides with the LTCCP planning year. This makes getting data difficult as Territorial Authority staff are very busy during this time and the report is completed too late for them to use it in their long term planning. Therefore the next full technical report will be written in the 2010/2011 financial year rather than the 2011/2012 year. Opportunities for developing and improving this report include:

- Standardising the way kerbside collected waste is measured and reported, including reporting the number of people, businesses and/or households that have access to such collections.
- A review of disposal options in different districts and how disposal methods differ between predominantly urban and predominantly rural areas.
- Gathering more information on the true amount of cleanfill disposed of in Canterbury.
- Monitoring the effect of the waste levy.

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Selwyn District Council
Timaru District Council
Waimakariri District Council
Waimate District Council
Waitaki District Council

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8 References

¹ Geoghegan T, Patterson D (2009) *Canterbury Region Waste Data Technical Report 2002-2008*. Environment Canterbury report number R09/13.

² Wastebusters Trust Canterbury (2006) *Waste Exchange Conversion Project*. Environment Canterbury TRIM Number C06C/75976.



Christchurch

58 Kilmore Street, PO Box 345, Christchurch

General enquiries: 03 365 3828

Fax: 03 365 3194

Customer services: 03 353 9007

or: 0800 EC INFO (0800 324 636)

Timaru

75 Church Street, PO Box 550, Timaru

General enquiries: 03 688 9069

Fax: 03 688 9067

www.ecan.govt.nz